Nobis
Engineering a Sustainable Future

EPA Region 1 RAC 2 Contract No. EP-S1-06-03

February 27, 2015
Nobis Project No. 80095

Via Electronic Submittal

U.S. Environmental Protection Agency, Region 1
Attention: Mr. Derrick Golden, Task Order Project Officer
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3919

Subject: Transmittal of Draft Data Evaluation Technical Memorandum
Creese & Cook Tannery (Former) Superfund Site, Danvers, Massachusetts
Remedial Investigation/Feasibility Study
Task Order No. 0095-RI-CO-01HL

Dear Mr. Golden:

Enclosed for EPA's review is the Draft Data Evaluation Technical Memorandum prepared by Nobis for the Creese & Cook Tannery (Former) Superfund Site, Danvers, Massachusetts. This document presents the methods, results, and interpretation of data collected during Remedial Investigation field activities performed by Nobis in the summer and fall of 2014.

Please contact me at 978-703-6025 or dbaxter@nobiseng.com if you have any questions or comments on this transmittal.

Sincerely,

NOBIS ENGINEERING, INC.

Diane M. Baxter
Senior Project Manager

Enclosure

c: File 80095/MA

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Creese and Cook Tannery
Danvers, Massachusetts

Remedial Investigation/Feasibility Study
EPA Task Order No. 0095-RI-CO-01HL

REMEDIAL ACTION CONTRACT
No. EP-S1-06-03

FOR

US Environmental Protection Agency
Region 1

BY

Nobis Engineering, Inc.

Nobis Project No. 80095

February 2015

U.S. Environmental Protection Agency

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Diane Baxter
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1.0 INTRODUCTION

This Data Evaluation Technical Memorandum was prepared by Nobis Engineering, Inc. (Nobis) for the U.S. Environmental Protection Agency (EPA) under Contract No. EP-S1-06-03, Task Order No. 0095-RI-CO-01HL. This report presents the investigation methods, results, and data evaluation for the first two Remedial Investigation (RI) sampling events for the Creese & Cook Tannery (Former) Superfund Site (Site) in Danvers, Massachusetts. The information developed in the technical memorandum is intended for use in evaluating whether enough data are available to prepare a Remedial Investigation (RI) Report, Human Health and Ecological Risk Assessments, and the subsequent Feasibility Study (FS) to evaluate and develop a range of remedial alternatives to select a remedy to eliminate, reduce, or control risks to human health and the environment that may result from exposure to Site-related contamination, and to prepare a Record of Decision (ROD).

This technical memorandum was prepared based on available information and data developed previously during investigations or remedial actions performed by the property owners, the Massachusetts Department of Environmental Protection (MADEP), or by EPA, and the investigation activities performed under the RI.

1.1 Purpose of Report

The purpose of this report is to present the information generated as a result of the review of historical information and the 2014 field sampling efforts, and evaluation of historical and current data to present a more complete picture of the contamination that may be present at the Site, to identify any additional data needs for the RI or FS, and to make recommendations for filling any identified data gaps.

1.2 Site Background

Descriptions of the Site and its detailed history are provided below.

1.2.1 Site Description

The Creese & Cook Tannery (Former) Site (Site), as listed on the National Priorities List (NPL), consists of several properties located in Danvers, Essex County, Massachusetts (Figure 1-1). The parcels of interest are shown on Figure 1-2 and described below:

Site Properties on East Side of Crane River

- 33 Water Street (Parcel 059 072) – the original tannery property on the east side of the Crane River, redeveloped in 1986 with construction of a residential condominium complex;

- 20 Cheever Street (Parcel 059 039) – an undeveloped, residentially-zoned parcel located northwest of 33 Water Street, on east side of the Crane River;

- Massachusetts Bay Transportation Authority (MBTA) Right-of-Way (ROW) – abandoned railroad lines located along the east side of the Crane River, west of 33 and 45 Water Street, east of 20 Cheever Street and north to Route 128;

Site Property on West Side of Crane River

- 55 Clinton Avenue (Parcel 059 002B) – the tannery property on the west side of the Crane River where most tannery operations occurred after 1914. This residentially zoned parcel is currently vacant.

The **Study Area,** for the purposes of this report, consists of the properties on the east side of the river described above, sediment and surface water along the eastern bank of the river, as well as these properties located adjacent to the Site:

- 35 Water Street (Parcel 059 074A) – a small parcel located south of 33 Water Street, owned by the MBTA and occupied by a monument to a revolutionary war soldier and a historical marker for Danversport;

- 45 Water Street (Parcel 064 023) – a property located south of 33 and 35 Water Street occupied by a residential condominium building;

- 12 Cheever Street (Parcel 059 084) – a property located immediately north of 33 Water Street, long occupied by the Polish Russian Lithuanian American Citizens' Club (commonly called the Polish Club);

- 15 Pleasant Street (Parcel 059 003) – a possible tannery waste disposal area located north and east of the Crane River, immediately south of Route 128, and owned by some of the owners of the former tannery property. This 0.33-acre parcel is zoned residential; however, because of its small size, steep topography, and proximity to Route 128, future development for any use seems unlikely.

The Study Area for this report does not include the 55 Clinton Avenue parcel located on the west side of the river, nor the Crane River itself, although information from those areas that is relevant to the conditions on the east side of the river has been evaluated to create the Conceptual Site Model (CSM) for the Study Area.

1.2.2 Site History

The Creese & Cook Tannery Company (Creese & Cook) operated a tannery and finishing facility at the Site from approximately 1903 until the early 1980s. Leather tanning and finishing operations began in 1903 at the 33 Water Street parcel on the east side of the Crane River. Most operations, except for finishing operations and offices, moved to the larger new facility at 55 Clinton Avenue on the west side of the Crane River in 1914. Creese & Cook used raw animal hides to produce leather shoes, handbags, gloves, and garment leather, primarily from cowhide stock. The tannery continued to operate on both sides of the Crane River until 1981.

Leather tanning, creating leather products from animal hides or skins, is comprised of several steps in beamhouse operations, tan yard processes, and finishing processes. Beamhouse operations include trimming, soaking, fleshing, and unhairing. Liming is a common method of removing hair from hides, and involves the use of lime liquors such as calcium chloride. The tan yard processes include bating, pickling, tanning, wringing and splitting. These steps serve to prepare the skins. De-liming and bating (removing unwanted hide components) may be performed together by soaking the hides in a solution of ammonium salt and enzymes. Once these steps are complete the hides are typically pickled in a salt and acid e.g., sulfuric acid, solution to create a low pH environment for tanning. Vegetable and chrome tanning are two methods used at Creese

& Cook. Vegetable tanning utilizes vegetable tannins, which come from bark and wood of certain trees. Chrome tanning is the process used on lighter weight cattle hides in addition to skins of sheep, lambs, goats and pigs, and typically involves a trivalent chromium salt such as chromic sulfate. The finishing processes, performed once the hides are dried, include conditioning, staking, dry milling, buffing, spray finishing, and plating. These steps can include the use of waxes, shellacs, pigments, dyes and resins. Solvent-based finishes can also be applied (US EPA, 1997).

It has been documented that in 1912, prior to the expansion of the facility to the west side of the Crane River, Creese & Cook was famous for its “Spartan Calf”, a chrome tanned Russian leather and for “Cresco” leather which was a chrome water proof leather (Danvers Historical Society, 1946).

Wastes from the Creese & Cook tanning process were disposed of in two onsite landfills located on the 55 Clinton Ave. property. Liquid effluent was discharged to the Crane River until 1975 and later to the sanitary sewer system, while sludge was deposited in an onsite lagoon system. It is known that a lagoon system was located on the 55 Clinton Avenue parcel after 1914; the locations of sludge and other solids disposal before 1914 and on the east side of the Crane River are unclear.

Previous investigations have identified tannery-related contamination in surface and subsurface soils at 55 Clinton Avenue, 33 Water Street, 20 Cheever Street, and the Massachusetts Bay Transit Authority right-of-way (MBTA ROW) located along the east side of the Crane River. Sampling of surface and subsurface soils and Crane River sediments, conducted on behalf of EPA as part of the CERCLA Hazard Ranking System (HRS) package for the Site between 2010 and 2012, documented the presence of arsenic, total chromium, hexavalent chromium, and dioxins in soils and sediment (Weston, 2012c). These Site contaminants exceeded health-based standards in multiple locations and arsenic concentrations in surface soils adjacent to one of the condominium buildings at 33 Water Street were documented to exceed the Imminent Hazard threshold established by the Massachusetts Department of Environmental Protection (MassDEP). In response to the investigation findings at 33 Water Street, EPA conducted a Removal Action consisting of excavation and off-site disposal of approximately 450 tons of arsenic-contaminated soils from the northern portion of the property. The Removal Action was completed in June 2012. Based on the results of the investigations performed on behalf of EPA, the Site was proposed for

listing on the National Priorities List (NPL) in September 2012 and the NPL listing became final in May of 2013.

1.2.3 Previous Investigations

This section describes previous environmental investigations of the Study Area and Site parcels conducted on behalf of various parties including site owners/potentially responsible parties (PRPs), the Massachusetts Department of Environmental Protection (MassDEP), and EPA. Investigations and of other nearby parcels that are considered relevant to understanding conditions within the Study Area are described. The data from these investigations were evaluated to develop the CSM for the Study Area and the sampling approach undertaken in June/July 2014. A summary of the sampling performed during previous investigations is provided on Table 1-1.

1.2.3.1 Study Area Investigations

SP Engineering, Inc. (SP) completed a Hazardous Waste investigation in October 1984 on behalf of property owners/PRPs for the tannery facility on the east side of the river. The work involved installation of test pits and collection of soil and groundwater samples. Soil samples were analyzed for oil and grease as well as metals leaching. Groundwater samples were analyzed for volatile organic compounds (VOCs). Groundwater analytical results indicate the presence of a single VOC analyte, 1,1,1-trichloroethane (111-TCA), at 14 µg/L in temporary well #2. Soil analytical results indicated the presence of barium, cadmium, chromium, lead, and mercury in several of the soil coring locations (SP, 1984).

Between August 2010 and April 2011, Weston conducted site reconnaissance inspections and performed a surface and subsurface soil investigation at 33 Water Street, the MBTA ROW, and 20 Cheever Street as part of the EPA Site Inspection (SI) for the Study Area properties. All samples were analyzed for metals; some of the samples were also analyzed for asbestos, hexavalent chromium, dioxins/furans, VOCs, semi-volatile organic compounds (SVOCs), pesticides, and/or polychlorinated biphenyls (PCBs) (Weston, 2012a). Several surface samples had arsenic or chromium concentrations that represented an Imminent Hazard under the Massachusetts Contingency Plan (MCP, 310 CMR 40.0000). In 2012, Weston collected additional surface soil samples at the 33 Water Street parcel and identified an area in the northern corner of the property for soil removal. The top 18 inches of soil were removed and replaced with clean

fill. Post-excavation sampling indicated that elevated arsenic concentrations were still present below the fill (Weston, 2012d).

The HRS document record identified the eastern side of the Crane River (specifically, 33 Water Street) as one of the four source areas at the Site (Weston, 2012c).

1.2.3.2 Investigations of Western Facility

Between 1984 and 1994, SP completed a series of investigations and removal actions at the former tannery property on the western side of the Crane River, on behalf of property owners/PRPs. Work performed by SP included the following: completed the initial characterization of the facility; developed plans to remove documented waste material to prepare for redevelopment; constructed an on-site containment cell to contain waste materials; sampled areas that previously contained waste materials and were excavated during containment cell construction; and characterized the former beamhouse (SP, 1994).

In June 1995, REW Environmental Consultants, Inc. (REW), on behalf of property owners/PRPs, began a limited subsurface investigation to evaluate soil and groundwater quality and to evaluate the previous removal actions conducted by SP on the 55 Clinton Avenue property. This investigation determined that arsenic in surface soil represented an Imminent Hazard under the MCP. Following the submittal of an Immediate Response Action (IRA) Plan Addendum to MassDEP, REW installed a fence around the Imminent Hazard area in question and performed additional soil borings utilizing a 15-foot grid. The grid sampling occurred concurrently with 88 borings installed on the property for the purpose of evaluating surface and subsurface soils for the potential redevelopment of the parcel into 58 single-family residential lots.

The 15-foot grid samples were screened using x-ray fluorescence (XRF) and confirmation samples were collected from 10 percent of the samples. Arsenic speciation and bioavailability testing was performed in areas identified with elevated arsenic. Results were provided in an Initial Site Investigation Report. REW performed supplemental characterization work in 1996, which included additional soil sampling, statistical evaluation of soil arsenic results, and additional groundwater sampling. The 1997 Supplemental Site Characterization report summarized the REW investigations and the Risk Characterization Report performed by NES, Inc., and included a supplemental risk characterization (REW, 1997).

In 1996, Stone & Webster conducted a Site Inspection Prioritization, on behalf of EPA, following closure of the facility on the western side of the Crane River (Stone & Webster, 1996). Stone & Webster collected six surface water samples and seven sediment samples upstream of the railroad bridge. The samples were analyzed for VOCs, SVOCs, pesticides/PCBs, and metals.

In January 1998, MassDEP issued a Notice of the Need to Conduct an Immediate Response Action to the Riversedge Realty Trust due to newly identified concentrations of arsenic in parcel soils. The soil samples had been collected by REW during supplemental soil borings to evaluate Site soils for potential residential redevelopment. In April 1998, REW submitted a Supplemental Phase III Selection of Comprehensive Remedial Actions Remedial Action Plan and Phase IV Remedy Implementation Plan, which proposed the on- and off-site management of over 7,000 cubic yards (yd^3) of contaminated soil. Before any proposed clean up measures could be initiated, the Town of Danvers seized the property from Riversedge Realty Trust for non-payment of taxes (Weston, 2012b).

In April 2005, Geological Field Services, Inc. (GFS), on behalf of PRPs, collected 24 sediment samples from the western banks of the Crane River following the submittal of an IRA Status Report to MassDEP in February 2005. The Status Report also indicated that the fence previously installed around Imminent Hazard areas of the parcel had been removed, and the beamhouse had been demolished in place. A follow-up letter report submitted to MassDEP in June 2005 summarized the sediment sampling results, indicating that there were elevated concentrations of chromium and arsenic in Site sediments, as well as elevated concentrations of chromium and arsenic in background samples (Geological Field Services, 2005).

In November 2006, Woodard & Curran (W&C), on behalf of PRPs, collected surface soil samples, and sediment samples on the 55 Clinton Street parcel proposed in a revised IRA Plan Modification submitted to MassDEP in November 2006. The soil and sediment samples were field screened with an XRF for arsenic, chromium, and lead. Surface soil samples were selected for laboratory analyses of cyanide, physiological available cyanide, dioxins, arsenic, and total and hexavalent chromium. Selected sediment samples were analyzed for cyanide, physiological available cyanide, dioxins, arsenic, total and hexavalent chromium, and total organic carbon. In addition to the sediment and surface soil samples, a subcontractor collected potential asbestos containing materials (PACM) samples from the former beamhouse debris. The sampling results were

summarized in an IRA Status Report submitted December 26, 2006, concluding that human health risks at the Site were driven by arsenic and dioxins present at Imminent Hazard levels to human health, but not to the environment (Woodard and Curran, 2006).

In June 2007, W&C collected 25 additional surface soil samples to assess surface soils in upland areas of the Site, requested by MassDEP in an IRA Conditional Approval dated May 24, 2007. Other than a single background sample collected from the on-site cemetery, the samples were collected from two sampling grids and field-screened using an XRF. Soil samples were then submitted for total arsenic concentrations. The analytical results were incorporated into the previously performed Imminent Hazard Evaluation (IHE) (Woodard and Curran, 2007).

An EPA Site Reassessment of the western portion of the Site was initiated in November 2009 following the Massachusetts Attorney General's office filing a lawsuit in June 2009 against the property owner, citing inaction to take the necessary steps to protect the public and clean up the hazardous waste on the western facility property (Weston, 2012b).

Between April 2010 and December 2011, Weston Solutions, Inc. (Weston) performed site reconnaissance inspections and source soil and sediment sample collection to support the development of an EPA Site Reassessment (SR). In May 2011, 23 hand auger borings were performed in potential source areas and 26 sediment samples were collected along the western bank of the Crane River. An additional 15 potential source soil samples and 42 additional sediment samples were collected in December 2011. A majority of the samples collected were analyzed for SVOCs, PCBs, total metals (including mercury), dioxin/furans, and hexavalent chromium. Several of the samples were analyzed for a smaller subset of the aforementioned analyses. Source area soil analytical results indicate elevated levels of dioxins and total metals, including chromium and arsenic. The sediment analytical results indicate that a release of contaminants to sediments from sources on the western side of the Crane River has occurred (Weston, 2012b).

1.2.3.3 Nearby Investigations

Additional investigations have been conducted on two sites adjacent to the Study Area: a former manufactured gas plant (MGP) at Merrill Street adjacent to the MBTA ROW, and a property

adjacent to 15 Pleasant Street and the MBTA ROW, where arsenic and chromium-contaminated soil was encountered during ramp work at the High Street exit of Route 128.

The MGP site was active from 1860 to 1906. After 1906, it was used as a distribution center and subsequently for light industry and residences. It was first evaluated in a 1994 Phase I investigation, which identified coal tar in the Crane River. In 1995, portions of the property were capped with geotextile and topsoil to address polycyclic aromatic hydrocarbons (PAHs) and lead representing an Imminent Hazard under the MCP. In 1998, approximately 1,500 cubic yards of soil were removed as part of a Release Abatement Measure. From 1997 to 1999, supplemental Phase II investigations were performed to characterize the contamination and support a risk characterization (BBL, 2004). In 2006, approximately 2,000 cubic yards of sediment were removed from the Crane River. The response action is classified as a temporary solution under the MCP and therefore is subject to 5-year Periodic Reviews. The last 5-year Periodic Review was completed in 2012 (Arcadis, 2012).

At the Route 128 site adjacent to 15 Pleasant Street, clumps of unknown white material were encountered during brush and topsoil clearing in 2010. XRF screening of the white material indicated that it was in excess of MCP Imminent Hazard levels for arsenic. A fence was erected around the area to prevent access. Follow-up laboratory results confirmed the high arsenic concentrations and indicated that chromium was also present at concentrations above MCP Imminent Hazard levels. Contaminated soils (12,000 cubic yards) were excavated and disposed of off-site (TetraTech, 2013).

2.0 STUDY AREA INVESTIGATIONS

This section describes the environmental investigations performed for the Study Area Remedial Investigation (RI) in 2014. The field activities were conducted in general accordance with the Quality Assurance Project Plan (QAPP) (Nobis, May 2014). Any deviations from the QAPP were recorded in Field Modification Records and are described in the sections below. The QAPP was developed based on findings of the prior investigations described in Section 1.2.3, the draft Conceptual Site Model (CSM) (Nobis, March 2014), and input from EPA.

The 2014 RI field activities, performed in June, July, and October 2014, were conducted to provide a comprehensive soil, groundwater, and sediment evaluation within the Study Area, as well as to

address any identified data gaps from previous investigations. Data acquired from these investigations will be used to develop a comprehensive RI report, including a Human Health Risk Assessment (HHRA) and Ecological Risk Assessment (ERA). The results of the RI will provide critical information for the development of a Feasibility Study (FS), Proposed Plan, and Record of Decision for the Study Area.

The following sections discuss the elements of the 2014 RI environmental field investigations.

2.1 Geophysical Investigation – May 2014

From May 14 to May 22, 2014, Hager Geoscience, Inc. (HGI), under subcontract to Nobis, performed a multi-method geophysical investigation across the Study Area. The objectives of the investigation included identifying areas and depths of fill that may be sources of soil and groundwater contamination, determining the depth to bedrock beneath the Study Area, and evaluating the presence of other possible sources of subsurface contamination.

HGI conducted geophysical traverses throughout the 33 Water Street, 12 Cheever Street, 20 Cheever Street, and the MBTA ROW parcels. Due to access limitations, the 15 Pleasant Street property was not included in the survey. Approximately 8,050 linear feet of geophysical data were collected at the Study Area. HGI utilized electrical resistivity (ER) profiles, totaling approximately 1,615 feet, to delineate possible areas of fill and contamination by identifying areas of anomalous electrical characteristics. One seismic refraction line, totaling approximately 2,125 feet, was used to determine depth to bedrock. Two multichannel analyses of surface waves (MASW)/refraction seismic lines allowed for the identification of areas of anomalous seismic velocity that could be due to fill. Twelve ground penetrating radar (GPR) lines, totaling approximately 3,760 feet, were run to image the trends of potential fill and stratigraphic horizons. Lastly, ten low frequency, three-component geophones were deployed to determine horizontal-to-vertical (H/V) spectral ratios of ambient noise for preliminary point estimates of depth to bedrock throughout the Study Area. The calculated values of H/V ratios were used to develop the seismic survey design. The results of the geophysical investigation are described in Section 3.1.3. The Geophysical Investigation Report is attached in Appendix A.

2.2 Soil Borings – June 2014

The objectives of the soil boring program were to characterize the geology and the nature and extent of contamination in surface and subsurface soils within the Study Area on the eastern side of the Crane River. Soil boring locations were identified based on results from prior investigations, observations made during Study Area reconnaissance, and results from the geophysical investigation performed in May 2014.

From June 9 to June 27 2014, Nobis supervised the advancement of 63 overburden soil borings using direct push technology (DPT) drilling. Prior to boring advancement, a subsurface utility locator marked utilities on the investigated parcels. Several of the proposed boring locations were modified to avoid any potential underground utility corridors. All depth measurements for the soil borings were referenced to the ground surface. Surface and subsurface soil samples were collected for observation, screening, and chemical analysis from each of the 63 soil borings. Surface soil samples were collected from 0 to 6 inches below ground surface (bgs), unless the boring was performed in a paved area. At borings in paved areas, the surface soil sample was collected from 1 to 2 feet (ft) bgs in order to avoid inclusion of pavement subgrade in the sample. Subsurface soil samples were collected from deeper than 2 ft bgs. Soil samples were obtained at each boring location using 5-foot long dedicated Macro-Core® sampling sleeves, which were advanced in 4-foot intervals. Soils were visually described using the Burmeister Method classification scheme.

The soil borings were advanced by Maher Services, Inc. using two Geoprobe 7822DT drill rigs equipped with direct push technology (DPT) tooling and 3-inch diameter Macro-Core® samplers. All borings were supervised by Nobis rig geologists. The rig geologists logged the geology of the borings; collected soil samples for screening and analysis; performed field screening for VOCs, methane and hydrogen sulfide; and photo-logged the soil cores. The soil boring logs are included in Appendix B. Soil borings were advanced through observed fill material and approximately 3 to 4 feet into native silts and clay, at which point the boring was terminated. If sand was encountered in the boring (in thicker lenses or interbedded within the silt and clay), sampling continued to a terminal depth of 16 feet bgs. Terminated borings were backfilled using native clay soil cuttings and/or hydrated and tamped bentonite chips up to grade. Borings advanced in landscaped areas were backfilled with an approximately 6” lift of clean topsoil to bring the borehole to grade. Borings in paved areas were completed with asphalt patch material. Geoprobe casing and drive rods were

decontaminated using a Liquinox solution and potable water rinse. Decontamination water was supplied by the Town of Danvers Department of Public Works via a metered fire hydrant. Soil boring locations are provided on Figure 2-1.

The extracted 4-foot soil cores were subdivided into 2-foot long sample intervals. Nobis field geologists used a combination photoionization detector (PID)/4-gas meter and a flame ionization detector (FID) to screen each sample. A soil sample from each of the 2-foot intervals was collected and field screened for metals (arsenic, chromium, lead, mercury and nickel) using x-ray fluorescence (XRF) in the EPA Office of Environmental Measurement and Evaluation (OEME) Mobile Laboratory. Samples from approximately half of the sampled intervals (the surface soil interval and 3 subsurface soil intervals) were also field screened for PAHs by bioassay analysis in the Nobis field trailer laboratory. The remaining soil from each sampling interval was reserved for possible fixed laboratory analysis to be determined based on the screening results. Samples to be reserved for potential analysis were homogenized and held in one 32 oz. amber jar, except for VOCs, which were collected in pre-preserved sample bottles immediately from the sample sleeve. If additional soil matrix was required for the minimum sample volume, additional soil was collected by advancing additional boring(s) within 1 foot of the initial boring to the same sampling depth.

Once screening results were reviewed and evaluated, samples were selected for shipment to the fixed laboratory for a full suite of analyses: VOCs, semivolatile organic compounds (SVOCs) (including PAHs by selected ion monitoring [SIM]), pesticides, polychlorinated biphenyls (PCBs), and metals. Three soil samples were collected from each of the 63 borings for fixed lab analysis: one surface soil sample (denoted by “SS” for surface soil sample), one sample from the interval with the highest observed metals and/or PAH field screening concentrations, and one sample from the interval of material directly beneath the deepest interval of soil containing elevated screening concentrations of metals or PAHs. Based on metals field screening results, 20 percent of the fixed laboratory samples were also submitted for hexavalent chromium analysis. Based on PAH field screening results, approximately 10 percent of the fixed laboratory samples were also submitted for dioxin/furan congener analysis. Geochemical parameters were analyzed in approximately 10 percent of the samples collected for fixed laboratory analysis, and approximately 50 percent of the samples were submitted for laboratory pH/ORP (eH) analysis. The geochemical parameters results will be used to evaluate the presence of hexavalent chromium in Study Area soil, the conditions affecting the fate and transport of contaminants, and

to assist in Feasibility Study evaluations of the potential effectiveness of treatment options. Soil sampling intervals and associated analyses performed are summarized in Table 2-2.

2.3 Monitoring Well Installation – June - July 2014

From June 30 to July 9, 2014, ten 2-inch diameter, schedule-40 polyvinyl chloride (PVC) monitoring wells were installed within the Study Area to evaluate potential groundwater contamination and Study Area hydrogeology. All wells were installed to monitor the shallow overburden aquifer. The monitoring well locations were determined based on field observations, field screening results from the DPT soil investigation, results of the geophysical investigation, a review of existing historical information, and data collected during previous investigations. The monitoring well locations were selected to support evaluation of groundwater quality and of groundwater flow and interaction with surface water within the Study Area. The installed monitoring well locations are depicted on Figure 2-1.

The shallow overburden wells were installed using Geoprobe 7822DT drill rigs equipped with DPT tooling and 3-inch diameter Macro-Core® samplers. The shallow overburden wells were installed to a maximum depth of 15 feet bgs, constructed with a 10-foot long screened interval at a depth of 3 ft. to 13 ft. bgs and a 2-ft long sump at the bottom of each well (13 ft. to 15 ft. bgs). Based on particle size analyses performed on samples collected from several DPT soil borings, monitoring well screens in wells MW-02, MW-04, and MW-06 were constructed of 10-slot (0.010 inch) screen and surrounded by #00 filter sand. The remaining six well screens were constructed of 6-slot (0.060 inch) screen and surrounded by #000 filter sand. The filter pack material in each well was overlain by a layer of hydrated bentonite chips, and brought to grade with a combination of sand and native clay material (if encountered within the boring). Each of the monitoring wells (except wells MW-07 and MW-09) was completed with an either 6-inch or 8-inch diameter flush-mounted road box. Given their location in heavily vegetated areas, wells MW-07 and MW-09 were completed with a protective stick-up well casing to facilitate well location for future gauging/sampling events.

The installation of the monitoring wells was supervised by a rig geologist who monitored drilling and installation details and prepared soil boring and well installation logs. During drilling, 3-inch diameter Macro-Core® sleeves were obtained to allow for soil classification and logging. No

analytical laboratory soil samples were collected during the monitoring well installations. Monitoring well boring/well installation logs are presented in Appendix B.

The newly installed overburden monitoring wells were developed using surge and purge techniques using a Waterra foot valve system. The Waterra foot valve and tubing, affixed with two surge blocks, was surged up and down the entire well screen during development. Once Waterra surging and purging was completed, a submersible Typhoon pump was used to overpurge the wells to eliminate suspended fine soils. Each monitoring well was developed until the extracted groundwater was visibly clear. Turbidity measurements (using a HACH 2100Q turbidimeter) and total purge volumes from each well were monitored during development. Well development logs are attached in Appendix B. Once the monitoring wells were considered developed, the wells were allowed to equilibrate with the aquifer for a minimum of 48 hours prior to performing an initial round of groundwater sampling. All groundwater purged during well development was containerized and accumulated in a large polyethylene tank in the vicinity of the Study Area trailer.

2.4 Groundwater Sampling and Elevation Monitoring – July 2014

The objective of the July 2014 groundwater monitoring program was to provide a comprehensive baseline characterization of potential contaminants and geochemical constituents present in Study Area groundwater and to evaluate shallow groundwater flow throughout the Study Area. Several wells outside the Study Area, on adjacent properties and across the Crane River, were included in the baseline investigation to provide a more comprehensive, area-wide understanding of groundwater flow and potential contaminant transport pathways.

On July 14, 2014, a synoptic groundwater level monitoring event was performed using electronic water level meters to determine the piezometric surface of the groundwater within the Study Area. One of the newly installed monitoring wells was observed to be dry (MW-10).

Following the water level round, from July 14 to 17, 2014, groundwater samples were collected from 14 monitoring wells. The wells sampled included eight of the ten newly installed wells, three wells on the 15 Pleasant Street parcel, one MGP site well, and two wells on the 55 Clinton Avenue property on the west side of the Crane River. Two of the newly installed wells were not sampled because they were dry (MW-10) or had insufficient water for sampling (MW-7). All Study Area

monitoring wells are shown on Figure 2-1. The samples were collected using the EPA low-flow groundwater sampling protocol as stated in the QAPP, except for wells TT-06, RR-2-MW, and MW-01. These three wells had insufficient groundwater flow to allow for the sustained pumping required for the low flow sampling protocol. Two of the wells (MW-01, TT-06) were sampled shortly after the start of pumping, without allowing parameters to stabilize; the third well (RR-2-MW) was purged dry, allowed to recharge, and then sampled the following day. All samples were collected using peristaltic pumps. Dedicated Teflon-lined tubing was used to bring the sampled water to the ground surface. Groundwater geochemical parameters (i.e., pH, turbidity, temperature, etc.) were continuously monitored using an in-line YSI, Inc. water quality meter and a separate HACH 2100Q turbidimeter. Groundwater field sampling logs are presented in Appendix C. Specific analyses and analytical methods associated with the sampling are summarized in Table 2-1. A sample collection summary for each event, including wells sampled and analyses performed, is provided in Table 2-3.

2.5 Groundwater Sampling and Elevation Monitoring – October 2014

The objectives of the October 2014 groundwater monitoring program were to verify the presence or absence of contaminants identified during the July 2014 sampling and to evaluate seasonal differences in groundwater flow and contaminant concentrations.

On October 10, 2014, a synoptic groundwater level monitoring event was conducted using electronic water level meters to determine the piezometric surface of the groundwater within the Study Area. Following the water level monitoring round, from October 10 to 16, 2014, Nobis collected groundwater samples from 13 monitoring wells. The samples were collected using the EPA low-flow groundwater sampling protocols as stated in the QAPP, except for wells TT-06, RR-2-MW, and MW-01, which had insufficient recharge for low flow sampling. These three wells were purged dry, allowed to recharge, and then sampled up to a week later. All samples were collected using peristaltic pumps. Dedicated Teflon-lined tubing was used to bring the sampled water to the ground surface. Groundwater geochemical parameters (i.e., pH, turbidity, temperature, etc.) were continuously monitored using an in-line YSI, Inc. water quality meter and a separate HACH 2100Q turbidimeter. Groundwater field sampling logs are presented in Appendix C. Specific analyses and analytical methods associated with the sampling are summarized in Table 2-1. A sample collection summary for each event, including wells sampled and analyses performed, is provided in Table 2-3. Study Area monitoring wells are depicted on Figure 2-1.

The October groundwater monitoring event also included slug tests to aid in the evaluation of Study Area hydrogeology. Rising head and falling head slug tests were performed in wells MW-02, MW-04, and MW-05 on October 17, 2014. The wells were selected to evaluate a range of consolidated and unconsolidated material observed during monitoring well installation and to provide adequate spatial coverage across the Study Area. Additionally, these wells had sufficient recharge to allow for successful testing and are believed to have little tidal influence. The slug test analyses and results are described in Section 3.2.

2.6 Tidal Study – July-August 2014

Nobis performed a comprehensive tidal study between July 22 and August 18, 2014 to evaluate whether groundwater in the Study Area is influenced by tidal changes in the Crane River. Beginning on July 22, Nobis initiated the first phase of the tidal study, a one-week monitoring period of wells selected due to their proximity to the Crane River. In situ Troll 200 pressure transducers were installed in five Study Area monitoring wells (MW-02, MW-03, MW-05, MW-06, and MW-09) located at varying distance from the Crane River. In addition, a stilling well was installed at the southern MBTA railroad bridge to provide local surface water depth and chemistry information (Figure 3-9). A pressure transducer was also installed in the stilling well. Nobis also installed staff gauges at the northern and southern MBTA railroad spur bridges for inclusion in the tidal study and future synoptic water level rounds.

The transducers were programmed to record in 2-minute intervals starting at 1500 hours on July 22. On July 23, the equipment was checked to ensure that the transducers were operational, and that the surface water gauges and stilling well were secured. Nobis also performed a high-tide synoptic water level round and confirmed that the high tide water level was below the top of the stilling well and surface water gauges.

On the morning of July 29, the transducers were removed from four of the monitoring wells. Based on observed pressure fluctuations correlating with tidal cycles at monitoring well MW-09, the well was selected for the month-long lunar cycle portion of the tidal study. The transducers in MW-09 and the stilling well were re-set to record in 10-minute intervals and were left in place for the remainder of the month-long tidal study. Both transducers were removed upon study conclusion

on August 18. The conclusions of the tidal study are presented in Section 3.2.3. Graphs of water level and other parameters are provided in Appendix D.

2.7 Ecological Reconnaissance – June 2014

On June 23 and 24 2014, staff from Avatar Environmental (Nobis' Team Subcontractor) and EPA Region 1 performed an ecological reconnaissance to evaluate ecological habitats and animals living within the Study Area, and to identify potential locations for future sampling. The June 23 site visit occurred during slack low tide; the June 24 visit occurred at flood high tide. The reconnaissance identified a 6-inch diameter outfall pipe roughly 30 feet upstream of the former steamline bridge. It was determined that a sediment sample should be collected from beneath this outfall pipe, as well as 12 to 20 additional sediment samples distributed evenly along the shoreline.

In addition to consideration of ecological receptors, human exposure to potential contaminants in two small vegetable gardens on the 35 Water Street property was also considered. Soil sample locations were selected in the vicinity of the two small vegetable gardens. One of the gardens appeared to be untended. The Site Visit Summary Report is attached in Appendix E.

2.8 Sediment Sampling – October 2014

On October 13 and 14, 2014, 2014, Nobis collected sediment samples from 15 locations in the embankment of the east side of the Crane River to provide a comprehensive baseline characterization of potential contaminants and geochemical constituents present in Study Area sediment. Sediment sample locations are shown on Figure 2-1. Samples were collected in accordance with the QAPP. Field sampling logs are presented in Appendix C. Specific analyses and analytical methods associated with the sampling are summarized in Table 2-1. Individual sample information is summarized in Table 2-4.

3.0 PHYSICAL CHARACTERISTICS OF THE STUDY AREA

The results of the drilling program, surface geophysics, and tidal study were used to evaluate Study Area geology and hydrogeology as described below.

3.1 Study Area Geology

The materials encountered in the Study Area can be divided into two broad categories: anthropogenic (fill) and apparent native materials. The materials are located in distinct areas and may represent different deposition as well as potential sources of contamination. Cross-sections were prepared based on the 2014 soil boring logs to evaluate Study Area stratigraphy; see Figure 3-1 for cross-section transect locations and Figures 3-2a through 3-5 for cross-sections. The general stratigraphy of the Study Area is described below. The individual geologic units encountered are describe in more detail in Sections 3.1.1 and 3.1.2.

Fill is relatively consistent throughout the Study Area, although it is thin to nonexistent in the northern portion of 20 Cheever Street. The majority of the material encountered below fill is the clay/silt unit, which is relatively free of sand lenses along the northern portion of the Study Area. Interbedded sand lenses of varied thicknesses were encountered generally starting in the central portion of the 33 Water Street property and to the south. At the 35 Water Street property and the northern portion of the 45 Water Street property, borings encountered entirely sand beneath fill. This sand unit may represent a previous river channel, given its position across the middle of the current peninsula.

3.1.1 Fill

Fill at the Study Area is a mix of anthropogenic material (including brick fragments, rebar, partially burnt wood, ash, and leather scraps), apparent non-native natural materials (such as gravel), and reworked finer materials, which are likely local. Any zones with anthropogenic material were considered to be indicative of fill. Evaluation of the fill materials may indicate source of the fill (local or non-local) as well as provide indicators for potential contamination. Fill was encountered in 52 out of 73 borings, with fill depths ranging from 0.5 to 10.5 feet below grade. As illustrated by the cross section figures (Figures 3-2a through 3-5), where it was encountered, fill was generally the uppermost geologic unit present.

Three main categories of fill were observed in Study Area borings: construction debris, materials indicative of burning, and potential tannery waste. These fill types are described in the paragraphs below. Figure 3-6 shows the locations where the different types of fill were encountered during the 2014 drilling program and the 2012 Site Inspection (Weston, 2012).

Construction/demolition materials (brick, mortar, concrete, and rebar) were encountered in 27 borings (37 percent) in the 2014 investigation and 18 borings in 2012. Brick constituted the bulk of this material. Although these materials are not themselves considered significant potential sources of contamination, they may indicate locations where debris from the tannery and other local industrial operations were dumped, and those materials may be contaminated. The construction/demolition debris was present in mixed waste and by itself within apparently reworked sediment that was not clearly distinguishable from undisturbed native material. Construction/demolition debris was confined to the southern half of the Study Area, and was found throughout the 33 Water Street parcel as well as 35 Water Street and the northern portion of 45 Water Street. The construction/demolition debris also extended to the ROW parcel close to the river adjacent to 45 Water Street and the central portion of 33 Water Street. Two borings outside these parcels also encountered construction debris—one at 20 Cheever Street and one at 12 Cheever Street.

Materials indicative of burning were present in 40 of the 2014 borings (55 percent) and in 13 borings in 2012. These materials included slag, coal/coal ash, and partially burned wood and other materials. These materials are potential sources of PAHs and metals. Some of the burned material may be from the former tannery building, which was partially destroyed by fire in 1983. However, the coal and ash were likely from general industry operations. These may have included local coal-fired boilers, such as those that were likely used by the tannery, and operations at the former MGP on Merrill Street, adjacent to the ROW. Coal ash and cinders were encountered throughout the central and northern ROW and on the southeast edge of the 20 Cheever Street parcel, suggesting that this material may have been imported here as part of railroad construction. Burned material including coal pieces and ash was also encountered at 33 Water Street in several locations: The northern property border, the eastern side of the former tannery footprint, and the western side of the property, extending out to the edge of the river to the south. Burned material was also encountered in the northern portion of the 45 Water Street property and the southern end of the ROW.

Apparent tannery waste (leather scraps) was encountered in five borings in 2014 and in 10 borings in 2012. Animal hair or other tannery materials were not identified in the 2014 investigation. The leather scraps were found in the southern portion of the 20 Cheever Street property; at the corner of the 12 Cheever Street property between 20 Cheever Street and 33 Water Street; and on 33 Water Street and the adjacent portion of the ROW. Previous

investigations encountered possible tannery waste across the 33 Water Street property and between it and the river.

Other miscellaneous anthropogenic debris found included glass and tile (which may be from construction/demolition), and unidentified ceramic, metal, and plastic pieces. Although this material is present on the ground surface at 20 Cheever Street, it does not appear to extend far laterally or vertically and does not make up a significant portion of the material encountered in the borings across the Study Area. The former landfill area at 20 Cheever Street suggested by previous investigators appears to represent localized dumping areas rather than large-scale disposal.

3.1.2 Native Material

Two major classes of native material were encountered in Study Area borings: silty clay and sand. The sand units typically consisted of fine to medium sand. Both the sand and clay had varied amounts of silt. Fine to coarse sands and gravels were often encountered within the top five feet of the subsurface; these materials may have been imported to provide structural support and drainage.

The paragraphs below describe the native units encountered in the 2014 soil borings. Figure 3-7 shows the material encountered at the end of each 2014 boring (assumed to be entirely native material) and the depth of the unit. Only the 2014 results are described below and in Figure 3-7 because the 2012 Site Inspection did not describe native soil changes at depth. Figures 3-2a through 3-5 provide cross-sections of Study Area geology.

Grain size was determined by laboratory analysis for several borings in the southern end of the Study Area. Appendix F provides the grain size results and compares the analytical results to the field observations. Similar materials were encountered throughout the Study Area.

Silty Clay

Silty clay, often with trace fine to medium sand and gravel, was the primary native material encountered. The clay ranged from a brown to olive or gray color, and was often mottled. The material was generally extremely stiff, making it difficult for samplers to manipulate the material for evaluation and sampling. Based on grain size analysis results, the silty clay material had a silt

content ranging from 28 percent to 43 percent by weight, and a clay content from 33 percent to 64 percent, with up to 20 percent fine to medium sand. At a few locations, some gravel fragments were also encountered in this unit.

A majority of the borings (49, or 67 percent) had at least 2 feet of clay or silty clay at the end of the boring. A few early borings encountered up to 8 feet of clay, but the field program was modified so that borings with more than 2 feet of clay were stopped short of the original target depth (at 8 or 12 feet bgs). Borings terminating in solid clay or silty clay were encountered in most portions of the Study Area. Exceptions included the central and southern portion of 33 Water Street and adjacent areas of the ROW; three borings on 35 and 45 Water Street; and three borings in the northern portion of the ROW (ROW-2 through ROW-4).

Every boring on 12 Cheever Street and nearly every boring on 20 Cheever Street terminated in solid or silty clay. Two borings on 20 Cheever Street (MW-09 and 20CH-12) terminated in sand or alternating clay/sand. However, in both of these cases, the sand was encountered just below a thick (6 to 7 ft.) layer of clay or silty clay, and at or below the terminal depth of the adjacent borings. These observations suggest that sand or alternating clay/sand lenses are likely present underlying the thick layer of silty clay in this area.

Tan/Olive/Brown Sand

The sand encountered at depth was primarily a soft, fine to medium sand. The sandy material was primarily fine to medium sand (63 percent to 94 percent), with some coarser materials (coarse sand and gravel) and silt. Clay was occasionally encountered in small amounts. The sand color tended to vary from tan to brown. Only a few areas had primarily sand at depth, without intervening clay layers; these included the southern portion of the Study Area (35 and 45 Water Street) as well as one location in the northern ROW. This material was also encountered in one location at 20 Cheever Street (MW-09), below a thick clay layer, at a depth below the bottom of other nearby borings that terminated within the clay layer, as described above.

Alternating Clay and Sand

Fifteen borings encountered significant alternating layers of clay and sand. These layers ranged from an inch up to a foot or more thick, and it is possible that some of the borings with primarily sand or clay may have these layers at depth. The borings with alternating clay and sand layers

were located in the southern portion of the 33 Water Street parcel and at the ROW adjacent to this area. One boring at 20 Cheever Street (20CH-12) is a possible example of alternating layers, with sand encountered underlying a thick clay layer, and at a depth at or below the bottom of nearby borings that terminated in clay, as described above.

Seashell-Bearing Materials

Three borings encountered a distinctive gray unit, which contained sand, silt, and soft clay. This was the only unit with seashells and may represent a marine deposit. The material was encountered in the northern and south-central portion of the ROW.

3.1.3 Geophysical Results

This section summarizes the findings of the geophysical surveys of the Study Area. The complete geophysical report is provided in Appendix A. The GPR and ER data were combined to identify a relatively shallow fill area, with depths ranging from 1 to 7 feet bgs. GPR also identified a deeper fill horizon (4.5 to 14 feet bgs), which HGI interpreted to be the bottom of anthropogenic fill.

ER data suggested that the edge of the 20 Cheever Street parcel was impacted by saltwater intrusion, as well as several areas at the 33 Water Street parcel along the edge of the ROW and one area in the central portion of 33 Water Street. The pattern of saltwater intrusion indicated by geophysics is not consistent.

The interpreted depth to bedrock varies from approximately 60 to 90 feet along the ROW. The deeper rock at the southern end of the ROW appears to be more weathered, and transitions to competent, crystalline bedrock north of 20 Cheever Street. The seismic signal at the 20 Cheever Street property was attenuated by the presence of a weathered bedrock or extremely dense clay layer at about 40 feet bgs, and the depth to bedrock below this layer was not determined.

3.2 Study Area Hydrogeology

The Study Area hydrogeology is strongly influenced by the variation in native materials (clay/silty clay to sand) and tidal impacts as described below.

3.2.1 Stratigraphy and Well Yield

The clay/silty clay unit described in Section 3.1.2 is expected to act as an aquitard, especially in comparison to the sand units encountered, which generally had very low amounts of silt and other finer material. Therefore, the groundwater flow is primarily controlled by the sand lenses (and in some locations, larger sand bodies) that are present. Locations with extremely thick clay/silty clay layers and minimal sand (such as in parts of the southern end of the Study Area, where some borings encountered more than 9 feet of clay/silty clay) will not transmit water on the scale of a groundwater sampling program. The well development, sampling, and water level rounds indicate that two of the wells (MW-01 and MW-07) are extremely poor producers, and that the water levels in these wells equilibrate over a period of weeks rather than hours. Both these wells are in areas with thick clay/silty clay units.

Slug tests were performed in monitoring wells MW-02, MW-04, and MW-05, which were selected because they had minimal tidal influences during previous work and were reasonably productive wells. The hydraulic conductivity measured in MW-04 and MW-05 is relatively low (less than one foot per day [ft/day]), compared to a hydraulic conductivity of approximately 17 feet per day in MW-02. These results are consistent with the aquifer materials encountered during drilling. The large variation in hydraulic conductivity across the Study Area suggests that groundwater flow is strongly influenced by groundwater flow paths via the sand units. Complete slug test results, including a discussion of the analytical methods used, are included in Appendix G.

3.2.2 Potentiometric Surfaces

Potentiometric surface contour maps were constructed using groundwater and surface water elevations obtained from water level measurements collected during the three synoptic water level measurement events described in Sections 2.4 and 2.5. Figure 3-8 depicts groundwater surface elevations on July 14, 2014 at low slack tide; Figure 3-9 depicts groundwater elevations on July 23, 2014 at high slack tide; and Figure 3-10 depicts potentiometric surface elevations on October 10, 2014 during low to rising tide.

For these initial potentiometric surface maps, data from all monitoring wells have been included, with the exception of MW-10 (dry for both monitoring events), and TT-01, TT-02, and TT-06, which have not been surveyed. Note that future surveying work will include those wells and the surface water gauges. Surface water elevations for the July 23 and October 10 monitoring events have

been estimated based on the installed location of the gauges and the Study Area topographic map. Surface water elevations were not measured during the July 14 monitoring event, as the surface water gauges had not been installed at that time.

Groundwater flow is generally toward the river; however, the groundwater contours include two “sinks” at MW-01 and MW-07, which slightly distort the flow field. MW-01 and MW-07 were screened in silty clay and were noted to have extremely slow recharge during well development and sampling. Water level data from these wells have been included on the piezometric surface figures for this document, but may be omitted in later documents, depending on the results of future water level rounds.

Along the west side of the Study Area (east bank of the river), groundwater flow is generally toward the west, and in the southern end of the Study Area (south end of 33 Water Street to 45 Water Street), flow is generally toward the south. This produces a radial flow effect on the northeastern side of 33 Water Street. Additional well control is needed to determine the location of the hydraulic divide in this area, and to better determine the direction of groundwater flow from the former tannery building and more generally in the southern portion of the Study Area. The majority of groundwater flow is expected to be in the southern portion of the Study Area, which has more areas with thick sand lenses.

Water levels at MW-08 were significantly higher than at the rest of the Study Area during the three monitoring events. The well is set in 10 feet of clay (from 5 to 15 feet bgs), and had excessively high water temperature during July and October groundwater sampling. These observations suggest that the water from MW-08 is perched and may be isolated from the rest of the Study Area groundwater.

3.2.3 Tidal Impacts

Transducers were installed in five groundwater monitoring wells (MW-02, MW-03, MW-05, MW-06, and MW-09) and a stilling well installed in the center of the river channel beneath the southern railroad bridge to provide a baseline for comparison. Appendix D contains the water level and chemistry graphs for each transducer, as well as a detailed discussion of the tidal study results.

Of the five monitoring wells selected for the 1-week tidal study, three (MW-03, MW-05, and MW-09) were impacted by tide changes. However, all three wells had a much smaller amplitude of water level changes than the surface water at the stilling well: the maximum change in water level was 0.44 feet in MW-03, 0.20 feet in MW-05, and 1.67 feet in MW-09 compared to 7.32 feet in the stilling well. The specific conductivity of the water measured in the stilling well also varied significantly, with much higher concentrations at high tide (seawater), but only MW-09 registered a change in specific conductivity that appeared to be tidally influenced.

MW-09 was selected for the 1-month tidal study. Over the study period, the water level in MW-09 varied by 2.17 feet. Low tide water levels in the stilling well ranged from 0.28 ft. to 0.78 ft. above the transducer. High tide water levels in the stilling well ranged from 5.50 ft. to 9.11 ft. above the transducer. The maximum water level in MW-09 may have been impacted by a significant rainstorm.

Given these variations in water levels, synoptic water level rounds should continue to be held at slack tide. In addition, MW-09, MW-05, and MW-03 should be sampled during slack tide (either high tide or low tide). MW-02 and MW-06 do not appear to be tidally influenced and can be sampled normally. MW-01 and MW-07 are extremely poor producers and therefore, not tidally influenced. MW-04 and MW-08 are located away from the river and are not considered likely to be tidally influenced, especially considering the relatively small fluctuations closer to the river. However, they may be sampled as if they were tidally influenced, at least for the next sampling round. If additional synoptic water level monitoring events suggest that they are not influenced by tides, then they may be sampled normally.

4.0 NATURE AND EXTENT OF CONTAMINATION

This section presents the conclusions of a data usability evaluation and the analytical results of soil, groundwater, and sediment sampling, which was performed during the summer and fall of 2014. Soil and groundwater sampling were performed in June and July 2014. The second quarterly groundwater sampling and sediment sampling were performed in October 2014.

The discussions presented in the following sections are limited in nature and focus on common tannery contaminants and on risk-drivers identified in Section 5 of this report. The objective of this section is to present an initial evaluation of the nature and extent of contaminants detected in the

Study Area for use in determining whether additional data are needed for preparation of a well supported RI/FS, Proposed Plan, and ROD for the Study Area. A more comprehensive evaluation of analytical results will be presented in the Remedial Investigation Report.

The evaluation of the nature and extent of contamination of soils utilizes the Project Action Limits defined in the QAPP. The EPA Regional Screening Levels (RSLs) for residential soils are the primary criteria for comparison. Summary statistics tables and the data tables in Appendix I also provide comparisons to EPA RSLs for commercial/industrial soils; MassDEP background concentrations for metals and PAHs in natural soils and ash fill; and site-specific background concentrations of metals and dioxins/furans in soils. The site-specific background concentrations were developed using a small data set of soil samples collected from the Endecott Burial Ground located within the 55 Clinton Avenue parcel. These samples were considered to be not impacted by tannery activities on that property because they were collected from within the granite walls of the cemetery, which were installed as part of a restoration of the burial ground around 1914, close to the time that the tannery operations began on the property (Danvers Historical Society, 2014). These RSLs, MassDEP background, and site-specific background values were also used for comparison of sediment concentrations.

The evaluation of the nature and extent of contamination in groundwater utilizes EPA RSLs for tap water, EPA Maximum Contaminant Levels (MCLs), and EPA Vapor Intrusion Screening Levels (VISLs) as the criteria for comparisons.

All EPA RSLs used herein were updated in November 2014.

4.1 Data Usability

This section addresses the usability of the data collected during the field investigations for the purposes identified in the QAPP. The field investigation and data evaluation incorporated specific procedures to ensure and evaluate the usability of the data and its adequacy for use in the RI, HHRA, and FS. The conclusions of the data usability evaluation are describe below. Refer to the QAPP (Nobis, 2014) for details of the procedures used to ensure and evaluate data usability.

Usability of Field Data

Field investigation methods used during the 2014 investigations were performed in accordance with the QAPP and approved Standard Operating Procedures. No issues w/ sample collection, field screening, field measurements (water levels during synoptic events & tidal study) that would affect usability for intended purposes.

- One groundwater monitoring well installed in 2014 (MW-10) has been dry since installation, preventing its use for sampling or water level monitoring. An additional deeper well will be needed to meet the intended objective of this well (providing well control on the west side of the Crane River, opposite the south end of the Study Area for evaluation of groundwater flow.

- Two other wells (MW-01 and MW-07) were screened in a very low hydraulic conductivity geologic unit and recharge very slowly, potentially limiting their usability for evaluation of groundwater quality and flow. Additional wells may be needed to better understand groundwater quality and flow in the southern portion of the Study Area.

Usability of Analytical Data

Data validation was performed on the 2014 analytical results according to the *EPA-NE Data Review Program Guidance,* (EPA-NE, 2013a) and *EPA-NE Environmental Data Review Supplement* (EPA-NE, 2013b). All analytical data were reviewed to tier 1, stage 1, which consists of a completeness check. Hexavalent chromium data were reviewed to a tier 1 modified level. This review included a review of laboratory and field sample QC results, modified to the specific laboratory method and technical specification requirements. Dioxins/furans data were reviewed by EPA ESAT to a tier 2 level, which consists of the most stringent and thorough review of laboratory results, laboratory and field QC sample results, and evaluation and recalculation of sample and QC raw data. All CLP RAS data was reviewed to a tier 1 plus level, which includes review of laboratory and field sample QC results and select recalculation and verification of results. Ten percent (10%) of the CLP metals data were reviewed to a tier 2 level. Geochemical testing data and geotechnical testing data (particle size) were not validated except for completeness as these data will not be used for risk assessment but are merely to help determine geochemical conditions at the Site.

At the conclusion of the 2014 data review, the Lead Chemist prepared memoranda summarizing the findings of the data validation and review. The memoranda included an evaluation of the results in relation to the DQOs for the project. These results and/or copies of the memos will be included in the RI Report.

In general, the data met the project quality criteria and can be used without restriction as qualified. Some data were qualified as estimated due to failure to meet project quality criteria and may contribute to some level of uncertainty to project decisions. These data are qualified as “J” or “UJ” in the complete analytical results tables in Appendix I.

In certain instances, results have been rejected because they do not meet the evaluation criteria. Rejected data were a result primarily of low performance evaluation (PE) results for select analytes for VOCs, SVOCs, and pesticides in soil samples. Low instrument response for 1,4-dioxane and pentachlorophenol and low internal standard recovery in two samples for VOCs also resulted in rejected soil results. Rejected data for groundwater samples was limited to low PE results for three SVOCs, a low instrument response for pentachlorophenol, and a low matrix spike recovery for aluminum. No data were rejected for hexavalent chromium or dioxin/furan analytes in any matrix. None of the data for metals in soils were rejected. Data that has been rejected are not evaluated and are not utilized for RI or HHRA purposes. The rejected results are marked with an “R” qualifier and are included in the complete analytical results tables in Appendix I.

The vast majority of data meets project quality objectives and is considered usable for the purposes of this project.

Thallium and Arsenic Data Evaluation

A detailed evaluation was performed to evaluate the usability of thallium and arsenic results from the 2011 soil investigation performed for EPA, as part of the Site Inspection for the eastern Site properties (Weston, 2012). The usability evaluation was undertaken because thallium results from the 2011 soil samples were found to be consistently an order of magnitude higher than the thallium results from the 2014 soil samples, even though the samples were collected from the same general area. Additionally, preliminary human health risk assessment results for Study Area surface soils indicated that thallium concentrations, elevated due to the higher 2011 dataset, drove the total risk. Concentrations of arsenic, the primary tannery contaminant of concern, also

contributed to the risk, but to a lesser extent. The validity of these results was questioned because thallium is not an expected contaminant based on the historical Site use related to tannery operations. Nobis conducted additional data review and literature review to help assess the validity of the thallium data. While performing the data review and literature review of thallium, it became apparent that arsenic results can also be impacted by the analytical method used in the 2011 investigation, and a review of arsenic was conducted.

The evaluation concluded that the 2011 soil analytical results for thallium analyzed by inductively coupled plasma-atomic emission spectroscopy (ICP-AES) **should not** be included in the Study Area dataset to be used for evaluation of contamination and risk assessment. The evaluation concluded that ICP-AES could result in potential false positive or bias high measurements caused by matrix interferences. Comparison of the thallium results from ICP-AES analysis with those analyzed using inductively coupled plasma-mass spectrometry (ICP-MS) supported the conclusion that the 2011 ICP-AES data had false positives and/or high bias. The evaluation also concluded that the 2014 results for thallium analyzed using ICP-MS **should** be included in the Study Area dataset used for the evaluation of contamination and risk assessment. In addition, the analytical results for arsenic from 2011 **and** 2014 (ICP-AES and ICP-MS) **should** be included for use in the data evaluations and risk assessment for the Study Area. The complete evaluation of arsenic and thallium data usability is provide in Appendix H.

4.2 Soils

Soil samples were collected to assist in determining the nature and extent of contamination in the Study Area and to support risk characterization. Figure 2-1 depicts the soil sampling locations from the June sampling event. All analytical results are compared to project action limits (PALs) and are presented in Appendix I. The 2014 soil data summary statistics are presented in Table 4-1, with comparisons to PALs. Combined statistics of contaminants detected in soils collected in 2011 and 2014 are provided in Tables 4-2 through 4-7, grouped by property. PALs were defined in the QAPP (Nobis, 2014) and include: EPA Residential and Commercial/Industrial Regional Screening Levels (RSLs), Massachusetts Department of Environmental Protection (MassDEP) background concentrations for metals and PAHs for both natural soils and ash fill, and site-specific background concentrations for metals and dioxin/furans (as toxicity equivalents) developed from soil samples collected from the cemetery located within the 55 Clinton Street property.

The evaluations below focus on contaminants of interest that are known to be used in tannery processes and/or that were detected in previous EPA investigations. For metals, arsenic and chromium are used in the tanning process. Documentation about the Creese and Cook Company operations was prepared by Woodard and Curran, Inc. on behalf of the Orchard Farm Trust, as part of the Immediate Response Action Status Report dated December 2006. The report indicates that portions of the process including dehairing, involved the use of either organic acid or arsenic solutions, which also frequently contained phthalates used as penetrants. Once dehaired, skins were scraped in a strong basic or oxidant solution, and were then softened using a pH adjustment before chroming.

PAHs and dioxins were found frequently in previous EPA investigations and are the focus of SVOC and Dioxin discussions below. Benzo(a)pyrene was selected as a representative PAH for discussion purposes based in part on its toxicity and carcinogenicity. Toxic equivalents (TEQ) (toxicity-weighted total concentrations of detected dioxins and furans) are used as the basis for the dioxins and furans discussion. Evaluation of additional compounds will be performed as part of the RI report as necessary.

4.2.1 Metals

Soil samples collected in June 2014 were analyzed for 23 target analyte list (TAL) metals. All metals were detected, including hexavalent chromium. Arsenic and chromium are the primary metals of interest for the Study Area, and are discussed below. Statistics of all metals detected in 2014 are presented in Table 4-1. Statistics of metals detected at each property in samples collected in 2011 and 2014 are presented in Table 4-2. Complete analytical results are presented in Appendix I.

For the purposes of this evaluation, the concentrations of arsenic, chromium and hexavalent chromium, common tannery contaminants, are described below. Additional metals have been detected frequently and at concentrations higher than comparison criteria. They will be discussed in greater detail in the Remedial Investigation report.

Arsenic

In 2014, arsenic was detected in every soil sample. Concentrations ranged from 2.9 mg/kg to 522 mg/kg. The highest average concentrations were detected at 20 Cheever Street and the MBTA ROW. The EPA RSL for residential soils was exceeded in every sample; the EPA RSL for commercial/industrial soils was exceeded in all but one sample, 12CH-05 from 1 foot to 2 feet bgs. The MassDEP background concentration for natural soils or ash fill was exceeded in 51 samples and the site-specific background was exceeded in 118 samples. These numerous exceedances of background levels indicate that arsenic is a Site-related contaminant.

Arsenic concentrations for soil samples collected in 2011 and 2014 are depicted in Figures 4-1 and 4-2, and compared with the EPA residential RSL. Arsenic concentrations were highest in surface soil samples, especially those along the MBTA ROW, possibly because of materials used in the railroad ties still in place, railroad bed construction, or normal railroad operations and maintenance, including weed control. In subsurface samples, arsenic concentrations were highest in two clustered areas: at 20 Cheever Street near the former landfilling area containing visible slag materials, and at the 33 Water Street and MBTA ROW boundary in an area of fill materials containing pieces of brick, wood, or leather scraps.

Chromium

Chromium was detected in 191 of 192 samples collected in 2014. The EPA RSL of 12,000 mg/Kg for residential soils was exceeded in one sample; the EPA RSL for commercial/industrial soils was not exceeded. The MassDEP background concentration for chromium in soils with ash material was exceeded in 130 of 192 samples. Site-specific background concentrations were exceeded in 174 of 192 samples.

For soil samples collected in 2011 and 2014, concentrations of chromium were slightly higher in surface soil samples as shown on Figures 4-3 and 4-4. For visualization purposes, the action level used for comparison on the chromium figures is the MassDEP background concentration for chromium in soils containing ash material, 40 mg/kg. Other figures showed comparisons to EPA RSLs, however, the EPA RSL for chromium in residential soils is 12,000 mg/kg, and few samples contained chromium exceeding that concentration. The highest average concentration of chromium was calculated from samples collected at 33 Water Street where most surface soil

samples exceeded 40 mg/Kg. Higher arsenic concentrations in surface soils appear to be located along the 33 Water Street and MBTA ROW boundary.

Hexavalent Chromium

In 2014, a subset of soil samples was analyzed for hexavalent chromium, and it was detected in 32 of 37 samples. All detected sample concentrations exceeded the EPA RSL for residential soils, and eight exceeded the EPA RSL for commercial/industrial soils. Only one sample exceeded the MassDEP background concentration for natural soils or ash fill. There is no site-specific background comparison value.

For soil samples collected in 2011 and 2014, concentrations were similar in surface and subsurface soils and by property. Excluding surface soil sample SS-24 (580 mg/kg) from the MBTA ROW, average concentrations of hexavalent chromium were similar between surface (7.6 mg/Kg) and subsurface soils (9.8 mg/Kg).

4.2.2 SVOCs

Several SVOCs, primarily PAHs, were detected in soil samples collected in June 2014. The most frequently detected SVOCs included benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(g,h,i)perylene, benzo(k)fluoranthene, chrysene, fluoranthene, indeno(1,2,3-cd)pyrene, phenanthrene and pyrene as well as di-n-butylphthalate. Concentrations of these compounds exceeded the EPA RSLs for residential soils in at least one sample. Other compounds detected less frequently such as dibenz(a,h)anthracene, dibenzofuran and naphthalene also had concentrations exceeding the EPA RSLs for residential soils. MassDEP background values for PAHs in natural and ash materials were exceeded for all PAHs. However, the frequency of exceedances was generally low, ranging from 3 to 27 of 192 samples exceeding natural background levels and 3 to 9 of 192 samples exceeding the background value for fill materials containing ash. Statistics of all SVOCs detected in 2014 are presented in Table 4-1.

For soil samples collected in 2011 and 2014, the highest PAH concentrations were found at 33 Water Street in sample 33WS-04 from 4 feet to 6 feet below ground surface. Soil descriptions in the boring log indicate fill materials and the possible presence of ash at that sample interval, which could result in elevated PAHs. Statistics of SVOCs detected at each property in samples collected

in 2011 and 2014 are presented in Table 4-3. Complete analytical results are presented in Appendix I.

Figures 4-5 and 4-6 show the distribution of benzo(a)pyrene in surface and subsurface soils, respectively. Nearly every surface soil sample contained concentrations of benzo(a)pyrene greater than the EPA RSL for residential soils; however, average concentrations of benzo(a)pyrene were higher in subsurface soils. Three subsurface samples collected from 33 Water Street and 45 Water Street, all at the 4 feet to 6 feet bgs interval had concentrations exceeding the EPA RSL for residential soils by more than 1,000 times resulting in a higher average concentration. Elevated concentrations of benzo(a)pyrene were detected in surface soils along the entire length of the MBTA ROW, likely as a result of materials used in the railroad ties still in place, railroad bed construction, or normal railroad operations. Most subsurface soils from the same locations did not exceed the EPA RSL for benzo(a)pyrene in residential soils.

4.2.3 Dioxins and Furans

In June 2014, 19 soil samples were analyzed for dioxins and furans. All samples contained dioxins and/or furans, and the TEQ concentrations (toxicity-weighted total concentrations of detected dioxins and furans, relative to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin [2,3,7,8-TCDD]) ranged from 0.741 ng/kg to 305 ng/kg. Fourteen samples had TEQs that exceeded the EPA RSL for residential soils, and eleven samples had TEQs that exceeded the EPA RSL for commercial/industrial soils. Statistics for the TEQs and all dioxins and furans detected in 2014 are presented in Table 4-1.

For soil samples collected in 2011 and 2014 as shown on Figures 4-7 and 4-8, TEQs were higher in surface soils where the average concentration was 94 ng/kg compared to the average subsurface concentration of 7.7 ng/kg. The highest TEQs were found in surface soil samples collected from the southern section of the MBTA ROW, adjacent to 33 Water Street. TEQ concentrations exceeded the EPA RSL for 2,3,7,8-TCDD in residential soils throughout the Study Area. RSLs for residential and commercial/industrial soils and site-specific background concentrations were exceeded more frequently in surface soils than subsurface soils. Statistics for the TEQs and individual dioxins and furans detected at each property in samples collected in 2011 and 2014 are presented in Table 4-4. Complete analytical results are presented in Appendix I.

4.2.4 PCBs

PCBs were detected in only a few soil samples collected during the June 2014 sampling effort. Aroclor 1248 (two samples), Aroclor 1254 (two samples), and Aroclor 1260 (10 samples) were the only PCBs detected. The highest concentration was detected at 20 Cheever Street in sample 20CH-SS11 from 0 feet to 1 foot below ground surface. Statistics of PCBs detected in 2014 are presented in Table 4-1. Overall, most of the detections of PCBs were found in surface soil samples collected within 2 feet of the surface, most frequently at 33 Water Street and the MBTA ROW. Statistics of PCBs detected at each property in samples collected in 2011 and 2014 are presented in Table 4-5. Complete analytical results are presented in Appendix I.

4.2.5 Pesticides

Pesticides were detected infrequently in soil samples collected in June 2014. 4,4'-DDT was detected most frequently, but in only 38 of 166 samples. No pesticides were detected at concentrations exceeding the EPA RSLs for residential or commercial/industrial soils. The highest concentrations were typically detected in samples collected at 33 Water Street. The maximum concentrations of most pesticides were detected in sample 33WS-04 from 4 feet to 6 feet below ground surface. Statistics of all pesticides detected in 2014 are presented in Table 4-1. Overall, in samples collected in 2011 and 2014, pesticides were most commonly detected at 20 Cheever Street in the surface soil sample from 20CH-11 and at 33 Water Street in the 4 feet to 6 feet bgs sample from 33WS-04. Statistics for pesticides detected at each property in samples collected in 2011 and 2014 are presented in Table 4-6. Complete analytical results are presented in Appendix I.

4.2.6 VOCs

In samples collected in June 2014, only a limited number of VOCs were detected in soils, and 2-Butanone, acetone, carbon disulfide, methyl acetate, and methylene chloride were the only VOCs detected in more than three samples. Maximum concentrations of those VOCs were all detected in samples from 20 Cheever Street. None had concentrations that exceeded the EPA-RSL for residential or commercial/industrial soils. Statistics of all VOCs detected in 2014 are presented in Table 4-1. Statistics for VOCs detected at each property in samples collected in 2011 and 2014 are presented in Table 4-7. Complete analytical results are presented in Appendix I.

4.3 Groundwater

Overburden aquifer samples were collected to help evaluate the presence or absence of contaminants and to evaluate the extent of groundwater contamination that may have resulted from the past material disposal or handling practices at the Study Area. The first round of groundwater sampling took place in July 2014. Samples were collected from 14 monitoring wells as described in Section 2.4. The second round of groundwater sampling took place in October 2014. Samples were collected from 13 monitoring wells as described in Section 2.5.

Figure 2-1 depicts the monitoring well locations from the July and October groundwater sampling events. Analytical results compared to project action limits (PALs) are presented in Appendix H. The July and October 2014 groundwater data summary statistics are presented in Tables 4-8 through 4-11. Groundwater data were evaluated by comparing analytical results to project action limits (PALs) defined in the QAPP (Nobis, 2014) including EPA MCLs, EPA RSLs for tap water and EPA OSWER VISLs. The comparison to MCLs and RSLs for tap water is considered a conservative assessment approach because groundwater in the Study Area has been determined by MassDEP NOT to be a current or potential drinking water aquifer. Comparison to VISLs is relevant in developed portions of the Study Area.

4.3.1 Metals

This section presents the results of metals analyses of groundwater samples collected during the July and October 2014 sampling events. The QAPP (Nobis, 2014) specified collection of both total (unfiltered) and dissolved (filtered) metals samples from all groundwater sampling locations during the initial (July) sampling event. The need for dissolved metals analysis during subsequent sampling events would be evaluated based on metals analysis results and the monitoring well turbidity measurements from the prior event (s).

The July 2014 groundwater metals data include total metals samples from the 14 monitoring wells sampled. Dissolved metals samples were collected from only 12 of the wells because of low water yields in two of the wells that did not provide sufficient volume for both types of samples. These dissolved metals samples were filtered in the field and sent to the laboratory for total metals analysis. The metals analysis results and the monitoring well turbidity measurements from the July sampling were compared to evaluate the potential effects of turbidity on the metals results. It was concluded from this comparison that turbidity did not have a significant effect on the

groundwater metals results and a turbidity threshold of 20 NTU was established for the October monitoring event (above the threshold, only a dissolved metal sample would be collected). Based on these findings, the October 2014 sampling event included collection of samples from 11 wells for total metals and from 2 wells for dissolved metals.

The paragraphs below summarize the metals results from the July and October 2014 sampling events. The metals discussion focuses arsenic and chromium because both are common tannery-related contaminants and they were the two metals most frequently detected in groundwater above EPA MCLs. Additional metals (including cobalt and manganese) have been detected frequently and at concentrations higher than other comparison criteria. They will be discussed in greater detail in the Remedial Investigation report.

Summary statistics for groundwater metals results are presented in Table 4-8. Complete analytical results are presented in Appendix I. Sample locations are shown on Figure 2-1.

July 2014

Several metals were detected in most or all of the July groundwater samples; these included arsenic, calcium, cobalt, magnesium, manganese, nickel, and sodium. Arsenic and chromium were the only metals detected in groundwater in July at concentrations exceeding the EPA MCL. Each was detected above the EPA MCL at one location. Both total and dissolved arsenic were detected at their highest concentrations in samples from MW-05. Total arsenic concentrations ranged from 0.54 µg/L to 22 µg/L. Dissolved arsenic concentrations ranged from 0.44 µg/L to 22.2 µg/L. Both total and dissolved chromium were detected at their highest concentrations in samples from MW-04. Total chromium concentrations ranged from 11.2 µg/L to 163 µg/L; dissolved chromium concentrations ranged from 15.8 µg/L to 107 µg/L. Monitoring wells MW-04 and MW-05 are both located in suspected source areas on 33 Water Street, based on historic site usage.

Other metals were detected at concentrations exceeding the EPA tap water RSL, including barium, cadmium, cobalt, iron, manganese, mercury, nickel, selenium, and zinc.

Only mercury has an established VISL. Mercury was detected in 5 total metals samples and 7 dissolved metals samples during the July sampling, but the VISL was not exceeded.

Antimony, beryllium, lead, silver, and thallium were not detected in total or dissolved samples. Hexavalent chromium was also analyzed for in samples from four monitoring wells. It was not detected.

October 2014

Several metals were detected in most or all of the October groundwater samples. Four metals were detected at concentrations exceeding MCLs. Concentrations of total arsenic exceeded the EPA MCLs in several groundwater samples collected in October 2014. Total arsenic concentrations ranged from 2.5 µg/L to 18.4 µg/L, and exceeded the MCL at four locations; the maximum concentration was detected at MW-01 (located at the southern end of the Study Area). Dissolved arsenic concentrations were 2.7 µg/L and 26.1 µg/L; only the maximum concentration (at TT-01) exceeded the MCL. Total chromium concentrations ranged from 0.98 µg/L to 518 µg/L; only the maximum concentration (detected at MW-04) exceeded the EPA MCL. Dissolved chromium concentrations were 1.2 µg/L and 62.9 µg/L, both below the MCL. In addition to arsenic and chromium, concentrations of lead and selenium also exceeded the EPA MCL in one sample each. The highest concentration of selenium was detected in the sample from MW-01. The highest concentration of lead was detected in the sample from MW-04.

Other metals were detected at concentrations exceeding the EPA tap water RSL including barium, cobalt, iron, manganese, mercury, selenium, and zinc.

Only mercury has an established VISL. Mercury was detected in only 1 metals sample (TT-02) during the October sampling. The VISL was slightly exceeded at this location (.21 µg/L vs 0.19 µg/L VISL) during the October sampling. TT-02 is located on the 15 Pleasant Street parcel, adjacent to Route 128.

Antimony, beryllium, copper, silver, and thallium were not detected in total or dissolved samples. Hexavalent chromium was also analyzed for in samples from four monitoring wells. It was not detected.

4.3.2 VOCs

This section presents the results of VOCs analyses of groundwater samples collected during the July and October 2014 sampling events. Summary statistics for groundwater VOCs results are presented in Table 4-9. Complete analytical results are presented in Appendix I.

July 2014

Samples were collected from 13 monitoring wells and analyzed for VOCs. Because of low water yields in MW-01, a sample for VOC analysis was not collected. Nine VOCs were detected in samples collected from the 13 wells. m,p-Xylene was detected most frequently, in 8 of 13 samples. Concentrations ranged from 0.11 µg/L to 0.17 µg/L. The highest concentration was detected at RR-2-MW. The EPA MCLs were not exceeded in any of the samples. Concentrations of chloroform, detected in 2 of 13 samples, exceeded the EPA Tap water RSL. The concentration of dichlorofluoromethane, 30 µg/L, detected in 1 of 13 samples, exceeded the EPA Tap water RSL of 20 µg/L and the VISL of 1.3 µg/L. Dichlorofluoromethane is also known by the trade name Freon 21 which is used as a refrigerant, solvent, propellant and heat-exchange fluid. Based on the uses of Freon 21, the limited presence in overburden wells in the study area, and the location of the well from which the sample was collected, dichlorofluoromethane is likely present because of a surface spill and not as part of pervasive groundwater contamination. Neither chloroform nor dichlorofluoromethane was detected in Study Area soil.

October 2014

Samples were collected from 13 monitoring wells and analyzed for VOCs. Eleven VOCs were detected in samples collected from the 13 wells. Ethylbenzene was detected most frequently, in 5 of 13 samples. Concentrations ranged from 0.12 µg/L to 0.2 µg/L. The highest concentration was detected at MW-08. The EPA MCLs, Tap water RSLs, and VISLs were not exceeded in any of the samples. The concentration of dichlorofluoromethane, 11 µg/L, detected in the sample from MW-08, exceeded the VISL of 1.3 µg/L. Dichlorofluoromethane, or Freon 21 as described above, was also only detected at MW-08 in the July sampling round.

In summary, VOCs were not frequently detected in groundwater at the Study Area. MCLs were not exceeded in either event, the tap water RSL was exceeded only during the July sampling event for chloroform and dichlorofluoromethane (Freon 21), and the VISL was exceeded only for

dichlorofluoromethane during both sampling events. The presence of dichlorofluoromethane does not appear to be site-related.

4.3.3 SVOCs

This section presents the results of SVOCs analyses of groundwater samples collected during the July and October 2014 sampling events. Summary statistics for groundwater SVOCs results are presented in Table 4-10. Complete analytical results are presented in Appendix I.

July 2014

Samples were collected from 12 monitoring wells and analyzed for SVOCs. Because of low water yields in MW-01, a sample for SVOC analysis was not collected. Ten SVOCs were detected in samples from the 12 wells, most frequently MW-05. Naphthalene was detected most frequently, in 3 of 12 wells. Concentrations ranged from 0.15 µg/L to 0.31 µg/L. The highest concentration was detected at MW-04. Of the detected contaminants, an EPA MCL has been established only for pentachlorophenol. The MCL was exceeded in one of two samples containing pentachlorophenol (at MW-05). The EPA RSL for tap water was exceeded for dibenz(a,h)anthracene, indeno(1,2,3-cd)pyrene, naphthalene, and pentachlorophenol in samples from MW-02, MW-03, MW-04, and MW-05.

October 2014

Samples were collected from 13 monitoring wells and analyzed for SVOCs. Fifteen SVOCs were detected in samples from the 13 wells, most frequently RR-2-MW. Di-N-Butylphthalate was detected most frequently, in 12 of 13 wells. Concentrations ranged from 5.5 µg/L to 13 µg/L. The highest concentration was detected at MW-07. Of the detected contaminants, an EPA MCL has only been established for bis(2-ethylhexyl)phthalate and pentachlorophenol. Neither MCL was exceeded. The EPA RSL for tap water was exceeded for benzo(a)pyrene, indeno(1,2,3-cd)pyrene, naphthalene, and pentachlorophenol in samples from RR-2-MW and TT-01.

In summary, SVOCs were detected infrequently in groundwater during both sampling events. For compounds with comparison criteria developed, exceedances were infrequent. Di-n-butylphthalate was detected frequently, at low concentrations in samples from the October event, yet it was not detected in samples from the July event. The presence of di-n-butylphthalate will

continue to be monitored in the next sampling events to determine if the presence is site-related or introduced during sampling or analysis.

4.3.4 Dioxins and Furans

This section presents the results of dioxins/furans analyses of groundwater samples collected during the July and October 2014 sampling events. Summary statistics for groundwater VOCs results are presented in Table 4-11. Complete analytical results are presented in Appendix I.

July 2014

Only groundwater samples from MW-04 and MW-05 were analyzed for dioxins and furans. 1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin and 1,2,3,7,8-Pentachlorodibenzofuran are the only dioxin/furan compounds detected in groundwater samples, and both were detected at MW-04. The calculated TEQ (0.0369 pg/L) does not exceed the EPA MCL or Tap water RSL. No dioxins or furans were detected in the sample from MW-05.

October 2014

Only groundwater samples from MW-02 and MW-03 were analyzed for dioxins and furans. The TEQ for samples from these wells were 14.1 pg/L and 34.2 pg/L, respectively. Both TEQ exceed the EPA Tap water RSL, and the TEQ from MW-03 exceeds the EPA MCL.

4.3.5 PCBs

July 2014

No PCBs were detected in groundwater samples.

October 2014

No PCBs were detected in groundwater samples.

4.3.6 Pesticides

July 2014

No pesticides were detected in groundwater samples.

October 2014

No pesticides were detected in groundwater samples.

4.4 Sediment

Sediment samples were collected at 15 locations along the embankment of the east side of the Crane River during October 2014. All samples were analyzed for VOCs, SVOCs, pesticides, PCBs, and metals. Four samples were also analyzed for hexavalent chromium, and two of those samples were analyzed for dioxins and furans. Concentrations of contaminants in sediment are discussed below with comparisons to EPA RSLs for soils as a conservative approach to assessing data. The 2014 sediment data summary statistics are presented in Table 4-12. Combined statistics of contaminants detected in 2011 and 2014 sediments, grouped by property, are provided in Tables 4-13 through 4-17. Complete analytical results are presented in Appendix I. Additional evaluation of sediment data will be performed as part of the ecological and human health risk assessments for the Remedial Investigation (RI) report.

4.4.1 Metals

Sediment samples collected in October 2014 were analyzed for 23 target analyte list (TAL) metals. Thallium and silver were not detected in any samples. Most metals were detected in all samples. Arsenic and mercury were detected in 14 of 15 samples, selenium was detected in 8 of 15 samples, and antimony was detected in 3 of 15 samples. Maximum concentrations of metals were most frequently found at SD-108 and SD-110 located along the southern section of the MBTA ROW. Summary statistics for the 2014 sediment data are presented in Table 4-12.

Concentrations of 10 of 17 detected metals with EPA RSLs for residential soils exceeded the criterion. Only arsenic exceeded the EPA RSL for commercial/industrial soils. Concentrations for all metals with MassDEP Background soil criteria exceeded their respective criterion for both natural and ash fill.

Combined statistics for metals detected in 2011 and 2014 sediments, grouped by property, are provided in Table 4-13. Complete analytical results are presented in Appendix I. Similar results were found when evaluating 2011 and 2014 metals results in sediment by property. Only arsenic exceeded the EPA RSL for commercial/industrial soils. Concentrations of most metals were higher in samples collected from the MBTA ROW.

In 2014, four sediment samples were analyzed for hexavalent chromium. It was only detected at SD-111 on the MBTA ROW. Hexavalent chromium was also detected in sediment samples collected during 2011 at the MBTA ROW, 20 Cheever Street, and 15 Pleasant Street.

4.4.2 SVOCs

Twenty-three SVOCs, mainly PAHs, were detected in sediment samples collected in October 2014. Maximum concentrations of contaminants were found most frequently at SD-109 located on the southern end of the MBTA ROW. EPA RSLs for residential soils were exceeded by PAHs including benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, and indeno(1,2,3-cd)pyrene as well as by dibenzofuran. The EPA RSL for commercial/industrial soils was exceeded in eight samples by benzo(a)pyrene. No other SVOC concentrations exceeded the EPA RSLs for commercial/industrial soils. Summary statistics for the 2014 sediment data are presented in Table 4-12.

In the combined 2011 and 2014 dataset, the largest number of SVOCs were detected on the 20 Cheever Street and MBTA ROW properties (22 SVOCs on each). Similar to the 2014 data described above, most of the detected compounds were PAHs, which were detected in all or nearly all samples analyzed. EPA RSLs for residential soils were exceeded in most of the samples by on both properties for five SVOCs (benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene. Benzo(a)pyrene concentrations on both properties also exceeded RSLs for commercial/industrial soils in most samples from each property. Combined statistics for SVOCs detected in 2011 and 2014 sediments, grouped by property, are provided in Table 4-14. Complete analytical results are presented in Appendix I.

4.4.3 Dioxins and Furans

Two sediment samples collected in 2014 (SD-103 and SD-114) were analyzed for dioxins and furans. The TEQs were 28.2 ng/kg and 10.3 ng/kg, respectively. Both TEQs exceeded the EPA RSL for residential soils, and only the sample from SD-103 exceeded the EPA RSL for commercial/industrial soils. Summary statistics for the 2014 sediment data are presented in Table 4-12.

In the combined 2011 and 2014 dataset, the TEQs were higher in samples from the MBTA ROW. All samples from the MBTA ROW and 20 Cheever Street contained dioxins/furans with TEQs exceeding the EPA RSL for residential and commercial/industrial soils and Site-specific background. Combined statistics for dioxins and furans detected in 2011 and 2014 sediments, grouped by property, are provided in Table 4-15. Complete analytical results are presented in Appendix I.

4.4.4 PCBs

PCBs were not detected in the 15 sediment samples collected in 2014. Summary statistics for the 2014 sediment data are presented in Table 4-12.

In the combined 2011 and 2014 data, Aroclor 1254 was detected in three sediment samples, one from each of three properties (15 Pleasant Street, 20 Cheever Street, and MBTA ROW). Aroclor 1242 was also detected in the same sample on 20 Cheever Street. PCB concentrations exceeded EPA RSLs for residential soils in two of the samples (from 20 Cheever Street, and MBTA ROW) and exceeded the RSL for industrial/commercial soils in the 20 Cheever Street sample. Combined statistics for PCBs and pesticides detected in 2011 and 2014 sediments, grouped by property, are provided in Table 4-16. Complete analytical results are presented in Appendix I.

4.4.5 Pesticides

Fifteen sediment samples were analyzed for pesticides in 2014. Four pesticides were detected infrequently in the sediment samples. 4,4’-DDT, alpha-chlordane, and gamma-chlordane were only detected in one sample each. Endrin ketone was detected in two samples. Only 4,4’-DDT has an EPA RSL value available. Neither the residential nor the commercial/industrial value was exceeded. Summary statistics for the 2014 sediment data are presented in Table 4-12.

Pesticides were detected only in sediment samples from 20 Cheever Street and the MBTA ROW and did not exceed RSLs in any sample. Combined statistics for PCBs and pesticides detected in 2011 and 2014 sediments, grouped by property, are provided in Table 4-16. Complete analytical results are presented in Appendix I.

4.4.6 VOCs

Five VOCs were detected in sediment samples collected in October 2014. Three of these VOCs (2-butanone, carbon disulfide, and chloromethane) were detected in less than half the samples and at concentrations that did not exceed the EPA RSLs for residential or commercial/industrial soils. Methyl acetate and acetone were detected in 13 and 14 samples, respectively, of the 15 sediment samples collected. Concentrations did not exceed the EPA RSLs for residential or commercial/industrial soils. The highest concentrations were most frequently found at SD-103 located on 20 Cheever Street. Summary statistics for the 2014 sediment data are presented in Table 4-12.

The VOCs described above were detected in sediment samples from three properties: 20 Cheever Street, 45 Water Street, and MBTA ROW. Statistics for VOCs, grouped by property, are provided in Table 4-17. This table only contains results from samples collected in 2014. Sediment samples collected in 2011 were not analyzed for VOCs. Complete analytical results are presented in Appendix I.

5.0 CURRENT EXPOSURE HUMAN HEALTH RISK EVALUATION

This section presents estimated potential risks from current residential exposures to exposed surface soils at the 33 and 45 Water Street Condominium complexes, including soils at the 35 Water Street parcel and portions of the MBTA ROW parcel. A simplified ratio approach, following the example of the EPA Regional Screening Level (RSL) calculator (EPA, 2015), was used to develop the potential risk estimates.

5.1 Selection of Representative Samples

Samples used in this screening level risk assessment included surface soils collected from depths of 0 to 2 ft. in areas of potential exposures to child and adult residents playing or spending time

in the yards of the 33 and 45 Water Street Condominiums complexes. Samples collected from beneath pavement and samples located along the far edges of paved parking areas were excluded. Samples collected from the 35 Water Street and MBTA R.O.W. parcels that appeared to be easily assessable by children playing were included. Table 5-1 and Figure 5-1 present a list and visual display of sample locations included. Table 5-2 presents a statistical summary of the data for detected contaminants in this surface soil dataset. Data collected by Weston in 2011 for thallium were excluded from this evaluation because of data quality issues (see discussion in Section 4.1).

5.2 Selection of Contaminants of Potential Concern (COPCs)

The selection of Contaminants of Potential Concern (COPCs) is a risk-based screening step to identify chemicals that should be included in the quantitative risk estimates. The selection of COPCs was based on several factors relating to the contaminants detected in soil in the area of concern, including chemical concentrations, occurrence, distribution, and toxicity. COPCs include only those chemicals detected in the soil dataset, and are limited to those chemicals that exceed the selection criterion. A chemical was selected as a COPC if the maximum detected concentration was greater than the associated risk-based concentration (RBC). Each identified potential COPC was detected in greater than 10 percent of samples; therefore, no potential COPCs were eliminated based on low frequency of detection.

The screening criteria used to identify COPCs are presented in Table 5-2 and include the following:

- **EPA Regional Screening Levels (RSLs) for Soil Exposures.** The maximum concentrations detected in surface soil were compared to EPA RSLs for residential soil (EPA, 2015) as described below. The EPA RSL Table identifies concentrations of potential concern for nearly 600 chemicals in various media (air, drinking water, and soil) using certain reasonable maximum exposure default assumptions.

  The EPA RSL residential soil exposure values were developed by EPA based on the methodology presented in *RAGS HHEM, Part B* (EPA, 1991) and consider the ingestion, dermal, and inhalation exposure routes. The EPA RSL residential soil exposure values for carcinogens were developed by EPA using an age-adjusted exposure equation, which

assumes that a receptor is exposed to soil at a frequency of 350 days per year for a 26-year exposure period (6 years as a child and 20 years as an adult). The EPA RSLs for chemicals with non-cancer effects are based on a child exposed to soil at a frequency of 350 days per year for a 6-year exposure period. For carcinogenic chemicals, the values used for COPC screening are based on a 1×10^{-6} target incremental lifetime cancer risk. EPA RSLs for chemicals with non-cancer effects are developed for target hazard quotient (HQ) of 1.0 and for a target HQ of 0.1. The RSLs for a target HQ of 0.1 was used to select COPCs to avoid omitting chemicals that may contribute to a total hazard index (HI) of greater than 1.0. For contaminants with both carcinogenic effects and non-cancer effects, the lower of the RSL based on non-cancer HQ of 0.1 and the RSL based on 1×10^{-6} cancer risk, was used for COPC screening.

- **EPA Soil Lead Guidance.** EPA's Integrated Exposure Uptake Biokinetic (IEUBK) model, predicts that where the average lead in soil concentration is 400 milligrams per kilogram (mg/kg) or less, blood lead levels will meet EPA's risk goal. This level is compared to maximum soil concentrations.

Table 5-2 also indicates which contaminants were selected as COPCs based on comparison of maximum detected concentrations to the screening criteria discussed above.

Chemical-Specific Considerations in COPC Selection

Data evaluation for dioxins was evaluated through use of dioxin toxicity equivalents (TEQs). The toxicity of one specific dioxin compound, 2,3,7,8-tetrachloro-dibenzo-p-dioxin (2,3,7,8-TCDD), has been studied more than other known dioxins and furans. The toxicities of all other dioxins and furans are expressed in relation to 2,3,7,8-TCDD. Toxicity equivalency factors (TEFs) were used to convert concentrations of individual dioxin and furan congeners to TEQs of 2,3,7,8-TCDD. Concentrations of individual dioxins and furans were multiplied by their TEFs to yield 2,3,7,8-TCDD equivalent concentrations. These values were then totaled to yield total dioxin TEQs for each sample. The TEQs were then compared to the screening value for 2,3,7,8-TCDD in the COPC selection step.

Within the surface soil dataset for the current exposure risk evaluation, analytical results are available for both total chromium (29 samples) and hexavalent chromium (10 samples). Sample-

by-sample comparison of co-located total chromium results and hexavalent chromium results indicate that hexavalent chromium makes up a small fraction of the total chromium (0 to 4 percent in co-located analysis in this dataset.) Since the number and location of samples analyzed for hexavalent chromium seem adequate, total chromium results were treated as trivalent chromium and compared to the EPA RSL for trivalent chromium for COPC selection. Based on this comparison, total chromium was not selected as a COPC. Hexavalent chromium results were considered separately and based on the screening evaluation, hexavalent chromium was selected as a COPC.

5.3 Exposure Point Concentrations (EPCs)

Consistent with EPA's Supplemental Guidance to RAGS: Calculating the Concentration Term, (EPA, 1992) a conservative estimate of the mean concentration is used as the Exposure Point Concentration (EPC). The EPC represents an average concentration to which a receptor is assumed to be exposed over time while in contact with an environmental medium. The EPC is generally defined as the 95 percent upper confidence limit on the mean (UCL) and is calculated using EPA's ProUCL software (EPA, 2013).

Distributions and subsequent summary statistics were calculated using EPA's ProUCL Version 5.00.00 software (EPA, 2013). ProUCL calculates 95 percent UCLs on the mean using 15 different computation methods, 5 parametric and 10 non-parametric. Parametric methods rely on the estimation of parameters (such as the mean or the standard deviation) describing the distribution of the variable of interest in the population; non-parametric methods do not. ProUCL provides recommendations on which UCL to use depending upon distributional assumptions and the skewness (as represented by the standard deviation) of the data.

Support documentation (output from the ProUCL program) for the calculation of the UCLs is presented in Appendix J. EPCs used in the risk screening for the selected COPCs are presented in Table 5-3.

5.4 Exposure Scenario and Assumptions

Potential receptors include current residents exposed to surface soils while playing or spending time in the yards of the 33 and 45 Water Street Condominiums. Non-cancer risks are based on young children ages 0 to 6 years exposed at a frequency of 350 days per year for a 6-year

exposure period. Cancer risks are based on residents exposed to soil at a frequency of 350 days per year for a 26-year exposure period (6 years as a child and 20 years as an adult). These exposure assumptions are built into the RSLs for ingestion, dermal contact, and inhalation of dust pathways, along with default ingestion rates, dermal contact rates, inhalation rates, body weights, etc.

5.5 Risk Characterization

The hazards associated with non-cancer effects of surface soil COPCs are evaluated by comparing the EPCs to the EPA's non-cancer based RSLs for residential soil (EPA, 2015). The ratio of the surface soil EPC to the non-cancer based RSL is equal to the hazard quotient (HQ). The total hazard index (HI) is generated by summing the individual HQs for all COPCs.

The risks associated with cancer effects of surface soil COPCs are evaluated by comparing the surface soil EPC to the EPA's cancer based RSLs for residential soil (EPA, 2015) and multiplying by $1x10^{-6}$. Total cancer risk is generated by summing the individual cancer risks for all COPCs.

Some contaminants have both carcinogenic effects and non-carcinogenic effects and therefore have both a cancer risk calculation and a HQ calculation.

Table 5-3 presents the estimated hazards and risks from potential current residential exposure to surface soil using this simplified ratio approach. Results of the simplified ratio approach evaluation of hazards and risks from potential current residential exposures to surface soils are discussed below.

Non-Carcinogenic Health Hazards

The total HI developed for child residents playing at the 33 and 45 Water Street condominium complexes is as follows:

Receptor (Timeframe)	Total HI	Maximum Organ-Specific HI
Child Resident (Future)	4.9	2.22

The total HI is greater than EPA's target level of concern for current exposure scenarios of 3.0. Dioxin TEQ and arsenic are the major contributors to the total HI with individual contaminant HQs greater than 1; however, these two contaminants act on different organ systems and thus their effects are not additive. Arsenic affects the skin, whereas dioxins affect the developmental system. None of the other COPCs acts on these organs. Organ-specific HIs for the skin and developmental system do not exceed EPA's target level of concern for current exposure scenarios of 3.0. No other organ-specific HIs or individual contaminant HQs exceed 1.0. HIs below 1.0 indicate potential adverse non-cancer effects are not expected. HIs above 1.0 indicate potential adverse non-cancer effects are possible.

Carcinogenic Risks

Cancer Risks developed for lifetime residents (ages 0 to 26 years) playing or spending time in the yards of the 33 and 45 Water Street condominium complexes are as follows:

Receptor (Timeframe)	Cancer Risk
Age-Adjusted Lifetime Resident (Future)	5.3×10^{-4}

The cancer risk estimate for lifetime resident exposed to surface soil at the 33 and 45 Water Street condominium complexes exceeds the EPA targeted cancer risk range (10^{-4} to 10^{-6}) and EPA's target level of concern for current exposure scenarios of 1×10^{-4}. As detailed in Table 5-3, the greatest contributor to cancer risk for lifetime residents exposed to surface soil is the PAH benzo(a)pyrene. The individual cancer risk estimate for this contaminant is greater than 1×10^{-4}. Individual cancer risk estimates for several other PAHs, as well as dioxin TEQ, arsenic, and hexavalent chromium exceed 1×10^{-6}.

5.6 Uncertainty Discussion

There are uncertainties and variability associated with all HHRAs. This section summarizes these uncertainties and provides a qualitative assessment of whether the uncertainties may over or underestimate risks.

This evaluation was limited to current residential exposure to exposed surface soils, assuming the presence of children as well as adults. The assumptions used in the simplified ratio approach

do not reflect site-specific conditions, such as adult only households or shorter-term occupancy periods. Resulting risk estimates overestimate risks for adult residents and residents exposed for shorter durations or frequencies.

Use of the trivalent chromium RSL to evaluate total chromium results for COPC selection may under estimate risk from total chromium results. However, because of the availability of hexavalent analysis and inclusion of estimated risks from hexavalent chromium, the approach prevents potential double counting of risks from hexavalent chromium.

Contaminants without RSLs were not selected as COPCs. Risks from these contaminants are not included in the final total calculated risks. This likely results in an underestimate of risk; however, in general these contaminants do not have toxicity values and therefore, quantitative risks could not be estimated.

Soil background concentrations are presented on Table 5-3 for discussion purposes. Three sets of background concentrations are presented:

- Site-specific background. Soil background samples were collected by Weston in 2011 from the Endecott Burial Ground on the western side of the Creese & Cook Superfund Site. The average of these samples is presented.

- Massachusetts Department of Environmental Protection (MassDEP) has published state background levels for metals and PAHs for natural soils. These Massachusetts soil background concentrations were obtained from MassDEP's Technical Update: Background Levels of PAHs and Metals in Soil (MassDEP, 2002).

- MassDEP has also published state background levels for metals and PAHs for soil containing fill, particularly soil associated with wood ash and coal ash. These Massachusetts soil background concentrations were also obtained from MA DEP's Technical Update: Background Levels of PAHs and Metals in Soil (MassDEP, 2002).

As shown on Table 5-3, exposure point concentrations for several COPCs are below MassDEP background concentrations for either natural soils or ash fill, including hexavalent chromium, iron, thallium, benzo(a)anthracene, benzo(a)pyrene, benzo(k)fluoranthene, and chrysene. Estimated

health hazards and cancer risks from these COPCs are therefore likely reflective of background conditions and not site-related. Consideration of background is particularly important since benzo(a)pyrene, likely reflective of background conditions, is the primary driver of cancer risks.

6.0 CONCLUSIONS AND RECOMMENDATIONS

This section summarizes the conclusions of the data evaluation and provides recommendations for addressing identified data gaps.

6.1 Conclusions

The conclusions of the initial evaluation of RI field investigation data are described in the following subsections.

Study Area Geology

Study Area geologic units can be divided into two broad categories: anthropogenic (fill) and apparent native materials. Fill is relatively consistent throughout the Study Area, although it is thin to nonexistent in the northern portion of 20 Cheever Street. The majority of the material encountered below fill is a native clay/silt unit, which is relatively free of sand lenses along the northern portion of the Study Area. Interbedded sand lenses of varied thicknesses were encountered generally starting in the central portion of the 33 Water Street property and to the south. At the 35 Water Street property and the northern portion of the 45 Water Street property, borings encountered entirely sand beneath fill. This sand unit may represent a previous river channel, given its position across the middle of the current peninsula.

Study Area Hydrogeology

The Study Area hydrogeology is strongly influenced by the variation in native materials. The clay/silt unit found throughout most of the Study Area is expected to act as an aquitard, especially in comparison to the sand units encountered, which generally had very low amounts of silt and other finer material. Therefore, the groundwater flow is primarily controlled by the sand lenses (and in some locations, larger sand bodies) that are present.

Groundwater flow is generally toward the river. Along the west side of the Study Area (east bank of the river), groundwater flow is generally toward the west, and in the southern end of the Study Area (south end of 33 Water Street to 45 Water Street), flow is generally toward the south.

A tidal study confirmed that groundwater in the Study Area is tidally influenced. The strongest tidal influence was observed close to the Crane River (at MW-09). Some tidal influence was observed in monitoring wells located farther from the river (MW-03 and MW-05), but the magnitude of tidal changes was much smaller. It appears that the primary influence of the tides is on water level. Groundwater in Study Area monitoring wells did not show tidal variations in geochemistry that would indicate that significant salt-water intrusion or tidal flushing.

There are several uncertainties in the interpretation of groundwater flow and tidal influence. These uncertainties result from the following factors: two wells are installed in silty clay (MW-01 and MW-07) and have extremely slow recharge; one well installed in 2014 has remained dry (MW-10); one well (MW-08) appears to have a perched water table; the available wells are insufficient to identify the location of a possible groundwater divide. Additional aquifer information is needed in these areas to better define groundwater flow and fully evaluate potential groundwater contamination from the former tannery facility at 33 Water Street.

Contaminant Nature and Extent

The following paragraphs summarize the conclusions of the contaminant investigations of soil, groundwater, and sediment.

Soil

Soil data were compared to EPA RSLs for residential soil, EPA RSLs for industrial/commercial soil, MassDEP background values for natural soils, MassDEP background values for ash fill, and Site-specific background values. A summary of the sediment evaluation is provided below.

- Few VOCs, pesticides, and PCBs were detected in soil samples at concentrations of concern based on comparisons with EPA RSLs, MassDEP background, and site-specific background concentrations.

- SVOCs, metals, and dioxins/furans were found throughout the Study Area.

- Several metals were detected in all or almost all samples at concentrations exceeding the RSLs for residential soils, but only arsenic was also consistently detected at concentrations above the RSL for industrial/commercial soils. Arsenic was detected at concentrations above site-specific background in more than 60 percent of the 2014 samples and above MassDEP background soil values in 26 percent of samples.

- Arsenic concentrations were highest in surface soil samples, especially those along the MBTA ROW. The arsenic along the ROW may be present as a result of materials used in railroad bed construction, the railroad ties still in place, or normal railroad operations and maintenance, including weed control. These materials and activities are commonly associated with arsenic contamination in soil.

- Arsenic concentrations in subsurface samples were highest in two clustered areas: at 20 Cheever Street near the former landfilling area containing visible slag materials, and at the 33 Water Street and MBTA ROW boundary in an area of fill materials containing pieces of brick, wood, or leather scraps.

- Chromium was detected in nearly all samples collected, but exceeded the RSL for residential soils (12,000 mg/Kg) in only 1 of 192 samples in 2014; the EPA RSL for commercial/industrial soils was not exceeded. The MassDEP background concentration for chromium in soils with ash material and the site-specific background values were exceeded in most samples.

- Hexavalent chromium was detected in 32 of 37 samples analyzed for it in 2014. All detected sample concentrations exceeded the EPA RSL for residential soils, and eight exceeded the EPA RSL for commercial/industrial soils. Concentrations were similar in surface and subsurface soils and by property. Excluding surface soil sample SS-24 (580 mg/kg) from the MBTA ROW, average concentrations of hexavalent chromium were similar between surface and subsurface soils

Arsenic and SVOC contamination in surface soils was prevalent along the MBTA ROW. While the presence is known, the extent has not been fully defined. These contaminants may be related to materials used in railroad bed construction, the railroad ties still in place, or normal railroad

operations and maintenance. Historical records indicate that the railroad was constructed prior to the opening of the tannery.

Additional soil sampling and analysis for SVOCs, metals, and dioxins is needed in some areas to better define the outer boundaries of contamination (see recommendations below).

Groundwater

Groundwater data were compared to EPA MCLs, EPA RSLs for tap water and EPA OSWER VISLs. The comparison to MCLs and RSLs for tap water is considered to be a conservative assessment approach because groundwater in the Study Area has been determined by MassDEP NOT to be a current or potential drinking water aquifer. Comparison to VISLs is relevant in developed portions of the Study Area.

- Several metals, (including arsenic, cobalt, iron, manganese, and selenium) were detected in most of the groundwater samples collected. Tap water RSLs for arsenic, cobalt, iron, and manganese were exceeded in most samples during both the July and October 2014 sampling events; the RSLs for other metals were exceeded in fewer samples. There were limited exceedances of MCLs for arsenic, chromium, lead, and selenium. The VISL for mercury was slightly exceeded in one sample, collected from well TT-02 during October 2014 sampling. Well TT-02 is located on the undeveloped 15 Pleasant Street parcel at the north end of the Study Area.

- Few VOCs were detected in groundwater during the July and October sampling rounds. MCLs were not exceeded in either event. The tap water RSL was exceeded only during the July sampling event for chloroform and dichlorofluoromethane (Freon 21). The VISL was exceeded only for dichlorofluoromethane in one sample during both sampling events (MW-08, located at the northern edge of the parking lot of 12 Cheever Street). The presence of dichlorofluoromethane does not appear to be site-related.

- SVOCs, mainly PAHs, were detected infrequently in groundwater during both sampling events and exceedances of comparison criteria were infrequent. Four SVOCs exceeded tap water RSLs in one or two samples during both sampling events; however, there was

only one exceedance of MCLs (for pentachlorophenol in one July sample). Only one SVOCs has an established VISL; it was not exceeded during either sampling event.

- Dioxins/furans did not exceed tap water RSLs or MCLs in the two samples collected in July 2014, but dioxins TEQs in both samples collected in October exceeded the tap water RSL and one sample exceeded the MCL. Different wells were sampled during the two events: MW-04 and MW-05 (both on 33 Water Street) were sampled in July and MW-02 and MW-03 (on 35 Water Street and the adjacent portion of the MBTA ROW) were sampled in October.

- No pesticides or PCBs were detected in groundwater during the July and October groundwater sampling events.

In summary, metals were frequently detected at concentrations exceeding tap water RSLs and were detected at concentrations greater than MCLs, but in fewer samples. Arsenic and chromium were among the metals detected at concentrations exceeding criteria. Dioxins samples were collected from four monitoring wells and were detected at concentrations exceeding RSLs and/or MCLs in two of the wells. None of the other types of contaminants evaluated was present at frequencies or concentrations that would indicate the presence of a contaminant plume. Contaminants detected in groundwater do not appear to pose a vapor intrusion concern.

Additional information is needed to confirm the extent of contaminants in groundwater, particularly west, northwest of MW-05 (south of MW-07), east of MW-04, and in the vicinity of MW-01. Data from the planned two additional quarterly sampling events will help to determine the effects of seasonal fluctuations in groundwater.

The RI Report, to be prepared upon completion of the sample collection, will provide more details on the extent of contamination, potential connections between contaminants in soils and groundwater, and on the fate and transport of contaminants in groundwater.

Sediment

The original objective of sediment sampling was to characterize the chemical and geotechnical properties of sediment or waste materials along the eastern bank of the Crane River to define the

nature and extent of waste and contaminants along the bank. Sediment sampling in the riverbed of the Crane River was not part of this Task Order.

Sediment data were compared to EPA RSLs for residential soil, EPA RSLs for industrial/commercial soil, MassDEP background values for natural soils, and MassDEP background values for ash fill. A summary of the sediment evaluation is provided below.

- Most of the 23 metals analyzed were detected in all samples. Concentrations of 7 metals exceeded the RSL for residential soil in nearly every sample, but only arsenic consistently exceeded the RLS for industrial/commercial soil. Several metals, including arsenic and chromium, were frequently detected above MassDEP background values for natural soil and ash fill, and site-specific background values.

- Several SVOCs, mainly PAHs, were detected in most sediment samples collected. EPA RSLs for residential soil for five PAHs were exceeded in nearly every sample and the RSLs for commercial/industrial soils were exceeded in most samples for benzo(a)pyrene. However, there were no exceedances of MassDEP background values for ash fill and only one sample location had exceedances of MassDEP background values for natural soil for a few PAHs.

- VOCs, pesticides, and PCBs were detected infrequently in sediment and generally at concentrations well below comparison criteria. There were no exceedances of RSLs for VOCs or pesticides. PCBs exceeded RSLs in only two samples.

In summary, metals and several PAHs were prevalent in Study Area sediment at concentrations exceeding EPA RSLs for residential soil. Concentrations of several metals also frequently exceeded RSLs for industrial and commercial soil and all background values. However PAH concentrations were generally below background comparison values. The available sediment data appear to be sufficient to evaluate contaminant nature and extent along 20 Cheever Street, MBTA ROW, and 45 Water Street. If seeps are identified where no sediment samples were collected, sediment sampling at those locations may be warranted to fully evaluate potential impacts of the seeps.

Human Health Risk

The objective of the risk evaluation performed as part of this Technical Memorandum was to estimate potential risks from current residential exposures to exposed surface soils at the 33 and 45 Water Street Condominium complexes. A simplified ratio approach was used for evaluation of current hazards and risks. Only a subset of surface soil data was used, and the results reflect risks associated only with exposure to the contaminant concentrations in those soils.

The total HI calculated for child residents playing at the 33 and 45 Water Street was 4.9. This total HI, based primarily on Dioxin TEQ and arsenic, is greater than EPA's target level of concern for current exposure scenarios (HI = 3.0). However, the maximum organ-specific HI of 2.2 (from Dioxin TEQ), is below the target level. The total cancer risk calculated for lifetime residents playing or spending time in the yards of the 33 and 45 Water Street was 5.3×10^{-4}. This risk estimate exceeds the EPA targeted cancer risk range (10^{-4} to 10^{-6}) and EPA's target level of concern for current exposure scenarios of 1×10^{-4}. The greatest contributor to this risk estimate is the PAH benzo(a)pyrene (2.1×10^{-4}).

There are several uncertainties associate with this risk evaluation. Two significant uncertainties are: 1) the risk evaluation used a simplified ratio approach that did not reflect site-specific conditions and 2) the exposure point concentrations for benzo(a)pyrene as well as several other COPCs are below MassDEP background concentrations for either natural soils or ash fill. Therefore, estimated health hazards and cancer risks from these COPC are likely partly or wholly reflective of background conditions. A Study Area-Wide Human Health Risk Assessment is part of the existing scope of work, and will be performed to determine the risks associated with soils throughout the Study Area for various receptors.

Recommendations

Additional soil sampling is recommended at the following locations to better define the nature and extent of contamination.

- Soil sampling at 15 Pleasant Street should be performed to verify and better define the nature and extent of contamination in this area. Previous sampling was performed by Tetra Tech for the Mass DOT, as mentioned in Section 1.2.3.3. Soil sampling was not performed

at 15 Pleasant Street in June of 2014 because access to the property had not been granted by the owner at that time.

- Additional soil sampling along the northern end of the MBTA ROW is needed to define the lateral extent of arsenic and SVOC contamination outside the railroad bed, particularly northeast of the rails, along the residential property lines.

- Based on the current exposure risk evaluation, the risk drivers for Study Area soil are likely to be dioxins/furans, arsenic, and PAHs. The 2014 soil sampling program included analysis of 10 percent of soil samples for dioxins. As a result, the sample density is considerably lower than for most other analytes. It is recommended that additional surface and subsurface samples be collected and analyzed for dioxins/furans to better define the extent of contamination. The focus of the sampling would be on 35 and 45 Water Street and the adjacent MBTA ROW. Limited additional samples are recommended on 33 Water Street. No additional sampling is recommended in these areas for arsenic (metals) or PAHs.

Installation, monitoring, and sampling of four additional groundwater monitoring wells, are recommended to fill gaps in groundwater flow and contamination delineation. The locations and rationale for the proposed wells are described below.

- One well at the southern end of 45 Water Street, between MW-1 and soil boring 45WS-04 – It is recommended that this well be installed to a maximum depth of up to 30 feet bgs, with the final well screen location based on the 5- or 10-foot interval which has the highest apparent hydraulic conductivity. Borings further north and to the northeast have encountered sand below the silt and clay at MW-1S; the intent is to locate the well in an area with the highest potential for groundwater flow. This location is important for evaluating groundwater flow because the Crane River is on two sides of this property and may have a significant impact on groundwater flow.

- One well adjacent to MW-10 (27 Clinton Ave) – It is recommended that a well be installed to a total depth of 25 to 30 feet bgs to intercept the water table in the vicinity of MW-10, which has been dry during each phase of the groundwater investigation. Based on survey and monitoring data, the low tide level in the adjacent river is estimated to be

approximately 8 feet below the bottom of MW-10 and the proposed well would be 10 to 15 feet deeper than MW-10. Final well installation depth would be determined based on drilling observations. A well at this location is important for evaluating groundwater flow in the southern end of the Study Area.

- One shallow well between MW-05 and MW-07 – This well would intercept potentially contaminated groundwater migrating to the west from MW-04 and MW-05, and would be installed as far north as possible to supplement MW-07 and be installed in geologic materials with sufficient hydraulic conductivity to have a good connection to the river and the rest of the Study Area to the east.

- One additional shallow well is recommended east of MW-04, across Water Street – This well is needed to bound contaminant concentrations to the east. Given the position of MW-04 on a peninsula, there is a possibility of significant radial flow away from the Study Area to the east, and this additional well would help determine flow directions across the Study Area.

It is recommended that additional sediment samples be collected at locations identified for the seep sampling planned for spring 2015 if no sediment samples were collected at those locations during prior sampling. Sediment sampling at those locations may be warranted to fully evaluate the potential impacts of the seeps.

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TABLES

Table 1-1
Previous Investigations
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Company/ Agency	Location of Investigation	Investigation	Document Date	Task	Samples Collected	Hazardous Substances Detected
EPA	East and West of Crane River	Preliminary Assessment	1981	Site Recon/Respond to Complaint	N/A	Chromium (suspected)
SP, Inc. (on behalf of PRPs)	West of Crane River	Initial Site Investigation	May 1984	Site Reconnaissance/ Sample collection	Test pits, soil, ground water, seeps, and abandoned tank and container contents	Chromium, Lead, VOCs, Hydrogen Sulfide
SP, Inc. (on behalf of PRPs)	East of Crane River	Initial Site Investigation (eastern facility properties)	October 1984	Subsurface Hazardous Waste Investigation	Soil	Arsenic, Chromium, Mercury
					ground water	VOC
MA DEQE	West of Crane River	Site Investigation/ Updated Preliminary Assessment	March 1985	Further investigation of property for redevelopment	N/A	N/A
SP, Inc. (on behalf of PRPs)	West of Crane River	Supplemental Investigation	December 1985	Evaluate options for land development/ collect samples	Soil/waste	Chromium
					Ground water/ seeps	Arsenic
					Sediment	Chromium
SP, Inc. (on behalf of PRPs)	West of Crane River	Site Investigation	September 1986	Investigation of lagoons/collect samples	Soil	Chromium
SP, Inc. (on behalf of PRPs)	West of Crane River	Construction/ Removal Actions	Dec. 1989 to June 1990	Construction of on-site containment cell/ excavation of waste and sludge	N/A	N/A
SP, Inc. (on behalf of PRPs)	West of Crane River	Well Installation	February to March 1990	Sample collection following installation	Ground water/Seep	Lead, Chromium
SP, Inc. (on behalf of PRPs)	West of Crane River	Chapter 21E Site Assessment	April 1990	Post-Excavation Sample Collection	Soil	Lead, Chromium
SP, Inc (on behalf of PRPs)	West of Crane River	Chapter 21E Site Assessment-Beamhouse	June 1992	Sample Collection	Soil, wipe, and pit debris samples	Chromium
REW Environmental Consultants (on behalf of PRPs)	West of Crane River	Initial Site Characterization	July 1995	Satisfy MCP and subsurface investigation	Soil	Total Petroleum Hydrocarbons, VOCs, Acid Base Neutral, Arsenic, Chromium
REW Environmental Consultants (on behalf of PRPs)	West of Crane River	Supplemental Sampling Event	August 1995	Delineate horizontal extent of arsenic-contaminated soil	Soil	Arsenic, Chromium
MassDEP	West of Crane River	Site Inspection	November 1995	Documentation of Site Conditions	N/A	N/A
Stone and Webster (on behalf of EPA)	West of Crane River	EPA Site Inspection Prioritization	October 1996	Review of Source Areas/Collection of samples	Surface Water	Arsenic, Chromium, Lead, Mercury
					Sediment	Arsenic, Barium, Cadmium, Chromium, Lead, Mercury

Table 1-1
Previous Investigations
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Company/ Agency	Location of Investigation	Investigation	Document Date	Task	Samples Collected	Hazardous Substances Detected
REW Environmental Consultants (on behalf of PRPs)	West of Crane River	Supplemental Site Characterization	June 1997	Collect soil samples, determine impacts to ground water, and evaluate exposure	Soil	Arsenic
	West of Crane River	Supplemental Sampling Event	Dec. 1997 to Jan. 1998	Sample collection/ borings	Soil and ground water	Arsenic
	Crane, Porter, Waters, and Danvers Rivers	Supplemental Sampling Event	September 2001	Sample Collection for Danvers Board of Health	Sediment	Sulfides, Arsenic, Barium, Cadmium, Chromium, Lead, Mercury
Geological Field Services (on behalf of PRPs)	Crane River	Sampling Event	April 2005	Sample Collection along Crane River	Sediment	Arsenic
Woodward &Curran (on behalf of PRPs)	West of Crane River	Revised Immediate Response Actions/ Imminent Hazard Evaluation	November 2006	Sample Collection	Soil	Arsenic, Chromium, Dioxins, Hexavalent Chromium
					Sediment	Arsenic, Dioxins
					Building Debris	Asbestos
		Supplemental Sampling Event	June 2007	Assess contaminant concentrations in uplands	Soil	Arsenic
MassDEP	West of Crane River	Determination of Asbestos-Containing Materials	September 2008	Samples collected from beamhouse demolition debris	Building Debris (Black mastic)	Chrysotile fibers
Weston Solutions, Inc. START (on behalf of EPA)	West of Crane River	EPA Site Reassessment	April 2010 to December 2011, August 2012	On-site reconnaissances; Samples collected from source areas and the Crane River	Soils	Arsenic, Barium, Chromium, Mercury, Dioxin/furan congeners
					Sediments	Chromium, Mercury, Dioxin/furan congeners
Weston Solutions, Inc. START (on behalf of EPA)	East of Crane River	EPA Site Inspection (eastern facility properties)	August 2010 to April 2011, July 2012	On-site reconnaissances; Samples collected from source areas	Soils	Arsenic, Barium, Chromium, Mercury, Dioxin/furan congeners

Notes:
Reference: Weston Solutions. Table 1. HRS Documentation Record, September 2012.
EPA = Environmental Protection Agency
MADEQE - Massachusetts Department of Environmental Quality and Engineering
MassDEP - Masachusetts Department of Environmental Protection
PRP - Potentially Responsible Party
MCP - Massachusetts Contingency Plan
VOCs - Volatile Organic Compounds
N/A - Not applicable

Table 2-1
Analytical Parameters and Methodologies
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Medium / Matrix	Analytical Parameter	Conc. Level	Analytical Method/SOP Reference	Sampled by	Contract Vehicle	Total No. of Samples to Lab *
Soil (June 2014)	TCL VOCs	Trace/Low/Med	SOM02.0T/V	Nobis	CLP RAS Organic	192
	TCL SVOCs and SIM PAHs	Low	SOM02.0S		CLP RAS Organic	192
	TCL Pesticides	Low	SOM02.0P		CLP RAS Organic	192
	TCL Aroclors	Low	SOM02.0A		CLP RAS Organic	192
	TAL Metals - Total	Low	ISM01.3AES+MS+HG		CLP RAS Inorganic	192
	Dioxins/Furans (10%)	Low	DLM02.2		NRAS	19
	Hexavalent Chromium (20%)	Low	7196 3060A/7196		DAS	37
	pH (50%)	Low	9045		DAS	96
	ORP (eH) (50%)	Low	ASTMD149893		DAS	96
	Salinity (10%)	Low	2510B		DAS	19
	Anions (Chloride/Sulfate) (10%)	Low	300.0C1		DAS	19
	Nitrate/Total Nitrogen (10%)	Low	4500NO3F		DAS	19
	Alkalinity (Total and Bicarbonate) (10%)	Low	310.2 SM2320B		DAS	19
	Total Organic Carbon (TOC) (10%)	Low	9060M 5310/C		DAS	19
	Chemical Oxygen Demand (COD) (10%)	Low	410.4		DAS	19
	Particle Size (10 samples)	Low	ASTMD422		DAS	10
Groundwater (July 2014)	TCL VOCs	Trace/Low/Med	SOM02.0T/V	Nobis	CLP RAS Organic	13
	TCL SVOCs and SIM PAHs	Low	SOM02.0S		CLP RAS Organic	12
	TCL Pesticides	Low	SOM02.0P		CLP RAS Organic	0
	TCL Aroclors	Low	SOM02.0A		CLP RAS Organic	0
	TAL Metals - Total	Low	ISM01.3AES+MS+HG		CLP RAS Inorganic	14
	TAL Metals - Dissolved	Low	ISM01.3AES+MS+HG		CLP RAS Inorganic	12
	Dioxins/Furans (10%)	Low	DLM02.2		NRAS	2
	Hexavalent Chromium (20%)	Low	7196 3060A/7196		DAS	5
	pH (50%)	Low	9045		DAS	12
	ORP (eH) (50%)	Low	ASTMD149893		DAS	12
	Salinity (50%)	Low	2510B		DAS	5
	Anions (Chloride/Sulfate) (50%)	Low	300.0C1		DAS	5
	Nitrate/Total Nitrogen (50%)	Low	4500NO3F		DAS	5

Table 2-1
Analytical Parameters and Methodologies
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Medium / Matrix	Analytical Parameter	Conc. Level	Analytical Method/SOP Reference	Sampled by	Contract Vehicle	Total No. of Samples to Lab *
Groundwater (July 2014) continued	Alkalinity (Total and Bicarbonate) (50%)	Low	310.2 SM2320B	Nobis	DAS	5
	Total Dissolved Solids (TDS) (50%)	Low	2540C		DAS	5
	Total Suspended Solids (TSS) (50%)	Low	2540D		DAS	5
	Total Organic Carbon (TOC) (10%)	Low	9060M 5310/C		DAS	5
	Chemical Oxygen Demand (COD) (10%)	Low	410.4		DAS	5
	Phosphorus (total) (50%)	Low	365.3		DAS	5
Groundwater (October 2014)	TCL VOCs	Trace/Low/Med	SOM02.0T/V	Nobis	CLP RAS Organic	13
	TCL SVOCs and SIM PAHs	Low	SOM02.0S		CLP RAS Organic	13
	TCL Pesticides	Low	SOM02.0P		CLP RAS Organic	13
	TCL Aroclors	Low	SOM02.0A		CLP RAS Organic	13
	TAL Metals - Total	Low	ISM01.3AES+MS+HG		CLP RAS Inorganic	13
	TAL Metals - Dissolved	Low	ISM01.3AES+MS+HG		CLP RAS Inorganic	2
	Dioxins/Furans (10%)	Low	DLM02.2		NRAS	2
Sediment (October 2014)	TCL VOCs	Trace/Low/Med	SOM02.0T/V	Nobis	CLP RAS Organic	15
	TCL SVOCs and SIM PAHs	Low	SOM02.0S		CLP RAS Organic	15
	TCL Pesticides	Low	SOM02.0P		CLP RAS Organic	15
	TCL Aroclors	Low	SOM02.0A		CLP RAS Organic	15
	TAL Metals - Total	Low	ISM01.3AES+MS+HG		CLP RAS Inorganic	15
	Dioxins/Furans (10%)	Low	DLM02.2		NRAS	2
	Hexavalent Chromium	Low	7196 3060A/7196		DAS	4
	pH	Low	9045		DAS	4

Note:
* - Not including QC samples

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
12CH-SB01-0204-062614X	12CH-01	6/26/2014	2 to 4	N	x	x	x		x		x	x	x
12CH-SB01-0204-062614XMS	12CH-01	6/26/2014	2 to 4	MS	x	x	x		x				
12CH-SB01-0204-062614XMSD	12CH-01	6/26/2014	2 to 4	MSD	x	x	x						
12CH-SB01-0406-062614X	12CH-01	6/26/2014	4 to 6	N	x	x	x		x			x	x
12CH-SB01-0608-062614X	12CH-01	6/26/2014	6 to 8	N								x	x
12CH-SS01-0102-062614X	12CH-01	6/26/2014	1 to 2	N	x	x	x		x		x	x	
12CH-SB02-0204-062514X	12CH-02	6/25/2014	2 to 4	N	x	x	x		x			x	x
12CH-SB02-0406-062514X	12CH-02	6/25/2014	4 to 6	N	x	x	x		x			x	x
12CH-SB02-0608-062514X	12CH-02	6/25/2014	6 to 8	N								x	x
12CH-SS02-0102-062514X	12CH-02	6/25/2014	1 to 2	N	x	x	x		x		x	x	
12CH-SB03-0204-062514X	12CH-03	6/25/2014	2 to 4	N	x	x	x	x	x			x	x
12CH-SB03-0406-062514X	12CH-03	6/25/2014	4 to 6	N	x	x	x		x			x	x
12CH-SB03-0608-062514X	12CH-03	6/25/2014	6 to 8	N								x	x
12CH-SS03-0102-062514X	12CH-03	6/25/2014	1 to 2	N	x	x	x		x		x	x	
12CH-SB04-0204-062514X	12CH-04	6/25/2014	2 to 4	N	x	x	x		x			x	x
12CH-SB04-0406-062514X	12CH-04	6/25/2014	4 to 6	N	x	x	x		x			x	x
12CH-SB04-0608-062514X	12CH-04	6/25/2014	6 to 8	N								x	x
12CH-SS04-0102-062514X	12CH-04	6/25/2014	1 to 2	N	x	x	x		x		x	x	
12CH-SB05-0204-062514X	12CH-05	6/25/2014	2 to 4	N								x	x
12CH-SB05-0406-062514X	12CH-05	6/25/2014	4 to 6	N	x	x	x	x	x		x	x	x
12CH-SB05-0608-062514X	12CH-05	6/25/2014	6 to 8	N	x	x	x		x			x	x
12CH-SB05-0608-062514XMS	12CH-05	6/25/2014	6 to 8	MS					x				
12CH-SB05-0810-062514X	12CH-05	6/25/2014	8 to 10	N								x	x
12CH-SB05-1012-062514X	12CH-05	6/25/2014	10 to 12	N								x	
12CH-SS05-0102-062514X	12CH-05	6/25/2014	1 to 2	N	x	x	x		x		x	x	
20CH-SB01-0204-061614X	20CH-01	6/16/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB01-0406-061614X	20CH-01	6/16/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB01-0608-061614X	20CH-01	6/16/2014	6 to 8	N								x	x
20CH-SS01-0001-061614X	20CH-01	6/16/2014	0 to 0.5	N	x	x	x		x		x	x	
20CH-SB02-0204-061714X	20CH-02	6/17/2014	2 to 4	N	x	x	x		x		x	x	x
20CH-SB02-0406-061714X	20CH-02	6/17/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB02-0608-061714X	20CH-02	6/17/2014	6 to 8	N								x	x
20CH-SS02-0001-061714X	20CH-02	6/17/2014	0 to 0.5	N	x	x	x		x			x	

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
20CH-SB03-0204-061714X	20CH-03	6/17/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB03-0406-061714X	20CH-03	6/17/2014	4 to 6	N	x	x	x		x		x	x	x
20CH-SB03-0608-061714X	20CH-03	6/17/2014	6 to 8	N								x	x
20CH-SS03-0001-061714X	20CH-03	6/17/2014	0 to 0.5	N	x	x	x		x			x	
20CH-SB04-0204-061714X	20CH-04	6/17/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB04-0204-061714XMS	20CH-04	6/17/2014	2 to 4	MS					x				
20CH-SB04-0406-061714X	20CH-04	6/17/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB04-0608-061714X	20CH-04	6/17/2014	6 to 8	N								x	x
20CH-SS04-0001-061714X	20CH-04	6/17/2014	0 to 0.5	N	x	x	x		x		x	x	
20CH-SB05-0204-061914X	20CH-05	6/19/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB05-0406-061914X	20CH-05	6/19/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB05-0608-061914X	20CH-05	6/19/2014	6 to 8	N								x	x
20CH-SS05-0001-061914X	20CH-05	6/19/2014	0 to 0.5	N	x	x	x		x		x	x	
20CH-SB06-0204-061914X	20CH-06	6/19/2014	2 to 4	N	x	x	x		x		x	x	x
20CH-SB06-0406-061914X	20CH-06	6/19/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB06-0608-061914X	20CH-06	6/19/2014	6 to 8	N								x	x
20CH-SS06-0001-061914X	20CH-06	6/19/2014	0 to 0.5	N	x	x	x		x		x	x	
20CH-SS06-0001-061914XMS	20CH-06	6/19/2014	0 to 0.5	MS	x	x	x		x				
20CH-SS06-0001-061914XMSD	20CH-06	6/19/2014	0 to 0.5	MSD	x	x	x						
20CH-SB07-0204-061914X	20CH-07	6/19/2014	2 to 4	N	x	x	x		x		x	x	x
20CH-SB07-0406-061914X	20CH-07	6/19/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB07-0608-061914X	20CH-07	6/19/2014	6 to 8	N								x	x
20CH-SS07-0001-061914X	20CH-07	6/19/2014	0 to 0.5	N	x	x	x		x		x	x	
20CH-SS07-0001-061914XMS	20CH-07	6/19/2014	0 to 0.5	MS	x	x	x		x		x		
20CH-SS07-0001-061914XMSD	20CH-07	6/19/2014	0 to 0.5	MSD	x	x	x						
20CH-SB08-0204-061914X	20CH-08	6/19/2014	2 to 4	N	x	x	x		x		x	x	x
20CH-SB08-0406-061914X	20CH-08	6/19/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB08-0608-061914X	20CH-08	6/19/2014	6 to 8	N								x	
20CH-SS08-0001-061914X	20CH-08	6/19/2014	0 to 0.5	N	x	x	x	x	x	x	x	x	x
20CH-SB09-0204-061914X	20CH-09	6/19/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB09-0406-061914X	20CH-09	6/19/2014	4 to 6	N	x	x	x		x		x	x	x
20CH-SB09-0608-061914X	20CH-09	6/19/2014	6 to 8	N								x	x
20CH-SS09-0001-061914X	20CH-09	6/19/2014	0 to 0.5	N	x	x	x		x		x	x	

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
20CH-SB10-0204-061814X	20CH-10	6/18/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB10-0406-061814X	20CH-10	6/18/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB10-0608-061814X	20CH-10	6/18/2014	6 to 8	N								x	x
20CH-SB10-0810-061814X	20CH-10	6/18/2014	8 to 10	N								x	x
20CH-SB10-1012-061814X	20CH-10	6/18/2014	10 to 12	N								x	
20CH-SS10-0001-061814X	20CH-10	6/18/2014	0 to 0.5	N	x	x	x		x		x	x	
20CH-SB11-0204-062014X	20CH-11	6/20/2014	2 to 4	N	x	x	x	x	x	x	x	x	x
20CH-SB11-0406-062014X	20CH-11	6/20/2014	4 to 6	N								x	x
20CH-SB11-0608-062014X	20CH-11	6/20/2014	6 to 8	N								x	x
20CH-SB11-0810-062014X	20CH-11	6/20/2014	8 to 10	N	x	x	x		x			x	x
20CH-SB11-1012-062014X	20CH-11	6/20/2014	10 to 12	N								x	
20CH-SS11-0001-062014D	20CH-11	6/20/2014	0 to 0.5	FD	x	x	x		x		x		
20CH-SS11-0001-062014X	20CH-11	6/20/2014	0 to 0.5	N	x	x	x		x	x	x	x	
20CH-SB12-0204-062014X	20CH-12	6/20/2014	2 to 4	N								x	x
20CH-SB12-0406-062014X	20CH-12	6/20/2014	4 to 6	N	x	x	x	x	x	x	x	x	x
20CH-SB12-0608-062014X	20CH-12	6/20/2014	6 to 8	N								x	x
20CH-SB12-0810-062014X	20CH-12	6/20/2014	8 to 10	N	x	x	x		x	x	x	x	x
20CH-SB12-1012-062014X	20CH-12	6/20/2014	10 to 12	N								x	
20CH-SS12-0001-062014X	20CH-12	6/20/2014	0 to 0.5	N	x	x	x		x	x	x	x	
20CH-SB13-0204-061814X	20CH-13	6/18/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB13-0406-061814X	20CH-13	6/18/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB13-0608-061814X	20CH-13	6/18/2014	6 to 8	N								x	x
20CH-SS13-0001-061814X	20CH-13	6/18/2014	0 to 0.5	N	x	x	x		x	x	x	x	
20CH-SB14-0204-062414X	20CH-14	6/24/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB14-0406-062414X	20CH-14	6/24/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB14-0608-062414X	20CH-14	6/24/2014	6 to 8	N								x	x
20CH-SB14-0810-062414X	20CH-14	6/24/2014	8 to 10	N								x	x
20CH-SB14-1012-062414X	20CH-14	6/24/2014	10 to 12	N								x	x
20CH-SS14-0001-062414X	20CH-14	6/24/2014	0 to 0.5	N	x	x	x		x	x	x	x	
20CH-SB15-0204-061814X	20CH-15	6/18/2014	2 to 4	N	x	x	x		x		x	x	x
20CH-SB15-0406-061814X	20CH-15	6/18/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB15-0608-061814X	20CH-15	6/18/2014	6 to 8	N								x	x
20CH-SS15-0001-061814X	20CH-15	6/18/2014	0 to 1	N	x	x	x		x			x	

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
20CH-SB16-0204-062614X	20CH-16	6/26/2014	2 to 4	N	x	x	x		x			x	x
20CH-SB16-0406-062614X	20CH-16	6/26/2014	4 to 6	N	x	x	x		x			x	x
20CH-SB16-0608-062614X	20CH-16	6/26/2014	6 to 8	N								x	x
20CH-SS16-0001-062614D	20CH-16	6/26/2014	0 to 0.5	FD	x	x	x		x				
20CH-SS16-0001-062614X	20CH-16	6/26/2014	0 to 0.5	N	x	x	x		x		x	x	
33WS-SB01-0204-062414X	33WS-01	6/24/2014	2 to 4	N	x	x	x	x	x		x	x	x
33WS-SB01-0406-062414X	33WS-01	6/24/2014	4 to 6	N	x	x	x		x		x	x	x
33WS-SB01-0608-062414X	33WS-01	6/24/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB02-0204-062414D	33WS-02	6/24/2014	2 to 4	FD	x	x	x		x		x		
33WS-SB02-0204-062414X	33WS-02	6/24/2014	2 to 4	N	x	x	x		x		x	x	x
33WS-SB02-0406-062414X	33WS-02	6/24/2014	4 to 6	N	x	x	x		x		x	x	x
33WS-SB02-0608-062414X	33WS-02	6/24/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB03-0204-061314X	33WS-03	6/13/2014	2 to 4	N								x	x
33WS-SB03-0406-061314X	33WS-03	6/13/2014	4 to 6	N	x	x	x		x	x	x	x	x
33WS-SB03-0608-061314X	33WS-03	6/13/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB03-0810-061314X	33WS-03	6/13/2014	8 to 10	N								x	x
33WS-SB03-1012-061314X	33WS-03	6/13/2014	10 to 12	N								x	
33WS-SS03-0001-061314X	33WS-03	6/13/2014	0 to 0.5	N	x	x	x		x			x	
33WS-SB04-0204-061314X	33WS-04	6/13/2014	2 to 4	N								x	x
33WS-SB04-0406-061314X	33WS-04	6/13/2014	4 to 6	N	x	x	x	x	x		x	x	x
33WS-SB04-0608-061314X	33WS-04	6/13/2014	6 to 8	N								x	x
33WS-SB04-0810-061314X	33WS-04	6/13/2014	8 to 10	N	x	x	x		x			x	x
33WS-SB04-1012-061314X	33WS-04	6/13/2014	10 to 12	N								x	
33WS-SS04-0001-061314X	33WS-04	6/13/2014	0 to 0.5	N	x	x	x		x			x	
33WS-SB05-0204-061214X	33WS-05	6/12/2014	2 to 4	N	x	x	x		x	x	x	x	x
33WS-SB05-0406-061214X	33WS-05	6/12/2014	4 to 6	N								x	x
33WS-SB05-0608-061214X	33WS-05	6/12/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB05-0810-061214X	33WS-05	6/12/2014	8 to 10	N								x	x
33WS-SB05-1012-061214X	33WS-05	6/12/2014	10 to 12	N								x	
33WS-SS05-0001-061214X	33WS-05	6/12/2014	0 to 0.5	N	x	x	x		x		x	x	
33WS-SS05-0001-061214XMS	33WS-05	6/12/2014	0 to 0.5	MS	x	x	x		x				
33WS-SS05-0001-061214XMSD	33WS-05	6/12/2014	0 to 0.5	MSD	x	x	x						

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
33WS-SB06-0204-061614X	33WS-06	6/16/2014	2 to 4	N								x	x
33WS-SB06-0406-061614X	33WS-06	6/16/2014	4 to 6	N	x	x	x		x			x	x
33WS-SB06-0608-061614X	33WS-06	6/16/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB06-0810-061614X	33WS-06	6/16/2014	8 to 10	N								x	x
33WS-SB06-1012-061614X	33WS-06	6/16/2014	10 to 12	N								x	
33WS-SS06-0001-061614X	33WS-06	6/16/2014	0 to 0.5	N	x	x	x		x		x	x	
33WS-SB07-0204-061214X	33WS-07	6/12/2014	2 to 4	N								x	x
33WS-SB07-0406-061214X	33WS-07	6/12/2014	4 to 6	N	x	x	x		x	x	x	x	x
33WS-SB07-0608-061214X	33WS-07	6/12/2014	6 to 8	N								x	x
33WS-SB07-0810-061214X	33WS-07	6/12/2014	8 to 10	N								x	x
33WS-SB07-1012-061214X	33WS-07	6/12/2014	10 to 12	N								x	
33WS-SB07-1214-061214X	33WS-07	6/12/2014	12 to 14	N	x	x	x		x			x	
33WS-SB07-1416-061214X	33WS-07	6/12/2014	14 to 16	N								x	
33WS-SS07-0001-061214D	33WS-07	6/12/2014	0 to 0.5	FD	x	x	x		x		x		
33WS-SS07-0001-061214X	33WS-07	6/12/2014	0 to 0.5	N	x	x	x		x		x	x	
33WS-SB08-0204-061714X	33WS-08	6/17/2014	2 to 4	N	x	x	x		x		x	x	x
33WS-SB08-0408-061714X	33WS-08	6/17/2014	4 to 8	N								x	x
33WS-SB08-0810-061714X	33WS-08	6/17/2014	8 to 10	N								x	x
33WS-SB08-1012-061714X	33WS-08	6/17/2014	10 to 12	N	x	x	x		x			x	
33WS-SB08-1214-061714X	33WS-08	6/17/2014	12 to 14	N								x	
33WS-SB08-1416-061714X	33WS-08	6/17/2014	14 to 16	N								x	
33WS-SS08-0001-061714D	33WS-08	6/17/2014	0 to 0.5	FD	x	x	x		x				
33WS-SS08-0001-061714X	33WS-08	6/17/2014	0 to 0.5	N	x	x	x		x			x	
33WS-SB09-0204-061714X	33WS-09	6/17/2014	2 to 4	N	x	x	x		x		x	x	x
33WS-SB09-0406-061714X	33WS-09	6/17/2014	4 to 6	N	x	x	x		x			x	x
33WS-SB09-0608-061714X	33WS-09	6/17/2014	6 to 8	N								x	x
33WS-SB09-0810-061714X	33WS-09	6/17/2014	8 to 10	N								x	x
33WS-SB09-1012-061714X	33WS-09	6/17/2014	10 to 12	N								x	
33WS-SB09-1214-061714X	33WS-09	6/17/2014	12 to 14	N								x	
33WS-SB09-1416-061714X	33WS-09	6/17/2014	14 to 16	N								x	
33WS-SS09-0001-061714X	33WS-09	6/17/2014	0 to 0.5	N	x	x	x		x	x	x	x	

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
33WS-SB10-0204-061814X	33WS-10	6/18/2014	2 to 4	N	x	x	x	x	x		x	x	x
33WS-SB10-0406-061814X	33WS-10	6/18/2014	4 to 6	N								x	x
33WS-SB10-0608-061814X	33WS-10	6/18/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB10-0810-061814X	33WS-10	6/18/2014	8 to 10	N								x	x
33WS-SB10-1012-061814X	33WS-10	6/18/2014	10 to 12	N								x	
33WS-SB10-1214-061814X	33WS-10	6/18/2014	12 to 14	N								x	
33WS-SB10-1416-061814X	33WS-10	6/18/2014	14 to 16	N								x	
33WS-SS10-0001-061814X	33WS-10	6/18/2014	0 to 0.5	N	x	x	x		x		x	x	
33WS-SS10-0001-061814XMS	33WS-10	6/18/2014	0 to 0.5	MS		x	x						
33WS-SB11-0204-061214X	33WS-11	6/12/2014	2 to 4	N	x	x	x	x	x	x	x	x	x
33WS-SB11-0406-061214X	33WS-11	6/12/2014	4 to 6	N								x	x
33WS-SB11-0608-061214X	33WS-11	6/12/2014	6 to 8	N								x	x
33WS-SB11-0810-061214X	33WS-11	6/12/2014	8 to 10	N	x	x	x		x			x	x
33WS-SB11-1012-061214X	33WS-11	6/12/2014	10 to 12	N								x	
33WS-SB11-1214-061214X	33WS-11	6/12/2014	12 to 14	N								x	
33WS-SB11-1416-061214X	33WS-11	6/12/2014	14 to 16	N								x	
33WS-SS11-0102-061214X	33WS-11	6/12/2014	1 to 2	N	x	x	x		x		x	x	
33WS-SB12-0204-061614X	33WS-12	6/16/2014	2 to 4	N								x	x
33WS-SB12-0406-061614X	33WS-12	6/16/2014	4 to 6	N	x	x	x		x		x	x	x
33WS-SB12-0608-061614X	33WS-12	6/16/2014	6 to 8	N								x	x
33WS-SB12-0810-061614X	33WS-12	6/16/2014	8 to 10	N	x	x	x		x			x	x
33WS-SB12-1012-061614X	33WS-12	6/16/2014	10 to 12	N								x	
33WS-SB12-1214-061614X	33WS-12	6/16/2014	12 to 14	N								x	
33WS-SB12-1416-061614X	33WS-12	6/16/2014	14 to 16	N								x	
33WS-SS12-0001-061614X	33WS-12	6/16/2014	0 to 0.5	N	x	x	x		x		x	x	
33WS-SS12-0001-061614XMS	33WS-12	6/16/2014	0 to 0.5	MS	x	x	x		x				
33WS-SS12-0001-061614XMSD	33WS-12	6/16/2014	0 to 0.5	MSD	x	x	x						
33WS-SB13-0204-062014X	33WS-13	6/20/2014	2 to 4	N								x	x
33WS-SB13-0406-062014X	33WS-13	6/20/2014	4 to 6	N	x	x	x	x	x	x	x	x	x
33WS-SB13-0608-062014X	33WS-13	6/20/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB13-0810-062014X	33WS-13	6/20/2014	8 to 10	N								x	x
33WS-SB13-1012-062014X	33WS-13	6/20/2014	10 to 12	N								x	
33WS-SS13-0001-062014X	33WS-13	6/20/2014	0 to 1	N								x	
33WS-SS13-0102-062014X	33WS-13	6/20/2014	1 to 2	N	x	x	x		x	x	x		

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
33WS-SB14-0204-062314X	33WS-14	6/23/2014	2 to 4	N								x	x
33WS-SB14-0406-062314X	33WS-14	6/23/2014	4 to 6	N	x	x	x		x	x	x	x	x
33WS-SB14-0608-062314X	33WS-14	6/23/2014	6 to 8	N								x	x
33WS-SB14-0810-062314X	33WS-14	6/23/2014	8 to 10	N	x	x	x		x			x	x
33WS-SB14-1012-062314X	33WS-14	6/23/2014	10 to 12	N								x	
33WS-SS14-0001-062314X	33WS-14	6/23/2014	0 to 0.5	N	x	x	x		x	x	x	x	
33WS-SB15-0204-062614X	33WS-15	6/26/2014	2 to 4	N	x	x	x		x	x	x	x	x
33WS-SB15-0406-062614X	33WS-15	6/26/2014	4 to 6	N								x	x
33WS-SB15-0608-062614X	33WS-15	6/26/2014	6 to 8	N	x	x	x		x			x	x
33WS-SB15-0810-062614X	33WS-15	6/26/2014	8 to 10	N								x	x
33WS-SB15-1012-062614X	33WS-15	6/26/2014	10 to 12	N								x	
33WS-SS15-0001-062614X	33WS-15	6/26/2014	0 to 0.5	N	x	x	x		x	x	x	x	
33WS-SB16-0204-062614X	33WS-16	6/26/2014	2 to 4	N	x	x	x		x	x	x	x	x
33WS-SB16-0406-062614X	33WS-16	6/26/2014	4 to 6	N	x	x	x		x			x	x
33WS-SB16-0608-062614X	33WS-16	6/26/2014	6 to 8	N								x	x
33WS-SB16-0810-062614X	33WS-16	6/26/2014	8 to 10	N								x	x
33WS-SB16-1012-062614X	33WS-16	6/26/2014	10 to 12	N								x	
33WS-SS16-0102-062614X	33WS-16	6/26/2014	1 to 2	N	x	x	x		x	x	x	x	
35WS-SB01-0204-061114X	35WS-01	6/11/2014	2 to 4	N	x	x	x		x			x	x
35WS-SB01-0406-061114X	35WS-01	6/11/2014	4 to 6	N								x	x
35WS-SB01-0608-061114X	35WS-01	6/11/2014	6 to 8	N	x	x	x		x			x	x
35WS-SB01-0810-061114X	35WS-01	6/11/2014	8 to 10	N								x	x
35WS-SB01-1012-061114X	35WS-01	6/11/2014	10 to 12	N								x	
35WS-SB01-1214-061114X	35WS-01	6/11/2014	12 to 14	N								x	
35WS-SB01-1416-061114X	35WS-01	6/11/2014	14 to 16	N								x	
35WS-SS01-0001-061114X	35WS-01	6/11/2014	0 to 0.5	N	x	x	x		x		x	x	
45WS-SB01-0204-061114X	45WS-01	6/11/2014	2 to 4	N								x	x
45WS-SB01-0406-061114X	45WS-01	6/11/2014	4 to 6	N	x	x	x		x			x	x
45WS-SB01-0608-061114X	45WS-01	6/11/2014	6 to 8	N	x	x	x		x			x	x
45WS-SB01-0810-061114X	45WS-01	6/11/2014	8 to 10	N								x	x
45WS-SB01-1012-061114X	45WS-01	6/11/2014	10 to 12	N								x	
45WS-SB01-1214-061114X	45WS-01	6/11/2014	12 to 14	N								x	
45WS-SB01-1416-061114X	45WS-01	6/11/2014	14 to 16	N								x	
45WS-SS01-0102-061114X	45WS-01	6/11/2014	1 to 2	N	x	x	x		x		x	x	

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
45WS-SB02-0204-061014X	45WS-02	6/10/2014	2 to 4	N								x	x
45WS-SB02-0406-061014X	45WS-02	6/10/2014	4 to 6	N	x	x	x	x	x		x	x	x
45WS-SB02-0608-061014X	45WS-02	6/10/2014	6 to 8	N								x	x
45WS-SB02-0810-061014X	45WS-02	6/10/2014	8 to 10	N	x	x	x		x			x	
45WS-SB02-1012-061014X	45WS-02	6/10/2014	10 to 12	N								x	
45WS-SB02-1214-061014X	45WS-02	6/10/2014	12 to 14	N								x	
45WS-SB02-1416-061014X	45WS-02	6/10/2014	14 to 16	N								x	
45WS-SS02-0001-061014D	45WS-02	6/10/2014	0 to 0.5	FD	x	x	x		x		x		
45WS-SS02-0001-061014X	45WS-02	6/10/2014	0 to 0.5	N	x	x	x		x		x	x	x
45WS-SB03-0204-061014X	45WS-03	6/10/2014	2 to 4	N	x	x	x		x		x	x	x
45WS-SB03-0406-061014X	45WS-03	6/10/2014	4 to 6	N								x	x
45WS-SB03-0608-061014X	45WS-03	6/10/2014	6 to 8	N								x	x
45WS-SB03-0810-061014X	45WS-03	6/10/2014	8 to 10	N	x	x	x		x			x	
45WS-SB03-1012-061014X	45WS-03	6/10/2014	10 to 12	N								x	
45WS-SB03-1214-061014X	45WS-03	6/10/2014	12 to 14	N								x	
45WS-SB03-1416-061014X	45WS-03	6/10/2014	14 to 16	N								x	
45WS-SS03-0001-061014X	45WS-03	6/10/2014	0 to 0.5	N	x	x	x	x	x	x	x	x	x
45WS-SS03-0001-061014XMS	45WS-03	6/10/2014	0 to 0.5	MS	x	x	x		x	x			
45WS-SS03-0001-061014XMSD	45WS-03	6/10/2014	0 to 0.5	MSD	x	x	x						
45WS-SB04-0204-060914X	45WS-04	6/9/2014	2 to 4	N								x	x
45WS-SB04-0406-060914X	45WS-04	6/9/2014	4 to 6	N								x	
45WS-SB04-0608-061014X	45WS-04	6/9/2014	6 to 8	N	x	x	x		x			x	x
45WS-SB04-0810-060914X	45WS-04	6/9/2014	8 to 10	N								x	x
45WS-SB04-1012-060914X	45WS-04	6/9/2014	10 to 12	N								x	
45WS-SB04-1214-060914X	45WS-04	6/9/2014	12 to 14	N								x	
45WS-SB04-1416-060914X	45WS-04	6/9/2014	14 to 16	N	x	x	x		x			x	
45WS-SS04-0001-060914X	45WS-04	6/9/2014	0 to 0.5	N	x	x	x		x	x	x	x	x
ROW-SB01-0204-062314X	ROW-01	6/23/2014	2 to 4	N								x	x
ROW-SB01-0406-062314X	ROW-01	6/23/2014	4 to 6	N	x	x	x		x		x	x	x
ROW-SB01-0608-062314X	ROW-01	6/23/2014	6 to 8	N	x	x	x		x			x	x
ROW-SS01-0001-062314X	ROW-01	6/23/2014	0 to 0.5	N	x	x	x		x		x	x	
ROW-SS01-0001-062314XMS	ROW-01	6/23/2014	0 to 0.5	MS	x	x	x		x				
ROW-SS01-0001-062314XMSD	ROW-01	6/23/2014	0 to 0.5	MSD	x	x	x						

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
ROW-SB02-0204-062314X	ROW-02	6/23/2014	2 to 4	N	x	x	x		x		x	x	x
ROW-SB02-0406-062314X	ROW-02	6/23/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB02-0608-062314X	ROW-02	6/23/2014	6 to 8	N								x	x
ROW-SB02-0810-062314X	ROW-02	6/23/2014	8 to 10	N								x	x
ROW-SB02-1012-062314X	ROW-02	6/23/2014	10 to 12	N								x	
ROW-SB02-1214-062314X	ROW-02	6/23/2014	12 to 14	N								x	
ROW-SB02-1416-062314X	ROW-02	6/23/2014	14 to 16	N								x	
ROW-SS02-0001-062314D	ROW-02	6/23/2014	0 to 0.5	FD	x	x	x		x	x	x		
ROW-SS02-0001-062314X	ROW-02	6/23/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SB03-0204-062314X	ROW-03	6/23/2014	2 to 4	N	x	x	x		x		x	x	x
ROW-SB03-0406-062314X	ROW-03	6/23/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB03-0608-062314X	ROW-03	6/23/2014	6 to 8	N								x	x
ROW-SB03-0810-062314X	ROW-03	6/23/2014	8 to 10	N								x	x
ROW-SB03-1012-062314X	ROW-03	6/23/2014	10 to 12	N								x	
ROW-SS03-0001-062314X	ROW-03	6/23/2014	0 to 0.5	N	x	x	x		x		x	x	
ROW-SB04-0204-062314X	ROW-04	6/23/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB04-0406-062314X	ROW-04	6/23/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB04-0608-062314X	ROW-04	6/23/2014	6 to 8	N								x	x
ROW-SB04-1012-062314X	ROW-04	6/23/2014	10 to 12	N								x	
ROW-SS04-0001-062314X	ROW-04	6/23/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SS04-0001-062314XMS	ROW-04	6/23/2014	0 to 0.5	MS	x	x	x		x	x			
ROW-SS04-0001-062314XMSD	ROW-04	6/23/2014	0 to 0.5	MSD	x	x	x						
ROW-SB05-0204-062414X	ROW-05	6/24/2014	2 to 4	N								x	x
ROW-SB05-0406-062414X	ROW-05	6/24/2014	4 to 6	N	x	x	x		x		x	x	x
ROW-SB05-0608-062414X	ROW-05	6/24/2014	6 to 8	N	x	x	x		x			x	x
ROW-SS05-0001-062414X	ROW-05	6/24/2014	0 to 0.5	N	x	x	x		x		x	x	
ROW-SB06-0204-062414X	ROW-06	6/24/2014	2 to 4	N	x	x	x	x	x		x	x	x
ROW-SB06-0406-062414X	ROW-06	6/24/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB06-0608-062414X	ROW-06	6/24/2014	6 to 8	N								x	x
ROW-SS06-0001-062414X	ROW-06	6/24/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SS06-0001-062414XMS	ROW-06	6/24/2014	0 to 0.5	MS	x	x	x		x	x			
ROW-SS06-0001-062414XMSD	ROW-06	6/24/2014	0 to 0.5	MSD	x	x	x						

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
ROW-SB07-0204-062414X	ROW-07	6/24/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB07-0406-062414X	ROW-07	6/24/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB07-0608-062414X	ROW-07	6/24/2014	6 to 8	N								x	x
ROW-SS07-0001-062414X	ROW-07	6/24/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SB08-0204-062414X	ROW-08	6/24/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB08-0406-062414X	ROW-08	6/24/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB08-0608-062414X	ROW-08	6/24/2014	6 to 8	N								x	x
ROW-SS08-0001-062414X	ROW-08	6/24/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SB09-0204-062514X	ROW-09	6/25/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB09-0406-062514X	ROW-09	6/25/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB09-0608-062514X	ROW-09	6/25/2014	6 to 8	N								x	x
ROW-SS09-0001-062414X	ROW-09	6/25/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SS09-0001-062414XMS	ROW-09	6/25/2014	0 to 0.5	MS	x	x	x		x	x			
ROW-SS09-0001-062414XMSD	ROW-09	6/25/2014	0 to 0.5	MSD	x	x	x						
ROW-SB10-0204-062014X	ROW-10	6/20/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB10-0406-062014X	ROW-10	6/20/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB10-0608-062014X	ROW-10	6/20/2014	6 to 8	N								x	x
ROW-SS10-0001-062014X	ROW-10	6/20/2014	0 to 0.5	N	x	x	x		x		x	x	
ROW-SB11-0204-062514X	ROW-11	6/25/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB11-0406-062514X	ROW-11	6/25/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB11-0608-062514X	ROW-11	6/25/2014	6 to 8	N								x	x
ROW-SS11-0001-062514D	ROW-11	6/25/2014	0 to 0.5	N	x	x	x		x				
ROW-SS11-0001-062514X	ROW-11	6/25/2014	0 to 0.5	N	x	x	x		x		x	x	
ROW-SB12-0204-062514X	ROW-12	6/25/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB12-0406-062514X	ROW-12	6/25/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB12-0608-062514X	ROW-12	6/25/2014	6 to 8	N								x	x
ROW-SS12-0001-062514X	ROW-12	6/25/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SB13-0204-062014X	ROW-13	6/20/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB13-0406-062014X	ROW-13	6/20/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB13-0608-062014X	ROW-13	6/20/2014	6 to 8	N								x	x
ROW-SB13-0810-062014X	ROW-13	6/20/2014	8 to 10	N								x	
ROW-SB13-1012-062014X	ROW-13	6/20/2014	10 to 12	N								x	
ROW-SS13-0001-062014D	ROW-13	6/20/2014	0 to 0.5	FD	x	x	x		x	x	x		
ROW-SS13-0001-062014X	ROW-13	6/20/2014	0 to 0.5	N	x	x	x	x	x	x	x	x	x

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
ROW-SB14-0204-061914X	ROW-14	6/19/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB14-0406-061914X	ROW-14	6/19/2014	4 to 6	N	x	x	x		x		x	x	x
ROW-SB14-0608-061914X	ROW-14	6/19/2014	6 to 8	N								x	x
ROW-SB14-0810-061914X	ROW-14	6/19/2014	8 to 10	N								x	x
ROW-SB14-1012-061914X	ROW-14	6/19/2014	10 to 12	N								x	
ROW-SS14-0001-061914X	ROW-14	6/19/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SB15-0204-061914X	ROW-15	6/19/2014	2 to 4	N	x	x	x		x		x	x	x
ROW-SB15-0406-061914X	ROW-15	6/19/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB15-0608-061914X	ROW-15	6/19/2014	6 to 8	N								x	x
ROW-SB15-0810-061914X	ROW-15	6/19/2014	8 to 10	N								x	x
ROW-SB15-1012-061914X	ROW-15	6/19/2014	10 to 12	N								x	
ROW-SS15-0001-061914X	ROW-15	6/19/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SB16-0204-061914X	ROW-16	6/19/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB16-0406-061914X	ROW-16	6/19/2014	4 to 6	N								x	x
ROW-SB16-0608-061914X	ROW-16	6/19/2014	6 to 8	N	x	x	x		x			x	x
ROW-SB16-0810-061914X	ROW-16	6/19/2014	8 to 10	N								x	x
ROW-SB16-1012-061914X	ROW-16	6/19/2014	10 to 12	N								x	
ROW-SS16-0001-061914D	ROW-16	6/19/2014	0 to 0.5	FD	x	x	x	x	x	x	x		
ROW-SS16-0001-061914X	ROW-16	6/19/2014	0 to 0.5	N	x	x	x	x	x	x	x	x	
ROW-SB17-0204-061814X	ROW-17	6/18/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB17-0406-061814X	ROW-17	6/18/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB17-0608-061814X	ROW-17	6/18/2014	6 to 8	N								x	x
ROW-SB17-0810-061814X	ROW-17	6/18/2014	8 to 10	N								x	x
ROW-SB17-1012-061814X	ROW-17	6/18/2014	10 to 12	N								x	
ROW-SS17-0001-061814X	ROW-17	6/18/2014	0 to 0.5	N	x	x	x	x	x		x	x	
ROW-SB18-0204-061814X	ROW-18	6/18/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB18-0406-061814X	ROW-18	6/18/2014	4 to 6	N	x	x	x		x			x	x
ROW-SB18-0608-061814X	ROW-18	6/18/2014	6 to 8	N								x	x
ROW-SB18-0810-061814X	ROW-18	6/18/2014	8 to 10	N								x	x
ROW-SB18-1012-061814X	ROW-18	6/18/2014	10 to 12	N								x	
ROW-SS18-0001-061814X	ROW-18	6/18/2014	0 to 0.5	N	x	x	x		x		x	x	

Table 2-2
Soil Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	Sample Interval (ft bgs)	QC Type	Laboratory Analyses Selected								
					VOCs	SVOCs/ Pesticides/ PCBs	PAH-SIM	Dioxins	Metals	Hexavalent Chromium	Geo-chemistry	Field Screened Metals	Field Screened PAHs
ROW-SB19-0204-061114X	ROW-19	6/11/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB19-0406-061114X	ROW-19	6/11/2014	4 to 6	N								x	x
ROW-SB19-0608-061114X	ROW-19	6/11/2014	6 to 8	N	x	x	x		x		x	x	x
ROW-SB19-0810-061114X	ROW-19	6/11/2014	8 to 10	N								x	x
ROW-SB19-1012-061114X	ROW-19	6/11/2014	10 to 12	N								x	
ROW-SB19-1214-061114X	ROW-19	6/11/2014	12 to 14	N								x	
ROW-SB19-1416-061114X	ROW-19	6/11/2014	14 to 16	N								x	
ROW-SS19-0001-061114X	ROW-19	6/11/2014	0 to 0.5	N	x	x	x		x	x	x	x	
ROW-SB20-0204-061014X	ROW-20	6/10/2014	2 to 4	N	x	x	x		x			x	x
ROW-SB20-0406-061014X	ROW-20	6/10/2014	4 to 6	N								x	x
ROW-SB20-0608-061014X	ROW-20	6/10/2014	6 to 8	N	x	x	x		x			x	x
ROW-SB20-0810-061014X	ROW-20	6/10/2014	8 to 10	N								x	
ROW-SB20-1012-061014X	ROW-20	6/10/2014	10 to 12	N								x	
ROW-SB20-1214-061014X	ROW-20	6/10/2014	12 to 14	N								x	
ROW-SB20-1416-061014X	ROW-20	6/10/2014	14 to 16	N								x	
ROW-SS20-0001-061014X	ROW-20	6/10/2014	0 to 0.5	N	x	x	x		x		x	x	x
ROW-SB21-0204-060914X	ROW-21	6/9/2014	2 to 4	N								x	
ROW-SB21-0406-060914X	ROW-21	6/9/2014	4 to 6	N								x	x
ROW-SB21-0608-060914X	ROW-21	6/9/2014	6 to 8	N	x	x	x		x			x	
ROW-SB21-0810-060914X	ROW-21	6/9/2014	8 to 10	N								x	x
ROW-SB21-1012-060914X	ROW-21	6/9/2014	10 to 12	N								x	
ROW-SB21-1214-060914X	ROW-21	6/9/2014	12 to 14	N								x	x
ROW-SB21-1416-060914X	ROW-21	6/9/2014	14 to 16	N	x	x	x		x			x	
ROW-SS21-0001-060914X	ROW-21	6/9/2014	0 to 0.5	N	x	x	x	x	x		x	x	x
ROW-SS22-0001-062514X	ROW-22	6/25/2014	0 to 0.5	N	x	x	x	x	x	x	x	x	x
ROW-SS23-0001-062514X	ROW-23	6/25/2014	0 to 0.5	N	x	x	x	x	x	x	x	x	x

Table 2-3
Groundwater Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	QC Type	Laboratory Analyses Selected							
				VOCs	SVOCs/ Pesticides/PCBs	PAH-SIM	Dioxins	Metals (Total)	Hexavalent Chromium	Metals (Dissolved)	Geo-Chemistry
CC-GW-BH1MW1-071514X	BH-1/MW-1	7/15/2014	N	x	x	x		x		x	
CC-GW-BH12MW8-071514X	BH-12/MW-8	7/15/2014	N	x	x	x		x		x	
CC-GW-MW01-071514X	MW-01	7/15/2014	N					x			
CC-GW-MW02-071414X	MW-02	7/14/2014	N	x	x	x		x	x	x	x
CC-GW-MW02-071414XMS	MW-02	7/14/2014	MS	x	x	x		x			
CC-GW-MW03-071614X	MW-03	7/16/2014	N	x	x	x		x		x	
CC-GW-MW04-071414D	MW-04	7/14/2014	FD	x	x	x	x	x	x	x	x
CC-GW-MW04-071414X	MW-04	7/14/2014	N	x	x	x	x	x	x	x	x
CC-GW-MW05-071614X	MW-05	7/16/2014	N	x	x	x	x	x	x	x	x
CC-GW-MW06-071414X	MW-06	7/14/2014	N	x	x	x		x		x	
CC-GW-MW08-071614X	MW-08	7/16/2014	N	x	x	x		x	x	x	x
CC-GW-MW09-071514X	MW-09	7/15/2014	N	x	x	x		x		x	x
CC-GW-MGPMW5-071614X	RR-2-MW	7/16/2014	N	x				x			
CC-GW-TT01-071714X	TT-01	7/17/2014	N	x	x	x		x		x	
CC-GW-TT02-071414X	TT-02	7/17/2014	N	x	x	x		x		x	
CC-GW-TT06-071714X	TT-06	7/17/2014	N	x	x	x		x		x	
CC-GW-MW01-101614X	MW-01	10/16/14	N	x	x	x		x			
CC-GW-MW02-101414X	MW-02	10/14/14	N	x	x	x	x	x			
CC-GW-MW03-101414X	MW-03	10/14/14	N	x	x	x	x	x	x		
CC-GW-MW04-101614X	MW-04	10/16/14	N	x	x	x		x			
CC-GW-MW05-101314X	MW-05	10/13/14	N	x	x	x		x	x		
CC-GW-MW06-101414X	MW-06	10/14/14	N	x	x	x		x	x		
CC-GW-MW07-101614X	MW-07	10/16/14	N	x	x	x		x			
CC-GW-MW08-101614X	MW-08	10/16/14	N	x	x	x		x			
CC-GW-MW09-101314X	MW-09	10/13/14	N	x	x	x		x			
CC-GW-RR2MW-101614X	RR-2-MW	10/16/14	N	x	x	x		x			
CC-GW-TT01-101514X	TT-01	10/15/14	N	x	x	x			x	x	
CC-GW-TT01-101514D	TT-01	10/15/14	FD	x	x	x			x	x	
CC-GW-TT02-101514X	TT-02	10/15/14	N	x	x	x		x			
CC-GW-TT06-101514X	TT-06	10/15/14	N	x	x	x				x	

Notes:
1. Monitoring well MW-07 did not contain sufficient groundwater to collect analytical samples in July 2014.
2. Monitoring well MW-10 was dry during both sampling events.

Table 2-4
Sediment Sample Collection Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample ID	Sample Location	Sample Date	QC Type	Laboratory Analyses Selected					
				VOCs	SVOCs/ Pesticides/PCBs	Dioxins	Metals (Total)	Hexavalent Chromium	pH/ORP
SD101-101514X	SD-101	10/14/14	N	x	x		x		
SD102-101414X	SD-102	10/14/14	N	x	x		x		
SD103-101414X	SD-103	10/14/14	N	x	x	x	x	x	x
SD104-101414X	SD-104	10/14/14	N	x	x		x		
SD105-101414X	SD-105	10/14/14	N	x	x		x		
SD106-101414X	SD-106	10/14/14	N	x	x		x		
SD107-101414X	SD-107	10/14/14	N	x	x		x	x	x
SD108-101414X	SD-108	10/14/14	N	x	x		x		
SD109-101314X	SD-109	10/13/14	N	x	x		x		
SD110-101314X	SD-110	10/13/14	N	x	x		x		
SD111-101314X	SD-111	10/13/14	N	x	x		x	x	x
SD111-101314XD	SD-111	10/13/14	FD	x	x		x	x	x
SD112-101314X	SD-112	10/13/14	N	x	x		x		
SD113-101314X	SD-113	10/13/14	N	x	x		x		
SD114-101314X	SD-114	10/13/14	N	x	x	x	x	x	x
SD115-101314X	SD-115	10/13/14	N	x	x		x		

Table 2-5
Site Monitoring Well Construction Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Monitoring Well ID	Study Area Parcel	Aquifer	Easting (ft, NAD83)	Northing (ft, NAD83)	Well Diameter (in.)	Well Slot (in.)	Filter Sand Dia.	Ground Elevation (ft MSL)	Measuring Point Elevation (ft MSL)	Screened Interval (ft bgs)	Top of Screen (ft MSL)	Bottom of Screen (ft MSL)	Total Depth (ft bmp)	Total Depth (ft MSL)	Comments
MW-01	45 Water Street	Overburden	810778.62	3026560.37	2.00	0.006	#000	10	9.6	3'-13'	7	-3	14.83	-5.23	Flush-mount, installed 7/9/2014
MW-02	35 Water Street	Overburden	810880.70	3026766.84	2.00	0.010	#00	12.3	11.9	3'-13'	9.3	-0.7	14.7	-2.8	Flush-mount, installed 6/30/2014
MW-03	MBTA ROW	Overburden	810764.15	3026784.07	2.00	0.006	#000	10.4	10	3'-13'	7.4	-2.6	14.97	-4.97	Flush-mount, installed 7/2/2014
MW-04	33 Water Street	Overburden	810888.65	3027094.89	2.00	0.01	#00	14.8	14.4	3'-13'	11.8	1.8	14.35	0.05	Flush-mount, installed 6/30/2014
MW-05	33 Water Street	Overburden	810793.38	3027116.31	2.00	0.006	#000	12.3	11.9	3'-13'	9.3	-0.7	15.07	-3.17	Flush-mount, installed 7/1/2014
MW-06	33 Water Street	Overburden	810967.12	3027233.78	2.00	0.01	#00	15.1	14.8	3'-13'	12.1	2.1	14.96	-0.16	Flush-mount, installed 7/1/2014
MW-07	MBTA ROW	Overburden	810549.76	3027420.24	2.00	0.006	#000	10.5	13.3	3'-13'	7.5	-2.5	18.07	-4.77	Elevated stick-up, installed 6/30/2014
MW-08	12 Cheever Street	Overburden	810684.24	3027570.97	2.00	0.006	#000	13.3	12.8	3'-13'	10.3	0.3	14.77	-1.97	Flush-mount, installed 7/8/2014
MW-09	20 Cheever Street	Overburden	810201.95	3027572.53	2.00	0.006	#000	6.8	9.6	3'-13'	3.8	-6.2	18.14	-8.54	Elevated stick-up, installed 7/2/2014
MW-10	Clinton Ave, Town of Danvers	Overburden	810282.24	3026380.43	2.00	0.006	#000	20.8	20.4	3'-13'	17.8	7.8	14.83	5.57	Flush-mount, installed 7/8/2014
TT-01	15 Pleasant Ave	Overburden	809610.37	3028321.83	1.00	*unk.*	*unk.*	*NM*	*NM*	5'-10'	*unk.*	*unk.*	12.53	*unk*	Elevated stick-up, installed 7/25/13
TT-02	15 Pleasant Ave	Overburden	809566.10	3028267.15	1.00	*unk.*	*unk.*	*NM*	*NM*	3'-13'	*unk.*	*unk.*	15.45	*unk*	Elevated stick-up, installed 7/25/13
TT-06	15 Pleasant Ave	Overburden	809653.34	3028368.71	1.00	*unk.*	*unk.*	*NM*	*NM*	4.5'-9.5'	*unk.*	*unk.*	10.49	*unk*	Elevated stick-up, installed 7/26/13
BH-1/MW-1	55 Clinton Ave	Overburden	809921.86	3027091.52	2.00	*unk.*	*unk.*	17.6	17.4	*unk.*	*unk.*	*unk.*	15.27	2.13	Flush-mount, installed 06/1995
BH-12/MW-8	55 Clinton Ave	Overburden	809650.51	3027237.88	2.00	*unk.*	*unk.*	24.4	24.2	*unk.*	*unk.*	*unk.*	24.5	-0.3	Flush-mount, installed 06/1995
RR-2-MW	MBTA ROW	Overburden	810112.89	3028035.55	1.50	*unk.*	#2	14.3	14	8'-18'	6.3	-3.7	17.99	-3.69	Flush-mount, installed 8/3/04

Table 4-1
2014 Soil Data Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Parameter	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
METALS (mg/Kg)														
Aluminum	192/192	4020 - 33000	14900	12CH-SB04-0204-062514X	7700	166	110000	0	10000	131	10000	131	13900	92
Antimony	74/192	0.13 - 9.2	1.35	20CH-SB11-0204-062014X	3.1	6	47	0	1	21	7	1		
Arsenic	192/192	2.9 - 522	31.2	20CH-SB11-0204-062014X	0.67	192	3	191	20	51	20	51	11.4	118
Barium	192/192	8.2 - 4040	94.8	20CH-SS11-0001-062014X-MAX	1500	2	22000	0	50	117	50	117	21.2	173
Beryllium	192/192	0.25 - 3.1	1.04	20CH-SS12-0001-062014X	16	0	230	0	0.4	188	0.9	93	0.36	191
Cadmium	178/192	0.02 - 9	0.633	20CH-SS11-0001-062014X-MAX	7	3	98	0	2	4	3	4		
Calcium	191/192	318 - 50500	3280	33WS-SB12-0406-061614X									867	174
Chromium	191/192	3.9 - 19100	261	33WS-SB03-0406-061314X	12000	1	180000	0	30	149	40	130	17.3	174
Chromium-Hexavalent	32/37	0.79 - 60	7.11	20CH-SS08-0001-061914X	0.3	32	6.3	8	30	1	40	1		
Cobalt	192/192	3.9 - 40.4	11.4	20CH-SS12-0001-062014X	2.3	192	35	1	4	191	4	191	6.2	159
Copper	192/192	4.8 - 1250	40.9	20CH-SB12-0406-062014X	310	3	4700	0	40	37	200	5	9	184
Iron	192/192	9250 - 423000	31000	20CH-SS12-0001-062014X	5500	192	82000	3	20000	126	20000	126	12500	178
Lead	192/192	5.8 - 24000	242	20CH-SS11-0001-062014X-MAX	400	9	800	5	100	51	600	7	64.5	69
Magnesium	192/192	472 - 25300	5970	45WS-SB02-0406-061014X					5000	96	5000	96	3170	156
Manganese	192/192	125 - 2980	453	20CH-SS12-0001-062014X	180	181	2600	1	300	128	300	128	170	182
Mercury	142/192	0.0021 - 6.6	0.547	20CH-SB11-0204-062014X	0.94	20	4	6	0.3	30	1	20	0.04	89
Nickel	192/192	5.4 - 219	29.1	45WS-SB02-0406-061014X	150	1	2200	0	20	117	30	69	13.7	164
Potassium	175/192	19.6 - 5810	1760	ROW-SB21-1416-060914X									448	158
Selenium	81/192	0.023 - 9.7	3.59	20CH-SS14-0001-062414X	39	0	580	0	0.5	68	1	67		
Silver	5/192	0.06 - 0.46	0.24	20CH-SS07-0001-061914X	39	0	580	0	0.6	0	5	0		
Sodium	192/192	52.5 - 41300	1260	20CH-SS10-0001-061814X										
Thallium	168/192	0.052 - 0.38	0.179	12CH-SB04-0204-062514X	0.078	144	1.2	0	0.6	0	5	0		
Vanadium	191/192	11.5 - 398	45.8	ROW-SS15-0001-061914X	39	104	580	0	30	138	30	138	22.4	170
Zinc	192/192	24.8 - 4980	135	20CH-SS11-0001-062014X-MAX	2300	2	35000	0	100	27	300	6	53.7	145
SEMIVOLATILES (µg/Kg)														
1,1'-Biphenyl	7/192	43 - 1900	517	33WS-SB12-0406-061614X	4700	0	20000	0						
2,2'-Oxybis(1-chloropropane)	1/192	120 - 120	120	33WS-SS15-0001-062614X	4900	0	22000	0						
2,3,4,6-Tetrachlorophenol	1/192	63 - 63	63	ROW-SB05-0406-062414X	180000	0	2500000	0						
2,4-Dimethylphenol	4/192	53 - 550	313	33WS-SB12-0406-061614X	120000	0	1600000	0						
2-Methylnaphthalene	67/192	2.6 - 9100	290	33WS-SB12-0406-061614X	23000	0	300000	0	500	2	1000	2		
4-Methylphenol	7/192	48 - 760	294	33WS-SB12-0406-061614X	620000	0	8200000	0						
Acenaphthene	61/192	1.7 - 25000	845	33WS-SB12-0406-061614X	350000	0	4500000	0	500	5	2000	2		
Acenaphthylene	92/192	4.4 - 2900	311	ROW-SS16-0001-061914X-MAX					500	19	1000	10		
Acetophenone	35/192	39 - 370	121	45WS-SB02-0406-061014X	780000	0	12000000	0						
Anthracene	98/192	1 - 72000	1610	33WS-SB04-0406-061314X	1700000	0	23000000	0	1000	11	4000	3		
Atrazine	1/192	88 - 88	88	ROW-SB05-0406-062414X	2300	0	10000	0						
Benzaldehyde	2/192	51 - 60	55.5	ROW-SS16-0001-061914X-MAX	780000	0	12000000	0						
Benzo(a)anthracene	118/192	3.8 - 170000	3300	33WS-SB04-0406-061314X	150	63	2900	10	2000	16	9000	4		
Benzo(a)pyrene	106/192	5.3 - 150000	3220	33WS-SB04-0406-061314X	15	91	290	52	2000	13	7000	6		
Benzo(b)fluoranthene	112/192	4.6 - 200000	4460	33WS-SB04-0406-061314X	150	66	2900	18	2000	27	8000	8		
Benzo(g,h,i)perylene	102/192	3.6 - 68000	1490	33WS-SB04-0406-061314X					1000	17	3000	6		
Benzo(k)fluoranthene	109/192	3.3 - 19000	1020	33WS-SB12-0406-061614X	1500	17	29000	0	1000	23	4000	5		
Bis(2-ethylhexyl)phthalate	73/192	36 - 6400	249	ROW-SS15-0001-061914X	38000	0	160000	0						
Butylbenzylphthalate	5/192	51 - 110	74	ROW-SB05-0406-062414X	280000	0	1200000	0						
Carbazole	45/192	46 - 26000	1260	33WS-SB04-0406-061314X										
Chrysene	115/192	2.2 - 160000	3550	33WS-SB04-0406-061314X	15000	3	290000	0	2000	20	7000	8		
Dibenz(a,h)anthracene	91/192	1.6 - 22000	593	33WS-SB04-0406-061314X	15	72	290	19	500	12	1000	8		
Dibenzofuran	27/192	42 - 15000	1150	33WS-SB04-0406-061314X	7200	2	100000	0						
Diethylphthalate	3/192	42 - 420	175	ROW-SS10-0001-062014X	4900000	0	66000000	0						
Di-N-Butylphthalate	125/192	72 - 2400	537	20CH-SS10-0001-061814X	620000	0	8200000	0						
Di-N-Octyl Phthalate	1/192	90 - 90	90	ROW-SB05-0406-062414X	62000	0	820000	0						

Table 4-1
2014 Soil Data Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Parameter	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Fluoranthene	130/192	3.4 - 370000	6510	33WS-SB04-0406-061314X	230000	1	3000000	0	4000	17	10000	9		
Fluorene	80/192	3.7 - 23000	689	33WS-SB04-0406-061314X, 33WS-SB12-0406-061614X	230000	0	3000000	0	1000	3	2000	3		
Hexachlorocyclopentadiene	1/192	38 - 38	38	35WS-SB01-0204-061114X	37000	0	490000	0						
Indeno(1,2,3-cd)pyrene	103/192	3.5 - 79000	1780	33WS-SB04-0406-061314X	150	54	2900	7	1000	19	3000	7		
Naphthalene	69/192	1.5 - 13000	349	33WS-SB12-0406-061614X	3800	2	17000	0	500	3	1000	2		
N-Nitrosodiphenylamine	1/192	46 - 46	46	ROW-SB05-0406-062414X	110000	0	470000	0						
Pentachlorophenol	42/192	4.1 - 400	43.7	ROW-SS15-0001-061914X	990	0	4000	0						
Phenanthrene	113/192	3.8 - 320000	6180	33WS-SB04-0406-061314X					3000	10	20000	3		
Phenol	8/192	45 - 370	132	33WS-SB12-0406-061614X	1800000	0	25000000	0						
Pyrene	134/192	3.9 - 340000	5960	33WS-SB04-0406-061314X	170000	2	2300000	0	4000	16	20000	3		
DIOXINS/FURANS (ng/kg)														
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	19/19	550 - 141000	31400	45WS-SS03-0001-061014X									1440	17
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	18/19	0.492 - 2440	400	ROW-SS16-0001-061914X-MAX									3.05	17
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	19/19	21.7 - 13600	2130	45WS-SS03-0001-061014X									592	7
1,2,3,4,6,7,8-Heptachlorodibenzofuran	19/19	0.182 - 1030	193	ROW-SS16-0001-061914X-MAX									1.77	17
1,2,3,4,7,8,9-Heptachlorodibenzofuran	14/19	0.229 - 65.9	12.9	ROW-SS16-0001-061914X-MAX										
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	14/19	0.263 - 68	17.2	45WS-SS03-0001-061014X										
1,2,3,4,7,8-Hexachlorodibenzofuran	16/19	0.293 - 43.2	10.7	ROW-SS16-0001-061914X-MAX										
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	16/19	0.574 - 472	80.3	45WS-SS03-0001-061014X										
1,2,3,6,7,8-Hexachlorodibenzofuran	15/19	0.254 - 41.6	9.51	ROW-SS16-0001-061914X-MAX										
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	16/19	0.361 - 195	31.7	45WS-SS03-0001-061014X										
1,2,3,7,8,9-Hexachlorodibenzofuran	8/19	0.293 - 5.98	2.19	45WS-SS03-0001-061014X										
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	14/19	0.361 - 16.1	5.49	45WS-SS03-0001-061014X										
1,2,3,7,8-Pentachlorodibenzofuran	13/19	0.191 - 14	3.47	45WS-SB02-0406-061014X										
2,3,4,6,7,8-Hexachlorodibenzofuran	15/19	0.356 - 81.7	20	45WS-SS03-0001-061014X										
2,3,4,7,8-Pentachlorodibenzofuran	16/19	0.356 - 30.3	10.1	ROW-SS16-0001-061914X-MAX										
2,3,7,8-Tetrachlorodibenzo-p-dioxin	10/19	0.618 - 7.33	2.72	45WS-SS03-0001-061014X	4.9	1	22	0						
2,3,7,8-Tetrachlorodibenzofuran	14/19	0.182 - 22.8	4.36	45WS-SB02-0406-061014X										
Heptachlorodibenzo-p-dioxin (total)	19/19	39.4 - 32500	5040	45WS-SS03-0001-061014X										
Heptachlorodibenzofuran (total)	19/19	0.325 - 2860	519	ROW-SS16-0001-061914X-MAX										
Hexachlorodibenzo-p-dioxin (total)	19/19	3.29 - 3880	555	45WS-SS03-0001-061014X	100	10	470	5						
Hexachlorodibenzofuran (total)	18/19	1.39 - 1760	347	45WS-SS03-0001-061014X										
Pentachlorodibenzo-p-dioxin (total)	17/19	0.388 - 217	61.1	45WS-SS03-0001-061014X										
Pentachlorodibenzofuran (total)	18/19	0.855 - 434	111	ROW-SS16-0001-061914X-MAX										
Tetrachlorodibenzo(p)dioxin (total)	17/19	0.189 - 262	28.8	33WS-SB04-0406-061314X										
Tetrachlorodibenzofuran (total)	19/19	0.482 - 310	63.2	45WS-SB02-0406-061014X										
Dioxin/Furan - Toxic Equivalent (TEQ)	19/19	0.741 - 305	55.2	45WS-SS03-0001-061014X	4.9	14	22	11					0.663	19
PESTICIDES (µg/kg)														
4,4'-DDD	16/176	3.9 - 41	15.2	20CH-SS11-0001-062014X-MAX	2200	0	9600	0						
4,4'-DDE	21/128	3.7 - 35	12	45WS-SS03-0001-061014X	1600	0	6800	0						
4,4'-DDT	38/166	3.9 - 110	27.1	33WS-SB04-0406-061314X	1900	0	8600	0						
Aldrin	5/158	2 - 23	6.62	33WS-SB04-0406-061314X	31	0	140	0						
alpha-BHC	2/159	4.6 - 9.4	7	20CH-SS11-0001-062014X-MAX	85	0	370	0						
Alpha-Chlordane	4/192	2.5 - 62	19.8	33WS-SB04-0406-061314X										
beta-BHC	3/192	2.8 - 18	8.73	20CH-SS11-0001-062014X-MAX	300	0	1300	0						
delta-BHC	3/159	2.2 - 5.1	4.07	33WS-SB15-0204-062614X										
Dieldrin	1/173	18 - 18	18	20CH-SS11-0001-062014X-MAX	33	0	140	0						
Endosulfan I	2/192	6.5 - 23	14.8	33WS-SB12-0406-061614X										
Endosulfan II	2/192	6.2 - 24	15.1	33WS-SB04-0406-061314X										
Endosulfan Sulfate	28/162	2.1 - 850	46.2	33WS-SB04-0406-061314X										
Endrin	6/192	4.4 - 22	11.1	33WS-SB04-0406-061314X	1800	0	25000	0						

Table 4-1
2014 Soil Data Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Parameter	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Endrin Aldehyde	22/192	3.7 - 45	14	33WS-SB04-0406-061314X										
Endrin Ketone	27/192	3.7 - 270	27.3	33WS-SB04-0406-061314X										
gamma-Chlordane	30/173	1.9 - 86	12.5	33WS-SB04-0406-061314X										
Heptachlor	2/87	4.6 - 8.4	6.5	33WS-SB04-0406-061314X	120	0	510	0						
Heptachlor Epoxide	6/173	2.4 - 15	6.23	33WS-SB04-0406-061314X	59	0	250	0						
Methoxychlor	2/192	26 - 160	93	45WS-SB02-0406-061014X	31000	0	410000	0						
PCBS (µg/kg)														
Aroclor 1248	2/192	150 - 150	150	33WS-SB15-0204-062614X, 33WS-SS15-0001-062614X	240	0	1000	0						
Aroclor 1254	3/192	59 - 330	152	ROW-SS15-0001-061914X	110	1	1000	0						
Aroclor 1260	10/192	60 - 1400	265	20CH-SS11-0001-062014X-MAX	240	2	1000	1						
VOLATILES (µg/Kg)														
1,1,1-Trichloroethane	1/192	22 - 22	22	45WS-SB04-1416-060914X	810000	0	3600000	0						
1,1-Dichloroethane	2/192	4.1 - 5.3	4.7	45WS-SB04-0608-061014X	3600	0	16000	0						
1,1-Dichloroethene	2/174	4.1 - 12	8.05	45WS-SB04-1416-060914X	23000	0	100000	0						
1,2,4-Trichlorobenzene	1/190	22 - 22	22	45WS-SS04-0001-060914X	5800	0	26000	0						
2-Butanone	34/192	8.7 - 81	28.7	20CH-SB12-0406-062014X	2700000	0	19000000	0						
Acetone	179/192	4.2 - 670	116	20CH-SS01-0001-061614X	6100000	0	67000000	0						
Carbon disulfide	8/90	2.9 - 17	11	20CH-SB12-0406-062014X	77000	0	350000	0						
Chloromethane	1/192	4.7 - 4.7	4.7	20CH-SS12-0001-062014X	11000	0	46000	0						
cis-1,2-Dichloroethene	3/192	6.1 - 140	65.4	33WS-SB02-0608-062414X	16000	0	230000	0						
Methyl acetate	80/192	2.2 - 440	41.6	20CH-SS08-0001-061914X	7800000	0	120000000	0						
Methylene chloride	8/192	2.5 - 70	19.3	20CH-SS08-0001-061914X	35000	0	320000	0						
Trichloroethene	1/192	18 - 18	18	33WS-SB02-0608-062414X	410	0	1900	0						
GENERAL CHEMISTRY														
Alkalinity, Bicarbonate (as $CaCO_3$) (µg/g)	19/19	18 - 450	178	20CH-SS07-0001-061914X										
Alkalinity, Total (as $CaCO_3$) (µg/g)	19/19	18 - 450	178	20CH-SS07-0001-061914X										
Chemical Oxygen Demand (%)	17/19	1.1 - 11	4.47	20CH-SS08-0001-061914X										
Chloride (µg/g)	14/19	3.2 - 35000	5140	20CH-SS08-0001-061914X										
Nitrate	16/19	0.32 - 27	7.87	20CH-SS07-0001-061914X	13000	0	190000	0						
Oxidation-Reduction Potential (mV)	96/96	-14 - 506	345	ROW-SB06-0204-062414X										
pH (S.U.)	96/96	4.97 - 11.79	6.91	33WS-SB12-0406-061614X										
Salinity (mg/Kg as NaCl)	8/19	1200 - 64000	18300	20CH-SS08-0001-061914X										
Sulfate (µg/g)	17/19	4 - 18000	1450	20CH-SS08-0001-061914X										
Total Organic Carbon (%)	18/19	0.65 - 22	8.83	ROW-SS13-0001-062014X-MAX										

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
MADEP Bkg. - Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, May 2002. Includes data for natural soils and soils containing fill material.
Site Specific Bkg - Maximum concentration of contaminant detected in soil samples collected from within the Endicott Cemetery
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected during June 2014 by Nobis Engineering.

Table 4-2
2011 and 2014 Soil Data Summary by Property – Metals (mg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects		Location of Max.	EPA-RSL-RES	EPA-RSL-RES	EPA-RSL-IND	EPA-RSL-IND	MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
12 CHEEVER STREET														
Aluminum	15/15	4020 - 33000	16700	12CH-SB04-0204-062514X	7700	11	110000	0	10000	9	10000	9	13900	8
Antimony	14/15	0.13 - 1.2	0.634	12CH-SB04-0204-062514X	3.1	0	47	0	1	1	7	0		
Arsenic	15/15	2.9 - 23	12.7	12CH-SB02-0204-062514X	0.67	15	3	14	20	3	20	3	11.4	9
Barium	15/15	14.7 - 96.1	53.9	12CH-SB04-0204-062514X	1500	0	22000	0	50	9	50	9	21.2	13
Beryllium	15/15	0.37 - 2.1	1.17	12CH-SB04-0204-062514X	16	0	230	0	0.4	14	0.9	8	0.36	15
Cadmium	15/15	0.15 - 0.92	0.555	12CH-SB01-0406-062614X	7	0	98	0	2	0	3	0		
Calcium	15/15	1060 - 4720	3180	12CH-SB03-0204-062514X									867	15
Chromium	15/15	3.9 - 77.7	40	12CH-SB04-0204-062514X	12000	0	180000	0	30	9	40	8	17.3	11
Cobalt	15/15	4.2 - 29.4	13.3	12CH-SB04-0204-062514X	2.3	15	35	0	4	15	4	15	6.2	12
Copper	15/15	4.8 - 25.6	17.9	12CH-SB04-0204-062514X	310	0	4700	0	40	0	200	0	9	12
Iron	15/15	9250 - 46900	27500	12CH-SB04-0204-062514X	5500	15	82000	0	20000	10	20000	10	12500	12
Lead	15/15	5.8 - 280	42.4	12CH-SS04-0102-062514X	400	0	800	0	100	1	600	0	64.5	2
Magnesium	15/15	1310 - 11600	6920	12CH-SB05-0608-062514X					5000	11	5000	11	3170	11
Manganese	15/15	156 - 907	555	12CH-SB03-0406-062514X	180	14	2600	0	300	13	300	13	170	14
Mercury	14/15	0.0027 - 0.069	0.0185	12CH-SB05-0406-062514X	0.94	0	4	0	0.3	0	1	0	0.04	2
Nickel	15/15	5.4 - 81.6	32.7	12CH-SB03-0406-062514X	150	0	2200	0	20	11	30	8	13.7	11
Potassium	14/15	412 - 3930	1950	12CH-SB04-0204-062514X									448	13
Selenium	15/15	1.5 - 6.5	4.13	12CH-SB04-0204-062514X	39	0	580	0	0.5	15	1	15		
Sodium	15/15	205 - 1270	510	12CH-SB03-0204-062514X										
Thallium	15/15	0.1 - 0.38	0.238	12CH-SB04-0204-062514X	0.078	15	1.2	0	0.6	0	5	0		
Vanadium	15/15	11.5 - 78.9	44.6	12CH-SB04-0204-062514X	39	8	580	0	30	9	30	9	22.4	12
Zinc	15/15	26.5 - 112	72	12CH-SS04-0102-062514X	2300	0	35000	0	100	1	300	0	53.7	11
20 CHEEVER STREET														
Aluminum	60/60	4710 - 29100	17800	20CH-SB15-0406-061814X	7700	57	110000	0	10000	51	10000	51	13900	44
Antimony	13/56	0.63 - 17	3.64	SB-12 (3-4.75)	3.1	4	47	0	1	6	7	2		
Arsenic	67/67	5.2 - 522	36.3	20CH-SB11-0204-062014X	0.67	67	3	67	20	19	20	19	11.4	51
Barium	60/60	14 - 4040	246	20CH-SS11-0001-062014X-MAX	1500	2	22000	0	50	42	50	42	21.2	55
Beryllium	59/59	0.56 - 3.1	1.33	20CH-SS12-0001-062014X	16	0	230	0	0.4	59	0.9	50	0.36	59
Cadmium	54/60	0.02 - 10.2	1.4	SS-12A (0-2)	7	5	98	0	2	9	3	6		
Calcium	59/60	379 - 20100	3430	SS-13A (0-1)									867	50
Chromium	67/67	24 - 865	117	20CH-SS08-0001-061914X	12000	0	180000	0	30	64	40	61	17.3	67
Chromium-Hexavalent	9/11	1.2 - 60	12.3	20CH-SS08-0001-061914X	0.3	9	6.3	3	30	1	40	1		
Cobalt	60/60	3 - 40.4	12.9	20CH-SS12-0001-062014X	2.3	60	35	1	4	59	4	59	6.2	55
Copper	60/60	3.7 - 1250	90	20CH-SB12-0406-062014X	310	4	4700	0	40	16	200	6	9	57
Iron	60/60	14000 - 423000	50100	20CH-SS12-0001-062014X	5500	60	82000	4	20000	52	20000	52	12500	60
Lead	60/60	10.2 - 24000	893	20CH-SS11-0001-062014X-MAX	400	11	800	10	100	20	600	10	64.5	24
Magnesium	60/60	1330 - 12100	6970	20CH-SB05-0406-061914X					5000	38	5000	38	3170	55
Manganese	60/60	115 - 2980	544	20CH-SS12-0001-062014X	180	56	2600	1	300	46	300	46	170	56
Mercury	45/60	0.0025 - 371	9	SB-14 (3-4.5)-MAX	0.94	11	4	4	0.3	17	1	11	0.04	30
Nickel	60/60	10.7 - 91.6	35.6	20CH-SS12-0001-062014X	150	0	2200	0	20	51	30	33	13.7	59
Potassium	60/60	449 - 4550	2280	20CH-SB05-0406-061914X									448	60
Selenium	13/57	0.75 - 9.7	3.54	20CH-SS14-0001-062414X	39	0	580	0	0.5	13	1	10		
Silver	11/60	0.07 - 6.4	1.32	SB-14 (3-4.5)-MAX	39	0	580	0	0.6	4	5	1		
Sodium	56/56	116 - 41300	3260	20CH-SS10-0001-061814X										
Thallium	43/48	0.062 - 0.32	0.221	20CH-SB05-0204-061914X, 20CH-SB12-0406-062014X, 20CH-SB12-0810-062014X	0.078	42	1.2	0	0.6	0	5	0		
Vanadium	60/60	24.4 - 85.5	53.1	20CH-SS12-0001-062014X	39	52	580	0	30	59	30	59	22.4	60
Zinc	60/60	37.8 - 6540	469	SS-13A (0-1)	2300	4	35000	0	100	16	300	11	53.7	56
33 WATER STREET														
Aluminum	80/81	5200 - 28800	13700	33WS-SB01-0406-062414X	7700	72	110000	0	10000	59	10000	59	13900	29
Antimony	13/67	0.39 - 1.4	0.768	33WS-SB01-0406-062414X	3.1	0	47	0	1	2	7	0		

Table 4-2
2011 and 2014 Soil Data Summary by Property – Metals (mg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects		Location of Max.	EPA-RSL-RES	EPA-RSL-RES	EPA-RSL-IND	EPA-RSL-IND	MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Arsenic	96/98	3.8 - 1530	45	SS-01C (2-3)	0.67	96	3	96	20	22	20	22	11.4	61
Barium	81/81	16.1 - 251	63.7	33WS-SS13-0102-062014X	1500	0	22000	0	50	50	50	50	21.2	76
Beryllium	80/80	0.38 - 2.5	0.894	33WS-SB01-0406-062414X	16	0	230	0	0.4	78	0.9	28	0.36	80
Cadmium	67/81	0.08 - 1.1	0.431	33WS-SB12-0406-061614X, 33WS-SS11-0102-061214X	7	0	98	0	2	0	3	0		
Calcium	81/81	1010 - 50500	4780	33WS-SB12-0406-061614X									867	81
Chromium	97/98	13.9 - 21300	889	SB-08A (5.3-7)	12000	3	180000	0	30	84	40	72	17.3	93
Chromium-Hexavalent	18/28	0.8 - 49	7.79	SB-05A (4.4-6.3)	0.3	18	6.3	3	30	2	40	1		
Cobalt	81/81	3 - 22.3	9.41	33WS-SS11-0102-061214X	2.3	81	35	0	4	80	4	80	6.2	61
Copper	81/81	8.1 - 196	25.2	SB-01 (4.9-6.4)	310	0	4700	0	40	8	200	0	9	79
Iron	81/81	9430 - 51000	21400	33WS-SB01-0406-062414X	5500	81	82000	0	20000	34	20000	34	12500	73
Lead	81/81	7.1 - 540	79.1	SB-01 (4.9-6.4)	400	2	800	0	100	23	600	0	64.5	39
Magnesium	81/81	1760 - 14400	5330	SS-19A (0-1)					5000	32	5000	32	3170	69
Manganese	81/81	106 - 2010	376	33WS-SB01-0406-062414X	180	73	2600	0	300	50	300	50	170	73
Mercury	62/81	0.0027 - 7.2	0.385	SS-06A (0-2)	0.94	4	4	1	0.3	17	1	4	0.04	50
Nickel	81/81	10.7 - 62.6	22.2	33WS-SS11-0102-061214X	150	0	2200	0	20	35	30	15	13.7	66
Potassium	79/81	208 - 4300	1460	SB-11B (8-12)									448	74
Selenium	21/70	0.08 - 6.8	3.15	33WS-SB01-0406-062414X	39	0	580	0	0.5	18	1	16		
Silver	24/81	0.23 - 0.84	0.382	SB-01 (4.9-6.4)	39	0	580	0	0.6	1	5	0		
Sodium	55/64	102 - 1710	366	33WS-SB11-0204-061214X										
Thallium	45/48	0.052 - 0.36	0.164	33WS-SB02-0406-062414X	0.078	38	1.2	0	0.6	0	5	0		
Vanadium	80/81	7 - 145	39.3	SB-01 (4.9-6.4)	39	28	580	0	30	52	30	52	22.4	71
Zinc	81/81	23.3 - 375	93.2	SB-11A (4-6.4)	2300	0	35000	0	100	17	300	3	53.7	63
35 WATER STREET														
Aluminum	3/3	6580 - 11200	9260	35WS-SB01-0204-061114X	7700	2	110000	0	10000	1	10000	1	13900	0
Arsenic	3/3	4 - 36.4	15.6	35WS-SS01-0001-061114X	0.67	3	3	3	20	1	20	1	11.4	1
Barium	3/3	8.2 - 40.6	25.5	35WS-SS01-0001-061114X	1500	0	22000	0	50	0	50	0	21.2	2
Beryllium	3/3	0.4 - 0.71	0.593	35WS-SS01-0001-061114X	16	0	230	0	0.4	2	0.9	0	0.36	3
Cadmium	3/3	0.21 - 0.36	0.267	35WS-SB01-0204-061114X	7	0	98	0	2	0	3	0		
Calcium	3/3	950 - 1710	1280	35WS-SS01-0001-061114X									867	3
Chromium	3/3	13 - 292	113	35WS-SS01-0001-061114X	12000	0	180000	0	30	2	40	1	17.3	2
Cobalt	3/3	5.3 - 7.1	5.97	35WS-SB01-0204-061114X	2.3	3	35	0	4	3	4	3	6.2	1
Copper	3/3	11.3 - 21.1	15.4	35WS-SS01-0001-061114X	310	0	4700	0	40	0	200	0	9	3
Iron	3/3	12000 - 16500	14000	35WS-SB01-0204-061114X	5500	3	82000	0	20000	0	20000	0	12500	2
Lead	3/3	7.5 - 84.4	46.6	35WS-SS01-0001-061114X	400	0	800	0	100	0	600	0	64.5	1
Magnesium	3/3	2440 - 3600	3130	35WS-SB01-0204-061114X					5000	0	5000	0	3170	2
Manganese	3/3	228 - 286	255	35WS-SB01-0204-061114X	180	3	2600	0	300	0	300	0	170	3
Mercury	1/3	0.17 - 0.17	0.17	35WS-SS01-0001-061114X	0.94	0	4	0	0.3	0	1	0	0.04	1
Nickel	3/3	10.7 - 15.9	13.1	35WS-SB01-0204-061114X	150	0	2200	0	20	0	30	0	13.7	1
Potassium	3/3	377 - 873	574	35WS-SB01-0204-061114X									448	2
Selenium	1/3	0.28 - 0.28	0.28	35WS-SS01-0001-061114X	39	0	580	0	0.5	0	1	0		
Sodium	3/3	52.5 - 93.4	78.8	35WS-SS01-0001-061114X										
Thallium	1/3	0.1 - 0.1	0.1	35WS-SS01-0001-061114X	0.078	1	1.2	0	0.6	0	5	0		
Vanadium	3/3	18.3 - 28	24.4	35WS-SS01-0001-061114X	39	0	580	0	30	0	30	0	22.4	2
Zinc	3/3	38.2 - 52.2	44.9	35WS-SS01-0001-061114X	2300	0	35000	0	100	0	300	0	53.7	0
45 WATER STREET														
Aluminum	12/12	6080 - 24300	12700	45WS-SB03-0810-061014X	7700	10	110000	0	10000	8	10000	8	13900	4
Arsenic	12/12	4.7 - 107	27.2	45WS-SS04-0001-060914X	0.67	12	3	12	20	3	20	3	11.4	6
Barium	12/12	19.2 - 154	65.9	45WS-SB02-0406-061014X	1500	0	22000	0	50	8	50	8	21.2	11
Beryllium	12/12	0.25 - 1.8	0.848	45WS-SB03-0810-061014X	16	0	230	0	0.4	11	0.9	4	0.36	11
Cadmium	12/12	0.19 - 1.2	0.543	45WS-SB02-0406-061014X, 45WS-SB03-0810-061014X	7	0	98	0	2	0	3	0		
Calcium	12/12	1020 - 11200	3620	45WS-SB01-0406-061114X									867	12

Table 4-2
2011 and 2014 Soil Data Summary by Property – Metals (mg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects		Location of Max.	EPA-RSL-RES	EPA-RSL-RES	EPA-RSL-IND	EPA-RSL-IND	MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Chromium	12/12	15.8 - 2070	343	45WS-SS04-0001-060914X	12000	0	180000	0	30	8	40	6	17.3	10
Chromium-Hexavalent	2/2	1.6 - 25	13.3	45WS-SS04-0001-060914X	0.3	2	6.3	1	30	0	40	0		
Cobalt	12/12	3.9 - 17.9	10	45WS-SB03-0810-061014X	2.3	12	35	0	4	11	4	11	6.2	10
Copper	12/12	10.7 - 63.2	25.4	45WS-SS04-0001-060914X	310	0	4700	0	40	3	200	0	9	12
Iron	12/12	11300 - 39700	21800	45WS-SB03-0810-061014X	5500	12	82000	0	20000	6	20000	6	12500	10
Lead	12/12	7.6 - 601	200	45WS-SB01-0406-061114X, 45WS-SB03-0204-061014X	400	3	800	0	100	5	600	2	64.5	5
Magnesium	12/12	2480 - 25300	7340	45WS-SB02-0406-061014X					5000	6	5000	6	3170	11
Manganese	12/12	190 - 765	407	45WS-SB04-0608-061014X	180	12	2600	0	300	10	300	10	170	12
Mercury	6/12	0.15 - 4	0.872	45WS-SS04-0001-060914X	0.94	1	4	0	0.3	2	1	1	0.04	6
Nickel	12/12	9.9 - 219	39.7	45WS-SB02-0406-061014X	150	1	2200	0	20	7	30	2	13.7	9
Potassium	11/12	602 - 4540	1530	45WS-SB03-0810-061014X									448	11
Selenium	6/12	0.023 - 3.1	0.698	45WS-SS04-0001-060914X	39	0	580	0	0.5	2	1	1		
Sodium	12/12	130 - 20400	2240	45WS-SS04-0001-060914X										
Thallium	9/12	0.07 - 0.28	0.144	45WS-SB02-0810-061014X	0.078	7	1.2	0	0.6	0	5	0		
Vanadium	12/12	19 - 110	41.6	45WS-SS04-0001-060914X	39	4	580	0	30	7	30	7	22.4	10
Zinc	12/12	28.2 - 279	84.5	45WS-SB02-0406-061014X	2300	0	35000	0	100	3	300	0	53.7	7
MBTA ROW														
Aluminum	73/73	3950 - 32600	12700	ROW-SB09-0406-062514X	7700	56	110000	0	10000	35	10000	35	13900	24
Antimony	35/69	0.24 - 6.2	1.46	ROW-SS13-0001-062014X-MAX	47	0			7	0				
Arsenic	78/78	4.4 - 269	36.3	ROW-SS13-0001-062014X-MAX	0.67	78	3	78	20	31	20	31	11.4	52
Barium	73/73	9.1 - 173	56.7	SS-26A (0-2)	1500	0	22000	0	50	41	50	41	21.2	64
Beryllium	73/73	0.18 - 1.9	0.902	ROW-SB10-0204-062014X, ROW-SB21-1416-060914X	16	0	230	0	0.4	71	0.9	24	0.36	71
Cadmium	63/73	0.028 - 1.3	0.468	ROW-SB19-0608-061114X	7	0	98	0	2	0	3	0		
Calcium	73/73	318 - 8800	2460	ROW-SS06-0001-062414X									867	64
Chromium	78/78	12.6 - 10700	401	SO-62 (0-1)	12000	0	180000	0	30	54	40	49	17.3	70
Chromium-Hexavalent	17/17	0.79 - 580	39.3	SS-24A (1-1.5)	0.3	17	6.3	6	30	1	40	1		
Cobalt	73/73	3.8 - 25	10	ROW-SB21-1416-060914X	2.3	73	35	0	4	72	4	72	6.2	57
Copper	73/73	8.9 - 134	35.7	SS-23A (0-2)-MAX	310	0	4700	0	40	23	200	0	9	71
Iron	73/73	10900 - 58200	26700	ROW-SS04-0001-062314X	5500	73	82000	0	20000	51	20000	51	12500	68
Lead	73/73	7.4 - 527	89.4	SO-62 (0-1)	400	5	800	0	100	25	600	0	64.5	28
Magnesium	73/73	472 - 13600	4760	ROW-SB21-1416-060914X					5000	25	5000	25	3170	49
Manganese	73/73	129 - 1150	395	ROW-SB21-1416-060914X	180	67	2600	0	300	40	300	40	170	68
Mercury	60/73	0.0021 - 6	0.71	ROW-SS12-0001-062514X	0.94	12	4	4	0.3	17	1	11	0.04	38
Nickel	73/73	9 - 63.8	23.9	ROW-SB21-1416-060914X	150	0	2200	0	20	35	30	18	13.7	59
Potassium	60/73	19.6 - 5810	1390	ROW-SB21-1416-060914X									448	49
Selenium	34/72	0.084 - 8.5	3.62	ROW-SS11-0001-062514X	39	0	580	0	0.5	29	1	28		
Silver	5/73	0.06 - 0.94	0.576	SS-24A (1-1.5)	39	0	580	0	0.6	3	5	0		
Sodium	71/71	65.8 - 4340	416	ROW-SB21-0608-060914X										
Thallium	55/66	0.057 - 0.35	0.15	ROW-SB05-0608-062414X	0.078	41	1.2	0	0.6	0	5	0		
Vanadium	73/73	17.1 - 398	47.3	ROW-SS15-0001-061914X	39	35	580	0	30	47	30	47	22.4	62
Zinc	73/73	24.8 - 240	68.5	ROW-SS12-0001-062514X	2300	0	35000	0	100	6	300	0	53.7	49

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
MADEP Bkg. - Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, May 2002. Includes data for natural soils and soils containing fill material.
Site Specific Bkg - Maximum concentration of contaminant detected in soil samples collected from within the Endicott Cemetery
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-3
2011 and 2014 Soil Data Summary by Property – SVOCs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
12 CHEEVER STREET												
2-Methylnaphthalene	2/15	6.8 - 14	10.4	12CH-SB01-0204-062614X	23000	0	300000	0	500	0	1000	0
Acenaphthene	2/15	1.7 - 55	28.4	12CH-SB01-0204-062614X	350000	0	4500000	0	500	0	2000	0
Acenaphthylene	8/15	5.2 - 46	14.6	12CH-SB01-0204-062614X					500	0	1000	0
Acetophenone	1/15	51 - 51	51	12CH-SS04-0102-062514X	780000	0	12000000	0				
Anthracene	6/15	1 - 310	58.3	12CH-SB01-0204-062614X	1700000	0	23000000	0	1000	0	4000	0
Benzo(a)anthracene	9/15	3.8 - 590	91.6	12CH-SB01-0204-062614X	150	1	2900	0	2000	0	9000	0
Benzo(a)pyrene	8/15	8.4 - 400	79.2	12CH-SB01-0204-062614X	15	7	290	1	2000	0	7000	0
Benzo(b)fluoranthene	10/15	6.3 - 730	111	12CH-SB01-0204-062614X	150	1	2900	0	2000	0	8000	0
Benzo(g,h,i)perylene	10/15	3.9 - 210	42	12CH-SB01-0204-062614X					1000	0	3000	0
Benzo(k)fluoranthene	9/15	5.8 - 210	40.5	12CH-SB01-0204-062614X	1500	0	29000	0	1000	0	4000	0
Bis(2-ethylhexyl)phthalate	1/15	61 - 61	61	12CH-SS04-0102-062514X	38000	0	160000	0				
Carbazole	1/15	71 - 71	71	12CH-SB01-0204-062614X								
Chrysene	9/15	5.4 - 690	106	12CH-SB01-0204-062614X	15000	0	290000	0	2000	0	7000	0
Dibenz(a,h)anthracene	8/15	1.8 - 67	16.2	12CH-SB01-0204-062614X	15	2	290	0	500	0	1000	0
Dibenzofuran	1/15	49 - 49	49	12CH-SB01-0204-062614X	7200	0	100000	0				
Fluoranthene	9/15	8.2 - 1400	196	12CH-SB01-0204-062614X	230000	0	3000000	0	4000	0	10000	0
Fluorene	3/15	5.2 - 61	23.8	12CH-SB01-0204-062614X	230000	0	3000000	0	1000	0	2000	0
Indeno(1,2,3-cd)pyrene	10/15	4.1 - 230	43.1	12CH-SB01-0204-062614X	150	1	2900	0	1000	0	3000	0
Naphthalene	3/15	1.5 - 7.6	4.47	12CH-SB01-0204-062614X	3800	0	17000	0	500	0	1000	0
Pentachlorophenol	1/15	7.6 - 7.6	7.6	12CH-SB02-0204-062514X	990	0	4000	0				
Phenanthrene	8/15	5.2 - 1100	156	12CH-SB01-0204-062614X					3000	0	20000	0
Pyrene	9/15	7 - 1400	188	12CH-SB01-0204-062614X	170000	0	2300000	0	4000	0	20000	0
20 CHEEVER STREET												
1,1'-Biphenyl	2/60	96 - 200	148	SS-13A (0-1)	4700	0	20000	0				
2-Methylnaphthalene	13/60	8.1 - 640	112	SS-13A (0-1)	23000	0	300000	0	500	1	1000	0
4-Methylphenol	2/60	110 - 350	230	20CH-SS10-0001-061814X	620000	0	8200000	0				
Acenaphthene	15/60	4.9 - 350	72.3	SS-13A (0-1)	350000	0	4500000	0	500	0	2000	0
Acenaphthylene	26/60	11 - 1400	180	20CH-SS08-0001-061914X					500	2	1000	1
Acetophenone	4/60	81 - 290	160	20CH-SS08-0001-061914X	780000	0	12000000	0				
Anthracene	27/60	4.9 - 1600	208	20CH-SS08-0001-061914X	1700000	0	23000000	0	1000	1	4000	0
Benzo(a)anthracene	29/60	4.4 - 5600	664	20CH-SS08-0001-061914X	150	17	2900	2	2000	4	9000	0
Benzo(a)pyrene	27/60	7.6 - 4700	638	20CH-SS08-0001-061914X	15	25	290	10	2000	2	7000	0
Benzo(b)fluoranthene	29/60	4.6 - 6700	813	20CH-SS08-0001-061914X	150	17	2900	4	2000	4	8000	0
Benzo(g,h,i)perylene	23/60	27 - 2100	350	20CH-SS08-0001-061914X					1000	3	3000	0
Benzo(k)fluoranthene	27/60	5.1 - 3300	424	SS-13A (0-1)	1500	2	29000	0	1000	3	4000	0
Bis(2-ethylhexyl)phthalate	20/60	42 - 510	177	20CH-SS10-0001-061814X	38000	0	160000	0				
Butylbenzylphthalate	2/60	49 - 77	63	20CH-SS14-0001-062414X	280000	0	1200000	0				
Carbazole	6/60	50 - 1000	312	SS-13A (0-1)								
Chrysene	29/60	4.2 - 4500	711	20CH-SS08-0001-061914X, SS-13A (0-1)	15000	0	290000	0	2000	4	7000	0
Dibenz(a,h)anthracene	24/60	8.5 - 840	122	20CH-SS08-0001-061914X	15	20	290	4	500	2	1000	0
Dibenzofuran	3/60	58 - 1200	646	SS-13A (0-1)	7200	0	100000	0				
Dimethylphthalate	1/60	310 - 310	310	SB-14 (3-4.5)-MAX								
Di-N-Butylphthalate	44/60	66 - 2400	568	20CH-SS10-0001-061814X	620000	0	8200000	0				
Fluoranthene	34/60	5.1 - 11000	1180	20CH-SS08-0001-061914X	230000	0	3000000	0	4000	4	10000	1
Fluorene	21/60	6.2 - 1000	146	SS-13A (0-1)	230000	0	3000000	0	1000	0	2000	0
Indeno(1,2,3-cd)pyrene	25/60	27 - 2600	382	20CH-SS08-0001-061914X	150	10	2900	0	1000	4	3000	0
Naphthalene	12/60	6.2 - 1400	214	SS-13A (0-1)	3800	0	17000	0	500	2	1000	1
Pentachlorophenol	2/60	8.9 - 32	20.4	20CH-SS14-0001-062414X	990	0	4000	0				
Phenanthrene	31/60	4.2 - 10000	912	SS-13A (0-1)					3000	3	20000	0
Phenol	2/60	61 - 290	176	20CH-SS10-0001-061814X	1800000	0	25000000	0				
Pyrene	39/60	4.2 - 10000	961	SS-13A (0-1)	170000	0	2300000	0	4000	3	20000	0

Table 4-3
2011 and 2014 Soil Data Summary by Property – SVOCs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
33 WATER STREET												
1,1'-Biphenyl	5/81	46 - 1900	727	33WS-SB12-0406-061614X	4700	0	20000	0				
2,2'-Oxybis(1-chloropropane)	1/81	120 - 120	120	33WS-SS15-0001-062614X	4900	0	22000	0				
2,4-Dimethylphenol	2/81	530 - 550	540	33WS-SB12-0406-061614X	120000	0	1600000	0				
2-Methylnaphthalene	35/81	4.3 - 9100	486	33WS-SB12-0406-061614X	23000	0	300000	0	500	3	1000	2
4-Methylphenol	4/81	71 - 760	393	33WS-SB12-0406-061614X	620000	0	8200000	0				
Acenaphthene	39/81	6.7 - 25000	1450	33WS-SB12-0406-061614X	350000	0	4500000	0	500	5	2000	3
Acenaphthylene	41/81	5.2 - 2000	207	33WS-SB12-0406-061614X					500	5	1000	2
Acetophenone	5/81	49 - 150	87.2	33WS-SS08-0001-061714X-MAX	780000	0	12000000	0				
Anthracene	49/81	6.3 - 72000	2920	33WS-SB04-0406-061314X	1700000	0	23000000	0	1000	7	4000	3
Benzaldehyde	1/81	51 - 51	51	33WS-SS08-0001-061714X-MAX	780000	0	12000000	0				
Benzo(a)anthracene	55/81	4.3 - 170000	6210	33WS-SB04-0406-061314X	150	43	2900	7	2000	9	9000	3
Benzo(a)pyrene	53/81	7.6 - 150000	5430	33WS-SB04-0406-061314X	15	51	290	32	2000	10	7000	3
Benzo(b)fluoranthene	53/81	10 - 200000	7490	33WS-SB04-0406-061314X	150	45	2900	8	2000	12	8000	4
Benzo(g,h,i)perylene	45/81	4.4 - 68000	2590	33WS-SB04-0406-061314X					1000	8	3000	3
Benzo(k)fluoranthene	53/81	5.3 - 19000	1570	33WS-SB12-0406-061614X	1500	9	29000	0	1000	13	4000	4
Bis(2-ethylhexyl)phthalate	42/81	38 - 1700	234	SS-20A (0-1)	38000	0	160000	0				
Butylbenzylphthalate	1/81	51 - 51	51	33WS-SB14-0406-062314X	280000	0	1200000	0				
Caprolactam	1/81	52 - 52	52	SB-08A (5.3-7)	3100000	0	40000000	0				
Carbazole	32/81	36 - 26000	1800	33WS-SB04-0406-061314X								
Chrysene	55/81	4.3 - 160000	6420	33WS-SB04-0406-061314X	15000	3	290000	0	2000	11	7000	4
Dibenz(a,h)anthracene	43/81	4.8 - 22000	1050	33WS-SB04-0406-061314X	15	41	290	10	500	8	1000	4
Dibenzofuran	20/81	38 - 15000	1630	33WS-SB04-0406-061314X	7200	2	100000	0				
Di-N-Butylphthalate	29/81	250 - 970	490	33WS-SS03-0001-061314X	620000	0	8200000	0				
Fluoranthene	60/81	3.4 - 370000	12800	33WS-SB04-0406-061314X	230000	1	3000000	0	4000	11	10000	6
Fluorene	42/81	4.7 - 23000	1360	33WS-SB04-0406-061314X, 33WS-SB12-0406-061614X	230000	0	3000000	0	1000	3	2000	3
Indeno(1,2,3-cd)pyrene	53/81	4.2 - 79000	2860	33WS-SB04-0406-061314X	150	32	2900	4	1000	10	3000	4
Naphthalene	39/81	6.2 - 13000	621	33WS-SB12-0406-061614X	3800	2	17000	0	500	4	1000	3
Pentachlorophenol	19/81	4.1 - 70	16.3	33WS-SS15-0001-062614X	990	0	4000	0				
Phenanthrene	55/81	4.6 - 320000	13100	33WS-SB04-0406-061314X					3000	9	20000	3
Phenol	2/81	50 - 370	210	33WS-SB12-0406-061614X	1800000	0	25000000	0				
Pyrene	61/81	4.5 - 340000	12600	33WS-SB04-0406-061314X	170000	2	2300000	0	4000	12	20000	3
35 WATER STREET												
2-Methylnaphthalene	1/3	6.8 - 6.8	6.8	35WS-SS01-0001-061114X	23000	0	300000	0	500	0	1000	0
Acenaphthene	1/3	11 - 11	11	35WS-SS01-0001-061114X	350000	0	4500000	0	500	0	2000	0
Acenaphthylene	2/3	12 - 210	111	35WS-SS01-0001-061114X					500	0	1000	0
Acetophenone	1/3	39 - 39	39	35WS-SB01-0204-061114X	780000	0	12000000	0				
Anthracene	2/3	35 - 170	102	35WS-SS01-0001-061114X	1700000	0	23000000	0	1000	0	4000	0
Benzo(a)anthracene	2/3	140 - 610	375	35WS-SS01-0001-061114X	150	1	2900	0	2000	0	9000	0
Benzo(a)pyrene	2/3	180 - 600	390	35WS-SS01-0001-061114X	15	2	290	1	2000	0	7000	0
Benzo(b)fluoranthene	2/3	200 - 1000	600	35WS-SS01-0001-061114X	150	2	2900	0	2000	0	8000	0
Benzo(g,h,i)perylene	2/3	140 - 400	270	35WS-SS01-0001-061114X					1000	0	3000	0
Benzo(k)fluoranthene	2/3	150 - 380	265	35WS-SS01-0001-061114X	1500	0	29000	0	1000	0	4000	0
Bis(2-ethylhexyl)phthalate	2/3	41 - 120	80.5	35WS-SS01-0001-061114X	38000	0	160000	0				
Carbazole	1/3	49 - 49	49	35WS-SS01-0001-061114X								
Chrysene	2/3	140 - 710	425	35WS-SS01-0001-061114X	15000	0	290000	0	2000	0	7000	0
Dibenz(a,h)anthracene	2/3	36 - 310	173	35WS-SS01-0001-061114X	15	2	290	1	500	0	1000	0
Di-N-Butylphthalate	3/3	430 - 710	593	35WS-SS01-0001-061114X	620000	0	8200000	0				
Fluoranthene	2/3	250 - 1500	875	35WS-SS01-0001-061114X	230000	0	3000000	0	4000	0	10000	0
Fluorene	2/3	6 - 27	16.5	35WS-SS01-0001-061114X	230000	0	3000000	0	1000	0	2000	0
Hexachlorocyclopentadiene	1/3	38 - 38	38	35WS-SB01-0204-061114X	37000	0	490000	0				
Indeno(1,2,3-cd)pyrene	2/3	140 - 470	305	35WS-SS01-0001-061114X	150	1	2900	0	1000	0	3000	0

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Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Naphthalene	1/3	9.1 - 9.1	9.1	35WS-SS01-0001-061114X	3800	0	17000	0	500	0	1000	0
Phenanthrene	2/3	120 - 590	355	35WS-SS01-0001-061114X					3000	0	20000	0
Pyrene	2/3	200 - 1200	700	35WS-SS01-0001-061114X	170000	0	2300000	0	4000	0	20000	0
45 WATER STREET												
1,1'-Biphenyl	1/12	90 - 90	90	45WS-SB02-0406-061014X	4700	0	20000	0				
2-Methylnaphthalene	3/12	8.8 - 310	128	45WS-SB02-0406-061014X	23000	0	300000	0	500	0	1000	0
Acenaphthene	3/12	26 - 1300	456	45WS-SB02-0406-061014X	350000	0	4500000	0	500	1	2000	0
Acenaphthylene	6/12	6.6 - 660	215	45WS-SS04-0001-060914X					500	1	1000	0
Acetophenone	5/12	46 - 370	174	45WS-SB02-0406-061014X	780000	0	12000000	0				
Anthracene	8/12	3.8 - 12000	1570	45WS-SB02-0406-061014X	1700000	0	23000000	0	1000	1	4000	1
Benzo(a)anthracene	8/12	10 - 29000	3880	45WS-SB02-0406-061014X	150	3	2900	1	2000	1	9000	1
Benzo(a)pyrene	8/12	13 - 23000	3280	45WS-SB02-0406-061014X	15	7	290	3	2000	2	7000	1
Benzo(b)fluoranthene	8/12	17 - 32000	4500	45WS-SB02-0406-061014X	150	3	2900	1	2000	2	8000	1
Benzo(g,h,i)perylene	8/12	5.8 - 10000	1570	45WS-SB02-0406-061014X					1000	2	3000	1
Benzo(k)fluoranthene	8/12	9.1 - 12000	1760	45WS-SB02-0406-061014X	1500	2	29000	0	1000	2	4000	1
Bis(2-ethylhexyl)phthalate	7/12	51 - 380	130	45WS-SS04-0001-060914X	38000	0	160000	0				
Butylbenzylphthalate	1/12	55 - 55	55	45WS-SS03-0001-061014X	280000	0	1200000	0				
Carbazole	1/12	1800 - 1800	1800	45WS-SB02-0406-061014X								
Chrysene	8/12	14 - 27000	3700	45WS-SB02-0406-061014X	15000	1	290000	0	2000	1	7000	1
Dibenz(a,h)anthracene	7/12	5.6 - 3300	537	45WS-SB02-0406-061014X	15	3	290	1	500	1	1000	1
Dibenzofuran	1/12	700 - 700	700	45WS-SB02-0406-061014X	7200	0	100000	0				
Di-N-Butylphthalate	12/12	430 - 1700	721	45WS-SS04-0001-060914X	620000	0	8200000	0				
Fluoranthene	8/12	23 - 60000	8020	45WS-SB02-0406-061014X	230000	0	3000000	0	4000	1	10000	1
Fluorene	4/12	5.2 - 2400	637	45WS-SB02-0406-061014X	230000	0	3000000	0	1000	1	2000	1
Indeno(1,2,3-cd)pyrene	8/12	5.8 - 13000	1910	45WS-SB02-0406-061014X	150	3	2900	1	1000	2	3000	1
Naphthalene	4/12	6.6 - 110	48.8	45WS-SB02-0406-061014X	3800	0	17000	0	500	0	1000	0
Pentachlorophenol	1/12	5 - 5	5	45WS-SS03-0001-061014X	990	0	4000	0				
Phenanthrene	8/12	9.9 - 26000	3530	45WS-SB02-0406-061014X					3000	1	20000	1
Phenol	1/12	45 - 45	45	45WS-SB03-0204-061014X	1800000	0	25000000	0				
Pyrene	8/12	17 - 45000	6080	45WS-SB02-0406-061014X	170000	0	2300000	0	4000	1	20000	1
MBTA ROW												
1,1'-Biphenyl	2/71	43 - 44	43.5	ROW-SS04-0001-062314X	4700	0	20000	0				
2,3,4,6-Tetrachlorophenol	1/71	63 - 63	63	ROW-SB05-0406-062414X	180000	0	2500000	0				
2,4-Dimethylphenol	2/71	53 - 120	86.5	ROW-SS04-0001-062314X	120000	0	1600000	0				
2-Methylnaphthalene	28/71	2.6 - 330	113	ROW-SS06-0001-062414X	23000	0	300000	0	500	0	1000	0
4-Methylphenol	4/71	48 - 130	71.8	ROW-SS04-0001-062314X	620000	0	8200000	0				
Acenaphthene	20/71	2.5 - 720	140	SS-24A (1-1.5)	350000	0	4500000	0	500	2	2000	0
Acenaphthylene	34/71	4.4 - 2900	591	ROW-SS16-0001-061914X-MAX					500	14	1000	8
Acetophenone	20/71	43 - 350	113	ROW-SS16-0001-061914X-MAX	780000	0	12000000	0				
Anthracene	37/71	1.7 - 1900	490	ROW-SS16-0001-061914X-MAX	1700000	0	23000000	0	1000	7	4000	0
Atrazine	1/71	88 - 88	88	ROW-SB05-0406-062414X	2300	0	10000	0				
Benzaldehyde	2/71	60 - 74	67	SS-23A (0-2)-MAX	780000	0	12000000	0				
Benzo(a)anthracene	49/71	3.8 - 9400	1390	ROW-SS16-0001-061914X-MAX	150	27	2900	6	2000	10	9000	1
Benzo(a)pyrene	41/71	5.3 - 9300	1510	ROW-SS16-0001-061914X-MAX	15	32	290	25	2000	8	7000	3
Benzo(b)fluoranthene	44/71	4.9 - 22000	2810	ROW-SS16-0001-061914X-MAX	150	27	2900	12	2000	18	8000	4
Benzo(g,h,i)perylene	37/71	3.6 - 4400	812	ROW-SS20-0001-061014X					1000	11	3000	2
Benzo(k)fluoranthene	43/71	3.3 - 6200	1130	ROW-SS04-0001-062314X	1500	12	29000	0	1000	17	4000	2
Bis(2-ethylhexyl)phthalate	27/71	36 - 6400	480	ROW-SS15-0001-061914X	38000	0	160000	0				
Butylbenzylphthalate	3/71	49 - 110	78.7	ROW-SB05-0406-062414X	280000	0	1200000	0				
Carbazole	26/71	66 - 1200	311	ROW-SS03-0001-062314X, ROW-SS04-0001-062314X								
Chrysene	46/71	2.2 - 9100	1860	ROW-SS16-0001-061914X-MAX	15000	0	290000	0	2000	13	7000	4
Dibenz(a,h)anthracene	32/71	1.6 - 1800	386	ROW-SS20-0001-061014X	15	29	290	12	500	8	1000	4

Table 4-3
2011 and 2014 Soil Data Summary by Property – SVOCs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Dibenzofuran	20/71	42 - 370	125	SS-24A (1-1.5)	7200	0	100000	0				
Diethylphthalate	3/71	42 - 420	175	ROW-SS10-0001-062014X	4900000	0	66000000	0				
Dimethylphthalate	1/71	70 - 70	70	SS-25A (0-2)								
Di-N-Butylphthalate	40/71	72 - 1100	445	ROW-SB21-0608-060914X	620000	0	8200000	0				
Di-N-Octyl Phthalate	1/71	90 - 90	90	ROW-SB05-0406-062414X	62000	0	820000	0				
Fluoranthene	51/71	4.6 - 16000	2550	ROW-SS04-0001-062314X	230000	0	3000000	0	4000	9	10000	4
Fluorene	29/71	3.7 - 540	108	SS-24A (1-1.5)	230000	0	3000000	0	1000	0	2000	0
Indeno(1,2,3-cd)pyrene	37/71	3.5 - 7400	1110	ROW-SS16-0001-061914X-MAX	150	27	2900	3	1000	12	3000	3
Naphthalene	27/71	6.6 - 280	99.4	SS-24A (1-1.5)	3800	0	17000	0	500	0	1000	0
N-Nitrosodiphenylamine	1/71	46 - 46	46	ROW-SB05-0406-062414X	110000	0	470000	0				
Pentachlorophenol	22/71	6.9 - 400	84	ROW-SS15-0001-061914X	990	0	4000	0				
Phenanthrene	43/71	3.8 - 7000	1060	ROW-SS03-0001-062314X					3000	5	20000	0
Phenol	5/71	46 - 120	70.8	ROW-SS16-0001-061914X-MAX	1800000	0	25000000	0				
Pyrene	50/71	3.9 - 12000	2380	ROW-SS16-0001-061914X-MAX, ROW-SS19-0001-061114X	170000	0	2300000	0	4000	10	20000	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
MADEP Bkg. - Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, May 2002. Includes data for natural soils and soils containing fill material.
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-4
2011 and 2014 Soil Data Summary by Property – Dioxins and Furans (ng/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
12 CHEEVER STREET										
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	1/2	11.2 - 11.2	11.2	12CH-SB03-0204-062514X					3.05	1
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	2/2	550 - 101000	50800	12CH-SB05-0406-062514X					1440	1
1,2,3,4,6,7,8-Heptachlorodibenzofuran	2/2	0.789 - 3.28	2.03	12CH-SB03-0204-062514X					1.77	1
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2/2	21.7 - 426	224	12CH-SB05-0406-062514X					592	0
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1/2	0.407 - 0.407	0.407	12CH-SB03-0204-062514X						
1,2,3,4,7,8-Hexachlorodibenzofuran	2/2	0.293 - 0.3	0.296	12CH-SB05-0406-062514X						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1/2	1.61 - 1.61	1.61	12CH-SB05-0406-062514X						
1,2,3,6,7,8-Hexachlorodibenzofuran	1/2	0.254 - 0.254	0.254	12CH-SB03-0204-062514X						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2/2	0.574 - 2.06	1.32	12CH-SB05-0406-062514X						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	2/2	0.402 - 3.15	1.78	12CH-SB05-0406-062514X						
1,2,3,7,8-Pentachlorodibenzofuran	1/2	0.191 - 0.191	0.191	12CH-SB03-0204-062514X						
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	1/2	0.657 - 0.657	0.657	12CH-SB05-0406-062514X						
2,3,4,6,7,8-Hexachlorodibenzofuran	1/2	0.356 - 0.356	0.356	12CH-SB03-0204-062514X						
2,3,4,7,8-Pentachlorodibenzofuran	1/2	0.356 - 0.356	0.356	12CH-SB03-0204-062514X						
2,3,7,8-Tetrachlorodibenzofuran	1/2	0.187 - 0.187	0.187	12CH-SB03-0204-062514X						
Heptachlorodibenzofuran (total)	2/2	1.55 - 10.8	6.18	12CH-SB03-0204-062514X						
Heptachlorodibenzo-p-dioxin (total)	2/2	39.4 - 1010	525	12CH-SB05-0406-062514X						
Hexachlorodibenzofuran (total)	2/2	1.39 - 5.21	3.3	12CH-SB03-0204-062514X						
Hexachlorodibenzo-p-dioxin (total)	2/2	3.94 - 44.2	24.1	12CH-SB05-0406-062514X	100	0	470	0		
Pentachlorodibenzofuran (total)	2/2	0.855 - 3.47	2.16	12CH-SB03-0204-062514X						
Pentachlorodibenzo-p-dioxin (total)	1/2	4.84 - 4.84	4.84	12CH-SB05-0406-062514X						
Tetrachlorodibenzo(p)dioxin (total)	2/2	0.189 - 0.678	0.434	12CH-SB05-0406-062514X						
Tetrachlorodibenzofuran (total)	2/2	1.88 - 4.02	2.95	12CH-SB05-0406-062514X						
Dioxin/Furan - Toxic Equivalent	2/2	0.741 - 35.9	18.3	12CH-SB05-0406-062514X	4.9	1	22	1	0.663	2
20 CHEEVER STREET										
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	15/15	0.394 - 1240	134	SS-12A (0-2)					3.05	12
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	15/15	473 - 28500	5430	SB-12 (3-4.75)					1440	11
1,2,3,4,6,7,8-Heptachlorodibenzofuran	14/15	0.823 - 1050	102	SS-12A (0-2)					1.77	12
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	15/15	9.93 - 1000	155	SS-12A (0-2)					592	1
1,2,3,4,7,8,9-Heptachlorodibenzofuran	8/15	1.25 - 15.3	4.58	SS-12A (0-2)						
1,2,3,4,7,8-Hexachlorodibenzofuran	13/15	0.217 - 16	4.95	SS-12A (0-2)						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	11/15	0.178 - 4.8	1.66	SB-14 (3-4.5)-MAX						
1,2,3,6,7,8-Hexachlorodibenzofuran	11/15	0.202 - 16.3	5.04	SS-12A (0-2)						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	13/15	0.116 - 52.5	7.4	SS-12A (0-2)						

Table 4-4
2011 and 2014 Soil Data Summary by Property – Dioxins and Furans (ng/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
1,2,3,7,8,9-Hexachlorodibenzofuran	9/15	0.293 - 6.26	2.06	SS-12A (0-2)						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	13/15	0.157 - 25.4	4.17	SS-12A (0-2)						
1,2,3,7,8-Pentachlorodibenzofuran	12/15	0.268 - 11.1	3.45	SS-13A (0-1)						
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	8/15	0.653 - 8.31	3.11	SS-12A (0-2)						
2,3,4,6,7,8-Hexachlorodibenzofuran	12/15	0.175 - 31.4	6.77	SS-12A (0-2)						
2,3,4,7,8-Pentachlorodibenzofuran	12/15	0.0712 - 32.4	7.2	SS-12A (0-2)						
2,3,7,8-Tetrachlorodibenzofuran	8/15	0.594 - 10.9	5.45	20CH-SB11-0204-062014X						
2,3,7,8-Tetrachlorodibenzo-p-dioxin	6/15	0.274 - 1.18	0.777	SS-12A (0-2)	4.9	0	22	0		
Heptachlorodibenzofuran (total)	3/3	9.07 - 108	55.7	20CH-SS08-0001-061914X						
Heptachlorodibenzo-p-dioxin (total)	3/3	59.2 - 300	194	20CH-SS08-0001-061914X						
Hexachlorodibenzofuran (total)	3/3	7.67 - 86.7	46.4	20CH-SS08-0001-061914X						
Hexachlorodibenzo-p-dioxin (total)	3/3	12.7 - 77.6	42.9	20CH-SS08-0001-061914X	100	0	470	0		
Pentachlorodibenzofuran (total)	3/3	6.88 - 88	52.3	20CH-SB11-0204-062014X						
Pentachlorodibenzo-p-dioxin (total)	3/3	1.93 - 19.3	9.19	20CH-SS08-0001-061914X						
Tetrachlorodibenzo(p)dioxin (total)	3/3	0.473 - 10.8	5.62	20CH-SS08-0001-061914X						
Tetrachlorodibenzofuran (total)	3/3	5.9 - 206	91	20CH-SB11-0204-062014X						
Dioxin/Furan - Toxic Equivalent	15/15	0.254 - 58.6	10.9	SS-12A (0-2)	4.9	8	22	2	0.663	14
33 WATER STREET										
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	32/38	0.355 - 505	139	SS-01A (0-1.7)					3.05	27
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	38/38	6.54 - 27800	5910	33WS-SB13-0406-062014X					1440	28
1,2,3,4,6,7,8-Heptachlorodibenzofuran	32/38	0.107 - 134	43.3	SS-06A (0-2)					1.77	27
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	38/38	0.285 - 1160	265	SS-06A (0-2)					592	7
1,2,3,4,7,8,9-Heptachlorodibenzofuran	23/38	0.229 - 11.2	3.87	SS-06A (0-2)						
1,2,3,4,7,8-Hexachlorodibenzofuran	25/38	0.178 - 6.96	2.59	SS-21A (0-1)						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	25/38	0.283 - 15.9	3.12	SS-03A (0.3-1)						
1,2,3,6,7,8-Hexachlorodibenzofuran	25/38	0.311 - 10.5	2.41	33WS-SB04-0406-061314X						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	27/38	0.614 - 26.4	10	SS-21A (0-1)						
1,2,3,7,8,9-Hexachlorodibenzofuran	14/38	0.232 - 1.17	0.604	SS-02A (0-1)						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	26/38	0.403 - 12.6	4.3	SB-01 (4.9-6.4)						
1,2,3,7,8-Pentachlorodibenzofuran	22/38	0.346 - 5.28	1.36	SS-07A (0.5-1.7)						
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	24/38	0.185 - 30.9	3.94	SS-20A (0-1)						
2,3,4,6,7,8-Hexachlorodibenzofuran	26/38	0.235 - 11.3	3.25	33WS-SB04-0406-061314X						
2,3,4,7,8-Pentachlorodibenzofuran	27/38	0.342 - 18.7	3.14	33WS-SB04-0406-061314X						
2,3,7,8-Tetrachlorodibenzofuran	8/38	0.777 - 12.1	3.53	SS-07A (0.5-1.7)						
2,3,7,8-Tetrachlorodibenzo-p-dioxin	16/38	0.0611 - 1.84	0.725	SS-07A (0.5-1.7)	4.9	0	22	0		

Table 4-4
2011 and 2014 Soil Data Summary by Property – Dioxins and Furans (ng/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Heptachlorodibenzofuran (total)	5/5	9.65 - 356	167	33WS-SB13-0406-062014X						
Heptachlorodibenzo-p-dioxin (total)	5/5	154 - 2140	879	33WS-SB13-0406-062014X						
Hexachlorodibenzofuran (total)	5/5	16.6 - 170	80.7	33WS-SB04-0406-061314X						
Hexachlorodibenzo-p-dioxin (total)	5/5	19.5 - 228	104	33WS-SB13-0406-062014X	100	3	470	0		
Pentachlorodibenzofuran (total)	5/5	16.4 - 180	57.7	33WS-SB04-0406-061314X						
Pentachlorodibenzo-p-dioxin (total)	4/5	6.17 - 205	67.1	33WS-SB04-0406-061314X						
Tetrachlorodibenzo(p)dioxin (total)	4/5	2.93 - 262	71.4	33WS-SB04-0406-061314X						
Tetrachlorodibenzofuran (total)	5/5	6.88 - 52.3	29.1	33WS-SB04-0406-061314X						
Dioxin/Furan - Toxic Equivalent	38/38	0.00715 - 45.1	9.54	SS-20A (0-1)	4.9	19	22	8	0.663	29
35 WATER STREET										
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	2/2	43.2 - 1710	877	45WS-SS03-0001-061014X					3.05	2
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	2/2	2210 - 141000	71600	45WS-SS03-0001-061014X					1440	2
1,2,3,4,6,7,8-Heptachlorodibenzofuran	2/2	43.6 - 936	490	45WS-SS03-0001-061014X					1.77	2
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2/2	75.5 - 13600	6840	45WS-SS03-0001-061014X					592	1
1,2,3,4,7,8,9-Heptachlorodibenzofuran	2/2	6.72 - 32.1	19.4	45WS-SS03-0001-061014X						
1,2,3,4,7,8-Hexachlorodibenzofuran	2/2	15.8 - 39.7	27.8	45WS-SS03-0001-061014X						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1/2	68 - 68	68	45WS-SS03-0001-061014X						
1,2,3,6,7,8-Hexachlorodibenzofuran	2/2	16.1 - 18.2	17.2	45WS-SB02-0406-061014X						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2/2	7.67 - 472	240	45WS-SS03-0001-061014X						
1,2,3,7,8,9-Hexachlorodibenzofuran	1/2	5.98 - 5.98	5.98	45WS-SS03-0001-061014X						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1/2	195 - 195	195	45WS-SS03-0001-061014X						
1,2,3,7,8-Pentachlorodibenzofuran	2/2	4.17 - 14	9.08	45WS-SB02-0406-061014X						
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2/2	8.05 - 16.1	12.1	45WS-SS03-0001-061014X						
2,3,4,6,7,8-Hexachlorodibenzofuran	2/2	17.8 - 81.7	49.8	45WS-SS03-0001-061014X						
2,3,4,7,8-Pentachlorodibenzofuran	2/2	14.2 - 30	22.1	45WS-SB02-0406-061014X						
2,3,7,8-Tetrachlorodibenzofuran	2/2	4.06 - 22.8	13.4	45WS-SB02-0406-061014X						
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1/2	7.33 - 7.33	7.33	45WS-SS03-0001-061014X	4.9	1	22	0		
Heptachlorodibenzofuran (total)	2/2	92.9 - 2470	1280	45WS-SS03-0001-061014X						
Heptachlorodibenzo-p-dioxin (total)	2/2	167 - 32500	16300	45WS-SS03-0001-061014X						
Hexachlorodibenzofuran (total)	2/2	199 - 1760	980	45WS-SS03-0001-061014X						
Hexachlorodibenzo-p-dioxin (total)	2/2	43.5 - 3880	1960	45WS-SS03-0001-061014X	100	1	470	1		
Pentachlorodibenzofuran (total)	2/2	209 - 306	258	45WS-SB02-0406-061014X						
Pentachlorodibenzo-p-dioxin (total)	2/2	42.6 - 217	130	45WS-SS03-0001-061014X						
Tetrachlorodibenzo(p)dioxin (total)	2/2	26 - 41.5	33.8	45WS-SS03-0001-061014X						
Tetrachlorodibenzofuran (total)	2/2	103 - 310	206	45WS-SB02-0406-061014X						

Table 4-4
2011 and 2014 Soil Data Summary by Property – Dioxins and Furans (ng/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Dioxin/Furan - Toxic Equivalent	2/2	27.6 - 305	166	45WS-SS03-0001-061014X	4.9	2	22	2	0.663	2
MBTA ROW										
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	14/14	0.492 - 6050	1980	SS-24A (1-1.5)					3.05	13
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	14/14	4980 - 173000	59500	SO-62 (0-1)					1440	14
1,2,3,4,6,7,8-Heptachlorodibenzofuran	14/14	0.182 - 2840	811	SO-62 (0-1)					1.77	13
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	14/14	62.2 - 21900	5970	SO-62 (0-1)					592	10
1,2,3,4,7,8,9-Heptachlorodibenzofuran	13/14	0.383 - 177	55	SO-62 (0-1)						
1,2,3,4,7,8-Hexachlorodibenzofuran	13/14	0.34 - 102	32.1	SO-62 (0-1)						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	14/14	0.263 - 161	42.3	SO-62 (0-1)						
1,2,3,6,7,8-Hexachlorodibenzofuran	13/14	0.451 - 111	34.8	SS-24A (1-1.5)						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	13/14	2.11 - 776	232	SO-62 (0-1)						
1,2,3,7,8,9-Hexachlorodibenzofuran	9/14	0.571 - 18.6	7.97	SO-62 (0-1)						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	14/14	0.361 - 391	85.3	SO-62 (0-1)						
1,2,3,7,8-Pentachlorodibenzofuran	11/14	0.247 - 18.1	7.25	SS-24A (1-1.5)						
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	13/14	0.304 - 817	81.9	SO-62 (0-1)						
2,3,4,6,7,8-Hexachlorodibenzofuran	13/14	0.706 - 126	50.2	SO-62 (0-1)						
2,3,4,7,8-Pentachlorodibenzofuran	13/14	0.58 - 127	32.4	SS-25A (0-2)						
2,3,7,8-Tetrachlorodibenzofuran	7/14	0.182 - 7.02	3.12	ROW-SS16-0001-061914X-MAX						
2,3,7,8-Tetrachlorodibenzo-p-dioxin	12/14	0.645 - 44	12.4	SS-24A (1-1.5)	4.9	5	22	3		
Heptachlorodibenzofuran (total)	7/7	0.325 - 2860	898	ROW-SS16-0001-061914X-MAX						
Heptachlorodibenzo-p-dioxin (total)	7/7	111 - 21900	8150	ROW-SS21-0001-060914X						
Hexachlorodibenzofuran (total)	6/7	195 - 1450	624	ROW-SS16-0001-061914X-MAX						
Hexachlorodibenzo-p-dioxin (total)	7/7	3.29 - 2470	846	ROW-SS21-0001-060914X	100	6	470	4		
Pentachlorodibenzofuran (total)	6/7	59.5 - 434	171	ROW-SS16-0001-061914X-MAX						
Pentachlorodibenzo-p-dioxin (total)	7/7	0.388 - 154	68.4	ROW-SS21-0001-060914X						
Tetrachlorodibenzo(p)dioxin (total)	6/7	7.32 - 39.4	19.8	ROW-SS13-0001-062014X-MAX						
Tetrachlorodibenzofuran (total)	7/7	0.482 - 130	51.9	ROW-SS13-0001-062014X-MAX						
Dioxin/Furan - Toxic Equivalent	14/14	4.73 - 1340	228	SO-62 (0-1)	4.9	12	22	11	0.663	14

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
Site Specific Bkg - Maximum concentration of contaminant detected in soil samples collected from within the Endicott Cemetery
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-5
2011 and 2014 Soil Data Summary by Property – PCBs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND	
					Action Level	# Exceeds	Action Level	# Exceeds
20 CHEEVER STREET								
Aroclor 1254	1/60	68 - 68	68	20CH-SS11-0001-062014X-MAX	110	0	1000	0
Aroclor 1260	1/60	1400 - 1400	1400	20CH-SS11-0001-062014X-MAX	240	1	1000	1
Aroclor 1268	1/60	150 - 150	150	SS-12A (0-2)				
33 WATER STREET								
Aroclor 1248	6/81	40 - 420	223	SS-07A (0.5-1.7)	240	2	1000	0
Aroclor 1254	1/81	59 - 59	59	33WS-SB08-0204-061714X	110	0	1000	0
Aroclor 1260	1/81	60 - 60	60	33WS-SS05-0001-061214X	240	0	1000	0
35 WATER STREET								
Aroclor 1260	1/3	110 - 110	110	35WS-SS01-0001-061114X	240	0	1000	0
45 WATER STREET								
Aroclor 1260	2/12	200 - 300	250	45WS-SB02-0406-061014X	240	1	1000	0
MBTA ROW								
Aroclor 1254	1/71	330 - 330	330	ROW-SS15-0001-061914X	110	1	1000	0
Aroclor 1260	5/71	66 - 190	116	ROW-SS11-0001-062514X	240	0	1000	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-6
2011 and 2014 Soil Data Summary by Property – Pesticides (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND	
					Action Level	# Exceeds	Action Level	# Exceeds
12 CHEEVER STREET								
4,4'-DDD	1/2	4.3 - 4.3	4.3	12CH-SB01-0204-062614X	2200	0	9600	0
20 CHEEVER STREET								
4,4'-DDD	2/58	12 - 41	26.5	20CH-SS11-0001-062014X-MAX	2200	0	9600	0
4,4'-DDE	3/32	2.8 - 12	7.7	20CH-SS11-0001-062014X-MAX	1600	0	6800	0
4,4'-DDT	11/48	2.7 - 65	17.8	20CH-SS14-0001-062414X	1900	0	8600	0
alpha-BHC	1/47	9.4 - 9.4	9.4	20CH-SS11-0001-062014X-MAX	85	0	370	0
beta-BHC	1/60	18 - 18	18	20CH-SS11-0001-062014X-MAX	300	0	1300	0
delta-BHC	1/46	1.6 - 1.6	1.6	SB-14 (3-4.5)-MAX				
Dieldrin	1/57	18 - 18	18	20CH-SS11-0001-062014X-MAX	33	0	140	0
Endosulfan II	1/60	6.2 - 6.2	6.2	20CH-SS11-0001-062014X-MAX				
Endosulfan Sulfate	4/44	4.1 - 25	14.6	20CH-SS13-0001-061814X				
Endrin	1/59	7.7 - 7.7	7.7	20CH-SS11-0001-062014X-MAX	1800	0	25000	0
Endrin Aldehyde	7/60	3.1 - 19	10.1	20CH-SS01-0001-061614X				
Endrin Ketone	3/56	3.9 - 26	12.1	20CH-SS13-0001-061814X				
gamma-BHC (Lindane)	2/46	1.9 - 1.9	1.9	SB-14 (3-4.5)-MAX, SS-12A (0-2)	560	0	2500	0
gamma-Chlordane	4/56	3.3 - 21	8.42	20CH-SS08-0001-061914X				
Heptachlor	1/25	4.6 - 4.6	4.6	20CH-SS11-0001-062014X-MAX	120	0	510	0
Heptachlor Epoxide	1/57	9.3 - 9.3	9.3	20CH-SS11-0001-062014X-MAX	59	0	250	0
33 WATER STREET								
4,4'-DDD	7/77	1.5 - 17	9.63	33WS-SB11-0204-061214X	2200	0	9600	0
4,4'-DDE	9/69	2.2 - 49	10.5	SS-21A (0-1)	1600	0	6800	0
4,4'-DDT	23/76	2.5 - 160	22.6	SS-21A (0-1)	1900	0	8600	0
Aldrin	3/78	2.1 - 23	9.17	33WS-SB04-0406-061314X	31	0	140	0
alpha-BHC	1/79	4.6 - 4.6	4.6	33WS-SB04-0406-061314X	85	0	370	0
Alpha-Chlordane	4/79	1.3 - 62	17.8	33WS-SB04-0406-061314X				
beta-BHC	5/75	1.2 - 8.6	4.54	SS-07A (0.5-1.7)	300	0	1300	0
delta-BHC	4/80	0.98 - 5.1	3.3	33WS-SB15-0204-062614X				
Dieldrin	1/79	3 - 3	3	SS-21A (0-1)	33	0	140	0
Endosulfan I	4/81	1.6 - 23	8.6	33WS-SB12-0406-061614X				
Endosulfan II	1/80	24 - 24	24	33WS-SB04-0406-061314X				
Endosulfan Sulfate	8/68	3.8 - 850	112	33WS-SB04-0406-061314X				
Endrin	1/71	22 - 22	22	33WS-SB04-0406-061314X	1800	0	25000	0
Endrin Aldehyde	10/75	2.3 - 45	12.3	33WS-SB04-0406-061314X				
Endrin Ketone	18/75	2 - 270	27.1	33WS-SB04-0406-061314X				
gamma-BHC (Lindane)	2/78	1.6 - 3.4	2.5	SS-20A (0-1)	560	0	2500	0
gamma-Chlordane	15/73	1.6 - 86	10.4	33WS-SB04-0406-061314X				
Heptachlor	2/52	2.1 - 8.4	5.25	33WS-SB04-0406-061314X	120	0	510	0
Heptachlor Epoxide	4/79	3 - 19	13.8	SS-07A (0.5-1.7)	59	0	250	0
35 WATER STREET								
4,4'-DDE	2/3	5.9 - 7.1	6.5	35WS-SS01-0001-061114X	1600	0	6800	0
4,4'-DDT	2/3	5 - 13	9	35WS-SS01-0001-061114X	1900	0	8600	0
Endrin Aldehyde	1/3	7.2 - 7.2	7.2	35WS-SS01-0001-061114X				
45 WATER STREET								
4,4'-DDD	1/12	14 - 14	14	45WS-SB02-0406-061014X	2200	0	9600	0
4,4'-DDE	3/12	14 - 35	25.7	45WS-SS03-0001-061014X	1600	0	6800	0
4,4'-DDT	2/12	60 - 98	79	45WS-SS03-0001-061014X	1900	0	8600	0
Aldrin	1/12	3.6 - 3.6	3.6	45WS-SB02-0406-061014X	31	0	140	0
Alpha-Chlordane	1/12	12 - 12	12	45WS-SB02-0406-061014X				
Endosulfan Sulfate	2/12	2.1 - 47	24.6	45WS-SB02-0406-061014X				
Endrin Aldehyde	3/12	9.1 - 40	20.4	45WS-SS04-0001-060914X				
Endrin Ketone	1/12	53 - 53	53	45WS-SB02-0406-061014X				

Table 4-6
2011 and 2014 Soil Data Summary by Property – Pesticides (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts
Page 2 of 2

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND	
					Action Level	# Exceeds	Action Level	# Exceeds
gamma-Chlordane	1/12	19 - 19	19	45WS-SB02-0406-061014X				
Heptachlor Epoxide	1/12	2.4 - 2.4	2.4	45WS-SB02-0406-061014X	59	0	250	0
Methoxychlor	1/12	160 - 160	160	45WS-SB02-0406-061014X	31000	0	410000	0
MBTA ROW								
4,4'-DDD	10/68	3.9 - 37	14.4	ROW-SS04-0001-062314X	2200	0	9600	0
4,4'-DDE	14/54	3.3 - 28	9.8	ROW-SS13-0001-062014X-MAX	1600	0	6800	0
4,4'-DDT	26/58	2 - 61	25.4	ROW-SS13-0001-062014X-MAX	1900	0	8600	0
Aldrin	1/53	2 - 2	2	ROW-SS19-0001-061114X	31	0	140	0
Alpha-Chlordane	2/71	2.5 - 2.9	2.7	ROW-SS23-0001-062514X				
beta-BHC	2/71	3.3 - 5.4	4.35	ROW-SS19-0001-061114X	300	0	1300	0
delta-BHC	1/53	1.1 - 1.1	1.1	SS-23A (0-2)-MAX				
Endosulfan Sulfate	17/56	3.2 - 35	18.5	ROW-SS08-0001-062414X				
Endrin	4/69	4.4 - 17	9.22	ROW-SS16-0001-061914X-MAX	1800	0	25000	0
Endrin Aldehyde	11/71	5.1 - 27	10.9	ROW-SS16-0001-061914X-MAX				
Endrin Ketone	22/70	3.7 - 46	18.4	ROW-SS08-0001-062414X				
gamma-BHC (Lindane)	1/52	1.8 - 1.8	1.8	SS-23A (0-2)-MAX	560	0	2500	0
gamma-Chlordane	16/67	2 - 46	11.7	ROW-SS08-0001-062414X				
Heptachlor	1/44	1.7 - 1.7	1.7	SS-23A (0-2)-MAX	120	0	510	0
Heptachlor Epoxide	4/68	1.1 - 5.2	2.7	ROW-SS20-0001-061014X	59	0	250	0
Methoxychlor	1/70	26 - 26	26	ROW-SS23-0001-062514X	31000	0	410000	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-7
2011 and 2014 Soil Data Summary by Property – VOCs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND	
					Action Level	# Exceeds	Action Level	# Exceeds
12 CHEEVER STREET								
Acetone	15/15	6.9 - 71	26	12CH-SS04-0102-062514X	6100000	0	67000000	0
Methyl acetate	4/15	2.2 - 4.2	3.22	12CH-SB01-0204-062614X	7800000	0	120000000	0
20 CHEEVER STREET								
2-Butanone	11/60	22 - 210	60.1	SB-14 (3-4.5)-MAX	2700000	0	19000000	0
Acetone	53/60	4.2 - 670	164	20CH-SS01-0001-061614X	6100000	0	67000000	0
Benzene	1/60	2.6 - 2.6	2.6	SS-12A (0-2)	1200	0	5100	0
Carbon disulfide	7/29	2.9 - 68	17.7	SB-14 (3-4.5)-MAX	77000	0	350000	0
Chloromethane	1/60	4.7 - 4.7	4.7	20CH-SS12-0001-062014X	11000	0	46000	0
Methyl acetate	19/60	3.1 - 440	73.9	20CH-SS08-0001-061914X	7800000	0	120000000	0
Methylene chloride	3/60	18 - 70	39	20CH-SS08-0001-061914X	35000	0	320000	0
33 WATER STREET								
2-Butanone	8/81	8.7 - 47	20.8	33WS-SS10-0001-061814X	2700000	0	19000000	0
Acetone	74/81	5.2 - 470	88.8	33WS-SS10-0001-061814X	6100000	0	67000000	0
Bromoform	1/78	4.9 - 4.9	4.9	SB-02 (4-6.5)	67000	0	290000	0
Carbon disulfide	4/44	7.6 - 21	12.9	SB-08B (8.9-11)	77000	0	350000	0
cis-1,2-Dichloroethene	3/81	6.1 - 140	65.4	33WS-SB02-0608-062414X	16000	0	230000	0
Isopropylbenzene	1/80	18 - 18	18	SB-08A (5.3-7)	190000	0	990000	0
Methyl acetate	16/81	2.5 - 180	32.1	33WS-SS10-0001-061814X	7800000	0	120000000	0
Methylene chloride	3/81	2.5 - 41	16.1	SB-11A (4-6.4)	35000	0	320000	0
Trichloroethene	1/80	18 - 18	18	33WS-SB02-0608-062414X	410	0	1900	0
35 WATER STREET								
2-Butanone	2/3	10 - 22	16	35WS-SS01-0001-061114X	2700000	0	19000000	0
Acetone	3/3	110 - 240	163	35WS-SS01-0001-061114X	6100000	0	67000000	0
Methyl acetate	3/3	4 - 29	14.7	35WS-SS01-0001-061114X	7800000	0	120000000	0
45 WATER STREET								
1,1,1-Trichloroethane	1/12	22 - 22	22	45WS-SB04-1416-060914X	810000	0	3600000	0
1,1-Dichloroethane	2/12	4.1 - 5.3	4.7	45WS-SB04-0608-061014X	3600	0	16000	0
1,1-Dichloroethene	2/12	4.1 - 12	8.05	45WS-SB04-1416-060914X	23000	0	100000	0
1,2,4-Trichlorobenzene	1/12	22 - 22	22	45WS-SS04-0001-060914X	5800	0	26000	0
Acetone	11/12	11 - 300	76.8	45WS-SS04-0001-060914X	6100000	0	67000000	0
Methyl acetate	5/12	5.7 - 45	17.4	45WS-SS04-0001-060914X	7800000	0	120000000	0
MBTA ROW								
2-Butanone	17/71	8.9 - 54	23.9	ROW-SS04-0001-062314X	2700000	0	19000000	0
Acetone	70/71	4.4 - 520	129	ROW-SS17-0001-061814X	6100000	0	67000000	0
Carbon disulfide	1/42	15 - 15	15	ROW-SB21-0608-060914X	77000	0	350000	0
Methyl acetate	41/71	2.6 - 230	34.9	ROW-SS08-0001-062414X	7800000	0	120000000	0
Methylene chloride	3/71	9.1 - 11	9.93	ROW-SB14-0406-061914X	35000	0	320000	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-8
2014 Groundwater Data Summary – Metals (µg/L)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-Tapwater		EPA-RSL-MCL		EPA-RSL-VISL	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
TOTAL METALS (µg/L)										
JULY 2014										
Aluminum	6/14	44 - 1400	420	CC-GW-MW01-071514X	2000	0				
Arsenic	14/14	0.54 - 22	4.8	CC-GW-MW05-071614X	0.052	14	10	1		
Barium	4/14	244 - 566	462	CC-GW-TT01-071714X	380	3	2000	0		
Cadmium	1/14	4.6 - 4.6	4.6	CC-GW-MW01-071514X	0.92	1	5	0		
Calcium	14/14	6530 - 560000	167000	CC-GW-MW01-071514X						
Chromium	5/14	11.2 - 163	51.9	CC-GW-MW04-071414X-MAX	2200	0	100	1		
Cobalt	11/14	1.1 - 108	16.8	CC-GW-MW01-071514X	0.6	11				
Copper	2/14	19.7 - 26.4	23	CC-GW-MW01-071514X	80	0	1300	0		
Iron	9/14	352 - 40100	9840	CC-GW-MW04-071414X-MAX	1400	7				
Magnesium	14/14	1690 - 408000	70500	CC-GW-MW01-071514X						
Manganese	13/14	246 - 29200	3950	CC-GW-MW01-071514X	43	13				
Mercury	5/14	0.011 - 0.14	0.0588	CC-GW-TT01-071714X	0.063	2	2	0	0.19	0
Nickel	14/14	0.41 - 123	14.6	CC-GW-MW01-071514X	39	1				
Potassium	9/14	6390 - 79600	24900	CC-GW-MW01-071514X						
Selenium	9/14	0.47 - 30.4	6.88	CC-GW-MW01-071514X	10	2	50	0		
Sodium	14/14	9830 - 3090000	518000	CC-GW-MW01-071514X						
Vanadium	3/14	0.49 - 3.7	1.83	CC-GW-MW05-071614X	8.6	0				
Zinc	3/14	142 - 3070	1140	CC-GW-MW04-071414X-MAX	600	1				
OCTOBER 2014										
Aluminum	1/7	1280 - 1280	1280	CC-GW-MW04-101614X	2000	0				
Arsenic	7/11	2.5 - 18.4	9.94	CC-GW-MW01-101614X	0.052	7	10	4		
Barium	11/11	9.4 - 1290	176	CC-GW-TT02-101514X	380	1	2000	0		
Cadmium	2/11	0.59 - 0.67	0.63	CC-GW-MW06-101414X	0.92	0	5	0		
Calcium	11/11	18900 - 418000	134000	CC-GW-MW06-101414X						
Chromium	5/11	0.98 - 518	114	CC-GW-MW04-101614X	2200	0	100	1		
Cobalt	11/11	0.4 - 22.8	5.06	CC-GW-MW01-101614X	0.6	10				
Iron	9/11	171 - 29800	11100	CC-GW-MW02-101414X	1400	6				
Lead	7/11	2.4 - 20.1	6.74	CC-GW-MW04-101614X	15	1	15	1		
Magnesium	11/11	2730 - 465000	107000	CC-GW-MW01-101614X						
Manganese	11/11	341 - 20400	4110	CC-GW-MW01-101614X	43	11				
Mercury	1/11	0.21 - 0.21	0.21	CC-GW-TT02-101514X	0.063	1	2	0	0.19	1
Nickel	11/11	1.1 - 18.1	6.88	CC-GW-MW09-101314X	39	0				

Table 4-8
2014 Groundwater Data Summary – Metals (µg/L)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-Tapwater		EPA-RSL-MCL		EPA-RSL-VISL	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Potassium	8/11	2720 - 72000	26700	CC-GW-MW01-101614X						
Selenium	3/11	15.9 - 80.5	40.7	CC-GW-MW01-101614X	10	3	50	1		
Sodium	11/11	33500 - 3920000	701000	CC-GW-MW01-101614X						
Vanadium	7/11	0.21 - 4.4	1.17	CC-GW-MW04-101614X	8.6	0				
Zinc	1/11	783 - 783	783	CC-GW-MW04-101614X	600	1				
DISSOLVED METALS (µg/L)										
JULY 2014										
Aluminum	6/12	47.1 - 253	113	CC-GW-MW04-071414X-MAX	2000	0				
Arsenic	12/12	0.44 - 22.2	4.68	CC-GW-MW05-071614X	0.052	12	10	1		
Barium	12/12	4.4 - 589	180	CC-GW-TT02-071414X	380	3	2000	0		
Calcium	12/12	6200 - 392000	143000	CC-GW-MW06-071414X						
Chromium	3/12	15.8 - 107	51.3	CC-GW-MW04-071414X-MAX	2200	0	100	1		
Cobalt	8/12	1.5 - 37.5	7.6	CC-GW-MW04-071414X-MAX	0.6	8				
Iron	8/12	240 - 36000	9610	CC-GW-MW04-071414X-MAX	1400	6				
Magnesium	12/12	1500 - 180000	44500	CC-GW-TT02-071414X						
Manganese	11/12	252 - 10600	1760	CC-GW-MW06-071414X	43	11				
Mercury	7/12	0.0084 - 0.025	0.0152	CC-GW-TT01-071714X, CC-GW-TT06-071714X	0.063	0	2	0	0.19	0
Nickel	11/12	2 - 24.9	5.86	CC-GW-MW04-071414X-MAX	39	0				
Potassium	9/12	5120 - 45900	17500	CC-GW-TT02-071414X						
Selenium	9/12	0.38 - 12.1	3.74	CC-GW-TT02-071414X	10	2	50	0		
Sodium	12/12	9550 - 1110000	346000	CC-GW-TT02-071414X						
Vanadium	1/12	3.7 - 3.7	3.7	CC-GW-MW05-071614X	8.6	0				
Zinc	2/12	145 - 2370	1260	CC-GW-MW04-071414X-MAX	600	1				
OCTOBER 2014										
Arsenic	2/2	2.7 - 26.1	14.4	CC-GW-TT01-101514X-MAX	0.052	2	10	1		
Barium	2/2	79.7 - 271	175	CC-GW-TT06-101514X	380	0	2000	0		
Cadmium	1/2	0.38 - 0.38	0.38	CC-GW-TT06-101514X	0.92	0	5	0		
Calcium	2/2	303000 - 346000	324000	CC-GW-TT01-101514X-MAX						
Chromium	2/2	1.2 - 62.9	32	CC-GW-TT01-101514X-MAX	2200	0	100	0		
Cobalt	2/2	0.72 - 6.3	3.51	CC-GW-TT06-101514X	0.6	2				
Iron	2/2	1930 - 14900	8420	CC-GW-TT01-101514X-MAX	1400	2				
Lead	1/2	5 - 5	5	CC-GW-TT01-101514X-MAX	15	0	15	0		

Table 4-8
2014 Groundwater Data Summary – Metals (µg/L)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-Tapwater		EPA-RSL-MCL		EPA-RSL-VISL	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Magnesium	2/2	76300 - 100000	88200	CC-GW-TT01-101514X-MAX						
Manganese	2/2	532 - 1370	951	CC-GW-TT06-101514X	43	2				
Nickel	2/2	4.1 - 8.6	6.35	CC-GW-TT06-101514X	39	0				
Potassium	2/2	5680 - 21200	13400	CC-GW-TT01-101514X-MAX						
Selenium	2/2	3.7 - 14.8	9.25	CC-GW-TT06-101514X	10	1	50	0		
Sodium	2/2	857000 - 935000	896000	CC-GW-TT06-101514X						
Vanadium	2/2	0.22 - 0.57	0.395	CC-GW-TT01-101514X-MAX	8.6	0				
Zinc	2/2	5.8 - 6.4	6.1	CC-GW-TT01-101514X-MAX	600	0				

Notes:
EPA-RSLs - EPA Regional Screening Levels for Tapwater or Maximum Contaminant Levels (MCL) or Vapor Intrusion Screening Levels (VISL), November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of groundwater samples collected in 2014 and grouped by sampling event.

Table 4-9
2014 Groundwater Data Summary – VOCs (µg/L)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-Tapwater		EPA-RSL-MCL		EPA-RSL-VISL	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
VOCs µg/L										
JULY 2014										
1,2,3-Trichlorobenzene	1/13	0.22 - 0.22	0.22	CC-GW-MW02-071414X	0.7	0				
Chloroform	2/13	0.14 - 0.49	0.315	CC-GW-MW02-071414X	0.22	1	80	0	1.4	0
Dichlorodifluoromethane	1/13	32 - 32	32	CC-GW-MW08-071614X	20	1			1.3	1
Ethylbenzene	3/13	0.2 - 0.24	0.217	CC-GW-MGPMW5-071614X	1.5	0	700	0	7.1	0
Isopropylbenzene	1/13	0.17 - 0.17	0.17	CC-GW-MW04-071414X-MAX	45	0			220	0
m,p-Xylene	8/13	0.11 - 0.17	0.138	CC-GW-MGPMW5-071614X						
o-Xylene	1/13	0.11 - 0.11	0.11	CC-GW-MW04-071414X-MAX	19	0			100	0
Tetrachloroethene	2/13	0.11 - 0.12	0.115	CC-GW-MW02-071414X	4.1	0	5	0	11	0
Toluene	2/13	0.12 - 0.35	0.235	CC-GW-MW02-071414X	110	0	1000	0	3700	0
OCTOBER 2014										
Benzene	2/13	0.14 - 0.17	0.155	CC-GW-MW07-101614X	0.45	0	5	0	2.8	0
Carbon disulfide	2/13	0.12 - 1.6	0.86	CC-GW-MW01-101614X	81	0			200	0
Chloromethane	2/13	0.17 - 0.37	0.27	CC-GW-MW08-101614X	19	0			36	0
cis-1,2-Dichloroethene	1/13	0.21 - 0.21	0.21	CC-GW-MW05-101314X	3.6	0	70	0		
Dichlorodifluoromethane	1/13	11 - 11	11	CC-GW-MW08-101614X	20	0			1.3	1
Ethylbenzene	5/13	0.12 - 0.2	0.154	CC-GW-MW08-101614X	1.5	0	700	0	7.1	0
Isopropylbenzene	1/13	0.13 - 0.13	0.13	CC-GW-MW04-101614X	45	0			220	0
m,p-Xylene	4/13	0.11 - 0.16	0.13	CC-GW-MW01-101614X						
o-Xylene	4/13	0.12 - 0.19	0.142	CC-GW-TT01-101514X-MAX	19	0			100	0
Toluene	3/13	0.13 - 0.26	0.187	CC-GW-MW07-101614X	110	0	1000	0	3700	0
Trichloroethene	1/13	0.12 - 0.12	0.12	CC-GW-MW05-101314X	0.28	0	5	0	0.95	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Tapwater or Maximum Contaminant Levels (MCL) or Vapor Intrusion Screening Levels (VISL), November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of groundwater samples collected in 2014 and grouped by sampling event.

Table 4-10
2014 Groundwater Data Summary – SVOCs (µg/L)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-Tapwater		EPA-RSL-MCL		EPA-RSL-VISL	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
JULY 2014										
Acenaphthene	1/12	2.3 - 2.3	2.3	CC-GW-MW05-071614X	53	0				
Acenaphthylene	1/12	0.17 - 0.17	0.17	CC-GW-MW05-071614X						
Anthracene	2/12	0.1 - 0.51	0.305	CC-GW-MW05-071614X	180	0				
Dibenz(a,h)anthracene	1/12	0.08 - 0.08	0.08	CC-GW-MW02-071414X	0.0034	1				
Fluoranthene	1/12	0.44 - 0.44	0.44	CC-GW-MW05-071614X	80	0				
Fluorene	1/12	1.1 - 1.1	1.1	CC-GW-MW05-071614X	29	0				
Indeno(1,2,3-cd)pyrene	1/12	0.078 - 0.078	0.078	CC-GW-MW02-071414X	0.034	1				
Naphthalene	3/12	0.15 - 0.31	0.21	CC-GW-MW04-071414X-MAX	0.17	1			11	0
Pentachlorophenol	2/2	0.9 - 1.2	1.05	CC-GW-MW05-071614X	0.04	2	1	1		
Pyrene	3/12	0.12 - 0.24	0.167	CC-GW-MW05-071614X	12	0				
OCTOBER 2014										
2-Methylnaphthalene	1/13	0.084 - 0.084	0.084	CC-GW-TT01-101514X-MAX	3.6	0				
Acenaphthene	1/13	0.12 - 0.12	0.12	CC-GW-MW05-101314X	53	0				
Acenaphthylene	1/13	0.4 - 0.4	0.4	CC-GW-MW05-101314X						
Anthracene	3/13	0.13 - 0.2	0.16	CC-GW-MW04-101614X	180	0				
Benzo(a)pyrene	1/13	0.14 - 0.14	0.14	CC-GW-RR2MW-101614X	0.0034	1				
Benzo(k)fluoranthene	1/13	0.3 - 0.3	0.3	CC-GW-RR2MW-101614X	0.34	0				
Bis(2-ethylhexyl)phthalate	2/13	1.4 - 1.4	1.4	CC-GW-MW06-101414X, CC-GW-RR2MW-101614X	5.6	0	6	0		
Chrysene	1/13	0.2 - 0.2	0.2	CC-GW-RR2MW-101614X	3.4	0				
Di-N-Butylphthalate	12/13	5.5 - 13	7.82	CC-GW-MW07-101614X	90	0				
Fluoranthene	2/13	0.16 - 0.38	0.27	CC-GW-MW05-101314X	80	0				
Indeno(1,2,3-cd)pyrene	1/13	0.17 - 0.17	0.17	CC-GW-RR2MW-101614X	0.034	1				
Naphthalene	5/13	0.078 - 0.49	0.2	CC-GW-TT01-101514X-MAX	0.17	2			11	0
Pentachlorophenol	2/13	0.078 - 0.68	0.379	CC-GW-RR2MW-101614X	0.04	2	1	0		
Phenanthrene	1/13	0.12 - 0.12	0.12	CC-GW-TT01-101514X-MAX						
Pyrene	2/13	0.33 - 0.68	0.505	CC-GW-MW05-101314X	12	0				

Notes:
EPA-RSLs - EPA Regional Screening Levels for Tapwater or Maximum Contaminant Levels (MCL) or Vapor Intrusion Screening Levels (VISL), November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of groundwater samples collected in 2014 and grouped by sampling event.

Table 4-11
2014 Groundwater Data Summary – Dioxins and Furans (pg/L)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-Tapwater		EPA-RSL-MCL	
					Action Level	# Exceeds	Action Level	# Exceeds
JULY 2014								
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	1/2	34.4 - 34.4	34.4	CC-GW-MW04-071414X-MAX				
1,2,3,7,8-Pentachlorodibenzofuran	1/2	0.886 - 0.886	0.886	CC-GW-MW04-071414X-MAX				
Dioxin/Furan - Toxic Equivalent	1/2	0.0369 - 0.0369	0.0369	CC-GW-MW04-071414X-MAX	0.6	0	30	0
OCTOBER 2014								
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	1/2	37 - 37	37	CC-GW-MW03-101414X				
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	2/2	19.5 - 34.1	26.8	CC-GW-MW03-101414X				
1,2,3,4,6,7,8-Heptachlorodibenzofuran	2/2	5.14 - 13.9	9.52	CC-GW-MW03-101414X				
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2/2	5.43 - 15.1	10.3	CC-GW-MW03-101414X				
1,2,3,4,7,8,9-Heptachlorodibenzofuran	2/2	2.63 - 15.6	9.12	CC-GW-MW03-101414X				
1,2,3,4,7,8-Hexachlorodibenzofuran	2/2	5.8 - 15.9	10.8	CC-GW-MW03-101414X				
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2/2	8.12 - 14.5	11.3	CC-GW-MW03-101414X				
1,2,3,6,7,8-Hexachlorodibenzofuran	2/2	1.89 - 14.2	8.04	CC-GW-MW03-101414X				
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2/2	3.13 - 15.3	9.22	CC-GW-MW03-101414X				
1,2,3,7,8,9-Hexachlorodibenzofuran	2/2	2.45 - 16	9.22	CC-GW-MW03-101414X				
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	2/2	5.97 - 11.9	8.94	CC-GW-MW03-101414X				
1,2,3,7,8-Pentachlorodibenzofuran	2/2	3.34 - 14.8	9.07	CC-GW-MW03-101414X				
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2/2	4.54 - 14.4	9.47	CC-GW-MW03-101414X				
2,3,4,6,7,8-Hexachlorodibenzofuran	2/2	2.55 - 15	8.78	CC-GW-MW03-101414X				
2,3,4,7,8-Pentachlorodibenzofuran	2/2	5.95 - 15.2	10.6	CC-GW-MW03-101414X				
2,3,7,8-Tetrachlorodibenzofuran	2/2	3.4 - 3.69	3.54	CC-GW-MW03-101414X				
2,3,7,8-Tetrachlorodibenzo-p-dioxin	2/2	3.65 - 4.19	3.92	CC-GW-MW02-101414X	0.6	2	30	0
Heptachlorodibenzofuran (total)	2/2	7.77 - 29.5	18.6	CC-GW-MW03-101414X				
Heptachlorodibenzo-p-dioxin (total)	2/2	9.55 - 15.1	12.3	CC-GW-MW03-101414X				
Hexachlorodibenzofuran (total)	2/2	15.2 - 63.3	39.2	CC-GW-MW03-101414X				
Hexachlorodibenzo-p-dioxin (total)	2/2	20.7 - 42.7	31.7	CC-GW-MW03-101414X	13	2		
Pentachlorodibenzofuran (total)	2/2	12.3 - 30.3	21.3	CC-GW-MW03-101414X				
Pentachlorodibenzo-p-dioxin (total)	2/2	5.28 - 14.4	9.84	CC-GW-MW03-101414X				
Tetrachlorodibenzo(p)dioxin (total)	2/2	3.94 - 11.1	7.52	CC-GW-MW02-101414X				
Tetrachlorodibenzofuran (total)	2/2	3.98 - 6.65	5.32	CC-GW-MW02-101414X				
Dioxin/Furan - Toxic Equivalent	2/2	14.1 - 34.2	24.2	CC-GW-MW03-101414X	0.6	2	30	1

Notes:
EPA-RSLs - EPA Regional Screening Levels for Tapwater or Maximum Contaminant Levels (MCL) or Vapor Intrusion Screening Levels (VISL), November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of groundwater samples collected in 2014 and grouped by sampling event.

Table 4-12
2014 Sediment Data Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
METALS (mg/Kg)														
Aluminum	15/15	4400 - 13200	9400	SD108-101414X	7700	11	110000	0	10000	6	10000	6	13900	0
Antimony	3/15	0.48 - 3.1	1.4	SD110-101314X	3.1	0	47	0	1	1	7	0		
Arsenic	14/15	7 - 882	97.3	SD107-101414X	0.67	14	3	14	20	11	20	11	11.4	12
Barium	15/15	19.4 - 202	46.3	SD109-101314X	1500	0	22000	0	50	3	50	3	21.2	14
Beryllium	15/15	0.49 - 1.1	0.753	SD110-101314X	16	0	230	0	0.4	15	0.9	4	0.36	15
Cadmium	15/15	0.22 - 3.1	0.771	SD110-101314X	7	0	98	0	2	1	3	1		
Calcium	15/15	1180 - 4600	2810	SD107-101414X									867	15
Chromium	15/15	45.7 - 2250	794	SD108-101414X	12000	0	180000	0	30	15	40	15	17.3	15
Chromium-Hexavalent	4/5	0.54 - 3.7	2.08	SD-17 (1-1.5)	0.3	4	6.3	0	30	0	40	0		
Cobalt	15/15	3.8 - 11.2	6.73	SD107-101414X	2.3	15	35	0	4	14	4	14	6.2	8
Copper	15/15	12.5 - 429	97.6	SD104-101414X	310	1	4700	0	40	12	200	2	9	15
Iron	15/15	12900 - 40500	25200	SD108-101414X	5500	15	82000	0	20000	11	20000	11	12500	15
Lead	15/15	11.7 - 652	161	SD108-101414X	400	1	800	0	100	11	600	1	64.5	14
Magnesium	15/15	2580 - 9380	6160	SD111-101314X-MAX					5000	9	5000	9	3170	14
Manganese	15/15	97 - 1130	425	SD103-101414X	180	9	2600	0	300	6	300	6	170	11
Mercury	14/15	0.11 - 3.4	1.89	SD106-101414X	0.94	12	4	0	0.3	13	1	12	0.04	14
Nickel	15/15	12.2 - 35.6	20.6	SD110-101314X	150	0	2200	0	20	6	30	2	13.7	14
Potassium	15/15	506 - 3980	2360	SD105-101414X									448	15
Selenium	8/15	0.38 - 84.4	12.3	SD110-101314X	39	1	580	0	0.5	7	1	6		
Sodium	15/15	4140 - 28300	14100	SD102-101414X										
Vanadium	15/15	22.2 - 136	48.4	SD108-101414X	39	7	580	0	30	11	30	11	22.4	14
Zinc	15/15	50.9 - 268	139	SD108-101414X	2300	0	35000	0	100	11	300	0	53.7	14
SEMIVOLATILES (µg/Kg)														
2-Methylnaphthalene	11/15	5.8 - 42	12.2	SD109-101314X	23000	0	300000	0	500	0	1000	0		
Acenaphthene	14/15	5.5 - 110	21.4	SD109-101314X	350000	0	4500000	0	500	0	2000	0		
Acenaphthylene	14/15	35 - 200	104	SD102-101414X, SD112-101314X					500	0	1000	0		
Anthracene	14/15	48 - 740	206	SD102-101414X	1700000	0	23000000	0	1000	0	4000	0		
Benzo(a)anthracene	15/15	9.5 - 1700	555	SD102-101414X	150	13	2900	0	2000	0	9000	0		
Benzo(a)pyrene	14/15	70 - 1200	485	SD102-101414X	15	14	290	8	2000	0	7000	0		
Benzo(b)fluoranthene	14/15	65 - 1800	678	SD109-101314X	150	13	2900	0	2000	0	8000	0		
Benzo(g,h,i)perylene	14/15	43 - 740	268	SD109-101314X					1000	0	3000	0		
Benzo(k)fluoranthene	14/15	63 - 690	271	SD109-101314X	1500	0	29000	0	1000	0	4000	0		
Bis(2-ethylhexyl)phthalate	12/15	88 - 1600	359	SD107-101414X	38000	0	160000	0						
Butylbenzylphthalate	1/15	380 - 380	380	SD102-101414X	280000	0	1200000	0						
Carbazole	1/15	240 - 240	240	SD109-101314X										
Chrysene	15/15	6.8 - 1500	550	SD102-101414X, SD109-101314X	15000	0	290000	0	2000	0	7000	0		
Dibenz(a,h)anthracene	14/15	11 - 140	63.3	SD102-101414X	15	13	290	0	500	0	1000	0		
Dibenzofuran	2/15	43 - 110	76.5	SD109-101314X	7200	0	100000	0						
Di-N-Butylphthalate	15/15	450 - 2000	855	SD102-101414X	620000	0	8200000	0						
Fluoranthene	15/15	12 - 2800	1050	SD102-101414X	230000	0	3000000	0	4000	0	10000	0		
Fluorene	14/15	12 - 150	44.7	SD109-101314X	230000	0	3000000	0	1000	0	2000	0		
Indeno(1,2,3-cd)pyrene	14/15	41 - 710	282	SD109-101314X	150	11	2900	0	1000	0	3000	0		
Naphthalene	14/15	7.1 - 75	20.1	SD109-101314X	3800	0	17000	0	500	0	1000	0		
Pentachlorophenol	3/15	17 - 51	33.7	SD109-101314X	990	0	4000	0						
Phenanthrene	14/15	100 - 2200	566	SD109-101314X					3000	0	20000	0		
Pyrene	15/15	14 - 2800	1040	SD109-101314X	170000	0	2300000	0	4000	0	20000	0		
DIOXINS AND FURANS (ng/Kg)														
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	2/2	2910 - 6530	4720	SD103-101414X									1440	2
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	2/2	93 - 262	178	SD103-101414X									3.05	2
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	2/2	296 - 806	551	SD103-101414X									592	1
1,2,3,4,6,7,8-Heptachlorodibenzofuran	2/2	75.5 - 215	145	SD103-101414X									1.77	2
1,2,3,4,7,8,9-Heptachlorodibenzofuran	2/2	2.16 - 6.8	4.48	SD103-101414X										
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	2/2	1.9 - 6.67	4.28	SD103-101414X										
1,2,3,4,7,8-Hexachlorodibenzofuran	2/2	5.37 - 12.9	9.14	SD103-101414X										

Table 4-12
2014 Sediment Data Summary
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	2/2	11.3 - 28.5	19.9	SD103-101414X										
1,2,3,6,7,8-Hexachlorodibenzofuran	2/2	2.71 - 7.45	5.08	SD103-101414X										
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	2/2	5.55 - 20.8	13.2	SD103-101414X										
1,2,3,7,8,9-Hexachlorodibenzofuran	2/2	0.23 - 0.563	0.396	SD103-101414X										
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	2/2	1.28 - 3.93	2.6	SD103-101414X										
1,2,3,7,8-Pentachlorodibenzofuran	2/2	0.91 - 1.93	1.42	SD103-101414X										
2,3,4,6,7,8-Hexachlorodibenzofuran	2/2	3.72 - 7.58	5.65	SD103-101414X										
2,3,4,7,8-Pentachlorodibenzofuran	2/2	1.61 - 3.74	2.68	SD103-101414X										
2,3,7,8-Tetrachlorodibenzo-p-dioxin	2/2	0.52 - 1.53	1.02	SD103-101414X	4.9	0	22	0						
2,3,7,8-Tetrachlorodibenzofuran	2/2	2.47 - 6.42	4.44	SD103-101414X										
Heptachlorodibenzo-p-dioxin (total)	2/2	756 - 1900	1330	SD103-101414X										
Heptachlorodibenzofuran (total)	2/2	177 - 468	322	SD103-101414X										
Hexachlorodibenzo-p-dioxin (total)	2/2	133 - 349	241	SD103-101414X	100	2	470	0						
Hexachlorodibenzofuran (total)	2/2	84.9 - 218	151	SD103-101414X										
Pentachlorodibenzo-p-dioxin (total)	2/2	16.7 - 48	32.4	SD103-101414X										
Pentachlorodibenzofuran (total)	2/2	27 - 58.8	42.9	SD103-101414X										
Tetrachlorodibenzo(p)dioxin (total)	2/2	5.68 - 15.7	10.7	SD103-101414X										
Tetrachlorodibenzofuran (total)	2/2	37.8 - 75.9	56.8	SD103-101414X										
Dioxin/Furan - Toxic Equivalent	2/2	10.3 - 28	19.2	SD103-101414X	4.9	2	22	1					0.663	2
PESTICIDES (µg/Kg)														
4,4'-DDT	1/15	6.9 - 6.9	6.9	SD109-101314X	1900	0	8600	0						
Alpha-Chlordane	1/15	13 - 13	13	SD102-101414X										
Endrin Ketone	2/15	6.6 - 16	11.3	SD112-101314X										
gamma-Chlordane	1/15	9.1 - 9.1	9.1	SD102-101414X										
VOLATILES (µg/Kg)														
2-Butanone	5/15	18 - 130	48	SD103-101414X	2700000	0	19000000	0						
Acetone	13/15	53 - 530	197	SD108-101414X	6100000	0	67000000	0						
Carbon disulfide	6/15	5.5 - 35	16.3	SD105-101414X	77000	0	350000	0						
Chloromethane	2/15	9.7 - 12	10.8	SD103-101414X	11000	0	46000	0						
Methyl acetate	14/15	6.5 - 270	96.6	SD103-101414X	7800000	0	120000000	0						
GENERAL CHEMISTRY														
Oxidation-Reduction Potential (mV)	4/4	13 - 470	351	SD111-101314X-MAX										
pH (Standard Units)	4/4	6.6 - 7.3	6.92	SD114-101314X										

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
MADEP Bkg. - Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, May 2002. Includes data for natural soils and soils containing fill material.
Site Specific Bkg - Maximum concentration of contaminant detected in soil samples collected from within the Endicott Cemetery.
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected during June 2014 by Nobis Engineering.

Table 4-13
2011 and 2014 Sediment Data Summary by Property – Metals (mg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
15 PLEASANT STREET														
Aluminum	1/1	24100 - 24100	24100	SD-07 (0-1)	7700	1	110000	0	10000	1	10000	1	13900	1
Arsenic	1/1	20.4 - 20.4	20.4	SD-07 (0-1)	0.67	1	3	1	20	1	20	1	11.4	1
Barium	1/1	37.9 - 37.9	37.9	SD-07 (0-1)	1500	0	22000	0	50	0	50	0	21.2	1
Beryllium	1/1	1.6 - 1.6	1.6	SD-07 (0-1)	16	0	230	0	0.4	1	0.9	1	0.36	1
Cadmium	1/1	0.41 - 0.41	0.41	SD-07 (0-1)	7	0	98	0	2	0	3	0		
Calcium	1/1	4960 - 4960	4960	SD-07 (0-1)									867	1
Chromium	1/1	89.6 - 89.6	89.6	SD-07 (0-1)	12000	0	180000	0	30	1	40	1	17.3	1
Chromium-Hexavalent	1/1	1.7 - 1.7	1.7	SD-07 (0-1)	0.3	1	6.3	0	30	0	40	0		
Cobalt	1/1	10.7 - 10.7	10.7	SD-07 (0-1)	2.3	1	35	0	4	1	4	1	6.2	1
Copper	1/1	29.5 - 29.5	29.5	SD-07 (0-1)	310	0	4700	0	40	0	200	0	9	1
Iron	1/1	31900 - 31900	31900	SD-07 (0-1)	5500	1	82000	0	20000	1	20000	1	12500	1
Lead	1/1	39.5 - 39.5	39.5	SD-07 (0-1)	400	0	800	0	100	0	600	0	64.5	0
Magnesium	1/1	8790 - 8790	8790	SD-07 (0-1)					5000	1	5000	1	3170	1
Manganese	1/1	311 - 311	311	SD-07 (0-1)	180	1	2600	0	300	1	300	1	170	1
Mercury	1/1	0.061 - 0.061	0.061	SD-07 (0-1)	0.94	0	4	0	0.3	0	1	0	0.04	1
Nickel	1/1	26.1 - 26.1	26.1	SD-07 (0-1)	150	0	2200	0	20	1	30	0	13.7	1
Potassium	1/1	4250 - 4250	4250	SD-07 (0-1)									448	1
Sodium	1/1	3820 - 3820	3820	SD-07 (0-1)										
Vanadium	1/1	51.9 - 51.9	51.9	SD-07 (0-1)	39	1	580	0	30	1	30	1	22.4	1
Zinc	1/1	77.5 - 77.5	77.5	SD-07 (0-1)	2300	0	35000	0	100	0	300	0	53.7	1
20 CHEEVER STREET														
Aluminum	11/11	7600 - 21900	12600	SD-13 (0.5-1)	7700	10	110000	0	10000	7	10000	7	13900	4
Antimony	1/6	0.48 - 0.48	0.48	SD101-101514X	3.1	0	47	0	1	0	7	0		
Arsenic	11/11	10.6 - 126	45.9	SD-15 (0.8-1.2)	0.67	11	3	11	20	9	20	9	11.4	10
Barium	11/11	19.4 - 50.1	33.3	SD-13 (0.5-1)	1500	0	22000	0	50	1	50	1	21.2	10
Beryllium	11/11	0.61 - 1.7	0.942	SD-13 (0.5-1)	16	0	230	0	0.4	11	0.9	4	0.36	11
Cadmium	11/11	0.19 - 1.4	0.727	SD-13 (0.5-1)	7	0	98	0	2	0	3	0		
Calcium	11/11	1180 - 9710	3610	SD-18 (0-1)-MAX									867	11
Chromium	11/11	47.3 - 1110	590	SD-13 (0.5-1)	12000	0	180000	0	30	11	40	11	17.3	11
Chromium-Hexavalent	4/5	0.54 - 3.7	2.08	SD-17 (1-1.5)	0.3	4	6.3	0	30	0	40	0		
Cobalt	11/11	4.7 - 10.6	7.11	SD-13 (0.5-1)	2.3	11	35	0	4	11	4	11	6.2	8
Copper	11/11	23.4 - 429	84.5	SD104-101414X	310	1	4700	0	40	8	200	1	9	11
Iron	11/11	16700 - 34100	22600	SD-13 (0.5-1)	5500	11	82000	0	20000	8	20000	8	12500	11
Lead	11/11	65.2 - 260	123	SD-13 (0.5-1)	400	0	800	0	100	7	600	0	64.5	11
Magnesium	11/11	4090 - 9560	6460	SD-13 (0.5-1)					5000	9	5000	9	3170	11
Manganese	11/11	121 - 1130	402	SD103-101414X	180	8	2600	0	300	3	300	3	170	9
Mercury	11/11	0.11 - 9.3	2.35	SD-15 (0.8-1.2)	0.94	9	4	1	0.3	10	1	9	0.04	11
Nickel	11/11	14.6 - 28.4	18.9	SD-13 (0.5-1)	150	0	2200	0	20	3	30	0	13.7	11
Potassium	11/11	1450 - 4250	2650	SD-13 (0.5-1)									448	11
Selenium	1/11	1.8 - 1.8	1.8	SD-13 (0.5-1)	39	0	580	0	0.5	1	1	1		
Silver	2/11	0.056 - 0.21	0.133	SD-13 (0.5-1)	39	0	580	0	0.6	0	5	0		
Sodium	11/11	4140 - 28300	11400	SD102-101414X										
Vanadium	11/11	28.1 - 84	43.8	SD-13 (0.5-1)	39	5	580	0	30	9	30	9	22.4	11
Zinc	11/11	69.6 - 161	125	SD104-101414X	2300	0	35000	0	100	9	300	0	53.7	11
45 WATER STREET														
Aluminum	1/1	10900 - 10900	10900	SD115-101314X	7700	1	110000	0	10000	1	10000	1	13900	0
Antimony	1/1	0.63 - 0.63	0.63	SD115-101314X	3.1	0	47	0	1	0	7	0		
Arsenic	1/1	7 - 7	7	SD115-101314X	0.67	1	3	1	20	0	20	0	11.4	0
Barium	1/1	23.3 - 23.3	23.3	SD115-101314X	1500	0	22000	0	50	0	50	0	21.2	1
Beryllium	1/1	0.61 - 0.61	0.61	SD115-101314X	16	0	230	0	0.4	1	0.9	0	0.36	1
Cadmium	1/1	0.48 - 0.48	0.48	SD115-101314X	7	0	98	0	2	0	3	0		
Calcium	1/1	2760 - 2760	2760	SD115-101314X									867	1
Chromium	1/1	45.7 - 45.7	45.7	SD115-101314X	12000	0	180000	0	30	1	40	1	17.3	1
Cobalt	1/1	6 - 6	6	SD115-101314X	2.3	1	35	0	4	1	4	1	6.2	0

Table 4-13
2011 and 2014 Sediment Data Summary by Property – Metals (mg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Copper	1/1	12.5 - 12.5	12.5	SD115-101314X	310	0	4700	0	40	0	200	0	9	1
Iron	1/1	19700 - 19700	19700	SD115-101314X	5500	1	82000	0	20000	0	20000	0	12500	1
Lead	1/1	11.7 - 11.7	11.7	SD115-101314X	400	0	800	0	100	0	600	0	64.5	0
Magnesium	1/1	7730 - 7730	7730	SD115-101314X					5000	1	5000	1	3170	1
Manganese	1/1	164 - 164	164	SD115-101314X	180	0	2600	0	300	0	300	0	170	0
Nickel	1/1	22.4 - 22.4	22.4	SD115-101314X	150	0	2200	0	20	1	30	0	13.7	1
Potassium	1/1	3830 - 3830	3830	SD115-101314X									448	1
Selenium	1/1	1.1 - 1.1	1.1	SD115-101314X	39	0	580	0	0.5	1	1	1		
Sodium	1/1	19300 - 19300	19300	SD115-101314X										
Vanadium	1/1	47.7 - 47.7	47.7	SD115-101314X	39	1	580	0	30	1	30	1	22.4	1
Zinc	1/1	50.9 - 50.9	50.9	SD115-101314X	2300	0	35000	0	100	0	300	0	53.7	0
MBTA ROW														
Aluminum	13/13	4400 - 20300	11600	SD-19 (0-1)	7700	10	110000	0	10000	8	10000	8	13900	3
Antimony	1/8	3.1 - 3.1	3.1	SD110-101314X	3.1	0	47	0	1	1	7	0		
Arsenic	12/13	15.5 - 882	115	SD107-101414X	0.67	12	3	12	20	11	20	11	11.4	12
Barium	13/13	27 - 202	55.6	SD109-101314X	1500	0	22000	0	50	5	50	5	21.2	13
Beryllium	13/13	0.49 - 1.5	0.861	SD-19 (0-1)	16	0	230	0	0.4	13	0.9	6	0.36	13
Cadmium	13/13	0.22 - 3.1	1.04	SD110-101314X	7	0	98	0	2	2	3	1		
Calcium	13/13	1410 - 6810	3550	SD-19 (0-1)									867	13
Chromium	13/13	222 - 2810	1200	SD-60 (0-1)	12000	0	180000	0	30	13	40	13	17.3	13
Chromium-Hexavalent	2/3	1.5 - 1.6	1.55	SD-20 (0-1)	0.3	2	6.3	0	30	0	40	0		
Cobalt	13/13	3.8 - 11.2	7.35	SD107-101414X	2.3	13	35	0	4	12	4	12	6.2	8
Copper	13/13	31.3 - 284	98	SD109-101314X	310	0	4700	0	40	11	200	1	9	13
Iron	13/13	12900 - 40500	27800	SD108-101414X	5500	13	82000	0	20000	12	20000	12	12500	13
Lead	13/13	56.1 - 652	210	SD108-101414X	400	1	800	0	100	11	600	1	64.5	12
Magnesium	13/13	2580 - 9380	6370	SD111-101314X-MAX					5000	8	5000	8	3170	12
Manganese	13/13	97 - 1110	353	SD107-101414X	180	9	2600	0	300	6	300	6	170	11
Mercury	13/13	0.35 - 3.4	1.99	SD-20 (0-1)	0.94	11	4	0	0.3	13	1	11	0.04	13
Nickel	13/13	12.2 - 35.6	22	SD110-101314X	150	0	2200	0	20	7	30	2	13.7	12
Potassium	13/13	506 - 3900	2280	SD-19 (0-1)									448	13
Selenium	9/13	0.38 - 84.4	11.2	SD110-101314X	39	1	580	0	0.5	8	1	7		
Silver	2/13	0.24 - 0.59	0.415	SD-19 (0-1)	39	0	580	0	0.6	0	5	0		
Sodium	13/13	2140 - 23400	9880	SD111-101314X-MAX										
Vanadium	13/13	22.2 - 136	53.6	SD108-101414X	39	9	580	0	30	11	30	11	22.4	12
Zinc	13/13	79.5 - 411	179	SD-19 (0-1)	2300	0	35000	0	100	10	300	1	53.7	13

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
MADEP Bkg. - Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, May 2002. Includes data for natural soils and soils containing fill material.
Site Specific Bkg - Maximum concentration of contaminant detected in soil samples collected from within the Endicott Cemetery
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-14
2011 and 2014 Sediment Data Summary by Property – SVOCs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
15 PLEASANT STREET												
Anthracene	1/1	87 - 87	87	SD-07 (0-1)	1700000	0	23000000	0	1000	0	4000	0
Benzo(a)anthracene	1/1	380 - 380	380	SD-07 (0-1)	150	1	2900	0	2000	0	9000	0
Benzo(a)pyrene	1/1	290 - 290	290	SD-07 (0-1)	15	1	290	0	2000	0	7000	0
Benzo(b)fluoranthene	1/1	350 - 350	350	SD-07 (0-1)	150	1	2900	0	2000	0	8000	0
Benzo(g,h,i)perylene	1/1	120 - 120	120	SD-07 (0-1)					1000	0	3000	0
Benzo(k)fluoranthene	1/1	210 - 210	210	SD-07 (0-1)	1500	0	29000	0	1000	0	4000	0
Chrysene	1/1	310 - 310	310	SD-07 (0-1)	15000	0	290000	0	2000	0	7000	0
Dimethylphthalate	1/1	140 - 140	140	SD-07 (0-1)								
Fluoranthene	1/1	520 - 520	520	SD-07 (0-1)	230000	0	3000000	0	4000	0	10000	0
Indeno(1,2,3-cd)pyrene	1/1	140 - 140	140	SD-07 (0-1)	150	0	2900	0	1000	0	3000	0
Phenanthrene	1/1	120 - 120	120	SD-07 (0-1)					3000	0	20000	0
Pyrene	1/1	520 - 520	520	SD-07 (0-1)	170000	0	2300000	0	4000	0	20000	0
20 CHEEVER STREET												
2-Methylnaphthalene	4/11	6.3 - 10	7.72	SD102-101414X	23000	0	300000	0	500	0	1000	0
Acenaphthene	6/11	5.5 - 27	12.6	SD102-101414X	350000	0	4500000	0	500	0	2000	0
Acenaphthylene	11/11	43 - 410	142	SD-13 (0.5-1)					500	0	1000	0
Anthracene	11/11	64 - 740	260	SD102-101414X	1700000	0	23000000	0	1000	0	4000	0
Benzo(a)anthracene	11/11	210 - 1900	820	SD-13 (0.5-1)	150	11	2900	0	2000	0	9000	0
Benzo(a)pyrene	11/11	230 - 1900	711	SD-13 (0.5-1)	15	11	290	7	2000	0	7000	0
Benzo(b)fluoranthene	11/11	290 - 2700	875	SD-13 (0.5-1)	150	11	2900	0	2000	1	8000	0
Benzo(g,h,i)perylene	11/11	130 - 1100	367	SD-13 (0.5-1)					1000	1	3000	0
Benzo(k)fluoranthene	11/11	98 - 1200	491	SD-11 (0-1)	1500	0	29000	0	1000	1	4000	0
Bis(2-ethylhexyl)phthalate	7/11	91 - 2000	411	SD-13 (0.5-1)	38000	0	160000	0				
Butylbenzylphthalate	2/11	100 - 380	240	SD102-101414X	280000	0	1200000	0				
Carbazole	1/11	100 - 100	100	SD-13 (0.5-1)								
Chrysene	11/11	250 - 2000	767	SD-13 (0.5-1)	15000	0	290000	0	2000	0	7000	0
Di-N-Butylphthalate	7/11	99 - 2000	871	SD102-101414X	620000	0	8200000	0				
Dibenz(a,h)anthracene	10/11	30 - 310	107	SD-13 (0.5-1)	15	10	290	1	500	0	1000	0
Dimethylphthalate	1/11	210 - 210	210	SD-11 (0-1)								
Fluoranthene	11/11	430 - 3800	1400	SD-13 (0.5-1)	230000	0	3000000	0	4000	0	10000	0
Fluorene	10/11	15 - 140	62.5	SD-13 (0.5-1)	230000	0	3000000	0	1000	0	2000	0
Indeno(1,2,3-cd)pyrene	11/11	130 - 1200	397	SD-13 (0.5-1)	150	9	2900	0	1000	1	3000	0
Naphthalene	7/11	7.1 - 110	30.2	SD-11 (0-1)	3800	0	17000	0	500	0	1000	0
Phenanthrene	11/11	160 - 1500	581	SD-13 (0.5-1)					3000	0	20000	0
Pyrene	11/11	380 - 3000	1440	SD-13 (0.5-1)	170000	0	2300000	0	4000	0	20000	0

Table 4-14
2011 and 2014 Sediment Data Summary by Property – SVOCs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		MADEP Bkg-Natural		MADEP Bkg-Ash Fill	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
45 WATER STREET												
Benzo(a)anthracene	1/1	9.5 - 9.5	9.5	SD115-101314X	150	0	2900	0	2000	0	9000	0
Chrysene	1/1	6.8 - 6.8	6.8	SD115-101314X	15000	0	290000	0	2000	0	7000	0
Di-N-Butylphthalate	1/1	930 - 930	930	SD115-101314X	620000	0	8200000	0				
Fluoranthene	1/1	12 - 12	12	SD115-101314X	230000	0	3000000	0	4000	0	10000	0
Pyrene	1/1	14 - 14	14	SD115-101314X	170000	0	2300000	0	4000	0	20000	0
MBTA ROW												
2-Methylnaphthalene	7/11	5.8 - 42	14.7	SD109-101314X	23000	0	300000	0	500	0	1000	0
Acenaphthene	9/11	6.8 - 110	35.1	SD109-101314X	350000	0	4500000	0	500	0	2000	0
Acenaphthylene	10/11	35 - 260	141	SD-20 (0-1)					500	0	1000	0
Anthracene	11/11	48 - 440	209	SD109-101314X	1700000	0	23000000	0	1000	0	4000	0
Benzo(a)anthracene	11/11	130 - 1600	721	SD-20 (0-1)	150	10	2900	0	2000	0	9000	0
Benzo(a)pyrene	11/11	70 - 1300	610	SD-20 (0-1)	15	11	290	8	2000	0	7000	0
Benzo(b)fluoranthene	11/11	65 - 1800	852	SD109-101314X	150	10	2900	0	2000	0	8000	0
Benzo(g,h,i)perylene	11/11	43 - 770	353	SD-19 (0-1)					1000	0	3000	0
Benzo(k)fluoranthene	11/11	63 - 910	381	SD-20 (0-1)	1500	0	29000	0	1000	0	4000	0
Bis(2-ethylhexyl)phthalate	8/11	88 - 2300	966	SD-20 (0-1)	38000	0	160000	0				
Carbazole	3/11	71 - 240	134	SD109-101314X								
Chrysene	11/11	110 - 1500	752	SD-19 (0-1), SD-20 (0-1), SD109-101314X	15000	0	290000	0	2000	0	7000	0
Di-N-Butylphthalate	9/11	75 - 1100	663	SD110-101314X	620000	0	8200000	0				
Dibenz(a,h)anthracene	10/11	11 - 220	93.7	SD-20 (0-1)	15	9	290	0	500	0	1000	0
Dibenzofuran	2/11	43 - 110	76.5	SD109-101314X	7200	0	100000	0				
Fluoranthene	11/11	210 - 2700	1350	SD109-101314X	230000	0	3000000	0	4000	0	10000	0
Fluorene	10/11	12 - 150	63.6	SD109-101314X	230000	0	3000000	0	1000	0	2000	0
Indeno(1,2,3-cd)pyrene	11/11	41 - 790	367	SD-19 (0-1), SD-20 (0-1)	150	9	2900	0	1000	0	3000	0
Naphthalene	10/11	9 - 78	33.5	SD-20 (0-1)	3800	0	17000	0	500	0	1000	0
Pentachlorophenol	3/11	17 - 51	33.7	SD109-101314X	990	0	4000	0				
Phenanthrene	11/11	100 - 2200	734	SD109-101314X					3000	0	20000	0
Pyrene	11/11	210 - 2800	1390	SD109-101314X	170000	0	2300000	0	4000	0	20000	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
MADEP Bkg. - Background Levels of Polycyclic Aromatic Hydrocarbons and Metals in Soil, May 2002. Includes data for natural soils and soils containing fill material.
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-15
2011 and 2014 Sediment Data Summary by Property – Dioxins and Furans (ng/Kg)
Creese & Cook Tannery (Former)
Danverse, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
15 PLEASANT STREET										
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	1/1	1430 - 1430	1430	SD-07 (0-1)					1440	0
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	1/1	5.93 - 5.93	5.93	SD-07 (0-1)					3.05	1
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	1/1	38 - 38	38	SD-07 (0-1)					592	0
1,2,3,4,6,7,8-Heptachlorodibenzofuran	1/1	5.05 - 5.05	5.05	SD-07 (0-1)					1.77	1
1,2,3,4,7,8,9-Heptachlorodibenzofuran	1/1	0.241 - 0.241	0.241	SD-07 (0-1)						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	1/1	0.335 - 0.335	0.335	SD-07 (0-1)						
1,2,3,4,7,8-Hexachlorodibenzofuran	1/1	0.372 - 0.372	0.372	SD-07 (0-1)						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	1/1	12.7 - 12.7	12.7	SD-07 (0-1)						
1,2,3,6,7,8-Hexachlorodibenzofuran	1/1	0.169 - 0.169	0.169	SD-07 (0-1)						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	1/1	1.26 - 1.26	1.26	SD-07 (0-1)						
2,3,4,6,7,8-Hexachlorodibenzofuran	1/1	0.239 - 0.239	0.239	SD-07 (0-1)						
2,3,4,7,8-Pentachlorodibenzofuran	1/1	0.197 - 0.197	0.197	SD-07 (0-1)						
2,3,7,8-Tetrachlorodibenzofuran	1/1	0.408 - 0.408	0.408	SD-07 (0-1)						
Dioxin/Furan - Toxic Equivalent	1/1	2.47 - 2.47	2.47	SD-07 (0-1)	4.9	0	22	0	0.663	1
20 CHEEVER STREET										
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	6/6	3460 - 18200	10800	SD-17 (1-1.5)					1440	6
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	6/6	106 - 602	301	SD-13 (0.5-1)					3.05	6
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	6/6	365 - 2000	986	SD-13 (0.5-1)					592	4
1,2,3,4,6,7,8-Heptachlorodibenzofuran	6/6	92 - 451	233	SD-13 (0.5-1)					1.77	6
1,2,3,4,7,8,9-Heptachlorodibenzofuran	6/6	3.6 - 17.7	9.06	SD-13 (0.5-1)						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	6/6	3.1 - 18.3	7.89	SD-13 (0.5-1)						
1,2,3,4,7,8-Hexachlorodibenzofuran	6/6	5.38 - 28	15.1	SD-13 (0.5-1)						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	6/6	15 - 76.5	37.4	SD-13 (0.5-1)						
1,2,3,6,7,8-Hexachlorodibenzofuran	6/6	3.17 - 15.4	8.02	SD-13 (0.5-1)						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	6/6	8.92 - 61.2	26.2	SD-13 (0.5-1)						
1,2,3,7,8,9-Hexachlorodibenzofuran	6/6	0.14 - 0.67	0.378	SD-13 (0.5-1)						
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	6/6	1.81 - 9.63	4.39	SD-13 (0.5-1)						
1,2,3,7,8-Pentachlorodibenzofuran	6/6	0.949 - 5.28	2.8	SD-13 (0.5-1)						
2,3,4,6,7,8-Hexachlorodibenzofuran	6/6	2.75 - 14.5	7.35	SD-13 (0.5-1)						
2,3,4,7,8-Pentachlorodibenzofuran	6/6	1.65 - 8.31	4.47	SD-13 (0.5-1)						
2,3,7,8-Tetrachlorodibenzo-p-dioxin	6/6	0.761 - 3.77	1.76	SD-13 (0.5-1)	4.9	0	22	0		
2,3,7,8-Tetrachlorodibenzofuran	6/6	3.59 - 16.8	9.14	SD-13 (0.5-1)						
Heptachlorodibenzo-p-dioxin (total)	1/1	1900 - 1900	1900	SD103-101414X						
Heptachlorodibenzofuran (total)	1/1	468 - 468	468	SD103-101414X						
Hexachlorodibenzo-p-dioxin (total)	1/1	349 - 349	349	SD103-101414X	100	1	470	0		
Hexachlorodibenzofuran (total)	1/1	218 - 218	218	SD103-101414X						

Table 4-15
2011 and 2014 Sediment Data Summary by Property – Dioxins and Furans (ng/Kg)
Creese & Cook Tannery (Former)
Danverse, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND		Site Specific Bkg	
					Action Level	# Exceeds	Action Level	# Exceeds	Action Level	# Exceeds
Pentachlorodibenzo-p-dioxin (total)	1/1	48 - 48	48	SD103-101414X						
Pentachlorodibenzofuran (total)	1/1	58.8 - 58.8	58.8	SD103-101414X						
Tetrachlorodibenzo(p)dioxin (total)	1/1	15.7 - 15.7	15.7	SD103-101414X						
Tetrachlorodibenzofuran (total)	1/1	75.9 - 75.9	75.9	SD103-101414X						
Dioxin/Furan - Toxic Equivalent	6/6	13.1 - 69.2	34.3	SD-13 (0.5-1)	4.9	6	22	4	0.663	6
MBTA ROW										
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	6/6	1740 - 44200	14500	SD-60 (0-1)					1440	6
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	6/6	58.8 - 10200	2110	SD-60 (0-1)					3.05	6
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	6/6	190 - 6400	1900	SD-60 (0-1)					592	3
1,2,3,4,6,7,8-Heptachlorodibenzofuran	6/6	37.3 - 4850	1110	SD-60 (0-1)					1.77	6
1,2,3,4,7,8,9-Heptachlorodibenzofuran	6/6	1.82 - 1420	248	SD-60 (0-1)						
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	5/6	1.36 - 56.4	17.1	SD-60 (0-1)						
1,2,3,4,7,8-Hexachlorodibenzofuran	6/6	1.39 - 981	180	SD-60 (0-1)						
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	6/6	4.96 - 255	87.8	SD-60 (0-1)						
1,2,3,6,7,8-Hexachlorodibenzofuran	6/6	1.4 - 715	127	SD-60 (0-1)						
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	6/6	4.01 - 103	35.7	SD-60 (0-1)						
1,2,3,7,8,9-Hexachlorodibenzofuran	5/6	0.0705 - 438	87.9	SD-60 (0-1)						
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	5/6	0.765 - 17	7.01	SD-60 (0-1)						
1,2,3,7,8-Pentachlorodibenzofuran	5/6	0.489 - 198	41.9	SD-60 (0-1)						
2,3,4,6,7,8-Hexachlorodibenzofuran	6/6	1.34 - 494	89	SD-60 (0-1)						
2,3,4,7,8-Pentachlorodibenzofuran	6/6	0.816 - 271	49	SD-60 (0-1)						
2,3,7,8-Tetrachlorodibenzo-p-dioxin	6/6	0.248 - 9.68	2.89	SD-60 (0-1)	4.9	1	22	0		
2,3,7,8-Tetrachlorodibenzofuran	6/6	0.545 - 45.3	13.7	SD-60 (0-1)						
Heptachlorodibenzo-p-dioxin (total)	1/1	756 - 756	756	SD114-101314X						
Heptachlorodibenzofuran (total)	1/1	177 - 177	177	SD114-101314X						
Hexachlorodibenzo-p-dioxin (total)	1/1	133 - 133	133	SD114-101314X	100	1	470	0		
Hexachlorodibenzofuran (total)	1/1	84.9 - 84.9	84.9	SD114-101314X						
Pentachlorodibenzo-p-dioxin (total)	1/1	16.7 - 16.7	16.7	SD114-101314X						
Pentachlorodibenzofuran (total)	1/1	27 - 27	27	SD114-101314X						
Tetrachlorodibenzo(p)dioxin (total)	1/1	5.68 - 5.68	5.68	SD114-101314X						
Tetrachlorodibenzofuran (total)	1/1	37.8 - 37.8	37.8	SD114-101314X						
Dioxin/Furan - Toxic Equivalent	6/6	5.39 - 566	124	SD-60 (0-1)	4.9	6	22	3	0.663	6

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
Site Specific Bkg - Maximum concentration of contaminant detected in soil samples collected from within the Endicott Cemetery
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-16
2011 and 2014 Sediment Data Summary by Property – Pesticides and PCBs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND	
					Action Level	# Exceeds	Action Level	# Exceeds
15 PLEASANT STREET								
Aroclor 1254	1/1	100 - 100	100	SD-07 (0-1)	110	0	1000	0
20 CHEEVER STREET								
Alpha-Chlordane	1/6	13 - 13	13	SD102-101414X				
gamma-Chlordane	1/6	9.1 - 9.1	9.1	SD102-101414X				
Aroclor 1242	1/11	2200 - 2200	2200	SD-11 (0-1)	240	1	1000	1
Aroclor 1254	1/11	1300 - 1300	1300	SD-11 (0-1)	110	1	1000	1
MBTA ROW								
4,4'-DDT	1/8	6.9 - 6.9	6.9	SD109-101314X	1900	0	8600	0
Endrin Ketone	2/8	6.6 - 16	11.3	SD112-101314X				
Aroclor 1254	1/11	130 - 130	130	SD-19 (0-1)	110	1	1000	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 4-17
2011 and 2014 Sediment Data Summary by Property – VOCs (µg/Kg)
Creese & Cook Tannery (Former)
Danvers, Massachusetts

PARAMETER	Freq. Detect	Range of Detects	Mean	Location of Max.	EPA-RSL-RES		EPA-RSL-IND	
					Action Level	# Exceeds	Action Level	# Exceeds
20 CHEEVER STREET								
2-Butanone	3/6	30 - 130	67.3	SD103-101414X	2700000	0	19000000	0
Acetone	6/6	53 - 430	207	SD103-101414X	6100000	0	67000000	0
Carbon disulfide	4/6	7.1 - 35	18.6	SD105-101414X	77000	0	350000	0
Chloromethane	1/6	12 - 12	12	SD103-101414X	11000	0	46000	0
Methyl acetate	6/6	6.5 - 270	113	SD103-101414X	7800000	0	120000000	0
45 WATER STREET								
Acetone	1/1	110 - 110	110	SD115-101314X	6100000	0	67000000	0
Carbon disulfide	1/1	18 - 18	18	SD115-101314X	77000	0	350000	0
Methyl acetate	1/1	27 - 27	27	SD115-101314X	7800000	0	120000000	0
MBTA ROW								
2-Butanone	2/8	18 - 20	19	SD112-101314X	2700000	0	19000000	0
Acetone	6/8	100 - 530	202	SD108-101414X	6100000	0	67000000	0
Carbon disulfide	1/8	5.5 - 5.5	5.5	SD112-101314X	77000	0	350000	0
Chloromethane	1/8	9.7 - 9.7	9.7	SD108-101414X	11000	0	46000	0
Methyl acetate	7/8	13 - 230	92.7	SD111-101314X-MAX	7800000	0	120000000	0

Notes:
EPA-RSLs - EPA Regional Screening Levels for Residential (RES) or Commercial/Industrial (IND) soils, November 2014
Exceeds: number of samples with concentrations exceeding that criterion.
Statistics represent results of surface and subsurface soil samples collected in 2011 and 2014 grouped by property.

Table 5-1
Current Exposure Human Health Risk Evaluation Sample List
Residential Surface Soil
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Sample location	Sample identification
33WS-03	33WS-SS03-0001-061314X
33WS-04	33WS-SS04-0001-061314X
33WS-06	33WS-SS06-0001-061614X
33WS-07	33WS-SS07-0001-061214X-MAX
33WS-08	33WS-SS08-0001-061714X-MAX
33WS-09	33WS-SS09-0001-061714X
33WS-10	33WS-SS10-0001-061814X
33WS-12	33WS-SS12-0001-061614X
35WS-01	35WS-SS01-0001-061114X
45WS-02	45WS-SS02-0001-061014X-MAX
45WS-03	45WS-SS03-0001-061014X
ROW-19	ROW-SS19-0001-061114X
ROW-20	ROW-SS20-0001-061014X
ROW-21	ROW-SS21-0001-060914X
ROW-22	ROW-SS22-0001-062514X
ROW-23	ROW-SS23-0001-062514X
SB-07	SB-07A (0.5-1.7)
SS-02	SS-02A (0-1)
SS-03	SS-03A (0.3-1)
SS-04	SS-04A (0-1)
SS-05	SS-05A (0.5-1.7)
SS-06	SS-06A (0-2)
SS-07	SS-07A (0.5-1.7)
SS-08	SS-08A (0-1)
SS-10	SS-10A (0.5-2)
SS-11	SS-11A (0-1)
SS-17	SS-17A (0-1.5)
SS-18	SS-18A (0-1)
SS-22	SS-22A (0-1)

Table 5-2
COPC Selection - Current Exposure Human Health Risk Evaluation - Residential Surface Soil
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Parameter	Units	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Mean	Location of Maximum Detected Concentration	COPC selection RSL (HQ=0.1 or CR=10^{-6})	COPC Yes or No
							(1)	(2)
DIOXINS/FURANS								
Dioxin/Furan - Toxic Equivalent	ng/Kg	17/17	0.0577	305	48.8	45WS-SS03-0001-061014X	4.9	**yes**
METALS								
Aluminum	mg/kg	29/29	5200	22400	10400	SS-22A (0-1)	7700	**yes**
Antimony	mg/kg	1/21	0.24	0.24	0.949	ROW-SS23-0001-062514X	3.1	no
Arsenic	mg/kg	29/29	7.7	75.6	24.4	ROW-SS21-0001-060914X	0.67	**yes**
Barium	mg/kg	29/29	22.7	92.5	54.4	45WS-SS03-0001-061014X	1500	no
Beryllium	mg/kg	29/29	0.38	1.6	0.675	SS-22A (0-1)	16	no
Cadmium	mg/kg	28/29	0.028	0.95	0.393	45WS-SS03-0001-061014X	7	no
Calcium	mg/kg	29/29	1620	5200	2890	SS-05A (0.5-1.7)	NA	no
Chromium	mg/kg	29/29	20.9	959	258	45WS-SS03-0001-061014X	12000	no
Chromium-Hexavalent	mg/kg	10/10	1	26	5.79	ROW-SS23-0001-062514X	0.3	**yes**
Cobalt	mg/kg	29/29	3	14.6	7.45	SS-18A (0-1)	2.3	**yes**
Copper	mg/kg	29/29	9.2	56.8	24.7	33WS-SS08-0001-061714X-MAX	310	no
Iron	mg/kg	29/29	9560	27700	17200	SS-22A (0-1)	5500	**yes**
Lead	mg/kg	29/29	12.5	285	102	45WS-SS03-0001-061014X	400	no
Magnesium	mg/kg	29/29	1760	9070	3970	SS-04A (0-1)	NA	no
Manganese	mg/kg	29/29	106	754	305	33WS-SS08-0001-061714X-MAX	180	**yes**
Mercury	mg/kg	28/29	0.039	7.2	0.492	SS-06A (0-2)	0.94	**yes**
Nickel	mg/kg	29/29	10.8	33.8	18.4	SS-04A (0-1)	150	no
Potassium	mg/kg	28/29	229	3160	782	SS-22A (0-1)	NA	no
Selenium	mg/kg	10/23	0.048	2.7	1.07	ROW-SS23-0001-062514X	39	no
Silver	mg/kg	10/29	0.23	0.45	0.402	SS-10A (0.5-2)	39	no
Sodium	mg/kg	18/21	93.4	478	161	SS-05A (0.5-1.7)	NA	no
Thallium	mg/kg	14/16	0.068	0.12	0.116	33WS-SS03-0001-061314X, 33WS-SS04-0001-061314X, 33WS-SS09-0001-061714X, 33WS-SS12-0001-061614X, 45WS-SS03-0001-061014X	0.078	**yes**
Vanadium	mg/kg	29/29	12.7	52.8	30.5	SS-22A (0-1)	39	**yes**
Zinc	mg/kg	29/29	23.3	147	78.3	45WS-SS03-0001-061014X	2300	no
PESTICIDES/PCBS								
4,4'-DDD	µg/kg	6/26	1.5	21	3.8	ROW-SS19-0001-061114X	2200	no
4,4'-DDE	µg/kg	7/23	2.2	35	4.99	45WS-SS03-0001-061014X	1600	no
4,4'-DDT	µg/kg	20/27	2	98	11.6	45WS-SS03-0001-061014X	1900	no
Aldrin	µg/kg	1/28	2	2	1.02	ROW-SS19-0001-061114X	31	no

Table 5-2
COPC Selection - Current Exposure Human Health Risk Evaluation - Residential Surface Soil
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Parameter	Units	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Mean	Location of Maximum Detected Concentration	COPC selection RSL (HQ=0.1 or CR=10^{-6})	COPC Yes or No
							(1)	(2)
Alpha-Chlordane	µg/kg	2/28	1.3	2.9	1.06	ROW-SS23-0001-062514X	NA	no
Aroclor 1248	µg/kg	3/29	40	420	39.7	SS-07A (0.5-1.7)	240	**yes**
Aroclor 1260	µg/kg	3/29	85	200	30.7	45WS-SS03-0001-061014X	240	no
beta-BHC	µg/kg	4/29	2.2	8.6	1.5	SS-07A (0.5-1.7)	300	no
Endosulfan I	µg/kg	1/29	3.3	3.3	1.06	SS-02A (0-1)	NA	no
Endosulfan Sulfate	µg/kg	6/25	3.2	30	4.76	ROW-SS19-0001-061114X	NA	no
Endrin Aldehyde	µg/kg	9/27	6.3	22	4.73	ROW-SS20-0001-061014X	NA	no
Endrin Ketone	µg/kg	11/26	3.3	39	8.7	SS-18A (0-1)	NA	no
gamma-BHC (Lindane)	µg/kg	1/28	1.6	1.6	1	SS-04A (0-1)	560	no
gamma-Chlordane	µg/kg	6/20	2.5	14	2.69	33WS-SS07-0001-061214X-MAX	NA	no
Heptachlor	µg/kg	1/15	2.1	2.1	1.04	SS-07A (0.5-1.7)	120	no
Heptachlor Epoxide	µg/kg	3/26	2.5	19	1.91	SS-07A (0.5-1.7)	59	no
Methoxychlor	µg/kg	1/27	26	26	10.4	ROW-SS23-0001-062514X	31000	no
SVOCs								
1,1'-Biphenyl	µg/kg	1/29	220	220	103	SS-18A (0-1)	4700	no
2-Methylnaphthalene	µg/kg	20/29	2.6	750	79.4	SS-18A (0-1)	23000	no
4-Methylphenol	µg/kg	2/29	71	80	96.9	SS-18A (0-1)	620000	no
Acenaphthene	µg/kg	20/29	2.5	6100	300	SS-18A (0-1)	350000	no
Acenaphthylene	µg/kg	21/29	14	1400	243	ROW-SS20-0001-061014X	NA	no
Acetophenone	µg/kg	7/29	46	240	101	ROW-SS19-0001-061114X	780000	no
Anthracene	µg/kg	26/29	4.7	9600	644	SS-18A (0-1)	1700000	no
Benzo(a)anthracene	µg/kg	29/29	36	30000	2400	SS-18A (0-1)	150	**yes**
Benzo(a)pyrene	µg/kg	29/29	43	18000	1880	SS-18A (0-1)	15	**yes**
Benzo(b)fluoranthene	µg/kg	29/29	65	37000	3070	SS-18A (0-1)	150	**yes**
Benzo(g,h,i)perylene	µg/kg	23/29	50	4400	774	ROW-SS20-0001-061014X	NA	no
Benzo(k)fluoranthene	µg/kg	29/29	45	14000	1230	SS-18A (0-1)	1500	**yes**
Bis(2-ethylhexyl)phthalate	µg/kg	25/29	47	270	103	33WS-SS04-0001-061314X	38000	no
Butylbenzylphthalate	µg/kg	1/29	55	55	97.1	45WS-SS03-0001-061014X	280000	no
Carbazole	µg/kg	16/29	37	6700	381	SS-18A (0-1)	NA	no
Chrysene	µg/kg	29/29	62	34000	2530	SS-18A (0-1)	15000	**yes**
Di-N-Butylphthalate	µg/kg	13/29	310	970	319	33WS-SS03-0001-061314X	620000	no
Dibenz(a,h)anthracene	µg/kg	24/29	14	3700	408	SS-18A (0-1)	15	**yes**
Dibenzofuran	µg/kg	10/29	38	2700	210	SS-18A (0-1)	7200	no
Fluoranthene	µg/kg	29/29	87	67000	4940	SS-18A (0-1)	230000	no
Fluorene	µg/kg	21/29	4.1	5500	307	SS-18A (0-1)	230000	no
Indeno(1,2,3-cd)pyrene	µg/kg	28/29	38	13000	1300	SS-18A (0-1)	150	**yes**
Naphthalene	µg/kg	21/29	6.6	1700	121	SS-18A (0-1)	3800	no

Table 5-2
COPC Selection - Current Exposure Human Health Risk Evaluation - Residential Surface Soil
Creese & Cook Tannery (Former)
Danvers, Massachusetts

Parameter	Units	Frequency of Detection	Minimum Detected Concentration	Maximum Detected Concentration	Mean	Location of Maximum Detected Concentration	COPC selection RSL (HQ=0.1 or CR=10^{-6}) (1)	COPC Yes or No (2)
Pentachlorophenol	µg/kg	11/29	4.1	62	92.7	33WS-SS09-0001-061714X	990	no
Phenanthrene	µg/kg	29/29	28	59000	3370	SS-18A (0-1)	NA	no
Phenol	µg/kg	2/29	50	75	96.4	ROW-SS19-0001-061114X	1800000	no
Pyrene	µg/kg	29/29	74	80000	5220	SS-18A (0-1)	170000	no
VOCs								
2-Butanone	µg/kg	6/29	13	47	9.18	33WS-SS10-0001-061814X	2700000	no
Acetone	µg/kg	28/29	30	470	136	33WS-SS10-0001-061814X	6100000	no
Methyl acetate	µg/kg	13/29	3.7	180	23	33WS-SS10-0001-061814X	7800000	no

Notes/sources:

Maximum detected concentration used for duplicate pairs

COPC = Contaminant of Potential Concern. **Bold, Yes** = parameter selected as COPC.

RSL = Regional Screening Level January 2015 for residential soils
HQ = Hazard Quotient
CR = Cancer Risk

(1) RSL based on lower of HQ=0.1 or cancer risk = $1x10^{-6}$. Lead screening value based on EPA IEUBK model.
(2) Contaminant selected as Contaminant of Potential Concern (COPC) if maximum detected concentration exceeds RSL and frequency of detect greater than 5%.

Table 5-3
Current Exposure Human Health Risk Evaluation Risk Calculations
Residential Surface Soil
Creese Cook Tannery (Former)
Danvers, Massachusetts

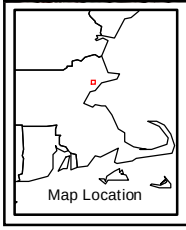
Contaminant of Potential Concern (1)	Units	Frequency of Detection	Maximum Detected Concentration	95%UCL on the mean	95%UCL Statistic	Site-Specific Background (2)	MassDEP Background Natural (3)	MassDEP Background Ash Fill (4)	Exposure Point Concentration (5)	Non-cancer based RSL (6)	Cancer based RSL (7)	Hazard Quotient / Index	Cancer Risk
DIOXINS/FURANS													
Dioxin/Furan - Toxic Equivalent	ng/Kg	17/17	305	113.1	95% Adjusted Gamma UCL	NA	NA	NA	113.1	51	4.9	2.22	2.3E-05
METALS													
Aluminum	mg/kg	29/29	22400	11475	95% Adjusted Gamma UCL	10700	10000	10000	11475	77000	NA	0.15	NA
Arsenic	mg/kg	29/29	75.6	40.21	95% Chebyshev (Mean, Sd) UCL	8.78	20	20	40.21	34	0.67	1.18	6.0E-05
Chromium-Hexavalent	mg/kg	10/10	26	14.58	95% H-UCL	NA	30	40	14.58	230	0.3	0.06	4.9E-05
Cobalt	mg/kg	29/29	14.6	8.231	95% Adjusted Gamma UCL	5.68	4	4	8.231	23	420	0.36	2.0E-08
Iron	mg/kg	29/29	27700	18522	95% Student's-t UCL	11200	20000	20000	18522	55000	NA	0.34	NA
Manganese	mg/kg	29/29	754	347.3	95% Adjusted Gamma UCL	155	300	300	347.3	1800	NA	0.19	NA
Mercury	mg/kg	28/29	7.2	1.545	95% KM (Chebyshev) UCL	0.0242	0.3	1	1.545	9.4	NA	0.16	NA
Thallium	mg/kg	14/16	0.12	0.111	95% KM (t) UCL	NA	0.6	5	0.111	0.78	NA	0.14	NA
Vanadium	mg/kg	29/29	52.8	33.04	95% Student's-t UCL	19.4	30	30	33.04	390	NA	0.08	NA
PESTICIDES/PCBS													
Aroclor 1248	µg/kg	3/29	420	81.93	95% KM (t) UCL	NA	NA	NA	81.93	NA	240	NA	3.4E-07
SVOCs													
Benzo(a)anthracene	µg/kg	29/29	30000	6991	95% Chebyshev (Mean, Sd) UCL	NA	2000	9000	6991	NA	150	NA	4.7E-05
Benzo(a)pyrene	µg/kg	29/29	18000	3205	95% Adjusted Gamma UCL	NA	2000	7000	3205	NA	15	NA	2.1E-04
Benzo(b)fluoranthene	µg/kg	29/29	37000	8884	95% Chebyshev (Mean, Sd) UCL	NA	2000	8000	8884	NA	410	NA	2.2E-05
Benzo(k)fluoranthene	µg/kg	29/29	14000	2444	95% H-UCL	NA	1000	4000	2444	NA	1500	NA	1.6E-06
Chrysene	µg/kg	29/29	34000	5308	95% H-UCL	NA	2000	7000	5308	NA	15000	NA	3.5E-07
Dibenz(a,h)anthracene	µg/kg	24/29	3700	1308	97.5% KM (Chebyshev) UCL	NA	500	1000	1308	NA	15	NA	8.7E-05
Indeno(1,2,3-cd)pyrene	µg/kg	28/29	13000	3441	95% KM (Chebyshev) UCL	NA	1000	3000	3441	NA	150	NA	2.3E-05
											Totals	4.9	5.3E-04

Notes/Sources:
Maximum detected concentration used for duplicate pairs
RSL = Regional Screening Level January 2015 for residential soils
(1) Contaminant of Potential Concern selected based on exceedances of RSLs with non-cancer RSL adjusted to HQ=0.1 (See Table 2)
(2) Average of Site-Specific Background Samples collected by Weston in 2011.
(3) MassDEP published state background levels for metals and PAHs for natural soils, May 2002.
(4) MassDEP published state background levels for metals and PAHs for soil containing fill, May 2002.
(5) 95%UCL on the mean calculated using ProUCL software version 5.0 used for Exposure Point Concentration (EPC).
(6) NC = Noncancer based screening value set at a target hazard quotient of 1.0, obtained from the Regional Screening Level (RSL) Table (January, 2015).
(7) C = Cancer based screening value set at a target risk of 1E-06, obtained from the Regional Screening Level (RSL) Table (January, 2015).
NA = Not Available.
NBA = no RSL available.
yellow highlighting indicates risk value for individual contaminant exceeds Hazard Quotient (HQ) = 1 or cancer risk = $1x10^{-4}$ **OR** Total exceeds Hazard Index (HI) = 3 or cancer risk = $1x10^{-4}$.
blue highlighting indicates background concentration exceeds EPC.

Organ-specific Hazard Indices

Total Developmental System HI	2.22
Total Skin HI	1.18
Total Nervous System HI	0.34
Total Thyroid HI	0.36
Total Gastrointestinal HI	0.34
Total Kidney HI	0.25
Total Hair HI	0.14

FIGURES



USGS Topographic Map
Salem, Massachusetts
Revised 1985

0 500 1,000 2,000
Feet
1 inch = 2,000 feet

N

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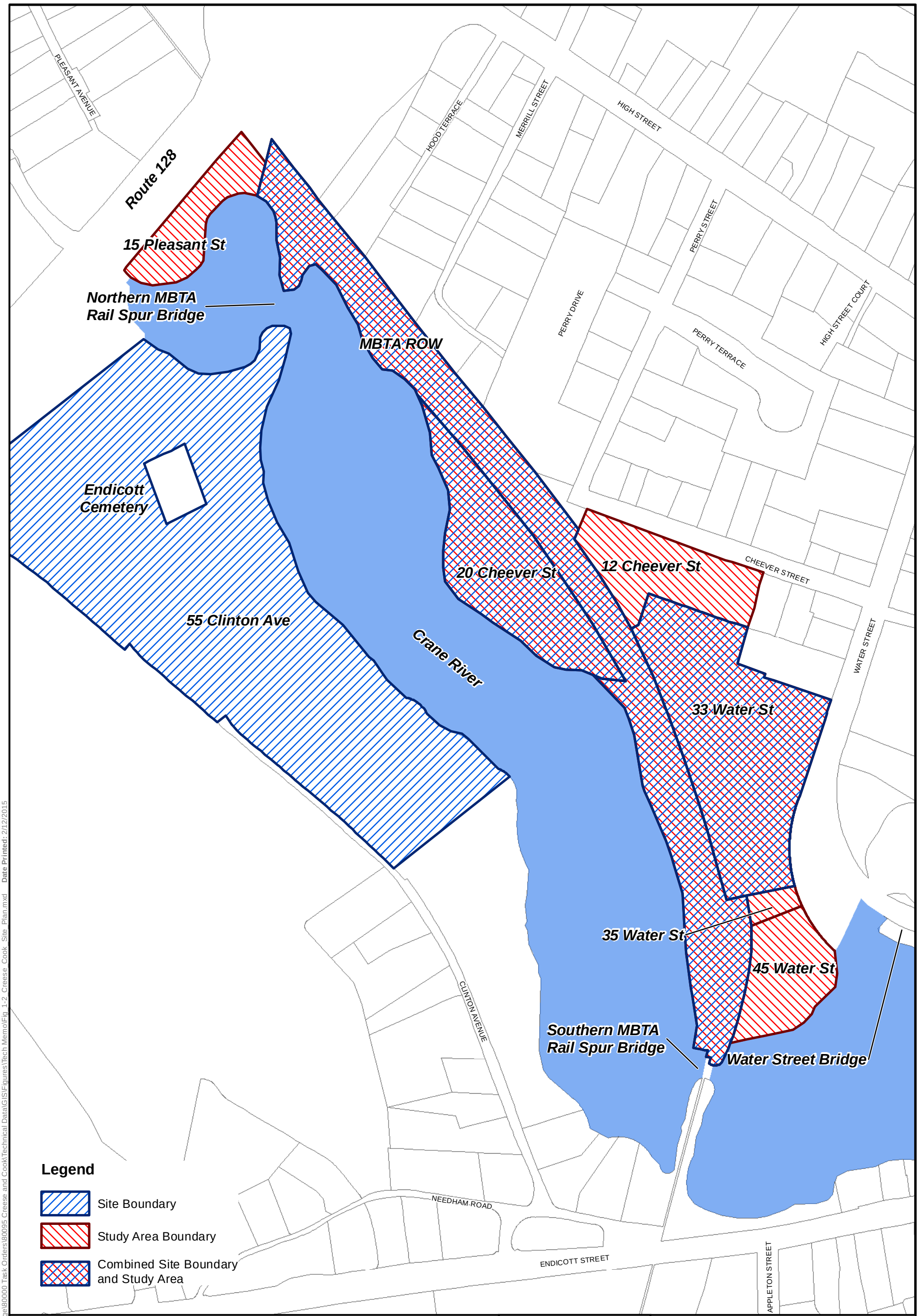
FIGURE 1-1

LOCUS MAP
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: JL
PROJECT NO. 80095	DATE: JANUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Fig_1_Creese_Cook_Locus.mxd Date Printed: 1/12/2015



Notes:

1. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

0 100 200 400
Feet
1 inch = 200 feet

N

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FIGURE 1-2

SITE PLAN
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

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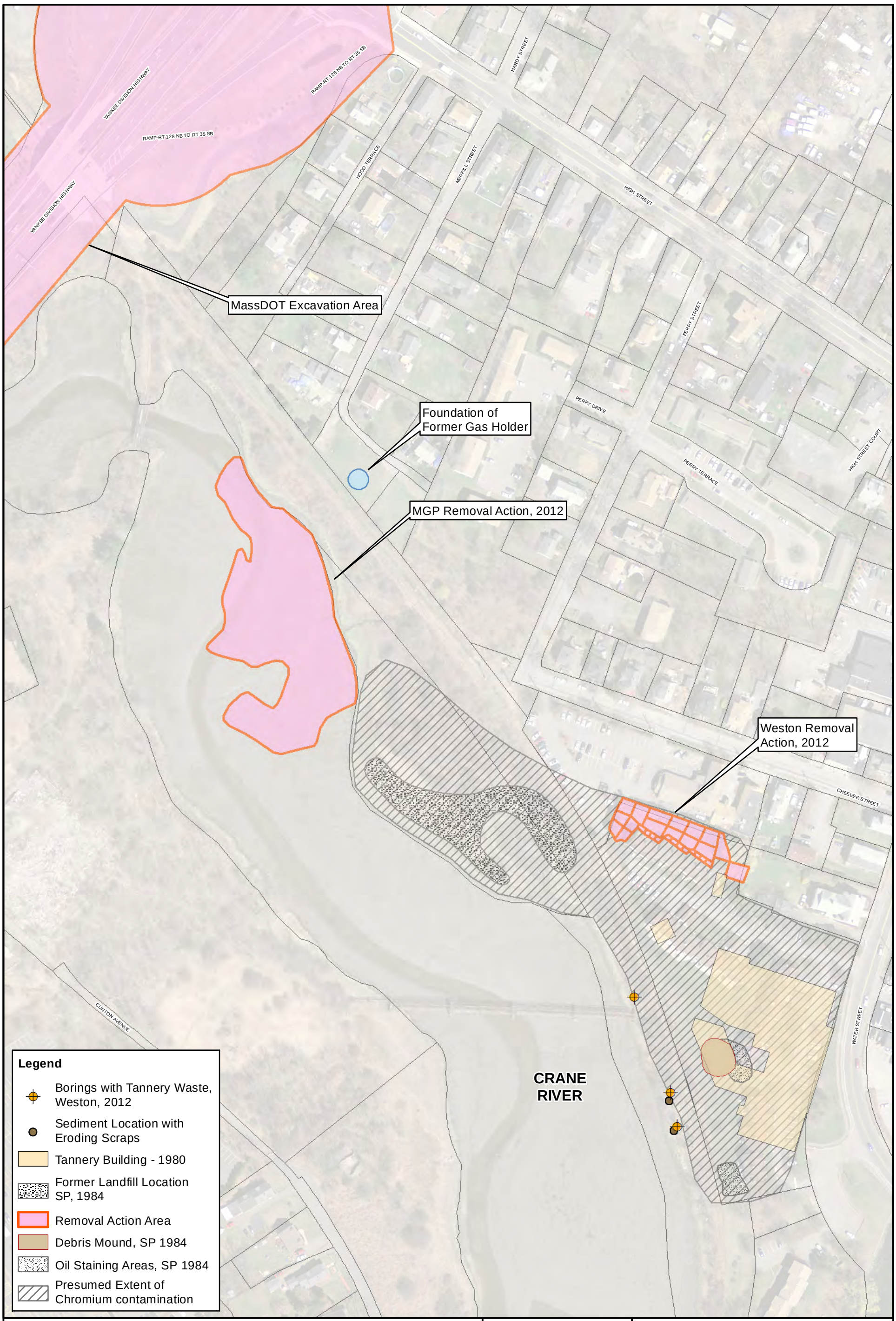

Notes:

1. Aerial photography obtained from MassGIS, 2013.

2. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 75 150 300
Feet
1 inch = 150 feet

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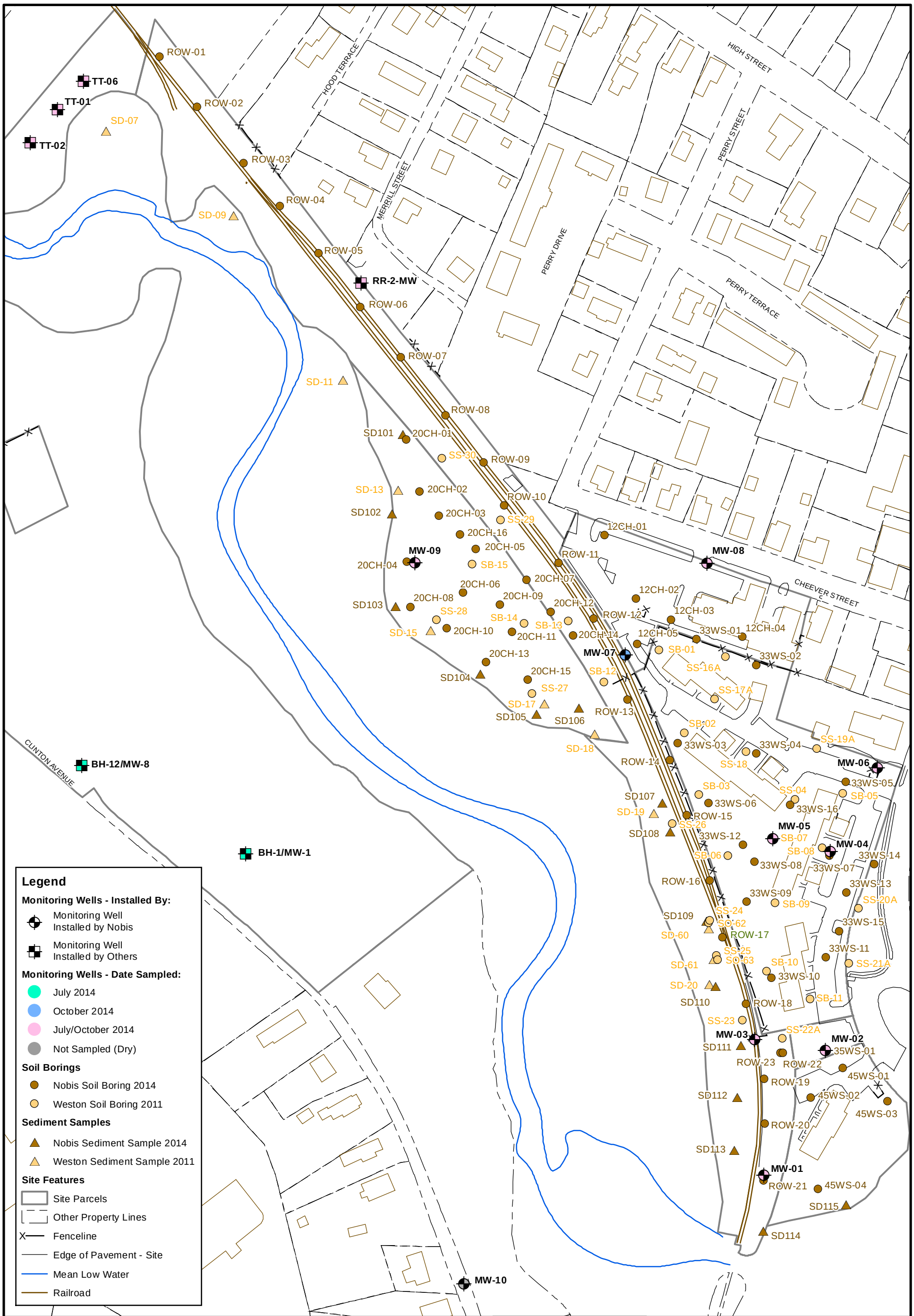
FIGURE 1-3

CONTAMINATION SOURCE LOCATIONS
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_1-3_Creese_Cook_CSM_Plan.mxd **Date Printed:** 2/12/2015



Notes:

1. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

2. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

N

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FIGURE 2-1

ALL SAMPLE LOCATIONS
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: JANUARY 2015

Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_2-1_Creese_Cook_All_Sample_Locations.mxd Date Printed: 2/26/2015

Point	Associated Boring	X Coordinate	Y Coordinate	Comment
A	ROW-01	809779.56	3028409.88	
A'	ROW-21	810778.61	3026551.34	
B	--	810185.81	3027489.57	~ 10' S of 20CH-08
B'	12CH-04	810743.88	3027449.97	
C	--	810677.23	3027051.47	~ 10' NW of ROW-16
C'	--	810962.33	3027242.71	~ 5' NW of MW-06
D	--	810909.73	3027212.31	~ 5' W of 33WS-05
D'	45WS-04	810868.81	3026536.97	

Notes:

1. Cross section coordinates are Massachusetts State Plane Mainland Zone NAD83 feet.

2. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

3. Aerial photography obtained from MassGIS, 2013.

4. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

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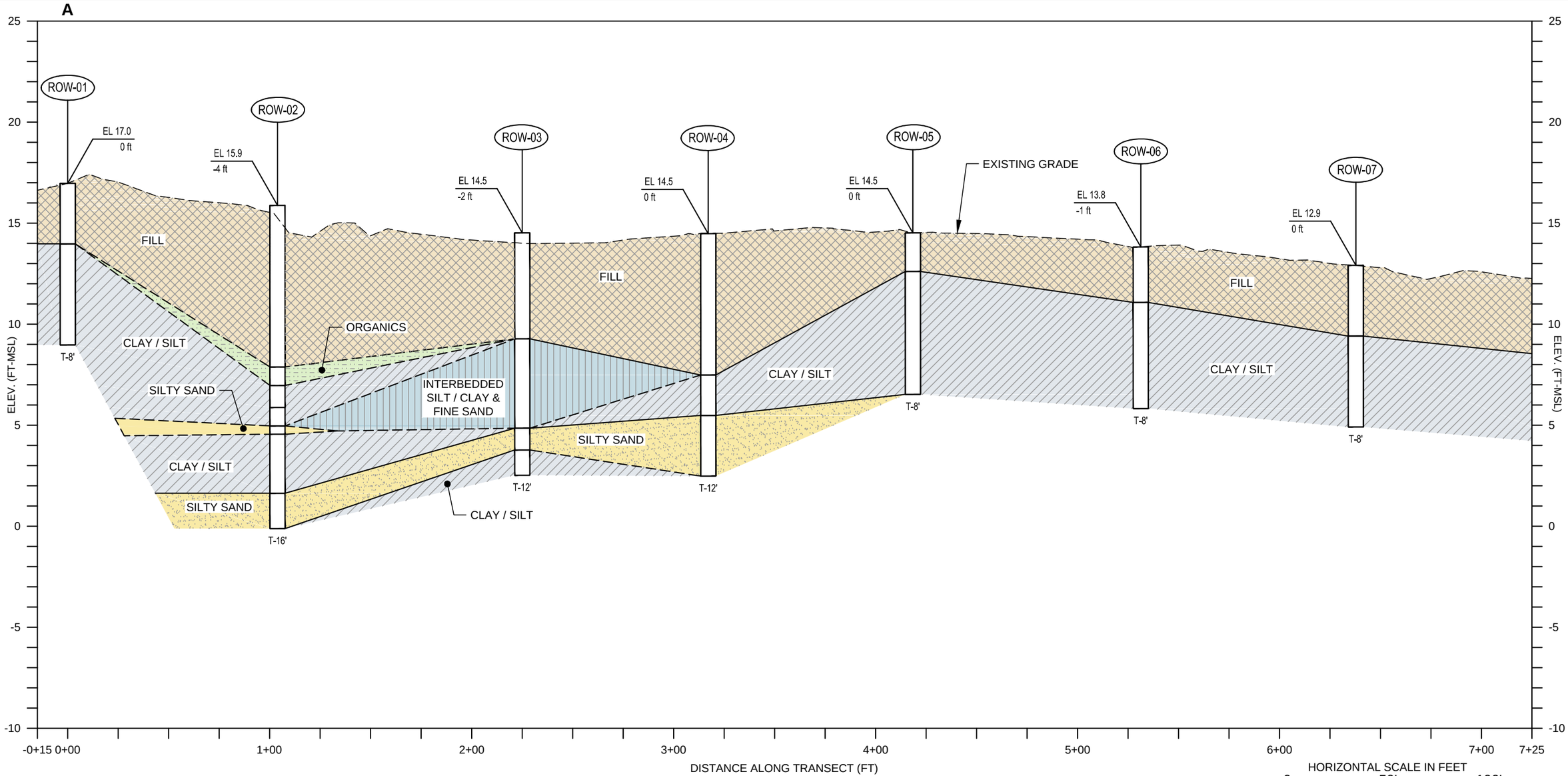
FIGURE 3-1

CROSS SECTION TRANSECTS
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: JANUARY 2015

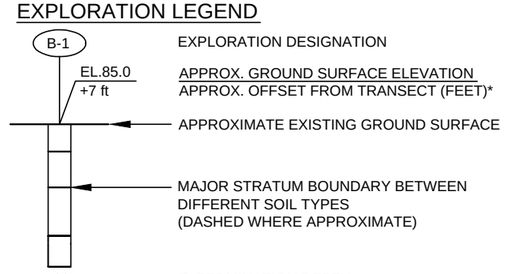
Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_3-1_Creese_Cook_Cross_Sections.mxd Date Printed: 1/13/2015



NOTES:

1. LOCATIONS AND SITE FEATURES DEPICTED ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES.
2. SOIL BORINGS WERE DRILLED BY MAHER SERVICES, INC., OF NORTH READING, MA AND OBSERVED BY NOBIS BETWEEN 06/09/14 AND 07/09/14.
3. ELEVATIONS ARE BASE ON THE NAVD 88 DATUM.
4. REFER TO FIGURE C FOR SOIL BORING AND TRANSECT LOCATIONS.
5. BORINGS NOT LOCATED ON THE TRANSECT LINE MAY HAVE VARYING SURFACE ELEVATIONS AND MAY APPEAR ABOVE AND BELOW THE SURFACE ELEVATION LINE.

EXPLORATION LEGEND



*POSITIVE OFFSETS ARE IN THE NORTHEAST DIRECTION.
NEGATIVE OFFSETS ARE IN THE SOUTHWEST DIRECTION.

STRATA LEGEND

- FILL MATERIAL
- SAND WITH VARIED AMOUNTS OF SAND
- CLAY / SILT
- INTERBEDDED SILT / CLAY & FINE SAND
- ORGANICS

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FIGURE 3-2a

SUBSURFACE PROFILE A - A' SHEET 1 OF 3
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

DRAWN BY:	ML	CHECKED BY:	DC
PROJECT NO.	80095	DATE:	OCTOBER 2014

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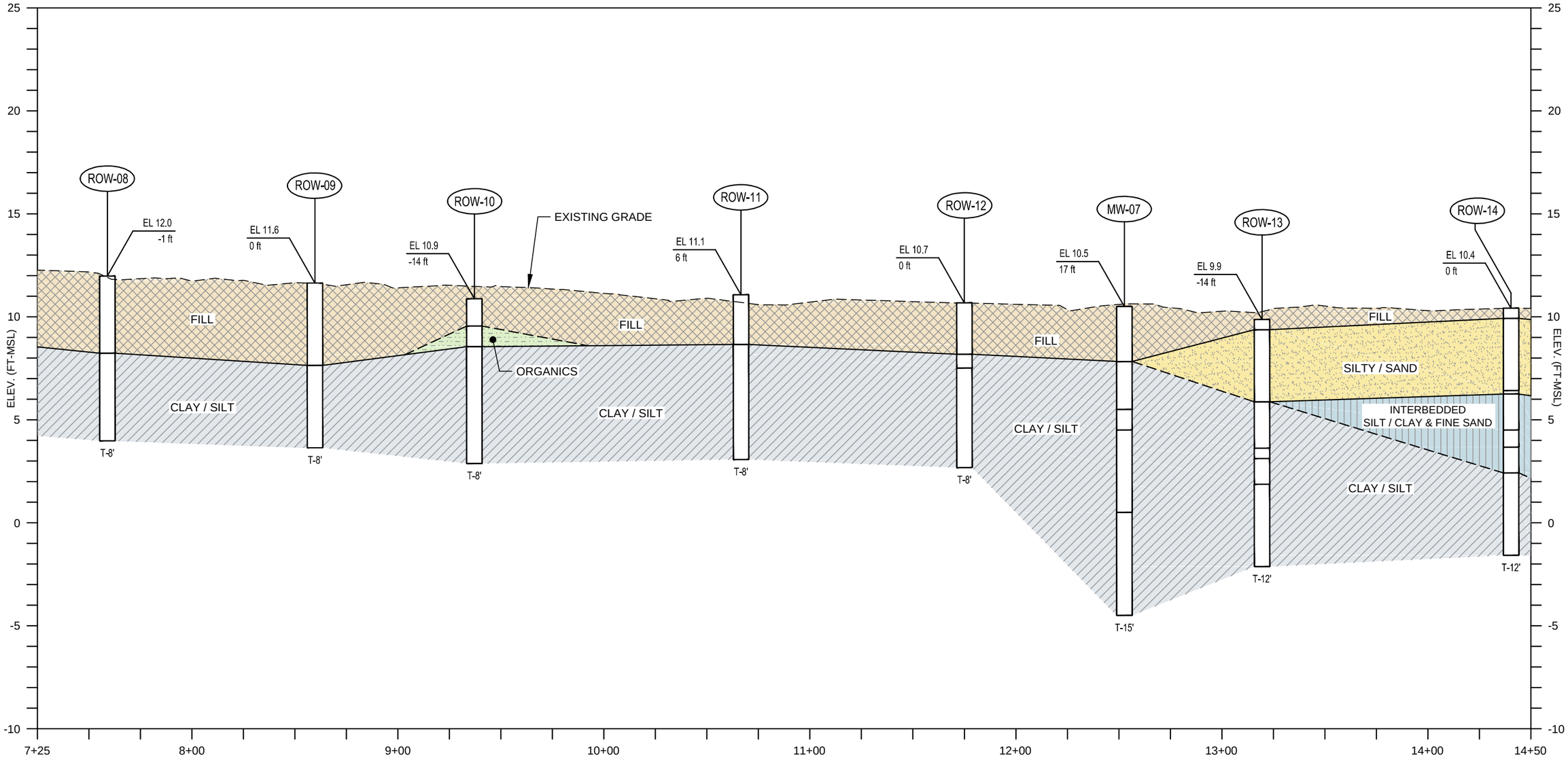
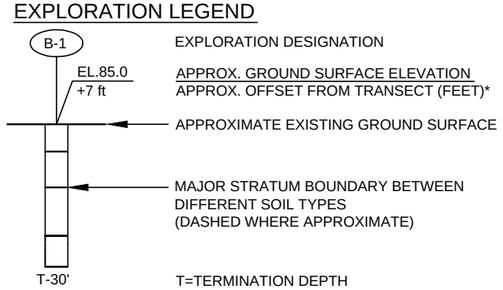


NOTES:

1. LOCATIONS AND SITE FEATURES DEPICTED ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES.
2. SOIL BORINGS WERE DRILLED BY MAHER SERVICES, INC, OF NORTH READING, MA AND OBSERVED BY NOBIS BETWEEN 06/09/14 AND 07/09/14.
3. ELEVATIONS ARE BASE ON THE NAVD 88 DATUM.
4. REFER TO FIGURE C FOR SOIL BORING AND TRANSECT LOCATIONS.
5. BORINGS NOT LOCATED ON THE TRANSECT LINE MAY HAVE VARYING SURFACE ELEVATIONS AND MAY APPEAR ABOVE AND BELOW THE SURFACE ELEVATION LINE.

EXPLORATION LEGEND



*POSITIVE OFFSETS ARE IN THE NORTHEAST DIRECTION.
NEGATIVE OFFSETS ARE IN THE SOUTHWEST DIRECTION.

STRATA LEGEND

- FILL MATERIAL
- SAND WITH VARIED AMOUNTS OF SAND
- CLAY / SILT
- INTERBEDDED SILT / CLAY & FINE SAND
- ORGANICS

HORIZONTAL SCALE IN FEET
0 50' 100'
0 5' 10'
VERTICAL SCALE IN FEET

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FIGURE 3-2b

SUBSURFACE PROFILE A - A' SHEET 2 OF 3
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

DRAWN BY:	ML	CHECKED BY:	DC
PROJECT NO.	80095	DATE:	OCTOBER 2014

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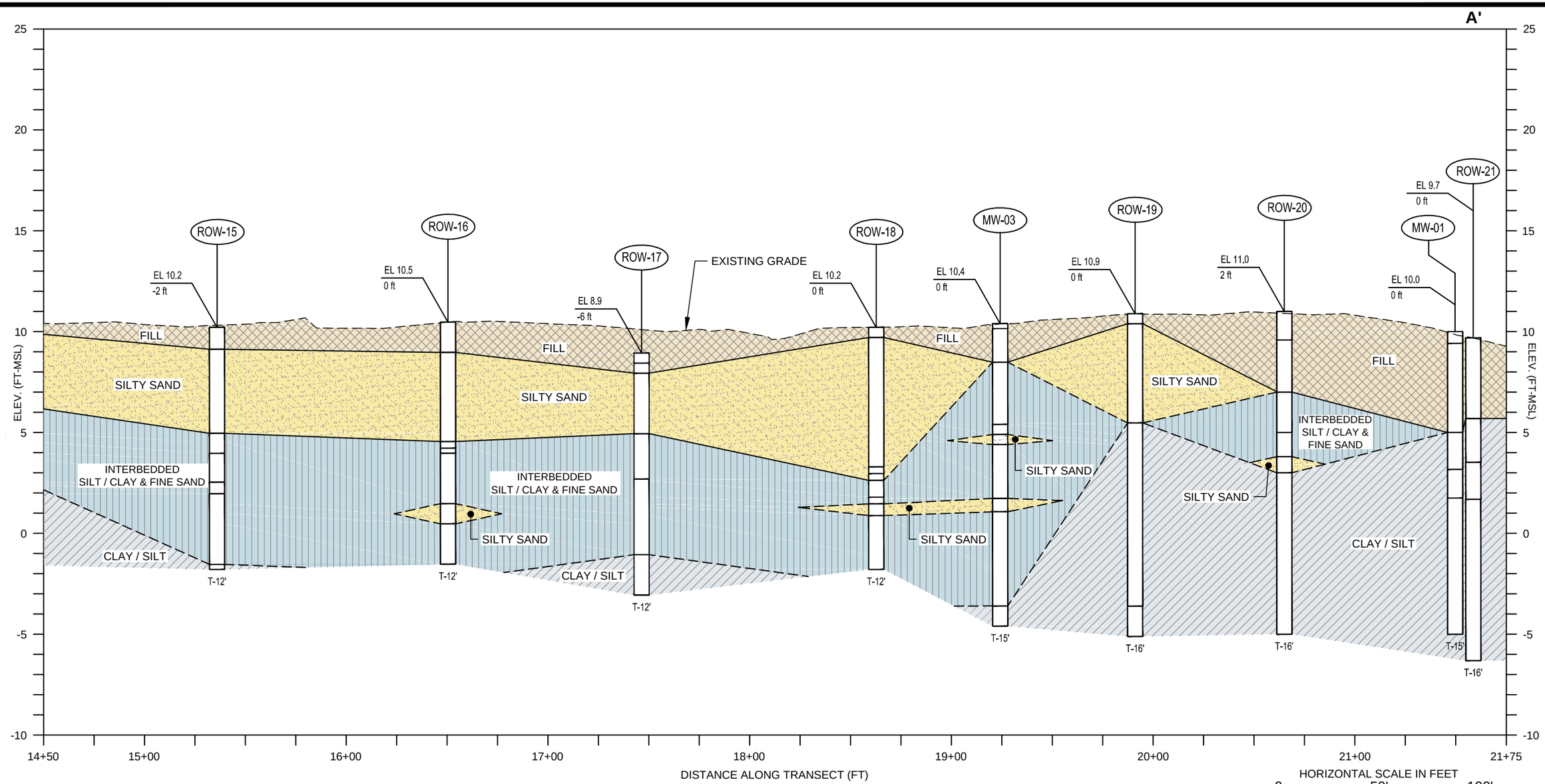
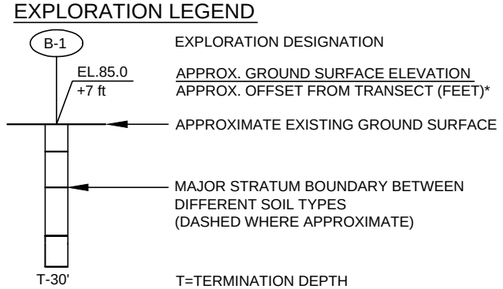


NOTES:

1. LOCATIONS AND SITE FEATURES DEPICTED ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES.
2. SOIL BORINGS WERE DRILLED BY MAHER SERVICES, INC, OF NORTH READING, MA AND OBSERVED BY NOBIS BETWEEN 06/09/14 AND 07/09/14.
3. ELEVATIONS ARE BASE ON THE NAVD 88 DATUM.
4. REFER TO FIGURE C FOR SOIL BORING AND TRANSECT LOCATIONS.
5. BORINGS NOT LOCATED ON THE TRANSECT LINE MAY HAVE VARYING SURFACE ELEVATIONS AND MAY APPEAR ABOVE AND BELOW THE SURFACE ELEVATION LINE.

EXPLORATION LEGEND



*POSITIVE OFFSETS ARE IN THE NORTHEAST DIRECTION. NEGATIVE OFFSETS ARE IN THE SOUTHWEST DIRECTION.

STRATA LEGEND

- FILL MATERIAL
- SAND WITH VARIED AMOUNTS OF SAND
- CLAY / SILT
- INTERBEDDED SILT / CLAY & FINE SAND
- ORGANICS

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FIGURE 3-2c

SUBSURFACE PROFILE A - A' SHEET 3 OF 3
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

DRAWN BY:	ML	CHECKED BY:	DC
PROJECT NO.	80095	DATE:	OCTOBER 2014

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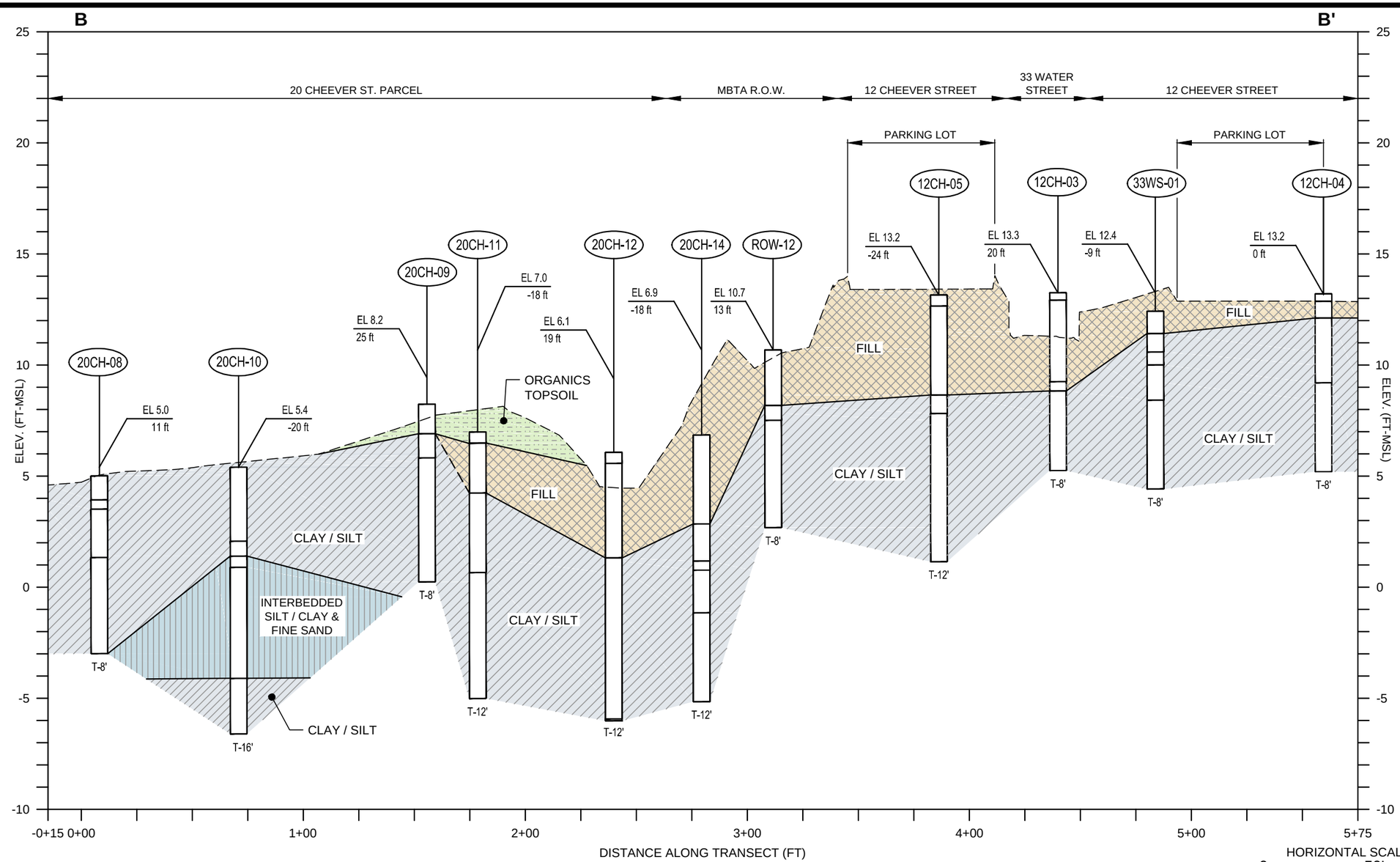
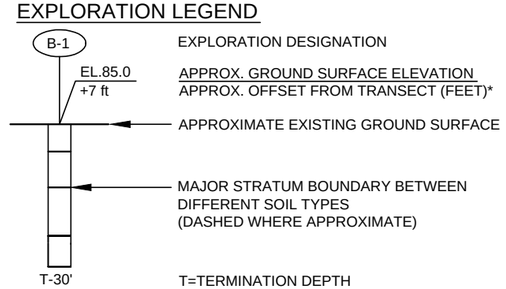


HORIZONTAL SCALE IN FEET
0 50' 100'
0 5' 10'
VERTICAL SCALE IN FEET

NOTES:

1. LOCATIONS AND SITE FEATURES DEPICTED ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES.
2. SOIL BORINGS WERE DRILLED BY MAHER SERVICES, INC, OF NORTH READING, MA AND OBSERVED BY NOBIS BETWEEN 06/09/14 AND 07/09/14.
3. ELEVATIONS ARE BASE ON THE NAVD 88 DATUM.
4. REFER TO FIGURE C FOR SOIL BORING AND TRANSECT LOCATIONS.
5. BORINGS NOT LOCATED ON THE TRANSECT LINE MAY HAVE VARYING SURFACE ELEVATIONS AND MAY APPEAR ABOVE AND BELOW THE SURFACE ELEVATION LINE.

EXPLORATION LEGEND



*POSITIVE OFFSETS ARE IN THE NORTH DIRECTION.
NEGATIVE OFFSETS ARE IN THE SOUTH DIRECTION.

STRATA LEGEND

- FILL MATERIAL
- SAND WITH VARIED AMOUNTS OF SILT
- CLAY / SILT
- INTERBEDDED SILT / CLAY & FINE SAND

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FIGURE 3-3

SUBSURFACE PROFILE B - B'
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

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PROJECT NO.	80095	DATE:	OCTOBER 2014

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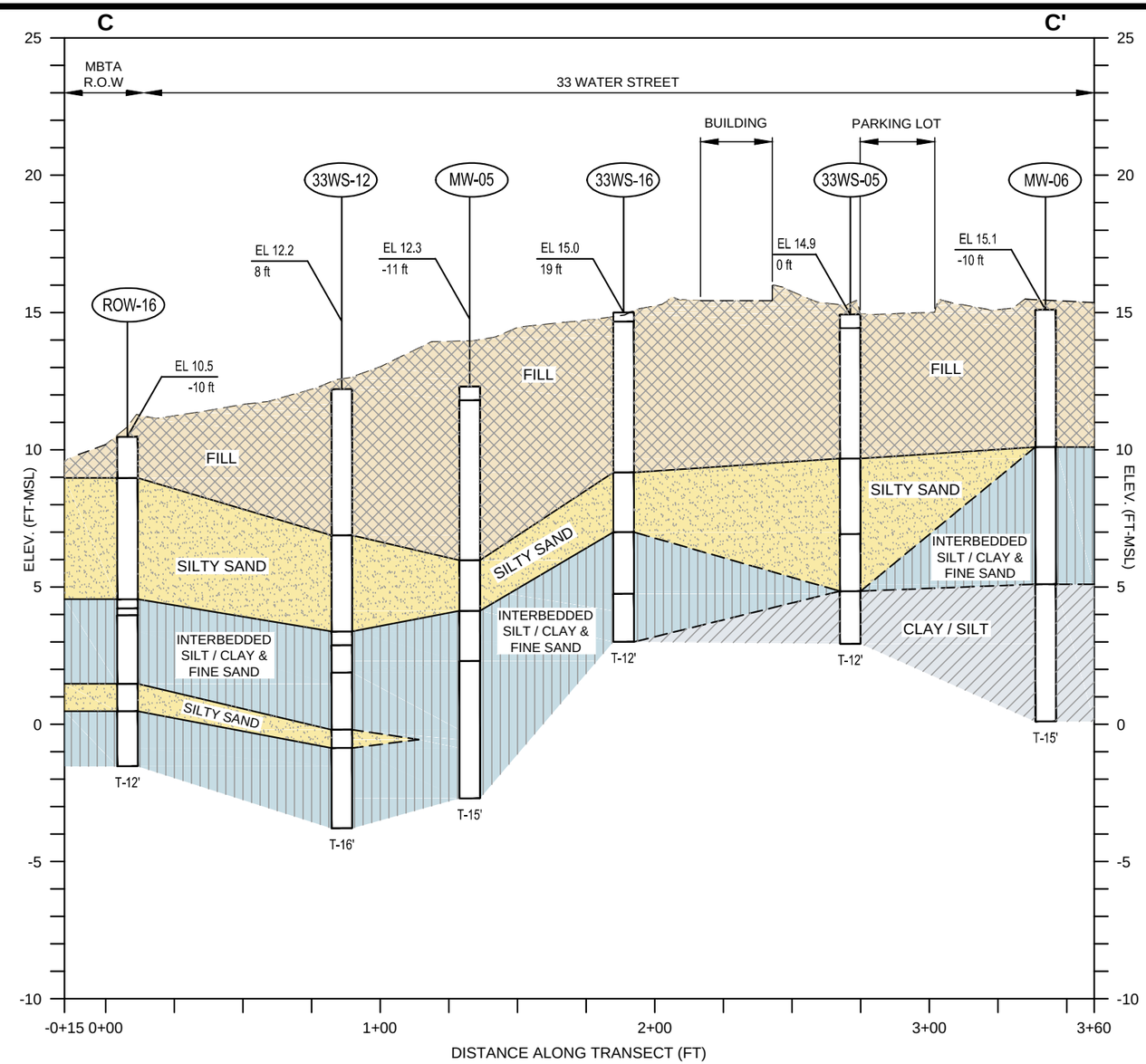
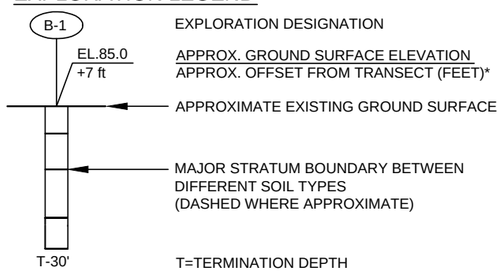


NOTES:

1. LOCATIONS AND SITE FEATURES DEPICTED ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES.
2. SOIL BORINGS WERE DRILLED BY MAHER SERVICES, INC, OF NORTH READING, MA AND OBSERVED BY NOBIS BETWEEN 06/09/14 AND 07/09/14.
3. ELEVATIONS ARE BASE ON THE NAVD 88 DATUM.
4. REFER TO FIGURE C FOR SOIL BORING AND TRANSECT LOCATIONS.
5. BORINGS NOT LOCATED ON THE TRANSECT LINE MAY HAVE VARYING SURFACE ELEVATIONS AND MAY APPEAR ABOVE AND BELOW THE SURFACE ELEVATION LINE.

EXPLORATION LEGEND



*POSITIVE OFFSETS ARE IN THE NORTHEAST DIRECTION. NEGATIVE OFFSETS ARE IN THE SOUTHWEST DIRECTION.

STRATA LEGEND

- FILL MATERIAL
- SAND WITH VARIED AMOUNTS OF SILT
- CLAY / SILT
- INTERBEDDED SILT / CLAY & FINE SAND

HORIZONTAL SCALE IN FEET
0 50' 100'
0 5' 10'
VERTICAL SCALE IN FEET

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FIGURE 3-4

SUBSURFACE PROFILE C - C'
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

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PROJECT NO.	80095	DATE:	OCTOBER 2014

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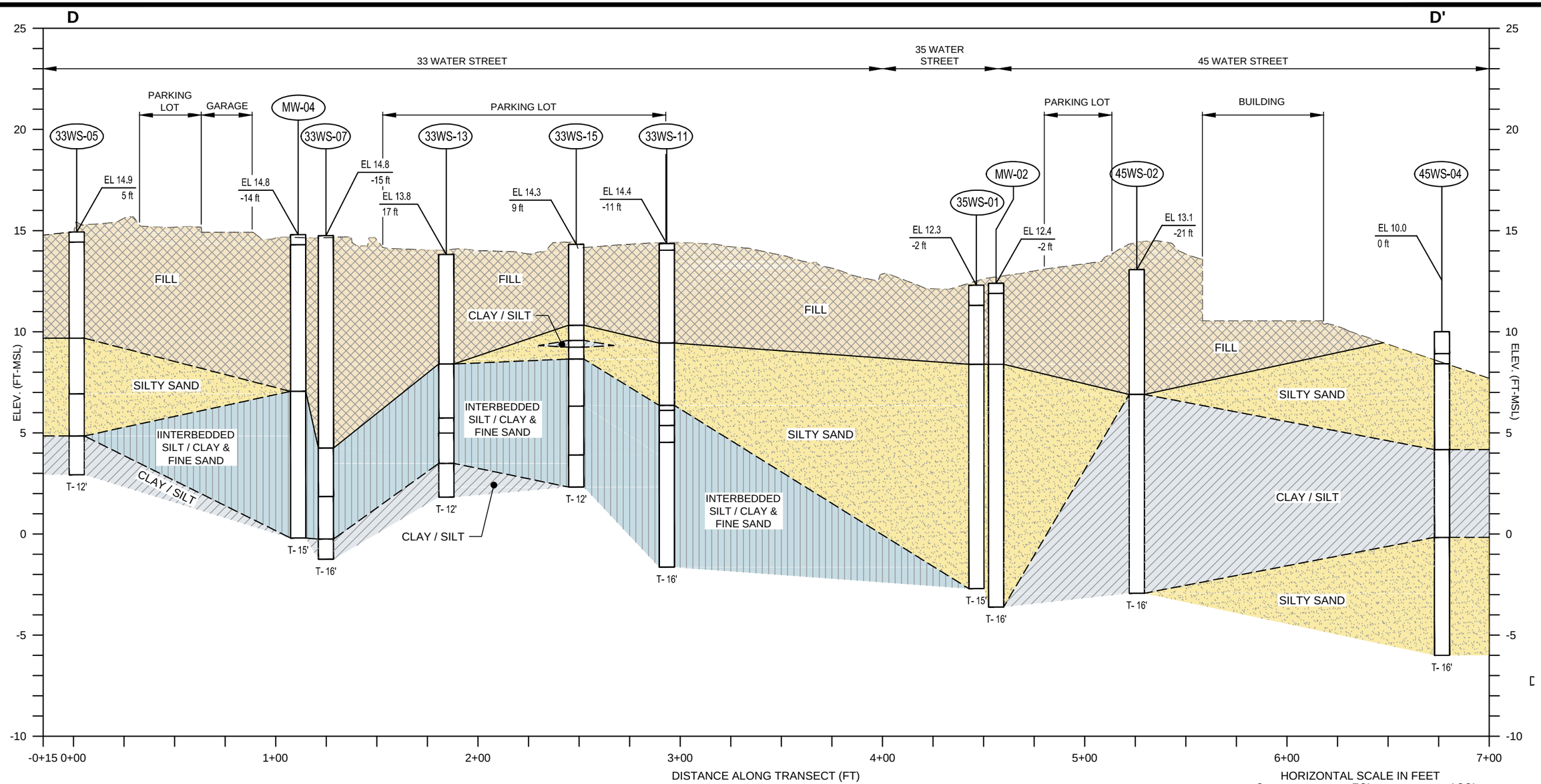

HORIZONTAL SCALE IN FEET

0 50' 100'

0 5' 10'

VERTICAL SCALE IN FEET

NOTES:

1. LOCATIONS AND SITE FEATURES DEPICTED ARE APPROXIMATE AND GIVEN FOR ILLUSTRATIVE PURPOSES.
2. SOIL BORINGS WERE DRILLED BY MAHER SERVICES, INC, OF NORTH READING, MA AND OBSERVED BY NOBIS BETWEEN 06/09/14 AND 07/09/14.
3. ELEVATIONS ARE BASE ON THE NAVD 88 DATUM.
4. REFER TO FIGURE C FOR SOIL BORING AND TRANSECT LOCATIONS.
5. BORINGS NOT LOCATED ON THE TRANSECT LINE MAY HAVE VARYING SURFACE ELEVATIONS AND MAY APPEAR ABOVE AND BELOW THE SURFACE ELEVATION LINE.

EXPLORATION LEGEND

B-1 — EXPLORATION DESIGNATION

EL.85.0 / +7 ft — APPROX. GROUND SURFACE ELEVATION / APPROX. OFFSET FROM TRANSECT (FEET)*

APPROXIMATE EXISTING GROUND SURFACE

MAJOR STRATUM BOUNDARY BETWEEN DIFFERENT SOIL TYPES (DASHED WHERE APPROXIMATE)

T-30' — T=TERMINATION DEPTH

*POSITIVE OFFSETS ARE IN THE EAST DIRECTION. NEGATIVE OFFSETS ARE IN THE WEST DIRECTION.

STRATA LEGEND

- FILL MATERIAL
- SAND WITH VARIED AMOUNTS OF SILT
- CLAY / SILT
- INTERBEDDED SILT / CLAY & FINE SAND

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FIGURE 3-5

SUBSURFACE PROFILE D - D'
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

DRAWN BY:	ML	CHECKED BY:	DC
PROJECT NO.	80095	DATE:	OCTOBER 2014

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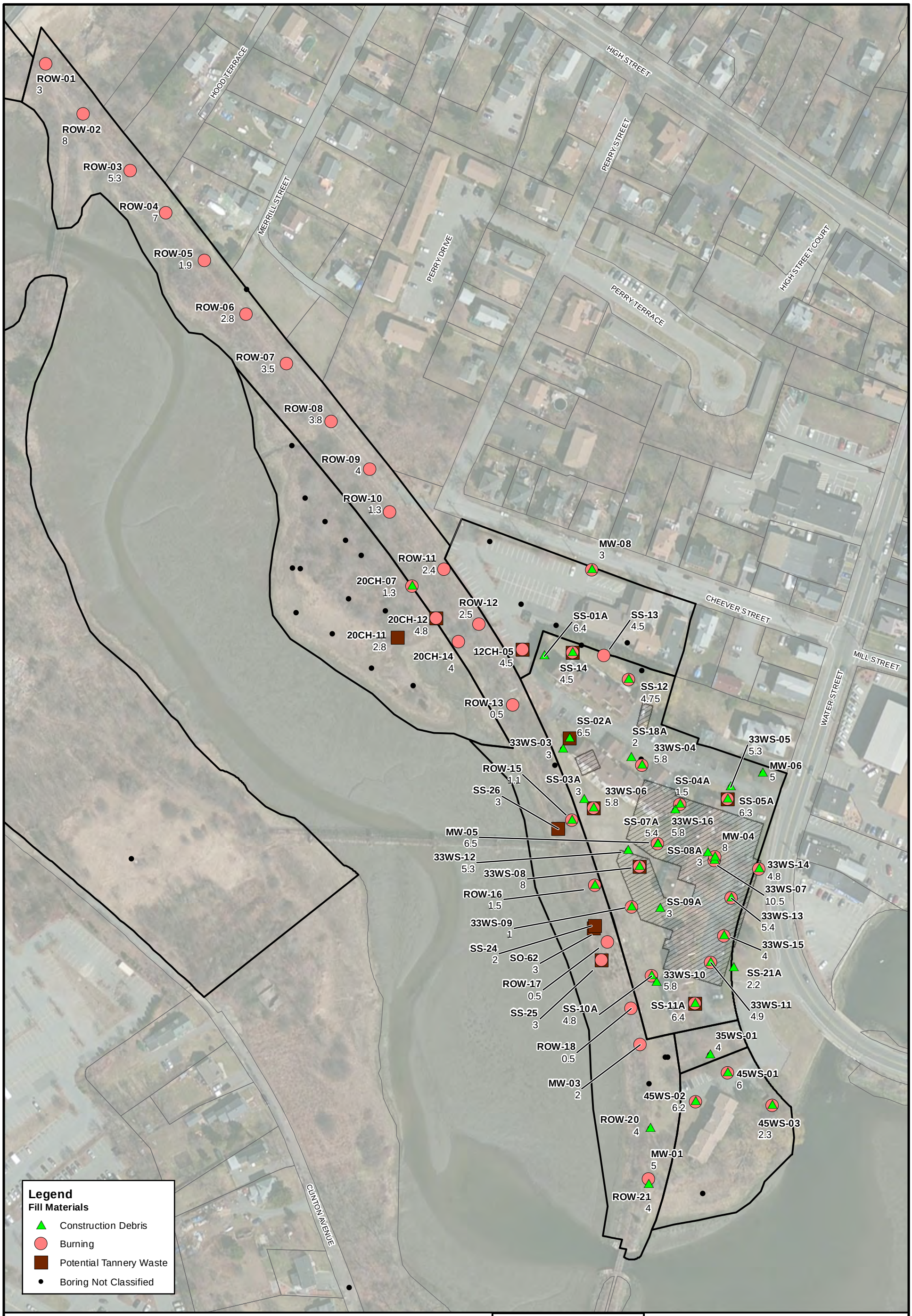

Notes:

1. Labels indicate maximum depth of fill materials encountered, in feet below ground surface.
2. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
3. Aerial photography obtained from MassGIS, 2013.
4. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

N

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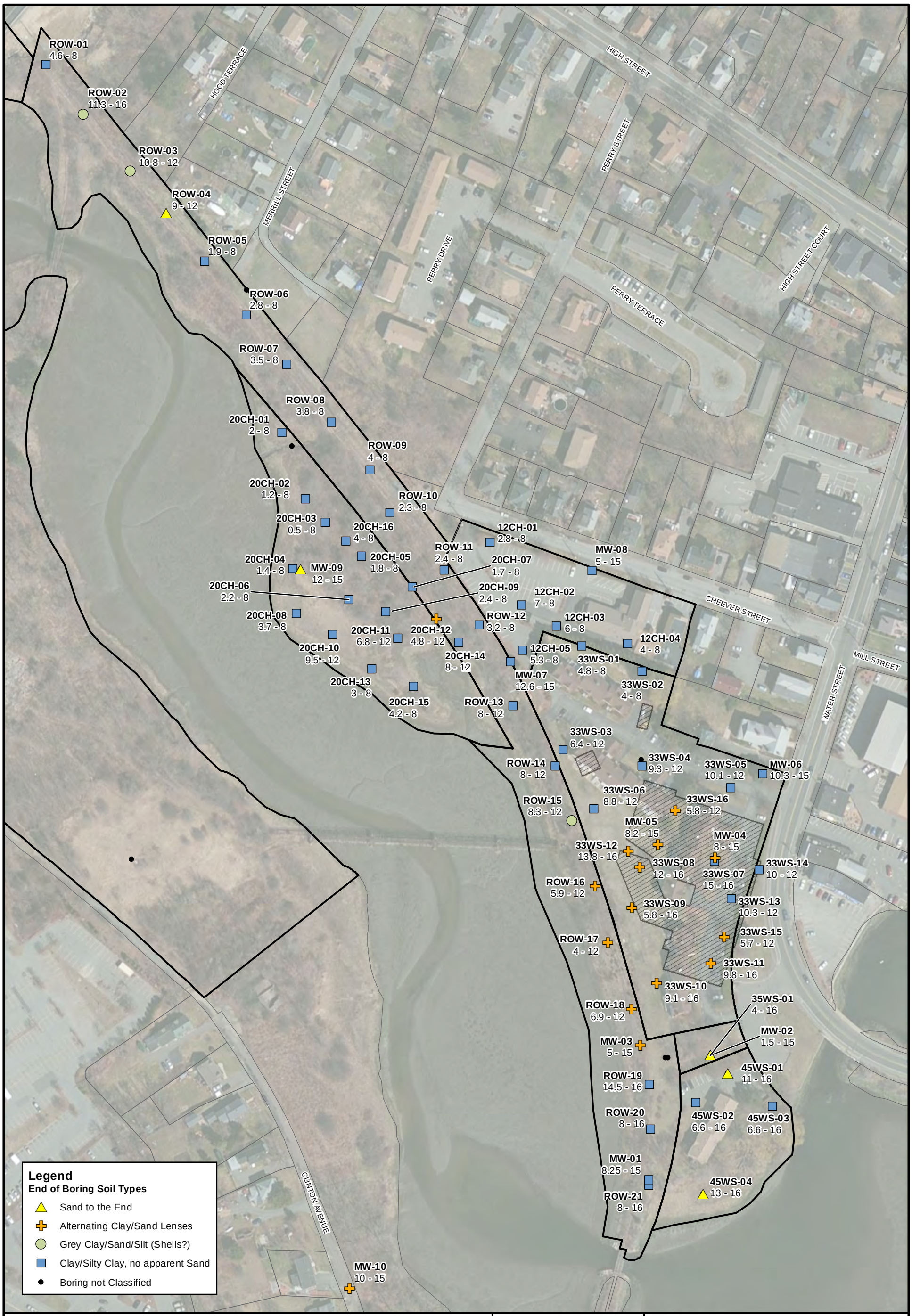
FIGURE 3-6

FILL MATERIALS
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: JL
PROJECT NO. 80095	DATE: JANUARY 2015

Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_3-6_Creese_Cook_Fill_Materials.mxd Date Printed: 2/25/2015



Notes:

1. Labels indicate depth range in feet below ground surface of soil type encountered.
2. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
3. Aerial photography obtained from MassGIS, 2013.
4. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

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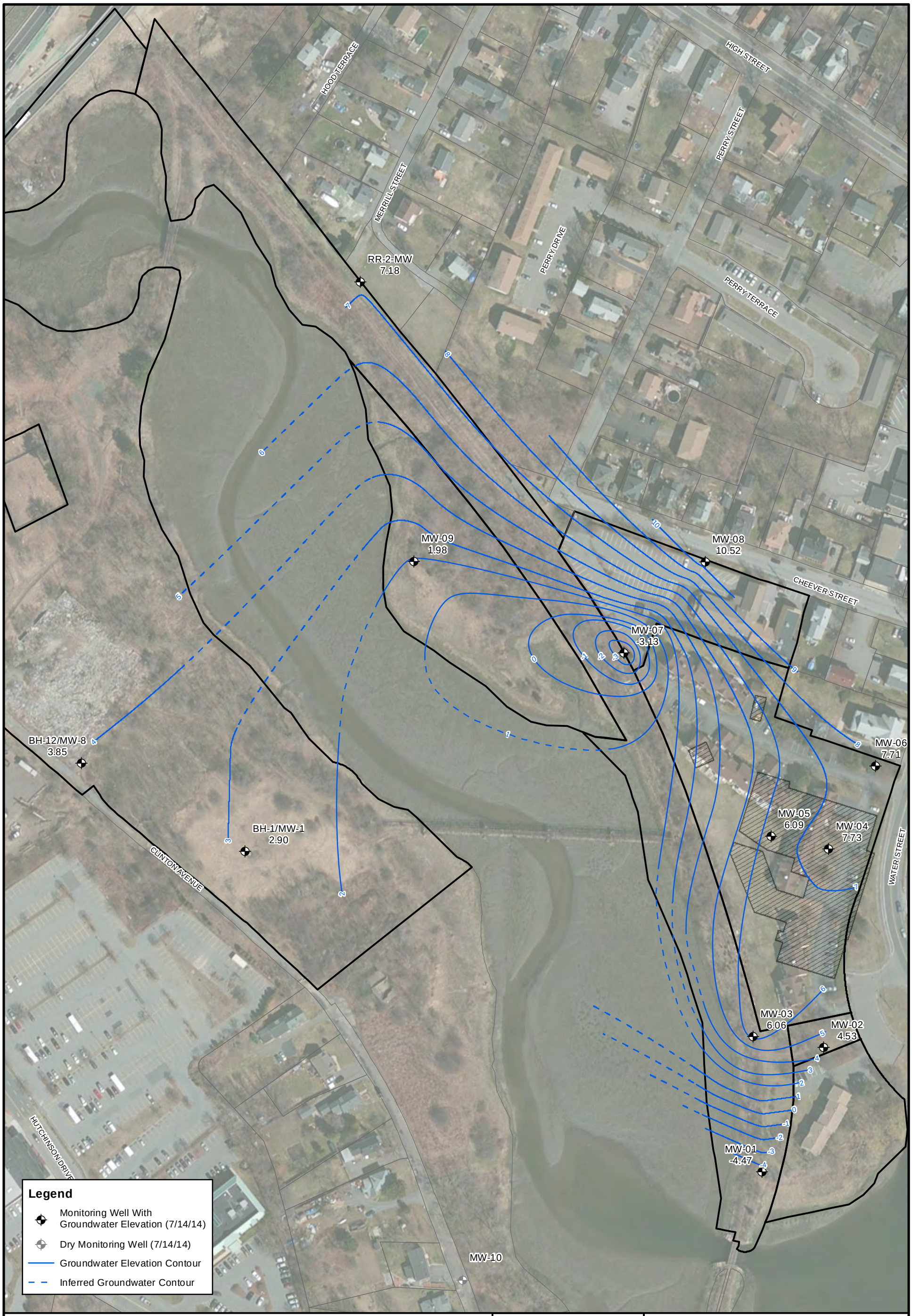
FIGURE 3-7

END OF BORING SOIL TYPES
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: JL
PROJECT NO. 80095	DATE: JANUARY 2015

Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_3-7_Creese_Cook_EOB_Notes.mxd Date Printed: 2/25/2015



Notes:

1. Measurements collected during low slack tide.
2. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
3. Aerial photography obtained from MassGIS, 2013.
4. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

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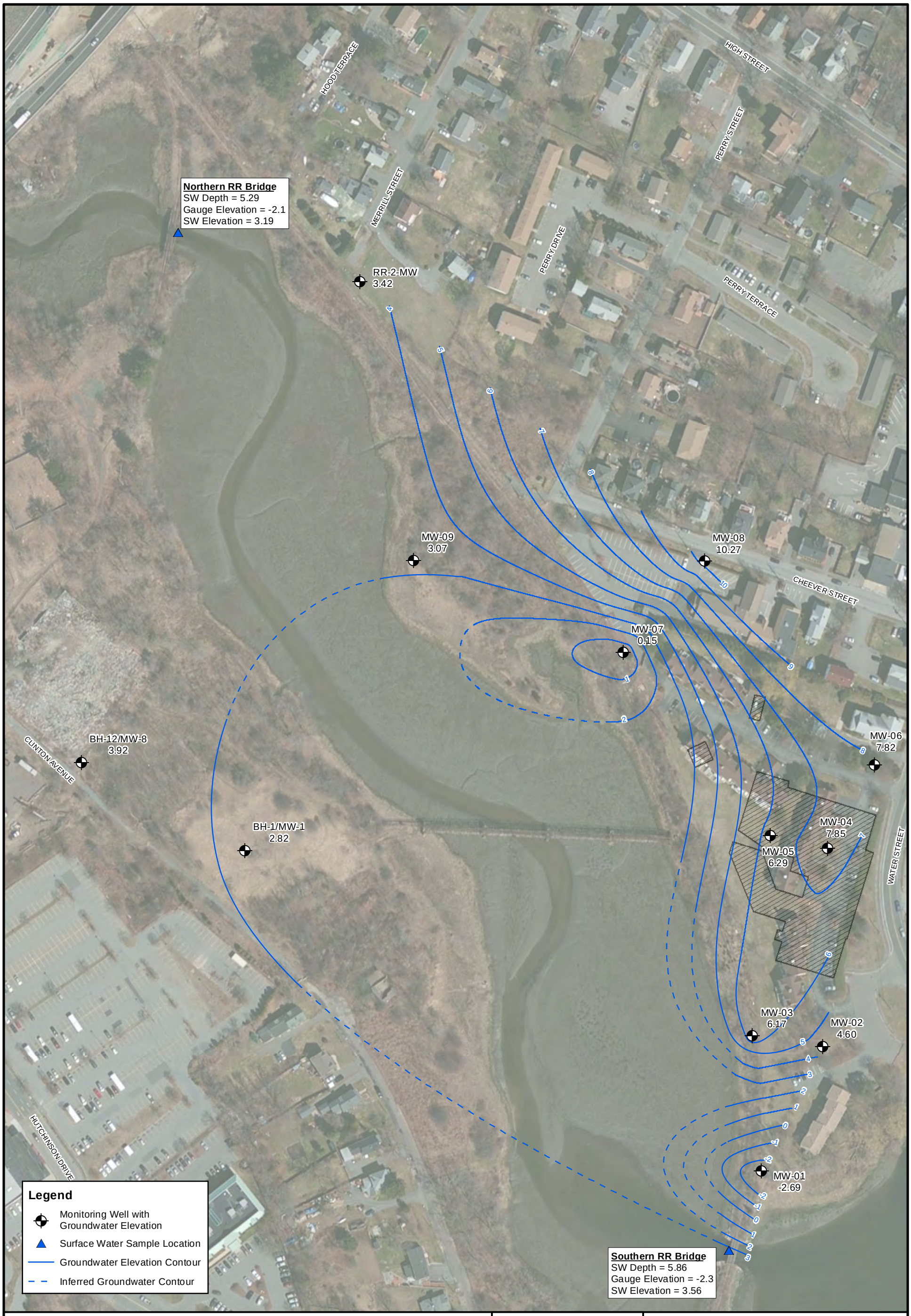
FIGURE 3-8

GROUNDWATER POTENTIOMETRIC SURFACE - JULY 14, 2014
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: JL
PROJECT NO. 80095	DATE: JANUARY 2015

Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_3-8_Creese_Cook_GW_Elevs_071414.mxd **Date Printed:** 2/25/2015



Notes:

1. Measurements collected during high slack tide.
2. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
3. Aerial photography obtained from MassGIS, 2013.
4. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

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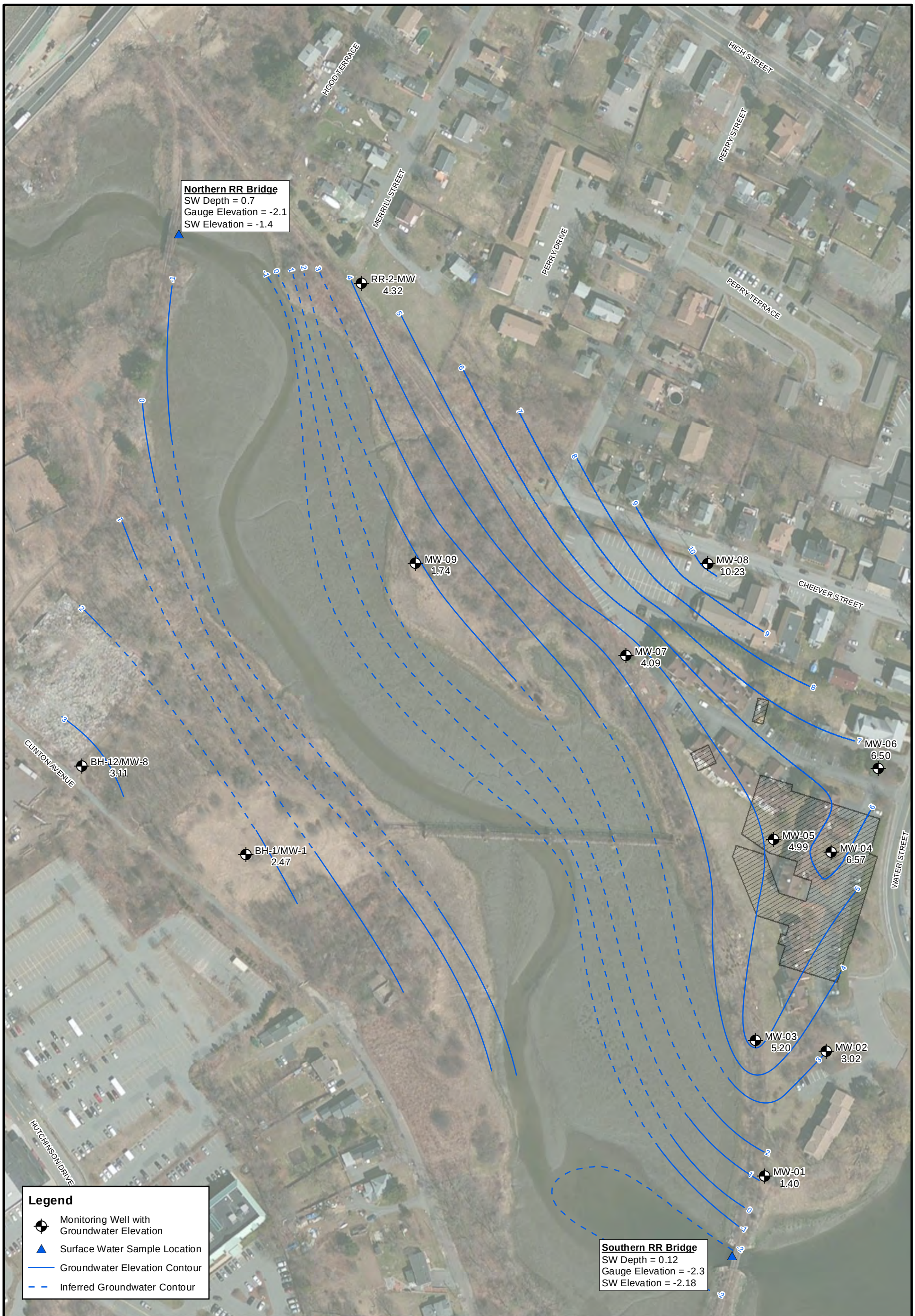
FIGURE 3-9

GROUNDWATER POTENTIOMETRIC SURFACE - JULY 23, 2014
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: JL
PROJECT NO. 80095	DATE: JANUARY 2015

Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_3-9_Creese_Cook_GW_Elevs_072214.mxd **Date Printed:** 2/25/2015



Notes:

1. Measurements collected during low/rising tide.
2. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
3. Aerial photography obtained from MassGIS, 2013.
4. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

N

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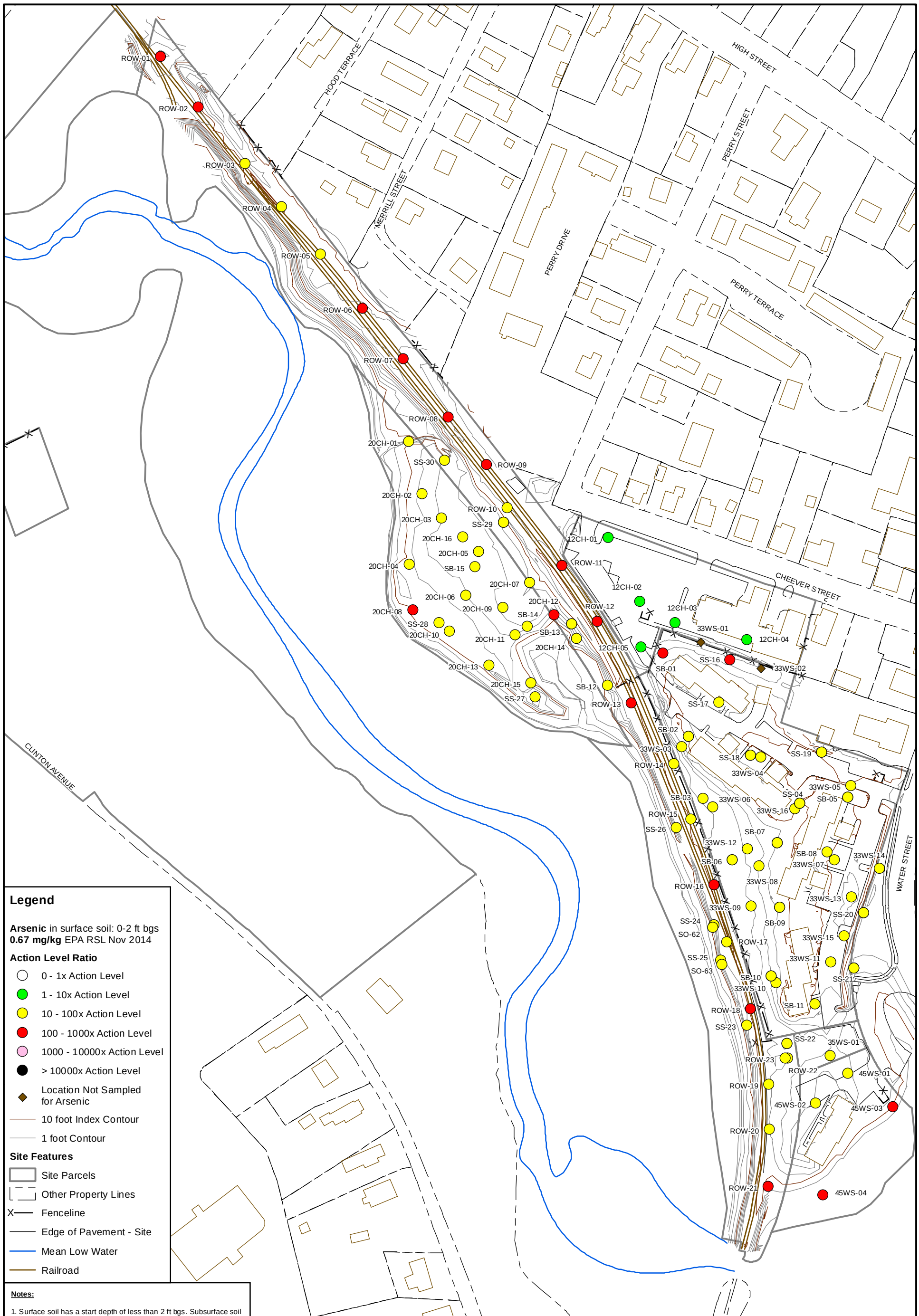
FIGURE 3-10

GROUNDWATER POTENTIOMETRIC SURFACE - OCTOBER 10, 2014
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: JL
PROJECT NO. 80095	DATE: JANUARY 2015

Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_3-10_Creese_Cook_GW_Elevs_101014.mxd **Date Printed:** 2/25/2015



Legend

Arsenic in surface soil: 0-2 ft bgs
0.67 mg/kg EPA RSL Nov 2014

Action Level Ratio

- 0 - 1x Action Level
- 1 - 10x Action Level
- 10 - 100x Action Level
- 100 - 1000x Action Level
- 1000 - 10000x Action Level
- > 10000x Action Level
- Location Not Sampled for Arsenic
- 10 foot Index Contour
- 1 foot Contour

Site Features

- Site Parcels
- Other Property Lines
- Fenceline
- Edge of Pavement - Site
- Mean Low Water
- Railroad

Notes:

1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.

2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.

3. EPA Residential Soil Regional Screening Levels, November 2014.

4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

5. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet
1 inch = 150 feet

N

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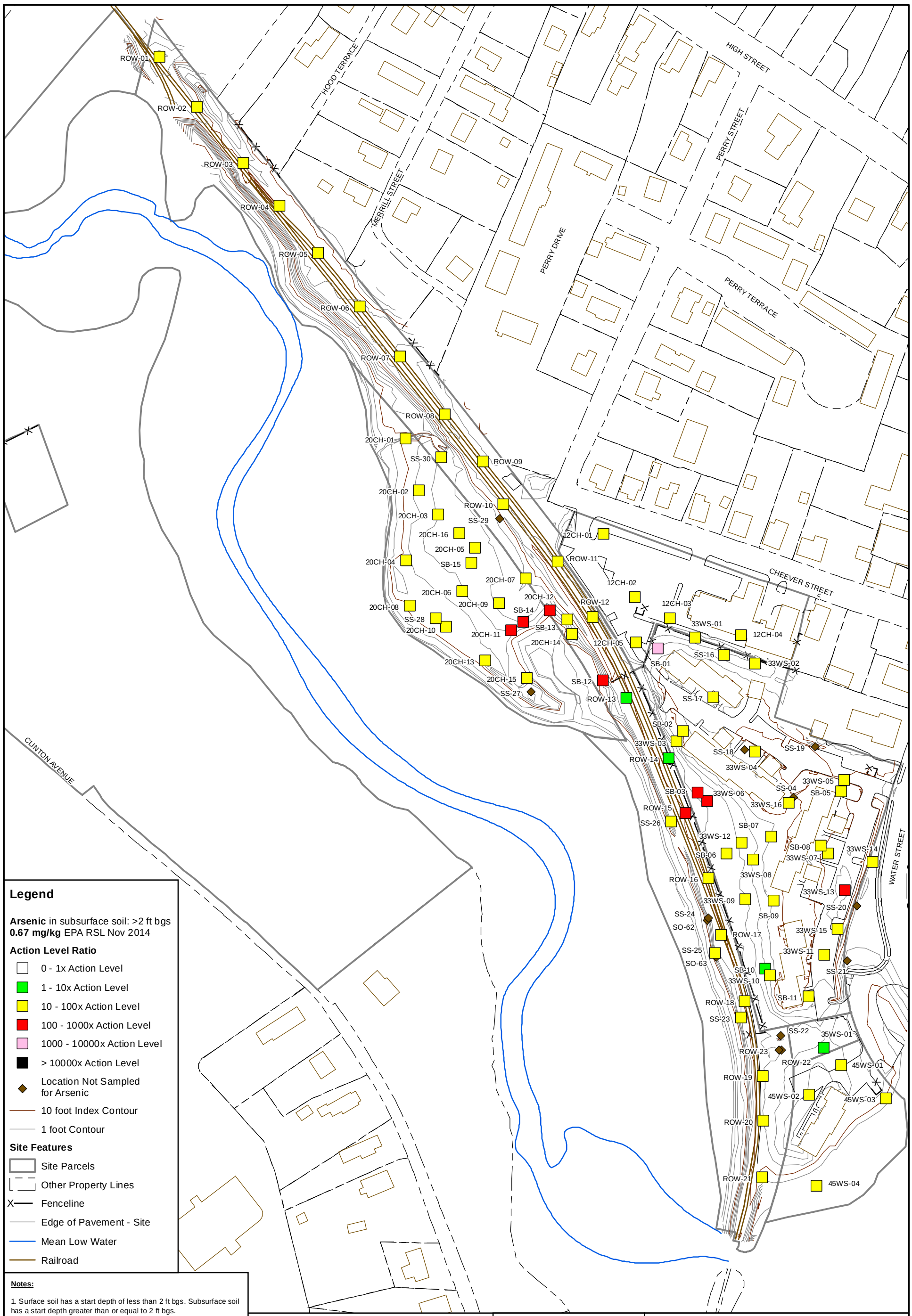
FIGURE 4-1

ARSENIC RESULTS IN SURFACE SOIL
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Creese_Selected_Chems\Fig_4-1_Creese_Cook_As_Surface.mxd **Date Printed:** 2/12/2015



Legend

Arsenic in subsurface soil: >2 ft bgs
0.67 mg/kg EPA RSL Nov 2014

Action Level Ratio

- 0 - 1x Action Level
- 1 - 10x Action Level
- 10 - 100x Action Level
- 100 - 1000x Action Level
- 1000 - 10000x Action Level
- > 10000x Action Level
- Location Not Sampled for Arsenic
- 10 foot Index Contour
- 1 foot Contour

Site Features

- Site Parcels
- Other Property Lines
- Fenceline
- Edge of Pavement - Site
- Mean Low Water
- Railroad

Notes:

1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.

2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.

3. EPA Residential Soil Regional Screening Levels, November 2014.

4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

5. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet
1 inch = 150 feet

N

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FIGURE 4-2

ARSENIC RESULTS IN SUBSURFACE SOIL
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Creese_Selected_Chems\Fig_4-2_Creese_Cook_As_Subsurf.mxd Date Printed: 2/12/2015

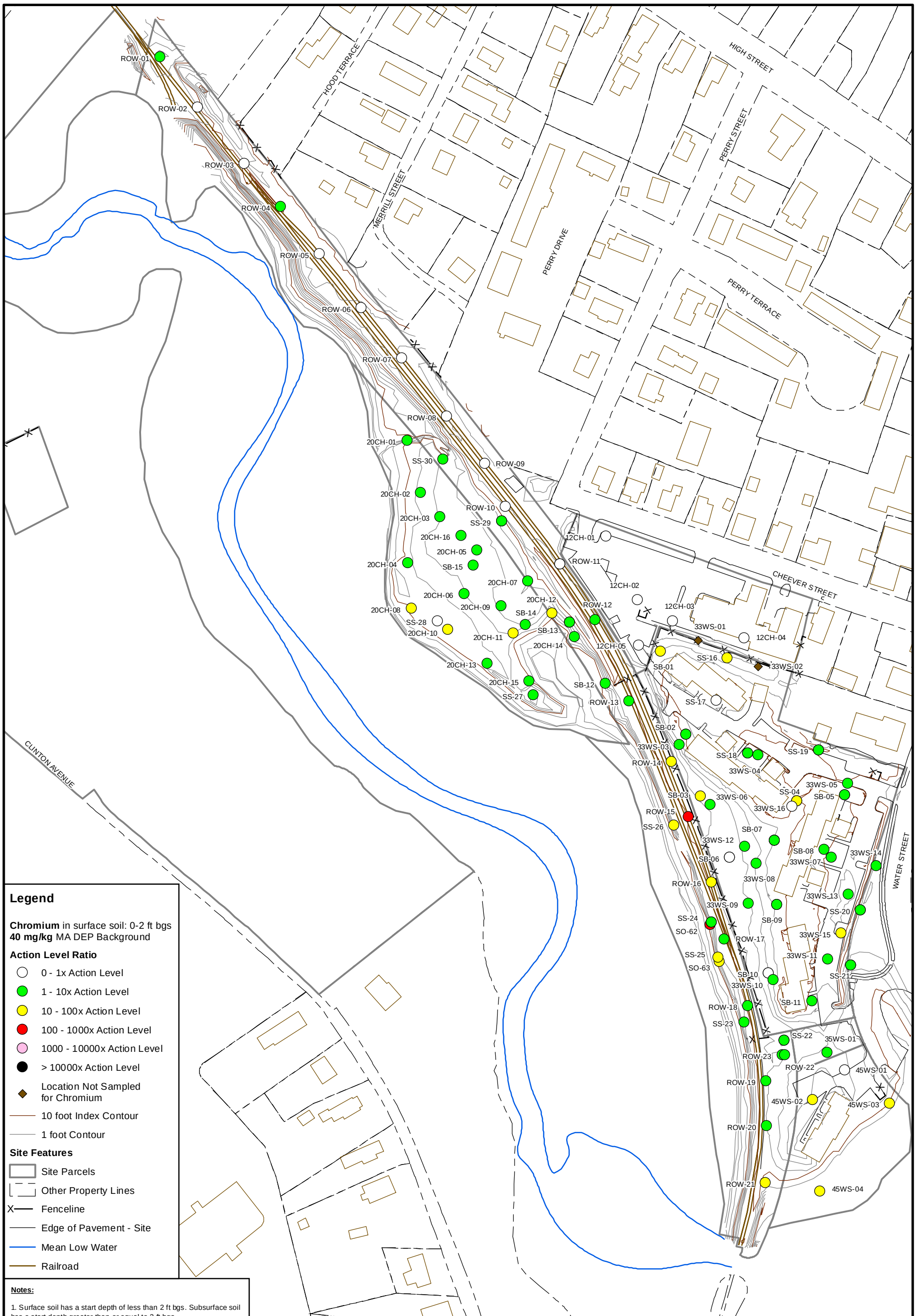
HOOD TERRACE
HIGH STREET
PERRY STREET
MERRILL STREET
PERRY DRIVE
PERRY TERRACE
CHEEVER STREET
CLINTON AVENUE
WATER STREET
ROW-01
ROW-02
ROW-03
ROW-04
ROW-05
ROW-06
ROW-07
ROW-08
ROW-09
ROW-10
ROW-11
ROW-12
ROW-13
ROW-14
ROW-15
ROW-16
ROW-17
ROW-18
ROW-19
ROW-20
ROW-21
ROW-22
ROW-23
20CH-01
20CH-02
20CH-03
20CH-04
20CH-05
20CH-06
20CH-07
20CH-08
20CH-09
20CH-10
20CH-11
20CH-12
20CH-13
20CH-14
20CH-15
20CH-16
SS-30
SS-29
SS-28
SS-27
SS-26
SS-25
SS-24
SS-23
SS-22
SS-21
SS-20
SS-19
SS-18
SS-17
SS-16
SS-04
SB-15
SB-14
SB-13
SB-12
SB-01
SB-02
SB-03
SB-05
SB-06
SB-07
SB-08
SB-09
SB-10
SB-11
SO-62
SO-63
12CH-01
12CH-02
12CH-03
12CH-04
12CH-05
33WS-01
33WS-02
33WS-03
33WS-04
33WS-05
33WS-06
33WS-07
33WS-08
33WS-09
33WS-10
33WS-11
33WS-12
33WS-13
33WS-14
33WS-15
33WS-16
35WS-01
45WS-01
45WS-02
45WS-03
45WS-04
Legend
Chromium in surface soil: 0-2 ft bgs
40 mg/kg MA DEP Background
Action Level Ratio
0 - 1x Action Level
1 - 10x Action Level
10 - 100x Action Level
100 - 1000x Action Level
1000 - 10000x Action Level
> 10000x Action Level
Location Not Sampled for Chromium
10 foot Index Contour
1 foot Contour
Site Features
Site Parcels
Other Property Lines
Fenceline
Edge of Pavement - Site
Mean Low Water
Railroad
Notes:
1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.
2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.
3. Mass DEP Background for Soil Containing Fill Material.
4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
5. Location of site features depicted hereon is approximate and given for illustrative purposes only.
0
150
300
Feet
1 inch = 150 feet
N
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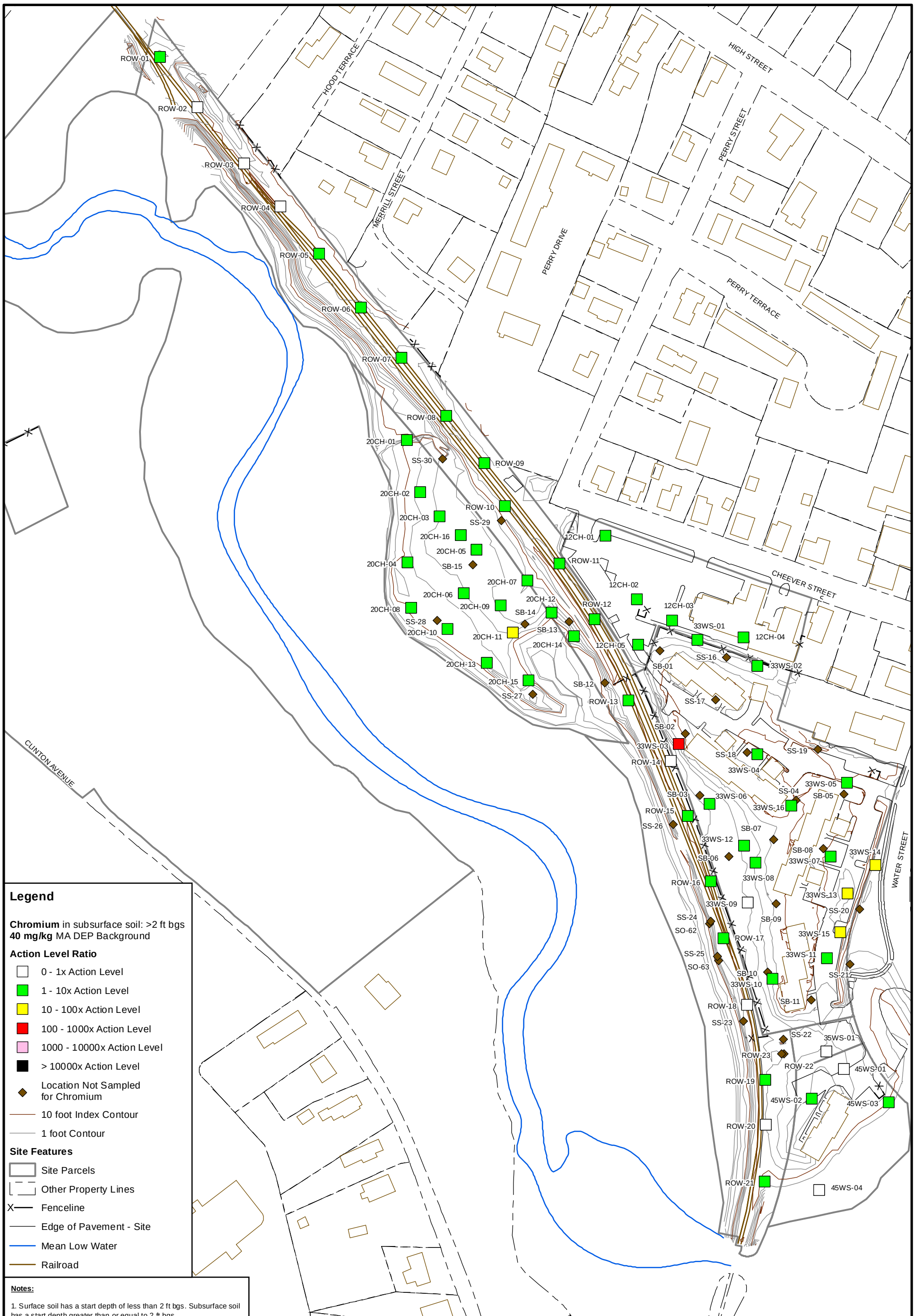
FIGURE 4-3
CHROMIUM RESULTS IN SURFACE SOIL
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS
PREPARED BY: JH
CHECKED BY: DC
PROJECT NO. 80095
DATE: JANUARY 2015
Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_4-3_Creese_Cook_Cr_Surface.mxd
Date Printed: 1/13/2015


HIGH STREET
HOOD TERRACE
MERRILL STREET
PERRY DRIVE
PERRY STREET
PERRY TERRACE
CHEEVER STREET
CLINTON AVENUE
WATER STREET
ROW-01
ROW-02
ROW-03
ROW-04
ROW-05
ROW-06
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ROW-09
ROW-10
ROW-11
ROW-12
ROW-13
ROW-14
ROW-15
ROW-16
ROW-17
ROW-18
ROW-19
ROW-20
ROW-21
ROW-22
ROW-23
20CH-01
20CH-02
20CH-03
20CH-04
20CH-05
20CH-06
20CH-07
20CH-08
20CH-09
20CH-10
20CH-11
20CH-12
20CH-13
20CH-14
20CH-15
20CH-16
12CH-01
12CH-02
12CH-03
12CH-04
12CH-05
33WS-01
33WS-02
33WS-03
33WS-04
33WS-05
33WS-06
33WS-07
33WS-08
33WS-09
33WS-10
33WS-11
33WS-12
33WS-13
33WS-14
33WS-15
33WS-16
35WS-01
45WS-01
45WS-02
45WS-03
45WS-04
SS-04
SS-16
SS-17
SS-18
SS-19
SS-20
SS-21
SS-22
SS-23
SS-24
SS-25
SS-26
SS-27
SS-28
SS-29
SS-30
SB-01
SB-02
SB-03
SB-05
SB-06
SB-07
SB-08
SB-09
SB-10
SB-11
SB-12
SB-13
SB-14
SB-15
SO-62
SO-63
Legend
Chromium in subsurface soil: >2 ft bgs
40 mg/kg MA DEP Background
Action Level Ratio
0 - 1x Action Level
1 - 10x Action Level
10 - 100x Action Level
100 - 1000x Action Level
1000 - 10000x Action Level
> 10000x Action Level
Location Not Sampled for Chromium
10 foot Index Contour
1 foot Contour
Site Features
Site Parcels
Other Property Lines
Fenceline
Edge of Pavement - Site
Mean Low Water
Railroad
Notes:
1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.
2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.
3. Mass DEP Background for Soil Containing Fill Material.
4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
5. Location of site features depicted hereon is approximate and given for illustrative purposes only.
0
150
300
Feet
1 inch = 150 feet
N
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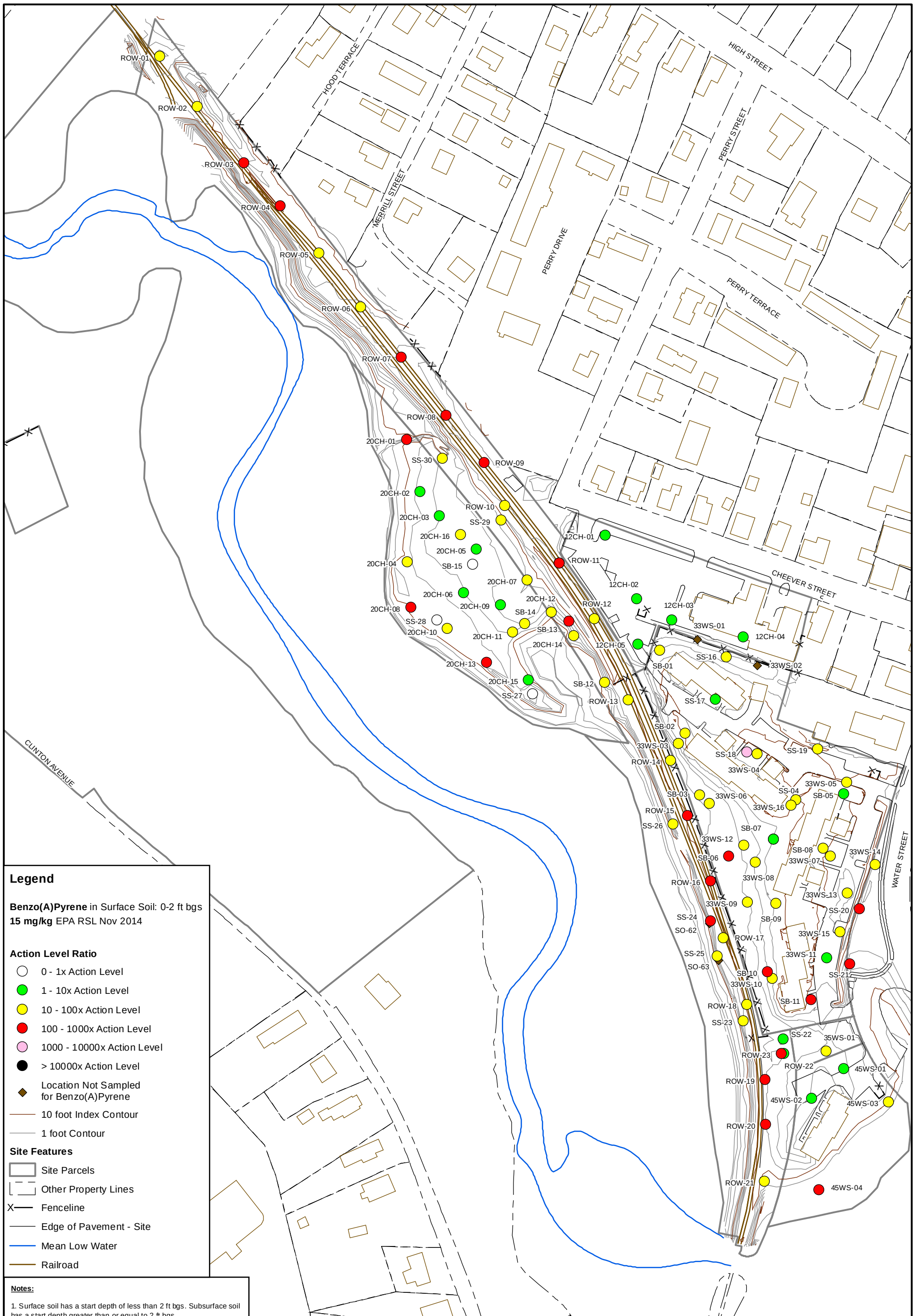
FIGURE 4-4
CHROMIUM RESULTS IN SUBSURFACE SOIL
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS
PREPARED BY: JH
CHECKED BY: DC
PROJECT NO. 80095
DATE: JANUARY 2015
Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Tech Memo\Fig_4-4_Creese_Cook_Cr_Subsurf.mxd
Date Printed: 1/13/2015



Legend

Benzo(A)Pyrene in Surface Soil: 0-2 ft bgs
15 mg/kg EPA RSL Nov 2014

Action Level Ratio

- 0 - 1x Action Level
- 1 - 10x Action Level
- 10 - 100x Action Level
- 100 - 1000x Action Level
- 1000 - 10000x Action Level
- > 10000x Action Level
- Location Not Sampled for Benzo(A)Pyrene
- 10 foot Index Contour
- 1 foot Contour

Site Features

- Site Parcels
- Other Property Lines
- Fenceline
- Edge of Pavement - Site
- Mean Low Water
- Railroad

Notes:

1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.
2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.
3. EPA Residential Soil Regional Screening Levels, November 2014.
4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
5. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet
1 inch = 150 feet

N

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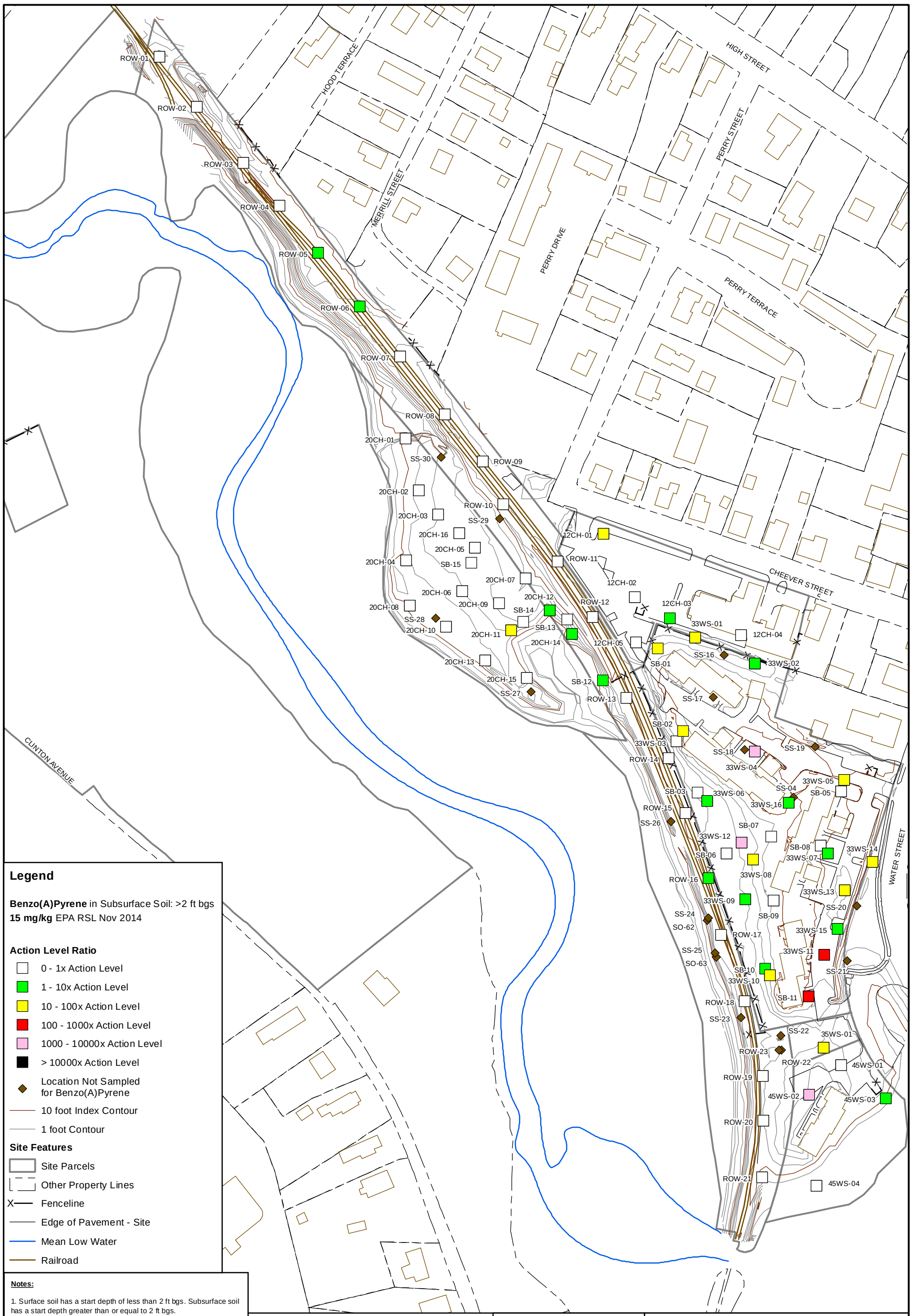
FIGURE 4-5

BENZO(A)PYRENE RESULTS IN SURFACE SOIL
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Creese_Selected_Chems\Fig_4-5_Creese_Cook_BaP_Surface.mxd Date Printed: 2/12/2015



Legend

Benzo(A)Pyrene in Subsurface Soil: >2 ft bgs
15 mg/kg EPA RSL Nov 2014

Action Level Ratio

- 0 - 1x Action Level
- 1 - 10x Action Level
- 10 - 100x Action Level
- 100 - 1000x Action Level
- 1000 - 10000x Action Level
- > 10000x Action Level
- Location Not Sampled for Benzo(A)Pyrene
- 10 foot Index Contour
- 1 foot Contour

Site Features

- Site Parcels
- Other Property Lines
- Fenceline
- Edge of Pavement - Site
- Mean Low Water
- Railroad

Notes:

1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.
2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.
3. EPA Residential Soil Regional Screening Levels, November 2014.
4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
5. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet
1 inch = 150 feet

N

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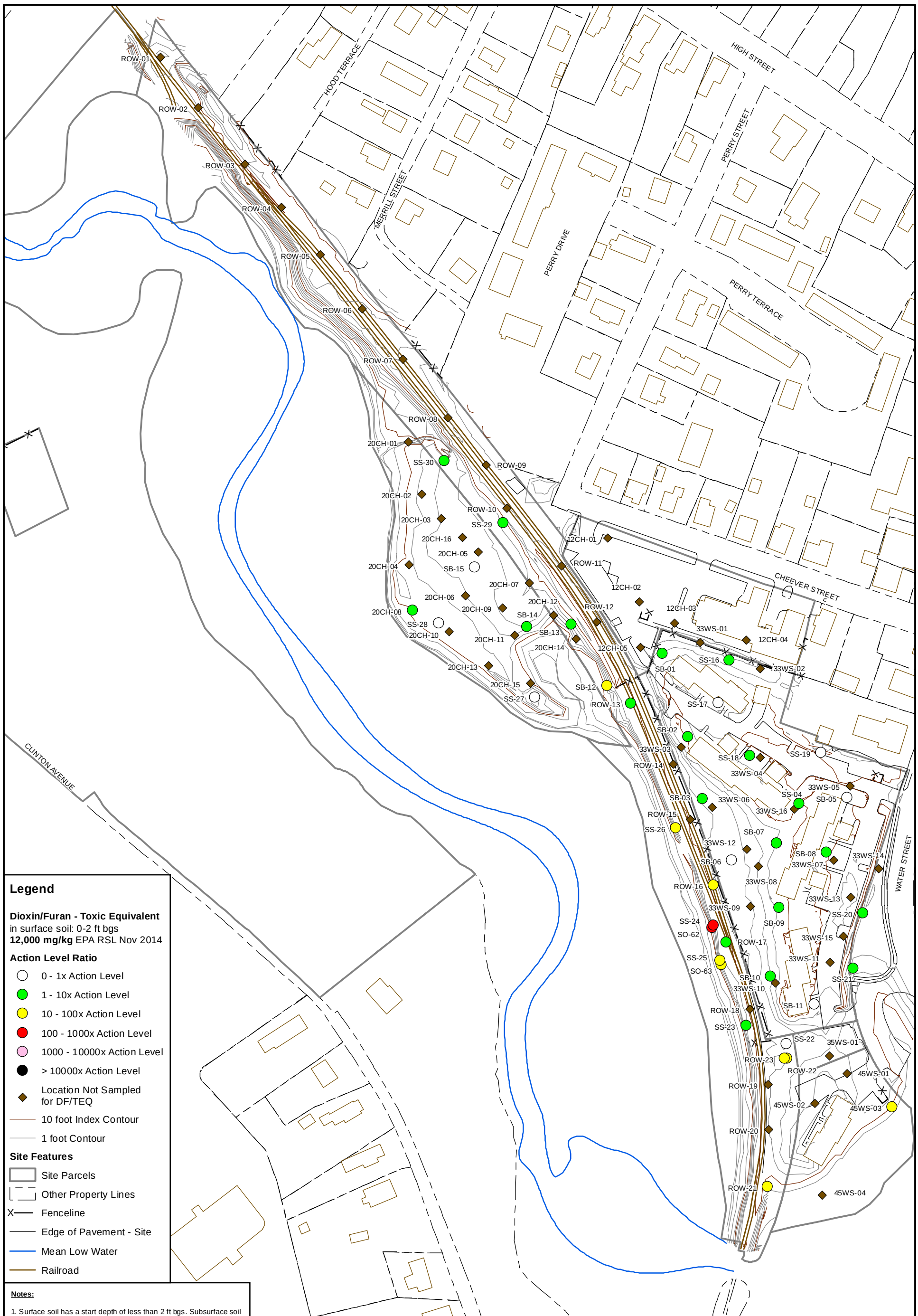
FIGURE 4-6

BENZO(A)PYRENE RESULTS
IN SUBSURFACE SOIL
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Creese_Selected_Chems\Fig_4-6_Creese_Cook_BaP_Subsurface.mxd Date Printed: 2/12/2015



Notes:

1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.

2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.

3. EPA Residential Soil Regional Screening Levels, November 2014.

4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

5. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet
1 inch = 150 feet

N

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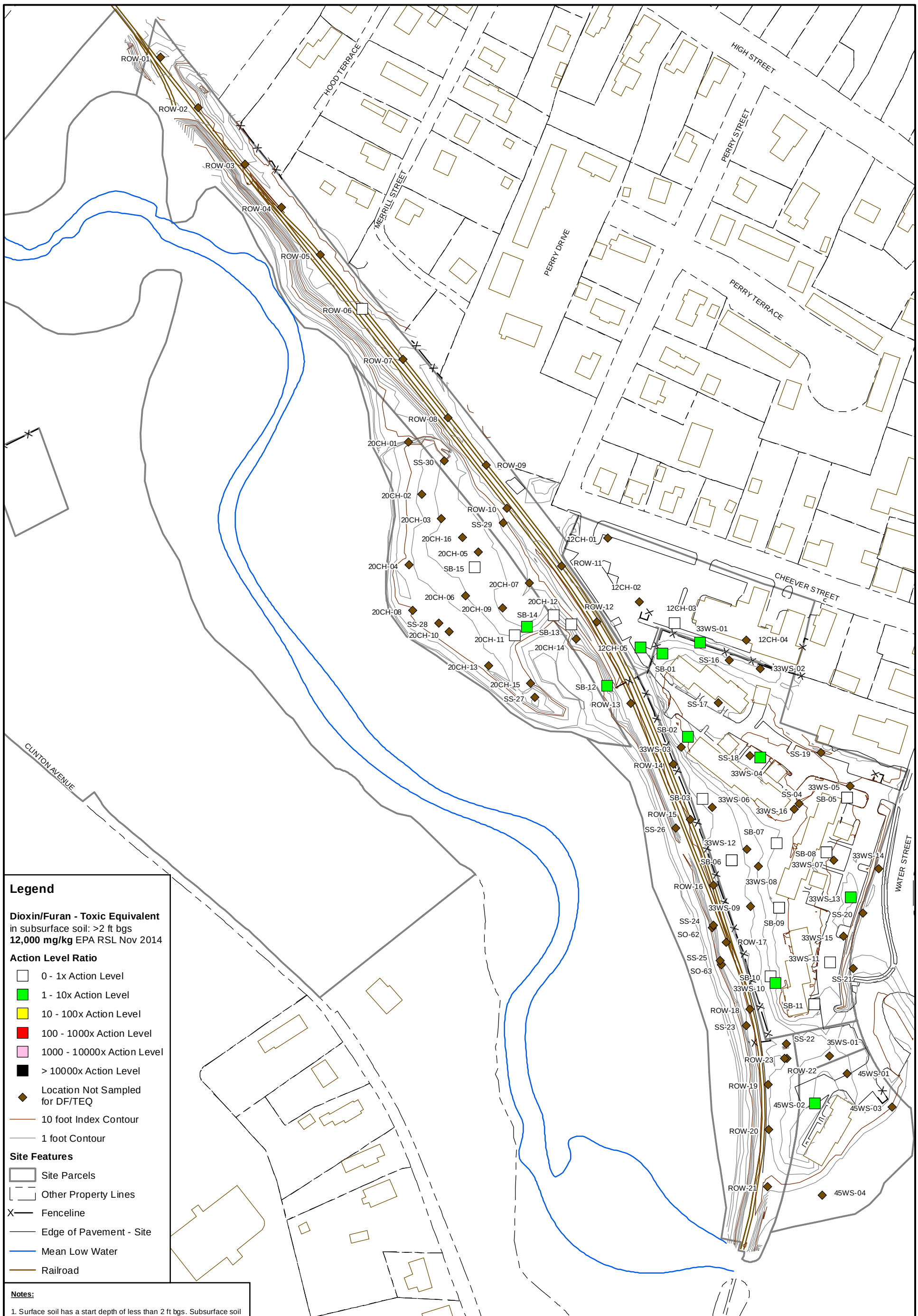
FIGURE 4-7

DIOXIN/FURAN - TOXIC EQUIVALENT
RESULTS IN SURFACE SOIL
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Creese_Selected_Chems\Fig_4-7_Creese_Cook_DFTEQ_Surface.mxd Date Printed: 2/12/2015



Legend

Dioxin/Furan - Toxic Equivalent
in subsurface soil: >2 ft bgs
12,000 mg/kg EPA RSL Nov 2014

Action Level Ratio

- 0 - 1x Action Level
- 1 - 10x Action Level
- 10 - 100x Action Level
- 100 - 1000x Action Level
- 1000 - 10000x Action Level
- > 10000x Action Level
- Location Not Sampled for DF/TEQ
- 10 foot Index Contour
- 1 foot Contour

Site Features

- Site Parcels
- Other Property Lines
- Fenceline
- Edge of Pavement - Site
- Mean Low Water
- Railroad

Notes:

1. Surface soil has a start depth of less than 2 ft bgs. Subsurface soil has a start depth greater than or equal to 2 ft bgs.
2. Samples were taken in June 2014 and April 2011. Only the maximum result of multiple samples is shown. Where duplicate samples were taken, the maximum result is shown.
3. EPA Residential Soil Regional Screening Levels, November 2014.
4. Parcel lines are from MassGIS and Town of Danvers Assessor's database.
5. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet
1 inch = 150 feet

N

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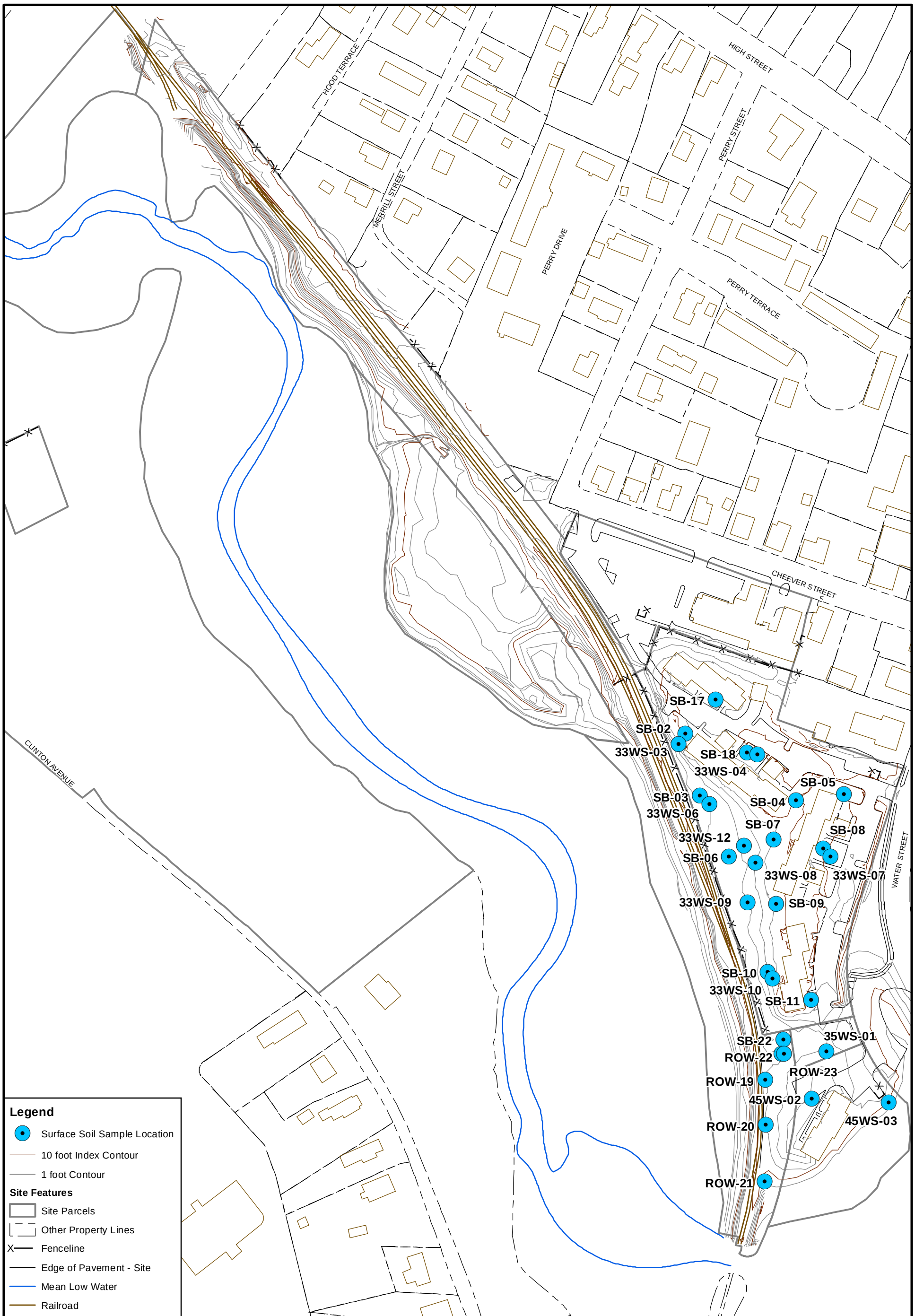
FIGURE 4-8

DIOXIN/FURAN - TOXIC EQUIVALENT RESULTS IN SUBSURFACE SOIL
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: FEBRUARY 2015

Path: \\ma-netapp\Rac_File_Storage\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Creese_Selected_Chems\Fig_4-8_Creese_Cook_DFTEQ_Subsurf.mxd Date Printed: 2/12/2015



Notes:

1. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

2. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet

1 inch = 150 feet

N

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FIGURE 5-1

SURFACE SOIL SAMPLE LOCATIONS
CURRENT RESIDENTIAL EXPOSURE -
HUMAN HEALTH RISK EVALUATION
CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: JANUARY 2015

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APPENDIX A

GEOPHYSICAL INVESTIGATION
FORMER CREESE AND COOK TANNERY
SUPERFUND SITE
DANVERS, MASSACHUSETTS

Prepared for:

Nobis Engineering, Inc.
18 Chenell Drive
Concord, NH 03301

Prepared by:

Hager GeoScience, Inc.
596 Main Street
Woburn, MA 01810

File 2014026
August 2014

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Hager GeoScience, Inc.

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1.0 INTRODUCTION

From May 14th to May 22nd, 2014, Hager GeoScience, Inc. (HGI) performed a multi-method geophysical survey for Nobis Engineering, Inc. (Nobis) at the former Creese and Cook Tannery Superfund Site in Danvers, Massachusetts (the Site).

The purposes of the investigation were to:

1) Identify areas and/or depths of fill that may be possible sources of groundwater and soil contamination at the former tannery site,
2) Determine depth to bedrock, and
3) Identify other possible sources of subsurface contamination.

To accomplish these goals, HGI conducted geophysical traverses throughout the 33 Water Street, 12 Cheever Street, and 20 Cheever Street properties, as well as along the Massachusetts Bay Transportation Authority Right of Way (MBTA ROW) adjacent to the properties. Due to access limitations, the 15 Pleasant Street property was not included in the survey scope.

A total of approximately 8,050 linear feet of geophysical data were collected at the Site. The individual totals include:

- Five electrical resistivity (ER) profiles totaling approximately 1,615 feet
- One seismic refraction line totaling approximately 2,125 feet
- Two multichannel analysis of surface waves (MASW)/refraction seismic lines totaling approximately 550 feet
- 12 ground penetrating radar (GPR) lines totaling approximately 3,760 feet
- Deployment of ten low-frequency three-component geophones to determine horizontal-to-vertical (H/V) spectral ratios of ambient noise for preliminary point estimates of depth to bedrock throughout the site.

The ER method was chosen to delineate possible areas of fill and contamination by identifying areas of anomalous electrical characteristics. The seismic refraction method was used to determine depth to bedrock. The MASW method allowed for the identification of areas of anomalous seismic velocity that could be due to fill. GPR was selected to image the trends of potential fill and stratigraphic horizons. The calculated values of H/V ratios were used to inform seismic survey design.

2.0 DATA ACQUISITION

As described in the accepted proposal, the geophysical investigation was conducted using the DC resistivity, seismic refraction, and GPR methods. Upon acquisition of additional

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background information on the former usage of the site and records of soil borings provided by Nobis, a seismic surface wave (MASW) survey was added for the portion of the site along the peninsula (20 Cheever Street lot) in hopes of identifying areas of anomalous near-surface seismic velocity that could indicate the presence of fill. While resistivity and GPR methods assess the electromagnetic characteristics of near-surface materials, seismic methods assess the velocity of acoustic wave propagation. The combination of electromagnetic and acoustic methods offers complementary and independent analyses of stratigraphy and material properties that can be used to characterize areas of fill and contamination.

Plate 1 shows the locations of the geophysical traverses superimposed on the ArcGIS maps provided by Nobis. HGI provided a field crew of 3 to 6 geophysicists during the course of the field program.

As noted in the Introduction, the surface geophysical survey areas included the property lots for 33 Water Street, 12 Cheever Street, 20 Cheever Street, and the MBTA ROW adjacent to each lot, which included two sets of abandoned train tracks and associated infrastructure. Seismic, resistivity, and GPR transects were collected along the tracks as well as on the peninsula protruding into the Crane River (20 Cheever Street lot), and are shown on Plate 1.

It is important to note that each of the geophysical methods used has limitations (see Section 6). Physical, electromagnetic, and chemical properties, as well as depth and thickness, of subsurface features may result in their being undetected by one or more of the methods selected. A multi-method geophysical approach addresses this problem and can also provide a degree of quality control.

HGI used a Sokkia 2700ISX RTK GPS system with real time kinematic (RTK) corrections to locate the geophysical lines and surface features with sub-foot horizontal accuracy in the Massachusetts State Plane Coordinate System.

All depth data in this report are provided as feet below grade.

Section 7 describes the geophysical techniques and their limitations.

2.1 Resistivity Survey (ER)

ER data were collected to characterize the fill layer in the marsh area west of the MBTA tracks (20 Cheever Street lot). The ER survey was also intended to supplement, as well as constrain, interpretations based on other geophysical methods used to collect data in other parts of the site.

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A Multi-Phase Technologies, LLC (MPT) DAS-1 64-electrode unit was used to collect the ER data. All ER data were collected as dipole-dipole arrays and intended to image fill and other resistivity anomalies within the upper 30 to 40 feet below grade. Lines were "rolled" by either 16 or 32 electrodes as space permitted. Electrodes were spaced 3 feet apart, allowing for approximately 1.5 feet of horizontal and vertical resolution.

Resistivity data were collected along five lines, three on the marsh area west of the MBTA tracks and two at the 33 Water Street condo complex. A total of approximately 1,615 linear feet of resistivity profile were collected, shown in blue on Plate 1.

2.2 Seismic Survey

One seismic refraction line (Line 3) was planned to characterize depth to bedrock along the length of the MBTA ROW. The relatively straight alignment of the tracks allowed for the collection of shorter overlapping profiles that were merged into one file for processing. The seismic refraction line along the tracks covers the area from the southern extent of the 33 Water Street property to the gravel maintenance road south of the Yankee Division Highway overpass to the north. Geophones were spaced 18 to 20 feet apart. Off-end shots were made 25 and 50 feet from the first and last geophone of each line segment, respectively. Inline shots were collected 90 to 100 feet along the line.

Trees were cleared on the 20 Cheever Street lot to allow for the collection of two intersecting MASW seismic lines. Line 1 was oriented approximately south to north. Line 2 was oriented west to east. To investigate the near surface, and specifically to help characterize possible fill, data for Lines 1 and 2 were collected with in-line shots every 10 feet along the line and records were later cut to 12 active channels, with the first geophone positioned 10 feet from each shot point to allow for MASW analysis. Although the survey geometry was designed to characterize the near surface rather than to determine depth to bedrock, refraction analysis was conducted using all active channels to constrain depths to overburden horizons for each line. Off-end shots at 10 and 25 feet from the first and last geophones, respectively, were collected for use in refraction interpretation.

Where space permitted, seismic refraction data were collected in close proximity to resistivity transects where space permitted. 14-Hertz geophones were mounted on spikes and arranged in 24- and 48-channel arrays to accommodate the physical geography of the site (Plate 1).

The geophone array for each line was attached to HGI's Geometrics Geode ® 48-channel exploration seismograph via a seismic cable that relayed the motion-induced electrical signals from individual sensors to the seismograph. The electrical signals were recorded as SEG-2 Rev 1, 32-bit integer data. Our acquisition software provides a number of Windows-based modules that permitted on-site display and evaluation of data quality.

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A Betsy seisgun using 8-gauge 400-grain industrial blanks was used as the energy source where shot points were positioned on soil or in wetlands. For shots on compacted ballast or pavement, a 90-pound propelled energy generator (PEG) provided the seismic energy. Multiple shots (or stacks) were made at each shot location as necessary to increase the signal-to-noise (S/N) ratio. The quality of the seismic signal was assessed in the field at each shot location.

Signals induced from the PEG and seisgun energy sources were sampled at a rate of 0.125 milliseconds (ms) for a period of 1 second. Shot locations for each array were mirrored to enable examination of the reciprocity of refractor travel-times. In order to optimize reciprocal ray path coverage along each spread, constant shot intervals were used for in-line and off-end shots where space permitted.

A preliminary seismic investigation using 4.5-Hz three-component geophones (lateral, transverse, and vertical) was conducted at three cluster locations, “A,” “B,” and “C,” totaling 10 locations within the survey area, to achieve a preliminary estimate of depth to bedrock by use of the horizontal-to-vertical ambient noise ratio method (H/V method). The three cluster locations were distanced to obtain preliminary bedrock depth information at the south, middle peninsula, and north end of the survey area, distanced at the north end from Route 128. Each geophone was planted firmly in the ground with the lateral component facing north at each station. The sensors independently recorded the ambient noise generated by the movement of traffic, wind, and water. Six 130-second records and two 500-second records were collected at each location. The records were stacked during data analysis to improve the signal-to-noise ratio.

2.3 Ground Penetrating Radar (GPR)

GPR data were collected to help characterize the fill layer and identify potential contamination-related anomalies, especially at the 33 Water Street condo complex areas where other geophysical methods would not be ideal. GPR data were also collected to determine bedrock depth, if possible.

A GSSI SIR 20 digital acquisition system was used to record all GPR data. Both a 200- and 100-MHz antenna were tested at the site in order to determine the most suitable frequency to satisfy the GPR survey objectives. Upon completion of the in-field data quality assessment, it was determined that the 100-MHz antenna, due to its higher power output, was more likely to identify fill, anomalies, and potentially bedrock depth.

All GPR data were collected using a survey wheel to maintain horizontal distance control, a scan rate of 10 scans per foot, and a time range of 500 ns.

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2.4 GPS

HGI used its Sokkia 2700 ISX RTK GPS to locate the geophysical traverses, as well as surface features such as manhole covers. The Sokkia system provided a relative accuracy of less than 0.164 foot horizontally and 0.328 foot vertically for points in the Massachusetts State Plane coordinate system.

3.0 DATA REDUCTION AND ANALYSIS

Following the field data collection, the geophysical data were downloaded to PC at the HGI office, where they were archived, processed, and analyzed using the following proprietary software:

- Resistivity: ERTLab™ *Solver*
- Data Modeling: Surfer9®
- Refraction: Geogiga Refractor 7.3®
- MASW: SurfSeis 3.4.5.1®
- Ambient Seismic Analysis: Geopsy 2.5.0®
- GPR: GSSI RADAN® 7
- Graphic Presentations: AutoCAD MAP 3D 2014® and Surfer9®

3.1 ER

Resistivity data were processed using Multi-Phase Technologies, LLC's (MPT) ERTLab64™ *Solver* 3D electrical resistivity tomography inversion software. Prior to data processing, each of the rolled files was appended into a single profile for each line.

Using the ERTLab64™ software, data quality was assessed by analyzing the reciprocity of resistivity data. Those data points having poor reciprocity, anomalous measurements, and/or associated with electrodes having poor ground coupling were filtered out of the data set. The resulting data set was modeled using the software's inversion process to produce calculated resistivity models.

Upon successful conversion of the resistivity inversion process, the models were exported as ASCII files that were used to construct 2D interpolated grids in Surfer, from which the final color contour resistivity plots were created. These are presented as Figures A-1 through A-5 in Appendix A.

Analysis of all resistivity data consists of analyzing the relative changes in calculated resistivity. Horizontal and vertical changes in the calculated resistivity could be indicative of anthropogenic activity and/or geology. Due to the nature of the fill anticipated to be present at this this site, areas of high resistivity are interpreted as areas of fill deposition in contrast to the expected low resistivity sediments commonly observed

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in similar coastal environments. It is possible that extremely low resistivity values could be associated with saltwater intrusion.

3.2 Seismic Survey

3.2.1 Seismic Refraction

HGI analyzes seismic refraction data using Geogiga Technology Corporation's (GTC) Geogiga Refractor 7.3®. Picked arrival times are subdivided into individual refractor layers on the basis of refractor geometry. This is accomplished by examining the slope of the line and connecting refractor p-wave arrival times plotted as a function of distance. Since the slope of the line depends on a layer's seismic velocity, slope changes may be used to discriminate between velocity layers.

Refraction data reduction and analysis initiated with the determination of arrival times of the direct (where applicable) and refracted waves for each shot-receiver pair. These arrivals were identified and "picked" on a trace-by-trace basis by examining individual seismograms for the break in phase leading the first coherent seismic wavelet arrival. Coherent arrivals were enhanced through the use of frequency filters that remove both coherent (e.g., electrical) and non-coherent (e.g., traffic) noise from individual features. Extensive filtering was required to mitigate the effects of traffic along refraction Line 3.

Direct and refracted wave travel times expressed as a function of source and receiver locations were used to generate the earth model most consistent with all observations. Using this layer information, Geogiga Refractor offers calculations of layer velocities and depths using approximate and average general reciprocal methods (GRM), delay time, and slope intercept modeling methods. GRM was used as the primary modeling method, because it allows for lateral changes in layer velocities and the capability to identify and model stratigraphy where velocity inversion and/or hidden layers are present. The GRM profiles for Lines 1, 2, and 3 are presented in Appendix B, Figures B-1 through B-3, respectively. Only Line 3 along the MBTA ROW shows competent bedrock.

As bedrock depth information from boreholes was not available, modeled depths to bedrock were compared against the H/V ratio results where the H/V results were assumed to be valid.

3.2.2 MASW

The Kansas Geological Survey's (KGS) SurfSeis 3.4.5.1, Excel®, and Surfer® 9.0 are used to analyze MASW data. As surface waves propagate outward from a seismic source along the earth-air interface, lower-frequency waves propagate more deeply into the earth and travel at generally faster velocities, while high-frequency components of the surface

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wave energy penetrate less deeply and travel more slowly. This typical behavior for geologic media is referred to as dispersion. The SurfSeis software was used to perform a dispersion analysis for each shot gather.

Individual active seismic shots recorded at each shot location were stacked to produce one active record and one dispersion image for each shot location. 1D Vs inversion models representing the velocity variations with depth for the midpoint of each array position are obtained by inversion of the dispersion results. To reduce the potential for anomalous responses due to noise or data quality differences, HGI uses the 1D depth models to develop a 2D Vs profile along the length of the survey line by applying a kriging algorithm to interpolate between data points.

The calculation of shear wave profiles of the subsurface by use of the MASW method can determine where areas of anomalous velocity may exist. Anomalous areas, specifically decreases in shear wave velocity, can indicate the presence of fill.

3.2.3 H/V Ratio Method

Estimates of preliminary depths to bedrock were calculated for 10 ambient noise survey points using Geopsy 2.5.0®. The Fourier amplitude spectra of the horizontal and vertical components of ambient seismic noise were calculated for six individual 130-second-long records collected for each three-component geophone. The ratio of the horizontal and vertical Fourier spectra was then calculated for each record collected. An average of the H/V ratio from all six time windows was taken. The peak frequency of the H/V ratio was then used to calculate an approximate depth to bedrock using one of two published regression formulas (Ibs-von Seht & Wohlenberg, 1999; Parolai *et al*., 2004).

The H/V ratio method provided estimates of depths to bedrock for 10 different points throughout the survey. A figure presenting the general appearance of the resonance frequency peak as identified by calculation of spectral ratio is presented in Appendix D, Figure D-1.

Tables of calculated depths to bedrock for each of the 10 sites chosen for investigation are provided in Appendix D. The method is meant to provide some basis for seismic refraction survey design, and can provide an approximation of depth to bedrock only when the initial assumption of a soil layer over a bedrock half-space is met. Limitations of the method are discussed in Section 5.

3.3 GPR

Before the data could be analyzed, processing was required to reduce the detrimental effects of site-specific noise associated with interfering background frequency signals.

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The processed radargrams were analyzed for the location and depth of reflective horizons as well as irregular features possibly relating to fill and/or sources of contamination. Figure E-1 is an example of an annotated processed 100-MHz record.

Horizons along the GPR traverses were observed due to the back-scattering of the input GPR wave from discontinuous electromagnetic boundaries (i.e., changes in soil type or other media).

The GPR reflector boundaries and their depths were estimated from the recorded travel-time data using site-specific velocity migration calculations and material-specific velocity tables.

The GPR data were used to create a database of approximately 700 depth points. The database of depth points was used to create a gridded matrix for the interpreted bedrock models using a kriging algorithm. The gridded data were smoothed and contoured using Surfer9® and exported into AutoCAD drawings.

To identify potential sources of contamination, the processed records were evaluated for possible anomalies, or anomalous zones, that differ from background signal response/characteristics (Figure E-1). The interpreted individual GPR anomalies and anomalous zones were then exported to AutoCAD.

4.0 RESULTS

The results of the fill investigation are shown on Plates 2 and 3, ER profile Figures A-1 through A-5, refraction profiles Figure B-1 through B-3, and MASW profiles Figures C-1 and C-2. An annotated GPR record is presented in Figure E-1 as an example of a record containing features typical for this site.

4.1 Fill Investigation

Plate 2 shows the contour plot of the GPR-interpreted waste fill horizon and the high-resistivity anomalous zones found in the marsh area (Figures A-1 through A-3). The interpreted fill appears to vary from 1 to 7 feet below ground surface and is found throughout most of the survey area. Information from both GPR and ER were integrated to create the Plate 2 contour plot.
The contour trend in the area identified as “Area of Prior Excavation” is likely associated with materials from prior remediation activity.

A second deeper horizon was also observed in the GPR records approximately 4.5 to 14 feet below grade. This horizon correlates well with that identified as a potential anthropogenic boundary in Figures A-4 and A-5; it was integrated with the GPR results to create the Plate 3 contour plot. This horizon is interpreted as a potential deeper fill layer.

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MASW figures C-1 and C-2 also show isolated areas of decreased shear wave velocities that correlate well with the areas of high resistivity shown on Figures A-1 and A-2.

It was observed that the overall calculated resistivity was lower along Lines 2 and 3 (Figures A-2 and A-3), which were located directly adjacent to the water's edge and likely have a substantial amount of salt water intrusion. Areas of low resistivity have also been identified on Lines 1, 4, and 5 (Figures A-1, A-4, and A-5), which could also be interpreted as the result of salt water intrusion. Confirmation of this interpretation is recommended.

4.2 Bedrock Investigation

The results of the bedrock survey are shown on Plate 4 and in Figures B-1 through B-3.

The GRM profile for Line 3 in Figure B-3 shows three distinct horizons: a thin layer of dry, unconsolidated surface material with low velocity; a layer of loose, wet material below the water table; and the bedrock surface. Overburden layer thicknesses and velocities vary along the length of each line. Bedrock velocity varies from values appropriate for weathered crystalline rock in the south to those for competent rock in the north.

Both the GRM profiles of Line 1 and Line 2 presented in Figures B-1 and B-2 identify three horizons. While the loose soil layer and saturated sand and clay identified along each profile have velocities similar to those for the layers identified along Line 3 in Figure B-3, the velocity of the deeper material is significantly lower than that of intact crystalline rock. It is thus likely that this horizon either represents the transition to very weathered bedrock or very compact marine clays. The horizon exists at the same approximate depth as the transition to faster material observed in the MASW analysis (Figures C-1 and C-2). The depth to rock calculated from the H/V ratio analysis is in close agreement with the depth to the weathered rock or hard clay horizon identified by the GRM and MASW methods. Competent bedrock was not identified along Line 1 and Line 2 and could potentially be found at significant depth below the weathered horizon. Future seismic refraction investigations are recommended to identify a competent rock horizon in the 20 Cheever Street lot.

Tables of results for the H/V ratio method results are presented in Appendix D, Tables D-1 through D-4. Further discussion of the implications and limitations of the results from the H/V method investigation are presented in Section 5.

The bedrock contour plot presented on Plate 4 was created using data obtained from seismic refraction Lines 1 through 3 as well as H/V data from clusters "B" and "C" (deep calculation). It should be noted that the shallow trend observed over the peninsula is the result of integrating seismic refraction and H/V data that may not be weathered bedrock,

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as discussed above. H/V data from cluster "A" was not integrated into the model, as location A-1 was flooded by the incoming tide during data collection, and locations A-2 and A-3 were later found to be above a drain line.

Plate 4 is intended to represent one possible bedrock model, using a kriging algorithm, and should not be used to identify precise bedrock depths. The overall data distribution used to create this model is limited, and it remains inconclusive whether data integrated over the peninsula is actually bedrock. Confirmation of the bedrock model via test pits and/or borings is strongly recommended.

4.3 Possible Source of Contamination

Individual GPR-identified anomalies and anomalous zones are presented on Plates 5 through 8. The "GPR-Identified - Anomaly" and "GPR-Identified - Anomalous Zone" categories (cyan) represent anomalies or anomalous areas with geometry and/or signal strength that stands out from the background GPR signal. The "GPR-Identified - Anomaly" category represents a single anomaly, while the "GPR-Identified - Anomalous Zone" category represents an area containing multiple individual anomalies or an area that stands out from the background GPR signal. These anomalies should be considered potential obstructions and can have causes ranging from changes in the soil/fill to buried debris. GPR anomaly and anomalous zone shapes may vary from those depicted in the legend. The shape of each anomaly reflects the general extent that best fits that anomaly or anomalous area for the individual traverse and may not actually reflect the shape of the potential subsurface obstruction.

Of the GPR-identified features, the anomalous zone identified as "A" (Plates 5 and 6, Figure C-1) is the strongest candidate for being related to the former tannery building.

5.0 LIMITATIONS

HGI initially planned to collect ER data along the MBTA tracks north of the condo complex. However, upon assessing the site for cultural features likely to produce noise in the geophysical data, it was determined that too many sources of noise exist in this area. These include, but are not limited to, the high-power overhead electric line, the MBTA tracks, and a large drainage line.

Despite use of the 100-MHz high-power GPR antenna, the effective signal penetration depth was approximately 20 feet over most of the site. As a result, bedrock information could not be extracted from the GPR records.

The H/V ratio method is predicated on the assumption that the underlying geology can be characterized by a simple layer over half-space method. This requires a fairly continuous velocity profile of overburden overlying distinctively higher-velocity bedrock. The H/V values calculated for Stations H/V A-1 and A-2 are significantly shallower than the depth

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of bedrock calculated from refraction analysis (Appendix D, Table D-1). Ambient recordings were collected on the first field day for reconnaissance-level site characterization to aid in survey design for the refraction and MASW methods. It was apparent that Stations H/V A-1 and A-2 were deployed immediately over and adjacent to a large deeply buried sewer line oriented parallel to the MBTA tracks. The concrete-lined void space beneath the H/V stations is likely responsible for the shallow H/V values.

Tables D-3 and D-4 present two sets of values for H/V Stations C-1, C-2, and C-3. The values represent the possible bedrock depth solutions for the two H/V models. The difference in values may be due to the proximity of these stations at the time of survey to the ebbing tide, which provides a seismic source with a likely different frequency range than the river at low tide or high tide observed for Stations A-1 through A-3 and B-1 through B-4. The greater depth to bedrock solution is favored based on the trend of the refraction bedrock profile presented in Appendix B, Figure B-3.

Based on the separation of geophysical traverses and data points, HGI considers this geophysical investigation exploratory in nature. Additional geophysical data could be collected to refine the subsurface models presented in Plates 2 through 4and investigate other areas for potential sources of contamination.

It should be noted that the geophysical methods used are indirect techniques and thus cannot unambiguously determine the physical properties of anomalies or reflectors. Confirmation of the interpretations and models presented is recommended.

6.0 REFERENCES

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7.0 DESCRIPTION OF THE METHODS

7.1 Resistivity

7.1.1 Description of the Method

We collect resistivity data using a Multi-Phase Technologies, LLC (MPT) DAS-1 multichannel electrical resistivity unit and 64 electrodes. The MPT-DAS-1 Electrical

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Impedance Tomography System is an integrated induced polarization (IP) system with 8 channels, each containing a 24-bit A-to-D converter and microprocessor for improved dynamic range. It is capable of collecting 3D subsurface images using electrical resistivity tomography (ERT) or electrical impedance tomography (EIT). Additional multiplexers can be added to increase array size.

Electrode spacing (a-spacing) and array type depend on the horizontal and vertical resolution required, depth of penetration, and survey time. Typically a-spacing is set to two to three times the required horizontal resolution. Depending on the nature of the survey, and required vertical resolution and depth of investigation, a variety of survey electrode arrays can be used including (but not limited to) dipole-dipole, Wenner, Schlumberger, and gradient.

Where necessary, holes for electrodes are drilled through asphalt or concrete surface material to avoid the detrimental effects of these materials on the injected currents. Also, to increase the coupling of the electrodes to the topmost soils, and thus provide the least amount of electrode tip resistance, a saltwater solution may be soaked into the soils at electrode locations.

7.1.2 Data Analysis and Interpretation

Resistivity data are processed using ERTLab™ *Solver* 3D electrical resistivity tomography inversion software. Prior to data modeling, the data set for each survey is screened for duplicates, reciprocity, and tolerance limits.

This resistivity and IP inversion module uses finite element modeling (FEM) to produce full three-dimensional topographical inversion modeling. Its numerical core based on tetrahedral FEM allows inputting of complex topographic information and inverting data sets collected using surface, borehole and surface-to-hole array configurations. ERTLab™ *Viewer* is used to visualize inverse and forward models in a variety of ways, including sections, volumes and iso-surfaces, which may be spun and re-oriented in real-time.

2D calculated resistivity profiles are produced by exporting the FEM results as ASCII arrays and preparing 2D Surfer grids from the ASCII arrays. Color contour plots are then created using the Surfer grids.

Calculated resistivity profiles are analyzed for changes in resistivity values relative to the background or textbook values. Variations in the ionic properties of the media will result in variations in the amount of electron flow from an inducing current producing increased or decreased apparent resistivity possibly related to materials, contaminants, structures, or stratigraphic layers of interest.

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3D calculated resistivity model are analyzed using the ERTLab™ 3D Viewer module, where 3D volumes and iso-surfaces can be created after the inversion process.

7.1.3 Limitations of the Method

The detection of resistivity targets is dependent on their visible contrast to background resistivity values. Targets with ionic properties almost identical to those of the host material may go undetected. Furthermore, interference produced by either naturally occurring or cultural sources may inhibit the ability of ER to detect targets.

EM coupling due to the measuring array, as well as cultural coupling due to overhead electric cables, in-ground metal objects, fences, vehicles, or proximity to coupled buildings can influence apparent resistivity values.

The shape and amplitude of resistivity anomalies do not uniquely describe a buried object or material, and may be influenced by the orientation of survey lines relative to the buried object(s).

Dry and highly resistive, near-surface soils provide weak electrical coupling with the source electrodes and distort the flow path of electromagnetic energy. As a result, less current may be transmitted into the ground, producing noisier readings and causing resistivity anomalies to be mispositioned.

7.2 Seismic Refraction

7.2.1 Description of the Method.

We collect seismic refraction data using our Geometrics Geode® exploration seismograph system with 24- or 48-channel geophone arrays. Geophone spacing depends on the depth of investigation, but is generally between 5 to 20 feet. Shot points are located at a minimum off the ends of each spread, at the end geophones, and in the middle of the spread.

7.2.2 Data Analysis and Interpretation.

HGI analyzes seismic refraction data using Geogiga Technology Corporation's (GTC) Geogiga Refractor® 7.3 software. Picked arrival times are subdivided into individual refractor layers on the basis of refractor geometry by examining the slope of the line connecting refractor arrival times plotted as a function of distance. Since the slope of the

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line depends on a layer's seismic velocity, slope changes may be used to discriminate between layers of differing velocity.[1]

Using this layer information, the software offers calculations of layer velocities and depths using approximate and average general reciprocal methods (GRM), delay time, and slope intercept modeling methods. The GRM is used as the primary modeling method because it provides lateral changes in layer velocities and the capability of identifying and modeling stratigraphy where velocity inversion and/or hidden layers are present.

7.2.3 Limitations of the Method.

Analysis of seismic refraction data requires an assumption of a model composed of a number of layers, such as bedrock overlain by overburden, or bedrock overlain by till and overburden. Other limiting assumptions are i) seismic refraction layers are continuous and extend from one end of the refraction line to the other; and ii) layer velocities increase with depth.

Seismic refraction requires a sufficiently strong source so that seismic energy is transmitted to refracting interfaces and returned to the surface to be recorded by each geophone in a seismic spread. When bedrock is deep and/or overburden velocities are low, explosives or seisgun sources may be required to produce sufficient seismic energy to reach most or all of the geophones in a spread. It is becoming increasingly difficult to use intrusive seismic sources, particularly explosives, at many sites.

Seismic refraction can only distinguish between materials if their seismic velocities are sufficiently different. Thus it may not be possible to distinguish between weathered bedrock and till, particularly if the bedrock is shale.

Electric lines with 60-cycle current (and/or greater harmonics) may create interference with seismic data collection along lines adjacent to or beneath them.

7.3 Ground Penetrating Radar

7.3.1 Description of the Method.

The principle of ground penetrating radar (GPR) is the same as that of weather or police radar, except that GPR transmits electromagnetic energy into the ground, which is reflected back to the surface from interfaces between materials with contrasting electrical

[1] Although this procedure is generally tractable, there are a number of cases where layers cannot be resolved, including situations where a low-velocity layer (LVL) exists beneath a layer of greater velocity, and where layers are too thin to be resolved.

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(dielectric and conductivity) properties. The greater the contrast between two materials in the subsurface, the stronger the reflection observed on the GPR record. The depth of GPR signal penetration depends on the properties of the subsurface materials and the frequency of the antenna used to collect radar data. The lower the antenna frequency used, the deeper the signal penetration, but the lower the signal resolution.

We collect GPR data using a Geophysical Survey Systems SIR System 2, 20, 2000, or 3000 digital ground penetrating radar unit, which consists of a computer connected to a transmit/receive antenna. Radar data are collected in point, continuous, or survey wheel mode while moving the antenna across the ground. Data are displayed in color on the computer monitor and simultaneously recorded on the unit's hard drive or flash memory for later processing and interpretation using proprietary RADAN® software.

7.3.2 Data Analysis and Interpretation.

The horizontal scale of the GPR record shows distance along the survey traverse. In the continuous data collection mode, the horizontal scale on each GPR record is determined by the antenna speed. When a survey wheel is used (as at this site), the GPR record is automatically marked at specified intervals along the survey line. The vertical scale of the radar records is determined by the recording interval. The recording interval represents the maximum two-way travel time in which data are recorded. The conversion of two-way travel time to depth depends on the propagation velocity of the GPR signal, which is site specific. In the absence of site-specific subsurface information about stratigraphy, we estimate propagation velocities from handbook values and experience at similar sites.

The size, shape, and amplitude of GPR reflections are used to interpret GPR data. Metal objects such as USTs and utilities produce reflections with high amplitude and distinctive hyperbolic shapes in GPR records when traverses are made perpendicular to their long axes. Clay or concrete pipes and boulders may produce radar signatures of similar shape but lower amplitude. The boundaries between saturated and unsaturated materials, sand and clay, and bedrock and overburden, generally also produce strong reflections.

7.3.3 Limitations of the Method.

GPR signal penetration is site specific, determined by the dielectric properties of local soil and fill materials. GPR signals propagate well in resistive materials such as sand and gravel; however, soils containing clay, ash- or cinder-laden fill, or fill saturated with brackish or otherwise conductive groundwater cause GPR signal attenuation and loss of target resolution (i.e., limited detection of small objects). Concrete containing rebar or mesh also inhibits signal penetration.

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Interpreted depths of objects detected using GPR are based on on-site calibration, handbook values, and/or estimated GPR signal propagation velocities from similar sites. GPR velocities and depth estimates may vary if the medium of investigation or soil water content is not uniform throughout the site. (Electromagnetic waves do not travel as fast through water as air, so the distance to a reflector below the water table may appear farther than in actuality.)

Utilities are interpreted on the basis of reflectors of similar size and depth that show a linear trend, but GPR cannot unambiguously determine that all such reflectors are related. Fiberglass USTs or utilities composed of plastic or clay may be difficult to detect, as well as objects underneath reinforced concrete pads.

Changes in the speed at which the GPR antenna is moved between stations causes slight variations in distance interpolations, and hence in interpreted object positions.

The GPR antenna produces a cone-shaped signal pattern that emanates approximately 45 degrees from horizontal fore and aft of the antenna. Therefore, buried objects may be detected before the antenna is located directly over them, and GPR anomalies may appear larger than actual target dimensions.

GPR is an interpretive method, based on the subjective identification of reflection patterns that may not uniquely identify a subsurface target. Borings, test pits, or site utility plans must verify the results.

7.4 RTK GNSS Global Positioning System (GPS)

7.4.1 Description of the Method.

The RTK GPS system consists of a base (reference) receiver and a roving receiver. The base receiver remains stationary during a survey and is mounted on a tribrach and tripod. A rover receiver is used to record points remotely and can be mounted on a staff, vehicle, or other object. The base provides real-time corrections to the rover over a radio connection. The system can produce accuracy on a centimeter scale, but the level of accuracy depends on factors that include the geometry of the transmitting satellites and the receivers' view of the horizons. (e.g., the density of buildings and trees). The data can be collected as quickly as 1 Hz or 1 reading per second.

7.4.2 Data Collection.

We perform our GPS surveys using a Sokkia GNSS RTK 2700 ISX. The base station can be set up over a known or unknown point, with the position taken from satellite information. Once the system has achieved a fixed solution for the rover receiver, data points can be collected with survey-grade (centimeter-scale) precision. When GPS points

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are being collected at a site where the fixed solution is constantly lost and gained, points are checked multiple times for precision. All data points are saved to an Allegro CX field computer.

7.4.3 Data Processing.

The GPS data are corrected automatically by the base receiver in the field prior to being recorded. If the base station is located on an unknown point that is later defined, the GPS data can be corrected in the office to fit the real world coordinates.

7.4.4 Limitations of the Method.

The quality of the GPS signal is site-specific. The base and rover receiver need to have clear views of the horizon and good satellite geometry to achieve the highest level of accuracy and precision. Although a fixed solution can be achieved in wooded environments or sites with taller buildings, it may take more time to achieve the solutions, the fixed solution may be lost frequently when moving the rover, and in some cases the fixed solution may be wrong. Each of these situations requires longer to locate data points accurately and precisely. When the point is too close to a building, beneath a building overhang, under a tree, or obscured by some other object, a fixed solution may not be possible.

When the base station is set up over an unknown point, the survey data location can be at least several tens of meters from the real world location. The data points will have survey grade precision relative to the location of the base station and other data points, but will have a real world accuracy discrepancy.

HGI does not guarantee to produce a surveyor-quality map from its GPS data, as this is not its profession. If survey-level accuracy is critical for a project, we recommend hiring professional surveyors for that purpose.

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APPENDIX A

A-1 Resistivity Line 1
A-2 Resistivity Line 2
A-3 Resistivity Line 3
A-4 Resistivity Line 4
A-5 Resistivity Line 5

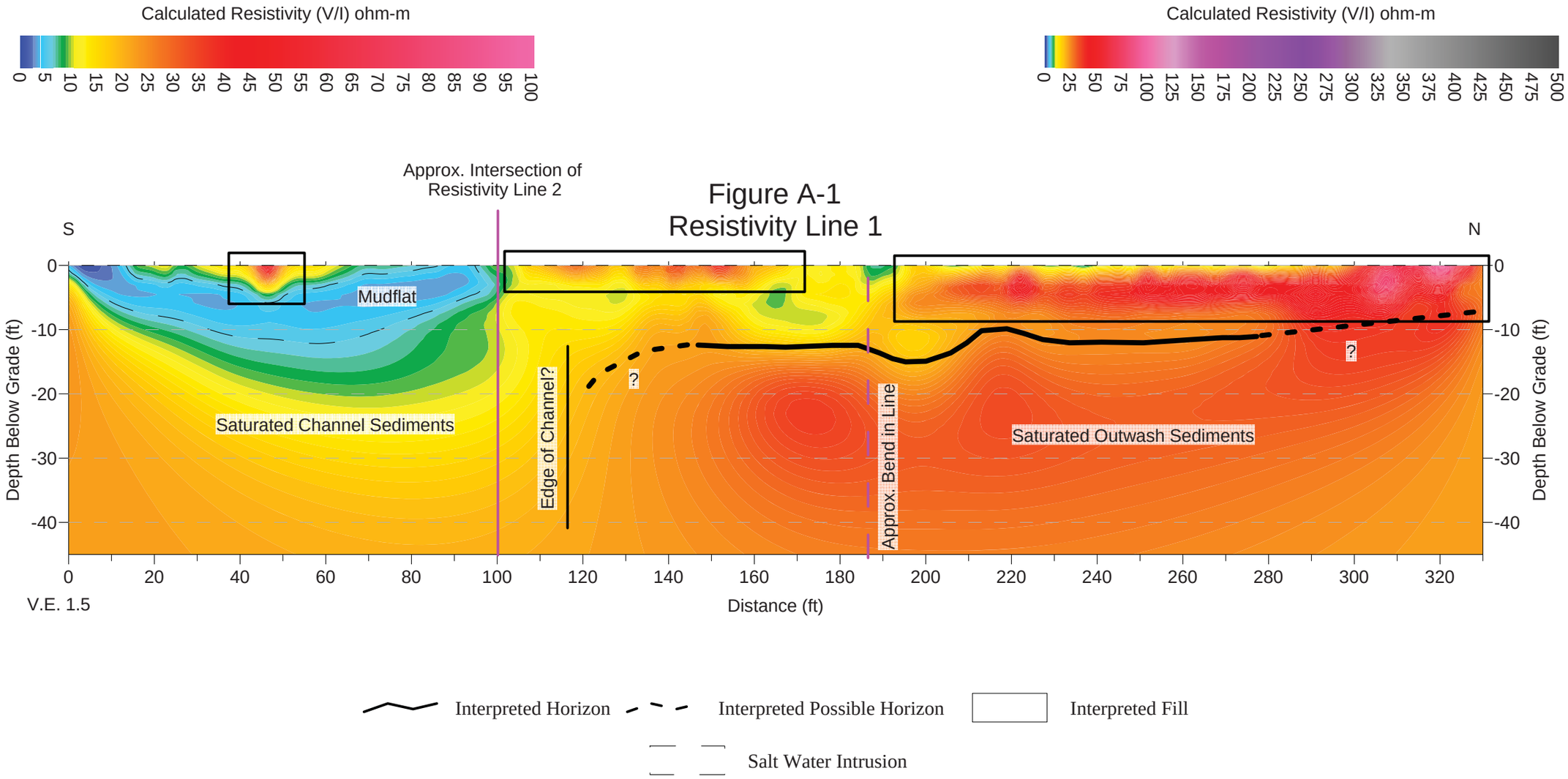

Figure A-1
Resistivity Line 1

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DC Resistivity Survey
Danvers, MA

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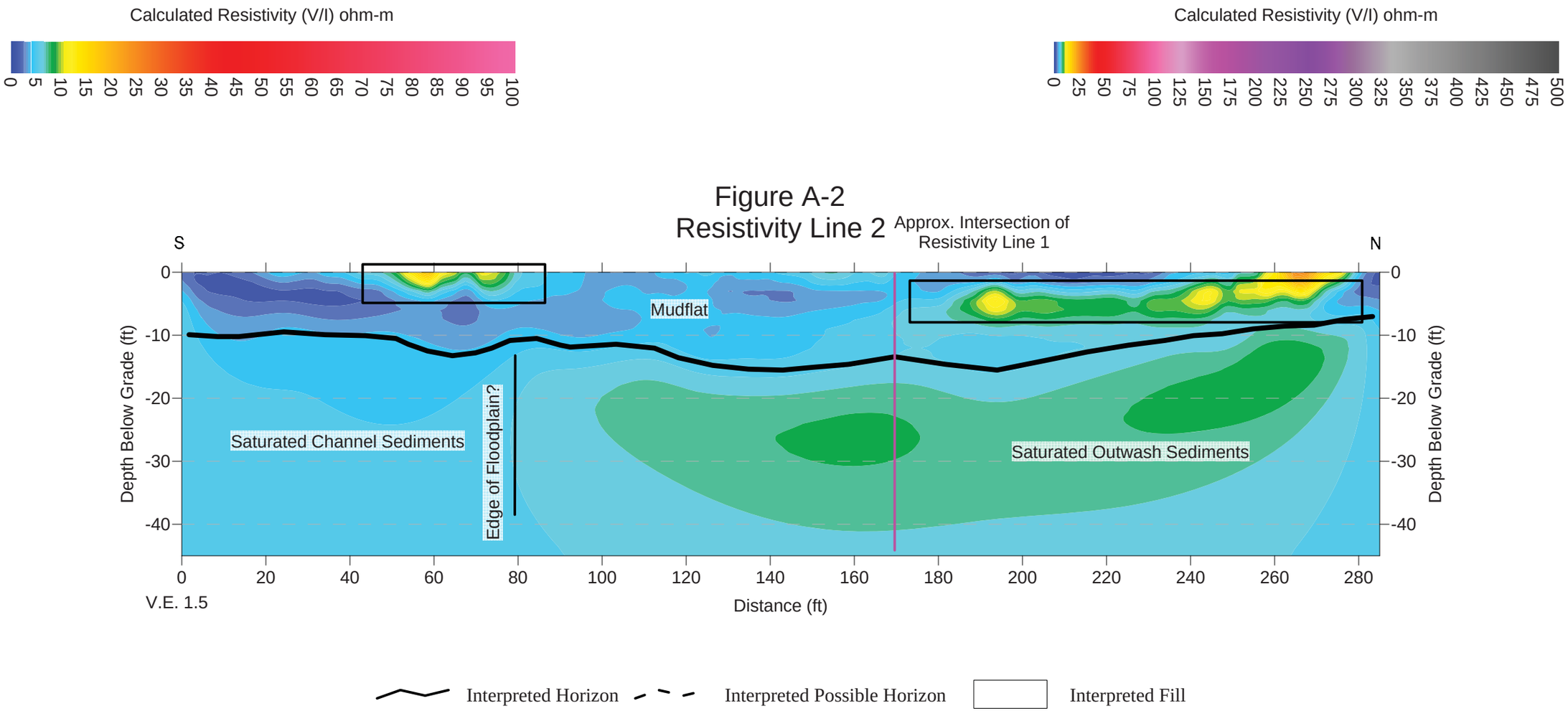

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DC Resistivity Survey
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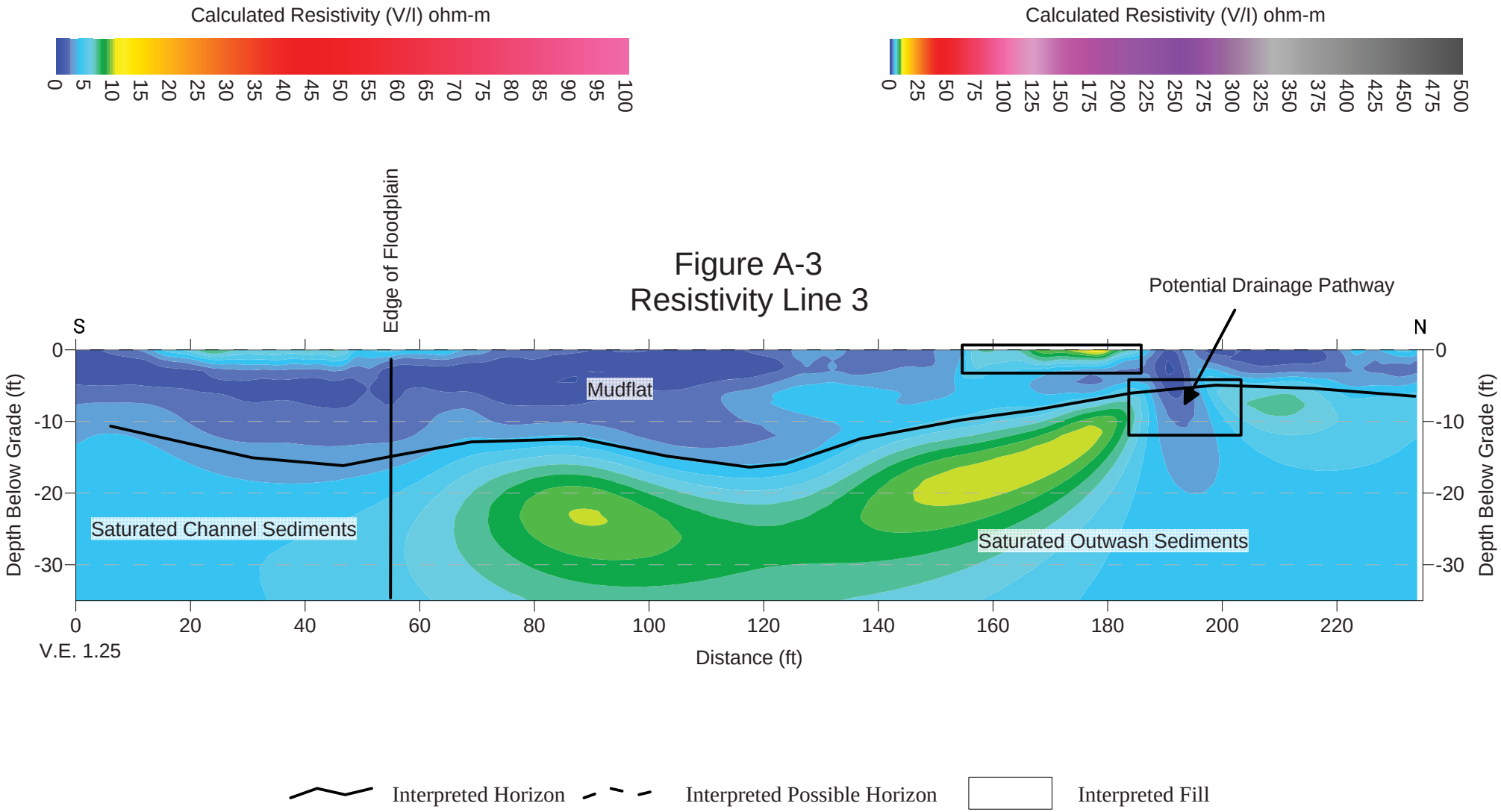

Figure A-3
Resistivity Line 3

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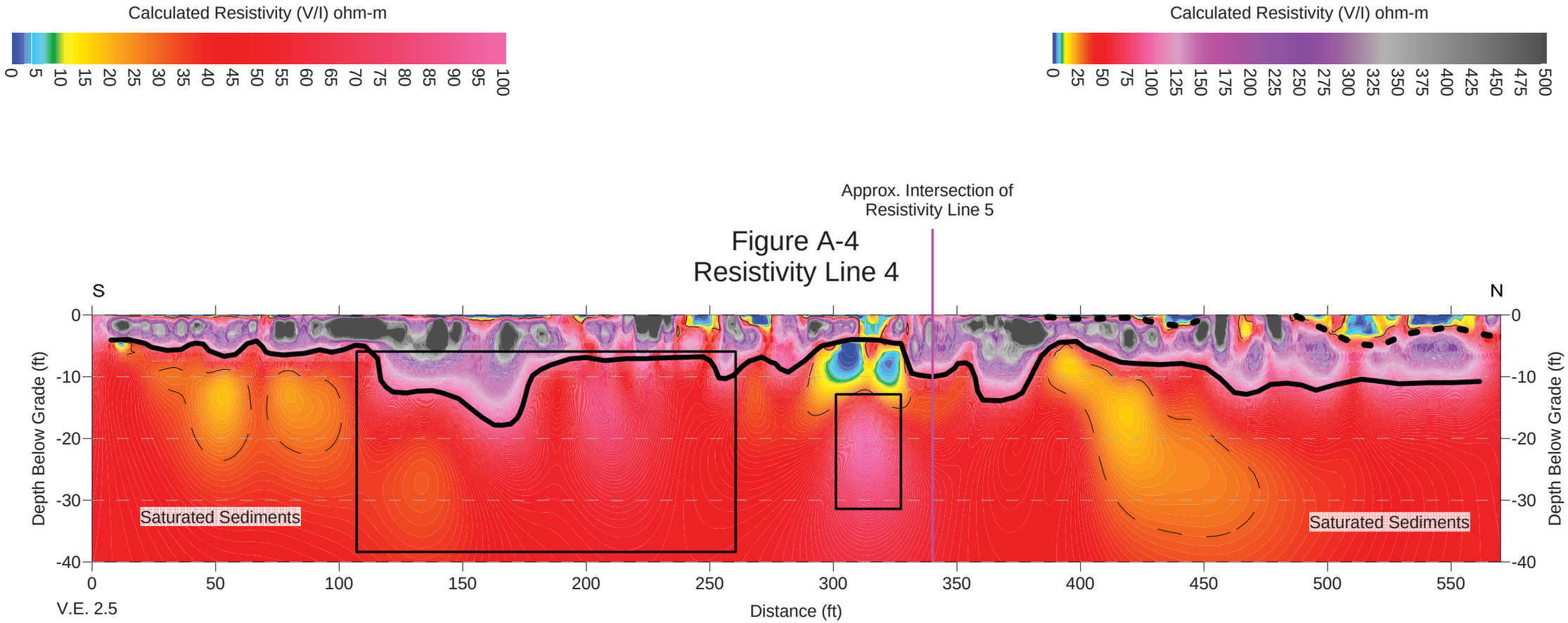

Figure A-4
Resistivity Line 4

Interpreted Horizon / Potential Anthropogenic Boundary

Interpreted Possible Horizon

Interpreted Anomaly/Anomalous Zone

Possible Salt Water Intrusion

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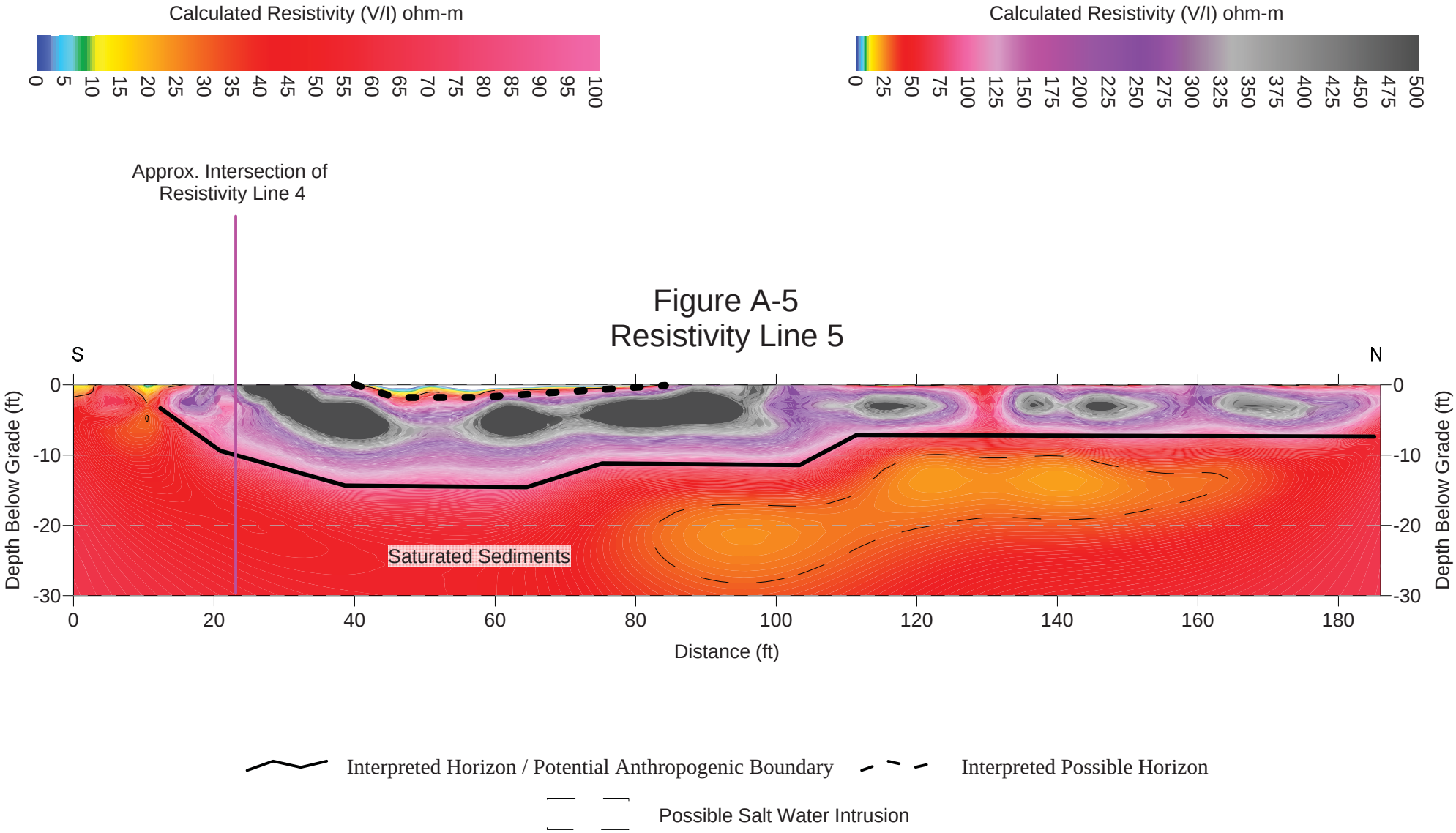

Figure A-5
Resistivity Line 5

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DC Resistivity Survey
Danvers, MA

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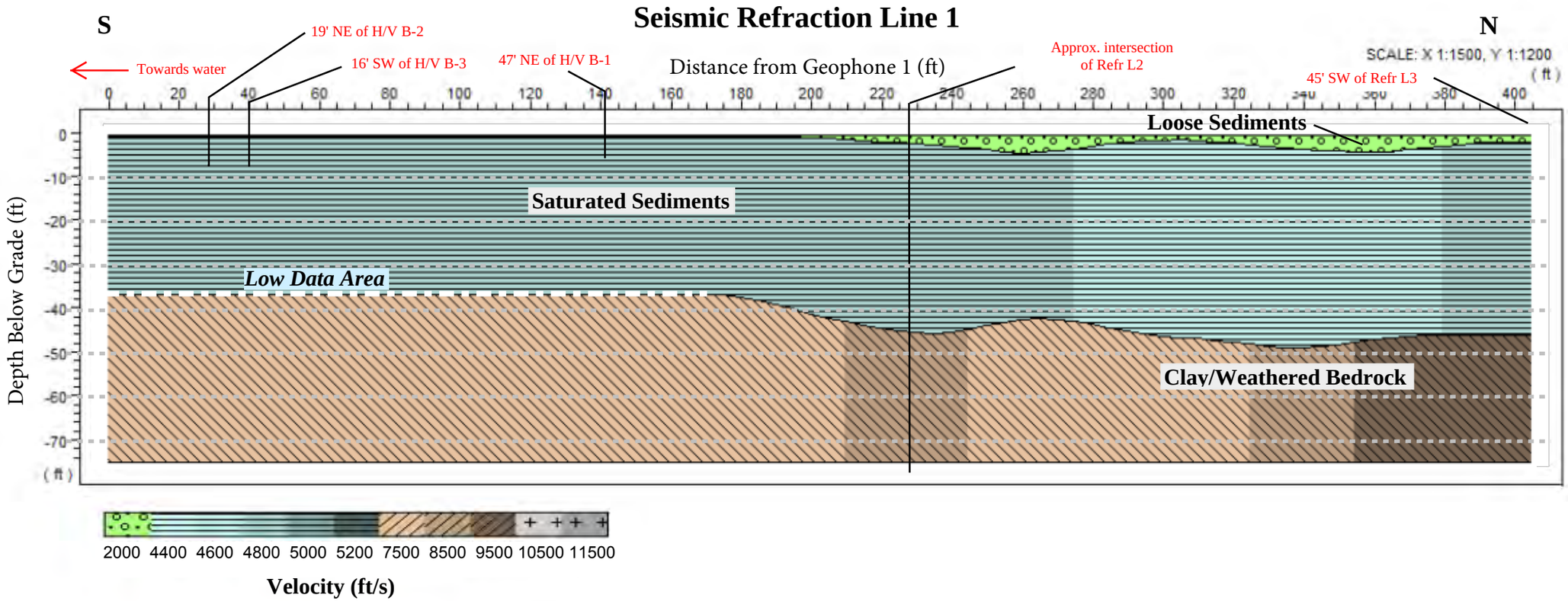
APPENDIX B

B-1 Seismic Refraction Line 1
B-2 Seismic Refraction Line 2
B-3 Seismic Refraction Line 3

Figure B-1

Seismic Refraction Line 1



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August 2014 File No. 2014026

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Figure B-2

Seismic Refraction Line 2

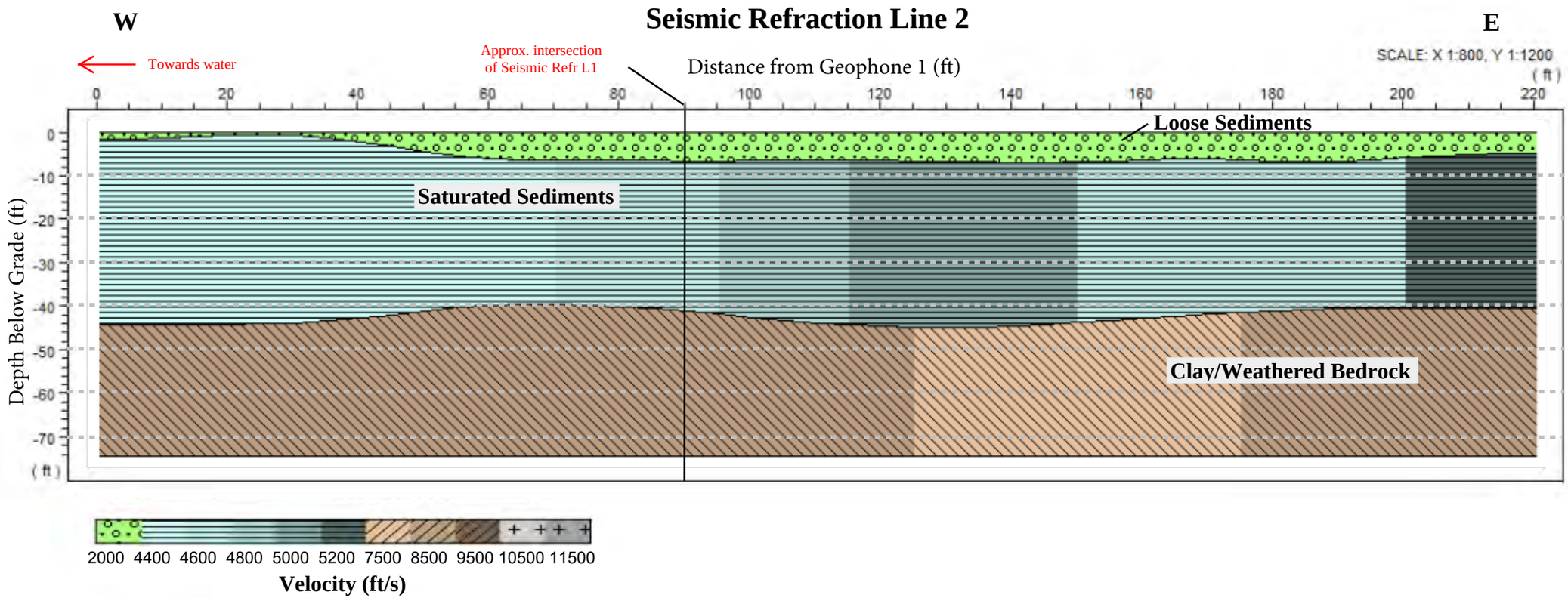

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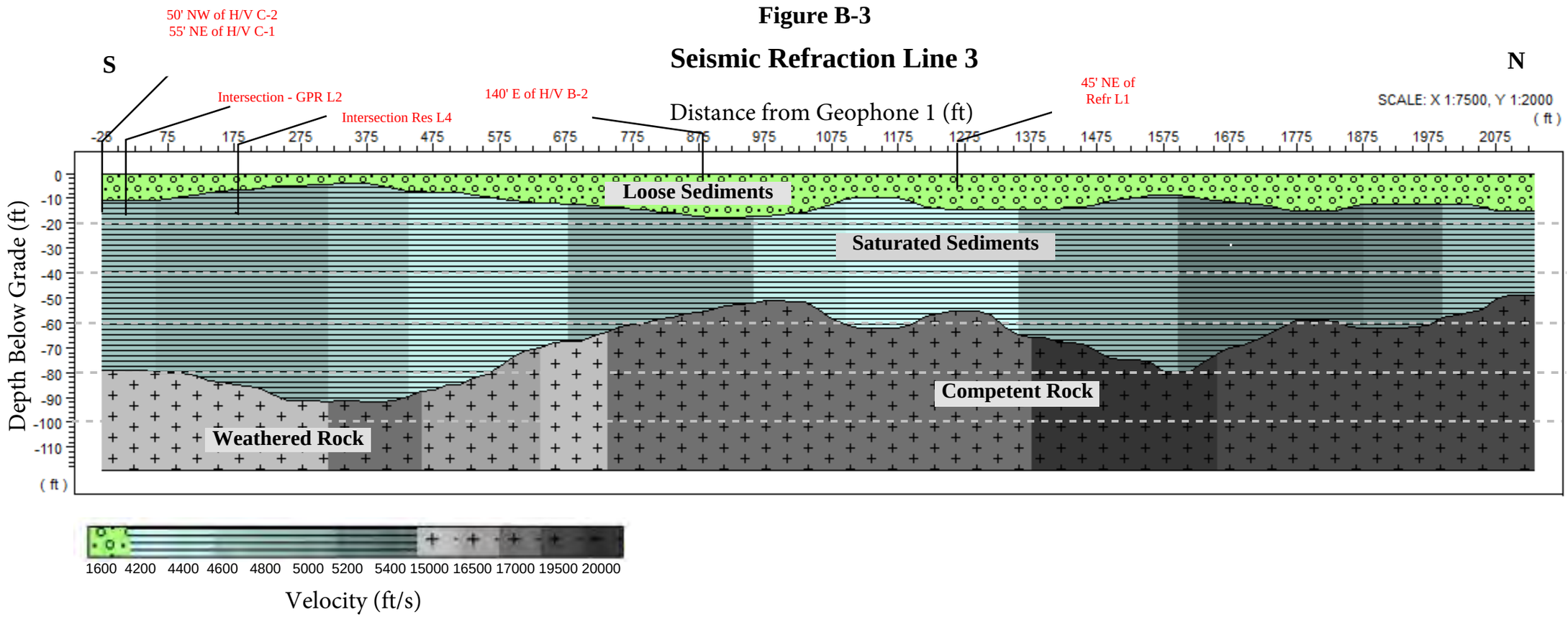
Figure B-3

Seismic Refraction Line 3



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Seismic Refraction Survey
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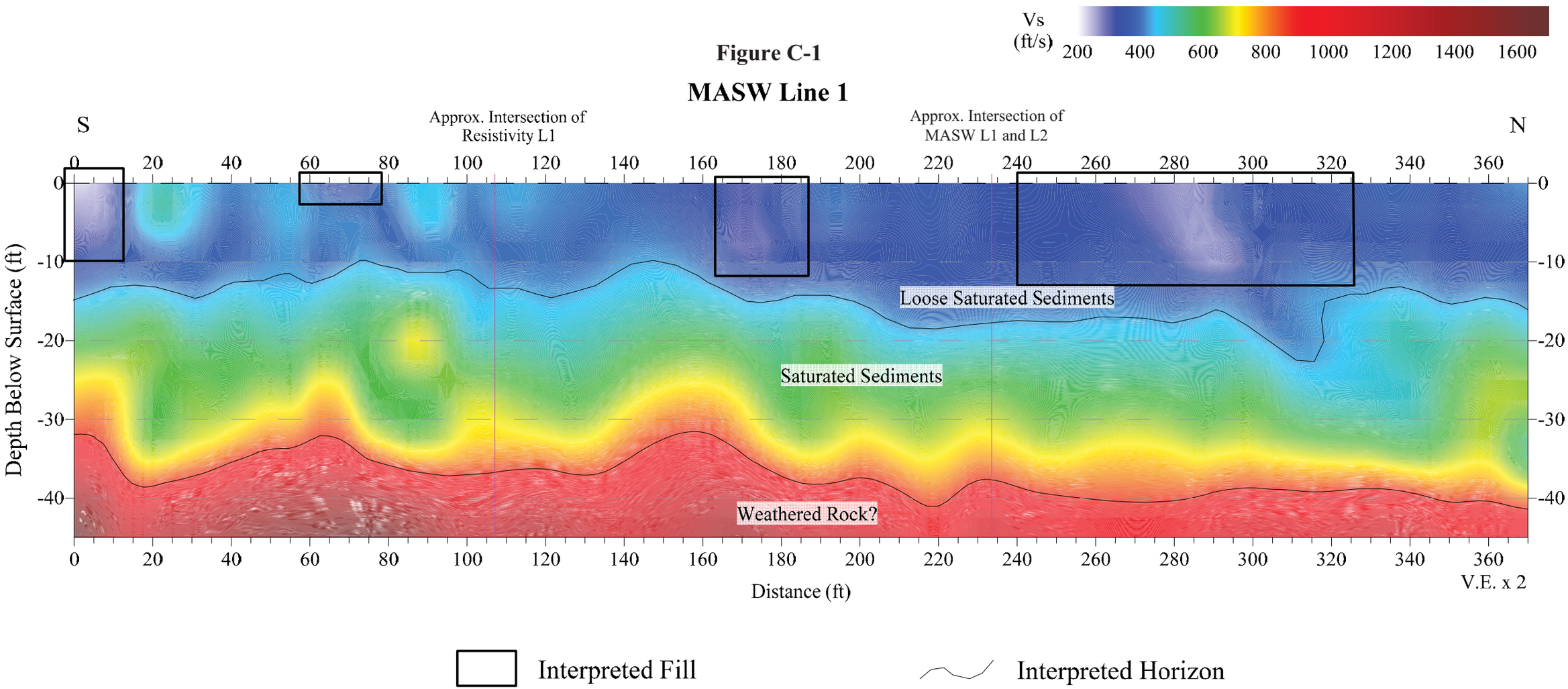
APPENDIX C

C-1 MASW Line 1
C-2 MASW Line 2

Figure C-1

MASW Line 1



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MASW Seismic Survey
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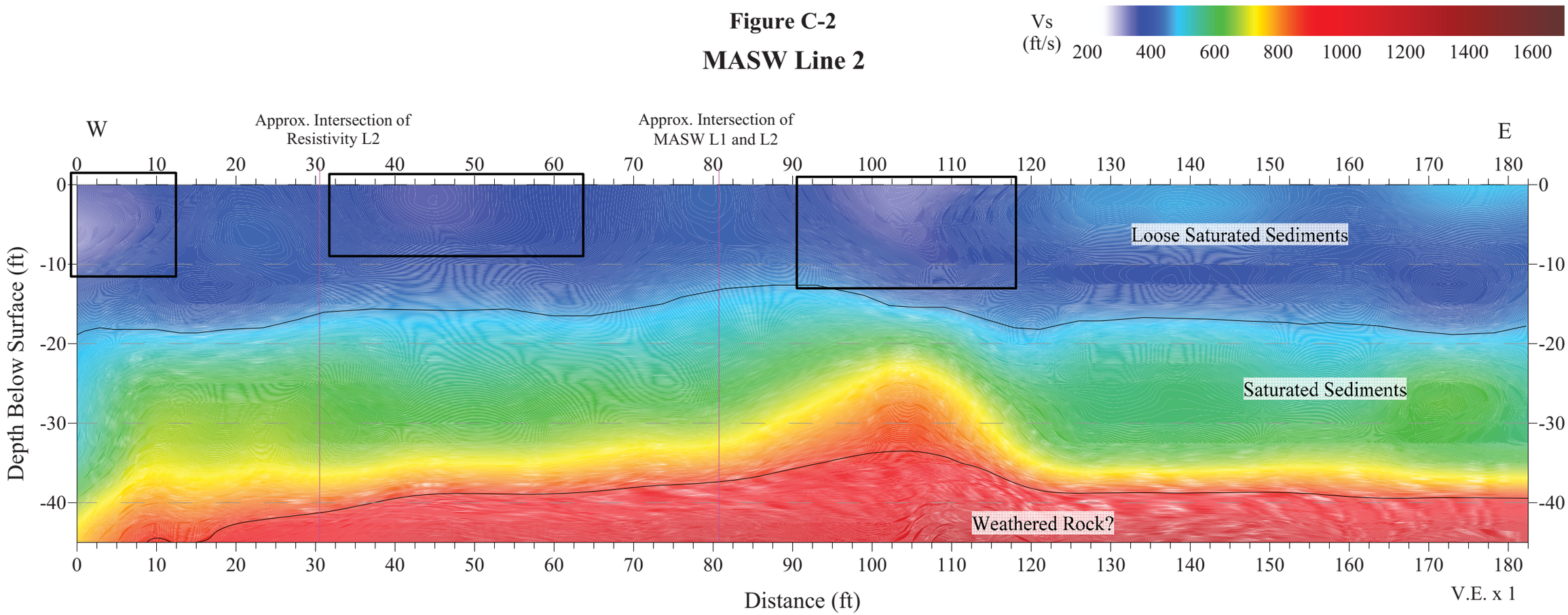
Figure C-2

MASW Line 2



Interpreted Fill

Interpreted Horizon

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MASW Seismic Survey
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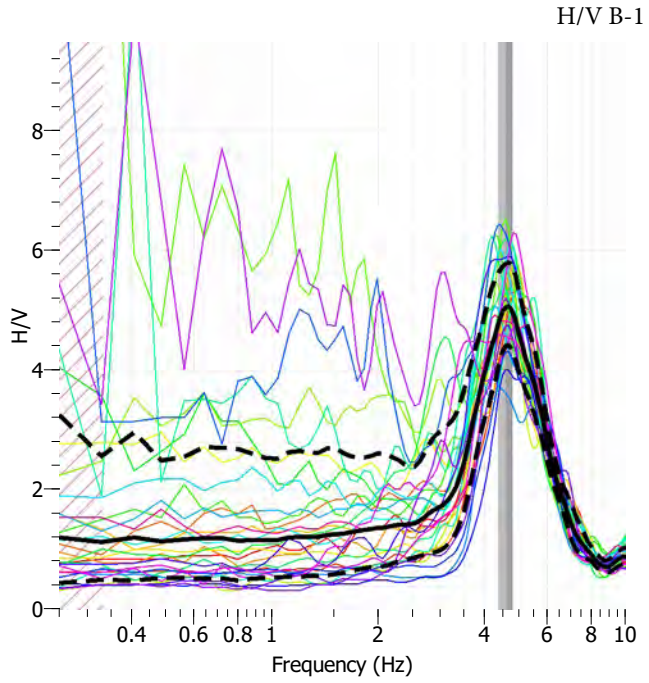
APPENDIX D

Figure D-1 **Examples of H/V Spectral Ratio Plots**
Table D-1 **Depths to Bedrock for Stations H/V A-1, A-2, and A-3**
Table D-2 **Depths to Bedrock for Stations H/V B-1, B-2, B-3, and B-4**
Table D-3 **Depths to Bedrock for Stations H/V C-1, C-2, and C-3**
Table D-4 **Alternative Calculation of Depth to Bedrock for Stations H/V C-1, C-2, and C-3**

Figure D-1
Examples of H/V Spectral Ratio Plots

A.



B.

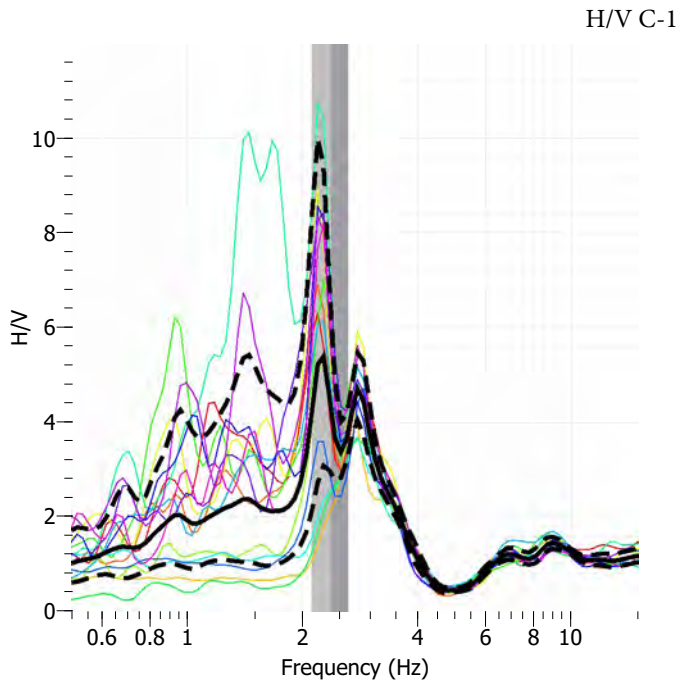


Figure D-1: Representative results of H/V method of analysis for two sensors. A. Peak resonant frequency is easily identified for station H/V B-1. B. Plot of resonant frequency shows two distinct peaks, yielding two potential solutions, for station H/V C-1.

Table D-1. Depths to bedrock for Stations H/V A-1, A-2, and A-3.*

Station	H/V Res. Peak (Hz)	Calculated Depth (meters)		Calculated Depth (feet)	
	F	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)
A1-130	4.40	12	11	40	36
A2-130	4.15	13	12	44	39
A3-130	4.05	14	12	45	40
A1-500	5.92	8	7	27	22
A2-500	4.22	13	12	43	38
A3-500	4.08	14	12	45	40

*See report text for discussion of results

Table D-2. Depths to bedrock for Stations H/V B-1, B-2, B-3 and B-4.

Station	H/V Res. Peak (Hz)	Calculated Depth (meters)		Calculated Depth (feet)	
	F	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)
B1-130	4.58	12	10	38	33
B2-130	4.01	14	13	46	41
B3-130	3.78	15	14	50	45
B4-130	4.22	13	12	43	38
B1-500	4.51	12	10	39	34
B2-500	3.84	15	13	49	44
B3-500	3.94	14	13	47	42
B4-500	4.10	14	12	44	40

Table D-3. Depths to bedrock for Stations H/V C-1, C-2, and C-3.*

Station	H/V Res. Peak (Hz)	Calculated Depth (meters)		Calculated Depth (feet)	
	F	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)
C1-130	2.28	31	30	100	99
C2-130	2.17	33	32	107	107
C3-130	2.19	32	32	106	105
C1-500	2.24	31	31	103	101
C2-500	2.24	31	31	103	101
C3-500	2.20	32	32	105	104

*See report text for discussion of results

Table D-4. Alternative calculation of depth to bedrock for Stations H/V C-1, C-2, and C-3.*

Station	H/V Res. Peak (Hz)	Calculated Depth (meters)		Calculated Depth (feet)	
	F	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)	Ibs-von Seht & Wohlenberg (1999)	Parolai et al (2004)
C1-130	2.85	22	21	74	70
C2-130	3.19	19	18	63	59
C3-130	4.00	14	13	46	41
C1-500	2.85	22	21	74	70
C2-500	3.30	18	17	60	56
C3-500	3.94	14	13	47	42

*See report text for discussion of results

APPENDIX E

E-1 Example of Annotated Processed 100-MHz Record

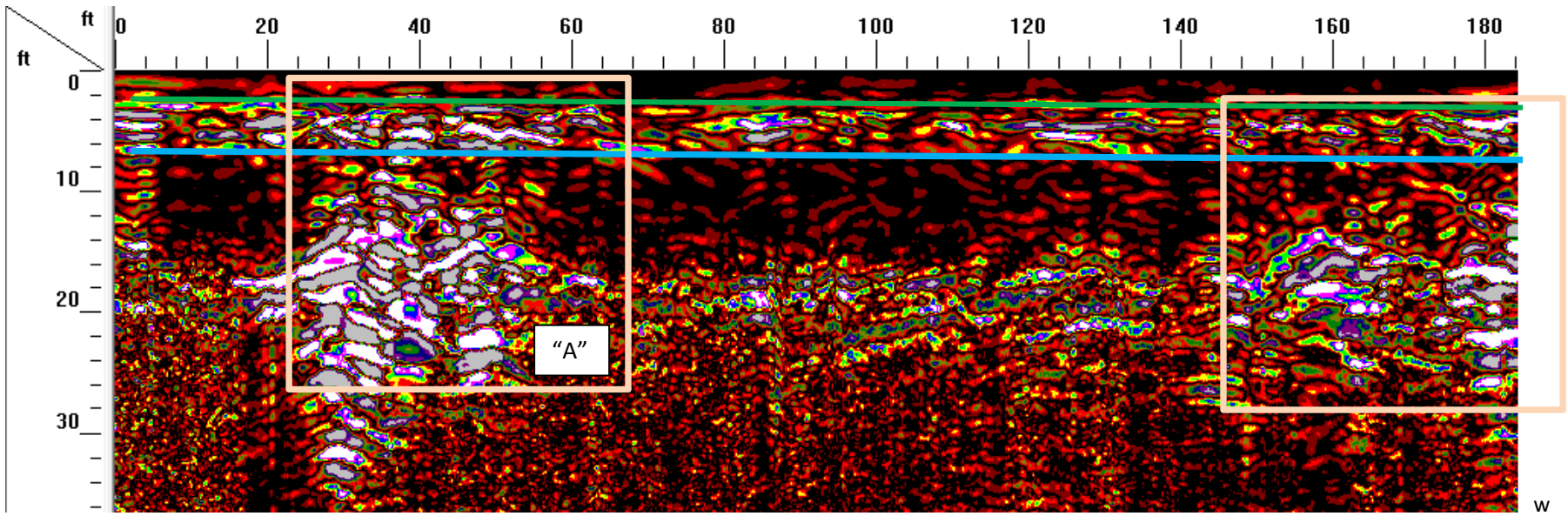


Figure E-1. A GPR profile (radargram) illustrating the reflection characteristics of the interpreted fill (green), second observed reflective horizon (blue – Plate 3 contour), and anomalous zones (box). The anomalous zone "A" is the most prominent anomalous zone observed at the site as is most likely associated with the former tannery.

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H/V A-1 (Approx.)
H/V A-2
H/V A-3
Resistivity Line 3
MASW Line 2
Refraction Line 2
H/V B-4
H/V B-1
H/V B-2
Resistivity Line 2
Refraction Line 3
Resistivity Line 1
MASW Line 1
Refraction Line 1
H/V B-3
Resistivity Line 5
Resistivity Line 4
H/V C-1
H/V C-2
H/V C-3

N

0 50 100 200
Scale in Feet

PLATE 1

AUGUST 2014 FILE NO. 2014026

Geophysical Investigation
Site Overview
Former Creese & Cook Tannery
Danvers, MA

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NOT ALL SUBSURFACE FEATURES MAY BE DEPICTED ON THIS MAP

LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
- GPR-Identified Anomaly
- GPR-Identified Anomalous Zone

NOTES:
1.) The base map was created from HGI field notes, GPS points, and GIS files provided by Nobis and MassGIS.
2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.

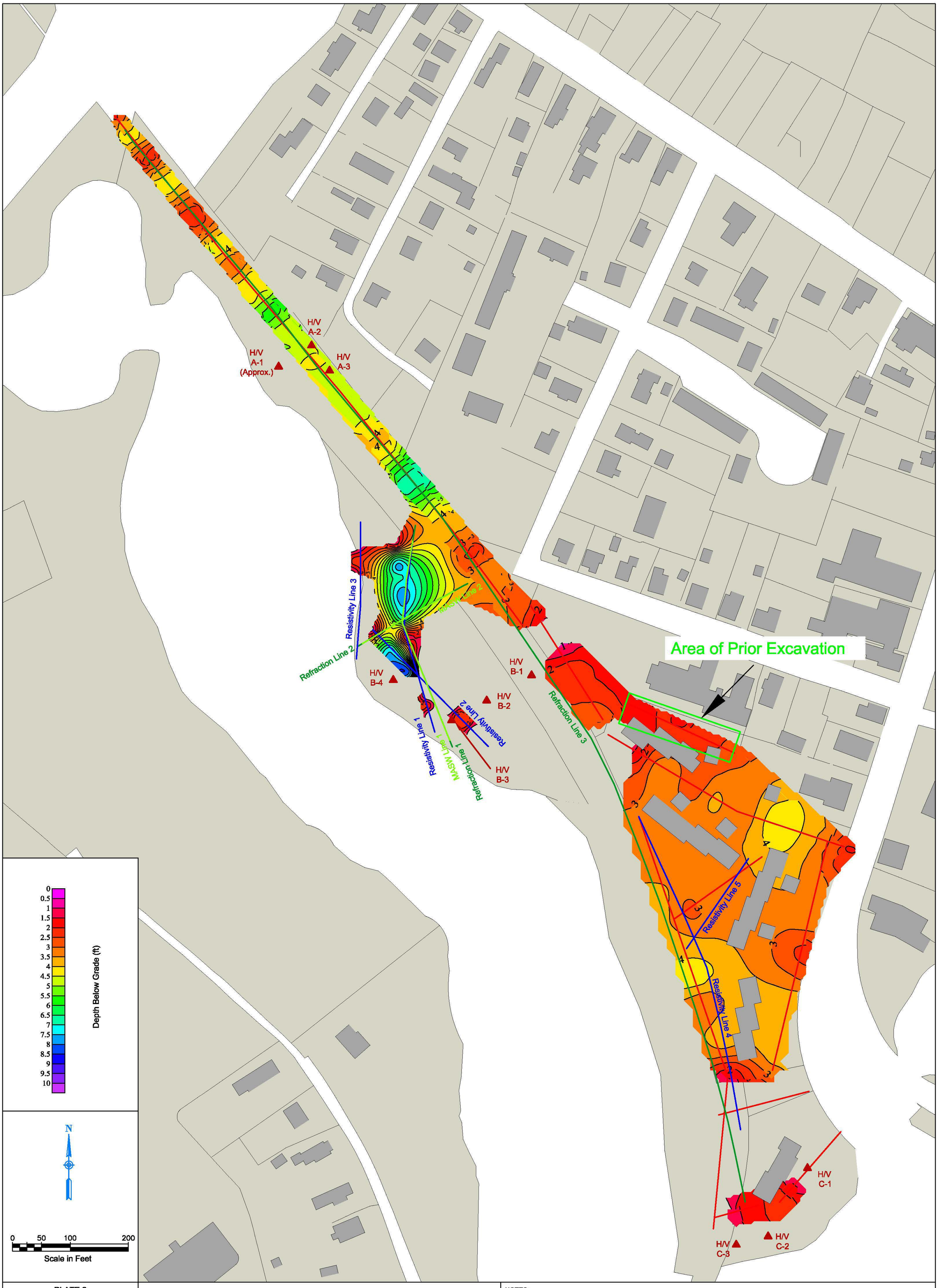

PLATE 2

AUGUST 2014 FILE NO. 2014026

Geophysical Investigation
Layer 1 / Possible Waste Fill
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LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
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- GPR-Identified Anomalous Zone

NOTES:
1.) The base map was created from HGI field notes, GPS points, and GIS files provided by Nobis and MassGIS.
2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.
3.) The contour plot was derived using both 100-MHz bistatic GPR and Electrical Resistivity data.
4.) The model depths were calculated using velocity migration measurements and are approximate.
5.) The contour plot represents the general trend of the surface and is not intended to be used as precise depth measurements.
6.) The model has not been calibrated. Confirmation of the results via boring or test pit is recommended.
7.) Refer to Figures A-1 through A-3, B-1 and B-2 for additional information.

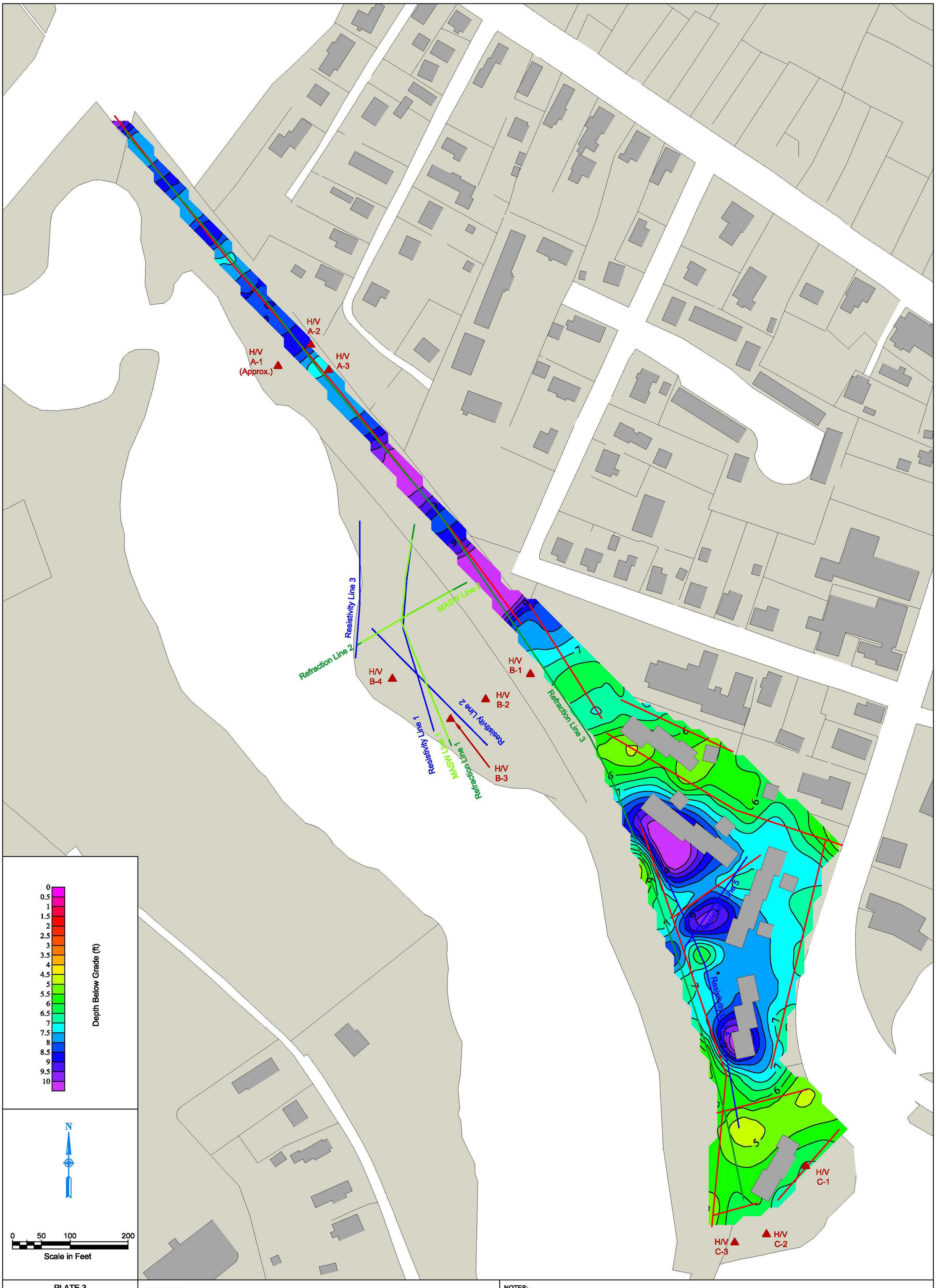

PLATE 3

AUGUST 2014 FILE NO. 2014026

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Layer 2 / Possible General Fill
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LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
- GPR-Identified Anomaly
- GPR-Identified Anomalous Zone

NOTES:
1.) The base map was created from HGI field notes, GPS points, and GIS files provided by Nobis and MassGIS.
2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.
3.) The contour plot was derived using both 100-MHz bistatic GPR and Electrical Resistivity data.
4.) The model depths were calculated using velocity migration measurements and are approximate.
5.) The contour plot represents the general trend of the surface and is not intended to be used as precise depth measurements.
6.) The model has not been calibrated. Confirmation of the results via boring or test pit is recommended.
7.) Refer to Figures A-1 through A-3, B-1 and B-2 for additional information.

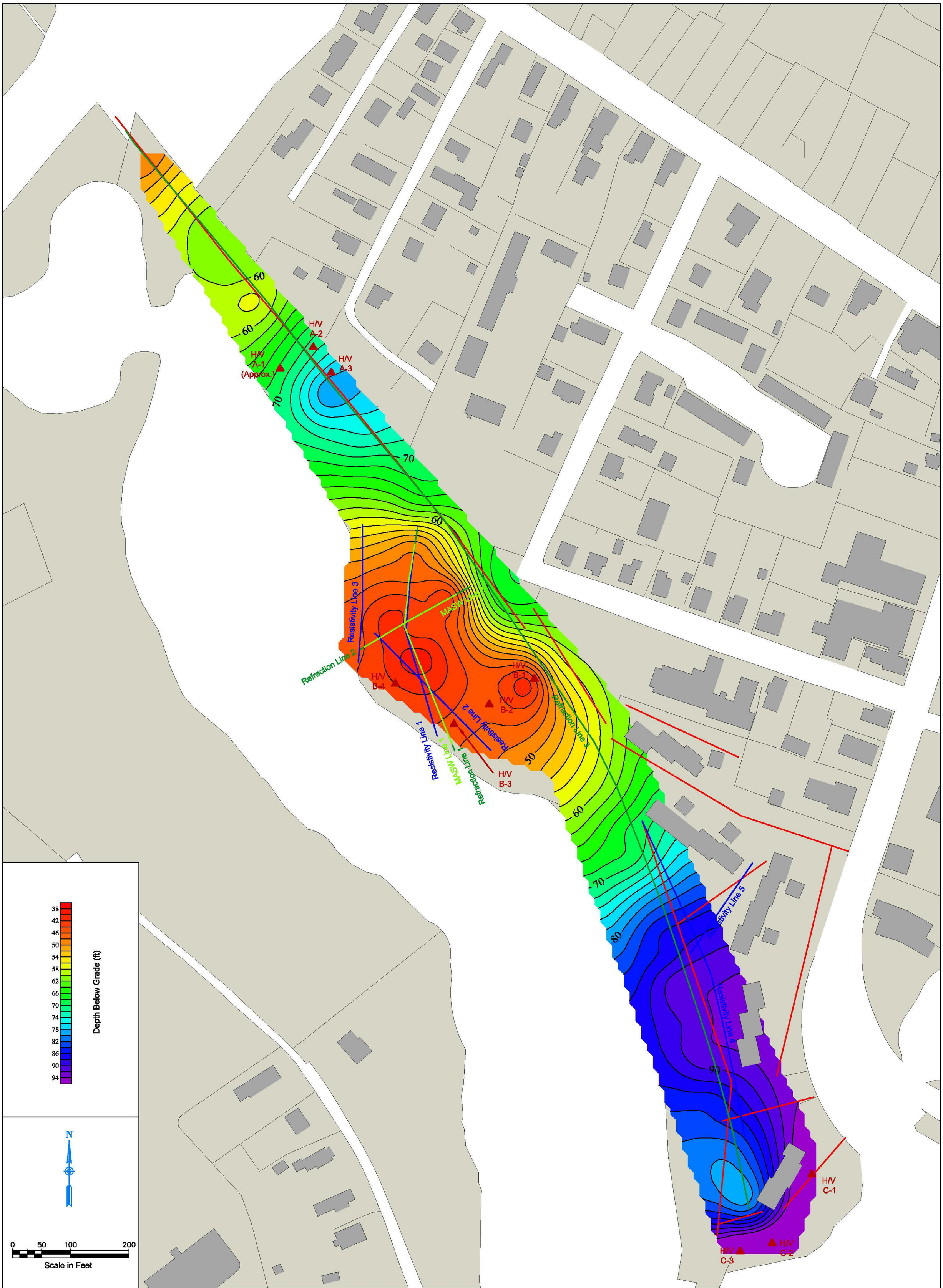

PLATE 4

AUGUST 2014 FILE NO. 2014026

Geophysical Investigation
Bedrock Model
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Danvers, MA

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LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
- GPR-Identified Anomaly
- GPR-Identified Anomalous Zone

NOTES:
1.) The base map was created from HGI field notes, GPS points, and GIS files provided by Nobis and MassGIS.
2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.
3.) The contour plot was derived using both seismic refraction and H/V data.
4) The contour plot represents the general trend of the surface and is not intended to be used as precise depth measurements.
5) The model has not been calibrated. Confirmation of the results via boring is recommended.
6) Refer to the report text for additional information.

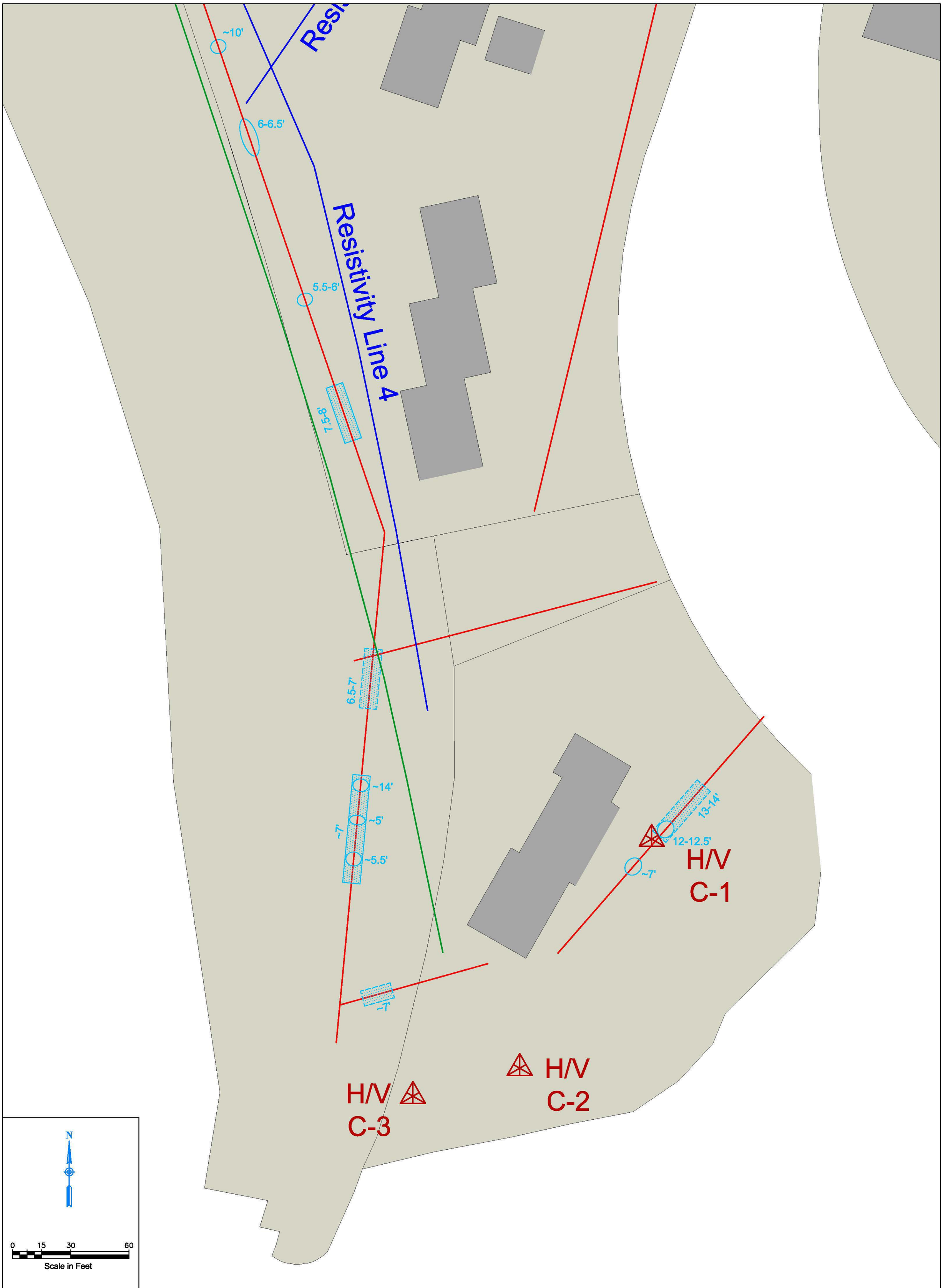

PLATE 5

AUGUST 2014 FILE NO. 2014026

Geophysical Investigation
Anomaly Interpretation Map
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Danvers, MA

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LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
- GPR-Identified Anomaly
- GPR-Identified Anomalous Zone

NOTES:
1.) The base map was created from HGI field notes, GPS points, and GIS files provided by Nobis and MassGIS.
2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.
3.) The depths were calculated using velocity migration measurements and are approximate.

PLATE 6

AUGUST 2014 FILE NO. 2014026

Geophysical Investigation
Anomaly Interpretation Map
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LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
- GPR-Identified Anomaly
- GPR-Identified Anomalous Zone

NOTES:
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2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.
3.) The depths were calculated using velocity migration measurements and are approximate.

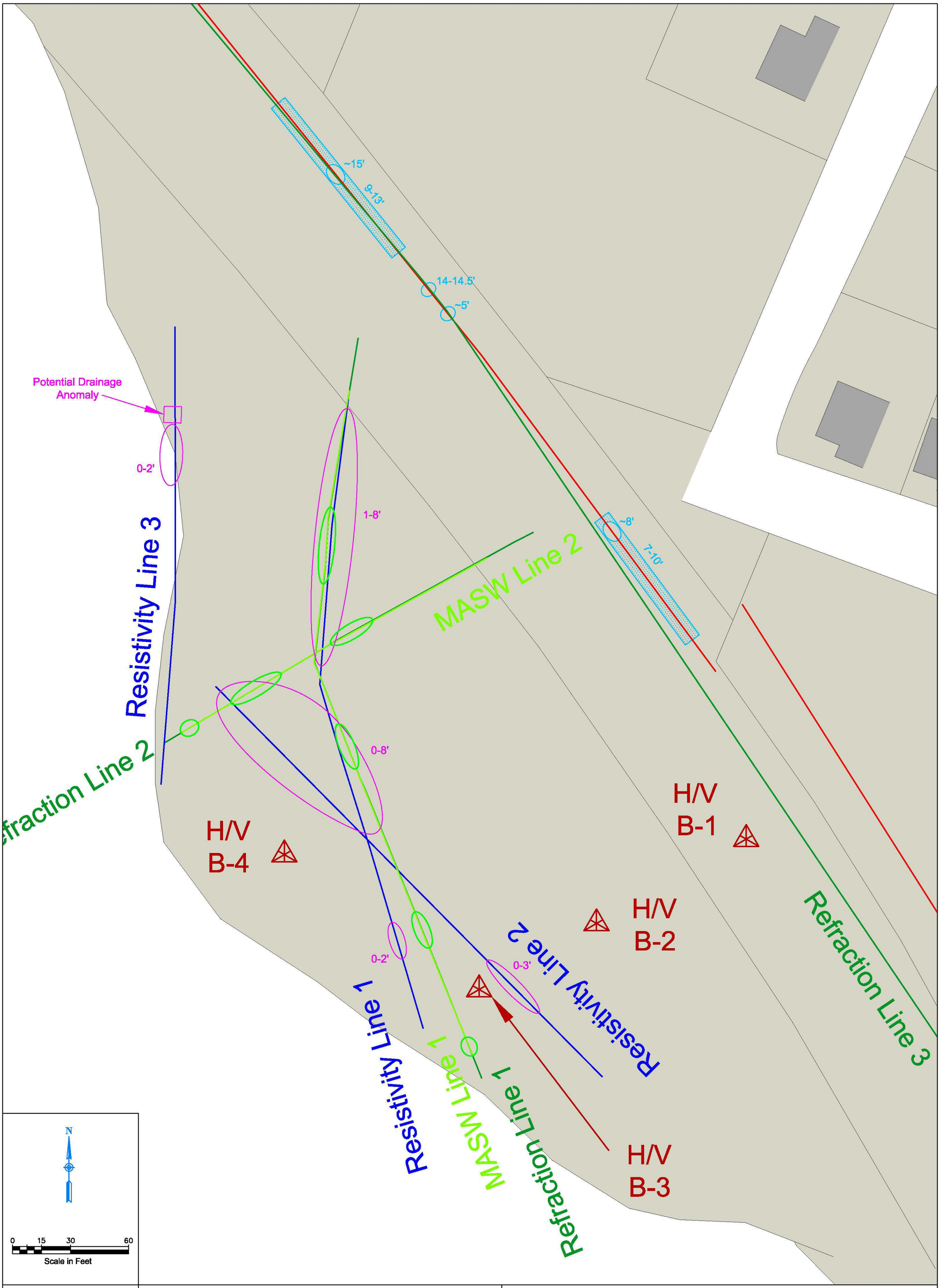

PLATE 7

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Anomaly Interpretation Map
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NOT ALL SUBSURFACE FEATURES MAY BE DEPICTED ON THIS MAP

LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
- GPR-Identified Anomaly
- GPR-Identified Anomalous Zone

NOTES:
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2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.
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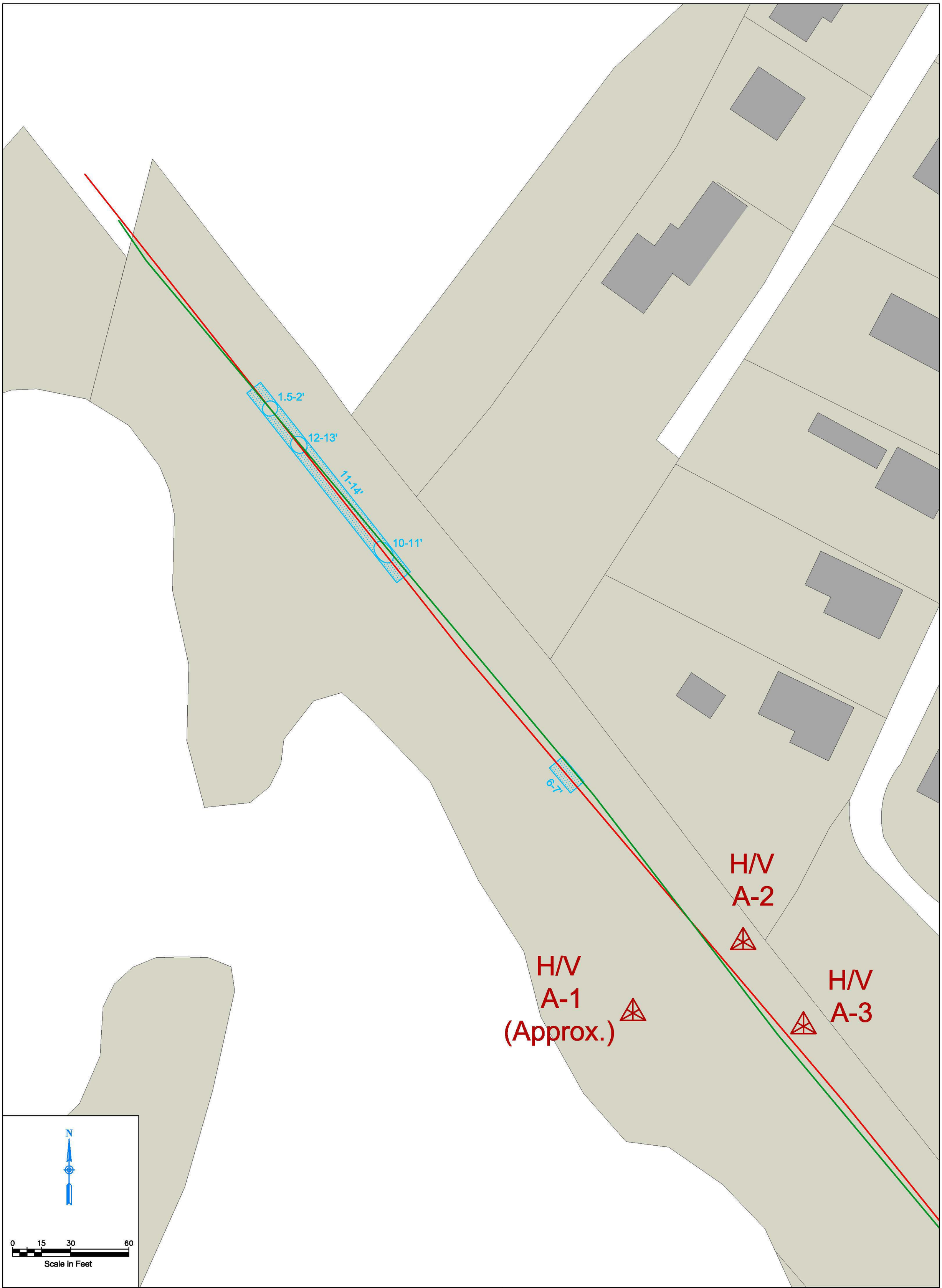

PLATE 8

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Anomaly Interpretation Map
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NOT ALL SUBSURFACE FEATURES MAY BE DEPICTED ON THIS MAP

LEGEND

- Resistivity Line
- GPR Line
- Seismic MASW Line
- Seismic Refraction Line
- Seismic H/V Location
- Resistivity-Identified Fill
- MASW-Identified Fill
- GPR-Identified Anomaly
- GPR-Identified Anomalous Zone

NOTES:
1.) The base map was created from HGI field notes, GPS points, and GIS files provided by Nobis and MassGIS.
2.) Geophysical line locations were located using a Sokkia 2700ISX RTK GPS system and are a **"best fit"** to the GIS files.
3.) The depths were calculated using velocity migration measurements and are approximate.

APPENDIX B

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-01
Boring Location:	N: 3026560.37 E: 810778.62
Checked by:	J. Lambert
Date Start:	July 9, 2014
Date Finish:	July 9, 2014
Contractor:	Maher Services
Driller:	S. Dubois
Nobis Rep.:	A. Robichaud
Rig Type / Model:	Geoprobe / 7822 DT
Hammer Type:	Automatic Hammer
Hammer Hoist:	Automatic
Ground Surface Elev.:	10
Top of Riser Elev.:	9.6
Datum:	NAD 83 MA State Plane

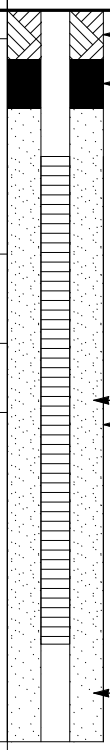
	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/09/14	00:00	6.83			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)
1	S-1	44	0-5		0.5	0.5	0		LOAM 9.4 / 0.6	S-1A (7"): Brown, LOAM with organic matter. S-1B (2"): Dark brown, coarse GRAVEL, several coal fragments and ash.
2										S-1C (35"): Brown, fine GRAVEL.
3					0.0	0.0	0		FILL	
4										
5									5.0 / 5.0	
6	S-2	55	5-10						CLAY	S-2A (22"): Hard, brown, mottled CLAY.
7								▼	3.2 / 6.8	
8					0.3	2.1	0		SILT 1.8 / 8.3	S-2B (17"): Dark brown, Clayey SILT, with organic matter. wet.
9										S-2C (16"): Gray, mottled CLAY. moist.
10					1.1	251.3	0			
11	S-3	60	10-15							S-3: Hard, brown, mottled CLAY, trace soft gray CLAY with organic matter. moist.
12									CLAY	
13					0.3	0.0	0			
14										
15									-5.0 / 15.0	
16										Boring terminated at 15 feet.
17										
18										
19										
20										
21										
22										
23										
24										
25										

WELL DETAIL



NOTES

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Boring finished as 2" well.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-02
Boring Location:	Vicinity of 35WS-01
N: 3026766.84 E: 810880.70	
Checked by:	J. Lambert
Date Start:	June 30, 2014
Date Finish:	June 30, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	12.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	11.9
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	07:43	7.57	N/A	N/M	20 HRS

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
1	S-1	47	0-5		0.1	0.0	0		LOAM 11.3 / 1.0	S-1A (16"): Brown, fine to coarse SAND & SILT, trace fine Gravel, very few organics at surface. dry.	Flush mounted roadbox set in concrete	
2					0.0	0.0	0			S-1B (31"): Light brown/tan, fine to coarse SAND, little fine Gravel, trace Silt. dry.	Hydrated Bentonite	
3												
4												
5												
6	S-2	51	5-10							S-2: Light brown, fine to coarse SAND, trace Silt, very small pocket of silt observed at 32" and 36". wet.		
7					0.0	0.0	0					
8								▼	SAND			
9					0.1	0.0	0				2" Dia. Slotted PVC (10 slot) #00 Silica Filter Sand	
10												
11	S-3	44	10-15							S-3: Gray/brown, fine to coarse SAND, trace Silt, little fine gravel observed from 40-44". wet.		
12					0.6	0.0	0			Background PID = 0.5ppm.		
13												
14					0.9	0.0	0					
15									-2.7 / 15.0		2" Dia. PVC Sump.	
16										Boring terminated at 15 feet.		
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-03
Boring Location:	b/w ROW-18 & ROW-19
N: 3026784.07 E: 810764.15	
Checked by:	J. Lambert
Date Start:	July 2, 2014
Date Finish:	July 2, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	10.4
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	10
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

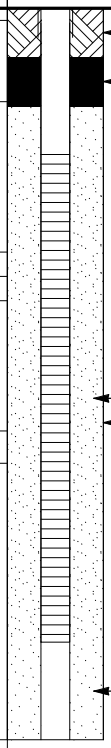
	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/02/14	00:00	1.92			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	50	0-5						10.2 / 0.3 BALLAST	S-1A (7"): Dark brown/black, fine to coarse SAND, some fine Gravel, little coal fragments, trace silt. dry.	
2								▼	FILL 8.5 / 1.9	S-1B (16"): Tan, fine to medium SAND, little fine Gravel. moist.	
3					0.3	0.2	0		CLAY & SILT	S-1C (27"): Gray/brown, CLAY & SILT, trace fine to coarse Sand. wet. Background FID = 0.2ppm.	
4											
5					0.2	1.7	0		5.4 / 5.0	Background FID = 0.2ppm.	
6	S-2	60	5-10						CLAY 4.9 / 5.5	S-2A (6"): Gray, CLAY. wet.	
7					0.1	0.1	0		SAND 4.4 / 6.0	S-2B (6"): Reddish brown, fine to medium SAND. wet.	
8									SILT & CLAY	S-2C (32"): Mottled, gray/brown, SILT & CLAY, lens of medium sand observed from 18-20". moist.	
9					0.9	0.2	0		1.7 / 8.7		
10									SAND 1.1 / 9.3	S-2D (8"): Reddish brown, fine to medium SAND. wet.	
11	S-3	60	10-15							S-2E (8"): Gray, CLAY. wet. S-3A: Gray, CLAY, thin lenses of fine sand observed at 13", 35", 41", 46". wet.	
12					0.0	0.3	0		CLAY		
13											
14											
15					0.0	0.2	0		-4.6 / 15.0		
16										Boring terminated at 15 feet.	
17											
18											
19											
20											
21											
22											
23											
24											
25											

WELL DETAIL



Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	**MW-04**
Boring Location:	Vicinity of 33WS-07
N: 3027094.89 E: 810888.65	
Checked by:	J. Lambert
Date Start:	June 30, 2014
Date Finish:	June 30, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	14.8
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	14.4
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

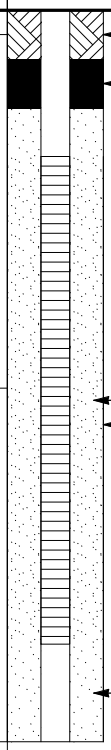
	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	07:40	6.93	N/A	NM	17.5 HRS

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)
1	S-1	50	0-5						TOPSOIL 14.3 / 0.5	S-1A (6"): Brown, SILT and fine to coarse Sand, little Gravel, few organics. dry.
2					2.9	0.0	0		FILL	S-1B (36"): Light grayish brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, trace brick fragments. moist.
3										
4										S-1C (8"): Dark brown, Clayey SILT and fine to coarse Sand. trace brick fragments, little gravel, trace coal particles. wet.
5					3.3	0.0	0			
6	S-2	48	5-9							S-2A (18"): Dark brown/black, fine to medium SAND & SILT, trace brick fragments. wet.
7					1.7	0.0	0	▼		S-2B (15"): Dark brownish/gray, Clayey SILT and fine Sand. trace brick fragments. wet.
8									7.1 / 7.8	
9					1.3	0.0	0		SILTY CLAY	S-2C (15"): Gray, almost blue, Silty CLAY, fine sand lens observed at 43-45". wet.
10	S-3	36	9-12		0.7	15.6	0			S-3A (14"): Bluish gray, Silty CLAY. moist.
11										S-3B (13"): Light brown, Silty CLAY. moist.
12					0.0	64.8	0			Background FID = 0.8ppm. S-3C (6"): Dark gray, fine SAND, little Silt. moist.
13	S-4	36	12-15		0.4	8.7	0			S-3D (3"): Light brown, Silty CLAY. moist.
14										S-4: Gray/brown to gray, Silty CLAY, thin lenses of fine sand. wet.
15					0.4	4.2	0		-0.2 / 15.0	
16										Boring terminated at 15 feet.
17										
18										
19										
20										
21										
22										
23										
24										
25										

WELL DETAIL



NOTES

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site	Boring No.:	MW-05
Location:	Danvers, MA	Boring Location:	Vicinity of 33WS-12
Nobis Project No.:	80095.03		N: 3027116.31 E: 810793.38
		Checked by:	J. Lambert
		Date Start:	July 1, 2014
		Date Finish:	July 1, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	12.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	11.9
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

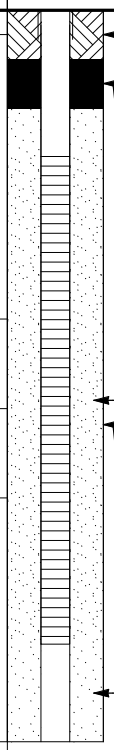
	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	00:00	6.33			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)
1	S-1	26	0-5		0.4	0.9	0		TOPSOIL 11.8 / 0.5	S-1A (6"): Brown, fine to medium SAND & SILT, trace fine Gravel, few organics. dry.
2									FILL	S-1B (20"): Brown, fine to coarse GRAVEL, little fine to coarse Sand, few brick fragments, trace silt. dry. Background FID = 1.1ppm.
3										
4										
5										
6	S-2	42	5-10		2.3	1.6	0	▼	6.0 / 6.3	S-2A (16"): Gray/brown, fine to coarse SAND and Gravel, little Silt, few wood fragments, few brick fragments, trace coal, one piece of rebar. moist. Background FID = 1.1ppm.
7									SAND 4.1 / 8.2	
8					0.3	3.8	0			S-2B (22"): Brown, fine SAND, some Silt, trace Clay. wet. Background FID = 1.1ppm.
9									CLAY & SILT 2.3 / 10.0	
10										S-2C (4"): Reddish brown, CLAY & SILT. moist.
11	S-3	60	10-15		0.8	1.8	0		SAND, INTERBEDDED CLAY LAYERS	S-3: Light brown, fine to medium SAND, silty clay lenses observed at 19-21", 27-30", and 49-51". wet. Background FID = 1.6ppm.
12										
13										
14										
15					0.2	1.9	0		-2.7 / 15.0	Background FID = 1.6ppm.
16										Boring terminated at 15 feet.
17										
18										
19										
20										
21										
22										
23										
24										
25										

WELL DETAIL



NOTES

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site	Boring No.:	**MW-05 (trial 1)**
		Boring Location:	Vicinity of 33WS-12
Location:	Danvers, MA	Checked by:	J. Lambert
Nobis Project No.:	80095.03	Date Start:	July 1, 2014
		Date Finish:	July 1, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	12.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer		
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	00:00	2.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	39	0-5				12.1 / 0.3 TOPSOIL	S-1A (3"): Dark brown, fine to medium SAND & SILT, few organics. dry.	
1								S-1B (27"): Gray/brown, fine to coarse SAND and Gravel, trace Silt, few brick fragments, yellow concrete material observed from 15-20", fine gravel observed from 20-24".	
2									
3					▼		FILL	S-1C (9"): Numerous brick fragments, trace dark brown silt. wet.	
4									
5							7.3 / 5.0		
6								Boring terminated at 5 feet.	
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Very hard drilling from 4-5' bgs, potential slab/cobble (FILL). Boring relocated ~4' south.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	**MW-06**
Boring Location:	North of 33WS-05
	N: 3027233.78 E: 810967.12
Checked by:	J. Lambert
Date Start:	June 30, 2014
Date Finish:	June 30, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	15.1
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	14.8
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	07:35	9.63	N/A	NM	15 HRS

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
1	S-1	48	0-5		1.5	0.0	0			FILL 10.1 / 5.0	S-1: Dark brown, SILT & CLAY, little fine Gravel, trace fine to coarse Sand, few brick fragments, bark mulch observed from 0-4". moist.	Hydrated bentonite	
2													
3													
4					0.5	0.0	0						
5													
6	S-2	60	5-10		1.1	0.0	0			VARVED FINE SAND AND SILTY CLAY 5.1 / 10.0	S-2A (6"): Brown, SILT & CLAY, some fine to coarse Sand, trace fine Gravel. moist. S-2B (54"): Brown, fine to medium SAND, silty clay lenses observed from 15-17", 22-24", 29-33", 37-40", and 56-58". moist to wet.	2" Dia. Slotted PVC (10 Slot) #00 Silica Filter Sand	
7													
8					0.2	0.0	0						
9													
10								▼					
11	S-3	60	10-15		0.4	0.0	0			SILTY CLAY 0.1 / 15.0	S-3A (3"): Brown, fine SAND & SILT. moist. S-3B (27"): Brown, Silty CLAY. wet.		
12													
13											S-3C (30"): Gray, Silty CLAY. wet.		
14													
15					0.5	0.0	0					2" Dia. PVC Sump.	
16											Boring terminated at 15 feet.		
17													
18													
19													
20													
21													
22													
23													
24													
25													

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site	Boring No.:	MW-07
Location:	Danvers, MA	Boring Location:	b/w ROW-13 & 12CH-05
Nobis Project No.:	80095.03		N: 3027420.24 E: 810549.76
		Checked by:	J. Lambert
		Date Start:	July 8, 2014
		Date Finish:	July 8, 2014

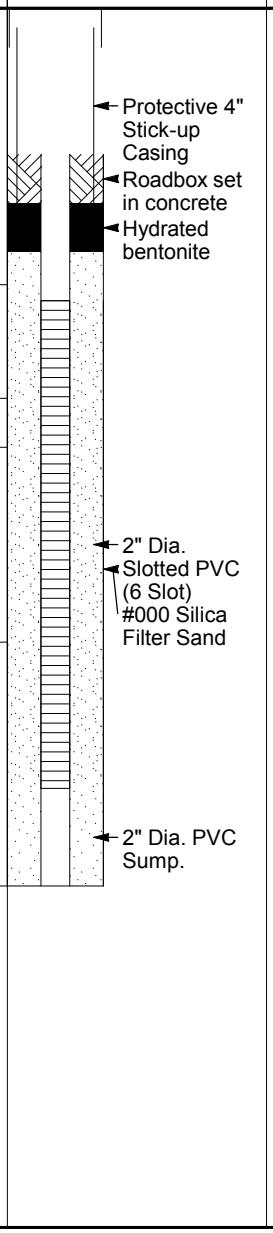
Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	10.5
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	13.3
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/08/14	00:00	10			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
-2												
-1												
0												
1	S-1	46	0-5		0.4	0.3	0			FILL	S-1A (16"): Dark brown/black, fine to coarse SAND, some Gravel, trace coal fragments at surface, trace silt, trace organics at surface. moist.	
2					1.2	0.0	0				Background FID = 0.5ppm.	
3										7.8 / 2.7	S-1B (16"): Brown, fine to coarse SAND & SILT, some fine Gravel. moist.	
4										CLAY & SILT	S-1C (14"): Mottled, red/brown/gray, CLAY & SILT. moist.	
5										5.5 / 5.0		
6	S-2	60	5-10							SILTY CLAY 4.5 / 6.0	S-2A (12"): Mottled, brown/gray, Silty CLAY. moist.	
7											S-2B (48"): Mottled, brown/gray, CLAY. moist.	
8										CLAY		
9					1.3	0.1	0				Background FID = 0.1ppm.	
10								▼		0.5 / 10.0		
11	S-3	60	10-15								S-3: Grayish brown, Silty CLAY, trace fine sand lens observed at 12.5'. wet.	
12												
13					0.7	0.5	0			SILTY CLAY	Background FID = 0.2ppm.	
14												
15										-4.5 / 15.0		
16											Boring terminated at 15 feet.	
17												
18												
19												
20												
21												
22												



Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-08
Boring Location:	12 Cheever St., Parking Lot
N: 3027570.97 E: 810684.24	
Checked by:	J. Lambert
Date Start:	July 2, 2014
Date Finish:	July 2, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	13.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	12.8
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/02/14	00:00	2.17			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
1	S-1	42	0-5		0.2	0.6	0	▼	13.0 / 0.3 ASPHALT	S-1A (4"): Asphalt.	6" Dia. Flush mounted roadbox set in concrete	
2									FILL	S-1B (16"): Dark red/brown, fine to coarse SAND, some fine Gravel, little Silt, trace coal fragments, trace brick fragments. moist. Background FID = 0.6ppm.	Hydrated bentonite	
3									10.6 / 2.7	S-1C (12"): Gray, fine GRAVEL, little fine to coarse Sand. dry, wet at 26".		
4					0.1	0.6	0		SILTY CLAY	S-1D (10"): Mottled, gray/brown, Silty CLAY. moist.		
5									8.3 / 5.0	Background FID = 0.5ppm.		
6	S-2	60	5-10							S-2: Mottled, gray/brown, CLAY. moist.		
7												
8												
9					0.0	1.7	0			Background FID = 0.7ppm.	2" Dia. Slotted PVC (6 Slot) #000 Silica Filter Sand	
10									CLAY			
11	S-3	60	10-15							S-3: Mottled, brown, CLAY. moist.		
12												
13					0.0	0.9	0			Background FID = 0.6ppm.		
14												
15									-1.7 / 15.0		2" Dia. PVC Sump.	
16										Boring terminated at 15 feet.		
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-09
Boring Location:	Vicinity of 20CH-04
N: 3027572.53 E: 810201.95	
Checked by:	J. Lambert
Date Start:	July 8, 2014
Date Finish:	July 8, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	6.8
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	9.6
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

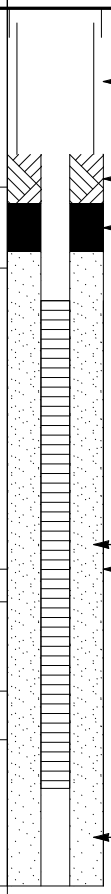
	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/08/14	00:00	8.5			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)
-2											
-1											
0											
1	S-1	54	0-5		0.0	3.5	0			ORGANIC SILT 6.1 / 0.7	S-1A (8"): Dark brown, SILT & CLAY, little fine to medium Sand, trace organics, trace fine gravel. moist. Background FID = 4.5ppm.
2										SAND 4.5 / 2.3	
3					0.0	4.0	0				S-1B (20"): Red/brown, fine to coarse SAND, little fine Gravel, little Silt, trace organics. moist. Background FID = 4.7ppm.
4											S-1C (26"): Light brown, Silty CLAY. moist.
5										SILTY CLAY	
6	S-2	60	5-10								S-2A (42"): Light brown, Silty CLAY, trace dark brown organic fragments. moist.
7											
8					0.0	4.1	0	▼		-1.7 / 8.5	Background FID = 5.0ppm.
9										SILT & CLAY -2.4 / 9.2	S-2B (8"): Mottled, red/brown/gray, SILT & CLAY, trace fine Sand. wet.
10					0.0	4.3	0			SAND -4.2 / 11.0	S-2C (10"): Red/brown, fine SAND, some Silt, little Clay. wet. Background FID = 5.3ppm.
11	S-3	60	10-15								
12					0.0	9.0	0			SILT -5.2 / 12.0	S-3A (12"): Brown, fine SAND, some Silt. wet. S-3B (12"): Brown, SILT, little fine Sand. wet. background FID = 5.3ppm.
13											
14					0.0	4.3	0			SAND -8.2 / 15.0	S-3C (36"): Brown, fine to medium SAND, some Silt. wet. Background FID = 5.6ppm.
15											
16											Boring terminated at 15 feet.
17											
18											
19											
20											
21											
22											

WELL DETAIL



NOTES

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-10
Boring Location:	Clinton Ave.
	N: 3026380.43 E: 810282.24
Checked by:	J. Lambert
Date Start:	July 9, 2014
Date Finish:	July 9, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	20.8
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	20.4
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/09/14	00:00	6.92			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	WELL DETAIL	NOTES
1	S-1	40	0-5							ASPHALT 20.1 / 0.8	S-1A (9"): Asphalt.	Flush mounted roadbox set in concrete	
2					0.0	NR	0				S-1B (31"): Brown, fine SAND, trace Silt & Clay, very few rock fragments. moist.	Hydrated bentonite	
3													
4					0.0	NR	0						
5													
6	S-2	60	5-10							SAND	S-2A (18"): Brown, fine SAND, little to some clay, very few rock fragments, organic matter. moist.		
7								▼			S-2B (3"): Brown, SAND. moist.		
8					0.0	NR	0				S-2C (37"): Brown, fine SAND, moddled, little to some clay. wet.	2" Dia Slotted PVC (6 Slot) #000 Silica Filter Sand	
9													
10					0.0	NR	0			10.8 / 10.0			
11	S-3	54	10-15							SAND & CLAY 10.1 / 10.7	S-3A (8"): Brown, fine SAND and Clay. wet.		
										9.8 / 11.0 CLAY	S-3B (4"): Brown, CLAY, trace fine Sand.		
12											S-3C (42"): Brown, fine SAND, little to some clay, organic matter observed from 36-41".		
13					0.0	NR	0			SAND			
14													
15										5.8 / 15.0		2" Dia. PVC Sump.	
16											Boring terminated at 15 feet.		
17													
18													
19													
20													
21													
22													
23													
24													
25													

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) FID would not start. Boring Finished as 2" well.
2) NR = No Reading

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 9/5/14 16:22 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **12CH-01**

Boring Location: N: 3027618.16 E: 810515.22

Checked by: J. Lambert

Date Start: June 26, 2014

Date Finish: June 26, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 13.7

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	39	0-4		1.6	0.0	0			13.5 / 0.3 ASPHALT	Asphalt.	
										FILL	S-1A (19"): Brown, coarse GRAVEL.	
2					1.8	3567	0			11.5 / 2.3	S-1B (5"): Brown, coarse GRAVEL, very few glass shards.	
3										SILT 10.9 / 2.8	S-1C (7"): Dark brown, Clayey SILT.	
4											S-1D (8"): Hard, brown, CLAY.	
5	S-2	48	4-8		0.5	32.1	0				S-2A (24"): Hard, brown, mottled CLAY.	
6										CLAY		
7					0.3	0	0				S-2B (24"): Hard, brown, mottled CLAY.	
8										5.7 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) MSDS from 2-4' bgs

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	12CH-02
Boring Location:	N: 3027513.31 E: 810567.91
Checked by:	J. Lambert
Date Start:	June 25, 2014
Date Finish:	June 25, 2014
Contractor:	Maher Services
Driller:	S. Dubois
Nobis Rep.:	A. Arsenault
Rig Type / Model:	Geoprobe / 7822 DT
Hammer Type:	Automatic Hammer
Hammer Hoist:	Automatic
Ground Surface Elev.:	13.2
Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/25/14	00:00	4			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	22	0-4		1.2	7.8	0			12.9 / 0.3 ASPHALT	Asphalt.	
1					2.9	6.7	0			SAND	S-1A (11"): Brown, fine to coarse SAND, some Silt, little fine Gravel, trace coarse gravel. dry. background FID: 9.7ppm, background PID: 0.2ppm. S-1B (7"): Gray, fine to coarse SAND, some Silt, some fine to coarse Gravel. dry. very few fragments of poly sheeting, background FID: 8.9ppm, background PID: 0.2ppm.	
2												
3												
4								▼		9.2 / 4.0		
5	S-2	48	4-8		3.8	6.9	0			CLAY & SILT	S2-A (3"): Gray, fine to coarse SAND, some Silt, some fine to coarse Gravel. wet. background FID: 7.8ppm, background PID: 0.2ppm. S2-B (5"): Gray, fine to coarse SAND, some Silt, some fine to coarse Gravel, and rock fragments. S2-C (2"): Brown, fine to coarse GRAVEL, little fine to coarse Sand, trace Silt. wet. S2-D (14"): Tan and gray, CLAY & SILT, trace coarse Gravel, very few dark brown organic fragments. wet. S2-E (14"): Tan and gray, CLAY & SILT, trace, very few dark brown organic fragments. wet. background FID: 7.0ppm, background PID: 0.2ppm.	
6												
7					9.2	6.7	0					
8										5.2 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) PAHs at 2-4', 4-6', 6-8'

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	12CH-03
Boring Location:	N: 3027478.75 E: 810626.06
Checked by:	J. Lambert
Date Start:	June 25, 2014
Date Finish:	June 25, 2014
Contractor:	Maher Services
Driller:	S. Dubois
Nobis Rep.:	A. Arsenault
Rig Type / Model:	Geoprobe / 7822 DT
Hammer Type:	Automatic Hammer
Hammer Hoist:	Automatic
Ground Surface Elev.:	13.25
Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/25/14	00:00	4			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S1	20	0-4							12.9 / 0.3 ASPHALT	Asphalt.	
1					0.0	1.7	0				S1-A (10"): Brown, fine to coarse SAND, some Silt, little fine Gravel, trace coarse gravel, moist. background FID: 2.1ppm.	
2					0.1	4.9	0			SAND	S1-B (10"): Dark brown to gray, fine to coarse SAND, some Silt, little fine Gravel, trace coarse gravel, moist. background FID: 2.1ppm.	
3												
4								▼		9.3 / 4.0		
	S2	31	4-8		0.0	3.7	0			8.8 / 4.4 GRAVEL	S2-A (5"): Brown, GRAVEL, little fine to coarse Sand, trace Silt. wet. background FID: 2.6ppm.	
5					0.0	3.1	0				S2-B (2"): Gray, CLAY, little fine Gravel, trace coarse Gravel. wet.	
6										CLAY & SILT	S2-C (24"): Light brown to gray, CLAY, Silt, trace dark brown organic fragments. wet. background FID: 2.5ppm.	
7												
8										5.3 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) PAHs at 2-4', 4-6', 6-8'

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **12CH-04**

Boring Location: N: 3027449.97 E: 810743.87

Checked by: J. Lambert

Date Start: June 25, 2014

Date Finish: June 25, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: A. Arsenault

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 13.2

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S1	24	0-4		1.4	5.7	0			12.9 / 0.3 ASPHALT	Asphalt.	
1										SAND 12.1 / 1.1	S1-A (9"): Dark to light brown, fine SAND, little Silt, some medium to coarse Sand. some fine gravel, trace coarse gravel, very few glass fragments, dry. Background FID = 1.9ppm, background PID = 0.2ppm.	
2					2.2	1372	0					
3										SILTY CLAY	S1-B (11"): Brown to tan, Silty CLAY, trace fine Gravel. dry. background FID = 1.9ppm, background PID = 0.3ppm.	
4										9.2 / 4.0		
	S2	55	4-8		1.0	136	0				S2-A (27"): Tan and gray, CLAY & SILT. moist. background FID = 1.8ppm.	1
5												
6										CLAY & SILT		
7					0.0	120	0				S2-B (28"): Tan and gray, CLAY & SILT, trace fine Sand, trace coarse Gravel, very few black organic fragments. moist. background FID = 1.9ppm.	
8										5.2 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **12CH-05**

Boring Location: N: 3027438.50 E: 810569.40

Checked by: J. Lambert

Date Start: June 25, 2014

Date Finish: June 25, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 13.15

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/25/14	00:00	3			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
										ASPHALT 12.7 / 0.5	Asphalt.	
1	S-1	44	0.5-4		0.0	0.0	0				S-1A (26"): Brown, coarse GRAVEL.	
2												
3					1.4	135.1	0	▼		GRAVEL	S-1B (12"): Black, coarse GRAVEL, few leather scraps, metal debris, coal ash.	
4												
	S-2	32	4-8		1.5	129	0			8.7 / 4.5	S-2A (6"): Black, coarse GRAVEL, few metal debris.	
5										SILT 7.8 / 5.3	S-2B (10"): Brown, Clayey SILT, several rock fragments.	
6					1.0	16.2	0				S-2C (16"): Hard, brown, mottled CLAY.	
7												
8												
	S-3	48	8-12								S-3A (24"): Hard, brown, mottled CLAY.	
9										CLAY		
10												
11											S-3B (24"): Hard, brown, mottled CLAY.	
12										1.2 / 12.0		
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-01**

Boring Location: N: 3027800.04 E: 810170.81

Checked by: J. Lambert

Date Start: June 16, 2014

Date Finish: June 16, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 5.34

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/16/14	00:00	0.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0	▼			G-1: Dark brown, SILT, root balls. wet.	
1	S-1	36	0.5-4							SILT	S-1A (12"): Dark brown, SILT, vegetable matter.	
2					0.0	0.0	0			3.3 / 2.0	S-1B (6"): Tight, brown, mottled SILT.	
3											S-1C (12"): Brown, mottled CLAY.	
4												
	S-2	48	4-8		0.0	0.0	0				S-2A (24"): Brown, CLAY.	
5										CLAY		
6												
7					0.0	0.0	0				S-2B (24"): Brown, CLAY.	
8										-2.7 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	**20CH-02**
Boring Location:	N: 3027690.23 E: 810209.97
Checked by:	J. Lambert
Date Start:	June 17, 2014
Date Finish:	June 17, 2014
Contractor:	Major Drilling Int.
Driller:	M. Rodrigues
Nobis Rep.:	A. Robichaud
Rig Type / Model:	Geoprobe / 7822 DT
Hammer Type:	Automatic Hammer
Hammer Hoist:	Wire Winch
Ground Surface Elev.:	6.38
Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/17/14	00:00	.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		1.5	0.0	0	▼			G-1: Dark brown, Clayey SILT, root balls.	
1	S-1	48	0.5-4							SILT 5.2 / 1.2	S-1A (6"): Dark brown to brown, Clayey SILT.	
											S-1B (5"): Dark brown to brown, Clayey SILT. wet.	
2											S-1C (3"): Dark brown to brown, Clayey SILT, rock fragments.	
					1.7	0.0	0				S-1D (34"): Brown, mottled CLAY.	
3												
4												
	S-2	48	4-8		0.0	0.0	0			CLAY	S-2A (24"): Brown, mottled CLAY.	
5												
6												
					0.0	0.4	0				S-2B (24"): Brown, mottled CLAY.	
7												
8										-1.6 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-03**

Boring Location: N: 3027650.34 E: 810242.10

Checked by: J. Lambert

Date Start: June 17, 2014

Date Finish: June 17, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 7.11

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/17/14	00:00	0.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5					▼		SILT 6.6 / 0.5	G-1: Dark brown, Clayey SILT, root balls.	
1	S-1	40	0.5-4		1.7	4.2	0				S-1A (6"): Dark brown, Clayey SILT, root balls. wet. background FID: 6.2ppm.	
2					1.2	3.8	0				S-1B (14"): Brown, mottled CLAY. S-1C (20"): Brown, mottled CLAY. background FID: 6.2ppm.	
3												
4												
5	S-2	48	4-8		1.0	0.0	0			CLAY	S-2A (24"): Brown, mottled CLAY.	
6												
7					0.9	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										-0.9 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-04**

Boring Location: N: 3027574.17 E: 810188.51

Checked by: J. Lambert

Date Start: June 17, 2014

Date Finish: June 17, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 5.64

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/17/14	00:00	0.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0	▼			G-1: Dark brown, Clayey SILT, root balls.	
1	S-1	46	0.5-4							SILT 4.2 / 1.4	S-1A (14"): Dark brown to brown, Clayey SILT. wet.	
2											S-1B (3"): Dark brown to brown, Clayey SILT, few rock fragments.	
3					0.0	0.0	0				S-1C (6"): Brown, CLAY. S-1D (23"): Brown, mottled CLAY.	
4												
5	S-2	48	4-8		0.0	0.0	0			CLAY	S-2A (24"): Brown, mottled CLAY.	
6												
7					0.0	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										-2.4 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-05**

Boring Location: N: 3027594.96 E: 810302.91

Checked by: J. Lambert

Date Start: June 19, 2014

Date Finish: June 19, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 7.71

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			LOAM 7.0 / 0.8	G-1: Dark brown, LOAM, organic matter.	
1	S-1	41	0.5-4								S-1A (3"): Dark brown, LOAM, organic matter.	
2										SILT 6.0 / 1.8	S-1B (12"): Dark brown, Clayey SILT, few rock fragments.	
3					0.0	0.0	0				S-1C (26"): Brown, mottled CLAY.	
4												
5	S-2	48	4-8		0.0	0.0	0			CLAY	S-2B (24"): Brown, mottled CLAY.	
6												
7					0.2	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										-0.3 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Sleeves were wet coming out, but could not determine GW level from soil

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-06**

Boring Location: N: 3027523.29 E: 810281.40

Checked by: J. Lambert

Date Start: June 19, 2014

Date Finish: June 19, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 6.89

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/19/14	00:00	0.75			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		1.2	0.0	0	▼		LOAM 5.6 / 1.3	G-1: Dark brown, LOAM.	
	S-1	45	0.5-4								S-1A (9"): Dark brown, LOAM, few rock fragments. moist.	
2										SILT 4.7 / 2.2	S-1B (11"): Brown, Clayey SILT, few rock fragments. wet.	
3					1.2	0.0	0				S-1C (25"): Brown, mottled CLAY.	
4												
5	S-2	48	4-8		1.0	0.0	0			CLAY	S-2A (24"): Brown, mottled CLAY.	
6												
7					0.9	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										-1.1 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) MSDS collected from 0-6"

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis
Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site
Location: Danvers, MA
Nobis Project No.: 80095.03

Boring No.: **20CH-07**
Boring Location: N: 3027544.02 E: 810386.98
Checked by: J. Lambert
Date Start: June 19, 2014
Date Finish: June 19, 2014

Contractor: Major Drilling Int.
Driller: M. Rodrigues
Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT
Hammer Type: Automatic Hammer
Hammer Hoist: Wire Winch

Ground Surface Elev.: 9.19
Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0				G-1: Dark brown, silt LOAM, very few metal debris and ash pieces.	
1	S-1	44	0.5-4							FILL 7.9 / 1.3	S-1A (10"): Dark brown, LOAM with few glass and concrete fragments.	
2										7.5 / 1.7 SILT	S-1B (4"): Brown, SILT.	
3					0.2	0.0	0				S-1C (30"): Brown, mottled CLAY.	
4												
5	S-2	48	4-8		0.0	0.0	0			CLAY	S-2A (24"): Brown, mottled CLAY.	
6												
7					0.0	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										1.2 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Sleeves wet coming out, but could not determine GW level from soil

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	**20CH-08**
Boring Location:	N: 3027499.52 E: 810194.68
Checked by:	J. Lambert
Date Start:	June 19, 2014
Date Finish:	June 19, 2014
Contractor:	Major Drilling Int.
Driller:	M. Rodrigues
Nobis Rep.:	A. Robichaud
Rig Type / Model:	Geoprobe / 7822 DT
Hammer Type:	Automatic Hammer
Hammer Hoist:	Wire Winch
Ground Surface Elev.:	5.01
Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/19/14	00:00	0.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		1.1	0.0	0	▼		SILT 3.9 / 1.1	G-1: Dark brown, Clayey SILT, organic matter. wet.	
1	S-1	45	0.5-4								S-1A (7"): Dark brown, Clayey SILT, organic matter. wet.	
										3.5 / 1.5 CLAY	S-1B (5"): Brown, mottled CLAY.	
2											S-1C (26"): Dark brown, Clayey SILT, few rock fragments.	
					1.1	0.0	0					
3										SILT		
4										1.3 / 3.7		
	S-2	48	4-8		0.0	0.0	0				S-1D (7"): Brown, mottled CLAY. S-2A (24"): Brown, mottled CLAY.	
5												
6										CLAY		
					0.0	0.0	0				S-2B (24"): Brown, mottled CLAY.	
7												
8										-3.0 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-09**

Boring Location: N: 3027503.07 E: 810342.82

Checked by: J. Lambert

Date Start: June 19, 2014

Date Finish: June 19, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 8.24

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			LOAM 6.9 / 1.3	G-1: Dark brown, sandy LOAM, organic matter.	
1	S-1	42	0.5-4								S-1A (10"): Dark brown, sandy LOAM, organic matter.	
2										SILT 5.8 / 2.4	S-1B (13"): Brown, Sandy SILT, few rock fragments.	
3					0.0	0.0	0			CLAY	S-1C (19"): Brown, mottled CLAY.	
4												
5	S-2	48	4-8		0.0	0.0	0				S-2A (24"): Brown, mottled CLAY.	
6												
7					0.0	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										0.2 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Sleeves wet coming out, but could not determine GW level from soil

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-10**

Boring Location: N: 3027464.56 E: 810255.06

Checked by: J. Lambert

Date Start: June 18, 2014

Date Finish: June 18, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 5.4

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/18/14	00:00	0.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		6.1	0.0	0	▼			G-1: Dark brown, Clayey SILT, organic matter. wet.	
	S-1	48	0.5-4								S-1A (15"): Dark brown, Clayey SILT, organic matter. wet.	
2										CLAYEY SILT	S-1B (25"): Brown, Clayey SILT, several rock fragments.	
3					0.5	0.0	0					
										2.1 / 3.3		
4										CLAY 1.4 / 4.0	S-1C (8"): Brown, mottled CLAY.	
	S-2	48	4-8		0.7	4.3	0			SAND AND SILT 0.9 / 4.5	S-2A (6"): Brown, fine SAND & SILT.	
5											S-2B (42"): Brown, mottled CLAY.	
6												
7					1.9	0.0	0					
8												
	S-3	48	8-12		0.5	0.0	0			CLAY	S-3A (13"): Brown, mottled CLAY.	
9												
10											S-3B (3"): Fine SAND.	
											S-3C (32"): Brown, mottled CLAY.	
11					0.0	0.0	0					
12										-6.6 / 12.0		
	S-4	0	12-16								S-4: No Recovery.	
13												
14												
15												
16												
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Casing was advanced to 16' bgs. Casing was very difficult to extract. Soil samples were lost in the boring during exrtaction.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-11**

Boring Location: N: 3027458.49 E: 810362.56

Checked by: J. Lambert

Date Start: June 20, 2014

Date Finish: June 20, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 6.99

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/20/14	00:00	1.75			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			LOAM 6.5 / 0.5	G-1: Dark brown, sandy LOAM.	
1	S-1	31	0.5-4								S-1A (10"): Dark brown, coarse GRAVEL, several glass shards.	
2					1.8	10.3	0	▼		FILL 4.2 / 2.8	S-1B (17"): Brown, coarse GRAVEL, several glass shards. wet.	
3											S-1C (4"): Dark brown, Clayey SILT, possible leather scraps at gravel/silt interface. wet.	
4												
	S-2	48	4-8		0.0	96.7	0			SILT 0.7 / 6.3	S-2A (28"): Dark brown, Clayey SILT, few rock fragments. wet.	1
5												
6												
7					0.0	0.0	0				S-2B (20"): Brown, mottled CLAY.	
8												
	S-3	48	8-12		0.0	0.0	0			CLAY	S-3A (24"): Brown, mottled CLAY.	
9												
10												
11					0.0	0.0	0				S-3B (24"): Brown, mottled CLAY.	
12										-5.0 / 12.0		
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Odor from 4-6' bgs

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-12**

Boring Location: N: 3027491.19 E: 810426.33

Checked by: J. Lambert

Date Start: June 20, 2014

Date Finish: June 20, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 6.07

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/20/14	00:00	0.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5					▼		LOAM 5.6 / 0.5	G-1: Dark brown, silt LOAM, organic matter and few glass shards.	
1	S-1	32	0.5-4		0.0	0.0	0				S-1A (16"): Very loose, dark brown, GRAVEL, few glass shards, mixed with silt. wet.	
2					0.0	0.0	0			FILL	S-1B (16"): Very loose, dark brown to black, GRAVEL, several glass shards, scraps of leather and coal ash, mixed with silt.	
3												
4												
5	S-2	48	4-8		0.0	0.0	0			1.3 / 4.8	S-2A (9"): Very loose, dark brown, Sandy SILT, few scraps of leather.	
6											S-2B (39"): Brown, mottled CLAY.	
7					0.0	0.0	0					
8												
9	S-3	48	8-12		0.0	0.0	0			CLAY	S-3A (36"): Dense, brown, CLAY.	
10												
11					0.0	0.0	0					
12										-5.9 / 12.0	S-3B (12"): Soft, brown, CLAY. wet. fine brown SAND at tip of Geoprobe sampler.	
13										-6.0 / 12.1 SAND	Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) 0-4' sleeve: soil kept falling out of sleeve when pulling the tooling out

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-13**

Boring Location: N: 3027408.17 E: 810319.63

Checked by: J. Lambert

Date Start: June 18, 2014

Date Finish: June 18, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 5.61

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/18/14	00:00	0.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.6	0.0	0	▼			G-1: Dark brown, Clayey SILT, organic matter. moist.	
1	S-1	45	0.5-4							SILT 4.3 / 1.3	S-1A (10"): Dark brown, Clayey SILT, organic matter. wet.	
2										CLAY 3.8 / 1.8	S-1B (6"): Brown, mottled CLAY.	
3					0.4	0.0	0			SILT 2.6 / 3.0	S-1C (14"): Dark brown, Clayey SILT, few rock fragments.	
4											S-1D (15"): Brown, mottled CLAY.	
5	S-2	48	4-8		0.9	0.0	0				S-2A (24"): Brown, mottled CLAY.	
6										CLAY		
7					0.4	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										-2.4 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-14**

Boring Location: N: 3027452.14 E: 810463.24

Checked by: J. Lambert

Date Start: June 24, 2014

Date Finish: June 24, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 6.85

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/24/14	00:00	1.33			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.7	0.0	0			FILL	G-1: Brown, SILT, trace fine to coarse Sand, trace fine Gravel, very few glass fragments, very few plant roots, very few fragments of thin platey dark brown material. dry. background PID = 0.1ppm.	
	S-1	19	0.5-4					▼			S-1A (9"): Dark brown to white grayish, SILT, trace fine to coarse Sand, trace fine to coarse Gravel, very few coal fragments, very few plant roots, several ashy particles. moist.	
2					0.4	0.0	0				S-1B (9"): Reddish brown, SILT, trace fine to coarse Sand, trace fine to coarse Gravel, very few glass fragments, very few ceramic tiles fragments. wet. background PID = 0.1ppm.	
3												
4										2.9 / 4.0		
	S-2	41	4-8		0.4	0.0	0			SILT & CLAY	S-2A (3"): Dark brown, SILT & CLAY, trace fine to coarse Sand, trace fine to coarse Gravel. wet. background FID = 0.5ppm.	
5										1.2 / 5.7	S-2B (11"): Gray, SILT & CLAY. wet.	
6					0.3	0.0	0			0.8 / 6.1 SILTY CLAY	S-2C (6"): Tan, SILT & CLAY. wet.	
7										SILT & CLAY	S-2D (5"): Tan, Silty CLAY, trace fine Gravel, very few metal fragments. wet.	
8										-1.2 / 8.0	S-2E (16"): Tan, SILT & CLAY, trace fine Gravel, very few brown fragments, decayed organic material. wet.	
	S-3	60	8-12		0.0	0.0	0			SILTY CLAY	S-3A (30"): Tan, Silty CLAY, very few brown fragments, decayed organic material. wet.	2
9												
10												
11					0.0	0.0	0				S-3B (30"): Tan, Silty CLAY, very few brown fragments, decayed organic material. wet.	
12										-5.2 / 12.0		
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs.
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-15**

Boring Location: N: 3027379.24 E: 810388.87

Checked by: J. Lambert

Date Start: June 18, 2014

Date Finish: June 18, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 5.24

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/18/14	00:00	2.75			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		1.7	0.2	0			LOAM 3.8 / 1.4	G-1: Brown, sandy LOAM, organic matter.	
1	S-1	33	0.5-4								S-1A (17"): Brown, sandy LOAM, organic matter.	
2					1.2	0.0	0			SILT 1.2 / 4.0	S-1B (16"): Brown, Clayey SILT, wet at bottom.	
3								▼				
4												
	S-2	48	4-8		0.9	0.0	0			CLAY -2.8 / 8.0	S-2A (24"): Brown, mottled CLAY, several stones top 2 inches.	
5												
6												
7					0.9	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8												
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **20CH-16**

Boring Location: N: 3027619.32 E: 810276.53

Checked by: J. Lambert

Date Start: June 26, 2014

Date Finish: June 26, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: A. Arsenault

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 7.84

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.4	0			SILT 7.3 / 0.5	G-1: Dark brown, SILT, trace fine to coarse Sand, trace fine to coarse Gravel. dry. background FID = 0.4ppm.	
1	S-1	27	0.5-4		0.0	0.4	0			7.0 / 0.8 SILT & CLAY	S-1A (4"): Dark brown, SILT & CLAY, trace fine to coarse Sand, few roots. moist.	
2											S-1B (17"): Tan and gray, CLAY & SILT, little fine to coarse Sand, little fine Gravel, trace coarse gravel, very few roots. moist. background FID = 0.3ppm.	2
3												
4										CLAY & SILT		
	S-2	60	4-8		0.0	0.1	0				S-2A (30"): Tan and gray, CLAY & SILT, few dark brown organic fragments. moist. background FID = 0.2ppm.	3
5												
6										1.3 / 6.5		
7					0.0	0.0	0			SILTY CLAY -0.2 / 8.0	S-2B (30"): Tan and gray, Silty CLAY, few dark brown organic fragments. moist.	
8												
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8' bgs.
2) Duplicate at surface (0-6")
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-01**

Boring Location: N: 3027446.26 E: 810667.70

Checked by: J. Lambert

Date Start: June 24, 2014

Date Finish: June 24, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 12.42

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1												
2	S-1	34	1-4		0.0	178.2	0			SILT & CLAY 10.6 / 1.8	S-1A (10"): Brown, SILT & CLAY, trace fine to coarse Sand, trace fine to coarse Gravel. moist.	2
										CLAY & SILT 10.0 / 2.4	S-1B (9"): Olive, CLAY & SILT, trace fine to coarse Sand, trace fine to coarse Gravel. moist.	
3										CLAYEY SILT 8.4 / 4.0	S-1C (5"): Dark brown, Clayey SILT, trace fine to coarse Sand, trace fine to coarse Gravel, very few plant roots. moist.	
4												
5	S-2	52	4-8		0.0	0.0	0			CLAY & SILT 4.4 / 8.0	S-2A (8"): Dark gray, CLAY & SILT, trace fine to coarse Gravel, very few plant roots. moist. S-2B (44"): Tan and gray, CLAY & SILT. moist.	3
6												
7					0.0	0.0	0					
8												
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4-6', 6-8' bgs.
2) First sample sleeve collected at 1' bgs because boring is located in the area of a historic shallow soil excavation.
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-02**

Boring Location: N: 3027403.66 E: 810767.10

Checked by: J. Lambert

Date Start: June 24, 2014

Date Finish: June 24, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 12.05

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1												
2	S-1	41	1-4		0.0	57.2	0			SILT 10.0 / 2.1	S-1A (13"): Dark brown, SILT, trace fine to coarse Sand, trace fine Gravel. moist.	2
3										SAND 9.4 / 2.7	S-1B (7"): Brown, fine SAND, some Silt, trace medium to coarse Sand, trace fine gravel. moist.	
4										CLAY & SILT 8.1 / 4.0	S-1C (9"): Tan, CLAY & SILT, trace fine Sand, trace coarse Gravel. moist.	
5	S-2	58	4-8		0.0	0.0	0				S-2A (29"): Tan and gray, Silty CLAY, very few plant roots and dark brown lenses of decayed organic material. moist.	3
6										SILTY CLAY		
7					1.7	0.0	0				2-3B (29"): Tan and a little gray, Silty CLAY, very few plant roots and dark brown lenses of decayed organic material. moist.	
8										4.1 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4-6', 6-8' bgs. Duplicate collected at 2-4' bgs.
2) First sample sleeve collected at 1' bgs because boring is located in the area of a historic shallow soil excavation.
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-03**

Boring Location: N: 3027274.21 E: 810636.27

Checked by: J. Lambert

Date Start: June 13, 2014

Date Finish: June 13, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 13.35

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/13/14	00:00	5.5			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
	G-1		0-0.5							TOPSOIL 12.9 / 0.5	G-1: Brown, SILT, some fine Sand, trace medium to coarse Sand. wet.	
1	S-1	30	0.5-4		0.0	16.3	0			FILL 10.4 / 3.0	S-1A (12"): Brown, fine SAND, some Silt, little medium to coarse Sand, trace fine gravel, little coarse gravel. dry. background FID = 15.7. S-1B (8"): Dark brown, fine to coarse SAND, little Silt, trace fine to coarse Gravel, very few concrete fragments. dry. S-1C (10"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. dry. background FID = 18.2ppm.	
2												
3					0.0	19.2	0					
4										SAND 8.7 / 4.7		
	S-2	46	4-8								S-2A (8"): Dark brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. moist.	
5										SILTY SAND 7.9 / 5.5	S-2B (10"): Dark gray, fine SAND & SILT, trace fine Gravel. moist.	
6					0.0	24.0	0	▼		CLAYEY SILT 7.3 / 6.1	S-2C (7"): Tan/gray, Clayey SILT, little fine Sand. wet. background FID = 23.3ppm.	
7					0.0	28.7	0			6.9 / 6.4 SAND	S-2D (4"): Gray, fine to coarse SAND, little Silt, trace fine to coarse Gravel. wet.	
8										SILTY CLAY 5.4 / 8.0	S-2E (17"): Tan with gray lenses, Silty CLAY. wet. background FID = 28.0ppm.	2
	S-3	60	8-12		0.0	20.1	0			CLAY & SILT	S-3A (30"): Tan, CLAY & SILT, very few dark brown lenses, decayed organic matter. moist. background FID = 20.1.	
9												
10												
11					0.0	24.3	0				S-3B (30"): Tan, CLAY & SILT, very few dark brown lenses, decayed organic matter. moist. background FID = 23.3ppm.	
12										1.4 / 12.0		
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4-6', 6-8', 8-10' bgs.
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-04**

Boring Location: N: 3027246.92 E: 810767.30

Checked by: J. Lambert

Date Start: June 13, 2014

Date Finish: June 13, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 15.69

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
06/13/14	00:00	6.583			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.4	0.5	0			TOPSOIL 15.2 / 0.5	G-1: Dark brown, SILT, little fine Sand, trace medium to coarse Sand, trace fine gravel. dry. background FID = 0.5ppm, background PID = 0.4ppm.	
1	S-1	31	0.5-4								S-1A (15"): Brown, fine to medium SAND, little Silt, trace coarse Sand, trace fine to coarse gravel. dry.	
2											S-1B (7"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. dry.	
3					0.4	1.7	0			FILL	S-1C (7"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel, very few pieces of wood, fragments of brick, and numerous fragments of mortar. dry.	
4	S-2	43	4-8								S-1D (2"): Brown, CLAY & SILT. moist. background FID = 1.3ppm, background PID = 0.4ppm.	
5										9.9 / 5.8	S-2A (3"): Dark brown, fine to coarse SAND, little Silt, trace fine Gravel, few fragments of brick. moist.	
6					0.3	0.6	0			CLAYEY SILT 9.1 / 6.6	S-2B (12"): Dark brown, fine to coarse SAND, trace Silt, some fine Gravel, very few brick fragments. Possible ash. Very few mortar fragments. dry.	
7										SAND 8.5 / 7.2	S-2C (2"): Weathered rocks.	
8					0.4	1.3	0			CLAY & SILT 6.4 / 9.3	S-2D (5"): Brown to dark brown, fine to medium SAND, trace Silt, trace coarse Sand, trace fine to coarse gravel, few brick fragments. moist. background FID = 0.6ppm, background PID = 0.3ppm.	2
9	S-3	50	8-12								S-2E (9"): Brown, fine to medium SAND, and Clayey Silt, little coarse Sand, trace fine to coarse gravel. moist.	
10					0.3	0.4	0			SILT & CLAY 5.6 / 10.1	S-2F (7"): Brown, fine to coarse SAND, trace Silt. wet.	
11					0.3	1.4	0			CLAY & SILT 3.7 / 12.0	S-2G (5"): Brown with gray lenses, CLAY & SILT, some fine Sand, trace fine Gravel. wet. background FID = 1.3ppm, background PID = 0.4ppm.	
12											S-3A (15"): Tan, CLAY & SILT. wet.	
13											S-3B (10"): Tan with gray lenses, SILT & CLAY, very few dark brown lenses, decayed organic matter. wet. background PID = 0.2ppm.	
14											S-3C (25"): Tan with gray lenses, CLAY & SILT. wet. background FID = 1.2ppm, background PID = 0.3ppm.	
15											Boring terminated at 12 feet.	
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-05**

Boring Location: N: 3027210.40 E: 810914.60

Checked by: J. Lambert

Date Start: June 12, 2014

Date Finish: June 12, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 14.93

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/12/14	00:00	8			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			TOPSOIL 14.4 / 0.5	G-1: Dark brown, SILT, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. dry.	
1	S-1	20	0.5-4		0.0	0.0	0			FILL 9.7 / 5.3	S-1A (4"): Dark brown to tan, fine to medium SAND, little Silt, little coarse Sand, trace fine to coarse gravel. dry. S-1B (10"): Dark brown to tan, fine to medium SAND, little Silt, little coarse Sand, trace fine to coarse gravel, several brick and mortar fragments. trace metal. dry.	
2												
3												
4												
5	S-2	41	4-8		0.0	0.0	0				S-2A (4"): Dark brown, fine SAND & SILT, little medium to coarse Sand, trace fine to coarse Gravel, very few brick fragments. dry. S-2B (11"): Tan, fine SAND, trace Silt, very few sticks and plant roots.	
6					0.0	0.0	0			SILTY SAND 6.9 / 8.0	S-2C (5"): Brown, fine SAND, some Silt, trace medium to coarse Sand, trace fine to coarse gravel. dry. S-2D (3"): Brown, fine SAND, some Silt. moist. S-2E (14"): Brown, fine SAND, trace Silt, trace fine to coarse Gravel. moist.	
7												
8								▼				
9	S-3	51	8-12		0.0	0.0	0			SAND 4.8 / 10.1	S-2F (4"): Brown, fine SAND, little Silt, trace coarse Gravel. moist. S-3A (15"): Tan, fine SAND, with clay and silt lenses. wet. S-3B (10"): Tan, fine SAND, trace Silt. wet.	3
10												
11					0.0	0.0	0			CLAY & SILT 2.9 / 12.0	S-3C (26"): Tan, CLAY & SILT, little fine Sand, trace fine Gravel. wet.	
12												
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) MS/MSD collected at 0-6" bgs.
2) PAH samples collected at 2-4', 4-6', 6-8', 8-10' bgs
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-06**

Boring Location: N: 3027175.67 E: 810688.01

Checked by: J. Lambert

Date Start: June 16, 2014

Date Finish: June 16, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 11.16

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/16/14	00:00	4			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	G-1		0-0.5		0.0	12.5	0			FILL	G-1: Dark brown, fine SAND & SILT, trace medium to coarse Sand, trace fine to coarse Gravel, very few brick fragments. dry. background FID = 8.0ppm.	
1	S-1	33	0.5-4								S-1A (10"): Dark brown, fine SAND & SILT, little medium Sand, trace coarse Sand, trace fine gravel, very few concrete fragments at 8-9". dry.	
2					1.0	57.2	0				S-1B (16"): Dark brown, SILT, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel, very few brick fragments observed at 25-26", slight odor, very few coal fragments. moist. background FID = 0.8ppm.	
3												
4								▼				
5	S-2	42	4-8		0.4	10.1	0				S-2A (10"): Dark brown, fine to medium SAND & SILT, trace coarse Sand, trace fine to coarse Gravel, very few pieces of wood observed. wet. background PID = 0.3ppm.	
6					0.3	51.2	0			5.4 / 5.8 SAND 4.5 / 6.7	S-2B (11"): Dark brown, SILT & CLAY, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel, very few brick fragments, very few pieces of wood, very few leather scraps. wet.	
7												
8										ORGANIC SILT 2.9 / 8.3	S-2C (11"): Brown, fine to medium SAND, trace Silt, trace coarse Sand, trace fine to coarse gravel, very few pieces of wood. wet. background PID = 0.2ppm.	
9	S-3	48	8-12		0.5	406	0			SAND 2.4 / 8.8	S-2D (10"): Dark brown, SILT, little fine Sand. wet.	
10											S-3A (3"): Dark brown, SILT, little fine Sand, very few pieces of wood. wet. background PID = 0.2ppm.	
11					0.2	0.2	0			ORGANIC CLAY	S-3B (6"): Brown, fine to coarse SAND, little Silt, little Silty Clay, trace fine to coarse gravel. wet.	
12										-0.8 / 12.0	S-3C (15"): Tan, Silty CLAY, very few dark brown lenses of presumed decayed organic material. wet. background PID = 0.2ppm.	
13											S-3D (24"): Tan, CLAY, very few dark brown lenses of presumed decayed organic material. wet. background PID = 0.2ppm.	
14											Boring terminated at 12 feet.	
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:15 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-07**

Boring Location: N: 3027088.60 E: 810887.28

Checked by: J. Lambert

Date Start: June 12, 2014

Date Finish: June 12, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 14.75

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/12/14	00:00	8			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	G-1		0-0.5		0.4	1.7	0			FILL	G-1: Brown, fine SAND & SILT, trace medium to coarse Sand, trace fine Gravel, very few pieces of glass. dry. background FID = 2.3ppm, background PID = 0.4pp,.	
	S-1	27	0.5-4		0.4	1.4	0				S-1A (6"): Tan, fine to coarse SAND, little Silt, little fine to coarse Gravel. dry.	
2											S-1B (15"): Brown, fine to coarse SAND, little Silt, little fine to coarse Gravel, several brick fragments. dry. background FID = 1.7ppm, background PID = 0.4ppm.	
3												
4												
5	S-2	30	4-8		0.5	1.9	0				S-2A (15"): Gray to dark brown, fine SAND, some Silt, little medium to coarse Sand, trace fine to coarse gravel, few brick fragments, very few coal fragments. moist. background FID = 1.8ppm, background PID = 0.5ppm.	
6					0.6	2.9	0				S-2B (15"): Dark brown to dark green, fine SAND, some Silt, little medium Sand, trace coarse sand, little fine gravel, trace coarse gravel, very few ceramic tile and brick fragments. moist. background FID = 2.5ppm, background PID = 0.4ppm.	
7												
8								▼				
9	S-3	60	8-12		1.7	9.2	2				S-3A (30"): Dark brown, SILT, some fine Sand, little medium to coarse Sand, trace fine gravel, very few ceramic tile observed, few plant roots observed. wet. background FID = 3.4ppm, background PID = 0.3ppm.	3
10										4.3 / 10.5		
11					0.7	13.6	0			SAND AND SILT	S-3B (7"): Dark gray, fine SAND & SILT. wet. background FID = 3.2ppm, background PID = 0.7ppm.	
12											S-3C (13"): Tan, CLAY & SILT, trace fine Sand. wet.	
13	S-4	55	12-16							1.9 / 12.9	S-3D (8"): Dark gray, fine SAND, little Silt. wet.	
14					0.3	2.8	0			VARVED DEPOSITS	S-3E (2"): Tan, CLAY & SILT, trace fine Sand. wet. S-4A (24"): Olive, CLAY & SILT, little fine Sand, trace coarse Gravel. wet. background FID = 1.6ppm, background PID = 0.3ppm.	
15										-0.3 / 15.0		
16					0.3	2.8	0			CLAY -1.3 / 16.0	S-4B (31"): Gray, CLAY. wet. background FID = 1.4ppm, background PID = 0.3ppm.	
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Duplicate collected at 0-6" bgs
2) PAH samples collected at 2-4', 4-6', 6-8', 8-10' bgs
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-08**

Boring Location: N: 3027078.37 E: 810763.17

Checked by: J. Lambert

Date Start: June 17, 2014

Date Finish: June 17, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 12.98

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/17/14	00:00	5.17			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		2.3	0.0	0			TOPSOIL 12.5 / 0.5	G-1: Dark brown, SILT, trace fine to coarse Sand, trace fine to coarse Gravel. dry. background PID = 2.3ppm.	
1	S-1	22	0.5-4		2.3	0.0	0				S-1A (10"): Brown, SILT, some fine Sand, little medium Sand, trace coarse sand, trace fine to coarse gravel. dry. S-1B (10"): Brown, SILT, some fine Sand, little medium Sand, trace coarse sand, trace fine to coarse gravel, few brick fragments, slag fragments, and concrete fragments. dry. background PID = 2.3ppm.	
2												
3												
4												
	S-2	18	4-8		2.1	0.0	0			FILL	S-2A (14"): Brown, fine to coarse SAND, little Silt, trace fine Gravel, several pieces of concrete and brick, very few pieces of leather scrap, possible metal rebar or nails. dry. background PID = 2.1ppm. S-2B (4"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. wet.	2
5								▼				
6												
7												
8										5.0 / 8.0		
	S-3	44	8-12		2.4	0.0	0			SAND 3.2 / 9.8	S-3A (11"): Brown, fine to medium SAND, trace Silt. wet. background PID = 2.3ppm. S-3B (10"): Brown, fine to coarse SAND, little Silt. wet.	
9												
10					2.4	14.9	0			CLAY 2.2 / 10.8	S-3C (3"): Tan, CLAY. wet. background PID = 2.3ppm. S-3D (5"): Brown, fine to medium SAND, trace Silt. wet.	
11										SAND 1.4 / 11.6	S-3E (4"): Tan, CLAY. wet.	
12											S-3F (10"): Brown, fine to medium SAND, trace Silt. wet.	
	S-4	60	12-16		2.2	0.0	0			CLAYEY SAND	S-3G (1"): Brown, fine to medium SAND and Clay. wet. S-4A (19"): Tan, fine SAND and Clay. wet. background PID = 2.2ppm.	3
13												
14										-1.5 / 14.5	S-4B (6"): Tan, fine SAND, little Clay. wet. S-4C (5"): Tan, fine SAND and Clay. wet.	
15					2.2	0.0	0			CLAY -3.0 / 16.0	S-4D (14"): Tan, CLAY, little fine Sand. wet. background PID = 2.2ppm.	
16											S-4E (1"): Tan, fine SAND, trace Clay. wet. S-4F (15"): Tan, CLAY, little fine Sand. wet.	
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4-8', 8-10'
2) Two attempts at 4-8', 18" of recovery in both. Combined both sleeves and designated sample as 4-8' pet EJ.
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-09**

Boring Location: N: 3027012.09 E: 810750.87

Checked by: J. Lambert

Date Start: June 17, 2014

Date Finish: June 17, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 11.86

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/17/14	00:00	4.583			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		2.9	0.0	0			FILL 10.9 / 1.0	G-1: Dark brown, SILT, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel, very few brick, coal and slag fragments. dry. background PID = 2.3ppm.	
	S-1	32	0.5-4		2.8	0.0	0			SILTY SAND 10.0 / 1.8	S-1A (12"): Dark brown, fine to medium SAND & SILT, little coarse Sand, trace fine Gravel, several slag fragments. dry.	
2										CLAY & SILT 7.9 / 4.0	S-1B (4"): Brown, fine to medium SAND, some Silt, little coarse Sand, trace fine to coarse gravel. dry. background PID = 2.4ppm.	
3											S-1C (6"): Brown, fine SAND & SILT, trace medium to coarse Sand, trace fine to coarse Gravel. dry.	
4	S-2	50	4-8		2.6	0.0	0	▼		SAND 7.3 / 4.6	S-1D (10"): Olive/tan, CLAY & SILT, some fine Sand. moist.	2
5										CLAY & SILT 6.0 / 5.8	S-2A (7"): Brown, fine to coarse SAND, little Clay, little fine Gravel. moist. background PID = 2.6ppm.	
6					2.5	0.0	0				S-2B (15"): Brown with gray lenses, CLAY & SILT. wet.	
7										CLAYEY SAND 3.7 / 8.2	S-2C (28"): Tan, fine SAND, some Clay, trace medium Sand, clay lenses from 31-33", 36.5-37.5", 41-43", 45-46", and 48-50". wet. background PID = 2.5ppm.	
8	S-3	52	8-12		2.3	0.0	0				S-3A (26"): Tan/olive, CLAY, little fine Sand. wet. background PID = 2.1ppm.	
9										CLAY 0.7 / 11.2		
10					2.3	0.0	0				S-3B (10"): Tan/olive, CLAY, trace fine Sand. wet. background PID = 2.1ppm.	
11										SAND AND CLAY -4.1 / 16.0	S-3C (5"): Tan, fine to medium SAND, trace Clay, trace coarse Sand. wet.	
12	S-4	52	12-16		2.1	0.0	0				S-3D (8"): Tan, CLAY, little fine Sand, trace medium Sand. wet.	
13											S-3E (3"): Tan, fine to coarse SAND, trace Clay, trace fine Gravel. wet.	
14											S-4A (3"): Tan, fine SAND, trace medium Sand, trace Clay. wet. background PID = 2.0ppm.	
15					2.2	0.0	0				S-4B (4"): Tan, CLAY, trace fine Sand. wet.	
											S-4C (8"): Tan, fine SAND, trace Clay. wet.	
											S-4D (3"): Tan, CLAY, trace fine Sand. wet.	
											S-4E (7"): Tan/gray, fine SAND, trace Clay. wet.	
16											S-4F (3"): Medium dense, olive, CLAY, trace fine Sand. wet. background PID = 2.2ppm.	
17											S-4G (3"): Tan, fine to medium SAND, trace Clay, trace coarse Sand. wet.	
18											S-4H (5"): Olive, CLAY, trace fine Sand. wet.	
19											S-4I (8"): Tan, fine to medium SAND, trace Clay. wet.	
20											S-4J (5"): Olive, CLAY, trace fine Sand. wet.	
21											S-4K (3"): Tan, fine to medium SAND, trace Clay. wet.	
22											Boring terminated at 16 feet.	
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-10**

Boring Location: N: 3026886.48 E: 810791.76

Checked by: J. Lambert

Date Start: June 18, 2014

Date Finish: June 18, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 13.58

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/18/14	00:00	5.83			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	5.4	0		TOPSOIL 13.1 / 0.5	G-1: Dark brown, SILT, little fine Sand, trace medium Sand. dry. background FID = 5.4ppm.	
1	S-1	27	0.5-4							S-1A (10"): Brown, fine SAND, little Silt, little medium to coarse Sand, trace fine to coarse gravel. dry.	
2					0.0	8.1	0			S-1B (11"): Brown to dark brown, fine to medium SAND, little Silt, trace coarse Sand, trace fine to coarse gravel, few brick fragments. dry. background FID = 5.9ppm.	
3									FILL		
4											
	S-2	44	4-8		0.3	0.0	0			S-2A (7"): Brown, fine to medium SAND, little Silt, little coarse Sand, trace fine to coarse gravel, very few brick fragments. dry.	
5										S-2B (15"): Brown, fine to medium SAND, trace Silt, some coarse Sand, trace fine gravel. dry.	
6								▼	7.8 / 5.8		
7					0.3	0.0	0		SAND 6.7 / 6.9	S-2C (13"): Brown, fine SAND, trace Silt, trace medium Sand. wet.	
8									SILTY CLAY	S-2D (9"): Brown/gray, Silty CLAY, trace fine Sand, very few lenses of dark brown decayed organic material. wet.	
	S-3	51	8-12		0.0	0.0	0			S-3A (13"): Brown, CLAY & SILT, trace fine Sand. wet.	2
9									4.5 / 9.1 4.3 / 9.3 SAND	S-3B (2"): Brown, fine SAND, trace Clay & Silt. wet.	
10									CLAY AND SILT 3.5 / 10.1	S-3C (10"): Brown, CLAY & SILT, trace fine Sand. wet.	
11					0.0	0.0	0		CLAY	S-3D (24"): Olive brown, CLAY, trace fine Sand. wet.	
12									1.5 / 12.1 1.3 / 12.3 SAND		
	S-4	58	12-16		0.0	0.0	0			S-3E (2"): Brown, fine SAND, trace Clay. wet.	
13									CLAY 0.3 / 13.3	S-4A (12"): Olive, CLAY. wet.	
14									0.0 / 13.6 SAND	S-4B (4"): Tan, fine SAND, trace Clay. wet.	
									CLAY -0.9 / 14.5	S-4C (11"): Tan, CLAY, trace fine Sand. wet.	
15					0.0	0.0	0		-1.1 / 14.7 SAND	S-4D (2"): Orangish brown, fine to medium SAND, trace Clay. wet.	
16									CLAY -1.8 / 15.4	S-4E (1"): Tan, CLAY, trace fine Sand. wet.	
									-2.0 / 15.6 SAND	S-4F (8"): Brown, CLAY, little fine Sand. wet.	
17									-2.4 / 16.0 CLAY	S-4G (2"): Brown, fine to medium SAND, trace Clay. wet.	
18										S-4H (18"): Brown, CLAY, little fine Sand, fine sand observed from 44.5-45", 52-52.5", 53.5-54". wet.	
19										Boring terminated at 16 feet.	
20											
21											
22											
23											
24											
25											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-11**

Boring Location: N: 3026920.14 E: 810881.31

Checked by: J. Lambert

Date Start: June 12, 2014

Date Finish: June 12, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 14.36

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
06/12/14	00:00	8			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	34	0-4						14.0 / 0.3 ASPHALT	Asphalt.	
1					0.2	3.2	0		FILL	S-1A (8"): Tan, fine to medium SAND, little Silt, trace coarse Sand, trace fine gravel, little coarse gravel. dry. background FID = 3.7ppm, background PID = 0.1ppm.	
2					0.5	3.2	0			S-1B (22"): Tan to dark brown, fine to medium SAND, little Silt, little coarse Sand, trace fine to coarse gravel, very few brick fragments, spent fragments of coal from 22-28", brick and mortar fragments form 28-34". moist. background FID = 3.6ppm, background PID = 0.1ppm.	
3											
4											
	S-2	22	4-8						9.4 / 4.9	S-2A (11"): Dark brown, fine to coarse SAND, little Silt, trace fine Gravel, numerous fragments of brick and mortar, very few fragments of wood and dark brown possible ash. moist. background FID = 2.9ppm.	
5					0.0	2.6	0		SAND	S-2C (11"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. moist. from 15-18" fine to coarse sand, some clay & silt. background FID = 2.9ppm.	
6					0.0	2.7	0				
7											
8									6.4 / 8.0		
	S-3	44	8-12						6.1 / 8.3 SAND AND CLAYEY SILT	S-3A (3"): Gray, fine SAND, and Clayey Silt. wet. background FID = 2.1ppm.	
9					0.0	1.8	0		SAND 5.4 / 9.0	S-3B (9"): Gray, fine to coarse SAND, trace Silt, trace fine Gravel. wet.	
10									SAND AND CLAYEY SILT 4.5 / 9.8	S-3C (10"): Tan, fine SAND, and Clayey Silt. wet.	
11					0.0	1.9	0		SAND	S-3D (22"): Tan, fine SAND, little Silt, lenses of tan clay and silt, trace fine sand observed from 26-27", 30-31", 36-38", and 41-42". wet. background FID = 2.2ppm.	
12											
	S-4	46	12-16							S-4A (23"): Tan, fine SAND, trace Silt, trace medium to coarse Sand, tan SILT & clay, trace fine sand observed from 8-11", very few pieces of aluminum observed from12-14". wet. background FID = 1.5ppm.	
13					0.0	1.9	0				
14											
15					0.0	1.6	0			S-4B (23"): Tan, fine SAND, little Silt, Tan, SILT & clay, trace fine sand observed from 27-28", 32-33", 36-38", 42-46". wet. background FID = 1.6.	
16									-1.6 / 16.0		
17										Boring terminated at 16 feet.	
18											
19											
20											
21											
22											
23											
24											
25											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected from 2-4', 4-6', 6-8', 8-10' bgs

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-12**

Boring Location: N: 3027106.07 E: 810744.18

Checked by: J. Lambert

Date Start: June 16, 2014

Date Finish: June 16, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 12.21

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/16/14	00:00	5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0				G-1: Dark brown, SILT, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. dry.	
1	S-1	23	0.5-4		0.0	0.0	0				S-1A (12"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel, very few brick fragments. dry.	
2											S-1B (11"): Dark brown, fine SAND, some Silt, little medium to coarse Sand, trace fine to coarse gravel, few brick and mortar fragments. dry.	
3										FILL		
4												
	S-2	32	4-8		0.1	0.0	0				S-2A (12"): Dark brown, fine to medium SAND, some Silt, little coarse Sand, trace fine to coarse gravel, few brick fragments, very few mortar fragments. moist.	
5								▼		6.9 / 5.3		
6					0.0	0.0	0				S-2B (4"): Tan, fine SAND, trace Silt, trace medium Sand, very few mortar fragments. wet.	
7										SAND	S-2C (16"): Tan, fine SAND, trace Silt, 1/4" clay lense observed at 18", 20", and 22". wet.	
8												
	S-3	56	8-12		0.0	0.0	0				S-3A (10"): Tan, fine SAND, trace Sand. wet.	3
9										3.4 / 8.8		
										CLAY & SILT 2.9 / 9.3	S-3B (6"): Tan, CLAY & SILT, little fine Sand. wet.	
10										SAND 1.9 / 10.3	S-3C (9"): Tan, fine SAND, trace Sand, trace medium Sand. wet.	
11					0.0	0.0	0				S-3D (1"): Tan, CLAY & SILT. wet. S-3E (2"): Tan, fine SAND, little Silt. wet.	
12										SILTY CLAY AND SAND	S-3F (4"): Tan, Silty CLAY and fine Sand. tan fine sand, trace silt observed from 32-36", 39-41", 44-47", and 51-56". wet.	
	S-4	60	12-16							-0.2 / 12.4	S-4A (5"): Tan, CLAY and fine Sand. wet.	
13					0.0	0.0	0			SAND -0.9 / 13.1	S-4B (8"): Tan, fine SAND, trace Silt, trace medium Sand. wet.	
14											S-4C (41"): Olive, CLAY. wet.	
15										CLAY		
16					0.0	0.0	0			-3.8 / 16.0	S-4D (2"): Olive/tan, CLAY and fine Sand. wet. S-4E (4"): Brown, fine to medium SAND, trace Silt. wet.	
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs
2) MS/MSD collected at 0-6" per EJ's request
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-13**

Boring Location: N: 3027027.24 E: 810915.81

Checked by: J. Lambert

Date Start: June 20, 2014

Date Finish: June 20, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 13.82

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1												
2	S-1	27	1-4		0.0	0.0	0				S-1A (12"): Brown, fine SAND & SILT, trace medium to coarse Sand, some fine Gravel, trace coarse gravel, very few brick fragments. dry.	
3					0.8	2370	0			FILL	S-1B (12"): Gray, fine to coarse SAND, little Silt, little medium Gravel, some coarse gravel. dry.	
4											S-1C (3"): Brown, fine to medium SAND, some Silt, trace coarse Sand, trace fine to coarse gravel, very few brick fragments and possible mortar. moist.	
5	S-2	49	4-8		0.3	5.3	0				S-2A (12"): Brown to dark brown, fine to coarse SAND, little Silt, trace fine to coarse Gravel, very few brick fragments. moist.	
6										8.4 / 5.4	S-2B (5"): Brown, SILT and fine Sand, trace medium Sand, trace fine gravel, few fragments of decayed wood, possible ash. moist.	
7										SILT & CLAY	S-2C (7"): Tan, SILT & CLAY. moist.	
8											S-2D (8"): Tan and gray, SILT & CLAY, very few dark brown lenses of decayed organic matterial. moist.	
9	S-3	55	8-12		0.0	0.0	0			5.7 / 8.1	S-2E (2"): Tan, fine SAND, trace Silt. moist.	2
10										CLAY 5.0 / 8.8	S-2F (8"): Tan and gray, SILT & CLAY, very few dark brown lenses of decayed organic matterial. moist.	
11					0.0	0.0	0			CLAY & SILT 3.5 / 10.3	S-2G (1"): Tan, fine SAND, trace Silt. moist.	
12											S-2H (5"): Tan and gray, SILT & CLAY, very few dark brown lenses of decayed organic matterial. moist.	
13										SILTY CLAY 1.8 / 12.0	S-3A (3"): Gray, CLAY. moist.	
14											S-3B (6"): Gray and tan, CLAY and fine Sand. moist.	
15											S-3C (18"): Tan and gray, CLAY & SILT, trace fine Sand. moist.	
16											S-3D (28"): Tan and gray, Silty CLAY, very few lenses of dark brown decayed organic material. moist.	
17											Boring terminated at 12 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs

2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-14**

Boring Location: N: 3027074.40 E: 810961.35

Checked by: J. Lambert

Date Start: June 23, 2014

Date Finish: June 23, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 13.41

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.0	0.0	0			FILL 11.9 / 1.5	G-1: Brown, SILT and fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. dry.	
1	S-1	31	0.5-4								S-1A (12"): Brown, SILT, some fine Sand, little medium Sand, trace coarse sand, trace fine to coarse gravel. dry.	
2					0.0	0.0	0			MISCELLANEOUS FILL 8.6 / 4.8	S-1B (13"): Brown, SILT, some fine Sand, little medium Sand, trace coarse sand, trace fine to coarse gravel, very few glass fragments. dry.	
3												
4												
5	S-2	44	4-8		0.0	0.0	0				S-2A (10"): Dark brown, SILT, some fine to coarse Sand, little fine Gravel, some coarse gravel, very few brick particles, coal particles and fragments, and pieces of wood. dry.	
6					0.0	0.0	0			CLAY & SILT 6.2 / 7.2	S-2B (28"): Tan and light gray, CLAY & SILT, trace fine Sand. dry.	
7												
8										SAND 5.4 / 8.0	S-2C (6"): Tan and light gray, fine SAND, trace Clay & Silt. moist.	
9	S-3	53	8-12		0.0	0.0	0			SILTY CLAY 1.4 / 12.0	S-3A (26"): Tan and gray, Silty CLAY, trace fine Gravel, 1/4" fine sand lenses observed at 6" and 10". moist.	2
10												
11					0.0	0.0	0				S-3B (27"): Tan, Silty CLAY. moist.	
12												
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-15**

Boring Location: N: 3026963.63 E: 810903.52

Checked by: J. Lambert

Date Start: June 26, 2014

Date Finish: June 26, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: A. Arsenault

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 14.32

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
06/26/14	00:00	8			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	G-1 / S-1	30	0-0.5 / 0.5-4		1.9	0.0	0			FILL 10.3 / 4.0	G-1: Brown, SILT and fine Sand, little medium to coarse Sand, trace fine gravel, very few ceramic fragments. dry. background PID = 0.1ppm. S-1A (9"): Brown, SILT and fine Sand, some medium to coarse Sand, little fine gravel, trace coarse gravel, very few brick fragments. dry. S-1B (15"): Light to dark brown, fine to coarse SAND, some Silt, little fine Gravel, trace coarse gravel, very few brick & slag & metal fragments. dry.	
2					0.5	2.6	0					
3												
4												
5	S-2	39	4-8		0.4	0.0	0			SAND 9.6 / 4.8	S-2A (9"): Light brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. moist.	
										9.2 / 5.1 CLAYEY SILT	S-2B (4"): Dark brown to gray, Clayey SILT, trace fine to coarse Sand, trace fine Gravel. moist.	
6					0.4	0.4	0			SAND 8.7 / 5.7		
7										CLAY & SILT	S-2C (7"): Light brown, fine to coarse SAND, some Silt, trace fine to coarse Gravel. moist.	
8										6.3 / 8.0	S-2D (19"): Light brown to gray, CLAY & SILT, trace fine Sand, some lenses of fine sand. moist. background FID = 0.1ppm.	
9	S-3	58	8-12		0.4	0.0	0			SILTY CLAY 3.9 / 10.4	S-3A (29"): Olive, Silty CLAY, trace fine Sand. wet. background PID = 0.1ppm.	2
10												
11					0.3	0.0	0			CLAY & SILT 2.3 / 12.0	S-3B (29"): Light brown and gray, CLAY & SILT, fine sand lenses, few black organic fragments. wet. background PID = 0.1ppm.	
12												
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **33WS-16**

Boring Location: N: 3027172.69 E: 810823.06

Checked by: J. Lambert

Date Start: June 26, 2014

Date Finish: June 26, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: A. Arsenault

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 15

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
1	S-1	36	0.5-4		0.0	87.7	0			14.7 / 0.3 ASPHALT	Asphalt.	
2					0.0	0.0	0			FILL 9.2 / 5.8	S-1A (11"): Brown, fine to coarse SAND, little Silt, little fine Gravel, trace coarse gravel, very few brick & clag fragments. dry. background FID = 0.1ppm. S-1B (13"): Brown, Clayey SILT, trace fine Sand, trace fine to coarse Gravel, very few brick & ceramic fragments. dry. S-1C (4"): Black, fine to coarse SAND, some Silt, trace fine to coarse Sand, very few brick fragments. dry. S-1D (4"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. dry. S-2A (22"): Tan, fine SAND & SILT, trace medium to coarse Sand, trace fine Gravel, very few brick fragments, very few roots. dry.	
3												
4												
5	S-2	43	4-8		0.0	0.0	0					
6												
7					0.0	0.0	0			SAND 7.0 / 8.0	S-2B (21"): Tan, fine SAND, trace Sand, very few lenses of clay & silt. moist.	
8												
9	S-3	54	8-12		0.0	0.0	0			CLAY & SILT 4.8 / 10.3	S-3A (27"): Tan and gray, CLAY & SILT, lenses of fine sand, few black organic fragments. moist.	2
10												
11					0.0	0.0	0			SILTY CLAY 3.0 / 12.0	S-3B (27"): Tan and gray, Silty CLAY, lenses of fine sand, few black organic fragments. moist.	
12												
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs

2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **35WS-01**

Boring Location: N: 3026766.76 E: 810880.83

Checked by: J. Lambert

Date Start: June 11, 2014

Date Finish: June 11, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 12.39

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/11/14	00:00	8			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.4	1.2	0			TOPSOIL 11.9 / 0.5	G-1: Brown, SILT, little fine Sand, trace medium Sand, trace fine gravel, trace plant/grass roots. dry. background FID = 1.1ppm, background PID = 0.4ppm.	
1	S-1	28	0.5-4		0.4	0.5	0			FILL	S-1A (8"): Brown, fine to medium SAND, trace Silt, trace coarse Sand, trace fine gravel, very few brick fragments. dry. S-1B (14"): Brown, fine to medium SAND, little Clayey Silt, trace coarse Sand, trace fine gravel, very few brick fragments. dry. background FID = 0.7ppm, background PID = 0.9ppm.	
2												
3												
4										8.4 / 4.0		
	S-2	42	4-8		0.3	0.1	0			SAND	S-2A (21"): Brown, fine to medium SAND, little Clayey Silt, trace coarse Sand. moist. background FID = 0.2ppm, background PID = 0.3ppm.	
5												
6					0.7	0.0	0				S-2B (21"): Brown, fine to coarse SAND, trace Silt. moist. Fe oxide staining observed at 24" and 29". Background FID = 0.2ppm, background PID = 0.3ppm.	
7												
8								▼				
	S-3	42	8-12		0.4	0.5	0				S-3A (21"): Brown, fine to coarse SAND, trace Silt. wet. Fe oxide staining observed at 9-9.5". Background FID = 0.1ppm, background PID = 0.3ppm.	
9												
10					0.3	1.0	0				S-3B (21"): Brown, fine to coarse SAND, trace Silt. wet. background FID = 0.1ppm, background PID = 0.3ppm.	
11												
12												
	S-4	39	12-16		0.3	0.4	0				S-4A (20"): Brown, fine to coarse SAND, trace Silt, trace fine Gravel. wet. background PID = 0.1ppm.	
13												
14					0.3	0.6	0				S-4B (19"): Brown, fine to coarse SAND, trace Silt. wet. background FID = 0.1ppm, background PID = 0.1ppm.	
15												
16										-3.6 / 16.0		
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 4'6', 6-8', 8-10', bgs.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **45WS-01**

Boring Location: N: 3026737.00 E: 810909.42

Checked by: J. Lambert

Date Start: June 11, 2014

Date Finish: June 11, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 12.26

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/11/14	00:00	8			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1												
2	S-1	30	1-4		0.0	0.0	0				S-1A (12"): Brown, fine to coarse SAND, little Silt, few brick fragments observed at 10". moist.	
3					0.0	0.0	0				S-1A (18"): Brown/dark brown, fine to medium SAND, trace Silt, trace coarse Sand. trace fine to coarse gravel, dry. Fill observed from 16-21": dark brown soil, ash, spent coal clinkers. Fill observed from 16-21": glass.	
4										FILL		
5	S-2	37	4-8		0.1	0.0	0				S-2A (18"): Brown, fine to medium SAND, little Silt, trace coarse Sand. trace fine to coarse gravel, moist. Fill observed from 5-14": numerous brick fragments.	
6					0.1	0.0	0			6.3 / 6.0	S-2B (19"): Brown, fine to coarse SAND, trace Silt, trace coarse Gravel, Brown, fine to medium SAND, some silt, trace coarse sand observed from 19-21", 26-28", and 34-35". moist.	
7												
8								▼				
9	S-3	42	8-12		0.1	0.0	0				S-3A (21"): Brown, fine to coarse SAND, trace Silt, trace fine Gravel, Fine to coarse SAND, some silt observed from 5-7", 13-14", and 17.5-18". wet. S-3B (21"): Brown, fine to coarse SAND, trace Silt, CLAY & SILT observed from 23-27" and 29-31". wet.	
10					0.1	0.0	0					
11										SAND		
12												
13	S-4	27	12-16		0.1	3.1	0				S-4A (14"): Brown, fine to coarse SAND, trace Silt. wet.	
14					0.0	0.0	0				S-4B (13"): Brown, fine to coarse SAND, trace Silt, Fine SAND and silt observed from 18-20". wet.	
15												
16										-3.7 / 16.0		
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH samples collected at 2-4', 6-8', and 8-10' bgs

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **45WS-02**

Boring Location: N: 3026688.81 E: 810856.98

Checked by: J. Lambert

Date Start: June 10, 2014

Date Finish: June 10, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 13.07

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/10/14	00:00	4			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.0	0.0	0			SANDY FILL	G-1: Brown, fine SAND & SILT, little medium Sand, trace coarse Sand, trace fine and coarse gravel, trace plant roots. dry.	
1	S-1	22	0.5-4		0.0	0.0	0				S-1 (11"): Brown, fine to coarse SAND, little Silt, trace fine to coarse Gravel, steel screw, rubber-like material, possible tile. dark brown apparent solidified ash from 11.5-14.5" and tip of sleeve. dry.	
5	S-2	30	4-8		1.1	0.0	0	▼			S-2A (15"): Brown, fine to coarse SAND, little Silt, trace fine to coarse Gravel, trace glass, trace brick and concrete fragments, trace drywall and potential dark brown ash observed from 0-3". wet.	
6					0.0	0.3	0			6.9 / 6.2	S-2B (11"): Brown, fine SAND, some Silt, trace medium to coarse Sand, trace fine gravel, trace glass, metal screw, solidified ash. moist.	
9	S-3	53	8-12		0.0	0.3	0			CLAY & SILT	S-2C (4"): Tan, CLAY & SILT, trace fine Gravel. wet.	
11					0.0	0.3	0				S-3A (26"): Tan with gray lenses, CLAY & SILT, trace gray lenses, possible decayed organic material observed from 0-8". moist. background FID = 0.3ppm.	3
13	S-4	56	12-16		0.0	0.4	0				S-3B (27"): Tan with gray lenses, CLAY & SILT, trace fine Sand, trace dark brown material observed, likely decayed plant material, trace plant roots. wet. background FID = 0.4ppm.	
16					0.0	2.0	0			-2.9 / 16.0	S-4 (56"): Tan with gray lenses, CLAY & SILT, trace fine Sand, trace dark brown material observed, likely decayed plant material, trace plant roots. wet.	
17											Boring terminated at 16 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 0-6", 2-4', 4-6', 6-8' bgs
2) Duplicate collected at 0-6"
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **45WS-03**

Boring Location: N: 3026682.82 E: 810983.19

Checked by: J. Lambert

Date Start: June 10, 2014

Date Finish: June 10, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 9.88

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/10/14	00:00	4.083			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.0	0.8	0				G-1: Brown, fine SAND and Silt, trace medium to coarse Sand, trace fine to coarse gravel, trace plant roots. dry. background FID = 0.7ppm.	
2					0.0	1.3	0			SANDY FILL 7.6 / 2.3	S-1A (4"): Brown, fine to coarse SAND, little Silt, trace fine Gravel, little coarse gravel. dry. background FID = 1.6ppm.	
3	S-1	32	2-4								S-1B (5"): Brown, fine to coarse SAND, little Silt, trace fine Gravel, little coarse gravel, broken rocks. dry.	
4											S-1C (3"): Brown, fine to coarse SAND, little Silt, trace fine Gravel, little coarse gravel, brick fragments, coal fragments, white ash. dry.	
5	S-2	48	4-8		0.0	0.3	0	▼		SAND	S-1D (4"): Brown, fine to coarse SAND, little Silt, trace fine Gravel, little coarse gravel. dry.	
6											S-2A (19"): Brown, fine SAND, little Silt, little medium Sand, trace coarse sand, trace fine gravel, trace plant roots. wet. background FID = 0.4ppm.	
7					0.0	0.4	0			3.3 / 6.6	S-2B (5"): Tan/gray, fine SAND, and Silt & Clay, trace medium to coarse Sand, trace plant roots. wet. background FID = 0.4ppm.	
8											S-2C (7"): Brown, fine to medium SAND, little Silt. wet.	
9	S-3	50	8-12		0.0	0.4	0				S-2D (17"): Tan with gray lenses, Silty CLAY. wet. S-3A (25"): Tan with gray lenses, Silty CLAY, trace dark brown lenses, decomposed plant material. wet. background FID = 0.1ppm.	3
10												
11					0.0	0.4	0			SILTY CLAY	S-3B (25"): Tan with gray lenses, Silty CLAY, trace dark brown lenses, decomposed plant material. wet.	
12												
13	S-4	60	12-16		0.0	0.0	0				S-4A (30"): Tan with gray lenses, Silty CLAY, trace dark brown lenses, decomposed plant material. wet.	
14												
15					0.0	0.0	0			-4.8 / 14.7	S-4B (30"): Gray, CLAY. wet.	
16										CLAY -6.1 / 16.0		
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 0-6", 2-4', 4-6', 6-8' bgs
2) Duplicate collected at 0-6"
3) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **45WS-04**

Boring Location: N: 3026536.97 E: 810868.81

Checked by: J. Lambert

Date Start: June 9, 2014

Date Finish: June 9, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 10

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/09/14	00:00	4			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.6	2.7	0			SILT 8.9 / 1.1	G-1: Dark brown, SILT, trace fine to medium Sand. moist. background FID = 2.6ppm.	
1	S-1	39	0.5-4									
2					5.4	14.6	30			SANDY SILT 8.4 / 1.6	S-1A (6"): Dark brown, fine to coarse Sandy SILT, trace fine Gravel, organic odor observed. Very few plant roots observed. moist. background FID = 3.9ppm.	
3					0.2	5.5	0			SAND	S-1B (12"): Brown, fine to medium SAND, little coarse Sand, trace fine Gravel, trace silt. moist. background FID = 3.9ppm.	
4								▼			S-1C (8"): Brown, coarse SAND, little fine to medium Sand, trace Silt. moist.	
5	S-2	45	4-8		0.0	6.0	0				S-2A (22"): Brown, fine to coarse SAND, trace fine Gravel, trace Silt. wet. background FID = 4.6ppm.	
6										4.2 / 5.8		
7					0.0	4.5	0			CLAY	S-2B (23"): Tan, CLAY, trace fine Sand. wet. background FID = 4.7ppm.	
9	S-3	48	8-12		0.0	8.0	0				S-3A (26"): Tan, CLAY, trace fine Sand. wet. background FID = 5.2ppm.	
10										-0.2 / 10.2		
11					0.1	4.2	0			SAND	S-3B (8"): Tan, fine to coarse SAND, trace Silt, trace fine Gravel. wet. background FID = 5.2ppm.	
12					0.1	4.2	0				S-3C (4"): Tan, fine to coarse SAND and Clay, trace fine Gravel. wet. background FID = 5.2ppm.	
13	S-4	45	12-16		0.6	13.7	0				S-3D (10"): Tan, fine to coarse SAND, trace Silt, trace fine Gravel. wet. S-4A (24"): Tan, fine to coarse SAND, trace Silt. wet. background FID = 4.5ppm.	
15					0.0	8.9	0				S-4B (21"): Tan, fine to coarse SAND, trace fine Gravel, trace Silt. wet. background FID = 4.5ppm.	
16										-6.0 / 16.0		
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site	Boring No.:	MW-01
Location:	Danvers, MA	Boring Location:	N: 3026560.37 E: 810778.62
Nobis Project No.:	80095.03	Checked by:	J. Lambert
		Date Start:	July 9, 2014
		Date Finish:	July 9, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	10
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	9.6
Nobis Rep.:	A. Robichaud	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/09/14	00:00	6.83			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	WELL DETAIL	NOTES
1	S-1	44	0-5		0.5	0.5	0			LOAM 9.4 / 0.6	S-1A (7"): Brown, LOAM with organic matter.	Flush mounted roadbox set in concrete	
2											S-1B (2"): Dark brown, coarse GRAVEL, several coal fragments and ash.	Hydrated bentonite	
3					0.0	0.0	0			FILL	S-1C (35"): Brown, fine GRAVEL.		
4													
5										5.0 / 5.0			
6	S-2	55	5-10							CLAY	S-2A (22"): Hard, brown, mottled CLAY.		
7								▼		3.2 / 6.8			
8					0.3	2.1	0			SILT 1.8 / 8.3	S-2B (17"): Dark brown, Clayey SILT, with organic matter. wet.	2" Dia. Slotted PVC (6 slot) # 000 Silica Filter Sand	
9											S-2C (16"): Gray, mottled CLAY. moist.		
10					1.1	251.3	0						
11	S-3	60	10-15								S-3: Hard, brown, mottled CLAY, trace soft gray CLAY with organic matter. moist.		
12										CLAY			
13					0.3	0.0	0						
14													
15										-5.0 / 15.0		2" Dia. PVC Sump.	
16											Boring terminated at 15 feet.		
17													
18													
19													
20													
21													
22													
23													
24													
25													

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) Boring finished as 2" well.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-02
Boring Location:	Vicinity of 35WS-01
N: 3026766.84 E: 810880.70	
Checked by:	J. Lambert
Date Start:	June 30, 2014
Date Finish:	June 30, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	12.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	11.9
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	07:43	7.57	N/A	N/M	20 HRS

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	WELL DETAIL	NOTES
1	S-1	47	0-5		0.1	0.0	0		LOAM 11.3 / 1.0	S-1A (16"): Brown, fine to coarse SAND & SILT, trace fine Gravel, very few organics at surface. dry.	Flush mounted roadbox set in concrete	
2					0.0	0.0	0			S-1B (31"): Light brown/tan, fine to coarse SAND, little fine Gravel, trace Silt. dry.	Hydrated Bentonite	
3												
4												
5												
6	S-2	51	5-10							S-2: Light brown, fine to coarse SAND, trace Silt, very small pocket of silt observed at 32" and 36". wet.		
7					0.0	0.0	0					
8								▼	SAND			
9					0.1	0.0	0				2" Dia. Slotted PVC (10 slot) #00 Silica Filter Sand	
10												
11	S-3	44	10-15							S-3: Gray/brown, fine to coarse SAND, trace Silt, little fine gravel observed from 40-44". wet.		
12					0.6	0.0	0			Background PID = 0.5ppm.		
13												
14					0.9	0.0	0					
15									-2.7 / 15.0		2" Dia. PVC Sump.	
16										Boring terminated at 15 feet.		
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site	Boring No.:	MW-03
Location:	Danvers, MA	Boring Location:	b/w ROW-18 & ROW-19
Nobis Project No.:	80095.03		N: 3026784.07 E: 810764.15
		Checked by:	J. Lambert
		Date Start:	July 2, 2014
		Date Finish:	July 2, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	10.4
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	10
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

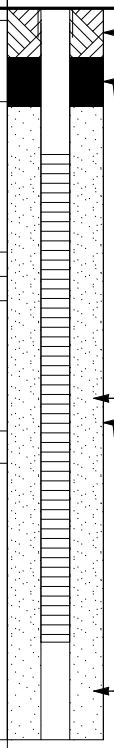
	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/02/14	00:00	1.92			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)
1	S-1	50	0-5						10.2 / 0.3 BALLAST	S-1A (7"): Dark brown/black, fine to coarse SAND, some fine Gravel, little coal fragments, trace silt. dry.
2								▼	FILL 8.5 / 1.9	S-1B (16"): Tan, fine to medium SAND, little fine Gravel. moist.
3					0.3	0.2	0		CLAY & SILT	S-1C (27"): Gray/brown, CLAY & SILT, trace fine to coarse Sand. wet. Background FID = 0.2ppm.
4										
5					0.2	1.7	0		5.4 / 5.0	Background FID = 0.2ppm.
6	S-2	60	5-10						CLAY 4.9 / 5.5	S-2A (6"): Gray, CLAY. wet.
7					0.1	0.1	0		SAND 4.4 / 6.0	S-2B (6"): Reddish brown, fine to medium SAND. wet.
8									SILT & CLAY	S-2C (32"): Mottled, gray/brown, SILT & CLAY, lens of medium sand observed from 18-20". moist.
9					0.9	0.2	0		1.7 / 8.7	
10									SAND 1.1 / 9.3	S-2D (8"): Reddish brown, fine to medium SAND. wet.
11	S-3	60	10-15							S-2E (8"): Gray, CLAY. wet. S-3A: Gray, CLAY, thin lenses of fine sand observed at 13", 35", 41", 46". wet.
12					0.0	0.3	0		CLAY	
13										
14										
15					0.0	0.2	0		-4.6 / 15.0	
16										Boring terminated at 15 feet.
17										
18										
19										
20										
21										
22										
23										
24										
25										

WELL DETAIL



NOTES

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	**MW-04**
Boring Location:	Vicinity of 33WS-07
N: 3027094.89 E: 810888.65	
Checked by:	J. Lambert
Date Start:	June 30, 2014
Date Finish:	June 30, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	14.8
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	14.4
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	07:40	6.93	N/A	NM	17.5 HRS

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
1	S-1	50	0-5						TOPSOIL 14.3 / 0.5	S-1A (6"): Brown, SILT and fine to coarse Sand, little Gravel, few organics. dry.	Flush mounted roadbox set in concrete	
2					2.9	0.0	0		FILL	S-1B (36"): Light grayish brown, fine to coarse SAND, some fine to coarse Gravel, trace Silt, trace brick fragments. moist.	Hydrated bentonite	
3												
4										S-1C (8"): Dark brown, Clayey SILT and fine to coarse Sand. trace brick fragments, little gravel, trace coal particles. wet.		
5					3.3	0.0	0					
6	S-2	48	5-9							S-2A (18"): Dark brown/black, fine to medium SAND & SILT, trace brick fragments. wet.		
7					1.7	0.0	0	▼		S-2B (15"): Dark brownish/gray, Clayey SILT and fine Sand. trace brick fragments. wet.		
8									7.1 / 7.8			
9					1.3	0.0	0		SILTY CLAY	S-2C (15"): Gray, almost blue, Silty CLAY, fine sand lens observed at 43-45". wet.	2" Dia. Slotted PVC (10 Slot) #00 Silica Filter Sand	
10	S-3	36	9-12		0.7	15.6	0			S-3A (14"): Bluish gray, Silty CLAY. moist.		
11										S-3B (13"): Light brown, Silty CLAY. moist.		
12					0.0	64.8	0			Background FID = 0.8ppm. S-3C (6"): Dark gray, fine SAND, little Silt. moist.		
13	S-4	36	12-15		0.4	8.7	0			S-3D (3"): Light brown, Silty CLAY. moist.		
14										S-4: Gray/brown to gray, Silty CLAY, thin lenses of fine sand. wet.		
15					0.4	4.2	0		-0.2 / 15.0		2" Dia. PVC Sump.	
16										Boring terminated at 15 feet.		
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-05
Boring Location:	Vicinity of 33WS-12
	N: 3027116.31 E: 810793.38
Checked by:	J. Lambert
Date Start:	July 1, 2014
Date Finish:	July 1, 2014

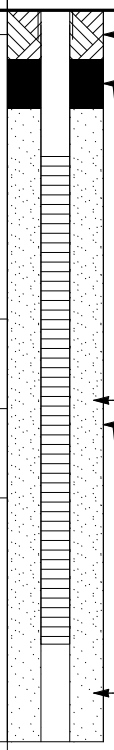
Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	12.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	11.9
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	00:00	6.33			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)
1	S-1	26	0-5		0.4	0.9	0		TOPSOIL 11.8 / 0.5	S-1A (6"): Brown, fine to medium SAND & SILT, trace fine Gravel, few organics. dry.
2									FILL	S-1B (20"): Brown, fine to coarse GRAVEL, little fine to coarse Sand, few brick fragments, trace silt. dry. Background FID = 1.1ppm.
3										
4										
5										
6	S-2	42	5-10		2.3	1.6	0	▼	6.0 / 6.3	S-2A (16"): Gray/brown, fine to coarse SAND and Gravel, little Silt, few wood fragments, few brick fragments, trace coal, one piece of rebar. moist. Background FID = 1.1ppm.
7									SAND 4.1 / 8.2	
8					0.3	3.8	0			S-2B (22"): Brown, fine SAND, some Silt, trace Clay. wet. Background FID = 1.1ppm.
9									CLAY & SILT 2.3 / 10.0	S-2C (4"): Reddish brown, CLAY & SILT. moist.
10										
11	S-3	60	10-15		0.8	1.8	0		SAND, INTERBEDDED CLAY LAYERS	S-3: Light brown, fine to medium SAND, silty clay lenses observed at 19-21", 27-30", and 49-51". wet. Background FID = 1.6ppm.
12										
13										
14					0.2	1.9	0			Background FID = 1.6ppm.
15									-2.7 / 15.0	
16										Boring terminated at 15 feet.
17										
18										
19										
20										
21										
22										
23										
24										
25										



Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site	Boring No.:	**MW-05 (trial 1)**
		Boring Location:	Vicinity of 33WS-12
Location:	Danvers, MA	Checked by:	J. Lambert
Nobis Project No.:	80095.03	Date Start:	July 1, 2014
		Date Finish:	July 1, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	12.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer		
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	00:00	2.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	S-1	39	0-5				12.1 / 0.3 TOPSOIL	S-1A (3"): Dark brown, fine to medium SAND & SILT, few organics. dry.	
1								S-1B (27"): Gray/brown, fine to coarse SAND and Gravel, trace Silt, few brick fragments, yellow concrete material observed from 15-20", fine gravel observed from 20-24".	
2									
3					▼		FILL	S-1C (9"): Numerous brick fragments, trace dark brown silt. wet.	
4									
5							7.3 / 5.0		
6								Boring terminated at 5 feet.	
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									
22									
23									
24									
25									

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Very hard drilling from 4-5' bgs, potential slab/cobble (FILL). Boring relocated ~4' south.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	**MW-06**
Boring Location:	North of 33WS-05
	N: 3027233.78 E: 810967.12
Checked by:	J. Lambert
Date Start:	June 30, 2014
Date Finish:	June 30, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	15.1
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	14.8
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/01/14	07:35	9.63	N/A	NM	15 HRS

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
1	S-1	48	0-5		1.5	0.0	0			FILL 10.1 / 5.0	S-1: Dark brown, SILT & CLAY, little fine Gravel, trace fine to coarse Sand, few brick fragments, bark mulch observed from 0-4". moist.	Hydrated bentonite	
2													
3													
4					0.5	0.0	0						
5													
6	S-2	60	5-10		1.1	0.0	0			VARVED FINE SAND AND SILTY CLAY 5.1 / 10.0	S-2A (6"): Brown, SILT & CLAY, some fine to coarse Sand, trace fine Gravel. moist. S-2B (54"): Brown, fine to medium SAND, silty clay lenses observed from 15-17", 22-24", 29-33", 37-40", and 56-58". moist to wet.	2" Dia. Slotted PVC (10 Slot) #00 Silica Filter Sand	
7													
8													
9					0.2	0.0	0						
10								▼					
11	S-3	60	10-15		0.4	0.0	0			SILTY CLAY 0.1 / 15.0	S-3A (3"): Brown, fine SAND & SILT. moist. S-3B (27"): Brown, Silty CLAY. wet.		
12													
13											S-3C (30"): Gray, Silty CLAY. wet.		
14													
15					0.5	0.0	0					2" Dia. PVC Sump.	
16											Boring terminated at 15 feet.		
17													
18													
19													
20													
21													
22													
23													
24													
25													

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-07
Boring Location:	b/w ROW-13 & 12CH-05
N: 3027420.24 E: 810549.76	
Checked by:	J. Lambert
Date Start:	July 8, 2014
Date Finish:	July 8, 2014

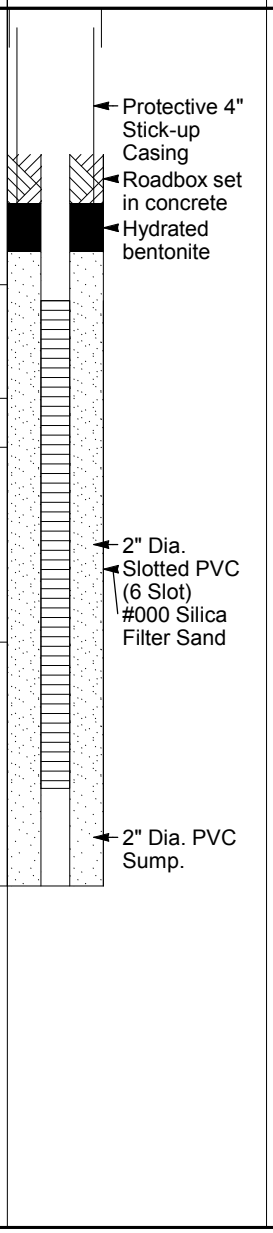
Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	10.5
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	13.3
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/08/14	00:00	10			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Notes
-2												
-1												
0												
1	S-1	46	0-5		0.4	0.3	0			FILL	S-1A (16"): Dark brown/black, fine to coarse SAND, some Gravel, trace coal fragments at surface, trace silt, trace organics at surface. moist.	
2					1.2	0.0	0				Background FID = 0.5ppm.	
3										7.8 / 2.7	S-1B (16"): Brown, fine to coarse SAND & SILT, some fine Gravel. moist.	
4										CLAY & SILT	S-1C (14"): Mottled, red/brown/gray, CLAY & SILT. moist.	
5										5.5 / 5.0		
6	S-2	60	5-10							SILTY CLAY 4.5 / 6.0	S-2A (12"): Mottled, brown/gray, Silty CLAY. moist.	
7											S-2B (48"): Mottled, brown/gray, CLAY. moist.	
8										CLAY		
9					1.3	0.1	0				Background FID = 0.1ppm.	
10								▼		0.5 / 10.0		
11	S-3	60	10-15								S-3: Grayish brown, Silty CLAY, trace fine sand lens observed at 12.5'. wet.	
12												
13					0.7	0.5	0			SILTY CLAY	Background FID = 0.2ppm.	
14												
15										-4.5 / 15.0		
16											Boring terminated at 15 feet.	
17												
18												
19												
20												
21												
22												



Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-08
Boring Location:	12 Cheever St., Parking Lot
N: 3027570.97 E: 810684.24	
Checked by:	J. Lambert
Date Start:	July 2, 2014
Date Finish:	July 2, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	13.3
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	12.8
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/02/14	00:00	2.17			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
1	S-1	42	0-5		0.2	0.6	0	▼	13.0 / 0.3 ASPHALT	S-1A (4"): Asphalt.	6" Dia. Flush mounted roadbox set in concrete	
2									FILL	S-1B (16"): Dark red/brown, fine to coarse SAND, some fine Gravel, little Silt, trace coal fragments, trace brick fragments. moist. Background FID = 0.6ppm.	Hydrated bentonite	
3									10.6 / 2.7	S-1C (12"): Gray, fine GRAVEL, little fine to coarse Sand. dry, wet at 26".		
4					0.1	0.6	0		SILTY CLAY	S-1D (10"): Mottled, gray/brown, Silty CLAY. moist.		
5									8.3 / 5.0	Background FID = 0.5ppm.		
6	S-2	60	5-10							S-2: Mottled, gray/brown, CLAY. moist.		
7												
8												
9					0.0	1.7	0			Background FID = 0.7ppm.	2" Dia. Slotted PVC (6 Slot) #000 Silica Filter Sand	
10									CLAY			
11	S-3	60	10-15							S-3: Mottled, brown, CLAY. moist.		
12												
13					0.0	0.9	0			Background FID = 0.6ppm.		
14												
15									-1.7 / 15.0		2" Dia. PVC Sump.	
16										Boring terminated at 15 feet.		
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site
Location:	Danvers, MA
Nobis Project No.:	80095.03
Boring No.:	MW-09
Boring Location:	Vicinity of 20CH-04
N: 3027572.53 E: 810201.95	
Checked by:	J. Lambert
Date Start:	July 8, 2014
Date Finish:	July 8, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	6.8
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	9.6
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

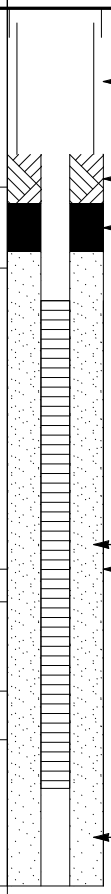
	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/08/14	00:00	8.5			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)
-2											
-1											
0											
1	S-1	54	0-5		0.0	3.5	0			ORGANIC SILT 6.1 / 0.7	S-1A (8"): Dark brown, SILT & CLAY, little fine to medium Sand, trace organics, trace fine gravel. moist. Background FID = 4.5ppm.
2										SAND 4.5 / 2.3	
3					0.0	4.0	0				S-1B (20"): Red/brown, fine to coarse SAND, little fine Gravel, little Silt, trace organics. moist. Background FID = 4.7ppm.
4											
5											S-1C (26"): Light brown, Silty CLAY. moist.
6	S-2	60	5-10							SILTY CLAY	S-2A (42"): Light brown, Silty CLAY, trace dark brown organic fragments. moist.
7											
8					0.0	4.1	0				Background FID = 5.0ppm.
9								▼		-1.7 / 8.5	
10					0.0	4.3	0			SILT & CLAY -2.4 / 9.2	S-2B (8"): Mottled, red/brown/gray, SILT & CLAY, trace fine Sand. wet.
11	S-3	60	10-15							SAND -4.2 / 11.0	S-2C (10"): Red/brown, fine SAND, some Silt, little Clay. wet. Background FID = 5.3ppm.
12					0.0	9.0	0			SILT -5.2 / 12.0	S-3A (12"): Brown, fine SAND, some Silt. wet. S-3B (12"): Brown, SILT, little fine Sand. wet. background FID = 5.3ppm.
13											
14					0.0	4.3	0			SAND	S-3C (36"): Brown, fine to medium SAND, some Silt. wet. Background FID = 5.6ppm.
15										-8.2 / 15.0	
16											Boring terminated at 15 feet.
17											
18											
19											
20											
21											
22											

WELL DETAIL



NOTES

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) No analytical samples obtained, all cuttings drummed.

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project:	Former Creese & Cook Tannery Superfund Site	Boring No.:	MW-10
Location:	Danvers, MA	Boring Location:	Clinton Ave.
Nobis Project No.:	80095.03	N: 3026380.43 E: 810282.24	
		Checked by:	J. Lambert
		Date Start:	July 9, 2014
		Date Finish:	July 9, 2014

Contractor:	Maher Services	Rig Type / Model:	Geoprobe / 7822 DT	Ground Surface Elev.:	20.8
Driller:	S. Dubois	Hammer Type:	Automatic Hammer	Top of Riser Elev.:	20.4
Nobis Rep.:	E. Johnson	Hammer Hoist:	Automatic	Datum:	NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 07/09/14	00:00	6.92			

Depth (ft.)	Sample Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	Sample Description and Remarks (Classification System: Modified Burmister)	Well Detail	Notes
1	S-1	40	0-5		0.0	NR	0		ASPHALT 20.1 / 0.8	S-1A (9"): Asphalt.	Flush mounted roadbox set in concrete	
2										S-1B (31"): Brown, fine SAND, trace Silt & Clay, very few rock fragments. moist.	Hydrated bentonite	
3					0.0	NR	0					
4												
5												
6	S-2	60	5-10						SAND	S-2A (18"): Brown, fine SAND, little to some clay, very few rock fragments, organic matter. moist.		
7								▼		S-2B (3"): Brown, SAND. moist.		
8					0.0	NR	0			S-2C (37"): Brown, fine SAND, moddled, little to some clay. wet.	2" Dia Slotted PVC (6 Slot) #000 Silica Filter Sand	
9												
10					0.0	NR	0		10.8 / 10.0			
11	S-3	54	10-15						SAND & CLAY 10.1 / 10.7	S-3A (8"): Brown, fine SAND and Clay. wet.		
12									9.8 / 11.0 CLAY	S-3B (4"): Brown, CLAY, trace fine Sand.		
13					0.0	NR	0		SAND	S-3C (42"): Brown, fine SAND, little to some clay, organic matter observed from 36-41".		
14												
15									5.8 / 15.0		2" Dia. PVC Sump.	
16										Boring terminated at 15 feet.		
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:
1) FID would not start. Boring Finished as 2" well.
2) NR = No Reading

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-01**

Boring Location: N: 3028409.88 E: 809779.56

Checked by: J. Lambert

Date Start: June 23, 2014

Date Finish: June 23, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 16.97

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/23/14	00:00	2.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5								G-1: Brown, coarse GRAVEL.	
1	S-1	41	0.5-4		0.0	0.0	0				S-1A (30"): Brown, fine to coarse GRAVEL, very few coal fragments in top 12".	
2										FILL		
3					0.0	0.0	0	▼		14.0 / 3.0	S-1B (12"): Brown, fine to coarse GRAVEL. wet.	
4											S-1C (9"): Brown, soft CLAY, organic matter.	
5	S-2	48	4-8		0.0	0.0	0				S-2A (7"): Brown, soft CLAY. S-2B (17"): Brown, hard CLAY.	
6										CLAY		
7					0.0	0.0	0				S-2C (24"): Brown, hard CLAY.	
8										9.0 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-02**

Boring Location: N: 3028326.58 E: 809841.71

Checked by: J. Lambert

Date Start: June 23, 2014

Date Finish: June 23, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 15.88

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/23/14	00:00	6.17			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5							G-1: Brown to dark brown, coarse GRAVEL, very few coal ashes.	
	S-1	41	0.5-4		0.0	0.0	0			S-1A: Brown to dark brown, medium to coarse GRAVEL, with very few coal fragments to 16", very few coal ash (clinkers).	
2											
3					0.0	0.0	0			S-1B (21"): Brown, medium to coarse GRAVEL.	
4									FILL		
5	S-2	48	4-8		0.0	0.0	0			S-2A (24"): Brown, medium to coarse GRAVEL. moist.	
6											
7					0.0	0.0	0	▼		S-2B (24"): Brown, medium to coarse GRAVEL. wet.	
8									7.9 / 8.0		
9	S-3	48	8-12		0.0	0.0	0		LOAM 7.0 / 8.9	S-3A (11"): Brown, sand LOAM, trace silt, organic matter.	
10									CLAY 5.9 / 10.0	S-3B (13"): Brown, mottled CLAY.	
11					0.0	15	0		SILT 5.0 / 10.9	S-3C (11"): Brown, SILT, several rock fragments.	
									4.6 / 11.3 SAND	S-3D (5"): Gray, coarse SAND.	
12										S-3E (8"): Gray, soft CLAY.	
13	S-4	48	12-16		0.0	1531	0		CLAY	S-4A (24"): Gray, soft CLAY, sea shells and organic matter.	
14									1.6 / 14.3		
15					0.0	0.0	0			S-4B (3"): Gray, soft CLAY.	
16									SAND & SILT -0.1 / 16.0	S-4C (21"): Gray, fine SAND & SILT, several rock fragments, wood fragments.	
17										Boring terminated at 16 feet.	
18											
19											
20											
21											
22											
23											
24											
25											

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-03**

Boring Location: N: 3028233.28 E: 809919.08

Checked by: J. Lambert

Date Start: June 23, 2014

Date Finish: June 23, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 14.52

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/23/14	00:00	8			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5								G-1: Dark brown, coarse GRAVEL, coal ash and fragments.	
	S-1	44	0.5-4		0.0	0.0	0				S-1A (22"): Dark brown to brown, coarse GRAVEL, very few coal fragments and coal ashes.	
2												
3					0.0	0.0	0			FILL	S-1B (22"): Brown, coarse GRAVEL.	
4												
5	S-2	44	4-8		0.0	0.0	0				S-2A (15"): Brown, coarse GRAVEL.	
										9.3 / 5.3		
6											S-2B (17"): Brown, Sandy SILT, several rock fragments.	
7					0.0	0.0	0				S-2C (12"): Dark brown to brown, Clayey SILT, organic matter, few rock fragments. moist.	
8										SILT		
9	S-3	48	8-12		0.0	1.1	0	▼			S-3A (14"): Brown, Sandy SILT, organic material, few rock fragments.	
10										4.9 / 9.7	S-3B (6"): Dark brown, SILT, few rock fragments.	
11					0.0	0.0	0			SAND 3.8 / 10.8	S-3C (13"): Brown, fine SAND, trace Clay, few rock fragments.	
12										CLAY 2.5 / 12.0	S-3D (9"): Soft, gray, CLAY.	
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-04**

Boring Location: N: 3028162.85 E: 809978.45

Checked by: J. Lambert

Date Start: June 23, 2014

Date Finish: June 23, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 14.48

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/23/14	00:00	5.417			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5								G-1: Dark brown, GRAVEL, very few coal fragments and coal ashes.	
	S-1	44	0.5-4		0.0	0.0	0				S-1A (22"): Dark brown, GRAVEL, few coal fragments and coal ash.	
2												
3					0.0	0.0	0				S-1B (22"): Brown, coarse GRAVEL.	
4										FILL		
5	S-2	41	4-8		0.0	0.0	0				S-2A (17"): Brown, coarse GRAVEL.	
6								▼			S-2B (19"): Brown, coarse GRAVEL, trace Silt. wet.	
7					0.0	0.0	0			7.5 / 7.0		
8											S-2C (5"): Dark brown, SILT, organic matter.	
9	S-3	36	8-12		0.0	0.0	0			SILT 5.5 / 9.0	S-3A (12"): Brown, SILT, few rock fragments.	
10											S-3B (24"): Brown, medium SAND, trace Silt, very few rock fragments.	
11										SAND		
12										2.5 / 12.0		
13	S-4	0	12-12.5								S-4: No recovery, large rock fragment found at end of casing. Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-05**

Boring Location: N: 3028084.23 E: 810042.37

Checked by: J. Lambert

Date Start: June 24, 2014

Date Finish: June 24, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 14.52

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0				G-1: Dark brown, coarse GRAVEL, very few coal fragments and ashes.	
1	S-1	47	0.5-4							FILL	S-1A (9"): Dark brown to brown, coarse GRAVEL, very few coal fragments and coal ash.	
2										12.6 / 1.9	S-1B (14"): Dark brown to brown, coarse GRAVEL.	
3					0.0	0.0	0				S-1C (24"): Hard, brown, mottled CLAY, organic matter.	
4												
5	S-2	48	4-8		0.0	0.0	0			CLAY	S-2A (6"): Hard, brown, mottled CLAY, organic matter. S-3B (18"): Hard, brown, mottled CLAY.	
6												
7					0.0	0.0	0				S-3C (24"): Hard, brown, mottled CLAY.	
8										6.5 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-06**

Boring Location: N: 3027995.30 E: 810111.82

Checked by: J. Lambert

Date Start: June 24, 2014

Date Finish: June 24, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 13.82

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0				G-1: Dark brown, coarse GRAVEL, few coal fragments and ash.	
1	S-1	45	0.5-4							FILL	S-1A (10"): Dark brown to brown, coarse GRAVEL, few coal fragments and ash.	
2					0.0	0.0	0				S-1B (23"): Dark brown to brown, coarse GRAVEL.	
3										11.1 / 2.8		
4											S-1C (12"): Hard, brown, mottled CLAY.	
5	S-2	48	4-8		0.0	0.0	0				S-2A (24"): Hard, brown, mottled CLAY.	
6										CLAY		
7					0.0	0.0	0				S-2B (24"): Hard, brown, mottled CLAY.	
8										5.8 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Could not determine depth to Groundwater

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-07**

Boring Location: N: 3027912.36 E: 810178.61

Checked by: J. Lambert

Date Start: June 24, 2014

Date Finish: June 24, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 12.91

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/24/14	00:00	3			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5								G-1: Dark brown, coarse GRAVEL, very few coal fragments and ash.	
1	S-1	45	0.5-4		0.0	0.0	0				S-1A (12"): Dark brown to brown, coarse GRAVEL, several coal fragments and ash.	
2										FILL	S-1B (10"): Dark brown to brown, coarse GRAVEL.	
3					0.0	0.0	0	▼			S-1C (14"): Brown, coarse GRAVEL. wet.	
4										9.4 / 3.5	S-1D (9"): Brown, mottled CLAY.	
	S-2	48	4-8		0.0	0.0	0				S-2A (24"): Hard, brown, mottled CLAY.	
5												
6										CLAY		
7					0.0	0.0	0				S-2B (24"): Hard, brown, mottled CLAY.	
8										4.9 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-08**

Boring Location: N: 3027816.72 E: 810253.05

Checked by: J. Lambert

Date Start: June 24, 2014

Date Finish: June 24, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 11.98

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.0	0.0	0			FILL 8.2 / 3.8	G-1: Dark brown, coarse GRAVEL, few coal fragments and ash.	
	S-1	48	0.5-4								S-1A (18"): Dark brown, coarse GRAVEL, several coal fragments and ash.	
2											S-1B (6"): Dark brown, coarse GRAVEL.	
3					0.0	0.0	0				S-1C (21"): Brown, coarse GRAVEL.	
4												
5	S-2	48	4-8		0.0	31.1	0			CLAY 4.0 / 8.0	S-1D (3"): Hard, brown, mottled CLAY.	
											S-2A (4"): Hard, brown, mottled CLAY.	
											S-2B (20"): Soft, gray, CLAY, organic matter.	
6												
7					0.0	0.0	0				S-2C (8"): Soft, gray, CLAY.	
											S-2D (16"): Hard, brown, mottled CLAY.	
8												
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Could not determine depth to Groundwater

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:16 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-09**

Boring Location: N: 3027738.13 E: 810316.12

Checked by: J. Lambert

Date Start: June 25, 2014

Date Finish: June 25, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 11.64

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	2.6	0				G-1: Dark brown, coarse GRAVEL, few coal fragments and ash.	
1	S-1	46	0.5-4								S-1A (12"): Dark brown, coarse GRAVEL, several coal fragments and ash.	
2											S-1B (11"): Dark brown, coarse GRAVEL.	
					0.0	0.0	0			FILL	S-1C (23"): Brown, coarse GRAVEL.	
3												
4										7.6 / 4.0		
	S-2	48	4-8		0.0	0.0	0				S-2A (24"): Hard, brown, mottled CLAY.	
5												
6										CLAY		
					0.0	1.5	0				S-2B (24"): Hard, brown, mottled CLAY.	
7												
8										3.6 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-10**

Boring Location: N: 3027667.06 E: 810349.57

Checked by: J. Lambert

Date Start: June 20, 2014

Date Finish: June 20, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 10.88

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/20/14	00:00	2.17			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5								G-1: Loose, dark brown, coarse GRAVEL.	
1	S-1	44	0.5-4		1.3	0.0	0			FILL 9.6 / 1.3	S-1A (10"): Loose, dark brown, coarse GRAVEL, very few coal ash.	
2								▼		LOAM 8.6 / 2.3	S-1B (12"): Brown, sandy LOAM. wet.	
3					1.1	0.0	0				S-1C (22"): Brown, mottled CLAY.	
4												
5	S-2	48	4-8		0.0	0.0	0			CLAY	S-2A (24"): Brown, mottled CLAY.	
6												
7					0.0	0.0	0				S-2B (24"): Brown, mottled CLAY.	
8										2.9 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-11**

Boring Location: N: 3027572.25 E: 810439.79

Checked by: J. Lambert

Date Start: June 25, 2014

Date Finish: June 25, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 11.07

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.6	0				G-1: Dark brown, coarse GRAVEL, few coal fragments and ash.	
1	S-1	47	0.5-4							FILL	S-1A (12"): Dark brown, coarse GRAVEL, few coal fragments and ash.	
											S-1B (11"): Dark brown, coarse GRAVEL.	
2												
					0.0	0.2	0			8.7 / 2.4	S-1C (6"): Brown, coarse GRAVEL.	
3											S-1D (18"): Hard, brown, mottled CLAY.	
4												
	S-2	48	4-8		0.5	0.9	0				S-2A (24"): Hard, brown, mottled CLAY.	
5										CLAY		
6												
					0.6	0.5	0				S-2B (24"): Hard, brown, mottled CLAY.	
7												
8										3.1 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) Could not determine depth to Groundwater

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-12**

Boring Location: N: 3027480.33 E: 810497.54

Checked by: J. Lambert

Date Start: June 25, 2014

Date Finish: June 25, 2014

Contractor: Major Drilling Int.

Driller: M. Rodrigues

Nobis Rep.: A. Robichaud

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Wire Winch

Ground Surface Elev.: 10.68

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/25/14	00:00	2.75			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5								G-1: Dark brown, GRAVEL, few glass shards, coal fragments and ash.	
1	S-1	48	0.5-4		1.3	0.2	0			FILL 8.2 / 2.5	S-1A (10"): Dark brown to brown, coarse GRAVEL, very few coal fragments and ash. S-1B (14"): Dark brown to brown, coarse GRAVEL.	
2												
3					0.9	0.0	0	▼		SILT 7.5 / 3.2	S-1C (8"): Brown, Sandy SILT, trace Clay, few rock fragments.	
4											S-1D (16"): Hard, brown, mottled CLAY. wet.	
5	S-2	48	4-8		0.6	0.0	0			CLAY	S-2A (24"): Hard, brown, mottled CLAY.	
6												
7					0.3	0.0	0				S-2B (24"): Hard, brown, mottled CLAY.	
8										2.7 / 8.0		
9											Boring terminated at 8 feet.	
10												
11												
12												
13												
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-13**

Boring Location: N: 3027346.60 E: 810554.06

Checked by: J. Lambert

Date Start: June 20, 2014

Date Finish: June 20, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 9.87

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/20/14	00:00	6.25			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	4.8	0			FILL 9.4 / 0.5	G-1: Dark brown, SILT, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel, very few fragments of glass and slag. dry. background FID = 5.8ppm.	
1	S-1	18	0.5-4		0.0	3.6	0				S-1A (4"): Brown, fine to medium SAND, trace Silt, trace coarse Sand, trace fine to coarse gravel. dry.	
2										SAND	S-1B (8"): Brown, fine to medium SAND, trace Silt, little coarse Sand, trace fine gravel, some coarse gravel. dry. background FID = 4.4ppm.	
3												
4										5.9 / 4.0		
	S-2	47	4-8		0.0	0.0	0				S-2A (15"): Brown, CLAY & SILT, little fine Sand, trace medium to coarse Sand, little fine gravel, trace coarse gravel. moist.	
5										CLAY & SILT		
6										3.6 / 6.3	S-2B (12"): Brown and gray, CLAY & SILT, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. moist.	
					0.0	10.6	0	▼		SILTY CLAY 3.1 / 6.8	S-2C (6"): Dark brown, Silty CLAY, very few plant roots. wet.	
7										CLAY 1.9 / 8.0	S-2D (14"): Olive and brown, CLAY. wet.	
8												
	S-3	58	8-12		0.0	0.0	0				S-3A (28"): Tan and gray, Silty CLAY, very few dark brown lenses of decayed organic material. wet.	2
9												
10										SILTY CLAY		
11					0.0	0.0	0				S-3B (30"): Tan and gray, Silty CLAY, very few dark brown lenses of decayed organic material. wet.	
12										-2.1 / 12.0		
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 0-6", 2-4', 4-6', 6-8' bgs
2) Duplicate collected at 0-6"
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-14**

Boring Location: N: 3027246.86 E: 810623.72

Checked by: J. Lambert

Date Start: June 19, 2014

Date Finish: June 19, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 10.42

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/19/14	00:00	2			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			TOPSOIL 9.9 / 0.5	G-1: Dark brown, SILT, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. dry.	
1	S-1	32	0.5-4								S-1A (18"): Brown to orange, fine SAND, trace Silt, trace medium to coarse Sand, trace fine to coarse gravel. dry.	
2					0.0	0.0	0	▼		SAND	S-1B (8"): Brown, fine SAND, little Silt, trace medium to coarse Sand, trace fine to coarse gravel. wet.	
3												
4										6.4 / 4.0		
	S-2	42	4-8		0.0	0.0	0			6.3 / 4.2 SAND AND SILT	S-2A (2"): Brown to orange, fine SAND & SILT, trace medium Sand, trace fine Gravel. wet.	
5										CLAYEY SILT	S-2B (21"): Tan/gray, Clayey SILT, some fine Sand, trace medium to coarse Sand, trace fine gravel. wet.	
6					0.0	0.0	0			4.5 / 5.9 SAND AND SILT	S-2C (10"): Gray, fine SAND & SILT, trace medium Sand, trace fine to coarse Gravel. wet.	
7										3.7 / 6.8 CLAY	S-2D (9"): Tan/gray, CLAY, trace coarse Gravel, very few dark brown lenses of decayed organic material. wet.	
8										2.4 / 8.0		
	S-3	56	8-12		0.0	0.0	0				S-3A (28"): Tan, Silty CLAY, trace dark brown lenses of decayed organic material. wet.	2
9												
10										SILTY CLAY		
11					0.0	0.0	0				S-3B (28"): Tan, Silty CLAY, trace dark brown lenses of decayed organic material. wet.	
12										-1.6 / 12.0		
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-15**

Boring Location: N: 3027155.46 E: 810651.88

Checked by: J. Lambert

Date Start: June 19, 2014

Date Finish: June 19, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 10.21

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/19/14	00:00	4			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			FILL 9.1 / 1.1	G-1: Dark brown, SILT, trace fine to coarse Sand, trace fine Gravel, very few slag fragments. dry.	
1	S-1	35	0.5-4								S-1A (7"): Dark brown, SILT, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel, very few brick particles. dry.	
2					0.0	0.0	0			SAND	S-1B (10"): Tan, fine SAND, trace Silt, trace medium to coarse Sand, trace fine to coarse gravel. dry.	
3											S-1C (12"): Brown, fine SAND, some Silt, trace medium to coarse Sand, trace fine to coarse rgavel. moist.	
4								▼				
	S-2	51	4-8		0.0	0.0	0				S-2A (15"): Tan, fine SAND, some Silt, little medium Sand, trace coarse sand, trace fine to coarse gravel. wet.	2
5										5.0 / 5.3		
6										SILT 4.0 / 6.3	S-2B (10"): Brown to dark brown, SILT, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. wet.	
7					0.0	12.9	0			SILT & CLAY 2.5 / 7.7	S-2C (2"): Brown and gray, SILT, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. wet.	
8										SAND 2.0 / 8.3	S-2D (17"): Tan/olive, SILT & CLAY, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. wet.	
	S-3	50	8-12									
9					0.0	241.7	0				S-2E (7"): Dark gray, fine SAND, some Silt, trace medium to coarse Sand, trace fine to coarse gravel. wet.	
10										CLAY & SILT	S-3A (25"): Gray, CLAY & SILT, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. wet.	
11					0.0	854.6	0				S-3B (22"): Gray, CLAY & SILT, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel. wet.	
12										-1.5 / 11.8		
13										-1.8 / 12.0 ORGANIC DEPOSITS WITH SHELLS	S-3C (3"): Dark brown/gray, SILT & CLAY, trace fine to coarse Gravel, very few sea shell fragments. wet.	
14											Boring terminated at 12 feet.	
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs

2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-16**

Boring Location: N: 3027047.37 E: 810689.53

Checked by: J. Lambert

Date Start: June 19, 2014

Date Finish: June 19, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 10.47

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/19/14	00:00	4			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	6.5	0			FILL 9.0 / 1.5	G-1: Dark brown, SILT, little fine Sand, trace medium to coarse Sand, trace fine to coarse gravel, very few fragments of slag. dry. background FID = 6.5ppm.	
1	S-1	32	0.5-4									
2					0.0	6.5	0			SAND	S-1A (12"): Brown, fine SAND, trace Silt, trace medium to coarse Sand, trace fine to coarse gravel, very few particles of brick. dry.	
3											S-1B (14"): Brown to dark brown, fine SAND, trace Silt, trace medium to coarse Sand, trace fine to coarse gravel. dry. background FID = 6.5ppm.	
4								▼				
	S-2	60	4-8		0.0	0.0	0				S-2A (14"): Brown to dark brown, fine SAND, trace Silt, trace medium Sand, trace fine gravel. wet.	2
5												
6										4.6 / 5.9	S-2B (4"): Brown, fine to medium SAND, trace Silt. wet.	
										4.2 / 6.3	S-2C (1"): Brown, fine to medium SAND and Clay. wet.	
										SILTY CLAY	S-2D (4"): Brown, fine SAND, trace Silt, trace medium Sand. wet.	
7					0.0	0.0	0			4.0 / 6.5 SAND	S-2E (4"): Brown, Silty CLAY. wet.	
8										CLAY	S-2F (3"): Brown, fine SAND, trace Silt, little medium Sand. wet.	
	S-3	55	8-12								S-2G (30"): Olive/tan, CLAY, little fine Sand. wet.	
9										1.5 / 9.0		
10					0.0	0.0	0			SAND 0.5 / 10.0	S-3A (12"): Brown, fine SAND, trace Silt. wet.	
11										CLAY	S-3B (18"): Brown, CLAY, little fine Sand. wet.	
12					0.0	0.0	0			-1.5 / 12.0	S-3C (25"): Gray/olive, CLAY, fine SAND and clay lenses observed from 32-33", 44.5-45", 47-49", and 53-54". wet.	
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Duplicate collected at 0-6" bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-17**

Boring Location: N: 3026953.50 E: 810710.50

Checked by: J. Lambert

Date Start: June 18, 2014

Date Finish: June 18, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 8.94

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/18/14	00:00	8.5			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.0	0.0	0			FILL 8.4 / 0.5	G-1: Dark brown, SILT and fine Sand, little medium Sand, trace coarse sand, trace fine gravel, very few fragments of slag. dry.	
1	S-1	30	0.5-4		0.0	0.0	0			SILT 7.9 / 1.0	S-1A (6"): Brown, SILT and fine Sand. dry.	
2–4										SAND 4.9 / 4.0	S-1B (12"): Brown to tan, fine SAND, little Silt. S-1C (2"): Brown to tan, fine SAND, little Silt, trace Clay. S-1D (4"): Brown to tan, fine SAND, little Silt.	
5	S-2	54	4-8		0.0	0.0	0			SILTY CLAY 2.7 / 6.3	S-2A (27"): Brown, Silty CLAY, little fine Sand, fine sand lenses observed from 1-2", 4-8", and 25-26". moist.	2
7					0.0	0.0	0			CLAY -3.1 / 12.0	S-2B (27"): Brown/tan, CLAY, fine sand lens observed from 39.5-40", very few dark brown lenses of decayed organic material. moist.	
9	S-3	51	8-12		0.0	0.0	0	▼			S-3A (25"): Tan/olive, CLAY, fine sand lens observed from 13-14", very few dark brown lenses of decayed organic material. wet.	
11					0.0	0.0	0				S-3B (26"): Tan/olive, CLAY. wet.	
13–25											Boring terminated at 12 feet.	

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-18**

Boring Location: N: 3026843.66 E: 810749.27

Checked by: J. Lambert

Date Start: June 18, 2014

Date Finish: June 18, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 10.21

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/18/14	00:00	4.17			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			FILL 9.7 / 0.5	G-1: Dark brown, SILT, little fine Sand, trace medium Sand, very few fragments of slag. dry.	
1	S-1	35	0.5-4								S-1A (6"): Brown, fine to medium SAND, little Silt, little coarse Sand, trace fine to coarse gravel. dry.	
2					0.0	0.0	0				S-1B (6"): Brown, fine SAND & SILT. moist.	
3											S-1C (17"): Brown with gray lenses, fine SAND, trace medium Sand, clayey silt lenses observed from 19-21", 24-27", and 31-32".	
4										SAND		
	S-2	53	4-8		0.0	0.0	0	▼			S-2A (2"): Brown with gray lenses, Clayey SILT, little fine to medium Sand. moist.	2
5											S-2B (24"): Brown, fine to medium SAND, trace Silt, trace coarse Sand, clayey silt lens observed from 12-13". wet.	
6												
7					0.0	0.0	0			3.3 / 6.9	S-2C (9"): Brown, fine to medium SAND, trace Silt. wet.	
										3.0 / 7.3 SILTY CLAY	S-2D (4"): Brown, Silty CLAY, trace fine Sand. wet.	
8										2.6 / 7.6 SAND	S-2E (4"): Brown, fine to medium SAND, trace Silt, trace coarse Sand. wet.	
	S-3	47	8-12							SILTY CLAY		
9					0.0	0.0	0			1.8 / 8.4	S-2F (10"): Brown, Silty CLAY, trace fine Sand. wet.	
10										1.5 / 8.8 CLAY	S-3A (4"): Brown, CLAY. wet.	
										SAND 0.9 / 9.3	S-3B (7"): Brown, fine to medium SAND, trace Clay. wet.	
11					0.0	17.4	0			CLAY	S-3C (13"): Gray, CLAY. wet.	
12										-1.8 / 12.0	S-3D (23"): Gray, CLAY, fine sand lenses observed from 32-33", 32.5-38", and 41-42". wet.	
13											Boring terminated at 12 feet.	
14												
15												
16												
17												
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs
2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-19**

Boring Location: N: 3026718.98 E: 810779.54

Checked by: J. Lambert

Date Start: June 11, 2014

Date Finish: June 11, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 10.89

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/11/14	00:00	5.417			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
	G-1		0-0.5		0.0	0.0	0			TOPSOIL 10.4 / 0.5	G-1: Dark brown, SILT, some fine Sand, trace medium to coarse Sand, trace fine to coarse gravel, very few roots, plant and grass. dry.	
1	S-1	25	0.5-4								S-1 (25"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. dry.	
2					0.1	0.0	0					
3										SAND		
4												
	S-2	34	4-8		0.2	0.0	0				S-2A (17"): Brown, fine to coarse SAND, trace Silt, trace fine to coarse Gravel. moist.	
5								▼		5.5 / 5.4		
6					0.0	0.0	0				S-2B (17"): Brown with gray lenses, SILT & CLAY, very few dark brown lenses of decayed organic material. wet.	
7												
8												
	S-3	50	8-12		0.1	0.0	0				S-3A (25"): Tan with gray lenses, SILT & CLAY, trace fine Sand, very few dark brown lenses of decayed organic material. moist.	2
9												
10										SILT & CLAY		
					0.3	0.0	0				S-3B (25"): Tan with gray lenses, SILT & CLAY, trace fine Sand, very few dark brown lenses of decayed organic material. moist.	
11												
12												
	S-4	57	12-16		0.0	0.0	0				S-4A (28"): Tan with gray lenses, SILT & CLAY, trace fine Sand, very few dark brown lenses of decayed organic material. wet.	
13												
14										-3.6 / 14.5		
15					0.0	0.0	0			CLAY	S-4B (29"): Tan, CLAY, very few dark brown lenses of decayed organic material. wet.	
16										-5.1 / 16.0		
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 2-4', 4-6', 6-8', 8-10' bgs

2) Sample recovery exceeded the total length of the driven sample due to expansion of clay material within the macrocore sleeve

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-20**

Boring Location: N: 3026645.01 E: 810781.15

Checked by: J. Lambert

Date Start: June 10, 2014

Date Finish: June 10, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 11

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/10/14	00:00	5.917			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1 / S-1	34	0-0.5 / 0.5-4		0.0	3.3	0			SILTY SAND 9.6 / 1.4	G-1: Brown, fine SAND, some Silt, little medium Sand, trace coarse gravel, trace plant roots. dry. background FID = 3.2ppm.	
2					0.0	2.8	0			SANDY FILL 7.0 / 4.0	S-1 (17"): Tan, fine to coarse SAND, trace Silt, trace fine Gravel, trace coarse gravel, brick fragments observed from 18-23". dry. background FID = 2.9ppm.	
5	S-2	39	4-8		0.0	0.7	0			CLAY 5.0 / 6.0	S-2A (23"): Tan, CLAY, trace fine to coarse Sand, trace fine Gravel, trace amounts of dark brown material, possbily decayed organic material, observed from 6-16", 1/4" band of Fe oxide observed at 16.5". moist. background FID = 0.7ppm.	
6								▼				
7					0.0	1.5	0			SILT 3.8 / 7.2	S-2B (12"): Dark brown, SILT, little fine to coarse Sand, trace fine Gravel, trace coarse gravel, very few organic material observed. wet. background FID = 0.7ppm.	
8										SAND 3.0 / 8.0	S-2C (4"): Brown, fine to coarse SAND, little Silt, trace fine Gravel, trace coarse gravel. wet.	
9	S-3	48	8-12		0.0	0.5	0			CLAY	S-3A (24"): Olive/tan, CLAY, lenses of gray clay observed throughout. wet. background FID = 0.2ppm.	
11					0.0	1.1	0				S-3B (24"): Tan, CLAY, lenses of gray clay observed throughout. wet. background FID = 0.2ppm.	
13	S-4	48	12-16		0.0	0.8	0				S-4A (24"): Tan with gray lenses, CLAY, trace amounts of possible decayed organic material obesrved throughout. wet.	
15					0.0	1.5	0				S-4B (24"): Tan with gray lenses, CLAY, trace amounts of possible decayed organic material obesrved throughout. wet.	
16										-5.0 / 16.0		
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 0-6", 2-4', 4-6', 6-8' bgs

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

BORING LOG

Nobis — Engineering a Sustainable Future

Project: Former Creese & Cook Tannery Superfund Site

Location: Danvers, MA

Nobis Project No.: 80095.03

Boring No.: **ROW-21**

Boring Location: N: 3026551.34 E: 810778.61

Checked by: J. Lambert

Date Start: June 9, 2014

Date Finish: June 9, 2014

Contractor: Maher Services

Driller: S. Dubois

Nobis Rep.: R. Rizza

Rig Type / Model: Geoprobe / 7822 DT

Hammer Type: Automatic Hammer

Hammer Hoist: Automatic

Ground Surface Elev.: 9.69

Datum: NAD 83 MA State Plane

	Drilling Method	Sampler
Type	Geoprobe	Macro-Core Liners
Size ID (in.)	4.5	3
Advancement	Push	Push

Groundwater Observations

Date	Time	Depth Below Ground (ft.)	Depth of Casing (ft.)	Depth to Bottom of Hole (ft.)	Stabilization Time
▼ 06/09/14	00:00	4			

Depth (ft.)	Type & No.	Rec (in.)	Depth (ft.)	Blows/ 6 in.	PID (ppm)	FID (ppm)	4 GAS (ppm)	Ground Water	Graphic	Stratum Elev. / Depth (ft.)	SAMPLE DESCRIPTION AND REMARKS (Classification System: Modified Burmister)	NOTES
1	G-1		0-0.5		0.0	4.0	0			SANDY FILL 5.7 / 4.0	G-1: Brown, SILT, some fine Sand, trace coarse Sand, trace fine gravel. dry. background FID = 5.1ppm. S-1A (15"): Dark brown, fine to coarse SAND, some Silt, little fine to coarse Gravel, very few ceramic tiles and concrete observed at 7-13" bgs. dry. S-1B (21"): Brown, fine to medium SAND, little coarse Sand, little Silt, trace fine to coarse gravel. dry. background FID = 4.7ppm.	
	S-1	36	0.5-4									
2					0.2	4.6	0					
3												
4								▼				
5	S-2	35	4-8		0.0	2.6	0			CLAY 3.5 / 6.2	S-2A (26"): Tan, CLAY, very few pieces of brick observed at 8". wet. background FID = 2.6ppm.	
6					0.0	517.0	0					
7										ORGANIC SILT 1.7 / 8.0	S-2B (9"): Dark brown, SILT, few organic fibers. wet. background FID = 2.6ppm.	
8												
9	S-3	46	8-12		0.0	320.1	0			CLAY -6.3 / 16.0	S-3A (6"): Olive/gray, CLAY, trace fine Gravel, very few organic fibers. wet. background FID = 2.1ppm. S-3B (25"): Olive/gray, CLAY, very few organic fibers. wet.	
10												
11					0.0	30.2	0				S-3C (15"): Olive, CLAY. wet. background FID = 2.1ppm.	
12												
13	S-4	48	12-16		0.0	1.9	0				S-4A (24"): Tan, CLAY. wet. background FID = 2.2ppm.	
14												
15					0.0	0.9	0				S-4B (24"): Tan, CLAY. wet. background FID = 1.4ppm.	
16												
17											Boring terminated at 16 feet.	
18												
19												
20												
21												
22												
23												
24												
25												

Soil	Percentage	Non-Soil
trace	5 - 10	very few
little	10 - 20	few
some	20 - 35	several
and	35 - 50	numerous

NOTES:

1) PAH's collected at 0-6", 4-6', 8-10', 12-14' bgs

Soil descriptions are based on visual classifications and should be considered approximate. Stratification lines are approximate boundaries between stratums; transitions may be gradual.

ENVIRONMENTAL LOG - NOBIS GINT DATA TEMPLATE OCT 7 2011.GDT - 10/2/14 11:17 - R:\80000 TASK ORDERS\80095 CREESE AND COOK\TECHNICAL DATA\GINT\BORING LOGS JUNE 2014 80095.GPJ

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOK

Start Date/Time: 7/10/14 1315 End Date/Time: 7/10/14 1330

Well I.D.: MW-01 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC

Well Diameter: 2" Total Well Depth: (at start) 14.70 ft bmp (at finish) 14.70 ft bmp Screen Length: 10 ft

Initial Level: DRY ft bmp Water Volume: — gallons Well headspace: 0.0 ppm

Water Volume Lost During Drilling: — gallons Approximate Sediment Thickness: UNK. ft

Equipment: HACH 2100Q YSI 556 MPS Recharge Rate: — gpm Volume Removed: — gallons

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)	
Completion Criteria			(10%)[3]	(10%)[3]	(10%)[3]	(10%[2],<5 NTU)		

Development Notes: WELL IS DRY, NO DEVELOPMENT PERFORMED, ET TO ATTEMPT TO PULL TOTAL METALS SAMPLE

Signature: Eric John

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOK SUPERFUND SITE

Start Date/Time: 7/7/14 915 End Date/Time: ~~7/7/14 1000~~ 7/10/14 940 EJ

Well I.D.: MW-02 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC

Well Diameter: 2" Total Well Depth: (at start) 14.64 ft bmp (at finish) 14.61 ft bmp Screen Length: 10 ft

Initial Level: 7.19 ft bmp (7.45' of H_2O) Water Volume: 1.2 gallons Well headspace: 1.1 ppm (bkgd = 1.0 ppm)

Water Volume Lost During Drilling: ~5 gallons Approximate Sediment Thickness: +.03 ft

Equipment: MACH 2100Q YSI 556 MPS Recharge Rate: — gpm Volume Removed: ~~20~~ gallons 35 EJ

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)	
Completion Criteria			(10%)[3]	(10%)[3]	(10%)[3]	(10%[3], <5 NTU)		
06:00	2.5	2.5	7.83	13.40	486	O.R.		
09:45	2.5	5	7.25	12.02	443	O.R.		
13:30	2.5	7.5	7.11	12.26	411	O.R.		
18:30	2.5	10	6.91	12.54	385	O.R.		
23:00	2.5	12.5	6.74	12.54	371	O.R.		
30:00	5	17.5	6.65	12.85	341	O.R.		
32:45	2.5	20	6.58	12.71	335	O.R.		
STOP	DEVELOPMENT 9:55							
10:00	DTW = 7.21							
DEVELOPMENT COMPLETED, WELL OVER 15 WELL VOLUMES PULLED FROM MW-02, AND TURBIDITY DOES NOT APPEAR TO BE IMPROVING.								
7/10/14 09:22 2:00	2.5	22.5	/	/	/	337		TYPHOON PUMP
3:00	2.5	25				90.9		
4:00	2.5	27.5				25.4		
5:00	2.5	30				10.9		
6:00	2.5	32.5				11.8		
7:00	2.5	35				6.14		

Development Notes: 2' SUMP @ BOTTOM OF MW, INITIALLY DRY SURGED FOR ~2-3 MIN.
PID = 0.0 ppm FID = 1.7 ppm
H_2S = 0.0 ppm Bkgd FID = 1.7 ppm NO ODOR OR SHEEN ON PURGE WATER

Signature: [signature] + ETHAN COTE

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOR SUPERFUND SITE

Start Date/Time: 7/7/14 10:25 End Date/Time: ~~7/7/14 10:55~~ 7/11/14 10:40 (EJ)

Well I.D.: MW-03 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC

Well Diameter: 2" Total Well Depth: (at start) 14.86 ft bmp (at finish) 14.97 ft bmp Screen Length: 10 ft

Initial Level: 3.71 ft bmp Water Volume: 1.82 gallons Well headspace: 0.0 ppm

Water Volume Lost During Drilling: N/A gallons Approximate Sediment Thickness: 0.11 ft

Equipment: HACH 2100Q YSI 556 MPS Recharge Rate: gpm Volume Removed: 12 gallons

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)
Completion Criteria	1.5		(10%)[3]	(10%)[3]	(10%)[3]	(10%[3], <5 NTU)	
5:30	DRY	1.5	6.94	15.65	320	O.R.	
7:00	DTW =	13.75					
8:00	DTW =	13.31					
9:00	DTW =	12.82					
10:00	DTW =	12.39					
11:00	DTW =	11.90					
12:00	DTW =	NM					
13:00	DTW =	11.09					
14:00	DTW =	10.66					
16:00	DTW =	9.82					
18:00	DTW =	9.11					
20:00	DTW =	8.43	MAHER THEN RESURGES + PUMPS				DRY
22:00							
		(3 gal)	TO PUMP DOWN AGAIN THIS AFTERNOON.				
1:45 PM Br —	1.5	4.5 gal	8.06	17.13	318	O.R.	DRY
6:00	2	6.5				705 NEM	DRY
10:00	1	7.5				M117 E175	DRY
7/10/14 3:00	2	9.5				M231 E119	DRY
10:20 18:00	1.5	11				M283 E51.6	DRY
7/11/14 10:40 ~~29:00~~	~~1.5~~ 1	12.5				M233 E 65.1	DRY

TYPHOON PUMP

Development Notes: HARD BOTTOM, 2-3 MINUTE DRY SURGE INITIALLY.
7/10/14 FID Back: 4.5 FID: 4.8 M = MIDDLE OF PURGE
VOC: 0 H_2S: 0 E = END OF PURGE

Signature: Eric Johnson (+ ETHAN COTE)

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOK SUPERFUND SITE

Start Date/Time: 7/7/14 1530 End Date/Time: 7/11/14 1100 (ES)

Well I.D.: MW-04 Method: WATERRA SURGE/PURGE Identify Measuring Point: PVC

Well Diameter: 2" Total Well Depth: (at start) 14.25 ft bmp (at finish) 14.35 ft bmp Screen Length: 10 ft

Initial Level: 6.19 ft bmp Water Volume: 1.31 gallons Well headspace: 0.0 ppm

8.06 ft x 1.31 gal ≈ 6.6 gal (5 well volumes)

Water Volume Lost During Drilling: N/A gallons Approximate Sediment Thickness: 0.1 ft

Equipment: HACH 2100Q YSI 556 MPS Recharge Rate: gpm Volume Removed: 10.5 gallons

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)
Completion Criteria			(10%)[3]	(10%)[3]	(10%)[3]	(10%[3], <5 NTU)	VERY MUDDY @START-UP
4:00	1.5	1.5	6.23	17.92	1137	O.R.	DRY
4:30	DTW =	13.30					
6:30	DTW =	11.96					
9:00 8:00	DTW =	10.60					
10:00	DTW =	10.10					
12:30	DTW =	9.07					
15:00	DTW =	8.49					
17:30	DTW =	8.05					
20:00	DTW =	7.70					
20:30	SURGE + PURGE						
22:00	1 gal	2.5	6.15	20.69	1092	O.R.	DRY
30:00	DTW =	NM					
35:00	DTW =	8.66					
40:00	DTW =	8.02					
40:30	SURGED + PURGED						
42:00	1	3.5	6.09	18.96	1038	O.R.	DRY
7/11/14 0830 3:00	1	4.5				NM	DRY
18:00	1	5.5				M 9.R / E 1.27	DRY
34:00	1	6.5				M 5.58 / E 7.38	DRY
50:00	1	7.5				M 5.43 / E 58.9	DRY
66:00	1	8.5				M 7.05 / E 80.5	DRY
82:00	1	9.5				M 6.30 / E 51.4	DRY
98:00	1	10.5				M 1.54 / E 61.9	DRY

TYPHOON PUMP

Development Notes: INITIALLY SOFT BOTTOM. DRY SURGE FOR ROUGHLY 2-3 MINUTES PRIOR TO PURGING ANY GW. VERY MUDDY @START-UP.

7/11/14 PID: H_2S: 0 VOC: 0

M = MIDDLE OF PURGE
E = END OF PURGE

Signature: [signature] + ETHAN COTE

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOK SUPERFUND SITE

Start Date/Time: 7/7/14 1400 End Date/Time: ~~7/7/14 1515~~ 7/10/14 16:30 (EJ)

Well I.D.: MW-05 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC

Well Diameter: 2" Total Well Depth: (at start) 14.92 ft bmp (at finish) 14.93 ft bmp Screen Length: 10 ft

Initial Level: 5.66 ft bmp Water Volume: 1.5 gallons Well headspace: 0.0 ppm

9.26 ft ~ 1.51 gal (7.5 gal for 5 well volumes)

Water Volume Lost During Drilling: N/A gallons Approximate Sediment Thickness: .01 ft

Equipment: HACH 2100Q, YSI 556 MPS Recharge Rate: gpm Volume Removed: 15 gallons

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)
Completion Criteria			(10%)[3]	(10%)[3]	(10%)[3]	(10%[3], <5 NTU)	
			57	06	1083		
23:00	1.75	1.75	7.66	17.18	~~1114~~	O.R.	DRY
05:00	DTW = 12.52						
07:00	DTW = 11.14						
10:00	DTW = 9.28						
13:00	DTW = 7.67						
15:00	DTW = 6.83						
17:00	DTW = 6.35						
20:00	DTW = 6.00						
21:00	SURGED + PURGED						
25:00	1.5	3.25	7.42	17.14	1157	279	DRY
40:00	~~DTW =~~	SURGE + PURGE					
43:00	1.5	4.75	7.48	17.39	1014	461	DRY
58:00	DTW = 5.93						
60:00	SURGED + PURGED						
62:00	1.75	6.5	7.47	18.69	961	142	DRY
1:00						M / E	
7/10/14 ~~00:00~~	1.5	8.0	–	–	–	M 20.4 / E 49.1	DRY
~~1848~~ 15:00	1	9.0				M 14.5 / E 8.07	DRY
30:00	~~0~~ 1.5	11				26.6 / 16.7	DRY
45:00	1	12				21.6 / 12.9	DRY
60:00	1.5	13.5				23.4 / 16.1	DRY
75:00	1.5	15.0				19.2 / 14.4	DRY

@ 1502

TYPHOON PUMP

Development Notes: SOLID BOTTOM. 2-3 MIN OF DRY SURGING BEFORE PURGING ANY GW. NO ODOR/SHEEN ON PURGE WATER. M = MIDDLE OF PURGE, E = END OF PURGE

7/10/14 FID Back 2.5 ppm FID: 2.3 ppm VOC: 0 H2S: 0

Signature: + ETHAN COTE

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80045.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOR SUPERFUND SITE

Start Date/Time: 7/7/14 1100 End Date/Time: ~~7/7/14 1200~~ 7/10/14 ~~1315~~ 1415 (EJ)

Well I.D.: MW-06 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC

Well Diameter: 2" Total Well Depth: (at start) 14.83 ft bmp (at finish) 14.83 ft bmp Screen Length: 10 ft

Initial Level: 6.70 ft bmp Water Volume: 1.3 gallons Well headspace: 0.0ppm

7.93 ft ≈ 5 well volumes ≈ 6.5g

Water Volume Lost During Drilling: N/A gallons Approximate Sediment Thickness: 0 ft

Equipment: HACH 2100Q Recharge Rate: gpm Volume Removed: ~~7~~ 22 ~~16~~ (EJ) gallons

YSI 556 MPS

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)
Completion Criteria			(10%)[3]	(10%)[3]	(10%)[3]	(10%[3],<5 NTU)	
2:00	~1.~~25~~ 5	~1.~~25~~ 5	6.77	17.80	2237	O.R.	
3:00	DTW = 13.00						
5:00	DTW =	10.45					
7:00	DTW =	8.48					
9:00	DTW =	7.50					
11:00	DTW =	7.24					
11:00 - 16:00	MAHER PUMPS WELL DOWN AGAIN						
16:00	~1.~~25~~ 5	~~2.83~~	6.82	18.31	2087	O.R.	
20:00	TUBING DISPLACING WATER, TO SIMPLY WAIT UNTIL 24:00						
~~24:00~~	25 SURGING AGAIN						
~~28:00~~		4.25					
27:00	1 GAL	~~4.25~~	6.81	17.97	2222	O.R.	DRY, WAIT ~~10~~ 8 MIN.
35:00	SURGED + PURGED				~~2055~~		
37:00	1.25	5.5	6.81	19.11	2055	.715	DRY
45:00	SURGED + PURGED A FINAL TIME						
47:00	1.5	7	6.77	19.80	2050	O.R.	DRY
DEVELOPMENT COMPLETE, 5 WELL VOLUMES EXTRACTED.							
7/10/14 9:00	1.5	8.5				M 65.8 E 57.1	DRY
20	1	9.5				M 36.4 E 33.4	DRY
33	1.5	11				M 28 E 43.2	DRY
51	1	12				M 152 E 64.9	DRY
11:05 ~~06~~ 16	1.5	13.5				M 77.4 E 30	DRY
80	1	14.5				M 214 E 32.4	DRY
~~95~~ 123	1.5	16				M 48.6 E 32.0	DRY

Development Notes: HARD BOTTOM, DRY SURGED 2-3 MIN PRIOR TO PURGING ANY WATER.

M = MIDDLE OF PURGE
E = END OF PURGE

Signature: [signature] + ETHAN COTE

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Time	Volume Purged	Total Gallons	Turbidity	
150	1	17	M 92.6 E 30.2	DRY
160	1	18	M 150 E 21.9	DRY
170	1.5	19.5	M 91.7 E 16.2	DRY
180	1	20.5	M 64.0 E 15.5	DRY
190	1.5	22	M 83.6 E 15.6	DRY

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOR

Start Date/Time: 7/10/14 1210 End Date/Time: 7/10/14 1215

Well I.D.: MW-07 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC (STICK UP)

Well Diameter: 2" Total Well Depth: (at start) 17.91 ft bmp (at finish) 17.91 ft bmp Screen Length: 10 ft

Initial Level: 17.82 ft bmp Water Volume: .014 gallons Well headspace: 0.1 ppm

Water Volume Lost During Drilling: N/A gallons (.09 ft) Approximate Sediment Thickness: — ft

Equipment: HACH 2100Q YSI 556 MPS Recharge Rate: gpm Volume Removed: — gallons

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)	
Completion Criteria			(10%)[3]	(10%)[3]	(10%)[3]	(10%[3],<5 NTU)		

Development Notes: NO DEVELOPMENT, INSUFFICENT CAW TO SURGE + PURGE

Signature: [signature]

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOK SUPERFUND SITE

Start Date/Time: 7/7/14 1210 End Date/Time: ~~7/7/14 1255~~ 7/10/14 845 (EJ)

Well I.D.: MW-08 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC

Well Diameter: 2 Total Well Depth: (at start) 14.64 ft bmp (at finish) 14.676 ft bmp Screen Length: 10 ft

Initial Level: 2.44 ft bmp Water Volume: 2 gallons Well headspace: 0.0ppm

12.2 ≈ 2gal ≈ 10gal (5 well volumes)

Water Volume Lost During Drilling: N/A gallons Approximate Sediment Thickness: 0.02 ft

Equipment: HACH 2100Q, YSI 556 MPS Recharge Rate: gpm Volume Removed: ~~15~~ 25 gallons (EJ)

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)
Completion Criteria			(10%)[3] 7.65	(10%)[3]	(10%)[3]	(10%[3], <5 NTU)	
02:15	2.5	2.5	~~7.85~~	20.44	1177	O.R.	DRY
03:00	DTW = 12.14						
05:00	DTW = NM						
08:00	DTW = 3.77						
9:00 ~~10:00~~	~~DTW =~~ SURGED + PURGED						
12:00	2.5	~~4.55~~	7.54	23.48	1169	O.R.	DRY
19:00	SURGED + PURGED, DRY @ 21:30						
21:30	2.5	7.5	7.36	23.58	1062	O.R.	
31:00	SURGED + PURGED						
33:00	2.5	10	7.17	24.15	1035	O.R.	DRY
DEVELOPMENT COMPLETE, 5 WELL VOLUMES REMOVED							
7/10/14 7.50 2:00	2.5	12.5	–	–	–	NM	DRY
12:00	2.5	~~2.5~~ 15	–	–	–	359	DRY
19:00	2.5	17.5	–	–	–	M503 E988	DRY
27:00	2.5	20	–	–	–	M236 E 708	DRY
38:00	2.5	22.5	–	–	–	M641 E 618	DRY
46:00	2.5	25	–	–	–	M203 E 512	DRY
Development complete Well Volumes Removed							
	PID = 2.4ppm (Bkgd = 1.6ppm)						
	PID = 0.0ppm				← breathing space and bucket.		
	H_2S = 0.0ppm						

M = middle of purge
E = End of purge

Development Notes: WATER TEMP CONTINUES TO RISE DUE TO BLACK POLY TUBING AND DIRECT SUN. SOFTER BOTTOM INITIALLY. DRY SURGE FOR 2-3 MIN PRIOR TO INITIATING PURGE. HARD BOTTOM @ COMPLETION. M = MIDDLE OF PURGE; E = END OF PURGE

Signature: [signature] + E. COTE

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80095.03/0320

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + LOOK

Start Date/Time: 7/10/14 12:15 End Date/Time: 7/11/14 13:30

Well I.D.: MW-09 Method: WATERRA SURGE+PURGE Identify Measuring Point: PVC (STICK-UP)

Well Diameter: 2" Total Well Depth: (at start) 17.97 ft bmp (at finish) 18.14 ft bmp Screen Length: 10 ft

Initial Level: 6.60 ft bmp Water Volume: 1.85 gallons Well headspace: 0.0ppm

11.37 ft x 1.85 gal ≈ 9.27 gal

Water Volume Lost During Drilling: ~~N/A~~ 3-5 gallons (EJ) Approximate Sediment Thickness: 0.17 ft

Equipment: HACH 2100Q YSI 556MPS Recharge Rate: gpm Volume Removed: 16.5 gallons

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU) (10%) [2]	Temp. (°C) (10%) [3]	Specific Conductivity (mS/cm) (10%) [3]	Turbidity (NTU) or (mL/L sediment[4]) (10% [2], <5 NTU)	Other (specify w/ units)
Completion Criteria							
3:45	2	2	6.72	14.60	804	OR	DRY
4:00	DTW = 16.40						
7:00	DTW = 12.74						
10:00	DTW = 10.18						
13:00	DTW = 9.10						
16:00	DTW = 8.43						
20:00	DTW = 7.99						
24:00	DTW = 7.73						
24:30	SURGE + PURGE						
12:50 PM 28:00	~1.75	3.75	6.67	14.45	822	O.R	DRY
	CREW TO RETURN LATER THIS AFTERNOON TO PURGE AGAIN						
1400 START	SURGED/PURGED						
4:00	1.5	5.25	7.06	15.40	868	O.R.	DRY
24:00	DTW = 7.77						
26:00	SURGED/PURGED		~~6.95~~	~~14.62~~			
28:00			6.95	14.62	962	O.R.	DRY
53:00	DTW = 7.76						
56:00	2.25	7.5	6.99	14.77	1100	207	DRY
	WATERRA DEVELOPMENT COMPLETE						
						M / E	
7/11/14 2:00	2	9.5				N/M	DRY
22:00	2	11.5				42.4 / 78.4	DRY
44:00	1.5	13				33.3 / 48.1	DRY
66:00	1.5	14.5				24.2 / 49.6	DRY
88:00	2	16.5				18.2 / 31.1	DRY

Development Notes: SOFT BOTTOM. WATERRA DRY SURGE FOR 2-3 MIN PRIOR TO PURGING ANY WATER.

M = MID PURGE
E = END OF PURGE

PID: H_2S = 0 VOC = 0 FID: 0.0

Signature: [signature] + E. COTE

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

Attachment 1
Well Development Field Data Sheet

80095.03/032°

WELL DEVELOPMENT FIELD DATA SHEET

Project: CREESE + COOK

Start Date/Time: 7/10/14 1340 End Date/Time: 7/10/14 1345

Well I.D.: MW-10 Method: WATERRA SURGE + PURGE Identify Measuring Point: PVC

Well Diameter: 2" Total Well Depth: (at start) 14.71 ft bmp (at finish) — ft bmp Screen Length: 10 ft

Initial Level: — ft bmp Water Volume: — gallons Well headspace: 0.0ppm

Water Volume Lost During Drilling: — gallons Approximate Sediment Thickness: — ft

Equipment: HACH 2100Q YSI 556 MPS Recharge Rate: — gpm Volume Removed: — gallons

Water Parameter Measurements

Time	Volume Purged (gallons)	Total Gallons	pH (SU)	Temp. (°C)	Specific Conductivity (mS/cm)	Turbidity (NTU) or (mL/L sediment[4])	Other (specify w/ units)	
Completion Criteria			(10%) [3]	(10%) [3]	(10%) [3]	(10% [2],<5 NTU)		

Development Notes: DRY, NO DEVELOPMENT

Signature: [signature]

Notes:
1. bmp = below measuring point
2. gpm = gallons per minute
3. 10% completion criteria refers to three consecutive measurements within 10% of each other.
4. mL/L is measured using an Imhoff Cone. The completion criteria for the Imhoff Cone method should be confirmed with the technical lead.

APPENDIX C

Low-Flow Field Log

Nobis
Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Erik Johnson

Date: 07/15/14

Well ID: BH-1 / MW-1

Sample ID: CC-GW-BH1MW1-071514

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 14.42 (ft from MP)
Depth to Bottom: 15.27 (ft from MP)
Pump Intake Depth: ~15 (ft from MP)
Well depth as installed: 20' (per prev. boring log) (ft bgs)
Screen interval (range): 10'-20' (ft bgs)

Purging start time: 10:40
Parameter stabalization (Y/N): NO
Two hour time limit reached (Y/N): YES
Sample time: 12:45
Total volume purged (gals): 3
Time at purge completion: 13:25

Equipment Vendor: US Environmental
Pump Type: peristaltic

Turbidity Meter: HACH 2100 Q
Serial #: 13070C026628

Multimeter: YSI 600 XL
Serial #: 02B0141AF

Notes (Initial PID reading, SOP deviations, etc.):

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
10:55		100	14.49									Adjust pumping rate to stabilize drawdown, fill cell	
11:00		100	14.51	0.02	0.02	14.83	274	4.63	98.9	1.00	1.61	clear purge water	
11:05		100	14.51	0.00	0.02	14.24	221	4.21	128.6	0.81	3.48	Sal = 0.11	
11:10		100	14.52	0.01	0.03	14.06	185	4.03	143.5	0.75	2.79	Sal = 0.08	Not Stable
11:15		100	14.52	0.00	0.03	13.70	158	3.86	160.2	0.74	1.23	Sal = 0.07	Not Stable
11:20		100	14.52	0.00	0.03	13.50	131	3.91	182.7	0.70	3.38	Sal = 0.06	Not Stable
11:25		100	14.51	-0.01	0.02	13.49	124	4.00	199.4	0.67	0.79	Sal = 0.06	Not Stable
11:30		100	14.51	0.00	0.02	13.80	105	4.13	218.3	0.67	0.77	Sal = 0.05	Not Stable
11:35		100	14.55	0.04	0.06	13.42	103	4.15	237.9	0.68	0.67	Sal = 0.05	Not Stable
11:40		100	14.51	-0.04	0.02	13.77	105	3.94	270.6	0.70	0.71	Sal = 0.05	Not Stable
11:45		100	14.53	0.02	0.04	13.89	93	3.76	305.3	0.70	2.27	Sal = 0.05	Not Stable
11:50		100	14.53	0.00	0.04	13.79	97	3.41	348.1	0.73	1.48	Sal = 0.05	Not Stable
11:55		100	14.53	0.00	0.04	13.85	95	3.07	393.5	0.75	1.25	Sal = 0.04	Not Stable
12:00		100	14.53	0.00	0.04	13.93	87	2.76	436.3	O.79	1.05	Sal = 0.04	Not Stable
12:05		100	14.53	0.00	0.04	13.98	95	2.68	462.2	0.80	0.45	Sal = 0.04	Not Stable
12:10		100	14.53	0.00	0.04	14.04	96	2.52	484.2	0.82	1.82	Sal = 0.04	Not Stable
12:15		100	14.53	0.00	0.04	14.27	94	2.32	519.3	O.85	1.07	Sal = 0.04	Not Stable
12:20		100	14.53	0.00	0.04	13.93	90	2.17	538.6	0.87	1.77	Sal = 0.04	Not Stable
12:25		100	14.53	0.00	0.04	13.65	98	2.27	545	0.85	0.99	Sal = 0.05	Not Stable
12:30		100	14.53	0.00	0.04	13.88	99	2.65	531.8	0.80	1.43	Sal = 0.05	Not Stable
12:35		100	14.53	0.00	0.04	13.45	101	2.92	518.6	0.78	0.71	Sal = 0.05	Not Stable
12:40		100	14.53	0.00	0.04	13.35	102	3.16	509.4	0.76	0.87	Sal = 0.05	Not Stable
												Two hour time limit reached, groundwater sampled at 1	

Low-Flow Field Log

Nobis
Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Ethan Cote

Date: 07/15/14

Well ID: BH-12-MW-08

Sample ID: CC-GW-BH12MW8-071514

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 20.22 (ft from MP)
Depth to Bottom: 24.5 (ft from MP)
Pump Intake Depth: 24.25 (ft from MP)
Well depth as installed: 20' (per prev. boring log) (ft bgs)
Screen interval (range): 10'-20' (ft bgs)

Purging start time: 8:50
Parameter stabalization (Y/N): YES
Two hour time limit reached (Y/N): NO
Sample time: 10:15
Total volume purged (gals): 2.5
Time at purge completion: 10:52

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100 Q
Serial #: 13070C026628

Multimeter: YSI 600 XL
Serial #: 02B0141AF

Notes (Initial PID reading, SOP deviations, etc.): Breathing zone = PID= 1.2 ppm (bkgd), H2 S = 0.0 ppm, FID = 0.4 ppm (bkgd), no odor, Very humid

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
8:55		160	20.22									Adjust pumping rate to stabilize drawdown, fill cell	
9:10		130	20.25	0.03	0.03	15.06	426	6.10	361.1	8.87	2.55	No odor on purge water, no sheen, fairly clear @ start up	
9:15		130	20.26	0.01	0.04	14.88	410	5.44	410.9	9.15	1.63	Sal = 0.20	
9:20		130	20.25	-0.01	0.03	14.64	405	5.30	442.8	9.18	2.16	Sal = 0.20	Not Stable
9:25		130	20.25	0.00	0.03	14.81	395	5.28	466.1	9.27	1.37	Sal = 0.19	Not Stable
9:30		130	20.25	0.00	0.03	14.88	382	5.30	486.2	9.25	2.06	Sal = 0.18	Not Stable
9:35		130	20.26	0.01	0.04	15.02	378	5.23	492.6	9.25	2.43	Sal = 0.18	Not Stable
9:40		130	20.26	0.00	0.04	14.79	375	5.23	513.4	9.28	2.16	Sal = 0.18	Not Stable
9:45		130	20.26	0.00	0.04	14.82	374	4.90	529.4	9.31	2.86	Sal = 0.18	Not Stable
9:50		130	20.26	0.00	0.04	14.86	370	4.89	541.7	9.31	0.97	Sal = 0.18	Not Stable
9:55		130	20.27	0.01	0.05	14.82	370	5.00	547.5	9.25	2.72	Sal = 0.18	Not Stable
10:00		130	20.27	0.00	0.05	14.87	376	5.08	551.8	9.28	0.98	Sal = 0.18	Not Stable
10:05		130	20.27	0.00	0.05	14.92	369	5.17	555.7	9.27	0.92	Sal = 0.18	Not Stable
10:10		130	20.28	0.01	0.06	14.79	366	5.18	560.5	9.30	0.82	Sal = 0.18	Stable
												Parameters stable, GW sampled 10:15	

Low-Flow Field Log

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Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: R. Rizza

Date: 7-15-14

Well ID: MGPMW-05

Sample ID: CC-GW-MGPMW5-071514

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 6.83 (ft from MP)
Depth to Bottom: 17.9 (ft from MP)
Pump Intake Depth: 15 (ft from MP)
Well depth as installed: 25 (ft bgs)
Screen interval (range): 10-25 (ft bgs)

Purging start time: 14:07
Parameter stabalization (Y/N): No
Two hour time limit reached (Y/N): No
Sample time: see note
Total volume purged (gals): 1.25
Time at purge completion: 15:01 (well dry)

Equipment Vendor: US Environmental
Pump Type: Peri. pump

Turbidity Meter: HACH 2100Q
Serial #: 13120C029745

Multimeter: YSI 650 MDS
Serial #: 07F100585

Notes (Initial PID reading, SOP deviations, etc.): EJ returned to location morning of 7/16/14 to collected groundwater sample. DTW = 15.72. EJ collects samples for total metals and VOC analyses prior to well going dry.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
1410		134	7.95									Adjust pumping rate to stabilize drawdown, fill cell	
1415		134	8.47	0.52	0.52	16.39	716	6.20	90.3	0.81	1.41	Sal=0.34. Pump turned down as low as it can, cannot purge any slower.	
1420		134	9.67	1.20	1.72	16.35	583	6.20	100.1	0.66	2.36		
1425		134	10.68	1.01	2.73	16.14	498	6.10	103.6	0.62	3.51		Not Stable
1430		140	11.60	0.92	3.65	16.42	466	5.98	109	0.67	2.68		Not Stable
1435		140	13.04	1.44	5.09	16.37	565	6.16	104.8	0.61	2.9		Not Stable
1440		140	13.98	0.94	6.03	16.34	622	6.16	103.3	0.58	2.8	Sal=0.31	Not Stable
1445		140	14.88	0.90	6.93	16.11	731	6.19	101.1	0.55	2.34	Sal=0.36; WL dropped below tubing intake. Lowered t	Not Stable
1450		140	15.35	0.47	7.40	15.95	995	6.22	108.3	2.23	4.57	Sal=0.50	Not Stable
1455		140	16.38	1.03	8.43	15.03	985	6.24	101.5	0.69	3.48	Sal=0.48	Not Stable
1500		140	17.48	1.10	9.53	14.80	1009	6.27	98.2	0.69	No reading	Sal=0.51; well dry at 17.49' (tubing intake depth)	Not Stable

Low-Flow Field Log

Nobis
Engineering a Sustainable Future

Date: 7/15/2014

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Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Erik Johnson

Well ID: MW-01

Sample ID: CC-GW-MW01-071514X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 13.72 (ft from MP)
Depth to Bottom: 14.84 (ft from MP)
Pump Intake Depth: 14.83 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 14:35
Parameter stabalization (Y/N): N
Two hour time limit reached (Y/N): N
Sample time: 14:35
Total volume purged (gals): <1 gal
Time at purge completion: 14:41

Equipment Vendor: N/A
Pump Type: Peristaltic

Turbidity Meter: N/A
Serial #: N/A

Multimeter: N/A
Serial #: N/A

Notes (Initial PID reading, SOP deviations, etc.): Due to low water level in MW-01, sample is pulled immediately, no low-flow sampling attempt. Well is dry at 14:41, 1 L total Metals sample obtained. Sample is fairly clear of silt.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)

Low-Flow Field Log

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Date: 7/14/2014

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Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Ethan Cote

Well ID: MW-02

Sample ID: CC-GW-MW02-071414X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 7.38 (ft from MP)
Depth to Bottom: 14.7 (ft from MP)
Pump Intake Depth: 11 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 12:59
Parameter stabalization (Y/N): YES
Two hour time limit reached (Y/N): NO
Sample time: 14:10
Total volume purged (gals): ~6
Time at purge completion: 15:30

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100Q
Serial #: 13100C028843

Multimeter: YSI 600 XL
Serial #: 02B0141

Notes (Initial PID reading, SOP deviations, etc.): Breathing space: fid back= 4.2, fid= 4.2, voc=0, h2s=0 ppm. faint oily sheen observed on purge water in bucket, no odor.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
13:05		300	7.38									Adjust pumping rate to stabilize drawdown, fill cell	
13:10		300	7.45	0.07	0.07	12.65	356	5.56	-265.2	0.49	6.39	headspace = 0.1 ppm, Salinity = 0.17 ppt	
13:15		300	7.45	0.00	0.07	12.85	348	5.59	-255.6	0.40	2.84	sal = 0.17	
13:20		300	7.45	0.00	0.07	12.93	341	5.65	-240.5	0.34	2.02	sal = 0.16	Not Stable
13:25		300	7.45	0.00	0.07	12.65	334	5.65	-246.1	0.32	1.66	sal = 0.16	Not Stable
13:30		300	7.46	0.01	0.08	12.95	323	5.65	-229.5	0.30	1.07	sal = 0.16	Not Stable
13:35		300	7.46	0.00	0.08	12.81	315	5.59	-211.7	0.29	1.03	sal = 0.15	Not Stable
13:40		300	7.46	0.00	0.08	12.67	308	5.57	-197	0.27	1.03	sal = 0.15	Not Stable
13:45		300	7.46	0.00	0.08	12.69	302	5.57	-188.6	0.27	1.03	sal = 0.15	Not Stable
13:50		300	7.46	0.00	0.08	12.65	297	5.58	-185.8	0.26	1.12	sal = 0.14	Not Stable
13:55		300	7.46	0.00	0.08	13.04	295	5.64	-186.8	0.26	1.21	sal = 0.14	Stable
14:00		300	7.46	0.00	0.08	12.84	289	5.68	-188.2	0.25	1.41	sal = 0.14	Stable
14:05		300	7.46	0.00	0.08	12.82	287	5.69	-187.5	0.25	0.83	sal = 0.14	Stable

Low-Flow Field Log

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Date: 07/16/2014

Site Name: Creese and Cook
Job Number: 80095.03/0340
Sampler: Ethan Cote

Well ID: MW-03
Sample ID: CC-GW-MW03-071614X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 3.94 (ft from MP)
Depth to Bottom: 14.71 (ft from MP)
Pump Intake Depth: 11.5 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 9:26
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): Yes
Sample time: 11:50
Total volume purged (gals): 4.5
Time at purge completion: 12:30

Equipment Vendor: U.S. Environmental
Pump Type: Peristaltic
Turbidity Meter: Hach 2100Q
Serial #: 13070C026628
Multimeter: YSI 600 XL
Serial #: 02B0141

Notes (Initial PID reading, SOP deviations, etc.): Back PID: 4.5 ppm PID:4.8 ppm Voc = 12.0, H2S=0. 45minute break for lightning allowed pump to purge entire time in order to stabilize

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
9:26		120	3.94									Adjust pumping rate to stabilize drawdown, fill cell	
11:05		130	6.45	2.51	2.51	13.99	303	6.29	379.5	0.62	2.52	Sal = 0.15	
11:10		130	6.50	0.05	2.56	13.94	308	6.31	386	0.59	3.18	Sal = 0.15	
11:15		130	6.52	0.02	2.58	13.88	313	6.31	390.7	0.57	2.99	Sal = 0.15	Not Stable
11:20		130	6.56	0.04	2.62	14.01	316	6.32	395.7	0.55	5	Sal = 0.15	Not Stable
11:25		130	6.57	0.01	2.63	14.00	323	6.31	399.2	0.51	5.59	Sal = 0.15	Not Stable
11:30		130	6.58	0.01	2.64	13.99	325	6.31	405.1	0.49	1.66	Sal = 0.16	Not Stable
11:35		130	6.61	0.03	2.67	13.98	332	6.31	410.6	0.46	1.72	Sal = 0.16	Not Stable
11:40		130	6.62	0.01	2.68	13.94	337	6.31	417.2	0.45	1.86	Sal = 0.16	Not Stable
11:45		130	6.62	0.00	2.68	13.82	336	6.30	420.1	0.43	1.88	Sal = 0.16	Stable
11:50	Start Sample.	130	6.64	0.02	2.70								

Low-Flow Field Log

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Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Rich Rizza

Date: 7-14-14

Well ID: MW-04

Sample ID: CC-GW-MW04-041414X/D

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 6.61 (ft from MP)
Depth to Bottom: 14.35 (ft from MP)
Pump Intake Depth: 11 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3-13 (ft bgs)

Purging start time: 1340
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): Yes
Sample time: 1540
Total volume purged (gals): 2.5
Time at purge completion: 7/15/2014 16:30

Equipment Vendor: US Environmental
Pump Type: Peri. pump

Turbidity Meter: HACH 2100Q
Serial #: 13070C026628

Multimeter: YSI 650 MDS
Serial #: 07F100585

Notes (Initial PID reading, SOP deviations, etc.): Due to timing of sampling, amount of glassware to be collected, and inclement weather, well was sampled at two time periods. Organic analyses and hexavalent chromium were collected on the evening of 7/14/14, and metals and geochemistry parameters the afternoon of 7/15/14.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
1345		110	7.20									Adjust pumping rate to stabilize drawdown, fill cell	
1350		95	7.29	0.09	0.09	16.75	1437	5.11	143.4	1.00	14.1		
1355		90	7.53	0.24	0.33	17.22	1434	5.15	144.2	0.84	15.4	Purge water slightly cloudy; no odors observed	
1400		95	7.63	0.10	0.43	16.90	1434	5.18	143.6	0.76	17.6		Not Stable
1405		85	7.71	0.08	0.51	16.94	1435	5.23	140.6	0.72	21		Not Stable
1410		95	7.77	0.06	0.57	17.13	1443	5.27	136.7	0.70	21		Not Stable
1415		95	7.83	0.06	0.63	16,89	1448	5.33	132.1	0.67	19.1		Stable
1420		95	7.84	0.01	0.64	17.78	1429	5.39	126.2	0.66	15.8		Not Stable
1425		90	7.82	-0.02	0.62	16.81	1455	5.43	121.5	0.71	13.3	FID BACK=1.2; FID=1.3; H2S=0; PID=0	Not Stable
1445		110	7.27	-0.55	0.07	20.24	1459	5.47	117.9	1.11	12.7	Battery died, changed out w new one. Peri. pump cord	Not Stable
1450		95	7.60	0.33	0.40	16.33	1454	5.49	119.7	0.80	9.13	Sal=0.73	Not Stable
1455		95	7.77	0.17	0.57	16.25	1454	5.57	110.8	0.69	7.06	Sal=0.73	Not Stable
1500		90	7.81	0.04	0.61	16.29	1454	5.58	107.8	0.67	5.46	Sal=0.73	Not Stable
1505		90	7.91	0.10	0.71	15.94	1452	5.59	106.2	0.63	6.38	Sal=0.73	Not Stable
1510		100	7.98	0.07	0.78	15.94	1453	5.61	103.5	0.59	5.42	Sal=0.73	Not Stable
1515		100	8.04	0.06	0.84	15.78	1453	5.52	98.9	0.58	3.88	Sal=0.73	Not Stable
1520		100	8.08	0.04	0.88	15.74	1453	5.64	96.5	0.56	5.26	Sal=0.73	Not Stable
1525		100	8.11	0.03	0.91	15.79	1453	5.64	94.1	0.54	3.54	Sal=0.73	Not Stable
1530		100	8.14	0.03	0.94	15.79	1449	5.65	92.9	0.52	3.39	Sal=0.73	Not Stable
1535		100	8.17	0.03	0.97	15.74	1441	5.65	91.2	0.50	2.24	Sal=0.73	Stable

Low-Flow Field Log

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Site Name: Creese & Cook
Job Number: 80095.03
Sampler: R. Rizza

Date: 7-16-14

Well ID: MW-05

Sample ID: CC-GW-MW05-071614X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 5.85 (ft from MP)
Depth to Bottom: 15.07 (ft from MP)
Pump Intake Depth: 11 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3-13 (ft bgs)

Purging start time: 935
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): No
Sample time: 1135
Total volume purged (gals): 3
Time at purge completion: 1345

Equipment Vendor: US Environmental
Pump Type: Peri. pump

Turbidity Meter: HACH 2100Q
Serial #: 13120C029745

Multimeter: YSI 650 MDS
Serial #: 07F100585

Notes (Initial PID reading, SOP deviations, etc.): FID=0.6, VOC=0.0, H2S=0; Heavy rain & lightening, LFGWS postponed temporarily.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
0940		112	6.02									Adjust pumping rate to stabilize drawdown, fill cell	
0945		112	6.24	0.22	0.22	14.36	881	8.17	-219.9	0.76	8.43	Sal=0.43	
0950		112	6.27	0.03	0.25	14.25	864	8.37	-248.3	0.63	7.12	Sal=0.43	
0955		112	6.30	0.03	0.28	14.59	859	8.49	-260.4	0.50	6.45	Sal=0.42	Not Stable
1000		112	6.28	-0.02	0.26	14.85	857	8.39	-262.1	0.50	No reading	Sal=0.42	Not Stable
1105		107	6.18	-0.10	0.16	14.60	879	7.11	-144.6	0.63	3.94	Sal=0.43	Not Stable
1110		107	6.18	0.00	0.16	15.24	884	7.12	-160.5	0.56	1.44	Sal=0.44	Not Stable
1115		128	6.28	0.10	0.26	14.33	881	7.12	-171.8	0.48	1.31	Sal=0.44	Not Stable
1120		128	6.28	0.00	0.26	14.90	883	7.16	-178.3	0.44	1.86	Sal=0.44	Not Stable
1125		126	6.31	0.03	0.29	14.53	881	7.15	-178.3	0.40	2.02	Sal=0.44	Not Stable
1130		126	6.35	0.04	0.33	14.58	879	7.15	-177.7	0.38	1.71	Sal=0.44	Stable

Low-Flow Field Log

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Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Josh Stewart

Date: 7/14/2014

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Well ID: MW-06

Sample ID: CC-GW-MW06-071414X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 7.09 (ft from MP)
Depth to Bottom: 14.96 (ft from MP)
Pump Intake Depth: ~11 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 13:35
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 15:00
Total volume purged (gals): 4 gal
Time at purge completion: 15:45

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100 Q
Serial #: 13120C029745

Multimeter: YSI 600XL
Serial #: 01G0514AA

Notes (Initial PID reading, SOP deviations, etc.): PID = 0.0 FID = 0.3

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
13:35		NM	7.09									Adjust pumping rate to stabilize drawdown, fill cell	
13:40		160	7.35	0.26	0.26							Adjust pumping rate to stabilize drawdown, fill cell	
13:45		130	7.41	0.06	0.32							Adjust pumping rate to stabilize drawdown, fill cell	
13:50		130	7.42	0.01	0.33							Fill cell	
13:55		130	7.46	0.04	0.37	18.84	3919	6.20	167	1.07	1.29	Sal 2.10 Can not Lower pump Rate	Stable
14:00		130	7.47	0.01	0.38	18.64	4035	6.22	166.5	0.93	1.22	Sal 2.17	Not Stable
14:05		130	7.48	0.01	0.39	18.80	4179	6.23	165	0.84	1.16	Sal 2.25	Not Stable
14:10		130	7.49	0.01	0.40	18.73	4226	6.23	164.8	0.83	1.07	Sal 2.26	Not Stable
14:15		130	7.49	0.00	0.40	18.68	4312	6.23	164.8	0.79	1.01	Sal 2.29	Not Stable
14:20		130	7.49	0.00	0.40	18.70	4384	6.25	164.1	0.73	1.08	Sal 2.35	Not Stable
14:25		130	7.50	0.01	0.41	18.45	4445	6.26	163.4	0.70	1.02	Sal 2.38	Not Stable
14:30		130	7.50	0.00	0.41	18.50	4459	6.27	162.6	0.68	1.1	Sal 2.39	Stable
14:35		130	7.51	0.01	0.42	18.39	4466	6.30	160.3	0.64	1.06	Sal 2.40	Stable
14:40		130	7.51	0.00	0.42	18.54	4511	6.32	158.2	0.85	1.17	Sal 2.43	Not Stable
14:45		130	7.51	0.00	0.42	18.57	4524	6.33	155.4	1.05	1.22	Sal 2.43	Not Stable
14:50		130	7.51	0.00	0.42	18.48	4517	6.33	154	1.06	1. 20	Sal 2.44	Not Stable
14:55		130	7.52	0.01	0.43	18.52	4556	6.33	153.2	1.04	1.18	Sal 2.44	Stable
15:00		130										Collect Sample	

Low-Flow Field Log

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Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Erik Johnson

Date: 7/15/2014

Page: 1

Well ID: MW-07

Sample ID: N/A

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 15.92 (ft from MP)
Depth to Bottom: 18.06 (ft from MP)
Pump Intake Depth: 18.05 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 15:25
Parameter stabalization (Y/N): N
Two hour time limit reached (Y/N): N
Sample time: N/A
Total volume purged (gals): 0
Time at purge completion: 15:25

Equipment Vendor: N/A
Pump Type: Peristaltic

Turbidity Meter: N/A
Serial #: N/A

Multimeter: N/A
Serial #: N/A

Notes (Initial PID reading, SOP deviations, etc.): Due to low water level in MW-07, sample is pulled immediately, no low-flow sampling attempt. Well is dry at 15:25, only 50 ml of groundwater expelled at the surface. EJ makes multiple attempts to pull additional groundwater; however no GW yield for sample.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)

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Low-Flow Field Log

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Ethan Cote

Date: 7/16/14

Well ID: MW-08

Sample ID: CC-GW-MW08-071614X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 2.17 (ft from MP)
Depth to Bottom: 14.5 (ft from MP)
Pump Intake Depth: 11.5 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 13:05
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 14:45
Total volume purged (gals): 9
Time at purge completion: 15:30

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100 Q
Serial #: 13070C026628

Multimeter: YSI 600 XL
Serial #: 02B0141AF

Notes (Initial PID reading, SOP deviations, etc.):

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
13:10		340	2.17									Adjust pumping rate to stabilize drawdown, fill cell	
13:15		340	2.17	0.00	0.00	20.39	1714	6.81	117.1	0.48	6.44	Clear purge, no odor or sheen	
13:20		340	2.18	0.01	0.01	22.34	1739	6.81	156.8	0.60	2.56	Sal = 0.88	
13:25		340	2.19	0.01	0.02	23.34	1681	6.78	186.8	1.19	1.6	Sal = 0.85	Not Stable
13:30		340	2.18	-0.01	0.01	23.75	1630	6.74	213	1.42	1.36	Sal = 0.82	Not Stable
13:35		340	2.19	0.01	0.02	24.04	1604	6.71	236.8	1.44	1.3	Sal = 0.81	Not Stable
13:40		340	2.19	0.00	0.02	24.24	1887	6.69	259.1	1.44	1.18	Sal = 0.80	Not Stable
13:45		340	2.20	0.01	0.03	24.38	1578	6.68	277.3	1.42	1.12	Sal = 0.79	Not Stable
13:50		340	2.20	0.00	0.03	24.45	1572	6.67	293.3	1.40	1.2	Sal = 0.79	Not Stable
13:55		340	2.20	0.00	0.03	24.57	1569	6.67	305.1	1.39	1.14	Sal = 0.79	Not Stable
14:00		340	2.20	0.00	0.03	24.60	1566	6.66	318.5	1.38	1.26	Sal = 0.79	Not Stable
14:05		340	2.20	0.00	0.03	24.66	1564	6.65	328.3	1.38	1.89	Sal = 0.79	Not Stable
14:10		340	2.2	0.00	0.03	24.67	1565	6.65	340.2	1.35	1.44	Sal = 0.79	Not Stable
14:15		340	2.20	0.00	0.03	24.71	1564	6.64	354.4	1.33	1.28	Sal = 0.79	Not Stable
14:20		340	2.20	0.00	0.03	24.72	1566	6.64	362.1	1.32	1	Sal = 0.79	Not Stable
14:25		340	2.20	0.00	0.03	24.73	1567	6.64	370.1	1.30	1.13	Sal = 0.79	Not Stable
14:30		340	2.20	0.00	0.03	24.78	1567	6.63	378.2	1.32	1.2 3	Sal = 0.79	Not Stable
14:35		340	2.20	0.00	0.03	24.78	1568	6.63	380.9	1.29	0.89	Sal = 0.79	Not Stable
14:40		340	2.20	0.00	0.03	24.77	1569	6.63	382.5	1.29	0.94	Sal = 0.79	Stable

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Low-Flow Field Log

Date: 7-15-14

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Rich Rizza

Well ID: MW-09
Sample ID: CC-GW-MW09-071514

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 7.56 (ft from MP)
Depth to Bottom: 18.14 (ft from MP)
Pump Intake Depth: 11 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 8:55
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): No
Sample time: 10:55
Total volume purged (gals): 4
Time at purge completion: 12:12

Equipment Vendor: US Environmental
Pump Type: Peri. pump

Turbidity Meter: HACH 2100Q
Serial #: 13120C029745

Multimeter: YSI 650 MDS
Serial #: 07F100585

Notes (Initial PID reading, SOP deviations, etc.):

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
0855		140	7.97									Adjust pumping rate to stabilize drawdown, fill cell	
0900		155	8.23	0.26	0.26	14.45	2956	6.50	65.7	3.66	1.19	Sal=1.55	
0905		134	8.47	0.24	0.50	14.44	2979	6.54	32.5	3.26	0.87	Sal=1.56	
0910		140	8.50	0.03	0.53	14.58	2967	6.55	28.6	3.04	1.08	Sal=1.55; Purge water clear, no odors observed	Not Stable
0915		140	8.57	0.07	0.60	14.40	2995	6.56	19.7	2.74	0.74	Sal=1.56	Not Stable
0920		134	8.63	0.06	0.66	14.24	2970	6.57	6.9	2.38	0.71	Sal=1.54	Not Stable
0925		118	8.60	-0.03	0.63	14.79	2916	6.62	-27.9	1.96	1.44	Sal=1.52; pump turned down as low as it will go, cann	Not Stable
0930		118	8.58	-0.02	0.61	14.95	2874	6.65	-58.8	1.80	1.03	Sal=1.51	Not Stable
0935		140	8.50	-0.08	0.53	15.87	2840	6.68	-83.8	1.63	2.57	Sal=1.47; switched batteries, first battery died. Pump	Not Stable
0940		120	8.53	0.03	0.56	15.09	2784	6.70	-94.1	1.56	1.75	Sal=1.45	Not Stable
0945		124	8.54	0.01	0.57	15.37	2708	6.74	-120.2	1.43	1.16	Sal=1.42	Not Stable
0950		124	8.59	0.05	0.62	14.99	2734	6.72	-124.3	1.45	1.34	Sal=1.41	Not Stable
0955		134	8.60	0.01	0.63	14.95	2675	6.75	-140.9	1.36	1.36	Sal=1.39	Not Stable
1000		144	8.63	0.03	0.66	15.11	2623	6.77	-154.3	1.31	1.54	Sal=1.36	Not Stable
1005		132	8.64	0.01	0.67	14.99	2494	6.81	-169.6	1.25	3.27	Sal=1.28	Not Stable
1010		132	8.67	0.03	0.70	14.78	2547	6.80	-168.8	1.19	3.6	Sal=1.31	Not Stable
1015		140	8.68	0.01	0.71	14.74	2427	6.87	-197.5	1.11	0.45	Sal=1.24	Not Stable
1020		140	8.70	0.02	0.73	14.56	2320	6.92	-215.3	1.05	1.63	Sal=1.22	Not Stable
1025		144	8.70	0.00	0.73	14.54	2372	6.90	-220.4	0.98	3.57	Sal=1.20	Not Stable
1030		136	8.71	0.01	0.74	14.46	2249	6.94	-228.3	0.94	3	Sal=1.18	Not Stable
1035		140	8.71	0.00	0.74	14.30	2255	6.96	-236.6	0.90	1.9	Sal=1.16	Not Stable
1040		140	8.71	0.00	0.74	14.69	2194	6.98	-246.4	0.86	3.25	Sal=1.14	Not Stable
1045		140	8.71	0.00	0.74	14.28	2153	7.01	-250.7	0.83	0.84	Sal=1.13	Not Stable
1050		140	8.71	0.00	0.74	14.54	2172	7.01	-253.2	0.79	3.6	Sal=1.12	Stable

Low-Flow Field Log

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Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: N/A

Date: 7/14/2014

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Well ID: MW-10

Sample ID: N/A

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: DRY (ft from MP)
Depth to Bottom: 14.83 (ft from MP)
Pump Intake Depth: N/A (ft from MP)
Well depth as installed: 15' (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: N/A
Parameter stabalization (Y/N): N/A
Two hour time limit reached (Y/N): N/A
Sample time: N/A
Total volume purged (gals): N/A
Time at purge completion: N/A

Equipment Vendor: N/A
Pump Type: N/A

Turbidity Meter: N/A
Serial #: N/A

Multimeter: N/A
Serial #: N/A

Notes (Initial PID reading, SOP deviations, etc.): Monitoring well MW-10 dry, no sample collected.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)

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Low-Flow Field Log

Site Name: Creese & Cook
Job Number: 80095.03
Sampler: E. Cote

Date: 7/17/14
Page:

Well ID: TT-01
Sample ID: CC-GW-TT01-071714X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 9.53 (ft from MP)
Depth to Bottom: 12.53 (ft from MP)
Pump Intake Depth: 11.5 (ft from MP)
Well depth as installed: 12.53 (ft bgs)
Screen interval (range): Unk. (ft bgs)

Purging start time: 9:35
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): Y
Sample time: 11:35
Total volume purged (gals): 4
Time at purge completion: 12:35

Equipment Vendor: U.S. Environmental
Pump Type: Peristaltic

Turbidity Meter: Hach 2100 Q
Serial #: 11090C012300

Multimeter: YSI 600 XL
Serial #: 08B101374

Notes (Initial PID reading, SOP deviations, etc.): Fid: Back: 0.1, Reading: 0.3 Water is a silty tan color with a sheen

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
9:55		120	9.74									Adjust pumping rate to stabilize drawdown, fill cell	
10:00		110	9.74	0.00	0.00	16.58	6951	6.50	-11.2	0.39	5.83	Sal = 3.83	
10:05		115	9.80	0.06	0.06	16.17	6944	6.51	-10.3	0.31	3.66	Sal = 3.82	
10:10		120	9.81	0.01	0.07	16.22	6920	6.51	-14	29.00	2.91	Sal = 3.82	Not Stable
10:15		120	9.81	0.00	0.07	16.65	6926	6.51	-15.1	0.28	3.6	Sal = 3.83	Not Stable
10:20		120	9.90	0.09	0.16	16.34	6962	6.50	-16.4	0.25	16.7	Sal = 3.83	Not Stable
10:25		120	9.95	0.05	0.21	16.01	6923	6.52	-27.8	0.22	10.7	Sal = 3.83	Not Stable
10:30		120	9.95	0.00	0.21	16.11	6942	6.53	-27.7	0.28	8.35	Sal = 3.83	Not Stable
10:35		120	10.03	0.08	0.29	16.03	6971	6.55	-34.4	0.30	7.34	Sal = 3.84	Not Stable
10:40		120	10.07	0.04	0.33	16.27	6991	6.57	-40.6	0.33	11.5	Sal = 3.85	Not Stable
10:45		120	9.98	-0.09	0.24	16.47	6942	6.55	-32.8	0.31	5.66	Sal = 3.83	Not Stable
10:50		120	9.95	-0.03	0.21	16.36	6959	6.54	-32.8	0.28	5.09	Sal = 3.83	Not Stable
10:55		120	9.90	-0.05	0.16	16.89	6913	6.53	-30.8	. 28	2.86	Sal = 3.83	Not Stable
11:00		120	9.94	0.04	0.20	16.32	6869	6.50	-34.8	0.24	2.83	Sal = 3.80	Not Stable
11:05		120	10.05	0.11	0.31	16.13	6956	6.54	-32.2	0.32	17.9	Sal = 3.84	Not Stable
11:10		120	10.20	0.15	0.46	16.03	7006	6.58	-45.4	0.38	30.3	Sal = 3.87	Not Stable
11:15		120	9.97	-0.23	0.23	16.18	6965	6.57	-41.3	0.39	9.6	Sal = 3.84	Not Stable
11:20		120	9.87	-0.10	0.13	16.80	6930	6.57	-38.6	0.36	4.4	Sal = 3.82	Not Stable
11:25		120	9.84	-0.03	0.10	16.95	6868	6.54	-33	0.31	2.36	Sal = 3.80	Not Stable
11:30		120	9.83	-0.01	0.09	16.82	6864	6.53	-30	0.27	2.2	Sal = 3.79	Stable

Low-Flow Field Log

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Site Name: Creese & Cook
Job Number: 80095.03
Sampler: R. Rizza

Date: 7-17-14

Well ID: TT-02

Sample ID: CC-GW-TT01-071714X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 9 (ft from MP)
Depth to Bottom: 15.45 (ft from MP)
Pump Intake Depth: 14.5 (ft from MP)
Well depth as installed: 13' (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 957
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): No
Sample time: 1140
Total volume purged (gals): 2.7
Time at purge completion: 1234

Equipment Vendor: US Environmental
Pump Type: Peri. pump

Turbidity Meter: HACH 2100Q
Serial #: 13070C026628

Multimeter: YSI 650 MDS
Serial #: 01L0440AD

Notes (Initial PID reading, SOP deviations, etc.):

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
1000		104	9.31									Adjust pumping rate to stabilize drawdown, fill cell	
1005		120	9.37	0.06	0.06	15.29	6306	6.67	-218.8	0.56	27	Sal=3.40; Purge water dark gray, organic odor observed	
1010		118	9.34	-0.03	0.03	15.26	7001	6.73	-229.1	0.41	17.4		
1015		104	9.31	-0.03	0.00	15.33	7562	6.83	-240.7	0.36	13	Sal=4.25	Not Stable
1020		104	9.33	0.02	0.02	15.32	7808	6.88	-247.4	0.36	11.9	Sal=4.38	Not Stable
1025		104	9.33	0.00	0.02	15.07	7958	6.88	-249.7	0.32	8.39	Sal=4.44	Not Stable
1030		104	9.33	0.00	0.02	15.07	8032	6.88	-237.5	0.31	14.6	Sal=4.48; FID Back =6.3, FID high reading = 10.3	Not Stable
1035		104	9.33	0.00	0.02	14.96	8053	6.89	-262.8	0.28	12.1	Sal=4.49	Not Stable
1040		104	9.33	0.00	0.02	15.00	8019	6.92	-267.6	0.24	6.1	Sal=4.48	Not Stable
1045		124	9.33	0.00	0.02	14.95	8065	6.91	-273.1	0.24	20.4	Sal=4.49	Not Stable
1050		124	9.33	0.00	0.02	15.15	8020	6.89	-269	0.24	10.8	Sal=4.47	Not Stable
1055		124	9.33	0.00	0.02	14.94	8092	6.78	-278.7	0.23	8.95	Sal=4.51	Not Stable
1100		124	9.33	0.00	0.02	15.05	8061	6.77	-282	0.23	10.6	Sal=4.50	Not Stable
1105		124	9.33	0.00	0.02	14.97	8058	6.78	-281.6	0.23	10.8	Sal=4.49	Not Stable
1110		124	9.33	0.00	0.02	14.98	8078	6.77	-272.8	0.22	7.26	Sal=4.51	Not Stable
1115		124	9.33	0.00	0.02	14.87	8100	6.75	-282.8	0.22	3.67	Sal=4.52	Not Stable
1120		124	9.33	0.00	0.02	15.00	8092	6.77	-282.8	0.22	6.72	Sal=4.51	Not Stable
1125		124	9.33	0.00	0.02	15.01	8091	6.76	-283.9	0.21	3.51	Sal=4.51	Not Stable
1130		124	9.33	0.00	0.02	15.06	8075	6.74	-286.8	0.22	2.17	Sal=4.51	Not Stable
1135		124	9.33	0.00	0.02	15.00	8066	6.73	-287.3	0.22	4.24	Sal=4.50	Stable

Low-Flow Field Log

Nobis
Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.03/0340
Sampler: Ayan Majmudar

Date: 7/17/2014

Page: 1

Well ID: TT-06

Sample ID: CC-GW-TT06-071714X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 8.08 (ft from MP)
Depth to Bottom: 10.49 (ft from MP)
Pump Intake Depth: 10.49 (ft from MP)
Well depth as installed: unk. (ft bgs)
Screen interval (range): unk. (ft bgs)

Purging start time: 9:35
Parameter stabalization (Y/N): N
Two hour time limit reached (Y/N): N
Sample time: 9:36
Total volume purged (gals): <1 gal
Time at purge completion: 10:30

Equipment Vendor: N/A
Pump Type: Peristaltic

Turbidity Meter: N/A
Serial #: N/A

Multimeter: N/A
Serial #: N/A

Notes (Initial PID reading, SOP deviations, etc.): Due to low water level in TT-06, sample is pulled immediately, no low-flow sampling attempt. Glassware for all CLP analyses is filled.

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese and Cook
Job Number: 80095.03 0340
Sampler: Rich Rizza/Evan Rudomen

Date: 10-10.14

Well ID: MW-01
Sample ID: CC-GW-MW01-101614X
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 8.2 (ft from MP)
Depth to Bottom: 14.84 (ft from MP)
Pump Intake Depth: 14.84 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 9:35
Parameter stabalization (Y/N): N (ran dry)
Two hour time limit reached (Y/N): N
Sample time: 0905
Total volume purged (gals): 1
Time at purge completion: 10:08:00 AM (ran dry)

Equipment Vendor: U.S.Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH
Serial #: 13070C026628

Multimeter: YSI 556 MPS
Serial #: 09D100185

Notes (Initial PID reading, SOP deviations, etc.): Well allowed to recharge for almost an entire week prior to collecting groundwater sample. Well still did not produce sufficient water to collect enough sample volume for all parameters. ER return to well 10/17/14 @ 10:00 DTW- 13.13', collected 1L amber (full) cloudy, collected an additional 1L amber (15 % full, cloudy) before well ran dry @ 10:20.

Lab Analyses: VOCs, Total Metals, SVOCs, PAHs, PCBs.
QC Info (Duplicate, MS/MSD): N/A

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
9:35			8.20										
9:40		140	9.24	1.04	1.04	12.65	21532	6.09	14	0.59	13.6	Salinity = 12.93, Estuarian/musty odor	
9:45		140	10.08	0.84	1.88	12.71	19899	6.10	-45.9	0.57	7.67	Salinity=11.84,	
9:50		140	10.90	0.82	2.70	12.85	18740	6.11	-57.4	0.79	6	Salinity =11.12	Not Stable
9:55		185	11.95	1.05	3.75	12.99	16100	6.14	-53.1	0.77	4.54	Salinity = 9.38	Not Stable
10:00		185	12.90	0.95	4.70	13.15	15518	6.20	-48.6	0.95	6.65	Salinity = 9.14	Not Stable
10:05		185	14.08	1.18	5.88	12.84	17928	6.19	-48.2	1.39	6.47	Salinity = 10.68	Not Stable
10:08												Purge complete, ran dry	
10-16-14 / 0905			11.43									Samples collected	
0923			14.10									Well dry, stop collecting samples	
10-17-14 / 1000			13.13									Samples collected	
10:20			14.10									Well dry, stop collecting samples.	

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.03 0340
Sampler: Evan Rudomen

Date: 10_10_14

Well ID: MW-07
Sample ID: CC-GW-MW07-101614X
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 9.19 (ft from MP)
Depth to Bottom: 17.68 (ft from MP)
Pump Intake Depth: 15 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 10:30:00 AM (10/10/14)
Parameter stabalization (Y/N): N
Two hour time limit reached (Y/N): N
Sample time: 9:05 10/16/14
Total volume purged (gals): 2.5
Time at purge completion: 11:19

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100 Q
Serial #: 13070C026628

Multimeter: YSI 556 MPS
Serial #: 09D100185

Notes (Initial PID reading, SOP deviations, etc.): MW purged dry (10/10/14), allowed to recharge prior to sampling. Return to well 10/16/14 @ 9:00 to collect grab samples, initial DTW: 13.76, sampling at roughly 100 ml/min. 3 VOAs for VOCS, one 1L plastic w/ HNO3 for metals (total, unfiltered), 4 1L ambers for other analysis (2/3 full).

Lab Analyses: VOCs, SVOCs, PAHs, Pesticides, PCBs, Total Metals

QC Info (Duplicate, MS/MSD): N/A

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
10:30		155	9.19									No odor	
10:40		155	10.67	1.48	1.48	14.00	1260	7.07	-140.3	0.59	9.09	Salinity = 0.63, purge water has a dark hue, some cloudiness	
10:45		155	11.42	0.75	2.23	14.11	1086	7.10	-154.3	0.39	3.23	Salinity = .54	
10:50		155	12.19	0.77	3.00	14.23	1192	7.06	-141.2	0.47	4	Salinity = .59	Not Stable
10:55		155	12.87	0.68	3.68	14.34	1061	7.01	-126.4	0.68	2.89	Salinity = .53	Not Stable
11:00		220	13.81	0.94	4.62	14.27	1053	6.97	-112.6	1.09	3.67	Salinity = 0.52	Not Stable
11:05		220	14.81	1.00	5.62	14.47	1033	6.92	-101.4	1.17	2.87	Salinity = 0.51	Not Stable
11:10		220	15.69	0.88	6.50	14.33	990	7.01	-102.7	0.70	3.42	Salinity = 0.49	
11:15		220	16.90	1.21	7.71	14.05	1028	7.04	-102.9	0.97	3	Salinity = 0.51 trace sheen	
11:19												Dry	

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Low-Flow Field Log

Date: 10_10_14

Site Name: Creese & Cook
Job Number: 80095.03 0340
Sampler: Evan Rudomen

Well ID: RR- 2- MW
Sample ID: CC-GW-RR2MW-MMDDYYX
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 9.68 (ft from MP)
Depth to Bottom: 17.5 (ft from MP)
Pump Intake Depth: 15 (ft from MP)
Well depth as installed: 25 (ft bgs)
Screen interval (range): 10/25/2014 (ft bgs)

Purging start time: 11:50
Parameter stabalization (Y/N): N
Two hour time limit reached (Y/N): N
Sample time: 13:10 (10/16/14)
Total volume purged (gals): <1 gal
Time at purge completion: 12:11

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100 Q
Serial #: 13070C026628

Multimeter: YSI 556 MPS
Serial #: 09D100185

Notes (Initial PID reading, SOP deviations, etc.): MW purged dry (10/10/14) prior to obtaining GW sample. Return to Well to collect grab Samples 10/16/14 @ 13:05, initial DTW: 13.75', collecting samples at roughly 100 ml/min, 3 VOAs, 1L plastic for metals (total, unfiltered, bottle 75% filled to preserve matrix), one 1L amber filled
well ran dry @ 13:36, DTW: 16.81'

Lab Analyses: Total metals, VOCs, PAHs, SVOCS.
QC Info (Duplicate, MS/MSD): None

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
11:50													
11:55		220	11.81	11.81	11.81	16.15	890	6.35	53	0.34	4.53	Purge water appears clear, no odor detected	
12:00		220	13.36	1.55	13.36	16.59	600	6.19	59.6	0.33	2.3		
12:05		220	15.17	1.81	15.17	16.87	595	6.11	63	0.36	1.16		Not Stable
12:10		220	17.09	1.92	17.09	16.36	802	6.11	63.8	0.41	5.97		Not Stable
12:11												Well purged dry, to allow recharge.	

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Low-Flow Field Log

Site Name: Creese and Cook
Job Number: 80095.03/340
Sampler: ER/EJ/RR

Date: 10_10_14

Well ID: **TT-06**
Sample ID: CC-GW-TT06-101514X
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 8.34 (ft from MP)
Depth to Bottom: 10.49 (ft from MP)
Pump Intake Depth: 10.49 (ft from MP)
Well depth as installed: unk (ft bgs)
Screen interval (range): unk (ft bgs)

Purging start time: 12:57
Parameter stabalization (Y/N): N
Two hour time limit reached (Y/N): N
Sample time: 10:00:00 AM (10/15/14)
Total volume purged (gals): <0.5
Time at purge completion: 13:02:00 AM

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: N/A
Serial #:

Multimeter: YSI 556 MPS
Serial #: 09D100185

Notes (Initial PID reading, SOP deviations, etc.): Insufficient recharge to obtain all sample volume for requested analyses. EJ to return to location to attempt to grab 1L ambers Thurs 10/16/14. ER returns to well 10/17/14 @ 8:45, Initial DTW-8.98', collected sample into 1L amber 20% full before running dry.

Lab Analyses: VOCs, Metals (filtered, Dissolved), SVOCs, PAHs, PCBs
QC Info (Duplicate, MS/MSD): N/A

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
12:57		200											
1:02		200				14.97	9481	6.00	148.7	5.80		Salinity = 5.28, ran dry	

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese and Cook
Job Number: 80095.03 0340
Sampler: Evan Rudomen

Date: 10/13/2014

Well ID: MW-05
Sample ID: CC-GW-MW05-101314X
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 6.89 (ft from MP)
Depth to Bottom: 15.07 (ft from MP)
Pump Intake Depth: 12 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 12:51
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): No
Sample time: 13:30
Total volume purged (gals): 0.75
Time at purge completion: 13:27

Equipment Vendor: U.S. Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100Q
Serial #: 13100C02843

Multimeter: YSI 556 MPS
Serial #: 09D100185

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, SVOCs, PCBs, Pesticides, Hexavalent Chromium, Metals (Total)
QC Info (Duplicate, MS/MSD): None

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
12:51		110	6.89										
12:57		110	7.40	0.51	0.51	14.86	626	7.52	67.7	0.76	1.95	Salinity = .31	
13:02		110	7.55	0.15	0.66	15.04	613	7.28	28.8	0.71	0.67	Salinity = .3	
13:07		110	7.56	0.01	0.67	15.27	600	7.18	8.4	0.56	1.53	Salinity = .29	Not Stable
13:12		110	7.49	-0.07	0.60	15.48	596	7.14	3.3	0.56	1.78	Salinity = .29	Not Stable
13:17		100	7.48	-0.01	0.59	15.34	591	7.11	0.2	0.61	2.41	Salinity = .29	Stable
13:22		100	7.51	0.03	0.62	15.34	588	7.08	-1.3	0.59	2.57	Salinity = .29	Stable
13:27		100	7.56	0.05	0.67	15.30	586	7.06	-2.8	0.61	2.51	Salinity = .29	Stable

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Low-Flow Field Log

Date: 10/13/2014

Site Name: Creese and Cook
Job Number: 80095.00
Sampler: David Gorhan

Well ID: MW-09
Sample ID: CC-GW-MW09-101314X

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 8.03 (ft from MP)
Depth to Bottom: 18.15 (ft from MP)
Pump Intake Depth: 12.00 (ft from MP)
Well depth as installed: 15.00 (ft bgs)
Screen interval (range): 3-13 (ft bgs)

Purging start time: 10:15
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): No
Sample time: 10:55
Total volume purged (gals): 1
Time at purge completion: 12:00

Equipment Vendor: US Environmental
Pump Type: Peristaltic

Turbidity Meter: Hach 2100Q
Serial #: 13100C028843

Multimeter: YSI 556
Serial #: 09D100185

Notes (Initial PID reading, SOP deviations, etc.):

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
10:25		100	8.46									Adjust pumping rate to stabilize drawdown, fill cell	
10:30		100	8.47	0.01	0.01	13.86	4824	7.59	68.4	4.82	1.14	Low tide	
10:35		100	8.54	0.07	0.08	13.79	4698	6.53	84.8	4.32	1.58		
10:40		100	8.56	0.02	0.10	13.73	4683	6.39	87.5	4.26	2.09		Not Stable
10:45		100	8.56	0.00	0.10	13.76	4658	6.36	89.7	4.20	1.33		Not Stable
10:50		100	8.56	0.00	0.10	13.80	4623	6.31	92.9	4.05	0.98		Stable
10:55													
11:00													
11:05													
11:10													
11:15													
11:20													
11:25													
11:30													

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.00
Sampler: R. Rizza

Date: 10-14-14

Well ID: MW-02
Sample ID: R. Rizza
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 8.88 (ft from MP)
Depth to Bottom: 14.71 (ft from MP)
Pump Intake Depth: 12 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3-13 (ft bgs)

Purging start time: 0958
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 1033
Total volume purged (gals): 2
Time at purge completion: 1112

Equipment Vendor: US Env.
Pump Type: Peri. Pump

Turbidity Meter: Hach 2100Q
Serial #: 13110C028942

Multimeter: YSI 556 MPS
Serial #: 11K100939

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, SVOCs, PCBs, Pesticides, D/F
QC Info (Duplicate, MS/MSD): N/A

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
0958													
1003		182	8.91	8.91	8.91								
1010		208	8.93	0.02	8.93								
1015		232	8.95	0.02	8.95	13.62	519	6.34	-69.9	0.72	2.98		Stable
1020		232	8.95	0.00	8.95	13.53	482	6.32	-73.5	0.40	2.55		Not Stable
1025		232	8.95	0.00	8.95	13.45	473	6.38	-73.4	0.32	1.92		Not Stable
1030		232	8.95	0.00	8.95	13.31	471	6.39	-72.5	0.26	1.15	Purge water slightly cloudy; no odor observed.	Stable

SOP No: SA-003 Draft Revision: 4

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese and Cook
Job Number: 80095.03 0340
Sampler: Evan Rudomen

Date: 10/14/2014

Well ID: MW-03
Sample ID: CC-GW-MW03-101414X
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 4.85 (ft from MP)
Depth to Bottom: 14.71 (ft from MP)
Pump Intake Depth: 13 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 13:20
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): No
Sample time: 14:30
Total volume purged (gals): 1
Time at purge completion: 14:25

Equipment Vendor: U.S. Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100Q
Serial #: 13100C02843

Multimeter: YSI 556 MPS
Serial #: 09F101281

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, SVOCs, Pesticides, PCBs, Hexavalent Chromium, Metals (Total), D/F
QC Info (Duplicate, MS/MSD): None

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
13:20		110	4.85										
13:25		110	5.54	0.69	0.69	15.98	450	5.47	102.5	1.10	7.7	Salinity = .22	
13:30		110	5.92	0.38	1.07	15.96	431	5.52	96.4	0.85	7.24	Salinity = .21	
13:35		110	6.20	0.28	1.35	15.68	407	5.60	93.6	1.33	5.35	Salinity = .20	Not Stable
13:40		110	6.39	0.19	1.54	15.65	384	5.63	88.4	1.14	3.84	Salinity = .18	Not Stable
13:45		110	6.59	0.20	1.74	15.61	372	5.70	78.9	0.75	2.98	Salinity = .18	Not Stable
13:50		110	6.74	0.15	1.89	15.72	370	5.83	67.5	0.68	2.3	Salinity = .18	Not Stable
13:55		100	6.71	-0.03	1.86	16.13	374	5.95	56.1	0.60	1.82	Salinity = .18	Not Stsble
14:00		100	6.74	0.03	1.89	16.13	392	6.07	46.6	0.64	2.23	Salinity = .19	Not Stable
14:05		110	6.82	0.08	1.97	15.76	405	6.07	44.8	0.61	2.64	Salinity = .20	Not Stable
14:10		110	6.91	0.09	2.06	15.73	407	6.02	44.9	0.70	1.91	Salinity = .20	Not Stsble
14:15		110	7.05	0.31	2.20	15.60	409	6.05	39.6	0.60	1.53	Salinity = .20	Not Stable
14:20		110	7.15	0.10	2.30	15.66	411	6.07	37.2	0.58	2.26	Salinity = .20	Not Stable
14:25		110	7.31	0.16	2.46	15.44	413	6.10	35	0.57	1.84	Salinity = .20	Stable
14:30	Start sampling	110										Salinity =	
												Salinity =	

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.00
Sampler: R. Rizza

Date: 10-14-14

Well ID: MW-06
Sample ID: CC-GW-MW06-101414X
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 8.37 (ft from MP)
Depth to Bottom: 14.97 (ft from MP)
Pump Intake Depth: 12 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3-13 (ft bgs)

Purging start time: 1222
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 1312
Total volume purged (gals): 1.5
Time at purge completion: 1557

Equipment Vendor: US Env.
Pump Type: Peri. Pump

Turbidity Meter: Hach 2100Q
Serial #: 13110C028942

Multimeter: YSI 556 MPS
Serial #: 11K100939

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses: VOCs, SVOCs, PCBs, Pesticides, Hex Chrome, Metal (Total)
QC Info (Duplicate, MS/MSD): MS/MSD

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
1222			8.37										
1226		124	8.69	0.32	0.32								
1230		124	8.73	0.04	0.36								
1235		112	8.73	0.00	0.36							Adjusting flow rate. Purging at slowest rate will allow.	
1240		136	8.80	0.07	0.43	20.74	5386	6.31	118.3	0.86	0.94		Stable
1245		100	8.85	0.05	0.48	20.73	5409	6.33	127.6	0.68	0.65		Not Stable
1250		100	8.78	-0.07	0.41	20.89	5419	6.34	135.9	0.58	0.31		Not Stable
1255		120	8.79			20.88	5396	6.34	135.9	0.54	0.54	Purge water clear, no odors observed.	
1300		120	8.82			21.26	5391	6.34	133.2	0.52	0.29		
1305		120	8.83			20.94	5421	6.35	133.6	0.54	0.3		
1310		120	8.83			20.88	5416	6.35	136.6	0.53	0.35		

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese and Cook
Job Number: 80095.03 0340
Sampler: Evan Rudomen

Date: 10/15/14

Well ID: TT-01
Sample ID: CC-GW-TT01-101514X/D
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 9.87 (ft from MP)
Depth to Bottom: 12.53 (ft from MP)
Pump Intake Depth: 11.5-12.5 (ft from MP)
Well depth as installed: 12.53 (ft bgs)
Screen interval (range): NA (ft bgs)

Purging start time: 9:51
Parameter stabalization (Y/N): No
Two hour time limit reached (Y/N): Yes
Sample time: 12:05 & 12:10 (DUP)
Total volume purged (gals): 2.5
Time at purge completion: 11:51

Equipment Vendor: U.S. Environmental
Pump Type: Peristaltic

idity Meter: HACH 2100Q
Serial #: 13100C02843

Multimeter: YSI 556 MPS
Serial #: 09F101281

Notes (Initial PID reading, SOP deviations, etc.): metals filtered, VOAs have some very small bubbles, pump intake depth lowered twice during sampling to accomodote drawdown, likely influenced by tide

Lab Analyses: VOCs, SVOCs, PCBs, Pesticides, Hex Chrome, Dissolved metals
QC Info (Duplicate, MS/MSD): Duplicate

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
9:51			9.87									Fill cell, stabilize purge rate	
10:00		110	11.20	1.33	1.33	16.14	7169	6.28	-55.6	1.16	49.2	Salinity = 3.5	
10:05		110	11.21	0.01	1.34	16.06	7167	6.29	-57.4	0.71	19.8	Salinity = 3.96	
10:10		110	11.33	0.12	1.46	16.06	7164	6.31	-59.5	0.67	21.3	Salinity = 3.96	Not Stable
10:15		90	11.42	0.09	1.55	16.10	7177	6.32	-49.6	1.01	9.23	Salinity = 3.97	Not Stable
10:20		104	11.51	0.09	1.64	16.06	7171	6.33	-51	0.75	11.3	Salinity = 3.97	Not Stable
10:25		104	11.54	0.03	1.67	16.14	7184	6.33	-40.8	1.33	16.3	Salinity = 3.97, bubbles produced in well, lowered tubing	Not Stable
10:30		98	11.57	0.03	1.70	16.10	7169	6.34	-47.1	0.84	5.36	Salinity = 3.96	Not Stable
10:35		96	11.51	-0.06	1.64	16.19	7152	6.34	-47.9	0.86	6.37	Salinity = 3.96	Not Stable
10:40		96	11.63	0.12	1.76	15.99	7145	6.34	-48.8	0.86	4.38	Salinity = 3.95	Not Stable
10:45		96	11.64	0.01	1.77	16.08	7154	6.35	-47.2	0.89	3.6	Salinity = 3.96	Not Srable
10:50		96	11.74	0.20	1.87	16.16	7151	6.35	-46.3	0.92	4.39	Salinity = 3.97	Not Stable
11:10		95	11.30	-0.44	1.43	16.37	7145	6.37	-35.4	0.64	5.16	Salinity = 3.96 , had to swap batteries	Not Stable
11:15		95	11.29	-0.01	1.42	16.22	7151	6.36	-45.5	0.52	3.49	Salinity = 3.96	Not Stable
11:20		95	11.36	0.07	1.49	16.33	7145	6.37	-57.4	0.42	2.79	Salinity = 3.95	Not Stable
11:25		95	11.48	0.12	1.61	16.18	7150	6.38	-59.4	0.42	3.11	Salinity = 3.95	Not Stable
11:30		95	11.75	0.27	1.88	16.50	7131	6.38	-56.3	0.63	4.04	Salinity = 3.94	Not Stable

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name:	Creese and Cook
Job Number:	80095.03 0340
Sampler:	Evan Rudomen
Date:	10/15/14
Page:	2 of 2
Well ID:	TT-01
Sample ID:	CC-GW-TT01-101514X/D
Reviewed By:	EHJ

Measurement Reference Point (MP):	PVC (PVC, Casing, Ground, etc.)	Purging start time:	9:51
Depth to GW:	9.87 (ft from MP)	Parameter stabalization (Y/N):	No
Depth to Bottom:	12.53 (ft from MP)	Two hour time limit reached (Y/N):	Yes
Pump Intake Depth:	11.5-12.5 (ft from MP)	Sample time:	12:05 & 12:10 (DUP)
Well depth as installed:	12.53 (ft bgs)	Total volume purged (gals):	2.5
Screen interval (range):	NA (ft bgs)	Time at purge completion:	11:51

Equipment Vendor:	U.S. Environmental	Turbidity Meter:	HACH 2100Q	Multimeter:	YSI 556 MPS
Pump Type:	Peristaltic	Serial #:	13100C02843	Serial #:	09F101281

Notes (Initial PID reading, SOP deviations, etc.):	metals filtered, VOAs have some very small bubbles, pump intake depth lowered twice during sampling to accomodote drawdown, likely influenced by tide	Lab Analyses:	VOCs, SVOCs, PCBs, Pesticides, Hex Chrome, Dissolved metals
		QC Info (Duplicate, MS/MSD)	Duplicate

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
11:35		95	11.77	0.02	1.90	16.40	7153	6.39	-52	0.76	4.37	Salinity = 3.96	Not Stable
11:40		108	12.06	0.29	2.19	16.23	7159	6.39	-48.9	0.82	8.85	Salinity = 3.96, lowered tubing due to bubbles being produc	Not Stable
11:48		100	12.24	0.18	2.37	16.54	7148	6.40	-32.2	1.43	75.9	Salinity = 3.95 high DO likeky dye to bubbles	Not Stable
11:51		100	12.36	0.12	2.49	16.57	7146	6.39	-32.9	1.29	119	Salinity = 3.96, 2 hr. Limit reached	Not Stable
12:05												Begin Sampling, dup collected @12:10,	

SOP No: SA-003 Draft Revision: 4

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese & Cook
Job Number: 80095.00
Sampler: R. Rizza

Date: 10-15-14

Well ID: TT-02
Sample ID:
Reviewed By:

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 9.38 (ft from MP)
Depth to Bottom: 15.45 (ft from MP)
Pump Intake Depth: 12 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3-13 (ft bgs)

Purging start time: 1112
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 1330
Total volume purged (gals): 3
Time at purge completion: 1452

Equipment Vendor: US Env
Pump Type: Peri. Pump

Turbidity Meter: Hach 2100Q
Serial #: 13110C028942

Multimeter: YSI 556 MPS
Serial #: 11K100939

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses:
QC Info (Duplicate, MS/MSD)

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
1112			9.38										
1114		140	9.93	0.55	0.55							Adjusting flow rate	
1116		100	9.78	-0.15	0.40								
1123		116	9.77	-0.01	0.39								
1140		116	9.84	0.07	0.46	17.79	14016	7.06	-196	0.23	4.96		Stable
1145		132	9.84	0.00	0.46	17.53	14053	7.05	-195.3	0.18	5.84		Not Stable
1150		132	9.88	0.04	0.50	17.45	14076	7.05	-200.5	0.18	6.67		Not Stable
1155		126	9.85			17.30	14114	7.06	-204.6	0.18	4.16	Purge water gray. No odor observed.	
1200		126	9.85			17.46	14107	7.06	-204.8	0.16	5.17		
1205		126	9.85			17.11	14113	7.08	-206.7	0.18	5.84		
1210		126	9.85			17.12	14128	7.08	-206.4	0.17	3.86		
1215		126	9.85	-0.03	0.47	17.01	14119	7.07	-208.8	0.17	3.36		Not Stable
1220		126	9.85	0.00	0.47	17.57	14105	7.04	-211.7	0.15	3.57		Not Stable
1225		126	9.85	0.00	0.47	17.89	14126	7.05	-210.6	0.14	1.94		Not Stable
1230		126	9.85	0.00	0.47	18.57	14119	7.06	-204.7	0.16	2.05	Stopped purging; battery died.	Not Stable
1310		104	9.75	-0.10	0.37	18.58	14106	7.10	-154.7	0.83	7.63	New battery; resume purging.	Not Stable
1315		116	9.79	0.04	0.41	17.67	14154	7.10	-174.3	0.36	3.04		Not Stable

Nobis
Engineering a Sustainable Future

Low-Flow Field Log

Site Name: Creese & Cook
Job Number: 80095
Sampler: R. Rizza

Date: 10-15-14

Well ID: TT-02
Sample ID: 0
Reviewed By: 0

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 9.38 (ft from MP)
Depth to Bottom: 15.45 (ft from MP)
Pump Intake Depth: 12 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3-13 (ft bgs)

Purging start time: 1112
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 1330
Total volume purged (gals): 3
Time at purge completion: 1452

Equipment Vendor: US Env
Pump Type: Peri. Pump

Turbidity Meter: Hach 2100Q
Serial #: 13110C028942

Multimeter: YSI 556 MPS
Serial #: 11K100939

Notes (Initial PID reading, SOP deviations, etc.): 0

Lab Analyses: 0
QC Info (Duplicate, MS/MSD): 0

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
1320		116	9.75	-0.04	0.37	17.68	14177	7.10	-183	0.34	2.68		Not Stable
1325		116	9.80	0.05	0.42	17.64	14177	7.08	-181.6	0.30	3.26		Not Stable
1330												Stable; sample collected	
1345												Battery slowly dying. Will likely not be able to fill all bottlewa	
1400												2nd battery died. Stop purging. 1400-1420 left to get anothe	
1420												Resume filling sample containers.	

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Low-Flow Field Log

Site Name: Creese & Cook
Job Number: 80095.00
Sampler: R. Rizza

Date: 10-16-14

Well ID: MW-04
Sample ID:
Reviewed By:

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 7.98 (ft from MP)
Depth to Bottom: 14.35 (ft from MP)
Pump Intake Depth: 12 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3/13/2014 (ft bgs)

Purging start time: 0950
Parameter stabalization (Y/N): Y
Two hour time limit reached (Y/N): N
Sample time: 1108
Total volume purged (gals): 2
Time at purge completion: 1153

Equipment Vendor: US Env
Pump Type: Peri. Pump

Turbidity Meter: Hach 2100Q
Serial #: 13110C028942

Multimeter: YSI 556MPS
Serial #: 11K100939

Notes (Initial PID reading, SOP deviations, etc.):

Lab Analyses:
QC Info (Duplicate, MS/MSD)

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
0950			7.98										
0955		164	8.55	0.57	0.57							Adjust pumping rate to stabilize drawdown	
0958		120	8.90	0.35	0.92								
1005		96	9.01	0.11	1.03							Purge water orange, no odors observed	
1020		90	9.25	0.24	1.27								
1030		90	9.30	0.05	1.32	17.36	1390	5.70	81.3	3.53	20.7		Stable
1035		80	9.27	-0.03	1.29	16.82	1221	5.15	108.3	0.98	18.5		Not Stable
1040		80	9.20	-0.07	1.22	17.01	1196	5.16	110.4	0.70	19.2		Not Stable
1045		108	9.35	0.15	1.37	16.74	1165	5.13	111.5	0.53	13.6	Pump will not run any slower w/o stalling	Not Stable
1050		108	9.45	0.10	1.47	16.68	1157	5.13	109.9	0.51	9.22		Not Stable
1055		102	9.50	0.05	1.52	16.65	1153	5.13	104.7	0.44	8.71		Not Stable
1100		102	9.57	0.07	1.59	16.71	1146	5.11	101.8	0.39	8.22		Not Stable
1105		102	9.57	0.00	1.59	16.75	1142	5.10	101	0.37	8.6	Sampled	Stable

Low-Flow Field Log

Nobis — Engineering a Sustainable Future

Site Name: Creese and Cook
Job Number: 80095.03 / 0340
Sampler: Evan Rudomen

Date: 10/16/14

Well ID: MW-08
Sample ID: CC-GW-MW08 -101614X
Reviewed By: EHJ

Measurement Reference Point (MP): PVC (PVC, Casing, Ground, etc.)
Depth to GW: 2.63 (ft from MP)
Depth to Bottom: 14.5 (ft from MP)
Pump Intake Depth: 11.5 (ft from MP)
Well depth as installed: 15 (ft bgs)
Screen interval (range): 3'-13' (ft bgs)

Purging start time: 10:20
Parameter stabalization (Y/N): Yes
Two hour time limit reached (Y/N): No
Sample time: 11:25
Total volume purged (gals): 4
Time at purge completion: 11:55

Equipment Vendor: U.S. Environmental
Pump Type: Peristaltic

Turbidity Meter: HACH 2100Q
Serial #: 13100C02843

Multimeter: YSI 556 MPS
Serial #: 09F101281

Notes (Initial PID reading, SOP deviations, etc.): Sheen on surface of purge water, 3 VOAs, one 1L plastic w/ HNO3, 4 unpreserved 1L ambers. Sampling complete at 11:55.

Lab Analyses: VOCs, SVOCs, PAHS, Pesticides, PCBs, Total Metals

QC Info (Duplicate, MS/MSD): None

Clock Time	Bladder Pump Discharge/ Refill	Purge Rate	Depth to Water	Draw down	Cum. Draw down	Temp ±3%	Spec. Cond. ±3%	pH ±0.1	ORP ±10	DO ±10% if >0.5 mg/L	Turbidity ±10% if >5 NTU	Comments/Gas Pressure/Observations	Stability Calculator (auto)
HHMM	sec./sec. or setting	ml/min	ft. below MP	ft.	ft.	oC	µS/cm		mV	mg/L	NTU		
10:20		218	2.63									Fill cell, set purge rate	
10:30		218	2.65	0.02	0.02	19.45	4058	6.47	-34.1	0.41	1.42	Salinity = 2.16	
10:35		218	2.65	0.00	0.02	19.71	4024	6.51	-36.2	0.80	2.59	Salinity = 2.11	
10:40		231	2.66	0.01	0.03	19.77	3147	6.68	4.8	1.42	1.93	Salinity = 1.60	Not Stable
10:45		260	2.66	0.00	0.03	19.77	2515	6.76	37.1	2.26	1.78	Salinity = 1.24	Not Stable
10:50		260	2.66	0.00	0.03	19.74	1413	6.75	32.8	0.79	2.29	Salinity = .69	Not Stable
10:55		260	2.66	0.00	0.03	19.73	1169	6.60	47.6	0.53	1.93	Salinity = .58	Not Stable
11:00		300	2.66	0.00	0.03	19.74	1105	6.54	57.8	0.46	1.68	Salinity = .55	Not Stable
11:05		300	2.65	-0.01	0.02	19.75	1065	6.51	64.4	0.40	1.78	Salinity = .53	Not Stable
11:10		300	2.63	-0.02	0.00	19.76	1051	6.48	68.2	0.36	1.13	Salinity = .52	Not Stable
11:15		300	2.63	0.00	0.00	19.77	1035	6.46	71.2	0.35	1.16	Salinity = .51	
11:20		300	2.63	-0.03	0.00	19.77	1029	6.45	74	0.40	1.41	Salinity = .51	Stable
11:25		300	2.63	0.00								Begin sampling	

SURFICIAL SOIL, SEDIMENT, AND SLUDGE SAMPLING LOG SHEET

Nobis
Engineering a Sustainable Future

SOP No: SA-007		Page: 1 of 1
Rev. Date: 2/16/10		Rev. #: 1
Log Sheet Prepared by: EHJ		
Log Sheet Approved by:		

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s - 60s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-10 MPH NE

SAMPLE INFORMATION

Matrix:	Sediment	Sample Type:	Grab (circle one)
QA Sample Type (circle):	N/A		*include sample source and lot number.
Sample ID:	SD 101	Sampled By:	Evan Rudomen
Sample Location:	SD 101		
Sample Date/Time:	10/14/2014 12:25	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)
SD 101 sampling location in middle of drainage Swale on northern end of 20 Cheever St parcel. Location is approx. 40 feet east of confluence mouth to Crane River. Sample: brown fine to coarse SAND & GRAVEL, little Silt, trace Organics, wet. No odor.

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals,
Container Requirements:	8260 kit, 3× 8 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

SURFICIAL SOIL, SEDIMENT, AND SLUDGE SAMPLING LOG SHEET

Nobis
Engineering a Sustainable Future

SOP No:	SA-007	Page:	1 of 1
Rev. Date:	2/16/10	Rev. #:	1

Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s - 60s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-10 MPH NE

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): N/A

*include sample source and lot number.

Sample ID:	SD 102	Sampled By:	Evan Rudomen
Sample Location:	SD 102		
Sample Date/Time:	10/14/14 12:10	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	black

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 102 sample collected from side/bottom of shallow pool on shelf. Shelf is minimal, with gradual (vegetated) slope down into mudflats. White foam observed on surface of this pooled area. Heavy organic odor. Sample: dark brown / black SILT and ORGANICs, little fine to med Sand, wet.

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals
Container Requirements:	8260 kit, 3× 8 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

SURFICIAL SOIL, SEDIMENT, AND SLUDGE SAMPLING LOG SHEET

Nobis
Engineering a Sustainable Future

SOP No:	SA-007	Page:	1 of 1
Rev. Date:	2/16/10	Rev. #:	1

Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0 - 10 MPH NE

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): N/A

*include sample source and lot number.

Sample ID: SD 103

Sampled By: Evan Rudomen

Sample Location: SD 103

Sample Date/Time: 10/14/14 11:30

Sampler Signature:

Method: Grab, homogenized in steel bowl

Depth: 0" -3"

Monitor Reading (ppmv): N/A

Color: brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD-103 sample collected at top of shelf , representative of surfjcial conditions for human trespassers/recreators. Sample west of 20CH08.
Sample: brown, SILT& ORGANICS, trace fine Sand, trace Clay, moist.

SAMPLE COLLECTION INFORMATION

Analysis: CLP Suite + Dioxin Furans, Hexavalent Chromium

Container Requirements: 8260B kit, 4x 8oz ambers, 2x 4oz ambers

Collected (circle): YES

Other:

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

SURFICIAL SOIL, SEDIMENT, AND SLUDGE SAMPLING LOG SHEET

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Engineering a Sustainable Future

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Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese and Cook	Temperature Range:	40s - 60s
Project Number/Task:	80095.03 340	Precipitation:	N/A
Personnel:	Evan Rudomen	Wind Speed/Direction:	0-10 MPH NE

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): N/A

*include sample source and lot number.

Sample ID: SD 104

Sampled By: Evan Rudomen

Sample Location: SD 104

Sample Date/Time: 10/14/14 11:10

Sampler Signature:

Method: Grab, Homogenized in steel bowl

Depth: 0"-3"

Monitor Reading (ppmv): N/A

Color: black

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 104 Sample collected at base of shelf face and mud flat. Black discharge observed at this location. Sample location also in region requested by USEPA. Sample: black SILT, little fine Sand, trace Clay, trace Organics, wet. Occasional decomposing odor noted.

SAMPLE COLLECTION INFORMATION

Analysis: VOCs, SVOCs, PAHs, SIMs, PCBs, Pesticides, Metals

Container Requirements: 8260 kit, 3× 8 oz ambers

Collected (circle): YES

Other:

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Approved by:		

SITE INFORMATION

Site Name:	Creese and Cook	Temperature Range:	40s - 60s
Project Number/Task:	80095.03 340	Precipitation:	N/A
Personnel:	Evan Rudomen	Wind Speed/Direction:	0-10 MPH NE

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): N/A

*include sample source and lot number.

Sample ID: SD 105

Sampled By: Evan Rudomen

Sample Location: SD 105

Sample Date/Time: 10/14/14 10:45

Sampler Signature:

Method: grab, homogenized in steel bowl

Depth: 0"-3"

Monitor Reading (ppmv):

Color: brown/dark brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 105 sample collected from top edge and face of shelf, due to potential human re creator or trespasser exposure. Subtle white foam seepage observed at base of shelf. Sample: brown / dark brown SILT and ORGANICS , little Clay, trace fine Sand, wet.

SAMPLE COLLECTION INFORMATION

Analysis: VOCs, SVOCs, PAHs, PCBs, Pesticides, Metals

Container Requirements: 8260 kit, 3× 8 oz ambers

Collected (circle): YES

Other:

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s - 60s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0 - 10 MPH NE

SAMPLE INFORMATION

Matrix:	Sediment	Sample Type:	Grab (circle one)
QA Sample Type (circle):	N/A		*include sample source and lot number.
Sample ID:	SD 106	Sampled By:	Evan Rudomen
Sample Location:	SD 106		
Sample Date/Time:	10/14/14 10:00	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	Dark brown/black

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 106 Sample collected within main seepage/discharge channel from cove produced by 20 Cheever St peninsula. Sample location surrounded by debris/trash/glass deposition, approx. 15' north of channel confluence w/ Crane River. Distinct color change observed after scraping back 0.5" of sediment, brown to black. Sample: Gray/black/brown SILT and fine to med SAND, little Organics, little fine Gravel.

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals
Container Requirements:	8260 kit, 3× 8 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0 -10 MPH

SAMPLE INFORMATION

Matrix:	Sediment	Sample Type:	Grab (circle one)
QA Sample Type (circle):	N/A		*include sample source and lot number.
Sample ID:	SD 107	Sampled By:	Evan Rudomen
Sample Location:	SD 107		
Sample Date/Time:	10/14/14 9:35	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	Dark brown / black

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 107 sample collected 3' down gradient of discharge pipe (located roughly 40' north of stream bridge). Sample location moved several feet down gradient to provide sufficient sampling matrix; quite rocky directly beneath pipe outfall. Sample: Dark brown / black SILT and ORGANICS, little fine Sand, little fine Gravel, little Clay, moist. Potential tannery related waste (leather scraps, photo) observed ~10 ft ESE on slope face.

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals, Hexavalent Chromium
Container Requirements:	8260 kit, 3× 8 oz ambers, 2x 4 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-10 E

SAMPLE INFORMATION

Matrix:	Sediment	Sample Type:	Grab (circle one)
QA Sample Type (circle):	N/A		*include sample source and lot number.
Sample ID:	SD 108	Sampled By:	Evan Rudomen
Sample Location:	SD 108		
Sample Date/Time:	10/14/14 9:15	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	brown / dark brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 108 sample located underneath bridge on northern side, shelf appears minimal and gradually slopes down into mudflats. Location selected based onproximity to formersteam bridge(where trespassers may come to explore), and potential tannery related waste (leather scraps) identified in slope face down from tracks on MBTA Row. Sample: Dark brown, Clayey SIL, some Organics, little fine to med Sand, moist. Trace to no seepage observed at this location, presumably due to lack of shelf.

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals
Container Requirements:	8260 kit, 3× 8 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-5 SW

SAMPLE INFORMATION

Matrix:	Sediment	Sample Type:	Grab (circle one)
QA Sample Type (circle):	N/A		*include sample source and lot number.
Sample ID:	SD 109	Sampled By:	Evan Rudomen
Sample Location:	SD 109		
Sample Date/Time:	10/13/14 11:45	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	Dark brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 109 sample collected on eastside of shelf , almost @ base of slope from MBTA Row. Potential tannery - related waste observed in slope (multiple leathers craps).

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals
Container Requirements:	8260 kit, 3× 8 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-5 SW

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): N/A

*include sample source and lot number.

Sample ID: SD 110

Sampled By: Evan Rudomen

Sample Location: SD 110

Sample Date/Time: 10/13/14 11:15

Sampler Signature:

Method: Grab, homogenized in steel bowl

Depth: 0"-3"

Monitor Reading (ppmv): N/A

Color: Grayish brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD-110 Sample collected at base of shelf face, strange white foam-like discharge observed on Shelf face (photo). Black sludge-like seepage also observed in the same location. Heavy estuarine odor on sampled material. Water seepage observed, however minimal. Sample: Grayish brown SILT, some Organics, little fine Sand, trace Clay, wet.

SAMPLE COLLECTION INFORMATION

Analysis: VOCS SVOCS PAHS Pesticides PCBs TAL Metals

Container Requirements: 8260 kit, 3× 8 oz ambers

Collected (circle): YES

Other:

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-5 mph SW

SAMPLE INFORMATION

Matrix:	Sediment	Sample Type:	Grab (circle one)
QA Sample Type (circle):	Field Duplicate		*include sample source and lot number.
Sample ID:	SD 111 / FD 01	Sampled By:	Evan Rudomen
Sample Location:	SD 111		
Sample Date/Time:	10/13/14 10:30 / 10:40	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 111 (FD) sample location obtained from top of shelf where vegetation is not covering exposed sediment. Location is also down gradient of MW-03 and appears to be the most likely location where people would access river bank from 33 Water Street / 35 Water Street. Furthermore, no potential tannery related waste observed on face or @ bottom of shelf. Concrete rubble / asphalt chunks (trace coal also lD'ed) observed along slope down from MW-03 location. Sample: brown SILT , some Organics , trace fine Gravel , moist to wet.

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals, Hexavalent chromium
Container Requirements:	2x8260 kit, 6× 8 oz ambers, 4x 4 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-5 mph SW

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): N/A

*include sample source and lot number.

Sample ID: SD 112

Sampled By: Evan Rudomen

Sample Location: SD 112

Sample Date/Time: 10/13/14 10:15

Sampler Signature:

Method: Grab, homogenized in steel bowl

Depth: 0"-3"

Monitor Reading (ppmv): N/A

Color: Dark brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

Sample collected on mudflat, roughly two feet out from base of the shelf. Potential tannery- related waste (leather scrap) observed in sediment at this location . No waste other than glass and brick/ concrete chunks observed on face of shelf. Similar to SD 113 location, reeds/ vegetation matted down on top of shelf, potentially tidally inundated. Minor seepage observed at this location as well.

SAMPLE COLLECTION INFORMATION

Analysis: VOCS SVOCS PAHS Pesticides PCBs TAL Metals

Container Requirements: 8260 kit, 3× 8 oz ambers

Collected (circle): YES

Other: None

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Sample location selected

Approval Signature: EHJ

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Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-5 mph SW

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): N/A

*include sample source and lot number.

Sample ID: SD 113

Sampled By: Evan Rudomen

Sample Location: SD 113

Sample Date/Time: 10/13/14 9:55

Sampler Signature:

Method: Grab, homogenized in steel bowl

Depth: 0"-3"

Monitor Reading (ppmv): N/A

Color: Dark brown / black

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

Sample collected from flat below shelf, potential tannery - related waste (brick, leather scrap) identified at this location. Minimal water seepage observed, however material is saturated. Estuarine odor, no sheen on standing water. Sample: dark brown/black fine to med SAND & SILT, little Organics, trace Clay, trace fine Gravel, wet. Shelf vegetation all matted down, tide may cover shelf here at high tide. Roughly 10' up gradient (ENE) large clump of matted / compact hair or root fibers .Very fibrous, cannot tell (see photo).

SAMPLE COLLECTION INFORMATION

Analysis: VOCS SVOCS PAHS Pesticides PCBs TAL Metals

Container Requirements: 8260 kit, 3× 8 oz ambers

Collected (circle): YES

Other: None

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

SURFICIAL SOIL, SEDIMENT, AND SLUDGE SAMPLING LOG SHEET

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Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s-60s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	0-5 mph Easterly

SAMPLE INFORMATION

Matrix:	Sediment	Sample Type:	Grab (circle one)
QA Sample Type (circle):	MS/MSD		*include sample source and lot number.
Sample ID:	SD 114	Sampled By:	Evan Rudomen
Sample Location:	SD 114		
Sample Date/Time:	10/13/14 09:10	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	0"-3"
Monitor Reading (ppmv):	N/A	Color:	Dark brown/black

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

SD 114 (MS/MSD) obtained from base of shelf. Location selected as spot where people would potentially explore or fish at low tide. Given human potential exposure and proximity to MBTA rail spur bridge, D/F and hex chrome also sampled. SAMPLE: Dark brown / black fine to med SAND, some Silt, little organics, trace fine Gravel.

SAMPLE COLLECTION INFORMATION

Analysis:	VOCs, SVOCs, PAHs, Pesticides, PCBs, TAL Metals, dioxin/furans, hexavalent chromium
Container Requirements:	3 × 8260 kit, 10 × 8 oz ambers, 6 × 4 oz ambers
Collected (circle):	YES
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature: EHJ

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Log Sheet Prepared by: EHJ

Log Sheet Approved by:

SITE INFORMATION

Site Name:	Creese & Cook	Temperature Range:	40s -60 s
Project Number/Task:	80095.03 0340	Precipitation:	N/A
Personnel:	Evan Rudomen, Erik Johnson	Wind Speed/Direction:	

SAMPLE INFORMATION

Matrix: Sediment

Sample Type: Grab (circle one)

QA Sample Type (circle): Trip Blank* Rinsate Blank* MS/MSD Field Duplicate *include sample source and lot number.

Sample ID:	SD 115	Sampled By:	Evan Rudo men
Sample Location:	SD 115		
Sample Date/Time:	10/13/14 8:50	Sampler Signature:	
Method:	Grab, homogenized in steel bowl	Depth:	O"-3"
Monitor Reading (ppmv):	N/A	Color:	brown

Sample Description: (sand, clay, muck, peat, dry moist, wet, etc.)

Sample obtained from bottom face of shelf , sample crew IDs notable seep at base of shelf . Sample: brown SILT& CLAY, some organics moist to wet. Material / discharge does not appear discolored or stained. Trace estuarine odor .

SAMPLE COLLECTION INFORMATION

Analysis:	VOCS SVOCS PAHS Pesticides PCBs TAL Metals,
Container Requirements:	8260 kit, 3× 8 oz ambers
Collected (circle):	YES / NO
Other:	

SAMPLE TRACKING INFORMATION

Analysis	Bottle Lot No.	CLP #	Other Sample #	Comments

SAMPLE DATA/COMMENTS/SKETCH

Approval Signature:

APPENDIX D

TIDE STUDY EVALUATION
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

1.0 INTRODUCTION

Nobis Engineering, Inc. (Nobis) performed a tidal study associated with the Crane River adjacent to the Creese & Cook Tannery (Former) Superfund Site (Site), in Danvers, Massachusetts. The evaluation was performed to support the on-going Remedial Investigation for the Site. This memorandum was prepared for the U.S. Environmental Protection Agency (EPA) under Task Order No. 0095-RI-CO-01HL of Response Action Contract No. EP-S1-06-03.

The tidal study was conducted as part of the hydrogeological assessment for the Site. The tidal study was intended to evaluate localized groundwater and surface water flow patterns and interactions, in order to support the conceptual site model (CSM) and streamline the groundwater sampling program.

2.0 FIELDWORK SUMMARY

The tidal study included the following tasks:

- Installation of a stilling well at the southern railroad bridge;
- Installation of transducers in five monitoring wells and the stilling well for a preliminary one-week tidal study;
- Selection of one monitoring well to continue water level monitoring for a one-month tidal study with the stilling well; and
- Transducer data evaluation.

The tidal study started with transducer and stilling well installation on 7/22/14. The transducers were programmed to start recording in two-minute intervals starting at 1500 on 7/22/14. On 7/23/14, the equipment was checked to ensure that the transducers were operational, and that the surface water gauges and stilling well were secured. Nobis also performed a high-tide synoptic water level round and confirmed that the high tide water level was below the top of the stilling well and surface water gauges. On the morning of 7/29/14, the transducers were removed from four of the monitoring wells. One well (MW-09) was selected for long-term

monitoring. The transducers in MW-09 and the stilling well were re-set to record in ten-minute intervals on 7/23/14, and were removed on 8/18/14.

3.0 INITIAL WELL SELECTION PROCESS

Monitoring wells were selected based on proximity to the Crane River and whether they appeared to produce sufficient water to potentially respond to tidal fluctuations. Five transducers were available for use, following the QAPP. The table below describes the wells selected for the one-week tidal study.

Well ID	Selected	Selection Explanation
MW-01	N	Extremely poor recovery during well development/sampling
MW-02	Y	On peninsula; sandy materials encountered
MW-03	Y	Adjacent to river; represents southern part of Site
MW-04	N	Poor recovery during sampling; not close to river
MW-05	Y	Centrally located; good producer during sampling
MW-06	Y	Good producer during sampling; high salinity (poss. saltwater impact)
MW-07	N	Insufficient water
MW-08	N	Away from river; appeared to be primarily parking lot drainage
MW-09	Y	Adjacent to river; represents central/northern part of Site
MW-10	N	Dry; across river from Site

4.0 ONE-WEEK TIDAL STUDY

Observations for the one-week tidal study are described by monitoring well below. Three charts were developed for each monitoring well: water level above the transducer compared to temperature; water level compared to specific conductivity, and water level compared to the stilling well (baseline).

4.1 Stilling Well

The stilling well was used as the baseline to determine tide height and salinity changes. Figure 1 compares the water levels and temperature recorded for the stilling well. Figure 2 compares the water levels and specific conductivity. Although the stilling well was included in the one-month tidal study, the first week of data is included for comparison with other monitoring wells included in the one-week study.

The lowest water levels at the stilling well were truncated because they fell below the transducer port. These low tide levels generally represent stream baseflow, with the tide level essentially below the bottom of the stream. The temperature recorded was influenced primarily by the air temperature: the peaks recorded for the stilling well all correspond to mid-late afternoon. Specific conductivity peaked at high tide and generally dropped off at lower water levels, indicating mixing of fresh water from the river. Near-zero specific conductivity values are associated with extremely low water levels and likely represent the point at which the water level was below the probe.

4.2 MW-02

MW-02 is located behind the monument at 35 Water Street. Figure 3 compares the water levels and temperature recorded for MW-02. Figure 4 compares the water levels and specific conductivity. Figure 5 compares water levels in MW-02 and the stilling well.

The water level ranged from approximately 7.3 to 7.1 feet above the transducer, and followed a generally downward trend, with a small peak associated with a major rainstorm the morning of 7/28/14. Specific conductivity ranged from 873 to 881, with a generally upward trend and a significant increase after the rainstorm. Temperature increased from 9.98°C to 10.17°C at a steady rate that appeared to indicate instrument drift rather than external influences. None of these variations appeared to be tidally influenced.

4.3 MW-03

MW-03 is located within the railroad tracks next to the southern end of the 33 Water Street parcel. Figure 6 compares the water levels and temperature recorded for MW-03, and Figure 7 compares the water levels and specific conductivity. Figure 8 compares water levels in MW-03 with those of the stilling well.

Water levels were tidally influenced, with peaks and troughs at approximately the same time as those of the stilling well. Several of the peaks and troughs were slightly before those of the stilling well, with a difference of up to 3 hours for the lower high tide in each cycle (the higher high tides were synchronized). However, the magnitude of variation was extremely small, with water levels ranging from 10.67 to 11.11 feet over the transducer during the week. The largest

difference in one tidal cycle (from high to low tide) was 0.28 feet on 7/28/14. Salinity changes were too small to draw conclusions from, and temperature increased from 10.49°C to 10.65°C at a steady rate indicative of instrument drift.

4.4 MW-05

MW-05 is located in the center of the 33 Water Street property, in the back lawn. Figure 9 compares the water levels and temperature recorded for MW-05, and Figure 10 compares the water levels and specific conductivity. Figure 11 compares water levels in MW-05 with those of the stilling well.

Water levels in the well varied very little over the week, from 9.24 to 9.04 feet above the transducer. However, the well did appear to have a very slight tidal influence, with very small peaks or plateaus in the overall downward trend associated with high tides. The difference in water levels is generally less than 0.05 feet for each tide cycle. The larger peak in water levels is after the mid-morning rainstorm on 7/28/14 and coincides with high tide. Specific conductivity varied from 908 to 919 µS/cm and did not appear to follow any trends associated with water levels, while temperature increased from 10.80°C to 10.95°C at a steady rate indicative of instrument drift.

4.5 MW-06

MW-05 is located in the northeast corner of the 33 Water Street property. Figure 12 compares the water levels and temperature recorded for MW-06, and Figure 13 compares the water levels and specific conductivity. Figure 14 compares water levels in MW-05 with those of the stilling well.

Water levels in MW-06 did not appear to have any tidal influence. The most significant change in water levels (from approximately 7.6 to 7.1 feet above the transducer) was after the heavy rainstorm on 7/28/14, suggesting that nearby pumping (such as from a sump pump) impacted the monitoring well. Temperature and specific conductivity varied slightly over the week (13.1°C to 14.1°C and 4282 µS/cm to 4398 µS/cm, respectively), but not in any pattern related to tides or water levels.

4.6 MW-09

MW-05 is located in the northern portion of 20 Cheever Street, close to the river. Figure 15 compares the water levels and temperature recorded for MW-06, and Figure 16 compares the water levels and specific conductivity. Figure 17 compares water levels in MW-05 with those of the stilling well.

Water levels in MW-09 followed the same timing and pattern as the stilling well, but with a slightly smaller amplitude. Water level differences were about 1.48 feet from the higher high tide to low tide, and about 1.16 feet from the lower high tide to low tide. Note that low tides did not vary as much as high tides. Specific conductivity and temperature followed the same overall increasing trend, which appeared to be the same instrument drift as noted for the other monitoring wells. However, specific conductivity appeared to increase slightly at peak high tide and then plateau during low tide, while temperature also had very small (approximately 0.01°C) but distinct peaks during the general upward temperature trend.

4.7 Conclusions

Figure 18 shows the elevations of all of the monitoring points in the study. The figure shows the relatively high amplitude of variation in the stilling well compared to the monitoring wells. Figure 19 shows the same elevations, but with the four wells with relatively high water levels (MW-02, MW-03, MW-05, and MW-06) on a separate axis to better show the differences in water levels. Both summary charts also show the approximate timing of the major rainfall event (0.79 inches from approximately 0800 to 1100 on 8/28/14) and the minor rainfall event (0.018 inches from approximately 1200 to 1500 on 8/27/14) during the week-long study, as recorded from Beverly Municipal Airport, which is located approximately three miles north of the Site. The table below summarizes the observations for all of the monitoring wells.

Well ID	Max. Δ WL (feet)	Tide Impact on WL	Max. Δ SpCond (µS/cm)	Tide Impact on SpCond	Max. Δ Temp (°C)	Tide Impact on Temp	Comments
SW	7.32	Y	43,000	Y	14.20	Y	Strongest temperature changes at low tide
MW-02	0.20	N	8	N	0.19	N	Small influence from rainstorm
MW-03	0.44	Y	NA	N	0.16	N	Small tidal influence - WL only
MW-05	0.20	Y	11	N	0.15	N	Very small tidal influence - WL only
MW-06	0.50	N	116	N	1.00	N	Strong impact of apparent post-rain pumping
MW-09	1.67	Y	312	Y	0.13	Y	strong tidal influence

MW-09 had the strongest tidal influence and was selected for the one-month tidal study.

5.0 ONE-MONTH TIDAL STUDY

Observations for the one-month tidal study are described by location below. The one-week (two-minute intervals) and one-month (ten-minute intervals) logs were combined for both the stilling well and MW-09 to provide complete coverage for the full month of the study. The discussion also includes the climate data for the month, including precipitation and temperatures.

5.1 Stilling Well

Figure 20 compares the water levels and temperature recorded for the stilling well, and Figure 21 compares the water levels and specific conductivity. The month-long tidal study shows strong tidal variations over a lunar cycle, with maximum water levels ranging from 5.50 feet to 9.11 feet above the transducer. Minimum water levels were attenuated by the position of the transducer: at extreme low tides, the seawater did not reach all the way to the stilling well location and the water levels recorded were either of the stream baseflow or below the level of the transducer. As with the week-long study, specific conductivity was highest at high tide. Specific conductivity values close to zero likely reflect periods when the probe was above water.

Ambient temperature was recorded by the weather station at Beverly Municipal Airport, 3 miles north of the Site, at approximate one-hour intervals. Figure 22 compares the temperature recorded by the transducer to that of the ambient air. The ambient air temperature followed

similar temperature trends but was often moderated slightly by the water, as shown by slightly lower “peaks” and “valleys” recorded by the transducer.

Rainfall may have an impact on water levels at the stilling well, but only during low tide, when most of the water appears to be from stream baseflow. The two major rain events during the month appear to have slightly increased the low-tide water level for the next tide cycle. On the morning of July 28, approximately 0.8 inches of rain were recorded, and the minimum water level increased from 0.28 feet to 0.78 feet above the transducer. Similarly, during August 13, approximately 1.7 inches of rain were recorded in a nine-hour interval, and the minimum water level increased from 0.43 feet to 0.76 feet above the transducer.

5.2 MW-09

Figure 23 compares the water levels and temperature recorded for the stilling well, and Figure 24 compares the water levels and specific conductivity. The water levels at MW-09 continued to show a clear influence from tidal fluctuations, although at a smaller scale than the stilling well. Temperature continued to drift upward from 10.1°C to 10.6°C, which appeared to be instrument drift rather than any impact from groundwater temperature changes. Specific conductivity also moved upward over time, with possible extremely minor tidal variations.

Rainfall also appeared to have an impact on water levels, with a noticeable, but slight increase in “low tide” water level from 10.28 to 10.46 feet above the transducer after the July 28 rainfall and an increase from 10.17 to 10.37 feet after the August 13 rainstorm. The “low tide” water levels appeared to slowly decline from these rain events after about a week. The “high tide” water level may have been slightly impacted as well, but the evidence for this is less clear.

5.3 MW-09/Stilling Well Comparison

Figure 25 compares the water levels at MW-09 and the stilling well on separate axes. The results show that MW-09 closely follows the tidal cycle, although the amplitude of the tidal cycle is smaller. Significant rainfall may have a more long-term impact on water levels in MW-09, whereas the stilling well is subject to flash-flood type events.

6.0 CONCLUSIONS AND RECOMMENDATIONS

Monitoring wells close to the Crane River may be influenced by tide fluctuations. The well with the strongest influence, MW-09, had a water level change over the study period of 2.17 feet, although the maximum water level may have been impacted by a significant rainstorm. MW-03 and MW-05 also had small tidal influences.

Given these variations, synoptic water level rounds should continue to be held at slack tide. In addition, MW-09, MW-05, and MW-03 should be sampled during slack tide (either high tide or low tide). MW-02 and MW-06 do not appear to be tidally influenced and can be sampled normally. MW-01 and MW-07 are extremely poor producers and therefore, not tidally influenced. MW-04 and MW-08 are located away from the river and are not considered to be likely tidally influenced, especially considering the relatively small fluctuations closer to the river. However, these wells and other wells not part of the tidal study may be sampled as if they were tidally influenced, at least for the next sampling round. If additional synoptic water levels suggest that they are not influenced by tides, then they may be sampled normally. Sampling strategies for all Site wells are summarized below.

Well ID	Slack tide only sampling	Revisit sampling method after next WL round
BH1/MW-01	Y	Y
BH12/MW-08	Y	Y
MGP-MW-05	Y	Y
MW-01	N	--
MW-02	N	
MW-03	Y	N
MW-04	N	
MW-05	Y	N
MW-06	N	
MW-07	N	
MW-08	N	
MW-09	Y	N
MW-10	Y	Y
TT-01	Y	Y
TT-02	Y	Y
TT-06	Y	Y

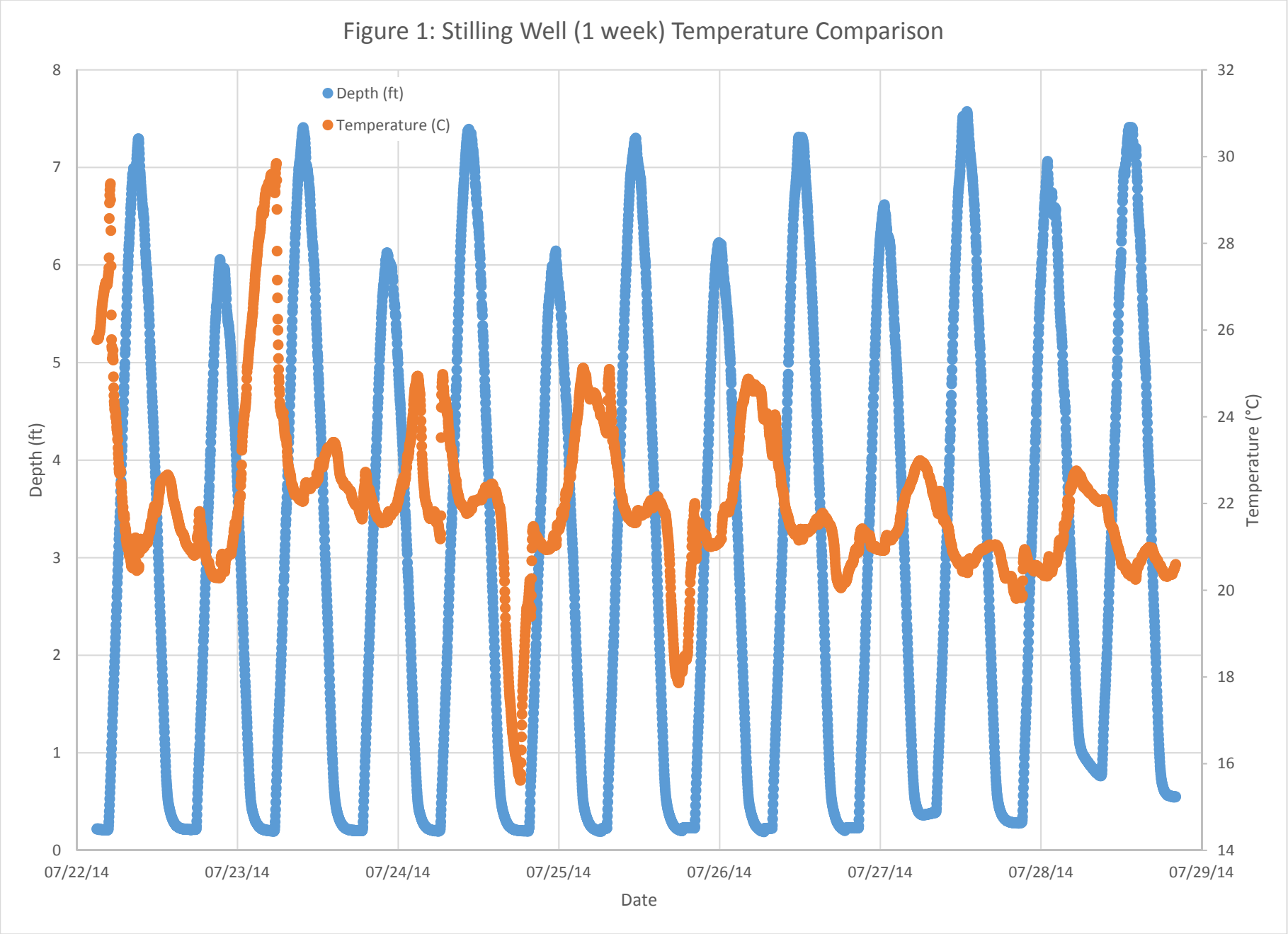
Figure 1: Stilling Well (1 week) Temperature Comparison
Depth (ft)
Temperature (C)
Depth (ft)
Temperature (°C)
Date
0
1
2
3
4
5
6
7
8
14
16
18
20
22
24
26
28
30
32
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14

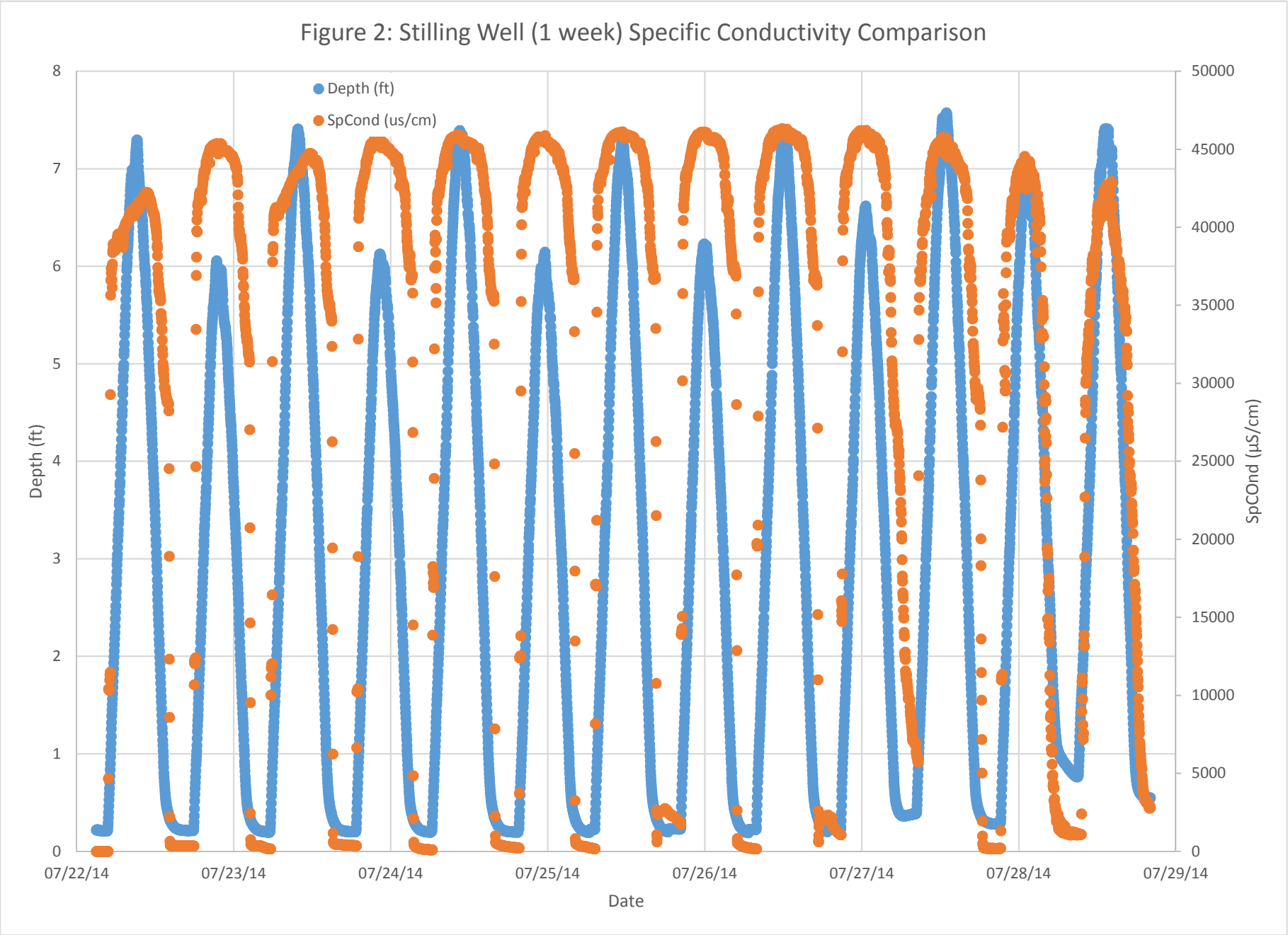
Figure 2: Stilling Well (1 week) Specific Conductivity Comparison
Depth (ft)
SpCond (us/cm)
Depth (ft)
SpCOnd (µS/cm)
Date
0
1
2
3
4
5
6
7
8
0
5000
10000
15000
20000
25000
30000
35000
40000
45000
50000
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14

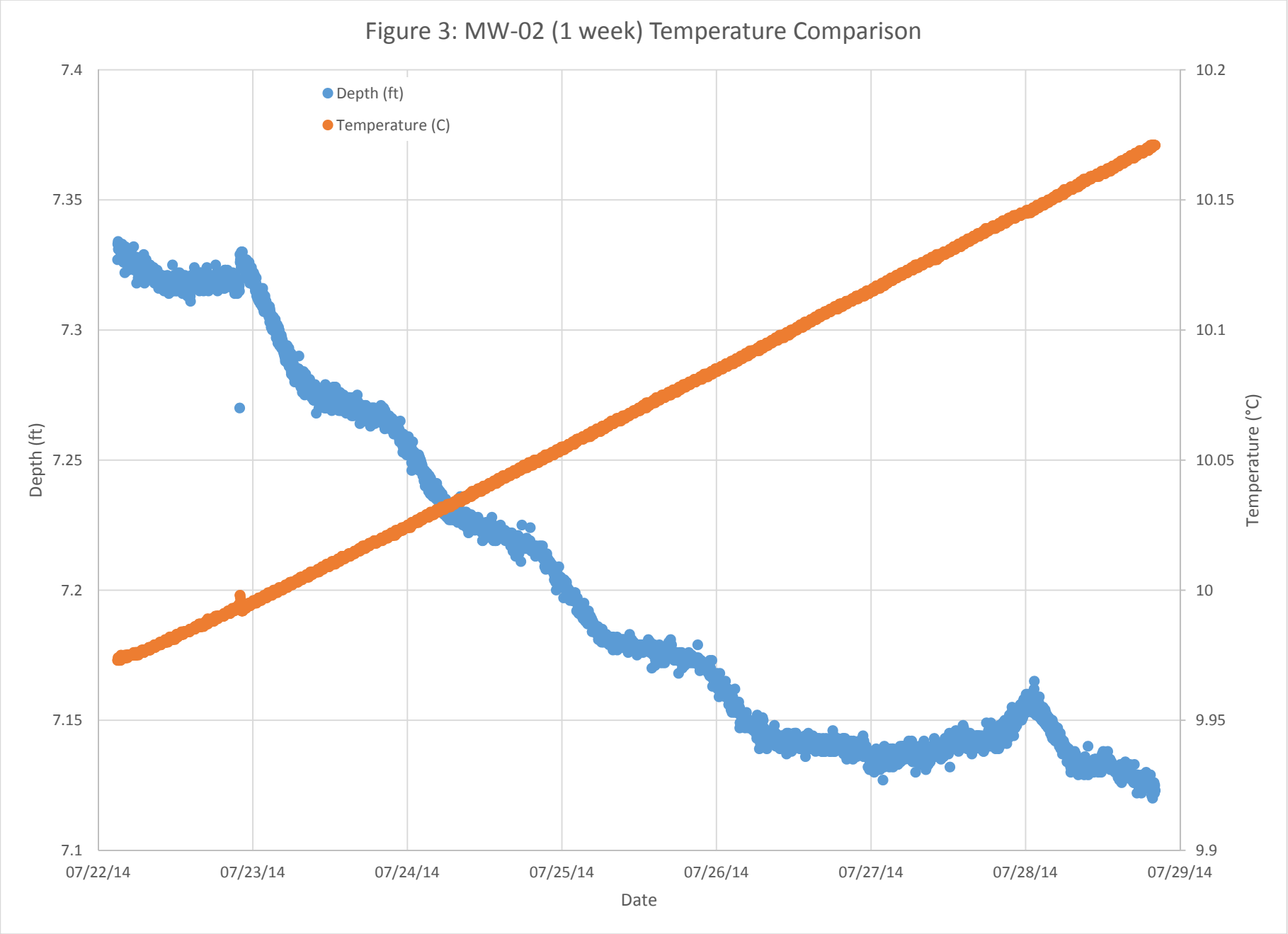
Figure 3: MW-02 (1 week) Temperature Comparison
Depth (ft)
Temperature (C)
7.4
7.35
7.3
7.25
7.2
7.15
7.1
10.2
10.15
10.1
10.05
10
9.95
9.9
Depth (ft)
Temperature (°C)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

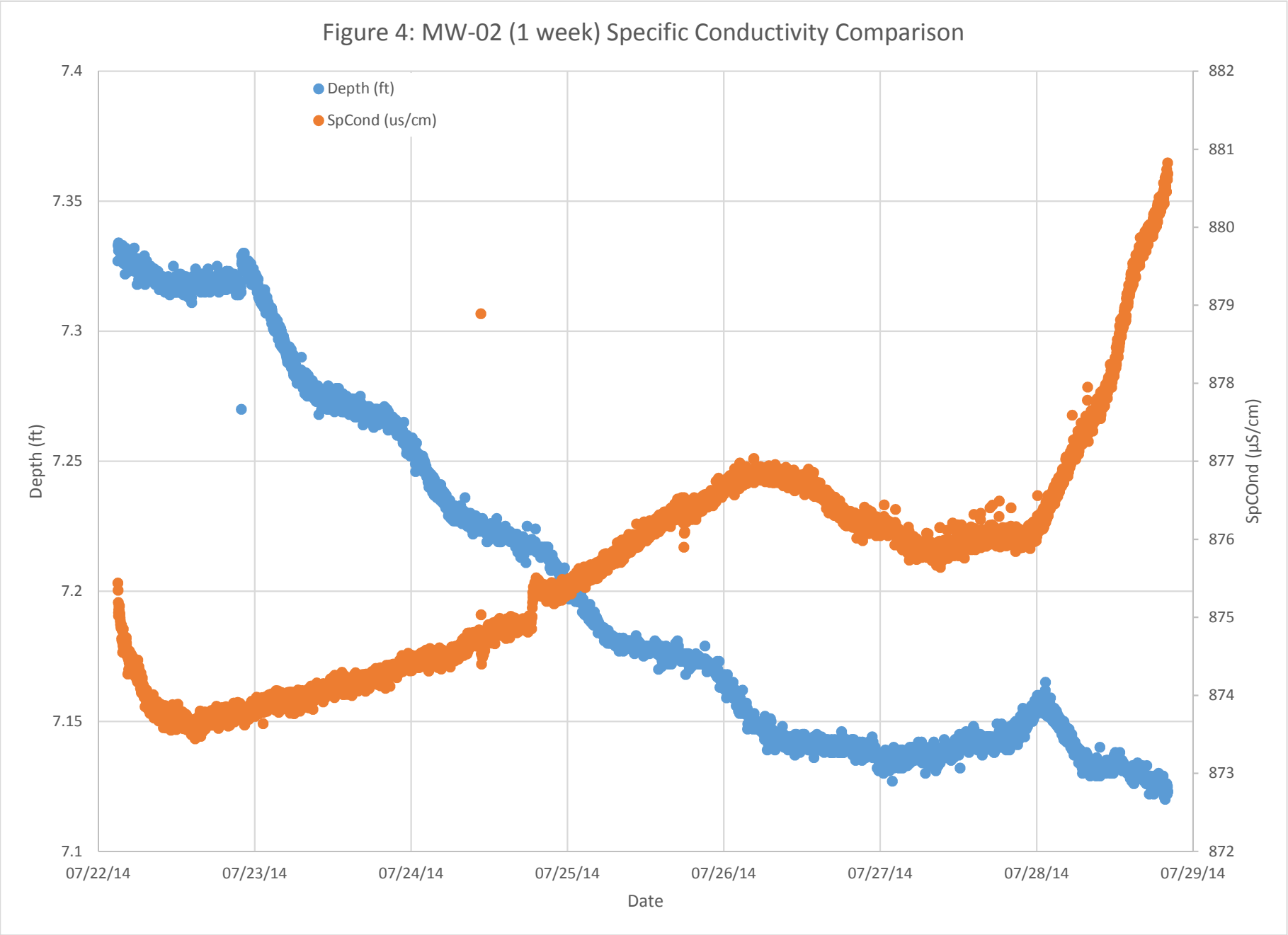
Figure 4: MW-02 (1 week) Specific Conductivity Comparison
Depth (ft)
SpCond (us/cm)
7.4
7.35
7.3
7.25
7.2
7.15
7.1
Depth (ft)
882
881
880
879
878
877
876
875
874
873
872
SpCOnd (µS/cm)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

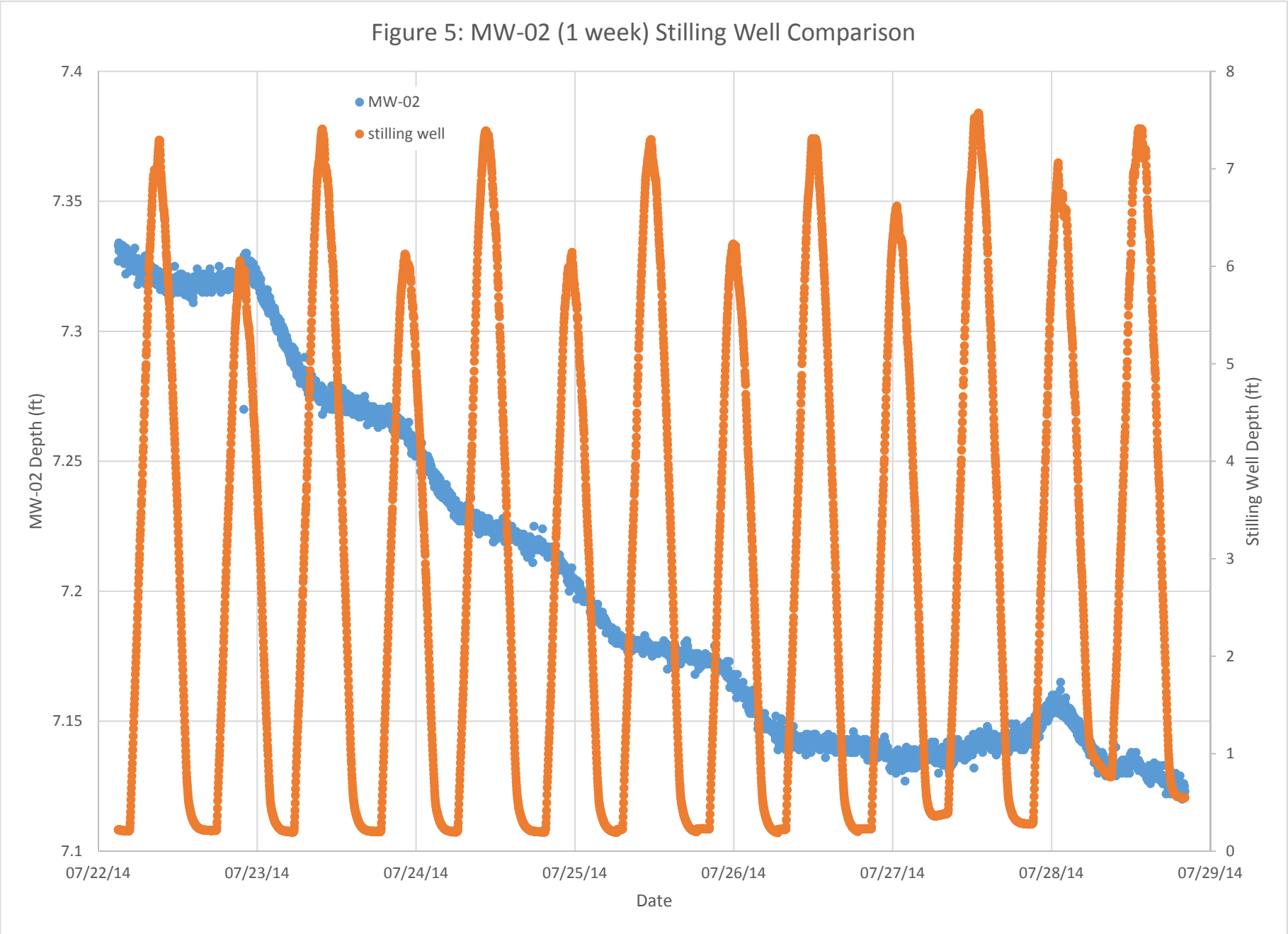
Figure 5: MW-02 (1 week) Stilling Well Comparison
MW-02
stilling well
MW-02 Depth (ft)
Stilling Well Depth (ft)
Date
7.4
7.35
7.3
7.25
7.2
7.15
7.1
8
7
6
5
4
3
2
1
0
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14

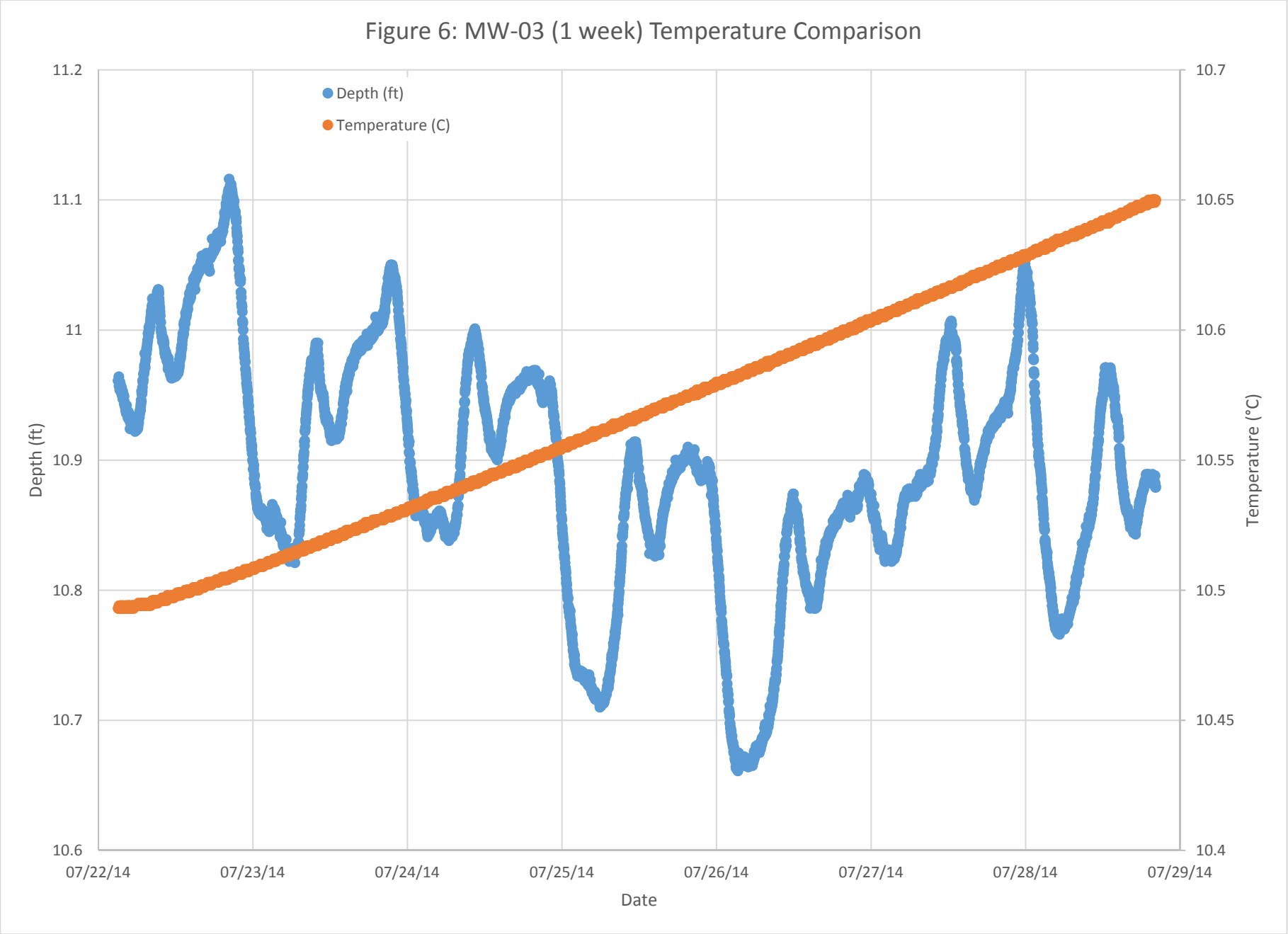
Figure 6: MW-03 (1 week) Temperature Comparison
Depth (ft)
Temperature (C)
11.2
11.1
11
10.9
10.8
10.7
10.6
10.7
10.65
10.6
10.55
10.5
10.45
10.4
Depth (ft)
Temperature (°C)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

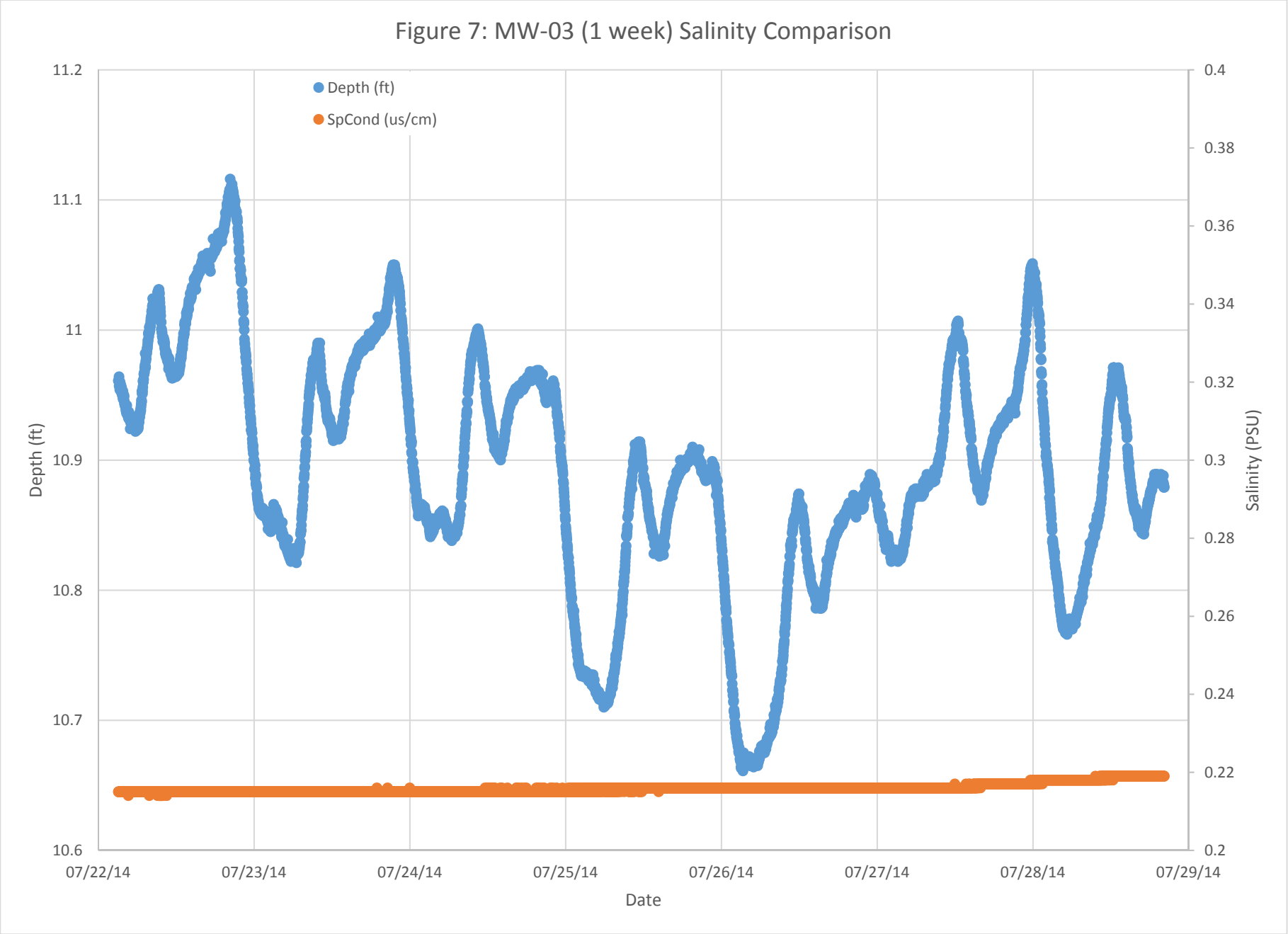
Figure 7: MW-03 (1 week) Salinity Comparison
Depth (ft)
SpCond (us/cm)
11.2
11.1
11
10.9
10.8
10.7
10.6
Depth (ft)
0.4
0.38
0.36
0.34
0.32
0.3
0.28
0.26
0.24
0.22
0.2
Salinity (PSU)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

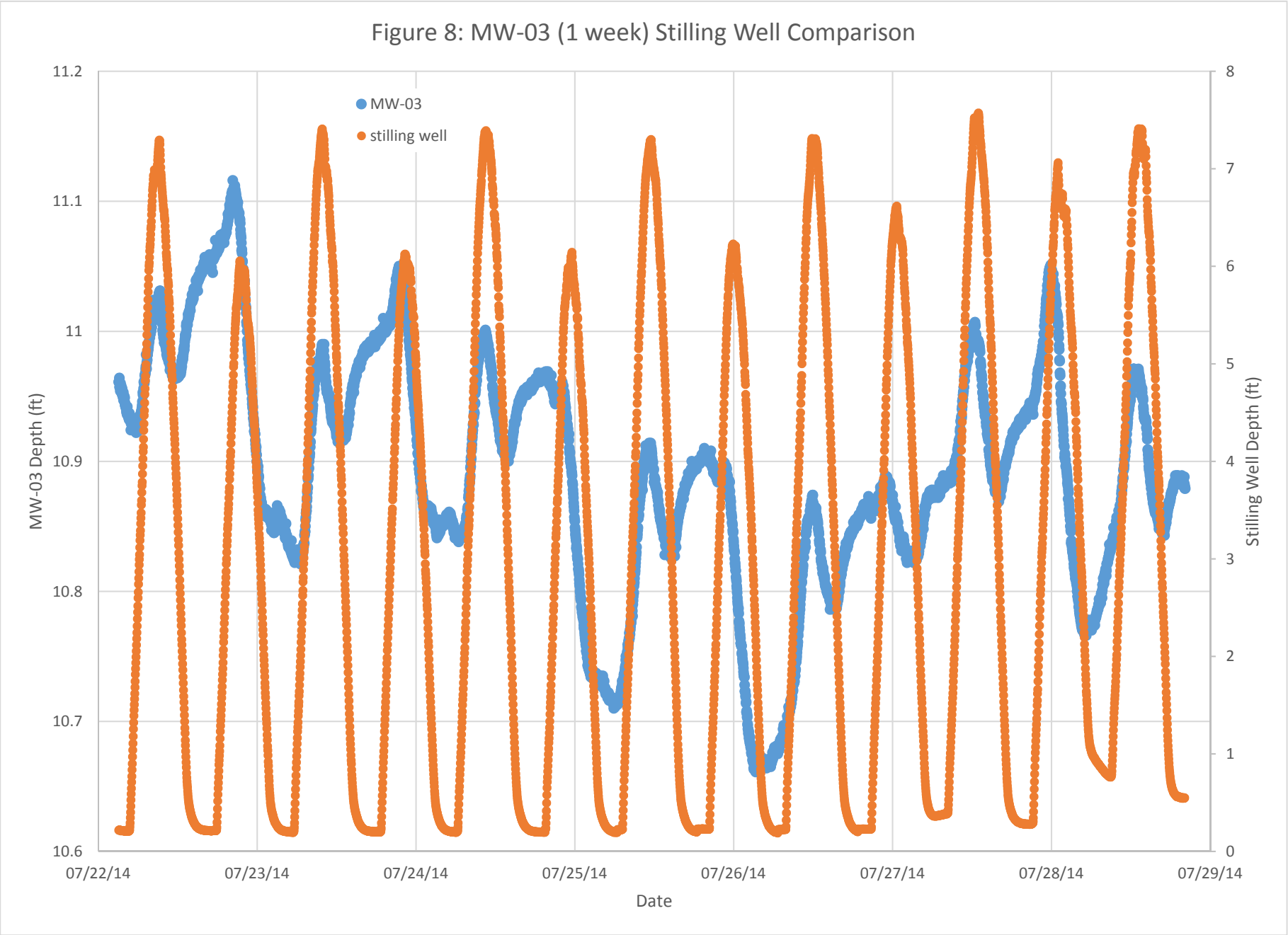
Figure 8: MW-03 (1 week) Stilling Well Comparison
MW-03
stilling well
MW-03 Depth (ft)
Stilling Well Depth (ft)
Date
11.2
11.1
11
10.9
10.8
10.7
10.6
8
7
6
5
4
3
2
1
0
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14

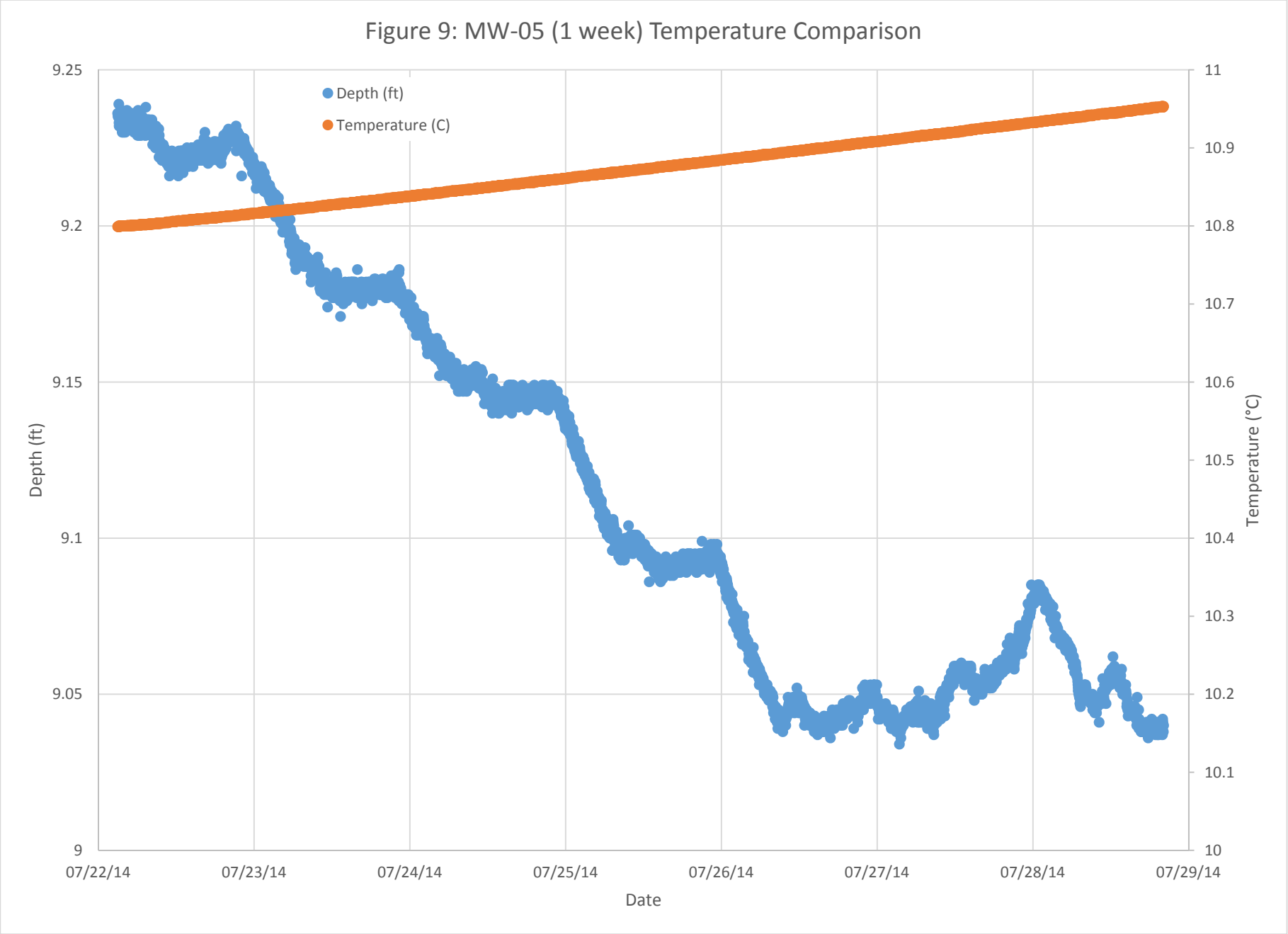
Figure 9: MW-05 (1 week) Temperature Comparison
Depth (ft)
Temperature (C)
9.25
9.2
9.15
9.1
9.05
9
Depth (ft)
11
10.9
10.8
10.7
10.6
10.5
10.4
10.3
10.2
10.1
10
Temperature (°C)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

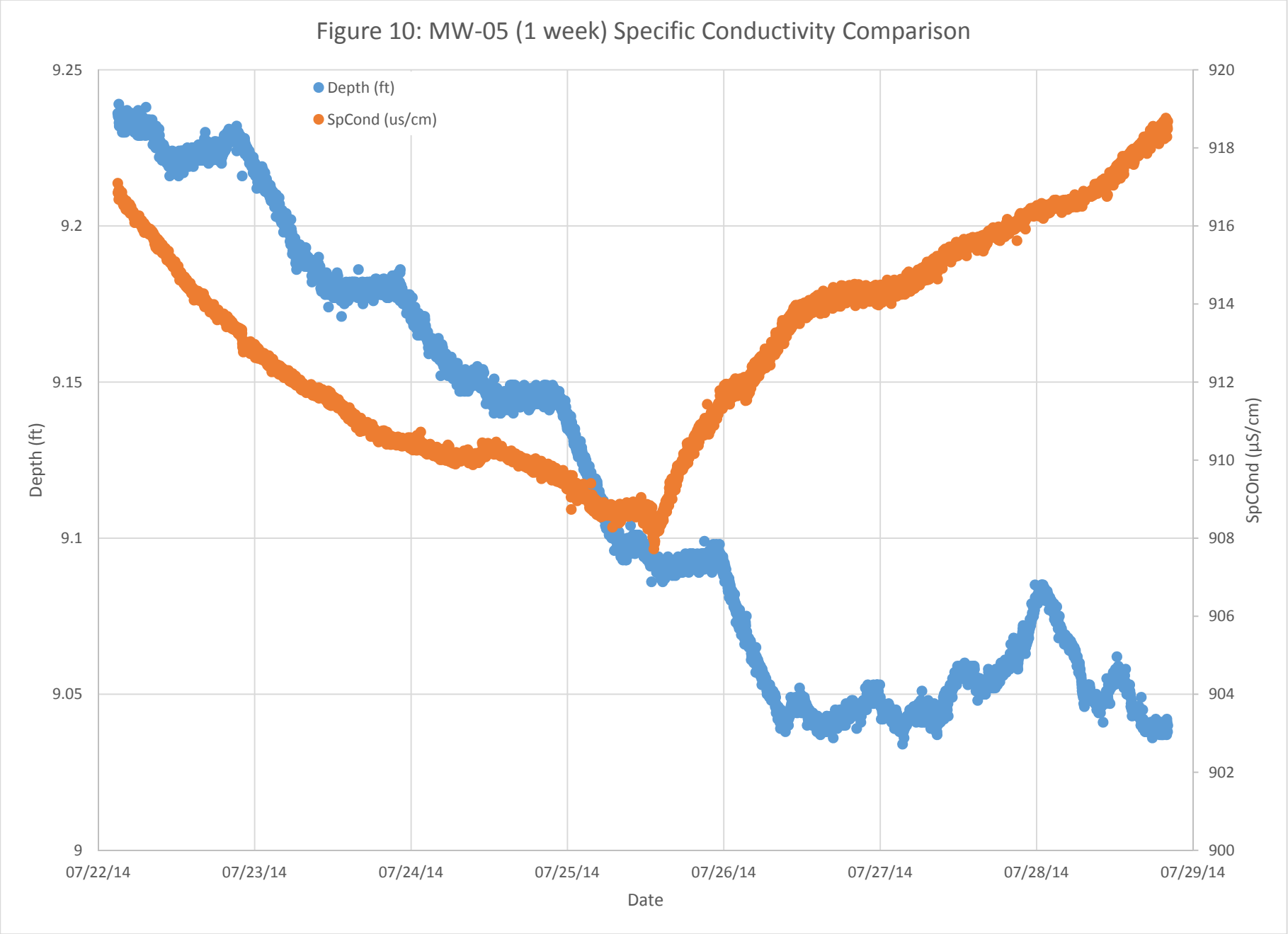
Figure 10: MW-05 (1 week) Specific Conductivity Comparison
Depth (ft)
SpCond (us/cm)
9.25
9.2
9.15
9.1
9.05
9
920
918
916
914
912
910
908
906
904
902
900
Depth (ft)
SpCOnd (µS/cm)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

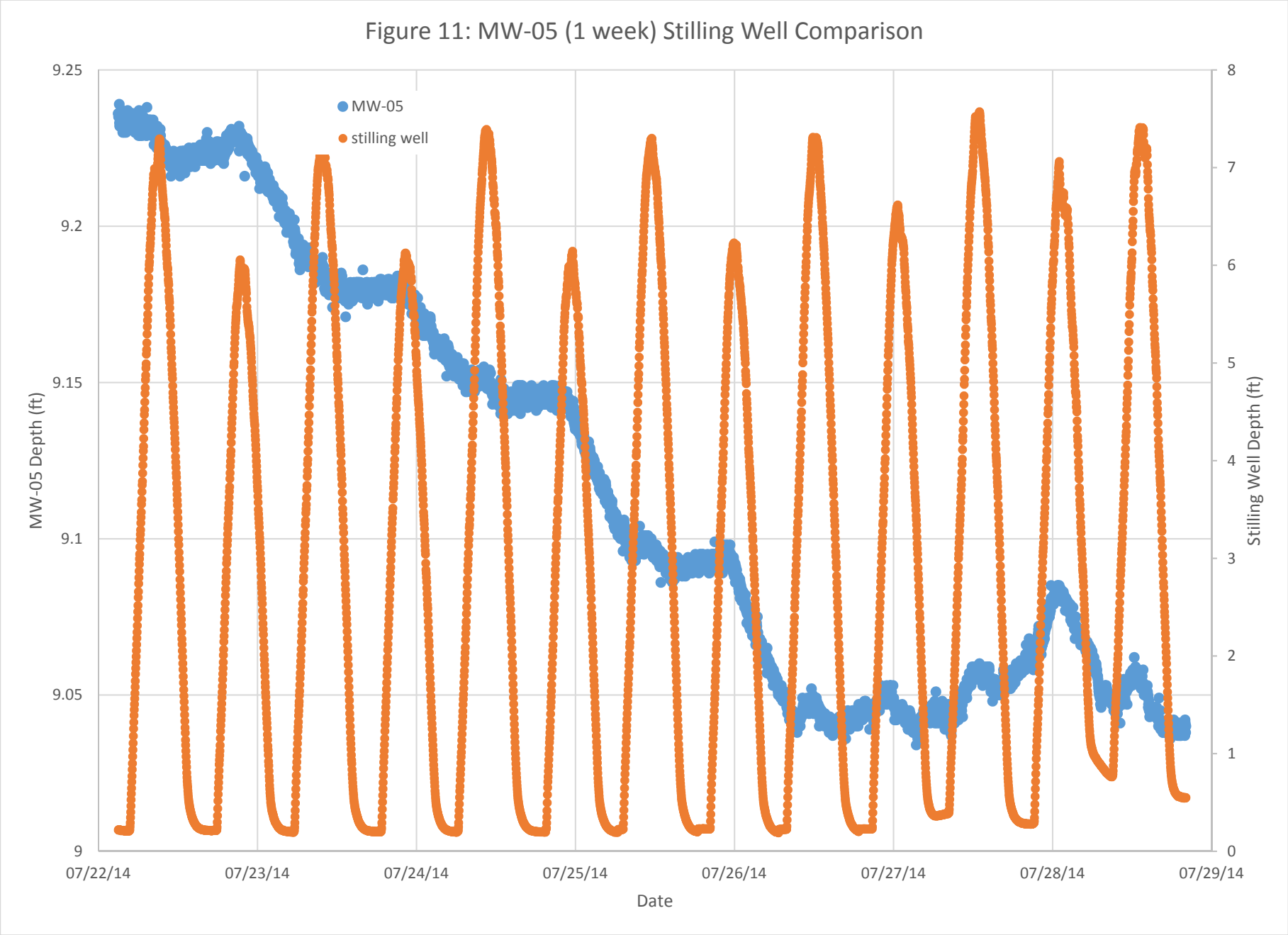
Figure 11: MW-05 (1 week) Stilling Well Comparison
MW-05
stilling well
MW-05 Depth (ft)
Stilling Well Depth (ft)
Date
9.25
9.2
9.15
9.1
9.05
9
8
7
6
5
4
3
2
1
0
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14

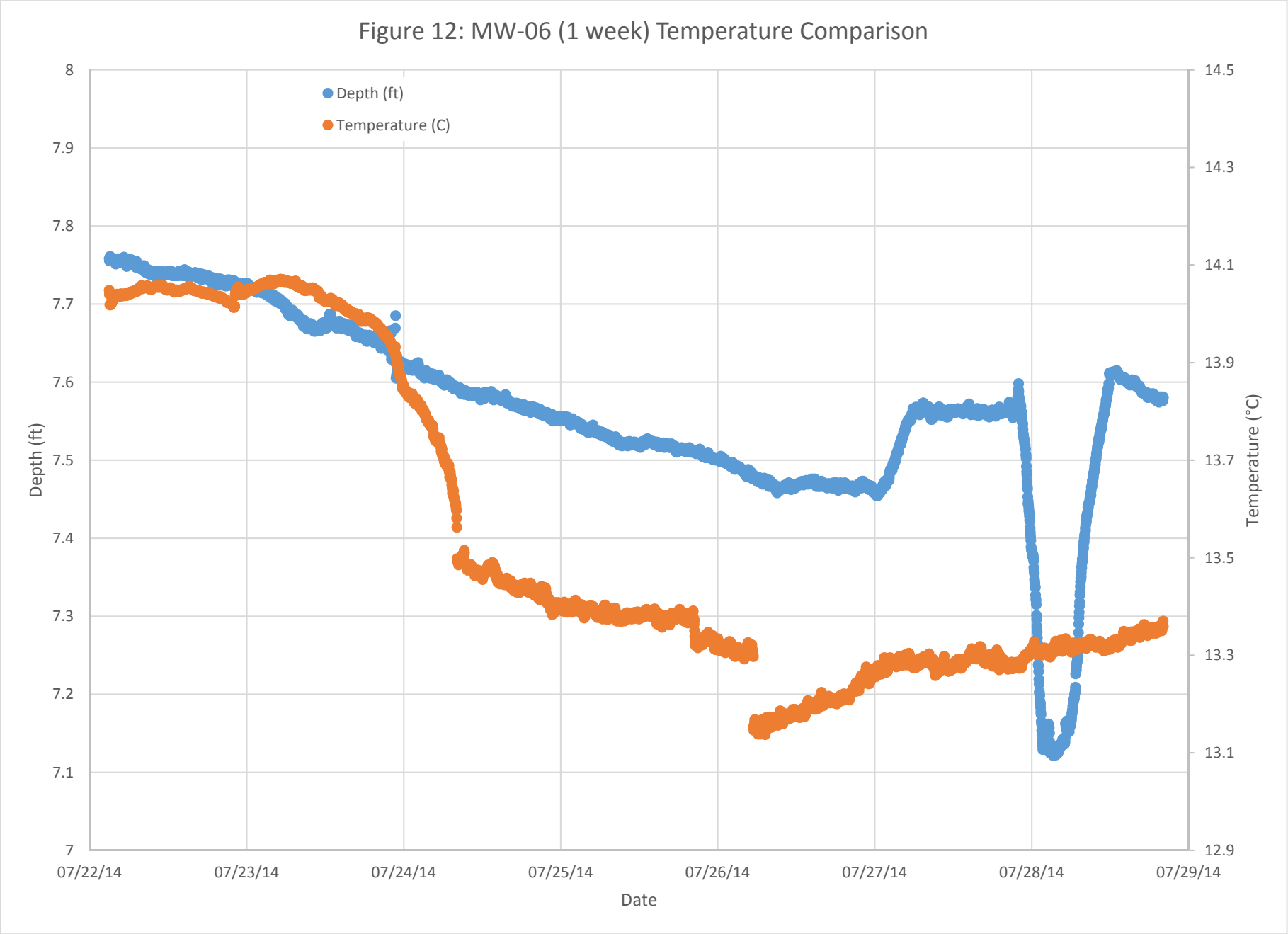
Figure 12: MW-06 (1 week) Temperature Comparison
Depth (ft)
Temperature (C)
8
7.9
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
7
Depth (ft)
14.5
14.3
14.1
13.9
13.7
13.5
13.3
13.1
12.9
Temperature (°C)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

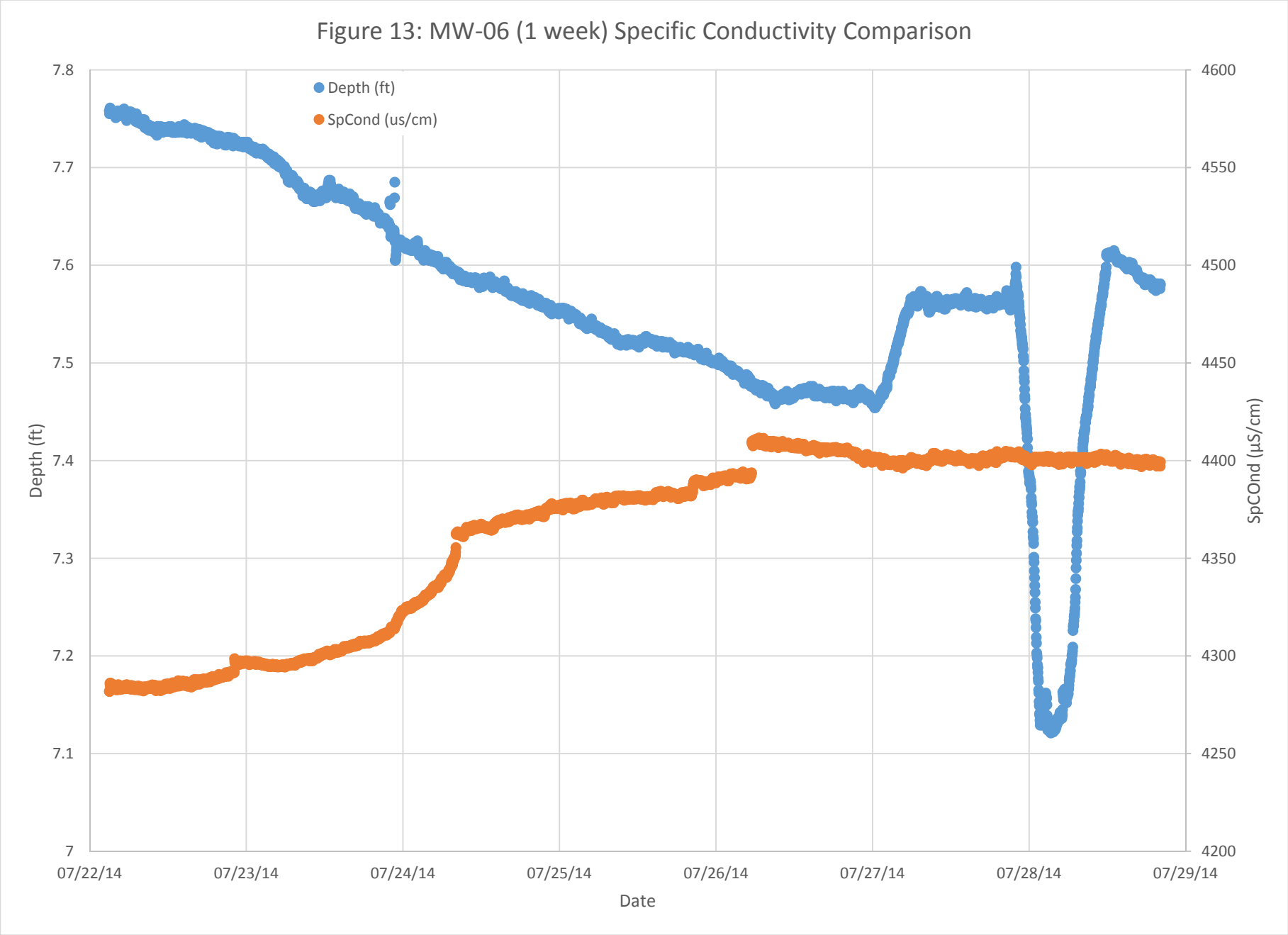
Figure 13: MW-06 (1 week) Specific Conductivity Comparison
Depth (ft)
SpCond (us/cm)
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
7
Depth (ft)
4600
4550
4500
4450
4400
4350
4300
4250
4200
SpCOnd (µS/cm)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

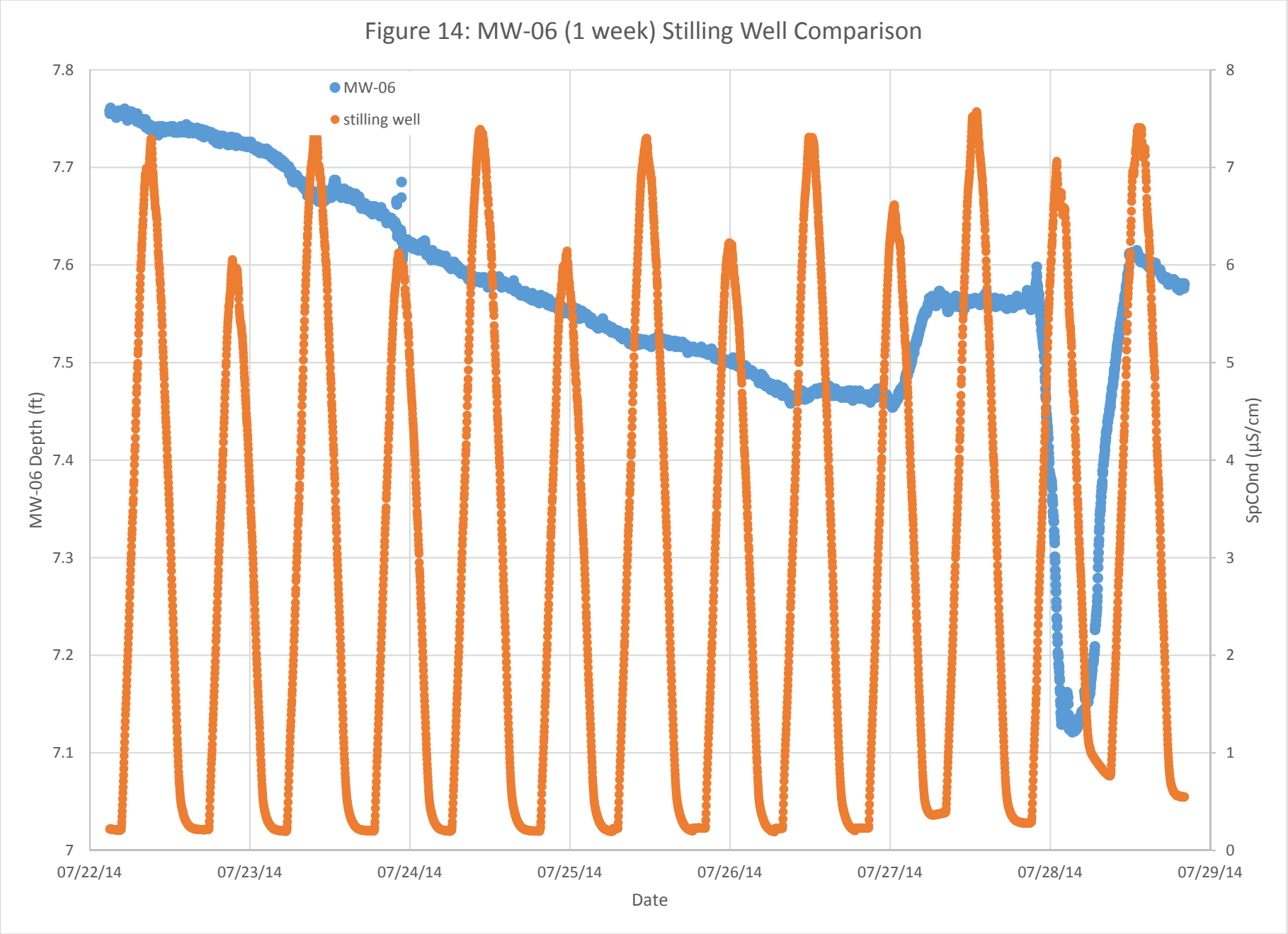
Figure 14: MW-06 (1 week) Stilling Well Comparison
MW-06
stilling well
MW-06 Depth (ft)
SpCOnd (µS/cm)
Date
7.8
7.7
7.6
7.5
7.4
7.3
7.2
7.1
7
8
7
6
5
4
3
2
1
0
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14

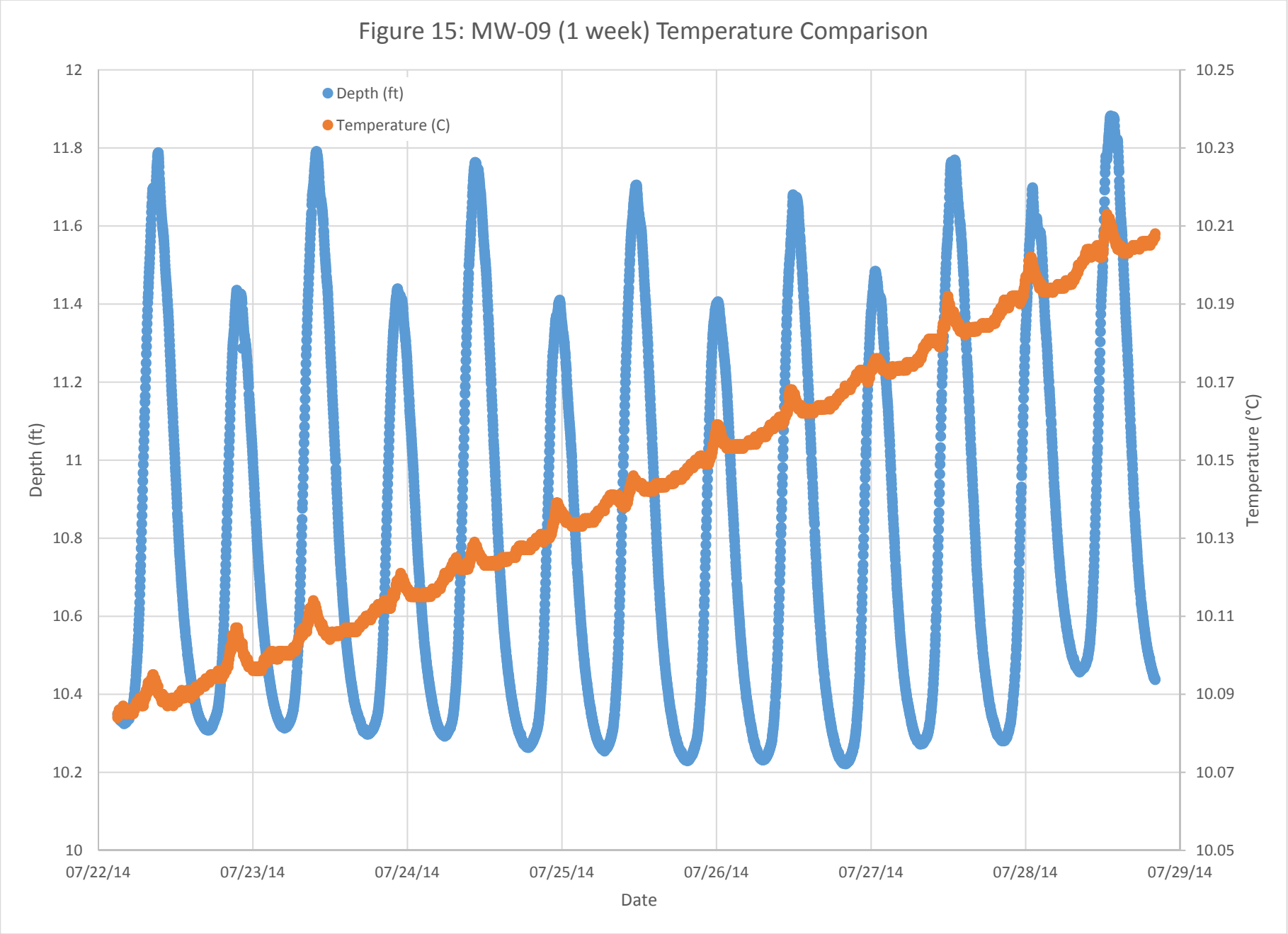
Figure 15: MW-09 (1 week) Temperature Comparison
Depth (ft)
Temperature (C)
12
11.8
11.6
11.4
11.2
11
10.8
10.6
10.4
10.2
10
10.25
10.23
10.21
10.19
10.17
10.15
10.13
10.11
10.09
10.07
10.05
Depth (ft)
Temperature (°C)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

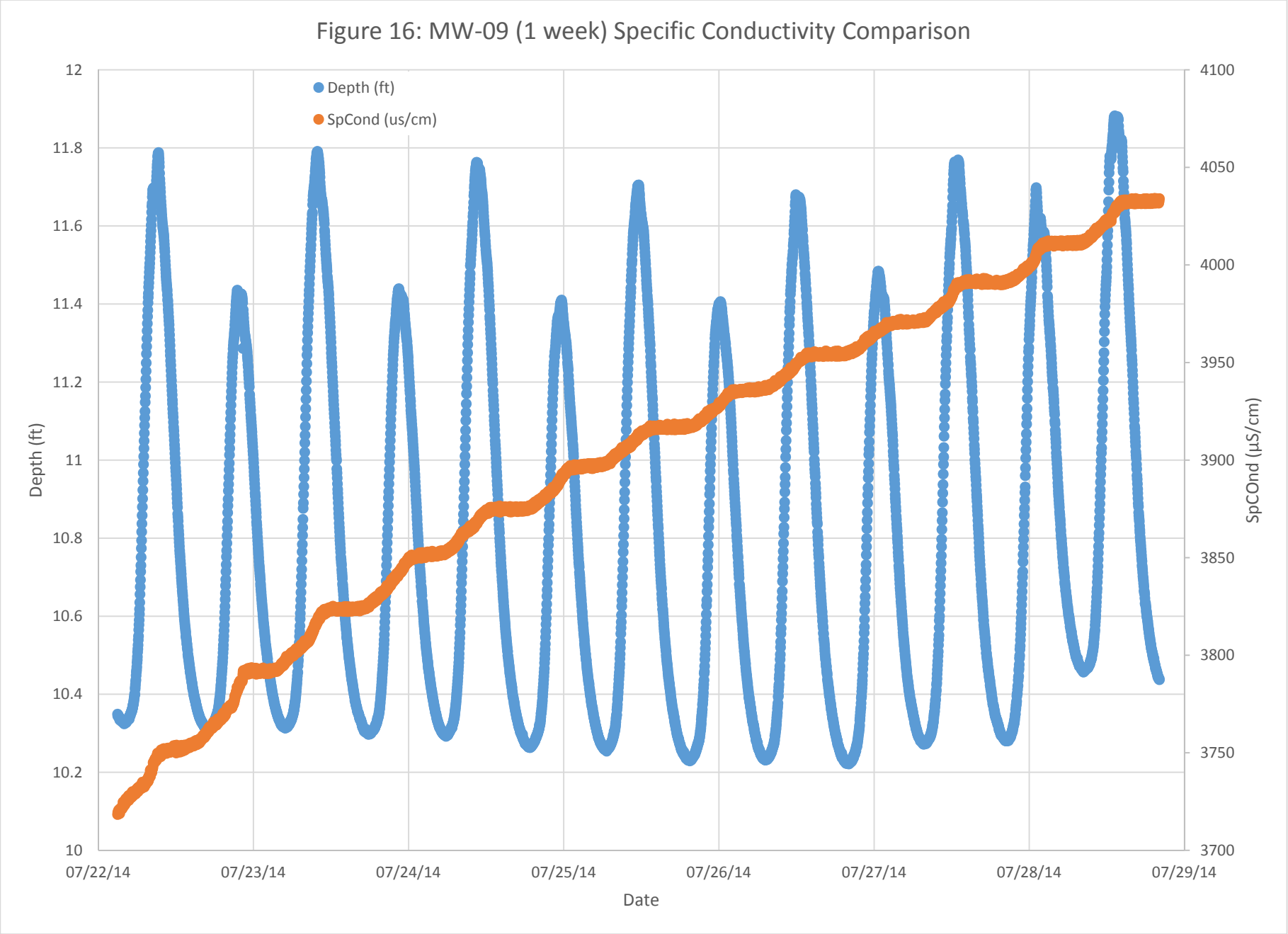
Figure 16: MW-09 (1 week) Specific Conductivity Comparison
Depth (ft)
SpCond (us/cm)
12
11.8
11.6
11.4
11.2
11
10.8
10.6
10.4
10.2
10
Depth (ft)
4100
4050
4000
3950
3900
3850
3800
3750
3700
SpCOnd (µS/cm)
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

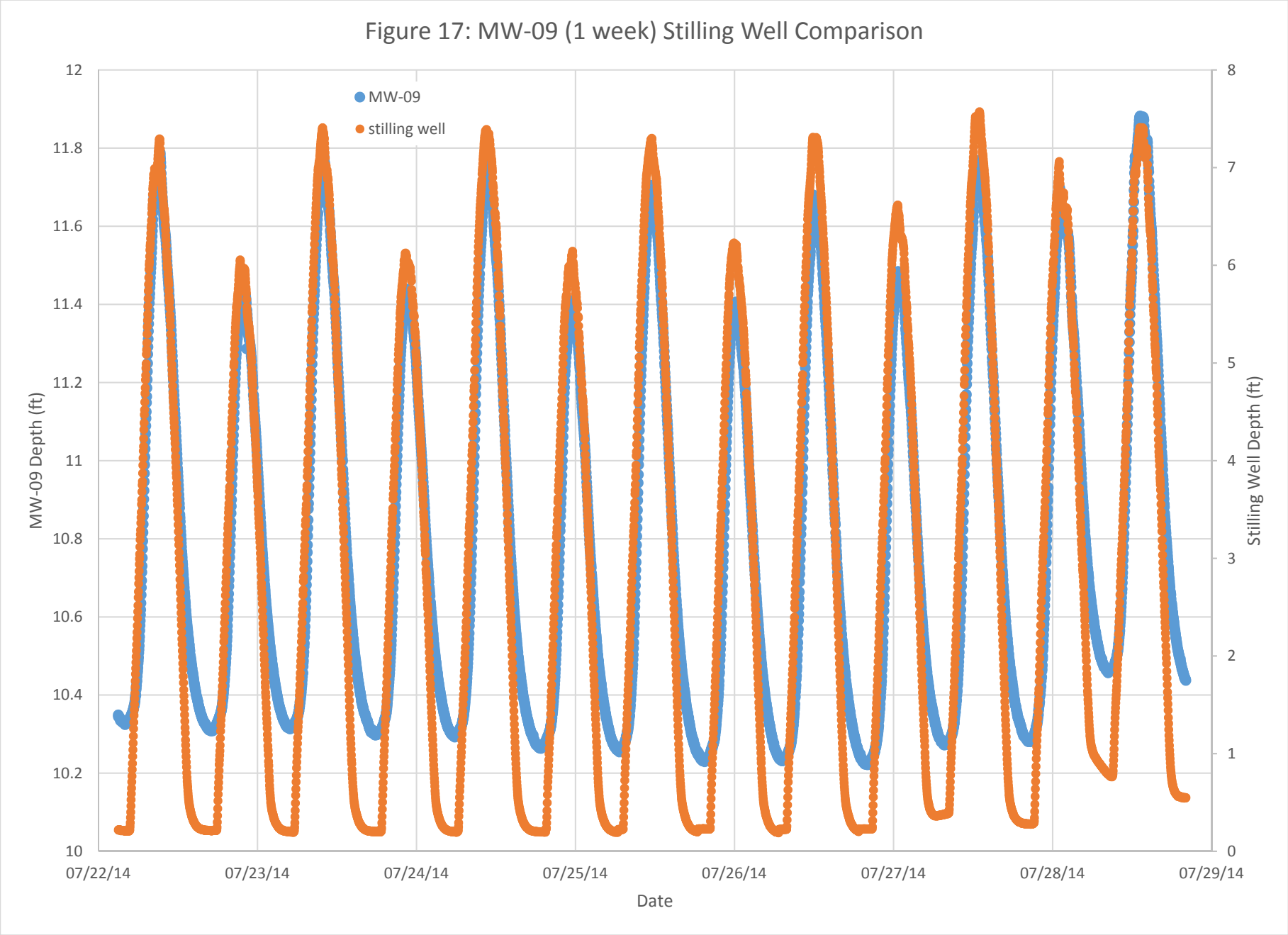
Figure 17: MW-09 (1 week) Stilling Well Comparison
MW-09
stilling well
MW-09 Depth (ft)
Stilling Well Depth (ft)
Date
12
11.8
11.6
11.4
11.2
11
10.8
10.6
10.4
10.2
10
8
7
6
5
4
3
2
1
0
07/22/14
07/23/14
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07/27/14
07/28/14
07/29/14

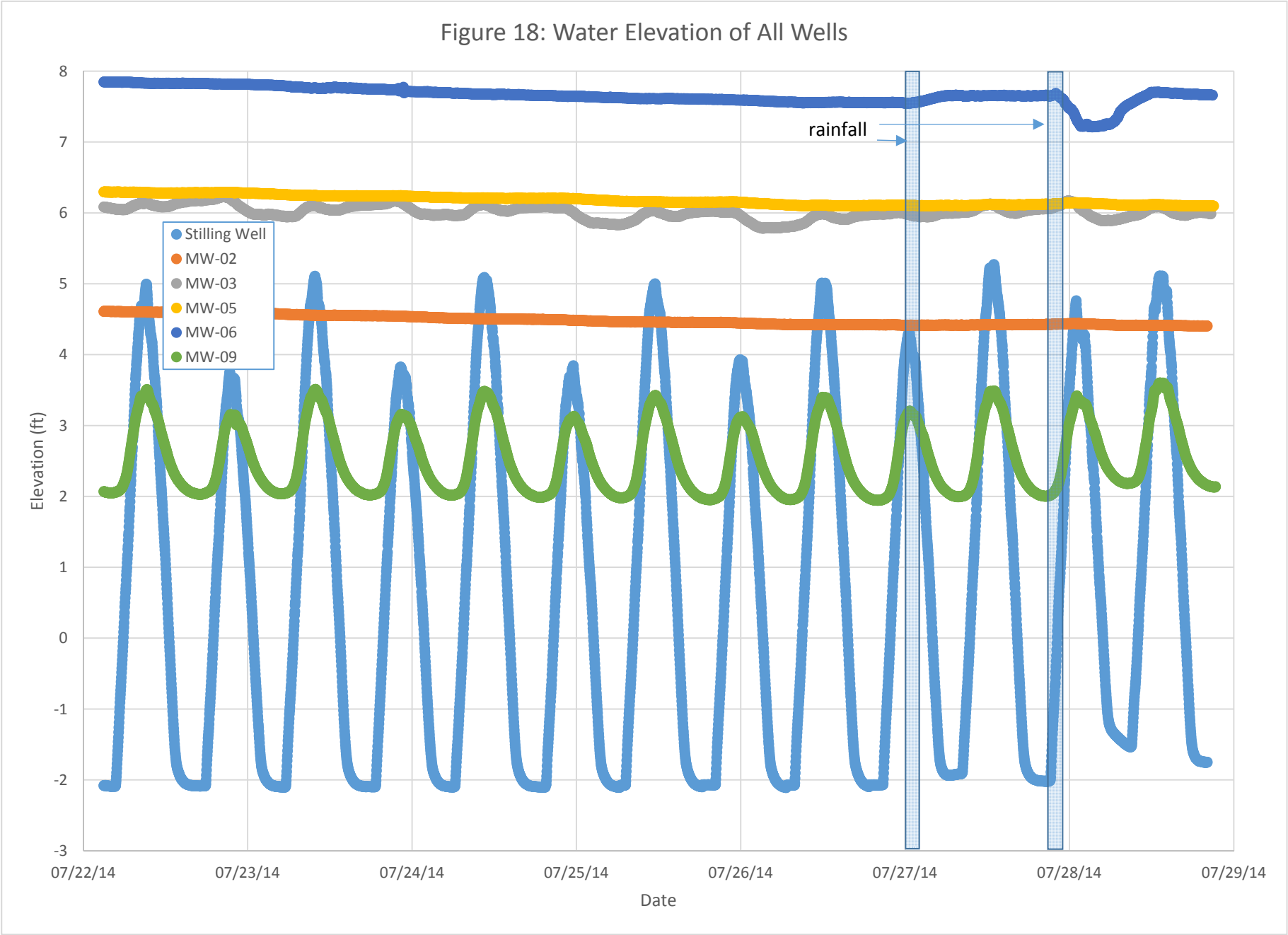


Figure 18: Water Elevation of All Wells
rainfall
Stilling Well
MW-02
MW-03
MW-05
MW-06
MW-09
Elevation (ft)
8
7
6
5
4
3
2
1
0
-1
-2
-3
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14
Date

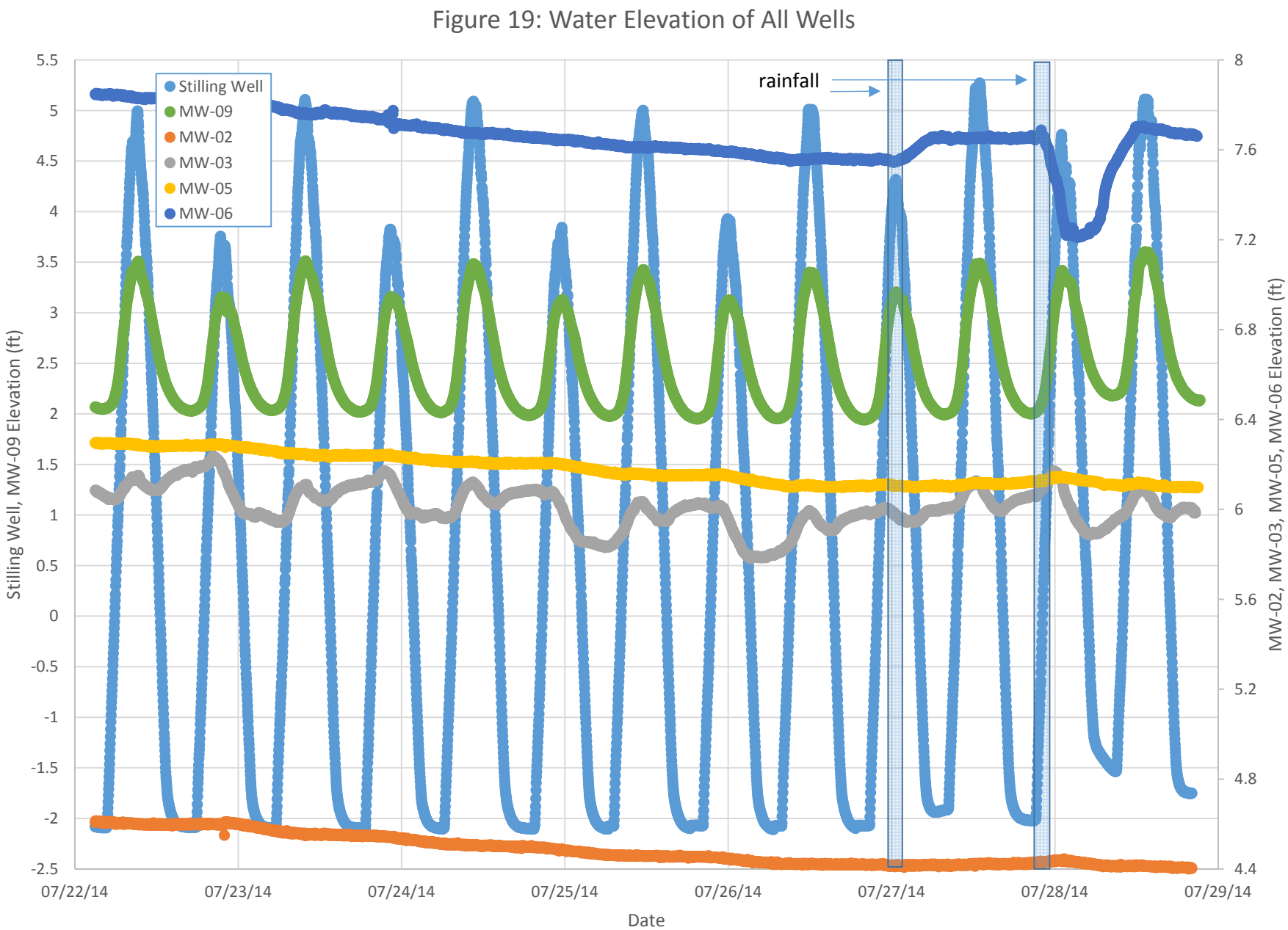


Figure 19: Water Elevation of All Wells
Stilling Well
MW-09
MW-02
MW-03
MW-05
MW-06
rainfall
Stilling Well, MW-09 Elevation (ft)
MW-02, MW-03, MW-05, MW-06 Elevation (ft)
Date
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
-0.5
-1
-1.5
-2
-2.5
8
7.6
7.2
6.8
6.4
6
5.6
5.2
4.8
4.4
07/22/14
07/23/14
07/24/14
07/25/14
07/26/14
07/27/14
07/28/14
07/29/14

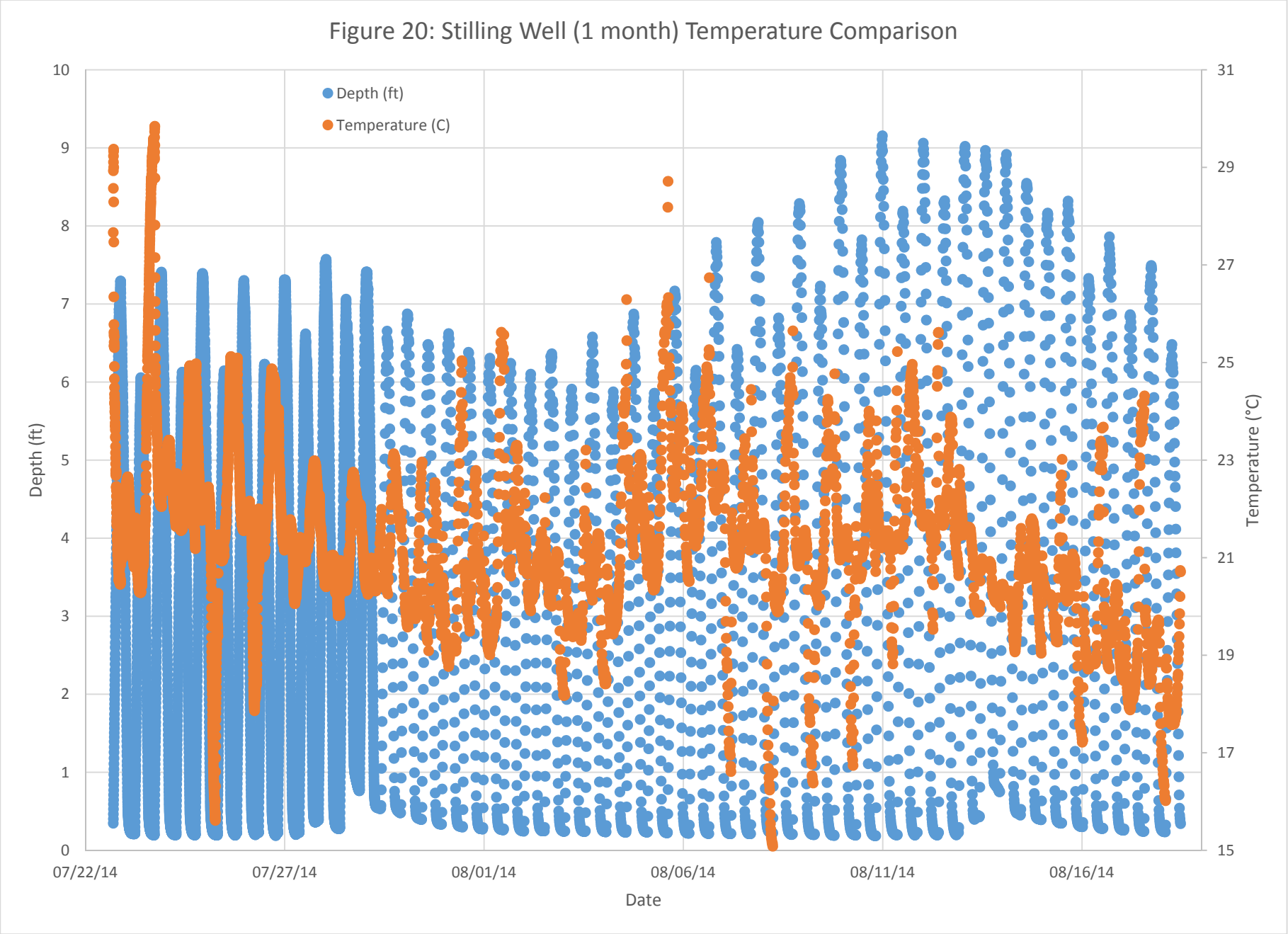


Figure 20: Stilling Well (1 month) Temperature Comparison
Depth (ft)
Temperature (C)
Depth (ft)
Temperature (°C)
Date
10
9
8
7
6
5
4
3
2
1
0
31
29
27
25
23
21
19
17
15
07/22/14
07/27/14
08/01/14
08/06/14
08/11/14
08/16/14

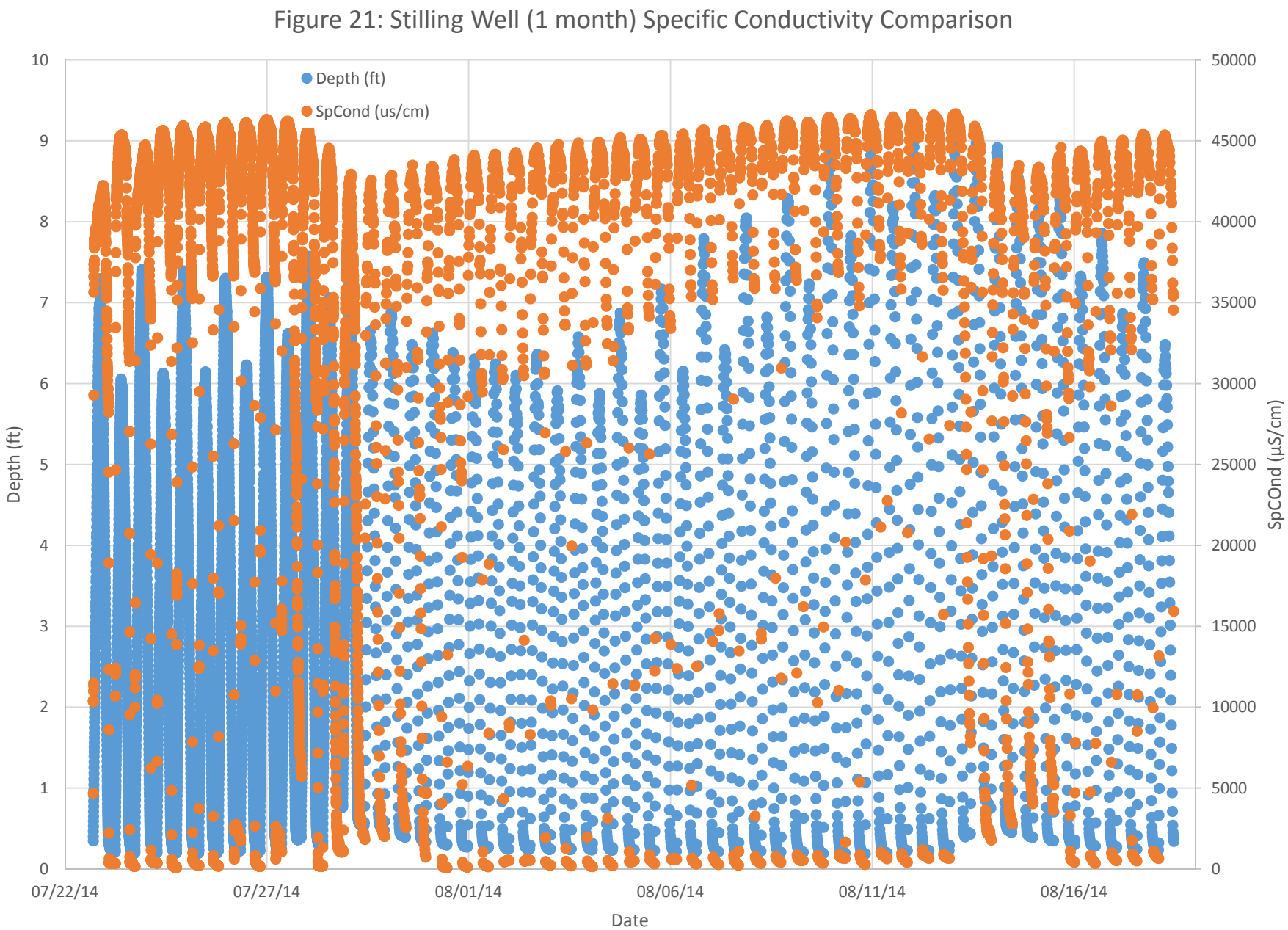


Figure 21: Stilling Well (1 month) Specific Conductivity Comparison
Depth (ft)
SpCond (us/cm)
Depth (ft)
SpCOnd (µS/cm)
Date
10
9
8
7
6
5
4
3
2
1
0
50000
45000
40000
35000
30000
25000
20000
15000
10000
5000
0
07/22/14
07/27/14
08/01/14
08/06/14
08/11/14
08/16/14

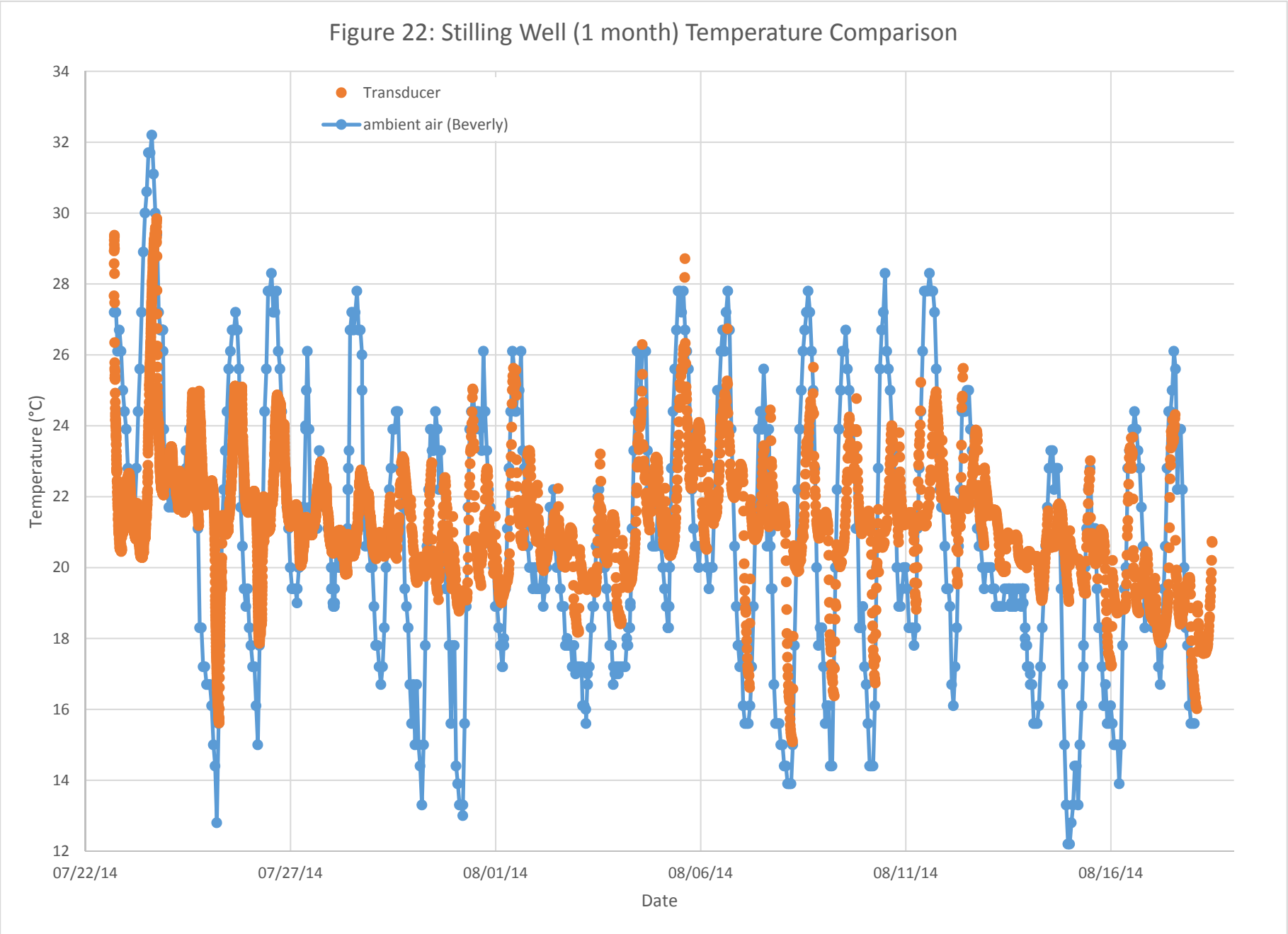


Figure 22: Stilling Well (1 month) Temperature Comparison
Transducer
ambient air (Beverly)
Temperature (°C)
34
32
30
28
26
24
22
20
18
16
14
12
07/22/14
07/27/14
08/01/14
08/06/14
08/11/14
08/16/14
Date

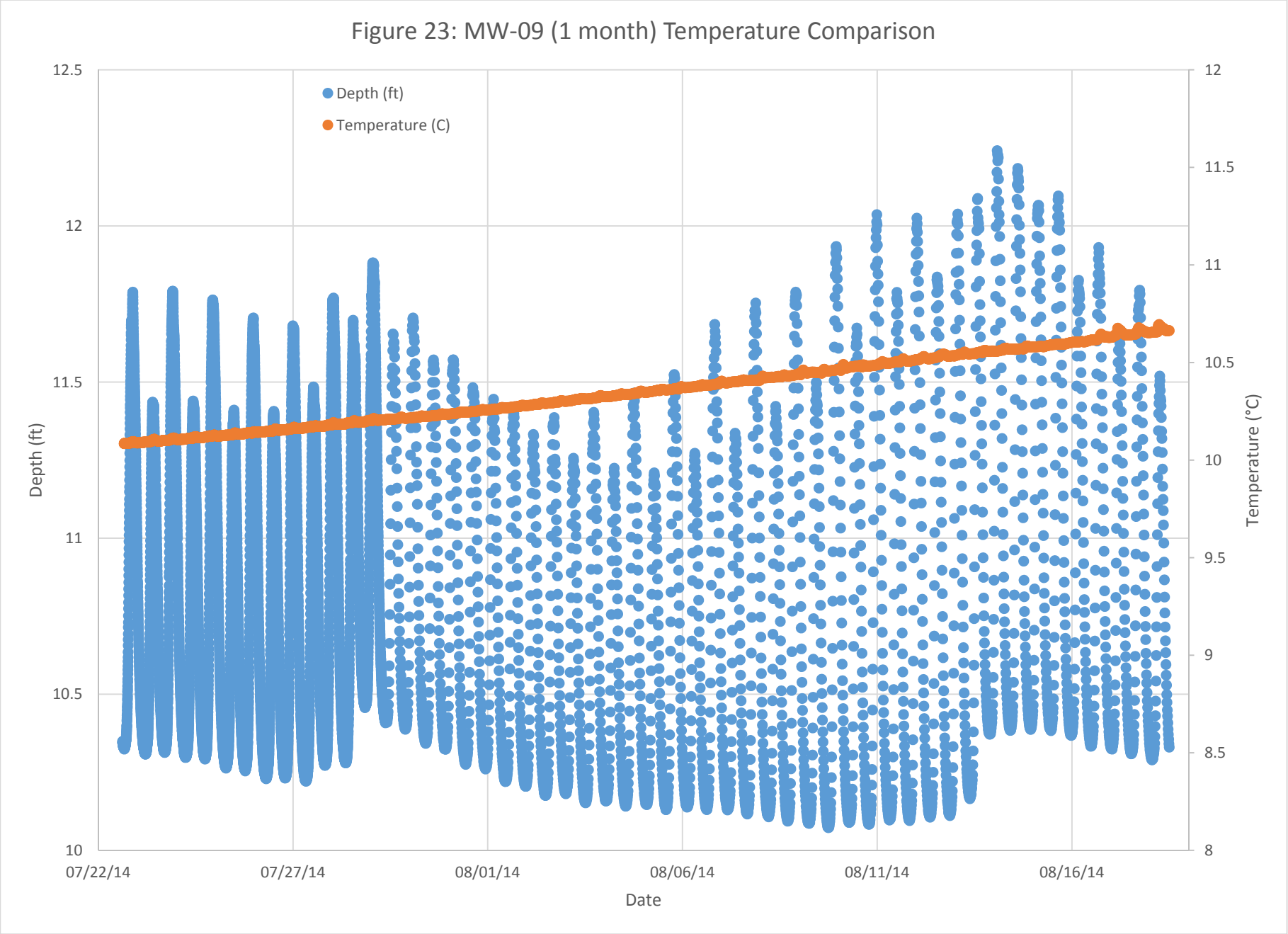


Figure 23: MW-09 (1 month) Temperature Comparison
Depth (ft)
Temperature (C)
12.5
12
11.5
11
10.5
10
Depth (ft)
12
11.5
11
10.5
10
9.5
9
8.5
8
Temperature (°C)
07/22/14
07/27/14
08/01/14
08/06/14
08/11/14
08/16/14
Date

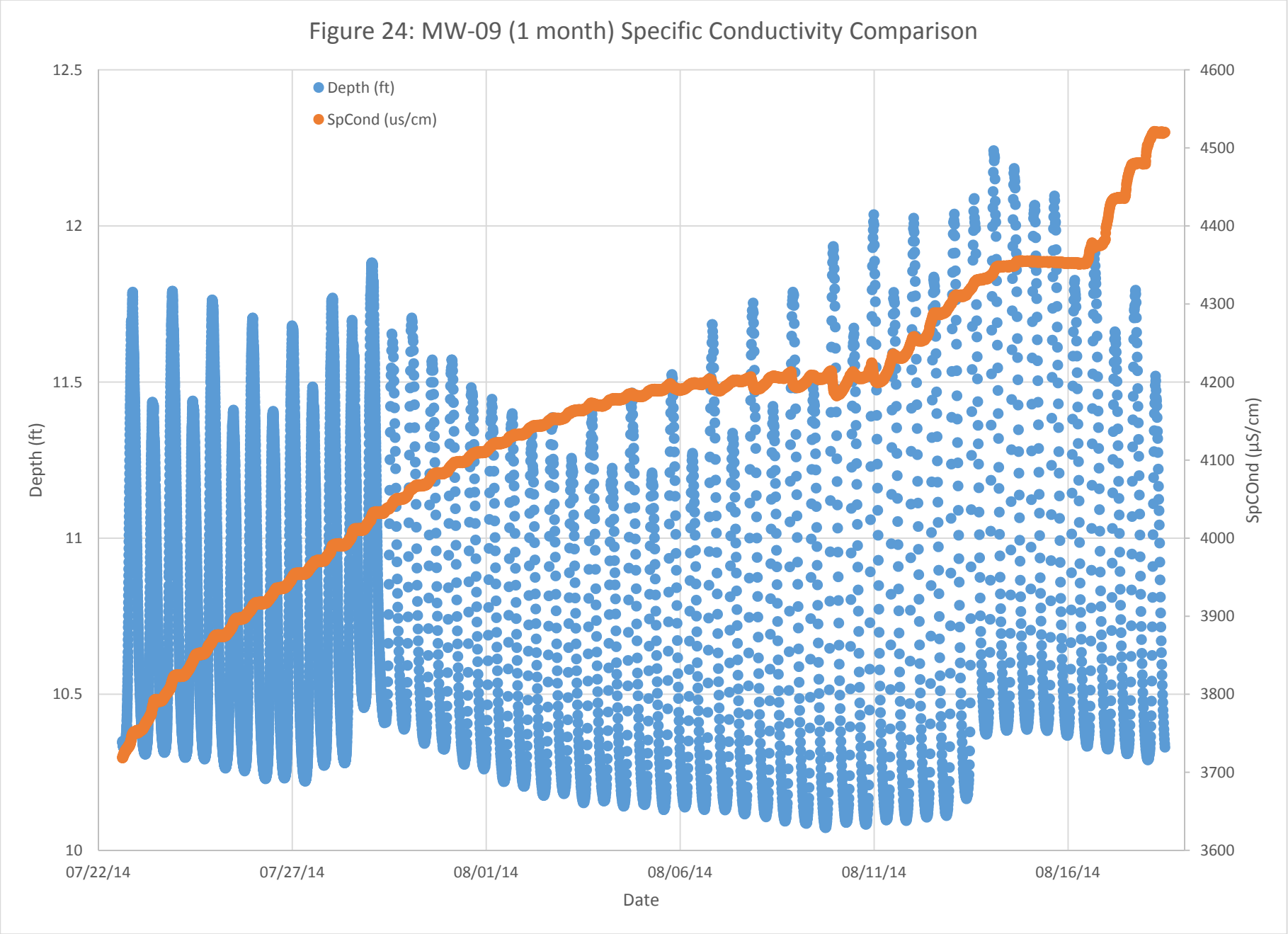


Figure 24: MW-09 (1 month) Specific Conductivity Comparison
Depth (ft)
SpCond (us/cm)
12.5
12
11.5
11
10.5
10
Depth (ft)
4600
4500
4400
4300
4200
4100
4000
3900
3800
3700
3600
SpCOnd (µS/cm)
07/22/14
07/27/14
08/01/14
08/06/14
08/11/14
08/16/14
Date

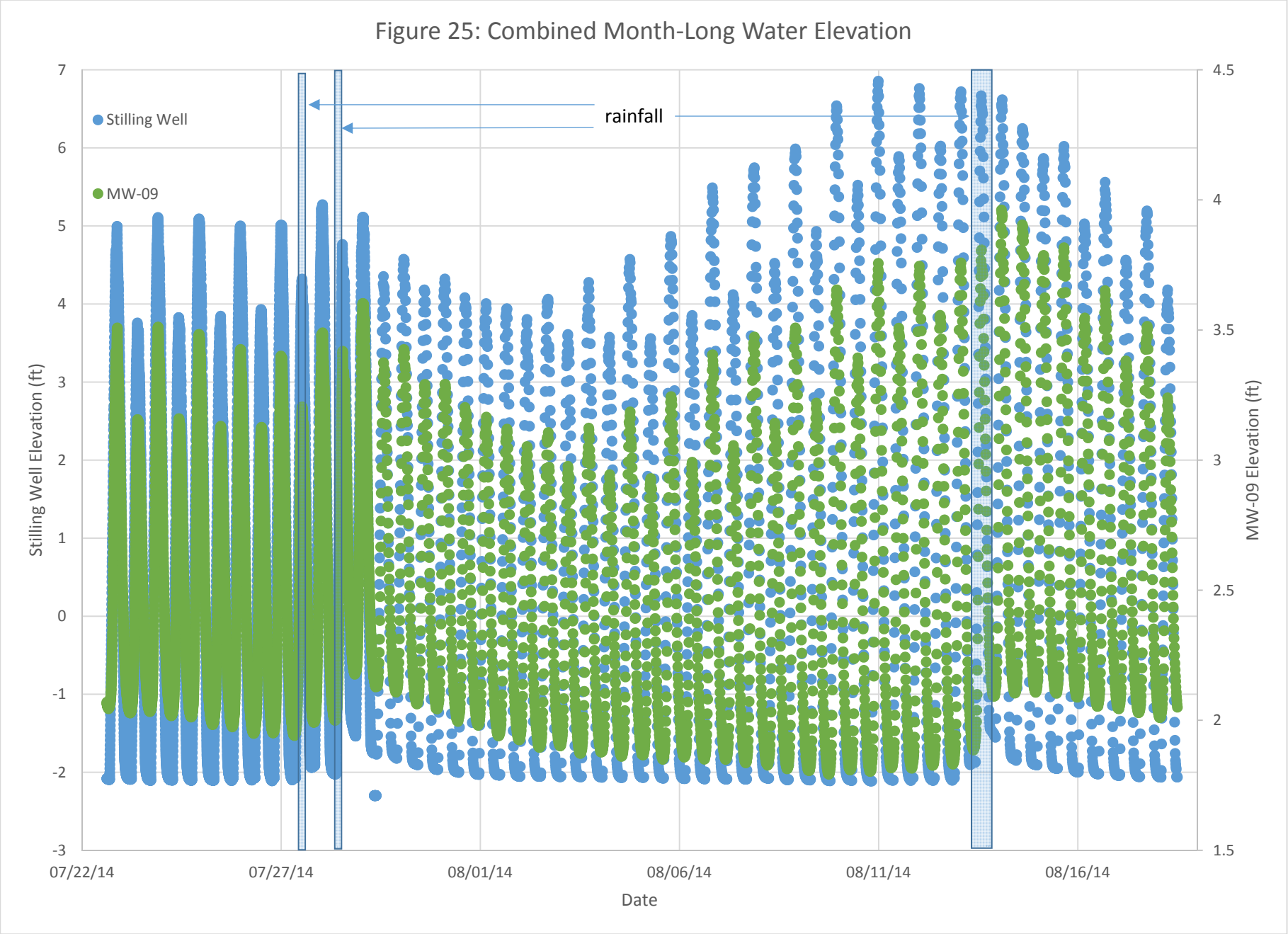


Figure 25: Combined Month-Long Water Elevation
Stilling Well
MW-09
rainfall
Stilling Well Elevation (ft)
MW-09 Elevation (ft)
Date
7
6
5
4
3
2
1
0
-1
-2
-3
4.5
4
3.5
3
2.5
2
1.5
07/22/14
07/27/14
08/01/14
08/06/14
08/11/14
08/16/14

APPENDIX E

SITE VISIT
CREESE AND COOK SUPERFUND SITE
DANVERS, MASSACHUSETTS
JUNE 23-24, 2014

Chuck Dobroski and Cynthia Woods of Avatar Environmental visited the Creese and Cook Superfund Site in Danvers, Massachusetts on June 23, 2014 at approximately 3 PM (slack low tide) and June 24, 2014 at 8 AM (flood high tide). Rick Sugatt, EPA Region I risk assessor, joined them on June 24, 2014.

The yards of the 33 Water Street Condominiums back up to the MBTA ROW property. A relatively new locked fence and dense vegetation separates the condominiums from the MBTA ROW. See Figures 1 and 2.

The presence of two small vegetable gardens (each approximately 3 ft by 5 ft) on the MBTA property at 35 Water Street between the two condominium complexes was noted. One garden contained eight tomato plants. See Figure 3. The other had several small cucumber or squash seedlings. After some discussion, we **agreed that a sample from 0-1 ft within the garden should be collected**. If a sufficient volume cannot be obtained from a single boring (or hand auger) at the first garden, further soil may be collected from the second garden and the two scoops mixed for a single sample. **A second 0-1 ft sample should be collected within the vegetated area between the two gardens, which appears to be un-tended.** This second sample would be useful in determining whether any contaminants found in the garden are the result of the gardener's fertilizing or pesticide use. A sample will not be collected from the lawn area, as the findings might reflect lawn care treatments.

Behind the 45 Water Street Condominiums, the shoreline was easily accessible at low tide. Much of the basin was mudflat. See Figure 5.

At low tide on June 23rd, the Crane River at and upstream of the MBTA bridge appeared as a very small stream with very wide mudflats. See Figure 6. At the MBTA ROW bridge on the southern end of the site, the water was no more than 4 to 6 inches deep. The main river flow along the 33 Water Street property was on the west side of the river basin. A drainage path could be seen from the wetland pond area of 20 Cheever Street extending across the mudflat. See Figures 9

and 10. North of 20 Cheever Street the main river flow shifted to the eastern side of the river basin.

At high tide on June 24th, the river flowed rapidly beneath the MBTA bridge on the southern end of the site and filled the river basin from east to west. See Figures 7 and 8. At 20 Cheever Street, the water immediately adjacent to the shoreline was 2 feet deep.

Along the shoreline, we noted no particular areas where trespassers or recreational visitors would be most likely to spend time. Since it appears equally likely that trespassers may be at any given location, **12-20 sediment samples roughly evenly spaced along the shoreline** seems reasonable.

An outfall pipe (approximately 6 inch diameter) was found roughly 30 feet upstream of the steamline that crosses the river from the shoreline adjacent to 33 Water Street. See Figure 11. **A sediment sample should be collected at the outfall of the pipe**. It is assumed this outfall pipe originates from the grate in the lawn of the 33 Water Street property.

Woodchucks, rabbits, Canadian geese, mallards, snowy egrets, red-winged blackbirds, grackle, chickadees, catbirds, and a hawk were seen or reported to us by Nobis. Evidence of woodchuck holes were seen on the berm between the MBTA tracks and the shore. See Figure 12.

Portions of 20 Cheever Street are quite dry, but likely within the flood zone, preventing potential future construction. An old deteriorated tent was found in the central area along with much broken glass and debris.

Ecological Observations

The major ecological habitat areas within the study area are described below.

Condominium complex

The yards of the condominium complex are well maintained and aside from the occasional tree or shrub, the habitat is limited to mowed grass lawn. Few of the trees or shrubs provide seed or fruit forage for birds and mammals. Dominant vector of exposure will be associated with ground foraging invertivores and herbivores. Based on the uniform non-weedy condition of the lawns, it

appears that herbicides may be routinely used as well as routine watering. Note that in one of the condominium yards a drainage grate was observed and was believed to be connected to a 6-8" drainage pipe coming out of the base of the adjacent slope approximately 50 ft upstream of the steam line crossing.

MBTA ROW

The MBTA ROW represents an approximately 40-50 ft buffer between the lawn and the downslope to the Crane River marsh. The plant community represents early- to mid-successional terrestrial habitat dominated largely by advanced–growth and sapling trees as well as a variety of shrubs. This edge habitat provides excellent habitat for foraging birds and is sufficiently dense in areas to provide cover for small mammals. See Figure 1.

Characteristic vegetation of the ROW observed:

Honey locust,	multiflora rose
chokecherry,	poison ivy
smooth sumac	Queen Anne's lace
eastern red cedar	crown vetch

Bird and mammal species observed (including spoor) or expected to occur:

American robin	Eastern cottontail
Black-capped chickadee	Woodchuck
Brown-headed cowbird	Raccoon
Chipping sparrows	Gray squirrel
White-throated sparrow	White-footed mouse
Red-winged blackbirds	Deer mouse
Northern cardinal	Short-tailed shrew
Northern mockingbird	Eastern mole
Common grackle	

Salt Marsh Fringe:

At the base of the eastern river slope to the Crane River, fringing salt marsh habitat occurs at varying widths. The marsh is dominated by Saltmarsh cordgrass (*Spartina alterniflora* (tall and short-form), Salt grass (*Distichlis spicata*), and S. patens. At several locations the upgradient fringe is dominated by Phragmites. The Crane River observed at low tide is largely a mudflat with a narrow tidal channel. The mudflat appears to be of varying sediment characteristics which includes mud/muck, sand, and gravel/stone. The harder substrate supports a marine plant community dominated by bladder wrack *(Fucus sp*). This marsh extends from the mouth of the Crane River to above the #20 Cheever Street. property. Average tidal range appears to be on the order of 3-4 ft.

20 Cheever Street Property

This property includes both upland floodplain habitat as well as salt marsh habitat. Figure 13.
At its southern end the property is characterized by a salt marsh wetland with a small tidal creek originating in a low lying area in the wetland. This area is an extension of the salt marsh fringe along the river proper. Discharge of this wetland through the tidal creek during ebb tide results in a shallow (<1ft) drainage channel across the river bed until it joins the river channel on the western side of the river basin. At low water, the drainage and the receiving mudflat serves as foraging areas for gulls, heron, ducks and sandpipers. In addition, there are areas along the bank of the marsh where at low tide water seeps across the mudflat. We observed multitudes of eastern mud snails (*Ilynassa obsoleta*) grazing these areas. Figure 14.

In areas of higher elevation, the vegetative community transitions from low marsh (saltmarsh cordgrass) to high marsh (high-tide bush, black rush) and eventually to an upland terrestrial community dominated by red maple, red cedar, oak, sumac, jewel weed poison ivy, multiflora rose with patches of Phragmites. A mix of resident and migratory shorebirds (sandpipers, plovers, oystercatchers, etc.), marsh birds (herons, egrets, ducks, geese) and floodplain birds (fed-winged blackbirds, seaside sparrow, song sparrow) and mammals (raccoon, otter, meadow voles, and shrews) are expected to inhabit this area.

At the northern end of the Cheever Street property, a small stream conveys freshwater from an area upland of the MBTA ROW to the river. A partially collapsed culvert empties into this drainage.

At the time of the site visit, streamflow was average for a stream of that size. At high tide the drainage was water filled and roughly 2 feet wide, opening to 4-6 feet wide as it joined the river. See Figures 16 and 17.

Photos of the site are shown below:

Figure 1. Fence-line vegetation bordering the MBTA ROW behind 33 Water Street Condominiums.

Figure 2. Lawn behind 33 Water Street Condominiums.

Figure 3. Tomato plant garden at 35 Water Street.

Figure 5. Low tide looking east along 45 Water Street property shoreline.

Figure 4. Vegetation at 35 Water Street.

Figure 6. Low tide looking across river from MBTA ROW bridge.

The main flow of the river is near the far left shoreline.

Figure 7. High tide looking north along MBTA ROW and 33 Water Street property.

Figure 8. High tide looking west across the river.

Figure 9. Tidal creek discharge from salt marsh wetland at 20 Cheever Street (low tide).

Figure 10. Salt marsh wetland at 20 Cheever Street.

Figure 11. Discharge pipe from 33 Water Street Condominiums.

Figure 12. Wood chuck hole in berm between the MBTA tracks and the shore behind 33 Water Street Condominiums.

Figure 13. 20 Cheever Street.

Figure 14. Eastern mud snails along shoreline of 20 Cheever Street.

Figure 15. Looking north near north end of 20 Cheever Street (low tide).

Figure 16. Stream discharging at the north end of 20 Cheever Street (high tide).

Figure 17. Stream discharging at the north end of 20 Cheever Street.

APPENDIX F

GRAIN SIZE ANALYSIS SUMMARY

Description	Boring ID	Top Depth	Bottom Depth	Gravel	Sand			Fines	
					Coarse	Medium	Fine	Silt	Clay
sand unit	35WS-01	6	8	1.4	6.2	49	34.4	5.6	3.4
	35WS-01	14	16	5.2	13.2	46.9	31.7	2.1	0.9
	45WS-01	12	14	0	3.1	46.7	48.1	1.2	1
	45WS-04	10	12	4.7	12.3	19.5	44.3	11.1	8.1
silty clay, trace gravel	45WS-02	6	8	12.6	5.9	15.2	20.3	29.5	16.5
silty clay	45WS-02	12	14	0	0	4	8.2	37.7	50.1
	45WS-03	6	8	0	2	4.3	17.7	43.1	32.9
	ROW-19	8	10	0	0	2.2	9.9	37.9	50
	ROW-19	8	10	0	0	1.5	7	37.3	54.2
	ROW-21	12	14	0	0	0.7	7.7	27.9	63.7
	ROW-21	8	10	1.2	2.4	7.3	9.9	30.9	48.3

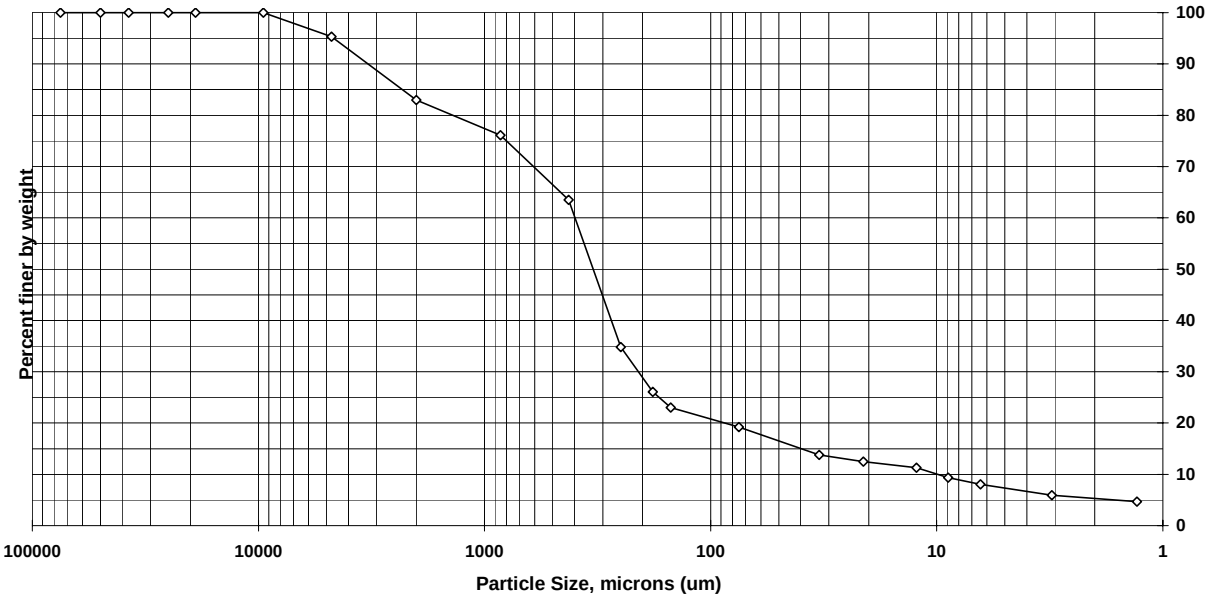
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	45WS-SB04-1012-06091	**Percent Solids:**	86.5%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-1	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): subrounded

Non-soil material: na

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	95.3	4.7
#10	2000	83.0	12.3
#20	850	76.1	6.9
#40	425	63.5	12.6
#60	250	34.8	28.7
#80	180	26.1	8.7
#100	150	23.0	3.1
#200	75	19.2	3.8
Hyd1	33.1	13.8	5.4
Hyd2	21.1	12.5	1.3
Hyd3	12.3	11.3	1.2
Hyd4	8.9	9.4	2.0
Hyd5	6.4	8.1	1.3
Hyd6	3.1	6.0	2.1
Hyd7	1.3	4.7	1.3

Soil Classification	Percent of sample
Gravel	4.7
Sand	76.1
Coarse Sand	12.3
Medium Sand	19.5
Fine Sand	44.3
Silt	11.1
Clay	8.1

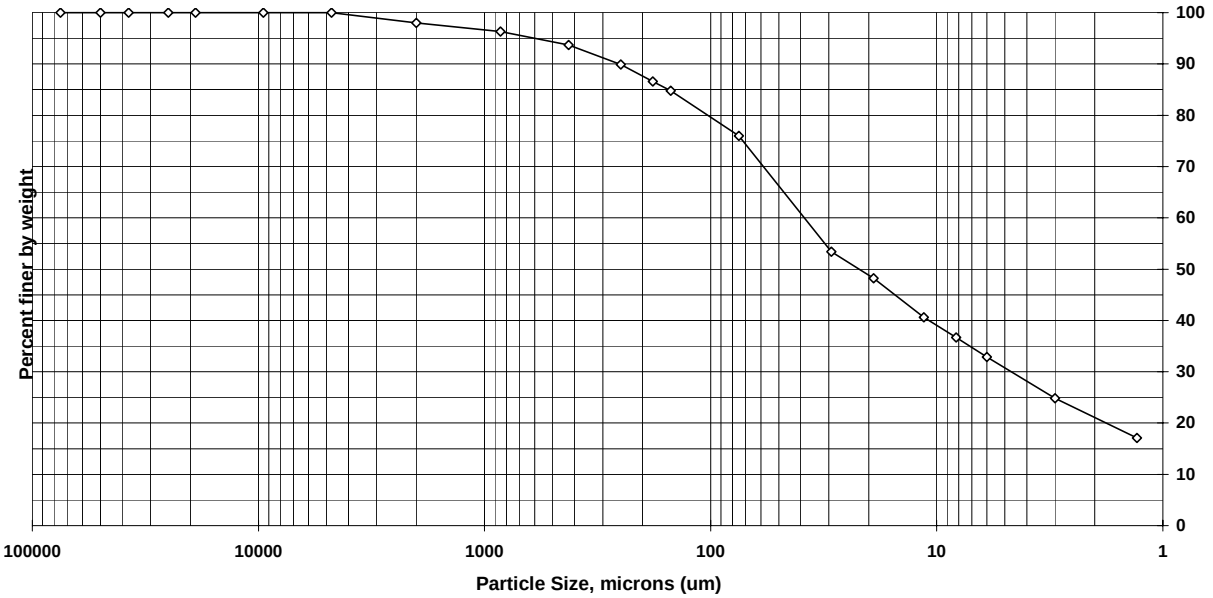
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	45WS-SB03-0608-06101	**Percent Solids:**	82.2%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-2	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): subrounded

Non-soil material: na

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	98.0	2.0
#20	850	96.3	1.7
#40	425	93.7	2.6
#60	250	89.9	3.8
#80	180	86.6	3.3
#100	150	84.8	1.8
#200	75	76.0	8.8
Hyd1	29.3	53.4	22.6
Hyd2	19	48.2	5.2
Hyd3	11.4	40.6	7.6
Hyd4	8.2	36.7	3.9
Hyd5	6	32.9	3.8
Hyd6	3	24.8	8.1
Hyd7	1.3	17.1	7.7

Soil Classification	Percent of sample
Gravel	0.0
Sand	24.0
Coarse Sand	2.0
Medium Sand	4.3
Fine Sand	17.7
Silt	43.1
Clay	32.9

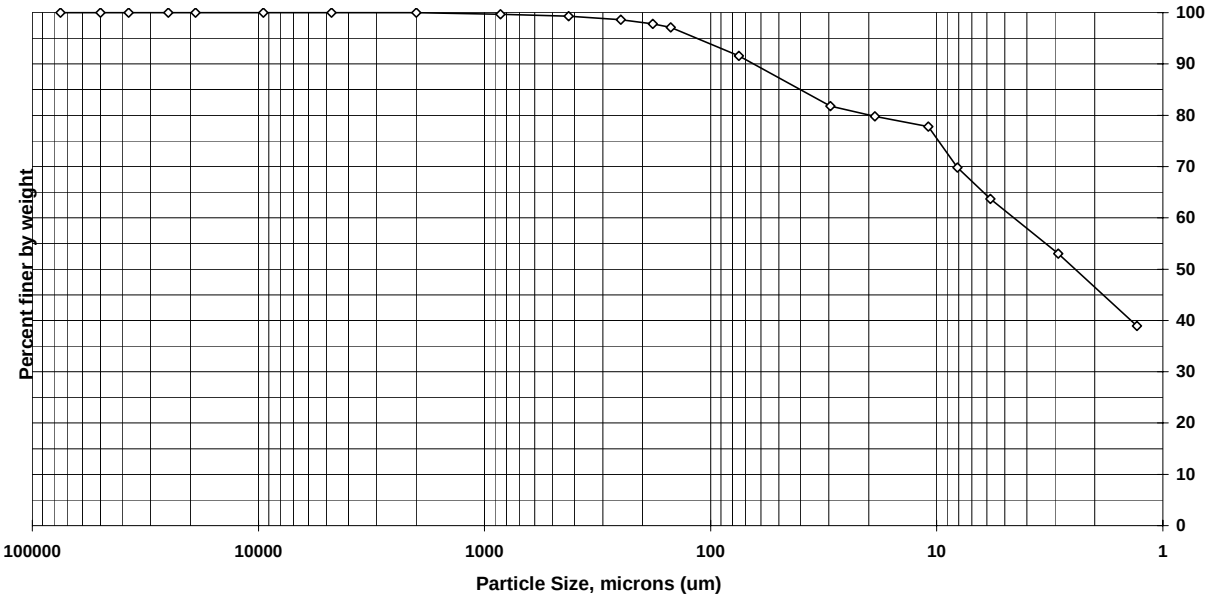
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	ROW-SB21-1214-060914	**Percent Solids:**	77.8%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-3	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.7	0.3
#40	425	99.3	0.4
#60	250	98.6	0.7
#80	180	97.8	0.8
#100	150	97.1	0.7
#200	75	91.6	5.5
Hyd1	29.5	81.8	9.8
Hyd2	18.8	79.8	2.0
Hyd3	10.9	77.8	2.0
Hyd4	8.1	69.8	8.0
Hyd5	5.8	63.7	6.1
Hyd6	2.9	53.0	10.7
Hyd7	1.3	38.9	14.1

Soil Classification	Percent of sample
Gravel	0.0
Sand	8.4
Coarse Sand	0.0
Medium Sand	0.7
Fine Sand	7.7
Silt	27.9
Clay	63.7

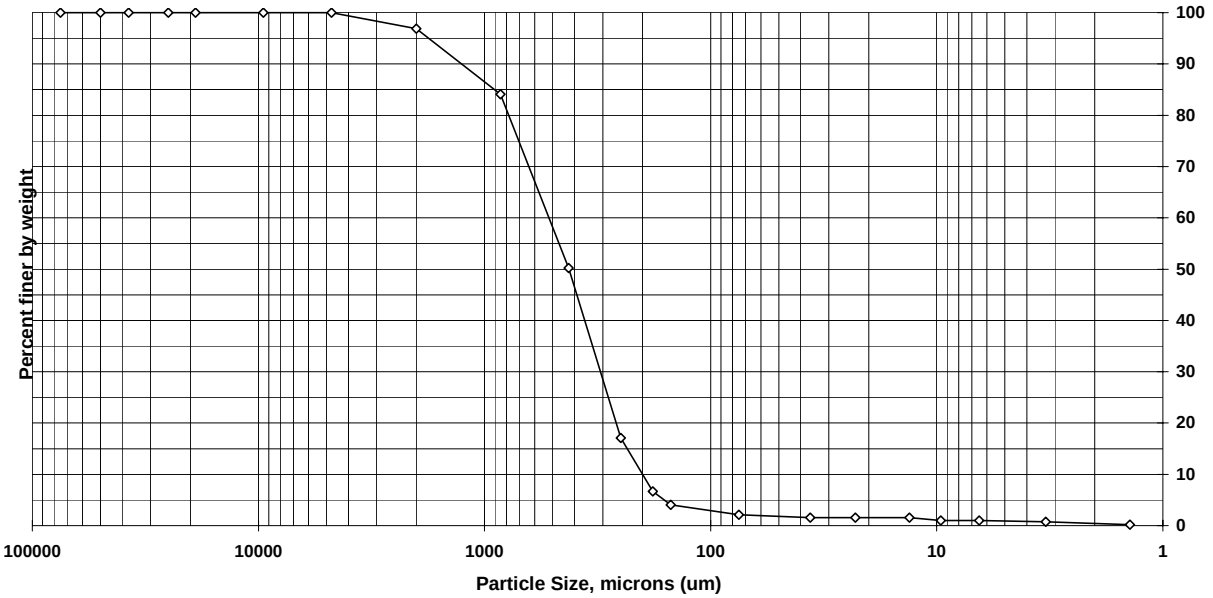
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	45WS-SB01-1214-06111	**Percent Solids:**	87.7%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-4	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): subrounded

Non-soil material: na

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	96.9	3.1
#20	850	84.1	12.8
#40	425	50.2	33.9
#60	250	17.1	33.1
#80	180	6.7	10.4
#100	150	4.1	2.6
#200	75	2.1	1.9
Hyd1	36.3	1.6	0.6
Hyd2	22.9	1.6	0.0
Hyd3	13.2	1.6	0.0
Hyd4	9.6	1.0	0.6
Hyd5	6.5	1.0	0.0
Hyd6	3.3	0.8	0.2
Hyd7	1.4	0.2	0.6

Soil Classification	Percent of sample
Gravel	0.0
Sand	97.9
Coarse Sand	3.1
Medium Sand	46.7
Fine Sand	48.1
Silt	1.2
Clay	1.0

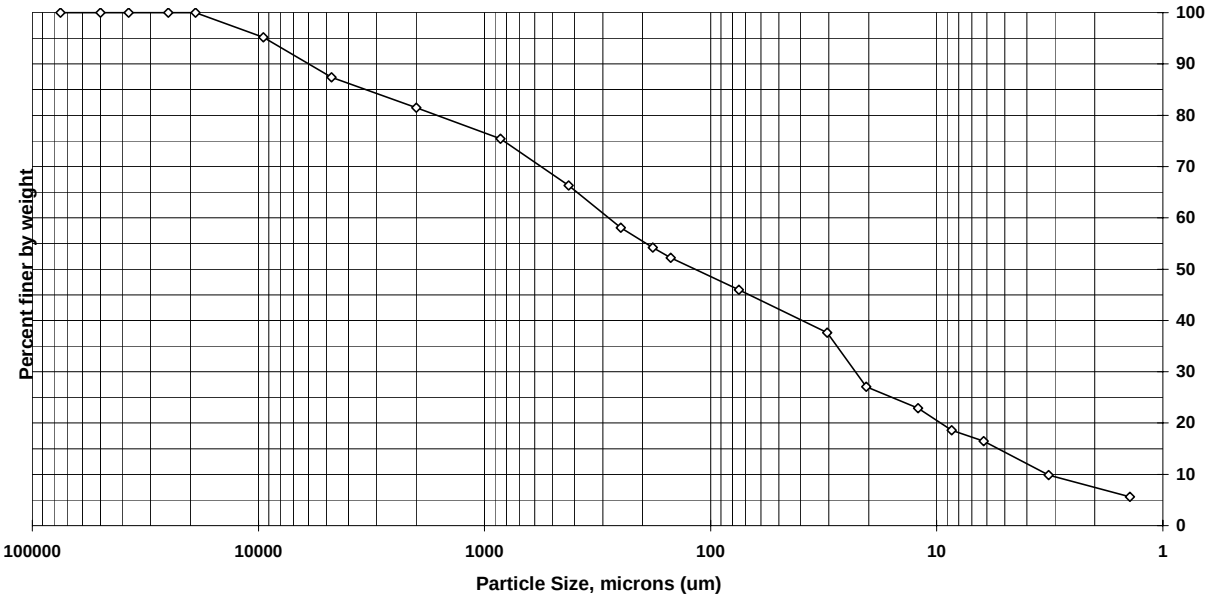
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	45WS-SB02-0608-06101	**Percent Solids:**	79.0%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-5	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): subrounded

Non-soil material: wood

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	95.2	4.8
#4	4750	87.4	7.8
#10	2000	81.5	5.9
#20	850	75.4	6.1
#40	425	66.3	9.1
#60	250	58.1	8.2
#80	180	54.2	3.9
#100	150	52.2	2.0
#200	75	46.0	6.2
Hyd1	30.5	37.6	8.4
Hyd2	20.5	27.1	10.5
Hyd3	12.1	22.9	4.2
Hyd4	8.6	18.6	4.3
Hyd5	6.2	16.5	2.1
Hyd6	3.2	9.9	6.7
Hyd7	1.4	5.6	4.2

Soil Classification	Percent of sample
Gravel	12.6
Sand	41.4
Coarse Sand	5.9
Medium Sand	15.2
Fine Sand	20.3
Silt	29.5
Clay	16.5

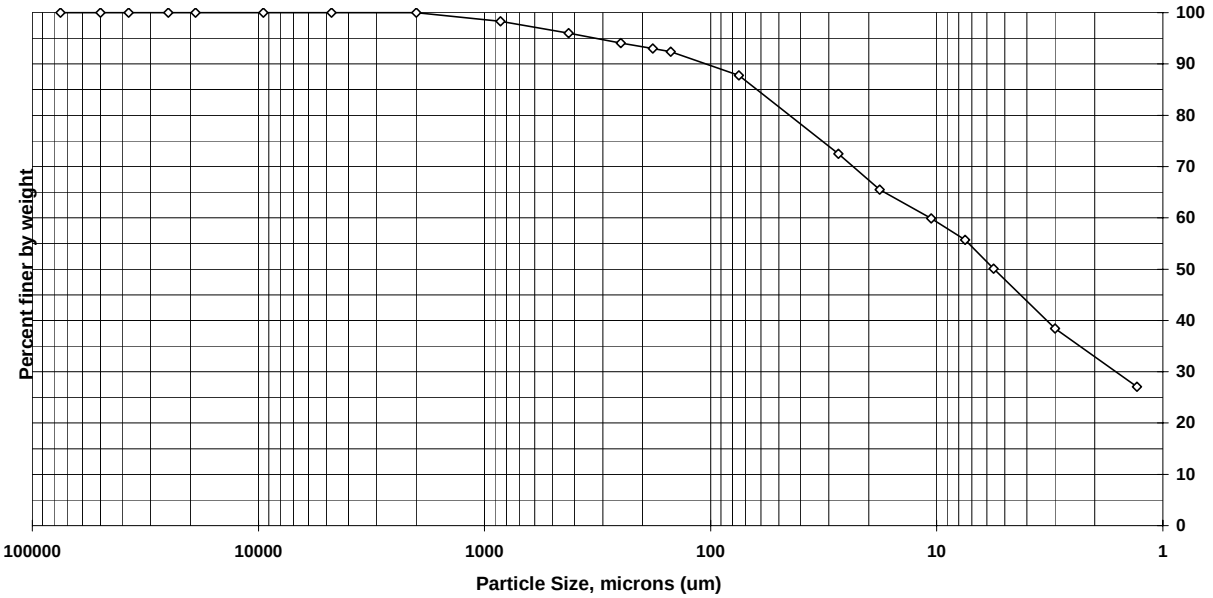
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	45WS-SB02-1214-06101	**Percent Solids:**	77.6%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-6	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	98.3	1.7
#40	425	96.0	2.3
#60	250	94.1	1.9
#80	180	93.0	1.1
#100	150	92.4	0.6
#200	75	87.8	4.6
Hyd1	27.2	72.5	15.3
Hyd2	17.9	65.5	7.0
Hyd3	10.6	59.9	5.6
Hyd4	7.5	55.7	4.2
Hyd5	5.6	50.1	5.6
Hyd6	3	38.4	11.7
Hyd7	1.3	27.1	11.3

Soil Classification	Percent of sample
Gravel	0.0
Sand	12.2
Coarse Sand	0.0
Medium Sand	4.0
Fine Sand	8.2
Silt	37.7
Clay	50.1

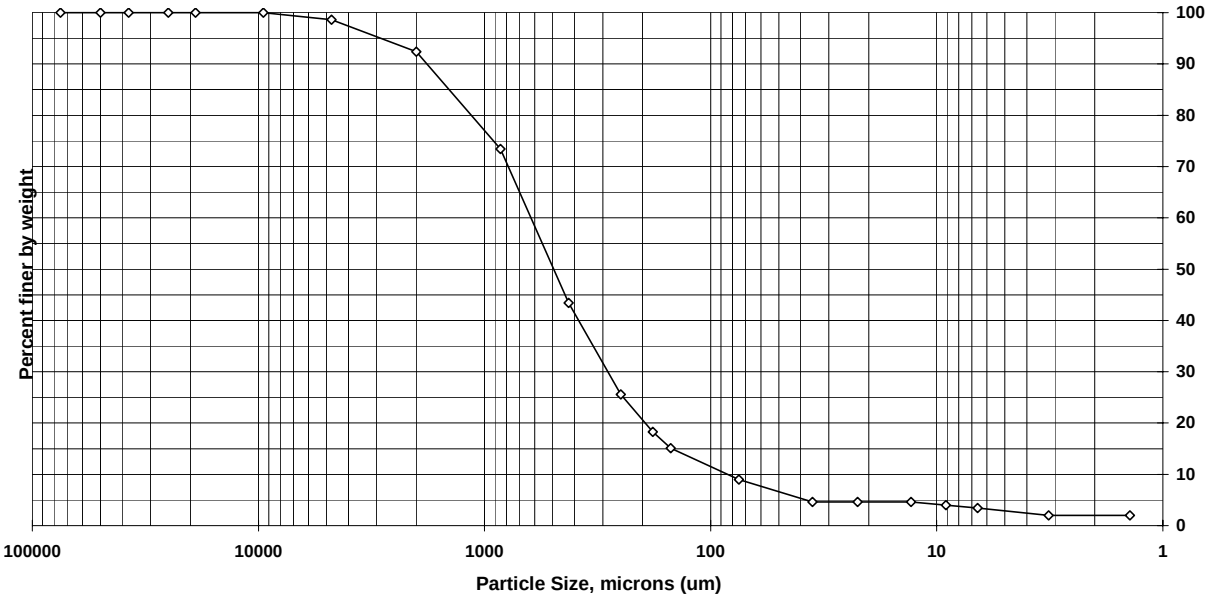
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	35WS-SB01-0608-06101	**Percent Solids:**	89.5%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-7	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): subrounded

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.6	1.4
#10	2000	92.4	6.2
#20	850	73.4	19.0
#40	425	43.4	30.0
#60	250	25.6	17.8
#80	180	18.3	7.3
#100	150	15.1	3.2
#200	75	9.0	6.1
Hyd1	35.5	4.6	4.4
Hyd2	22.4	4.6	0.0
Hyd3	13	4.6	0.0
Hyd4	9.1	4.0	0.6
Hyd5	6.6	3.4	0.6
Hyd6	3.2	2.0	1.4
Hyd7	1.4	2.0	0.0

Soil Classification	Percent of sample
Gravel	1.4
Sand	89.6
Coarse Sand	6.2
Medium Sand	49.0
Fine Sand	34.4
Silt	5.6
Clay	3.4

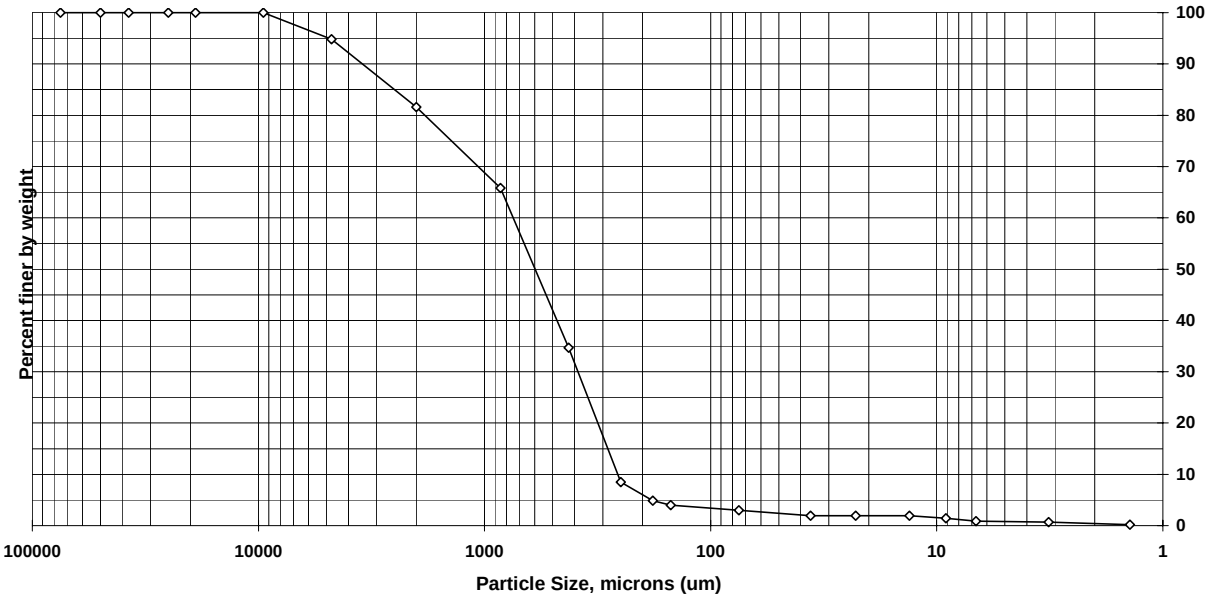
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	35WS-SB01-1416-06101	**Percent Solids:**	89.4%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-8	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): subrounded

Non-soil material: na

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	94.8	5.2
#10	2000	81.6	13.2
#20	850	65.8	15.8
#40	425	34.7	31.1
#60	250	8.5	26.2
#80	180	4.9	3.7
#100	150	4.0	0.8
#200	75	3.0	1.0
Hyd1	36.1	2.0	1.1
Hyd2	22.8	2.0	0.0
Hyd3	13.2	2.0	0.0
Hyd4	9.1	1.4	0.5
Hyd5	6.7	0.9	0.5
Hyd6	3.2	0.7	0.2
Hyd7	1.4	0.2	0.5

Soil Classification	Percent of sample
Gravel	5.2
Sand	91.8
Coarse Sand	13.2
Medium Sand	46.9
Fine Sand	31.7
Silt	2.1
Clay	0.9

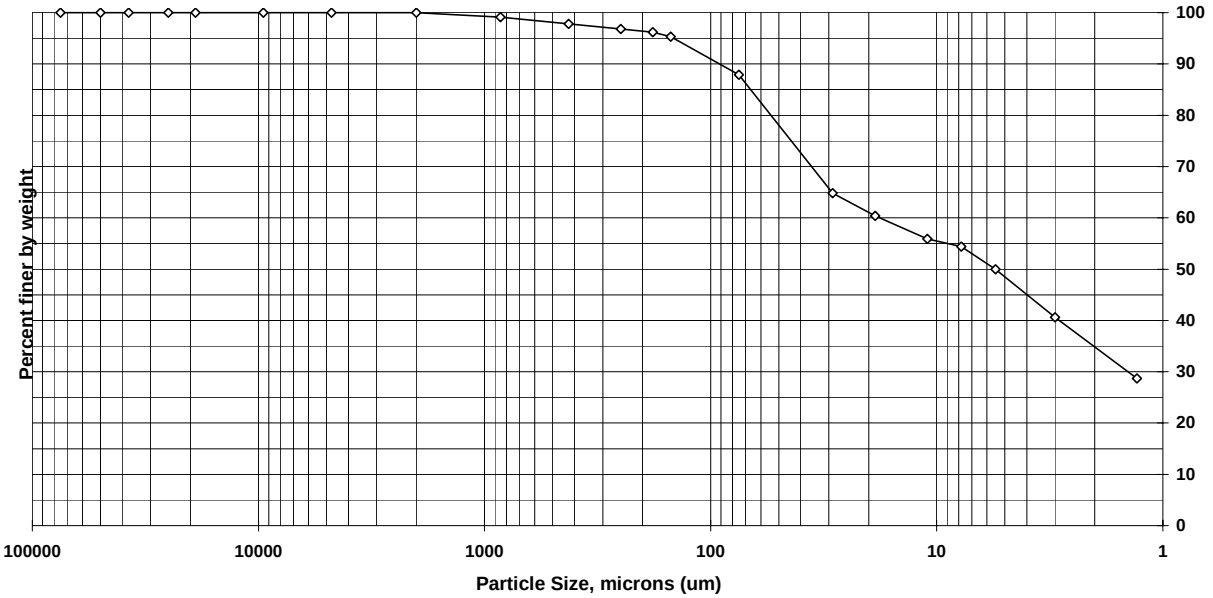
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	ROW-SB19-0810-061114	**Percent Solids:**	78.8%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-9	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.1	0.9
#40	425	97.8	1.3
#60	250	96.8	1.0
#80	180	96.2	0.6
#100	150	95.3	0.9
#200	75	87.9	7.4
Hyd1	28.9	64.8	23.1
Hyd2	18.7	60.4	4.4
Hyd3	11	55.9	4.5
Hyd4	7.8	54.4	1.5
Hyd5	5.5	50.0	4.4
Hyd6	3	40.6	9.4
Hyd7	1.3	28.7	11.9

Soil Classification	Percent of sample
Gravel	0.0
Sand	12.1
Coarse Sand	0.0
Medium Sand	2.2
Fine Sand	9.9
Silt	37.9
Clay	50.0

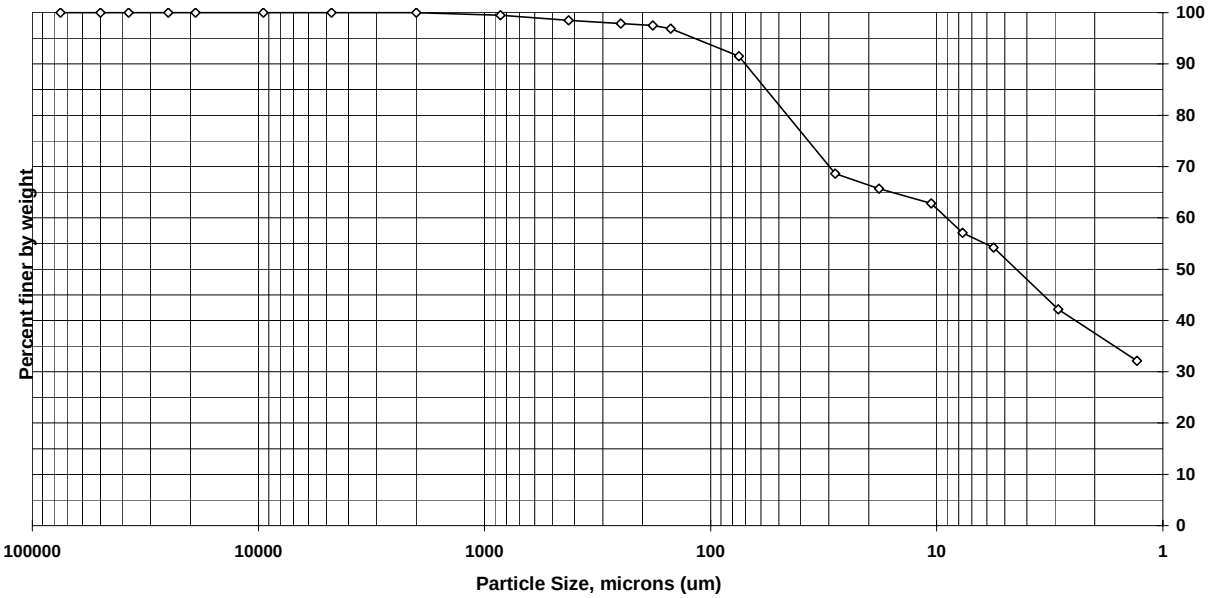
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	ROW-SB19-0810-061114	**Percent Solids:**	77.9%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-10	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): na

Non-soil material: na

Hardness (> #10): na



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	100.0	0.0
#10	2000	100.0	0.0
#20	850	99.5	0.5
#40	425	98.5	1.0
#60	250	97.9	0.6
#80	180	97.5	0.4
#100	150	96.9	0.6
#200	75	91.5	5.4
Hyd1	28.1	68.6	22.9
Hyd2	18	65.7	2.9
Hyd3	10.6	62.8	2.9
Hyd4	7.7	57.1	5.7
Hyd5	5.6	54.2	2.9
Hyd6	2.9	42.2	12.0
Hyd7	1.3	32.1	10.1

Soil Classification	Percent of sample
Gravel	0.0
Sand	8.5
Coarse Sand	0.0
Medium Sand	1.5
Fine Sand	7.0
Silt	37.3
Clay	54.2

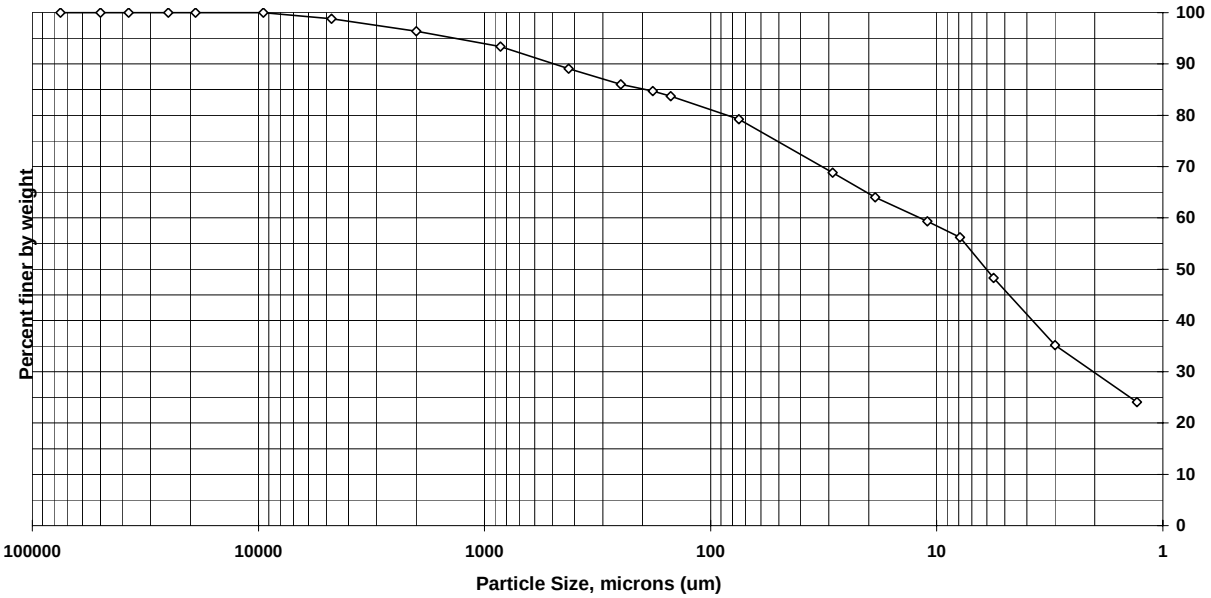
Particle Size of Soils by ASTM D422

				Date Received:	6/13/2014
Sample ID:	ROW-SB21-0810-060914	**Percent Solids:**	68.8%	**Start Date:**	6/17/2014
Lab ID:	200-22775-A-11	**Specific Gravity:**	2.650	**End Date:**	6/20/2014

Shape (> #10): subrounded

Non-soil material: plant

Hardness (> #10): hard



Sieve size	Particle size, um	Percent finer	Incremental percent
3 inch	75000	100.0	0.0
2 inch	50000	100.0	0.0
1.5 inch	37500	100.0	0.0
1 inch	25000	100.0	0.0
3/4 inch	19000	100.0	0.0
3/8 inch	9500	100.0	0.0
#4	4750	98.8	1.2
#10	2000	96.4	2.4
#20	850	93.4	3.0
#40	425	89.1	4.3
#60	250	86.0	3.1
#80	180	84.7	1.3
#100	150	83.7	1.0
#200	75	79.2	4.5
Hyd1	28.9	68.8	10.4
Hyd2	18.7	64.0	4.8
Hyd3	11	59.3	4.7
Hyd4	7.9	56.2	3.1
Hyd5	5.6	48.3	7.9
Hyd6	3	35.2	13.1
Hyd7	1.3	24.1	11.1

Soil Classification	Percent of sample
Gravel	1.2
Sand	19.6
Coarse Sand	2.4
Medium Sand	7.3
Fine Sand	9.9
Silt	30.9
Clay	48.3

APPENDIX G

SLUG TESTING PROCEDURES, ANALYSIS METHODS, AND RESULTS
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

The slug test procedure, analysis methods, and results for the slug test conducted in MW-02, MW-04, and MW-05 in October 2014 are presented below.

METHODS

Water levels for the slug testing were recorded using a transducer. The transducer readings were confirmed by collecting manual measurements using a water level indicator; those readings were used to convert the transducer readings to elevations. The resulting elevations were used to produce individual graphs for each slug test.

Nobis used AQTESOLV aquifer test analysis software to evaluate each slug test using the Bouwer and Rice (1976) method. Although the aquifer material at the Site consists of layers of high (sand) and low (clay) permeability layers which may be individually partially confined, the wells are screened across these smaller units. Therefore, the unconfined solution was selected. Note that the analysis was also performed assuming a confined case as a check; running the confined solution did not change the resulting hydraulic conductivity (K) values significantly for any of the tests.

For all three tests, the bottom of the aquifer was assumed to be 40 feet bgs (the approximate depth to the weathered bedrock unit based on surface geophysics). Therefore, the saturated aquifer thickness was 40 feet minus the depth to water (in feet bgs). Because all three wells were screened across the water table, the effective screen length was measured from the static water table to the bottom of the screen, not the total screen length of 10 feet. The effective screen radius/gravel pack radius was assumed to be the original borehole width (4.5 inches).

Falling head tests were performed because the slug had to be dropped and the water levels allowed to stabilize in order to prepare for the rising head tests. However, falling head tests are not accurate for wells screened across the water table because of drainage/dewatering issues; therefore they were not used to determine the final hydraulic conductivity (K) for each well.

RESULTS

Slug test results and notes are provided in the following table.

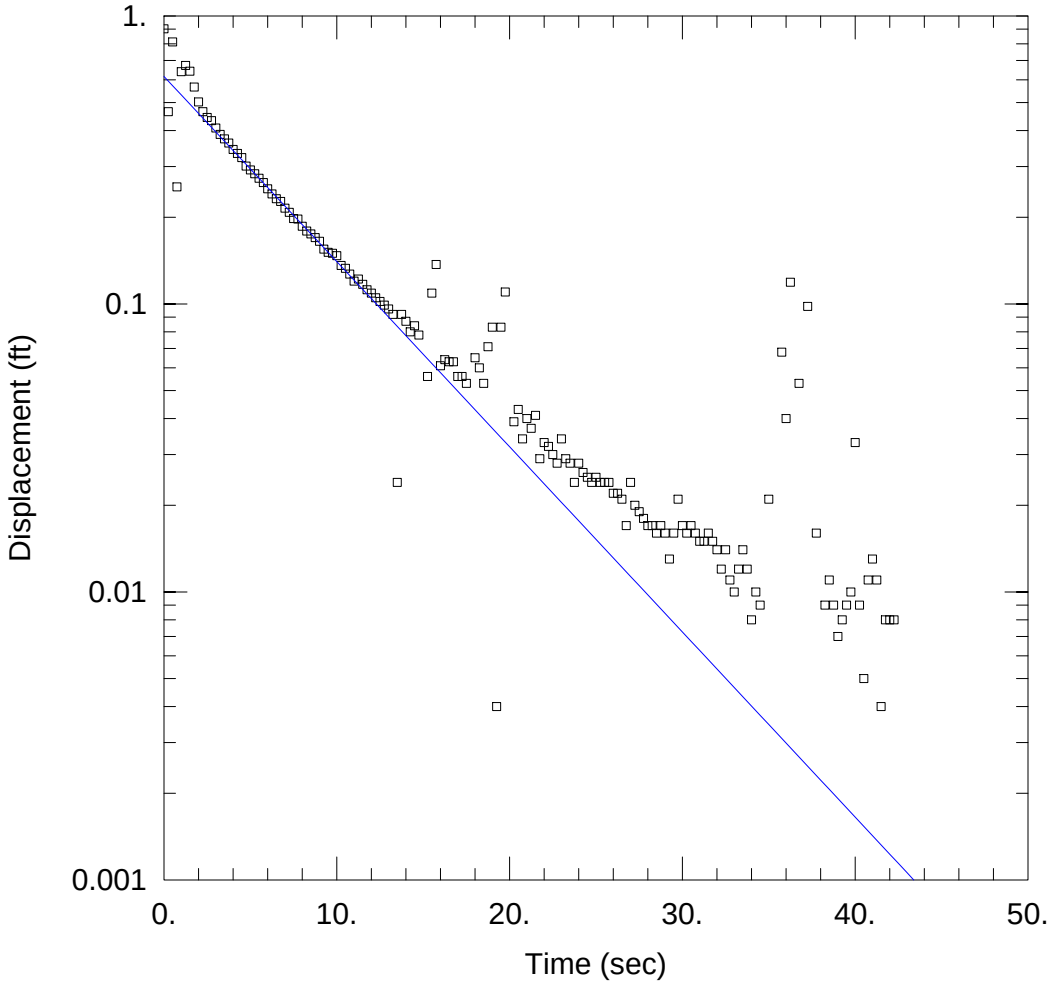
Well ID	Test #	Rising head test K (ft/day)	Falling head test K (ft/day)	Final K (ft/day)	Notes
MW-02	1	17.06	26.45	16.6	Both rising and falling head tests had excellent curve fits. Average of rising head used for final K.
	2	16.16	25.28		
MW-04	1	0.2782	0.2843	0.278	Falling head test has pronounced drainage effects. Used only rising head test.
MW-05	1	0.6157	--	0.638	Average of rising head test used for final K. Falling head test 1 not evaluated - transducer apparently moved during test. Falling head test 2 & 3 had same K values, but different curve shapes
	2	0.6586	0.7312		
	3	0.6389	0.7312		

Note: K – Hydraulic conductivity

REFERENCES

Bouwer, H. and R. C. Rice. 1976. A slug test for determining hydraulic conductivity of unconfined aquifers with complete or partially penetrating wells. Water Resource Research, v. 12, No. 3, pp. 423-428.

Bouwer, H. 1989. The Bouwer and Rice slug test – an update. Groundwater, V. 27, No. 3, pp. 304-.09. May 1989.



MW-02 FALLING HEAD TEST 01

Data Set: R:\...\MW-2_falling_head_1.aqt
Date: 12/23/14 Time: 12:24:34

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-02
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 31.41 ft Anisotropy Ratio (Kz/Kr): 1.

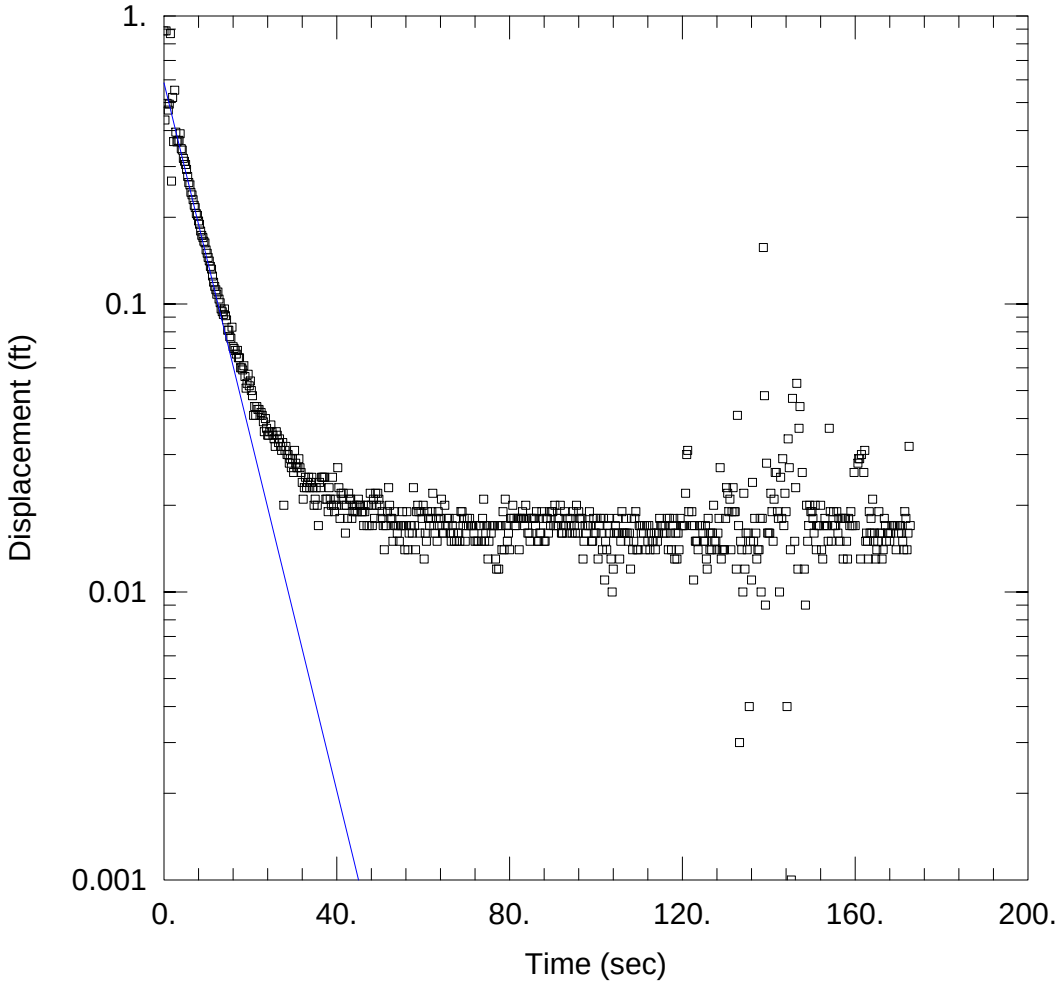
WELL DATA (MW-02)

Initial Displacement: 0.902 ft Static Water Column Height: 4.73 ft
Total Well Penetration Depth: 3.81 ft Screen Length: 3.81 ft
Casing Radius: 0.083 ft Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 26.45 ft/day y0 = 0.6165 ft



MW-02 FALLING HEAD TEST 02

Data Set: R:\...\MW-2_falling_head_2.aqt
Date: 12/23/14 Time: 12:26:13

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-02
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 31.41 ft Anisotropy Ratio (Kz/Kr): 1.

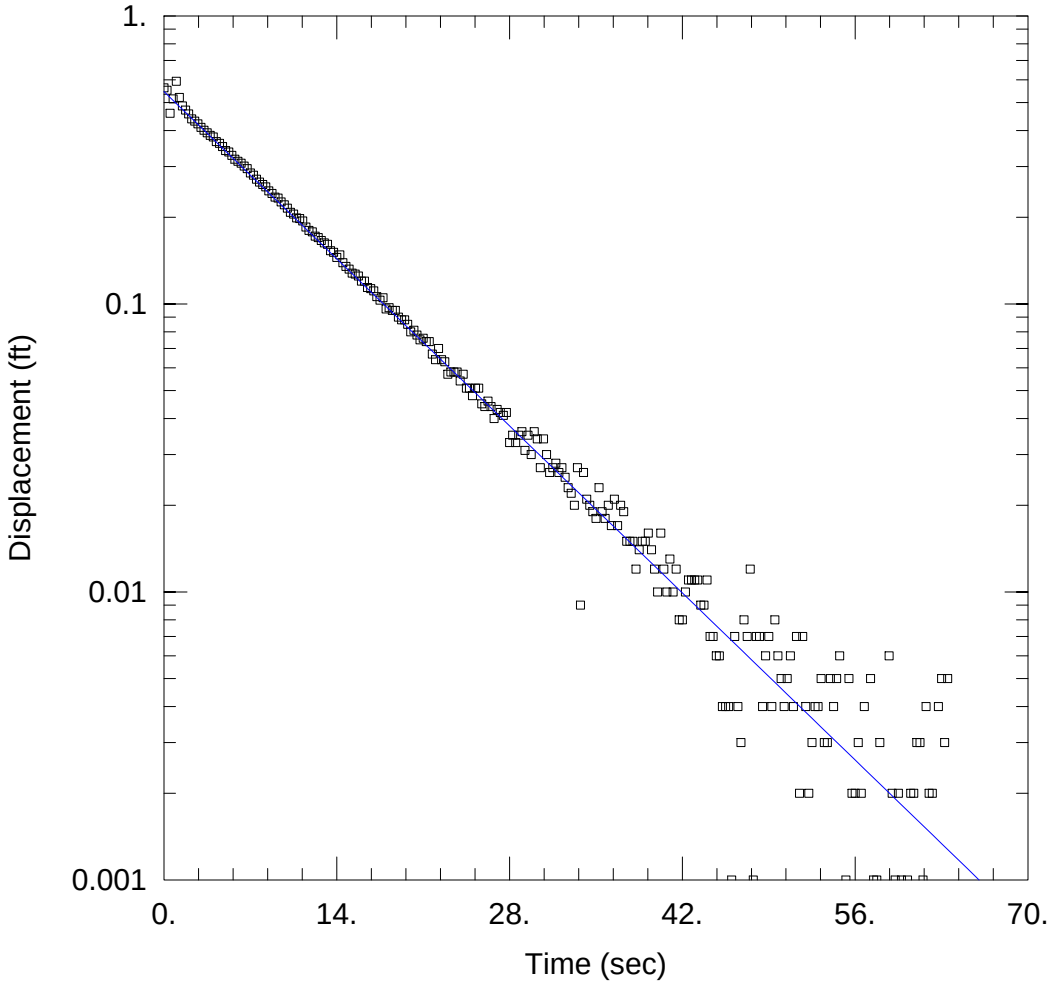
WELL DATA (MW-02)

Initial Displacement: 0.887 ft Static Water Column Height: 4.73 ft
Total Well Penetration Depth: 3.81 ft Screen Length: 3.81 ft
Casing Radius: 0.083 ft Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 25.28 ft/day y0 = 0.5852 ft



MW-02 RISING HEAD TEST 01

Data Set: R:\...\MW-2_rising_head_1.aqt
Date: 12/23/14 Time: 12:41:59

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-04
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 30.81 ft Anisotropy Ratio (Kz/Kr): 1.

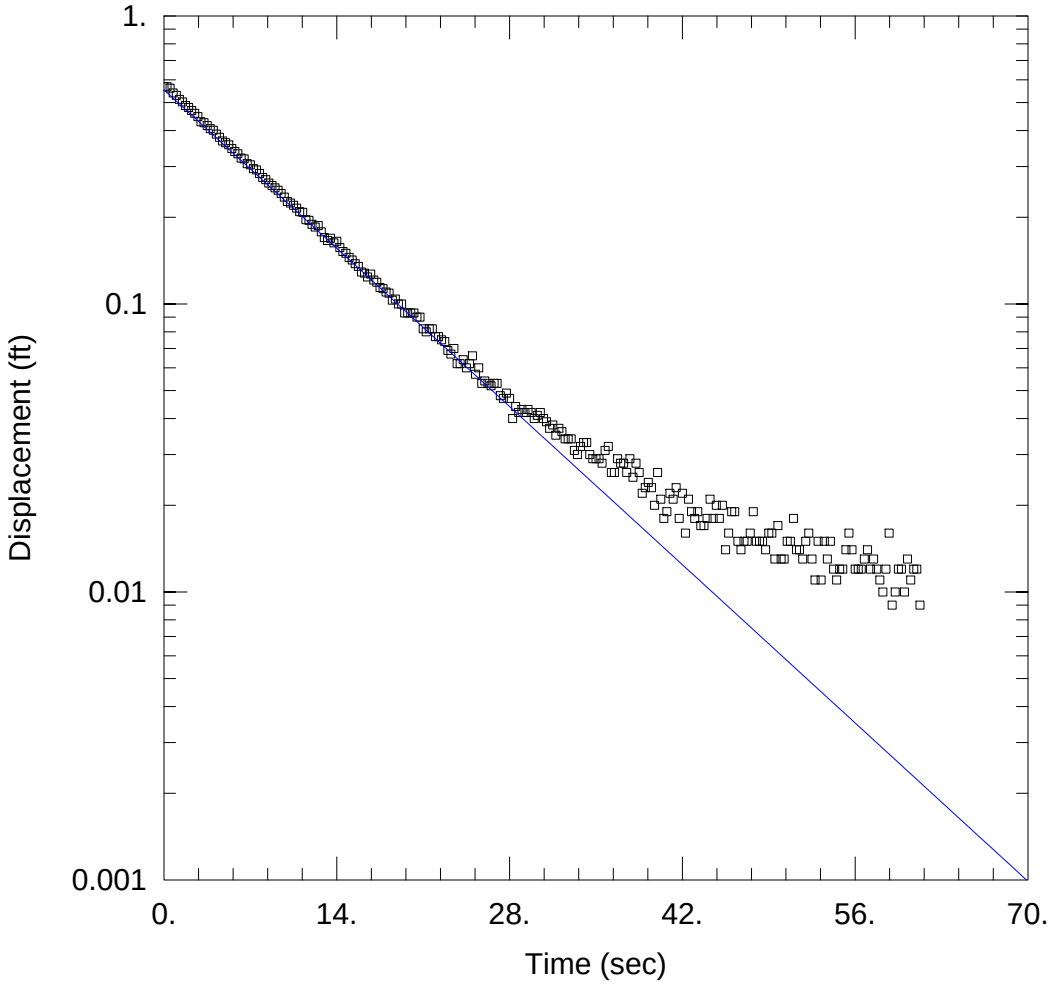
WELL DATA (MW-02)

Initial Displacement: 0.563 ft
Total Well Penetration Depth: 3.81 ft
Casing Radius: 0.083 ft
Static Water Column Height: 5.81 ft
Screen Length: 3.81 ft
Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 17.06 ft/day y0 = 0.5462 ft



MW-02 RISING HEAD TEST 02

Data Set: R:\...\MW-2_rising_head_2.aqt
Date: 12/23/14 Time: 12:43:53

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-02
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 30.81 ft Anisotropy Ratio (Kz/Kr): 1.

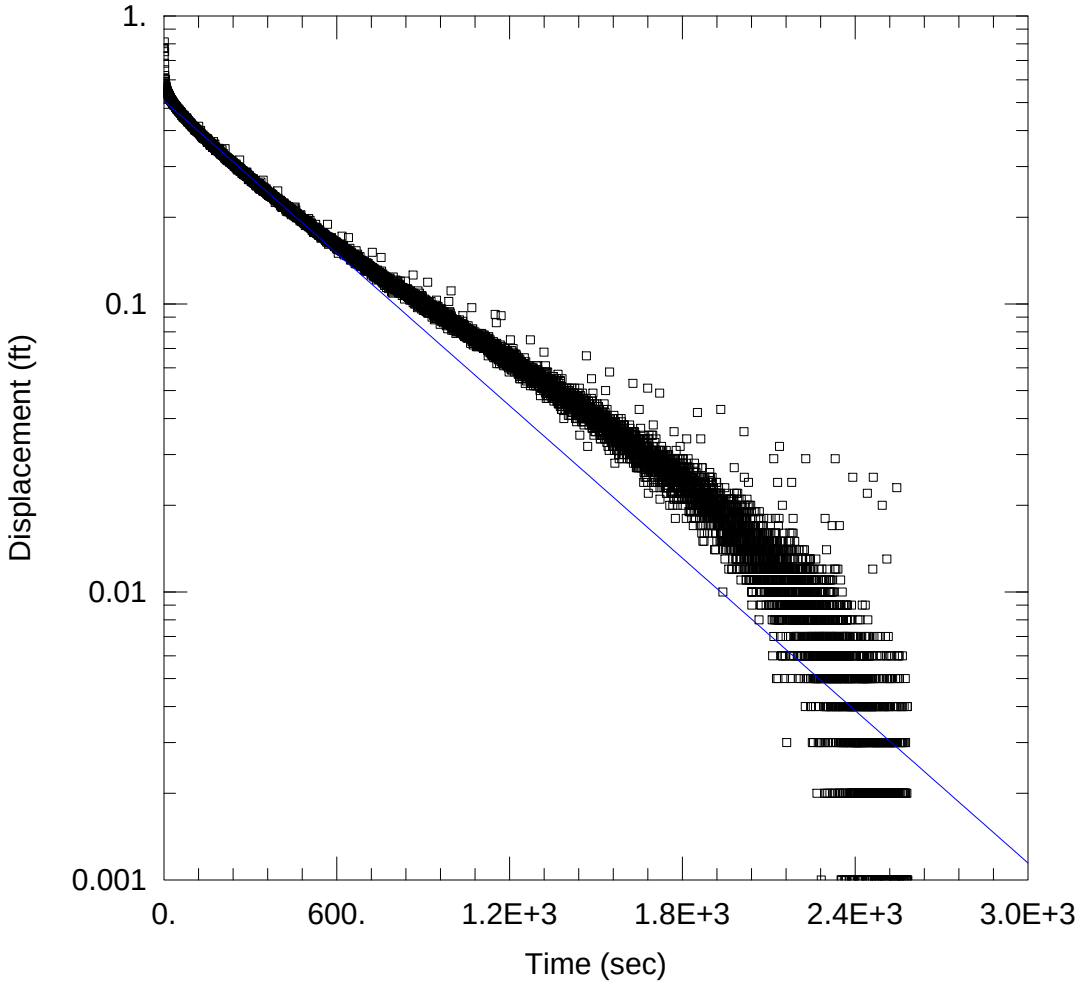
WELL DATA (MW-02)

Initial Displacement: 0.568 ft Static Water Column Height: 5.81 ft
Total Well Penetration Depth: 3.81 ft Screen Length: 3.81 ft
Casing Radius: 0.083 ft Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 16.16 ft/day y0 = 0.5539 ft



MW-04 FALLING HEAD TEST 01

Data Set: R:\...\MW-4_falling_head_1.aqt
Date: 12/23/14 Time: 12:45:14

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-04
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 32.47 ft Anisotropy Ratio (Kz/Kr): 1.

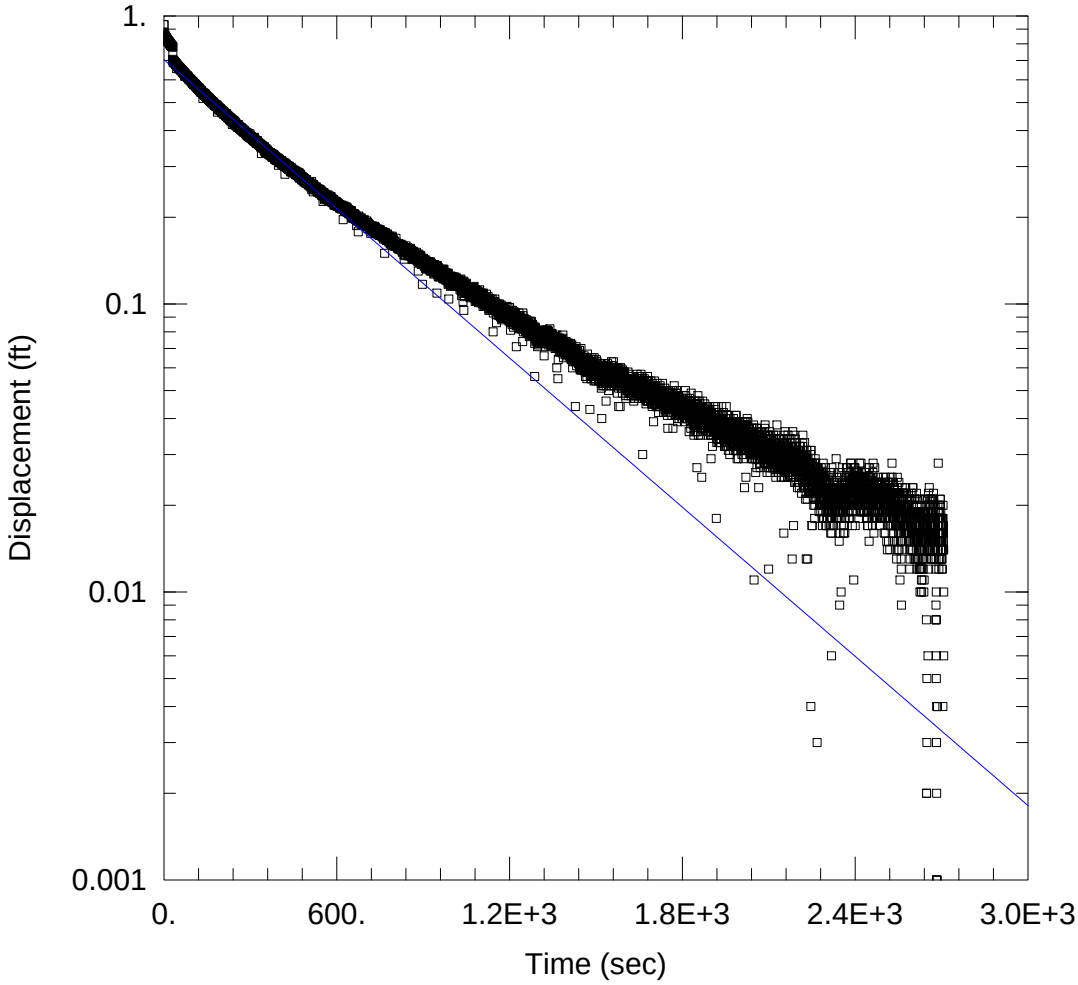
WELL DATA (MW-04)

Initial Displacement: 0.773 ft Static Water Column Height: 6.84 ft
Total Well Penetration Depth: 5.47 ft Screen Length: 5.47 ft
Casing Radius: 0.083 ft Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.2843 ft/day y0 = 0.5071 ft



MW-04 RISING HEAD TEST 01

Data Set: R:\...\MW-4_rising_head_1.aqt
Date: 12/23/14 Time: 12:46:54

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-04
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 32.47 ft Anisotropy Ratio (Kz/Kr): 1.

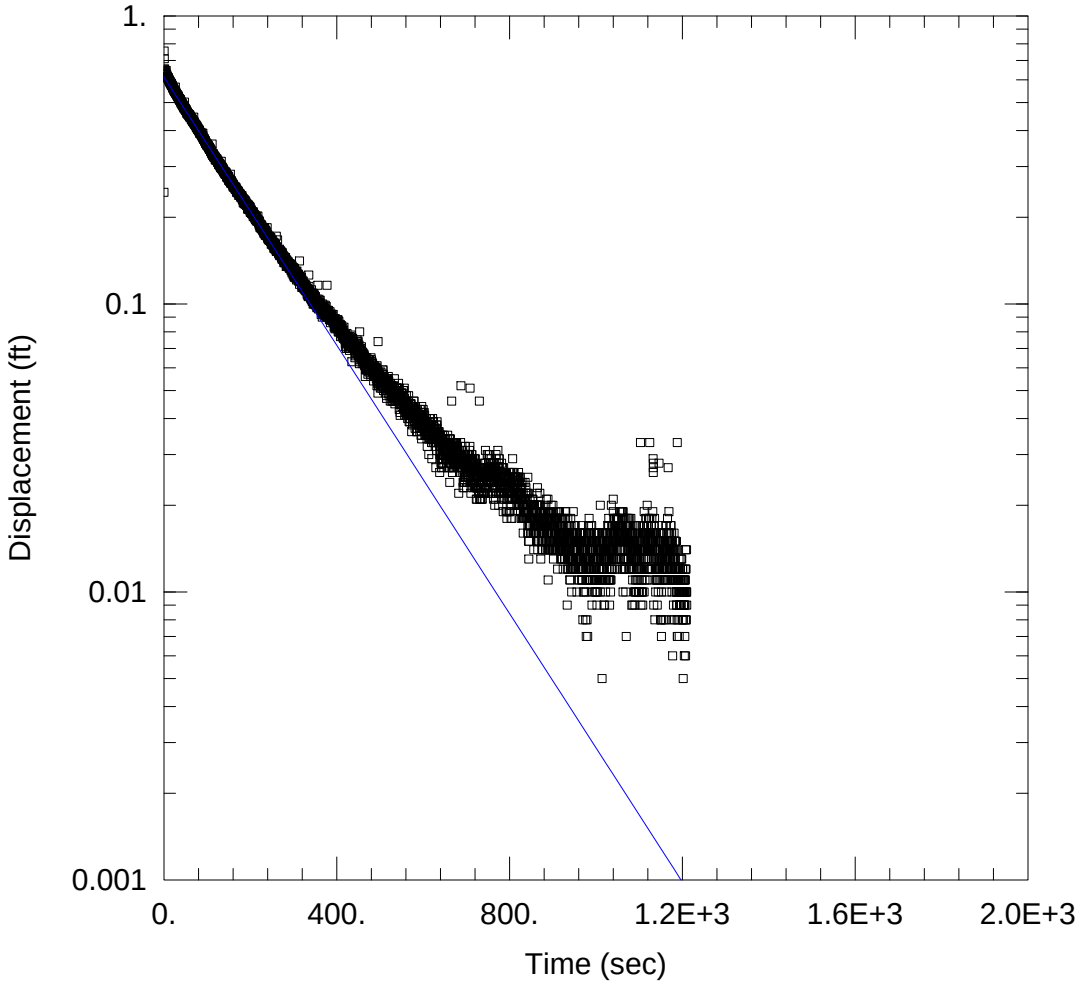
WELL DATA (MW-04)

Initial Displacement: 0.933 ft Static Water Column Height: 6.84 ft
Total Well Penetration Depth: 5.47 ft Screen Length: 5.47 ft
Casing Radius: 0.083 ft Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.2782 ft/day y0 = 0.7048 ft



MW-05 FALLING HEAD TEST 02

Data Set: R:\...\MW-5_falling_head_2.aqt
Date: 12/23/14 Time: 12:47:33

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-05
Test Date: 10/15/14

AQUIFER DATA

Saturated Thickness: 32.7 ft
Anisotropy Ratio (Kz/Kr): 1.

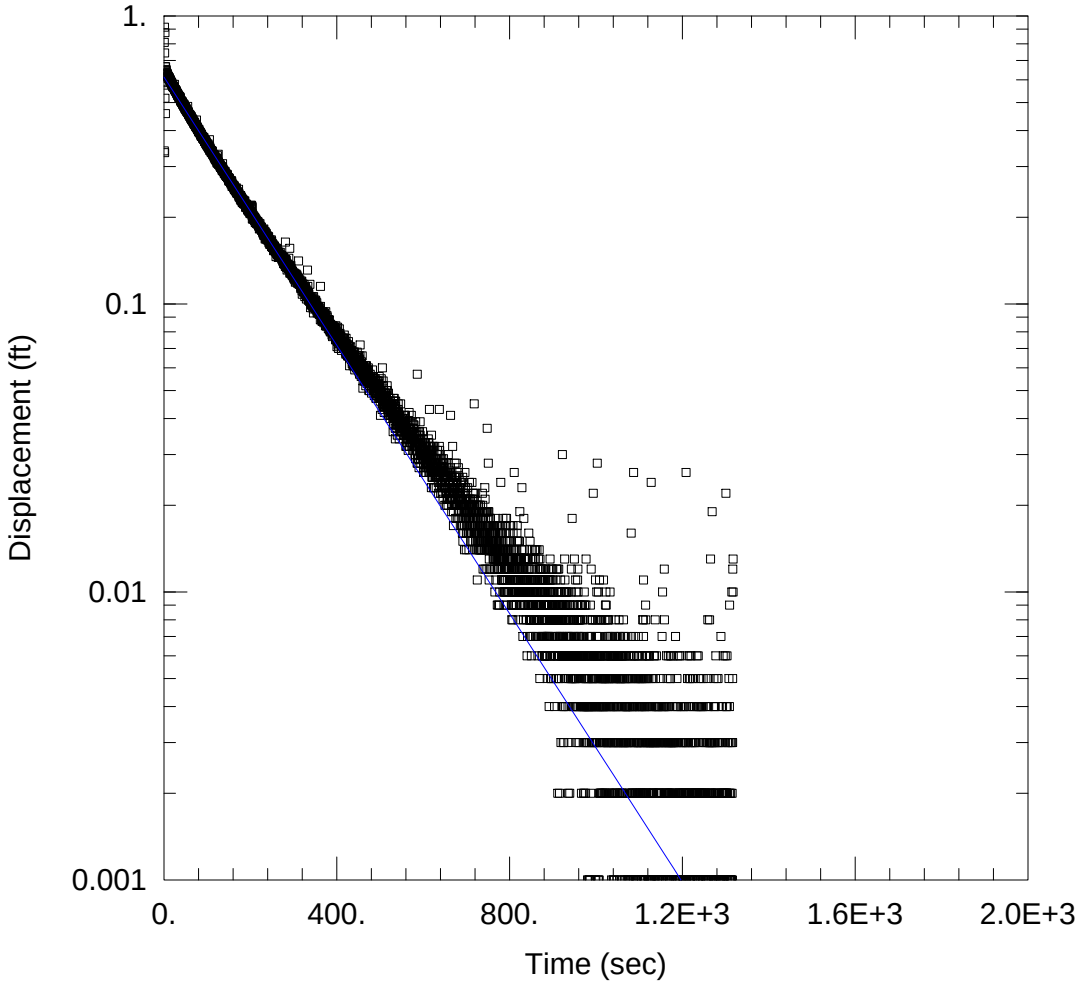
WELL DATA (MW-05)

Initial Displacement: 1.202 ft
Total Well Penetration Depth: 5.68 ft
Casing Radius: 0.083 ft
Static Water Column Height: 7.68 ft
Screen Length: 5.68 ft
Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.7312 ft/day
y0 = 0.6134 ft



MW-05 FALLING HEAD TEST 03

Data Set: R:\...\MW-5_falling_head_3.aqt
Date: 12/23/14 Time: 12:48:31

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-05
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 32.7 ft
Anisotropy Ratio (Kz/Kr): 1.

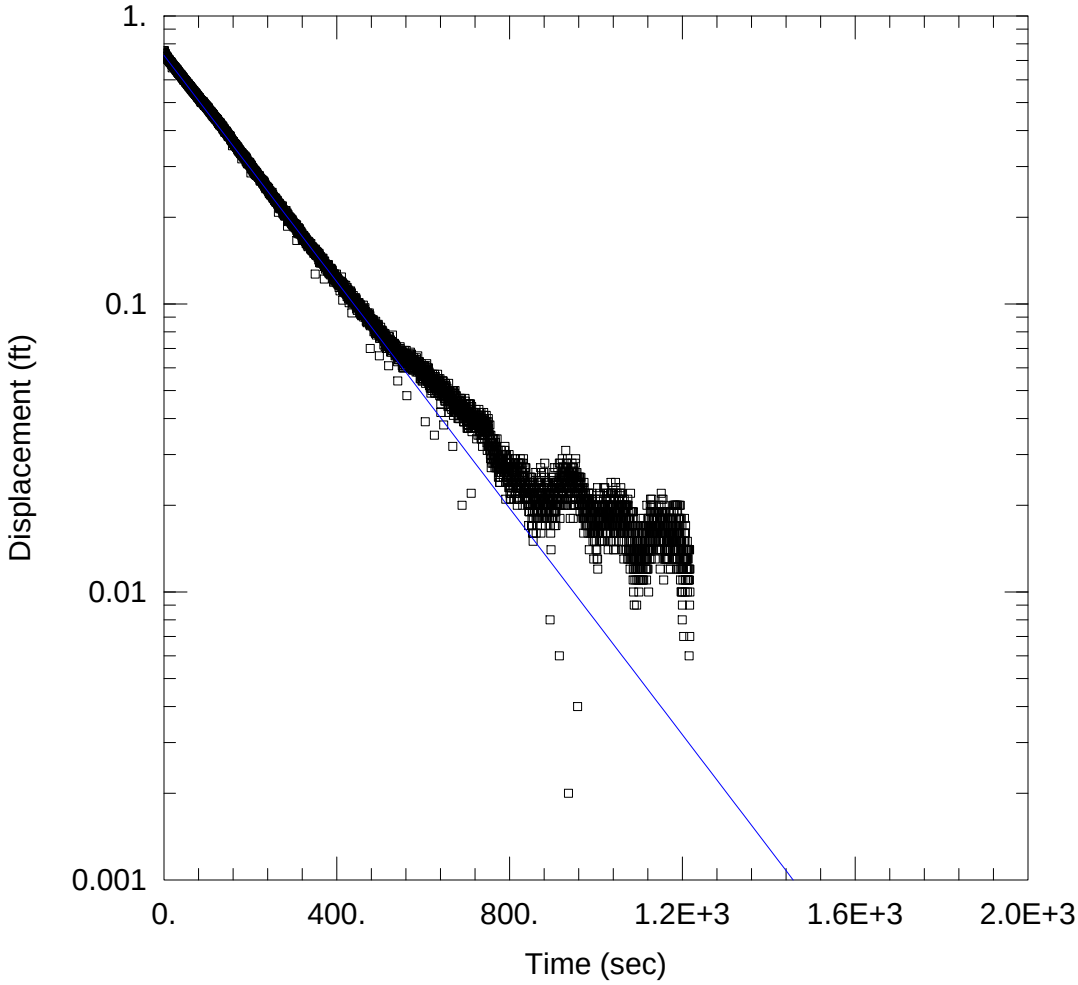
WELL DATA (MW-05)

Initial Displacement: 1.185 ft
Total Well Penetration Depth: 5.68 ft
Casing Radius: 0.083 ft
Static Water Column Height: 7.68 ft
Screen Length: 5.68 ft
Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.7312 ft/day
y0 = 0.6134 ft



MW-05 RISING HEAD TEST 01

Data Set: R:\...\MW-5_rising_head_1.aqt
Date: 12/23/14 Time: 12:48:54

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-05
Test Date: 10/15/14

AQUIFER DATA

Saturated Thickness: 32.7 ft Anisotropy Ratio (Kz/Kr): 1.

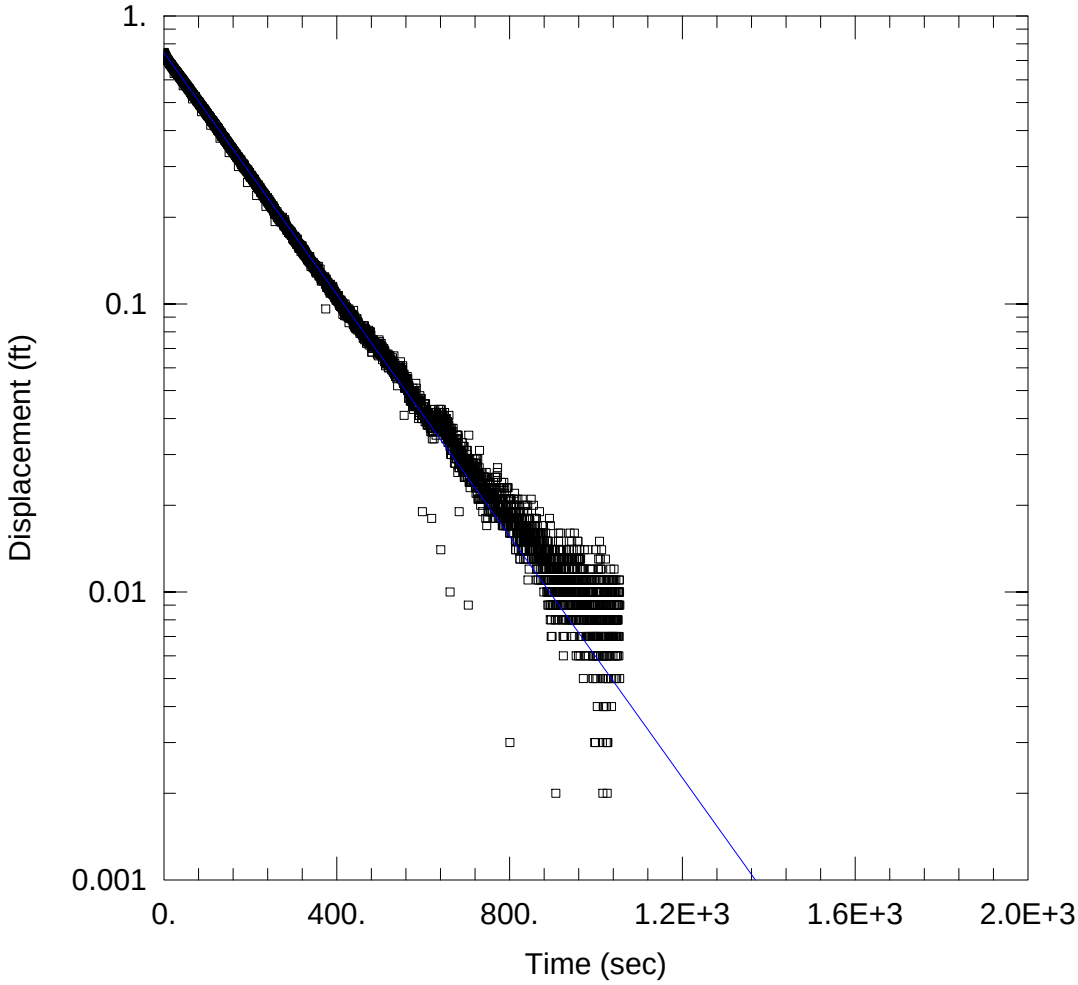
WELL DATA (MW-05)

Initial Displacement: 0.758 ft
Total Well Penetration Depth: 5.7 ft
Casing Radius: 0.083 ft
Static Water Column Height: 7.7 ft
Screen Length: 5.7 ft
Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.6157 ft/day y0 = 0.7298 ft



MW-05 RISING HEAD TEST 02

Data Set: R:\...\MW-5_rising_head_2.aqt
Date: 12/23/14 Time: 12:49:43

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-05
Test Date: 10/15/14

AQUIFER DATA

Saturated Thickness: 32.7 ft Anisotropy Ratio (Kz/Kr): 1.

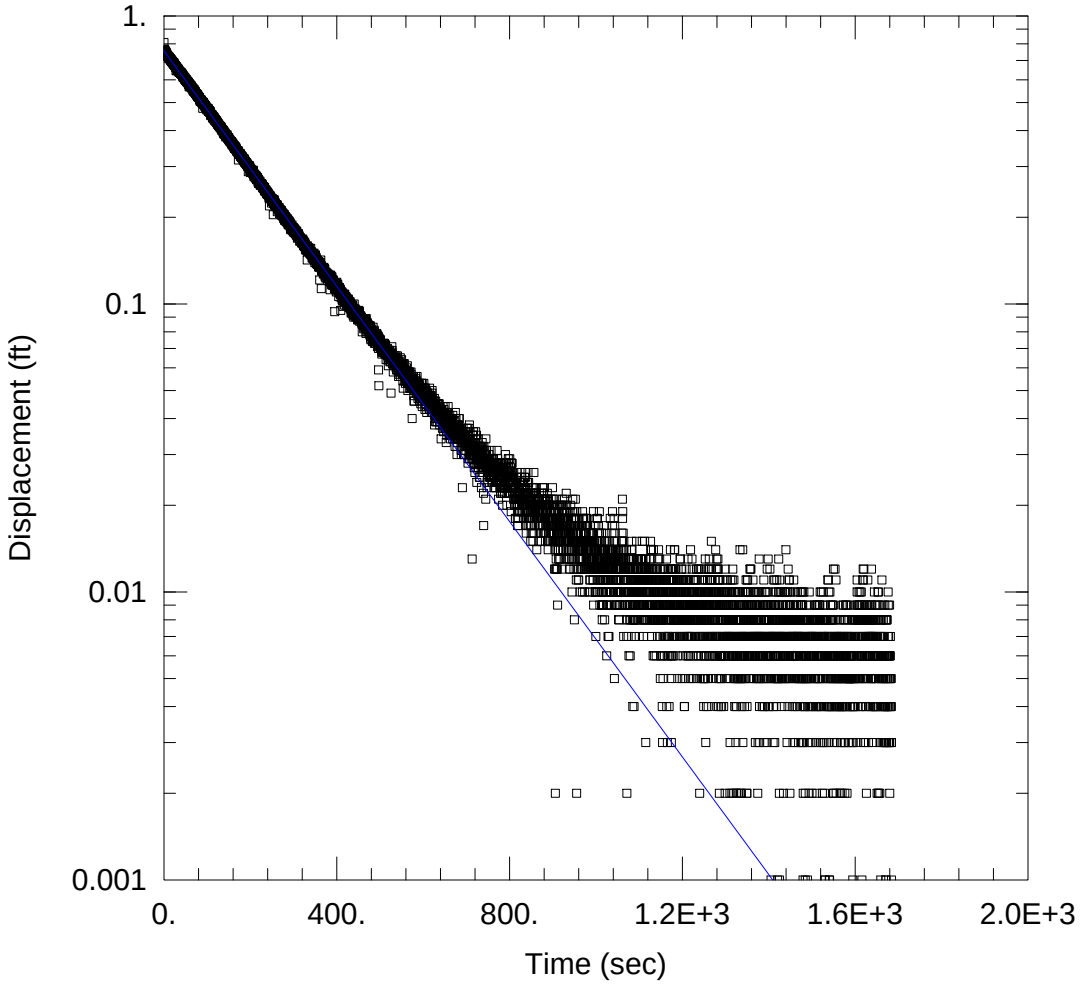
WELL DATA (MW-05)

Initial Displacement: 0.747 ft Static Water Column Height: 7.68 ft
Total Well Penetration Depth: 5.68 ft Screen Length: 5.68 ft
Casing Radius: 0.083 ft Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined Solution Method: Bouwer-Rice

K = 0.6586 ft/day y0 = 0.7447 ft



MW-05 RISING HEAD TEST 03

Data Set: R:\...\MW-5_rising_head_3.aqt
Date: 12/23/14 Time: 12:50:15

PROJECT INFORMATION

Company: Nobis Engineering
Client: EPA
Project: 80095
Location: Danvers, MA
Test Well: MW-05
Test Date: 10/17/14

AQUIFER DATA

Saturated Thickness: 32.7 ft Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-05)

Initial Displacement: 1.6 ft
Total Well Penetration Depth: 5.71 ft
Casing Radius: 0.083 ft
Static Water Column Height: 8.1 ft
Screen Length: 5.71 ft
Well Radius: 0.083 ft

SOLUTION

Aquifer Model: Unconfined
Solution Method: Bouwer-Rice

K = 0.6389 ft/day
y0 = 0.7555 ft

APPENDIX H

Nobis
Engineering a Sustainable Future

December 12, 2014
File No. 80095

U.S Environmental Protection Agency, Region 1
Attention: Mr. Derrick Golden, Task Order Project Officer
5 Post Office Square, Suite 100
Boston, Massachusetts 02109-3919

Subject: Transmittal of Thallium and Arsenic Soil Results Technical Memorandum
Creese & Cook Tannery (Former) Superfund Site, Danvers, Massachusetts
Remedial Investigation/Feasibility Study
Task Order No. 0095-RI-CO-01HL

Dear Mr. Golden:

Enclosed for EPA's review and approval is the Thallium and Arsenic Soil Results Technical Memorandum prepared by Nobis for the Creese & Cook Tannery (Former) Superfund Site, Danvers, Massachusetts.

Please contact me at (978) 703-6025 or dbaxter@nobiseng.com if you have any questions or comments on this transmittal.

Sincerely,

NOBIS ENGINEERING, INC.

Diane M. Baxter
Senior Project Manager

Attachment

c: File No. 80095/MA (w/attach.)

Nobis Engineering, Inc.
585 Middlesex Street
Lowell, MA 01851
T (978) 683-0891

THALLIUM AND ARSENIC SOIL RESULTS
TECHNICAL MEMORANDUM
CREESE & COOK TANNERY (FORMER) SUPERFUND SITE
DANVERS, MASSACHUSETTS

1.0 EVALUATION OF THALLIUM IN SOILS

In the summer of 2014, Nobis Engineering, Inc. (Nobis) completed a round of soil sampling at the Creese & Cook Tannery (Former) Superfund Site (the Site) under the U.S. Environmental Protection Agency (EPA) Remedial Action Contract No. EP-SI-06-03, Task Order No. 0095-RICO-01HL, and according to the Quality Assurance Project Plan (QAPP) for the Site prepared by Nobis and dated May 2014 (Nobis, 2014). Nobis performed Tier 1 Plus (90 percent)/Tier 2 (10 percent) data review of the soil sample data from this sampling event in accordance with the *EPA New England Environmental Data Review Supplement for Regional Data Review Elements and Superfund Specific Guidance/Procedures* (EPA, 2013); the *USEPA's Contract Laboratory Program National Functional Guidelines for Inorganic Superfund Data Review* (EPA, 2010a); and the site-specific QAPP (Nobis, 2014).

Thallium results from the 2014 soil samples were compared to and with the thallium results from the 2011 soil sampling event conducted by Weston Solutions, Inc. (Weston) on behalf of EPA (Weston, 2012). It became evident that thallium results from the 2014 soil samples (concentrations ranging from 0.052 J mg/kg to 0.38 J mg/kg) were an order of magnitude lower than soil samples collected in 2011 (concentrations ranging from 1 J mg/kg to 8.3 J mg/kg), even though the samples were collected from the same general area. Human health risk assessment calculations were performed on a subset of surface soil analytical results to determine whether removal actions should be considered at the Site. Preliminary results of the assessment indicated that thallium concentrations, elevated due to the higher 2011 data set, drove the total risk. Concentrations of arsenic, the primary contaminant of concern, also contributed to the risk, but to a lesser extent. The validity of these results was questioned because thallium is not an expected site contaminant based on the historical site use related to tannery operations. Nobis conducted additional data review and literature review to help assess the validity of the thallium data.

The information below summarizes the additional data review and literature review completed, and presents lines of evidence to determine whether the 2011 thallium results should be included in the dataset for the Site, given the disparity between reported concentrations and the 2014

dataset. Based on the data review and research performed to investigate thallium, evidence was also found that supports the potential for false positive or high-biased arsenic concentrations. Therefore, a review of arsenic data was also performed to evaluate this potential. The arsenic data review and research findings are presented following the thallium discussion.

1.1 Thallium Data Validation Review

A summary of the soil samples analyzed for thallium is provided in the table below.

Summary of Thallium Results

Dataset	# Samples	# Detections	Min (mg/kg)	Max (mg/kg)	Method	Location of Max
2011	94	67	1 J	8.3 J	ICP-AES	SB-15 (3-4); SB-11(8-12)
2014	201	175	0.052 J	0.38 J	ICP-MS	12CH-SB04-0204

Notes:
ICP-AES – inductively coupled plasma-atomic emission spectroscopy
ICP-MS – inductively coupled plasma-mass spectrometry
J – estimated result

In order to evaluate the discrepancy in relative concentrations between the two datasets and the concern about potential false positives, both sets of data were re-reviewed. The 2011 samples were analyzed by EPA Contract Laboratory Program (CLP) Statement of Work (SOW) for Inorganic Superfund Methods (Multi-Media, Multi-Concentration), ISM01.2 (EPA, 2010b). The 2014 samples were analyzed using the current revision of this SOW, ISM01.3. These methods require the analysis of interference check samples to monitor the potential for false positives and negatives as a result of high concentrations of interferents (aluminum, calcium, iron, and magnesium) in the samples.

2014 Dataset – All soil samples collected in 2014 were analyzed for thallium using the inductively coupled plasma-mass spectrometry (ICP-MS) method. A subset of samples collected in 2014 was also analyzed using inductively coupled plasma-atomic emission spectroscopy (ICP-AES). The subset of thallium samples analyzed using both analytical techniques allowed Nobis to compare results from the two methods. All ICP-AES thallium results for field samples in this subset were non-detect, with a reporting limit of 2.5 milligrams per kilogram (mg/kg). ICP-MS thallium results for the same samples were all positive and below the method reporting limit of 0.5 mg/kg. These

results are reasonable given the lower detection limits for the ICP-MS method (0.5 mg/kg vs. 2.5 mg/kg for ICP-AES). In addition, interference check sample data associated with the soil sample analyses were re-reviewed to evaluate the potential for false positives. Results of the review indicate it is unlikely that sample results are either biased high or low by interference or are false-positive or false-negative for both methods. In order to provide the lowest possible reporting limit, only the ICP-MS results were included in the site database.

2011 Dataset – Samples collected in 2011 were analyzed for thallium using the ICP-AES method only. A review of the data validation memos prepared by Weston associated with the 2011 samples did not indicate a potential high bias or false positive scenario, and the interference evaluation performed as part of the data validation process in 2011 was thorough and complete. Additionally, false positives were not likely due to laboratory or method blank contamination.

1.2 Thallium Lines of Evidence

In an effort to explain why the 2011 thallium results were markedly different from the 2014 thallium results, additional data evaluation and research were performed, and the following lines of evidence were developed.

Historical Thallium Uses

According to the Agency for Toxic Substances and Disease Registry's (ATSDR) 1992 Toxicological Profile for Thallium, domestic production of thallium was as a byproduct of smelting zinc, copper, and lead ores, which had ceased in 1981. As of 1992 only six United States facilities imported, used, or produced thallium and its compounds. None was located in Massachusetts. Thallium is most commonly used in the semiconductor industry to produce switches and closures. To a lesser extent it is also used in the pharmaceutical industry for cardiac imaging, and to manufacture highly refractive optical glass. Prior to its ban in 1972, thallium was used as a pesticide for rodent and insect control. There is no evidence of thallium associated with tannery wastes. There is no evidence of activities being performed at the Site that are consistent with those mentioned above.

Comparative Sample Results

In order to rule out that soil samples with higher concentrations were collected from different areas of the Site, a comparison of thallium results from 2011 and 2014 from samples located close to each other was performed. Results of ten pairs of closely located samples are provided below. Figure 1 shows the locations of the sample pairs.

20 Cheever Street

Date	Sample Location	Thallium (mg/kg)
2011	SS28 (0.7-2)	3.4
2014	20CH-10 (0-0.5)	0.1 J
2011	SS29 (0-1.5)	2.8
2014	ROW-10 (0-0.5)	0.46 U
2011	SS-14 (0-2)	1.3
2014	20CH-11(0-0.5)	0.062 J
2011	SS27 (0-1)	3.7
2014	20CH-15 (0-0.5)	0.18 J
2011	SB-13 (3-4.5)	7.6
2014	20CH-14 (2-4)	0.27 J
2011	SB-15 (3-4)	8.3
2014	20CH-05 (2-4)	0.32 J

33 Water Street

Date	Sample Location	Thallium (mg/kg)
2011	SS10 (0.5-2)	3.3
2014	33WS-10 (0-0.5)	0.11 J
2011	SS04 (0-1)	3.5
2014	33WS-16 (1-2)	0.14 J
2011	SS05 (0.5-1.7)	6.5
2014	33WS-05 (0-0.5)	0.39 U
2011	SS18 (0-1)	4.8
2014	33WS-04 (0-0.5)	0.12 J

The comparison confirmed that soil samples collected from similar locations and similar depths contained markedly different concentrations of thallium.

Laboratory Verification

Discussions with CLP laboratories regarding potential instrument interferences for thallium analyses confirmed the following:

- ICP-AES analysis for thallium has several interferent analytes (e.g., aluminum, arsenic, vanadium, and titanium).
- The CLP SOW evaluates interferences through the interference check sample due to aluminum, arsenic, and vanadium but not for titanium.

- The ICP-AES instrument has a detector chip, which may cause interference for thallium.
- This detector interference varies from instrument to instrument and some instruments can handle analysis without interference if appropriate corrections are applied.
- ICP-MS does not typically require correction for these interferences, therefore, ICP-MS is recommended for confirmation of ICP-AES detections.

These discussions concluded that ICP-AES analysis for thallium can potentially be impacted by elemental and/or instrument interferences.

Literature Review

Arsenic and Thallium Data in Environmental Samples: Fact or Fiction? (Chapnick, 2010) was reviewed to assist with the understanding of potential interferences with ICP-AES analysis of thallium.

Case studies are presented to demonstrate three different sites where matrix interferences affected the accuracy of arsenic and thallium results even when EPA method quality control (QC) results were acceptable. A summary of the relevant points in this article is presented below.

a. Two of the case studies discuss ICP-AES thallium results in soil and groundwater, with re-analysis by ICP-MS. The first case study (19 soil samples) showed all ICP-AES results were significantly (relative percent difference (RPD) greater than 50 percent) greater than the ICP-MS results. The ICP-AES results for the second study (27 groundwater samples) indicated that remedial action was required at the site due to a potential risk based on thallium concentrations. Re-sampling of the locations and analysis by ICP-MS was conducted. All ICP-MS results for the re-sampled wells had either non-detectable levels of thallium or trace levels detected at less than 1.0 microgram per liter (ug/L). The authors used a weight-of-evidence approach to conclude that the ICP-MS results are most representative of site concentrations for both sites and that no action was required for remediation as a result of this approach.

b. The authors reference a EPA Office of Technical Standards (OTS) Alert (EPA, 2001a) that estimates environmental data reported using ICP-AES have a false-positive rate for thallium of 99.9 percent (water, soil, and sediment matrices). The OTS Alert includes a

EPA Region 4 presentation from May 2001 (EPA, 2001b) that provides evidence of interelement interferences causing false positives or biased high results for thallium by ICP-AES.

c. The authors provide a detailed discussion of spectral interferences as the basis for the cause of the differences in thallium results by method. In addition to the information provided in the OTS Alert documenting interferences in environmental samples analyzed by ICP-AES, the authors reference a source of work that shows that thallium results are *not* impacted by spectral interferences when ICP-MS is used (arsenic results may be impacted though).

d. The authors note that the EPA Region 4 presentation (EPA, 2001b) also presents evidence of interference caused by elements that are not typically included on the standard analyte list. Titanium is noted specifically, as causing positive interference for thallium. (Titanium was present in the 2011 data (one data sample set), ranging in concentration from approximately 356 to 638 mg/kg).

e. The authors conclude that, for thallium at least, ICP-MS is a more definitive and accurate method of analysis compared to ICP-AES.

f. In the case studies presented, the authors' weight-of-evidence approach included the following topics:

    i. Site history – thallium concentrations resulting from the ICP-AES analysis were not anticipated or consistent with the history of the sites;

    ii. Sensitivity – despite potential acceptable QC for analyses by both ICP-AES and ICP-MS, the ICP-MS method is much more sensitive than ICP-AES and therefore, false positives and negatives are minimized;

    iii. Thallium interference – no spectral interferences for thallium on ICP-MS while there are documented interferences for thallium by ICP-AES; and

iv. EPA confirmation of interference – the authors cite the EPA OTS Alert (EPA, 2001a) document as confirmation of documented false-positive data for thallium by ICP-AES.

2.0 EVALUATION OF ARSENIC IN SOILS

The research performed to investigate thallium also identified a potential for false positive or high-biased arsenic concentrations when using the ICP-AES method. Because arsenic is also considered to be a risk driver at the Site, the 2011 and 2014 data were reviewed using a similar approach to that detailed above for evaluating validation of thallium data, and documenting lines of evidence for thallium detection.

Soil samples collected in 2014 were analyzed for arsenic by a combination of ICP-MS and ICP-AES. A total of 201 soil samples were analyzed for arsenic; 83 of these (approximately 40 percent) were analyzed by ICP-AES; the remaining 118 were analyzed by ICP-MS. All the soil samples collected in 2011 were analyzed for arsenic using the ICP-AES method.

A summary of the soil samples analyzed for arsenic is provided in the table below.

Date	# Samples	# Detections	Min (mg/kg)	Max (mg/kg)	Method	Location of Max
2011	126	122	3.8 JEB	1530 J	ICP-AES	SS-01C (2-3)
2014	83	83	2.9	522	ICP-AES	20CHH-SB11-0204
2014	118	118	4 J	401 J	ICP-MS	33WS-SB06-0406

Note: EB – contamination in the equipment blank

2.1 Arsenic Data Validation Review

Analytical results for the 2014 soil samples were re-reviewed to evaluate the potential for false-positive arsenic results due to possible interference from iron, in particular, because the samples had high iron concentrations (at similar or higher levels than the ICS). Arsenic was detected above the method reporting limits in all soil samples analyzed by either the ICP-AES or the ICP-MS methods. A review of the interference check sample data showed that there may be a potential for low-biased and/or false-negative arsenic results in the field samples due to the negative arsenic concentrations in the interference check sample results having absolute values greater

than the method detection limit (MDL). However, upon further review of the data, the on-instrument sample arsenic concentrations (uncorrected for sample volumes and percent solids) were greater than 100 times the absolute levels in the interference check sample analyses in nearly every instance. Because sample arsenic concentrations were so much greater than the interference check sample arsenic concentrations, it is not likely the potential low bias from interference had any significant impact on sample concentrations. There were no non-detect results in the 2014 data set; therefore, there were no false-negative results.

Ultimately, there was no indication from the data re-review that 2014 soil sample results for arsenic are false-positive or were significantly impacted by the presence of iron in the samples. Because all the laboratory reporting data were not available, a data validation review of 2011 arsenic results was not performed.

2.2 Arsenic Lines of Evidence

Historical Arsenic Uses

According to the ATSDR's Toxicological Profile for Arsenic, inorganic arsenic compounds were the primary pesticides used from the mid-nineteenth century until the 1940s, and were used to control weeds on railroad rights-of-way. They were also used by farmers and fruit growers as pesticides. In addition, according to the reference "*Practical Tanning: A Handbook of Modern Practice and Processes as Applied in the Manufacture of Leather and Allied Products*" written in 1922, arsenic as arsenic sulfide was commonly used in the unhairing of hides in the tanning process.

Literature Review/Analytical Instrumentation Comparison

The aforementioned Chapnick article concludes that ICP-MS can be a more accurate method for arsenic analysis, and that ICP-AES has a false positive rate of 25 to 50 percent (Chapnick, 2010). A comparison of ICP-AES versus ICP-MS results in one of the case studies clearly indicates that the AES data were biased high even when standard EPA QC results were acceptable.

A comparison of 2014 site arsenic results by ICP-AES and ICP-MS was performed on a subset of 83 soil samples which were analyzed by both methods. [Note that the ICP-MS results were not reported by the CLP laboratory on this subset of samples because the re-analysis by ICP-MS was

not requested; however, Nobis calculated the results from the raw data available in the laboratory data packages in order to perform this evaluation.] RPDs were calculated to measure the difference between ICP-AES and ICP-MS results from the same samples. RPDs ranged from -73 percent to 72 percent with an average RPD of 11 percent. Negative RPDs were calculated for 32 percent of the results (indicating a negative bias for the ICP-AES data) and positive RPDs were calculated for 68 percent of the results (indicating a high bias for the ICP-AES data). Only six samples had RPDs greater than ±50 percent which is EPA's data validation criterion for soil field duplicate precision. Based on these findings it does not appear that the ICP-AES results are significantly different than the ICP-MS results.

Soil samples analyzed for arsenic in 2011 were only analyzed using the ICP-AES method, so a comparison to results using ICP-MS could not be performed.

Comparative Sample Results

In order to rule out that soil samples with higher concentrations were collected from different areas or potential source areas of the Site, a comparison of arsenic results from 2011 and 2014 from samples located close to each other and collected throughout the Site was performed. The locations that were compared are located on Figure 1. Results are presented in the tables below.

20 Cheever Street

Date	Sample Location	Arsenic (mg/kg)
2011	SS28 (0.7-2)	11.5
2014	20CH-10 (0-0.5)	49.6*
2011	SS29 (0-1.5)	18.9
2014	ROW-10 (0-0.5)	30.1*
2011	SS-14 (0-2)	19
2014	20CH-11(0-0.5)	30.8
2011	SS27 (0-1)	9.6
2014	20CH-15 (0-0.5)	8.9*
2011	SB-13 (3-4.5)	18.3
2014	20CH-14 (2-4)	27.7
2011	SB-15 (3-4)	23
2014	20CH-05 (2-4)	17.3*

*=analyzed by ICP-MS. All others by ICP-AES

33 Water Street

Date	Sample Location	Arsenic (mg/kg)
2011	SS10 (0.5-2)	26.4
2014	33WS-10 (0-0.5)	9.5*
2011	SS04 (0-1)	12.9
2014	33WS-16 (1-2)	13.1
2011	SS05 (0.5-1.7)	13
2014	33WS-05 (0-0.5)	17.8*
2011	SS18 (0-1)	12.4
2014	33WS-04 (0-0.5)	15.9*

*=analyzed by ICP-MS. All others by ICP-AES.

In the majority of pairs, the 2014 results are comparable to or somewhat higher than the 2011 results; nearly all results were within the same order of magnitude, regardless of analytical method. These comparable results indicate that higher concentrations were not likely a result of the sample locations, and that the 2011 and 2014 results appear comparable, supporting the hypothesis that the 2011 results are not false-positives or biased high.

3.0 SUMMARY AND CONCLUSIONS

The following paragraphs present the summary and conclusions of the thallium and arsenic data evaluations presented above.

3.1 Thallium

The lines of evidence presented above and summarized below support the conclusion that the 2011 soil analytical results for thallium analyzed using ICP-AES **should not** be included in the Site data set to be used for evaluation of contamination and risk assessment, whereas the 2014 results for thallium analyzed using ICP-MS **should** be included in the Site data set used for these purposes. The supporting lines of evidence are as follows:

- Thallium is not an expected contaminant at the Site;
- Samples collected in 2014 and analyzed using ICP-MS had concentrations an order of magnitude less than the adjacent samples collected in 2011 and analyzed using ICP-AES;
- Verification through laboratory discussions that thallium analysis by ICP-AES is prone to interference while ICP-MS is not;
- Case studies (Chapnick, 2010) indicated that despite acceptable EPA QC criteria being met, high bias in samples can still occur using ICP-AES for thallium analysis, and ICP-MS provides a more accurate thallium result because of elimination of interferences; and
- A USEPA OTS Alert (EPA, 2001a) identified a high false-positive rate for analysis of thallium by ICP-AES. The Alert identified the likely cause of the false-positive results as inter-element interferences.

3.2 Arsenic

The lines of evidence presented above and summarized here support **retaining all 2011 and 2014 arsenic results** (ICP-AES and ICP-MS) for use in the data evaluations and risk assessment for the Site:

- The outcome of the 2014 data validation process showed no issues with respect to false positive or high biased results;
- Arsenic was expected in soils at this former tannery;
- The RPDs between ICP-AES and ICP-MS results for a subset of 83 samples collected in 2014 were within acceptable limits; and
- Arsenic concentrations in closely located samples collected in 2011 and 2014 appear to be similar.

4.0 REFERENCES

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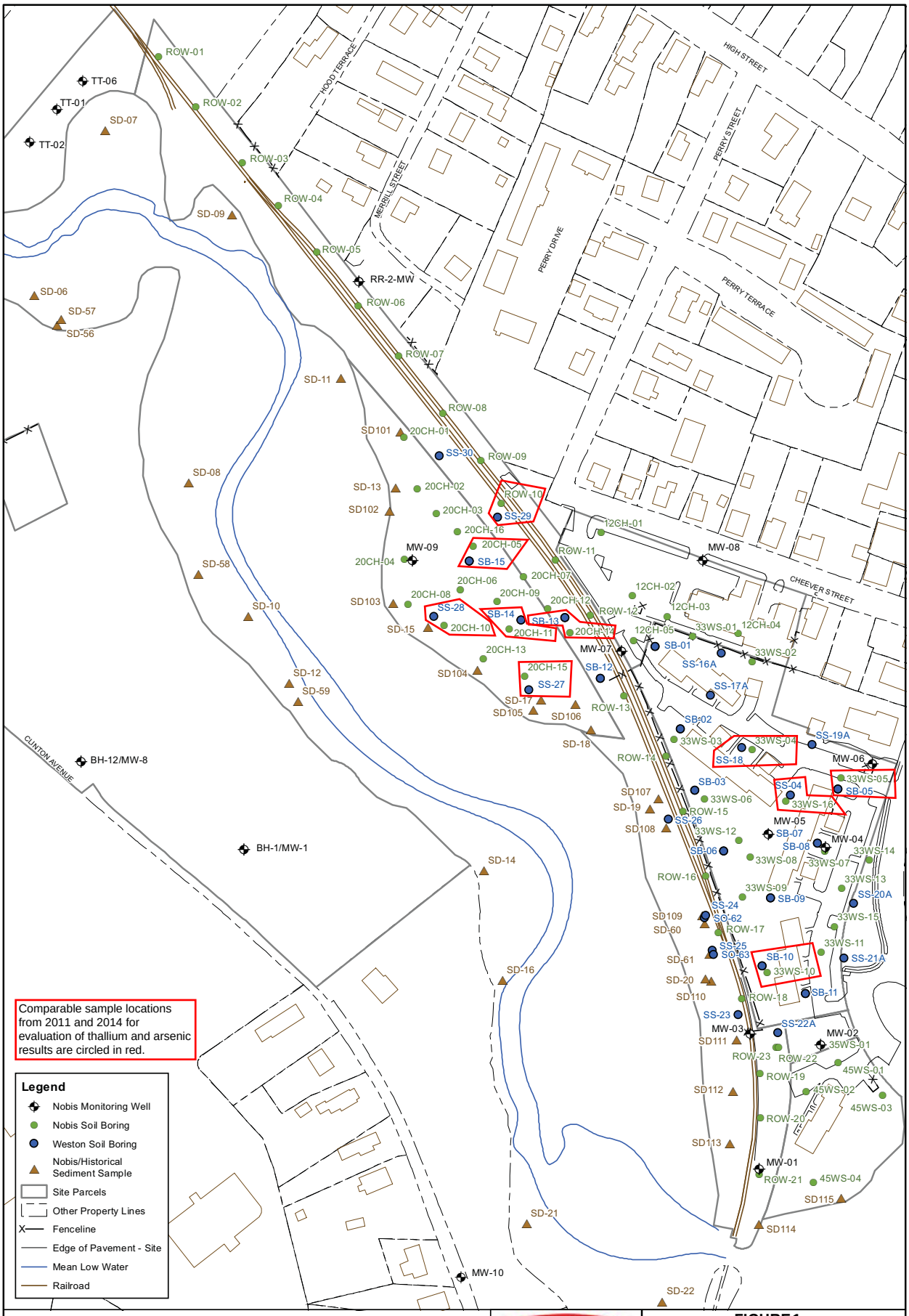
FIGURE



Notes:

1. Parcel lines are from MassGIS and Town of Danvers Assessor's database.

2. Location of site features depicted hereon is approximate and given for illustrative purposes only.

0 150 300
Feet
1 inch = 150 feet

N

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Client-Focused, Employee-Owned

FIGURE 1

SAMPLE PAIRS

CREESE & COOK TANNERY (FORMER)
SUPERFUND SITE
DANVERS, MASSACHUSETTS

PREPARED BY: JH	CHECKED BY: DC
PROJECT NO. 80095	DATE: OCTOBER 2014

Path: R:\80000 Task Orders\80095 Creese and Cook\Technical Data\GIS\Figures\Fig_S4_Creese_Cook_All_Sample_Locations.mxd Date Printed: 10/20/2014

APPENDIX I

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	12 Cheever St.																						20 Cheever St.			
					Sample Location	12CH-01				12CH-02				12CH-03				12CH-04				12CH-05						20CH-01			
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/26/14	06/26/14	06/26/14	06/26/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	12CH-SS01-0102-062614X	12CH-SB01-0204-062614X	12CH-SB01-0406-062614X	12CH-SB01-0608-062614X	12CH-SS02-0102-062514X	12CH-SB02-0204-062514X	12CH-SB02-0406-062514X	12CH-SB02-0608-062514X	12CH-SS03-0102-062514X	12CH-SB03-0204-062514X	12CH-SB03-0406-062514X	12CH-SB03-0608-062514X	12CH-SS04-0102-062514X	12CH-SB04-0204-062514X	12CH-SB04-0406-062514X	12CH-SB04-0608-062514X	12CH-SS05-0102-062514X	12CH-SB05-0204-062514X	12CH-SB05-0406-062514X	12CH-SB05-0608-062514X	12CH-SB05-0810-062514X	12CH-SB05-1012-062514X	20CH-SS01-0001-061614X	20CH-SB01-0204-061614X	20CH-SB01-0406-061614X	20CH-SB01-0608-061614X
Volatiles (ug/kg)																															
1,1,1-Trichloroethane	810000	3600000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,1,2-Trichloroethane	150	630	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,1-Dichloroethane	3600	16000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,1-Dichloroethene	23000	100000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,2-Dibromoethane	36	160	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,2-Dichloroethane	460	2000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,2-Dichloropropane	1000	4400	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,3-Dichlorobenzene	--	--	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
1,4-Dioxane	5300	23000	--	--	--	100 R	120 R	96 R	NA	84 R	130 R	100 R	NA	100 R	77 R	100 R	NA	100 R	100 R	100 R	NA	88 R	NA	100 R	95 R	NA	NA	380 R	100 R	110 R	NA
2-Butanone	2700000	19000000	--	--	--	10 U	12 U	9.6 U	NA	8.4 U	13 U	10 U	NA	10 U	7.7 U	10 U	NA	10 U	10 U	10 U	NA	8.8 U	NA	10 U	9.5 U	NA	NA	38 UJ	10 U	11 U	NA
2-Hexanone	20000	130000	--	--	--	10 U	12 U	9.6 U	NA	8.4 U	13 U	10 U	NA	10 U	7.7 U	10 U	NA	10 U	10 U	10 U	NA	8.8 U	NA	10 U	9.5 U	NA	NA	38 UJ	10 U	11 U	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	10 R	12 U	9.6 R	NA	8.4 R	13 R	10 R	NA	10 R	7.7 R	10 R	NA	10 R	10 R	10 R	NA	8.8 R	NA	10 R	9.5 U	NA	NA	38 UJ	10 U	11 U	NA
Acetone	6100000	67000000	--	--	--	**33**	**37 J**	**7 J**	NA	**18 EB**	**19 EB**	**12 JEB**	NA	**14 EB**	**15 EB**		NA	**71 EB**	**47 EB**	**11 EB**	NA	**46 EB**	NA	**37 JEB**	**6.9 JEB**	NA	NA	**670 JEB**	**91 EB**	**87 EB**	NA
Benzene	1200	5100	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Bromochloromethane	15000	63000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Bromodichloromethane	290	1300	--	--	--	5.1 R	5.9 U	4.8 R	NA	4.2 R	6.4 R	5.1 R	NA	5.1 R	3.8 R	5.2 R	NA	5.2 R	5.1 R	5.1 R	NA	4.4 R	NA	5.2 R	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Bromoform	67000	290000	--	--	--	5.1 R	5.9 U	4.8 R	NA	4.2 R	6.4 R	5.1 R	NA	5.1 R	3.8 R	5.2 R	NA	5.2 R	5.1 R	5.1 R	NA	4.4 R	NA	5.2 R	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Bromomethane	680	3000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 R	5.2 R	5.5 R	NA
Carbon disulfide	77000	350000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 R	5.2 R	5.5 R	NA
Carbon tetrachloride	650	2900	--	--	--	5.1 R	5.9 U	4.8 R	NA	4.2 R	6.4 R	5.1 R	NA	5.1 R	3.8 R	5.2 R	NA	5.2 R	5.1 R	5.1 R	NA	4.4 R	NA	5.2 R	4.8 U	NA	NA	19 R	5.2 R	5.5 R	NA
Chlorobenzene	28000	130000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Chloroethane	1400000	5700000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Chloroform	320	1400	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Chloromethane	11000	46000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
cis-1,3-Dichloropropene	--	--	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Cyclohexane	650000	2700000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Dibromochloromethane	730	3200	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 R	5.2 R	5.5 R	NA
Dichlorodifluoromethane	8700	37000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Ethylbenzene	5800	25000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Isopropylbenzene	190000	990000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
m,p-Xylene	--	--	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**2.8 J**	**4.2 J**	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	**2.2 JEB**	NA	**3.7 JEB**	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Methyl tert-butyl ether	47000	210000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Methylcyclohexane	--	--	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Methylene chloride	35000	320000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
o-Xylene	65000	280000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Styrene	600000	3500000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 R	5.2 R	5.5 R	NA
Tetrachloroethene	8100	39000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Toluene	490000	4700000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
trans-1,3-Dichloropropene	--	--	--	--	--	5.1 R	5.9 U	4.8 R	NA	4.2 R	6.4 R	5.1 R	NA	5.1 R	3.8 R	5.2 R	NA	5.2 R	5.1 R	5.1 R	NA	4.4 R	NA	5.2 R	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Trichloroethene	410	1900	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Trichlorofluoromethane	73000	310000	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA
Vinyl chloride	59	1700	--	--	--	5.1 U	5.9 U	4.8 U	NA	4.2 U	6.4 U	5.1 U	NA	5.1 U	3.8 U	5.2 U	NA	5.2 U	5.1 U	5.1 U	NA	4.4 U	NA	5.2 U	4.8 U	NA	NA	19 UJ	5.2 U	5.5 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	12 Cheever St.																						20 Cheever St.			
					Sample Location	12CH-01				12CH-02				12CH-03				12CH-04				12CH-05						20CH-01			
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/26/14	06/26/14	06/26/14	06/26/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	12CH-SS01-0102-062614X	12CH-SB01-0204-062614X	12CH-SB01-0406-062614X	12CH-SB01-0608-062614X	12CH-SS02-0102-062514X	12CH-SB02-0204-062514X	12CH-SB02-0406-062514X	12CH-SB02-0608-062514X	12CH-SS03-0102-062514X	12CH-SB03-0204-062514X	12CH-SB03-0406-062514X	12CH-SB03-0608-062514X	12CH-SS04-0102-062514X	12CH-SB04-0204-062514X	12CH-SB04-0406-062514X	12CH-SB04-0608-062514X	12CH-SS05-0102-062514X	12CH-SB05-0204-062514X	12CH-SB05-0406-062514X	12CH-SB05-0608-062514X	12CH-SB05-0810-062514X	12CH-SB05-1012-062514X	20CH-SS01-0001-061614X	20CH-SB01-0204-061614X	20CH-SB01-0406-061614X	20CH-SB01-0608-061614X
Semivolatiles (ug/kg)																															
1,1'-Biphenyl	4700	20000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 UJ	210 UJ	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2,4-Dichlorophenol	18000	250000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 UJ	180 UJ	210 UJ	NA	190 UJ	210 UJ	210 UJ	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2,4-Dinitrophenol	12000	160000	--	--	--	350 UJ	410 UJ	410 UJ	NA	360 UJ	350 UJ	410 UJ	NA	360 U	350 U	410 U	NA	370 U	420 U	410 U	NA	350 UJ	NA	370 UJ	400 UJ	NA	NA	1400 UJ	410 U	410 U	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2,6-Dinitrotoluene	360	1500	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2-Chloronaphthalene	630000	9300000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2-Chlorophenol	39000	580000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2-Methylnaphthalene	23000	300000	500	1000	--	3.5 U	**14**	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	**6.8 EB**	4.2 U	4.1 U	NA	3.5 U	NA	3.7 U	4 U	NA	NA	**120 JEB**	4.1 U	4.1 U	NA
2-Methylphenol	310000	4100000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
2-Nitroaniline	61000	800000	--	--	--	350 U	410 U	410 U	NA	360 U	350 U	410 U	NA	360 U	350 U	410 U	NA	370 U	420 U	410 U	NA	350 U	NA	370 U	400 U	NA	NA	1400 UJ	410 U	410 U	NA
2-Nitrophenol	--	--	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
3-Nitroaniline	--	--	--	--	--	350 U	410 U	410 U	NA	360 U	350 U	410 U	NA	360 U	350 U	410 U	NA	370 U	420 U	410 U	NA	350 U	NA	370 U	400 U	NA	NA	1400 UJ	410 U	410 U	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	350 UJ	410 UJ	410 UJ	NA	360 U	350 UJ	410 UJ	NA	360 U	350 U	410 U	NA	370 U	420 U	410 U	NA	350 U	NA	370 U	400 UJ	NA	NA	1400 UJ	410 U	410 U	NA
4-Bromophenyl-phenylether	--	--	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
4-Chloroaniline	2700	12000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
4-Methylphenol	620000	8200000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
4-Nitroaniline	25000	120000	--	--	--	350 U	410 U	410 U	NA	360 U	350 U	410 U	NA	360 U	350 U	410 U	NA	370 U	420 U	410 U	NA	350 U	NA	370 U	400 U	NA	NA	1400 UJ	410 U	410 U	NA
4-Nitrophenol	--	--	--	--	--	350 U	410 U	410 U	NA	360 U	350 U	410 U	NA	360 U	350 U	410 U	NA	370 U	420 U	410 U	NA	350 U	NA	370 U	400 U	NA	NA	1400 UJ	410 U	410 U	NA
Acenaphthene	350000	4500000	500	2000	--	3.5 U	**55**	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	**1.7 JEB**	4.2 U	4.1 U	NA	3.5 U	NA	3.7 U	4 U	NA	NA	**68 J**	4.1 U	4.1 U	NA
Acenaphthylene	--	--	500	1000	--	**23**	**46**	4.1 U	NA	**12**	3.5 U	4.1 U	NA	**7.3**	**5.2**	4.1 U	NA	**12**	4.2 U	4.1 U	NA	**5.9**	NA	**5.6**	4 U	NA	NA	**920 J**	4.1 U	4.1 U	NA
Acetophenone	780000	12000000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	**51 JEB**	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Anthracene	1700000	23000000	1000	4000	--	**20**	**310 J**	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	**3.5 J**	**4.3**	4.1 U	NA	**11**	**1 J**	4.1 U	NA	3.5 U	NA	3.7 U	4 U	NA	NA	**640 J**	4.1 U	4.1 U	NA
Atrazine	2300	10000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Benzaldehyde	780000	12000000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**68**	**590**	4.1 U	NA	**25**	3.5 U	4.1 U	NA	**23**	**23**	4.1 U	NA	**47**	**3.8 J**	4.1 U	NA	**24**	NA	**21**	4 U	NA	NA	**2200 J**	4.1 U	4.1 U	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**85**	**400**	4.1 U	NA	**21**	3.5 U	4.1 U	NA	**21**	**25**	4.1 U	NA	**50**	4.2 U	4.1 U	NA	**23**	NA	**8.4**	4 U	NA	NA	**1800 J**	4.1 U	4.1 U	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**130**	**730**	4.1 U	NA	**31**	3.5 U	4.1 U	NA	**34**	**32**	**6.3**	NA	**76**	**13**	4.1 U	NA	**37**	NA	**16**	4 U	NA	NA	**3200 J**	4.1 U	4.1 U	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**64**	**210**	4.1 U	NA	**19**	3.5 U	4.1 U	NA	**18**	**20**	4.1 U	NA	**44**	**5**	4.1 U	NA	**32**	NA	**4.6**	**3.9 J**	NA	NA	**1100 J**	4.1 U	4.1 U	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**33**	**210**	4.1 U	NA	**24**	3.5 U	4.1 U	NA	**14**	**12**	4.1 U	NA	**34**	**5.9**	4.1 U	NA	**26**	NA	**5.8**	4 U	NA	NA	**930 J**	4.1 U	4.1 U	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	**61 J**	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	**180 JEB**	210 U	210 U	NA
Butylbenzylphthalate	280000	1200000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Caprolactam	3100000	40000000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Carbazole	--	--	--	--	--	180 U	**71 J**	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Chrysene	**15000**	290000	2000	7000	--	**92**	**690**	4.1 U	NA	**27**	3.5 U	4.1 U	NA	**16**	**27**	4.1 U	NA	**50**	**5.4**	4.1 U	NA	**25**	NA	**26**	4 U	NA	NA	**2100 J**	4.1 U	4.1 U	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**12**	**67**	4.1 U	NA	**6.9**	3.5 U	4.1 U	NA	**4.3**	**8.9**	4.1 U	NA	**19**	4.2 U	4.1 U	NA	**9.8**	NA	**1.8 J**	4 U	NA	NA	**390 J**	4.1 U	4.1 U	NA
Dibenzofuran	**7200**	100000	--	--	--	180 U	**49 J**	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Diethylphthalate	4900000	66000000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Dimethylphthalate	--	--	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	**1400 JEB**	**340 EB**	**410 EB**	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**130 J**	**1400**	4.1 U	NA	**14 J**	3.5 U	4.1 U	NA	**26**	**35**	4.1 U	NA	**100**	**8.2**	4.1 U	NA	**29**	NA	**21**	4 U	NA	NA	**4200 J**	**5.2**	4.1 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	12 Cheever St.																						20 Cheever St.			
					Sample Location	12CH-01				12CH-02				12CH-03				12CH-04				12CH-05						20CH-01			
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/26/14	06/26/14	06/26/14	06/26/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	12CH-SS01-0102-062614X	12CH-SB01-0204-062614X	12CH-SB01-0406-062614X	12CH-SB01-0608-062614X	12CH-SS02-0102-062514X	12CH-SB02-0204-062514X	12CH-SB02-0406-062514X	12CH-SB02-0608-062514X	12CH-SS03-0102-062514X	12CH-SB03-0204-062514X	12CH-SB03-0406-062514X	12CH-SB03-0608-062514X	12CH-SS04-0102-062514X	12CH-SB04-0204-062514X	12CH-SB04-0406-062514X	12CH-SB04-0608-062514X	12CH-SS05-0102-062514X	12CH-SB05-0204-062514X	12CH-SB05-0406-062514X	12CH-SB05-0608-062514X	12CH-SB05-0810-062514X	12CH-SB05-1012-062514X	20CH-SS01-0001-061614X	20CH-SB01-0204-061614X	20CH-SB01-0406-061614X	20CH-SB01-0608-061614X
Fluorene	230000	3000000	1000	2000	--	**5.3**	**61**	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	**5.2**	4.2 U	4.1 U	NA	3.5 U	NA	3.7 U	4 U	NA	NA	**180 J**	4.1 U	4.1 U	NA
Hexachlorobenzene	330	1400	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Hexachlorobutadiene	6200	30000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	180 UJ	210 UJ	210 UJ	NA	180 UJ	180 UJ	210 UJ	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 UJ	NA	190 UJ	210 UJ	NA	NA	700 UJ	210 U	210 U	NA
Hexachloroethane	4300	58000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**56**	**230**	4.1 U	NA	**30**	3.5 U	4.1 U	NA	**13**	**17**	4.1 U	NA	**37**	**5**	4.1 U	NA	**34**	NA	**4.7**	**4.1**	NA	NA	**1200 J**	4.1 U	4.1 U	NA
Isophorone	560000	2400000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Naphthalene	**3800**	17000	500	1000	--	3.5 U	**7.6**	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	**1.5 JEB**	4.1 U	NA	**4.3 EB**	4.2 U	4.1 U	NA	3.5 U	NA	3.7 U	4 U	NA	NA	140 UJ	4.1 U	4.1 U	NA
Nitrobenzene	5100	22000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Pentachlorophenol	990	4000	--	--	--	350 U	410 U	410 U	NA	360 U	**7.6 J**	410 U	NA	360 U	350 U	410 U	NA	370 U	420 U	410 U	NA	350 U	NA	370 U	400 U	NA	NA	28 UJ	8.4 U	8.4 U	NA
Phenanthrene	--	--	3000	20000	--	**53**	**1100**	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	**9.1**	**16**	4.1 U	NA	**51**	**5.2**	4.1 U	NA	**6.7**	NA	**11**	4 U	NA	NA	**1900 J**	**6.1**	4.1 U	NA
Phenol	1800000	25000000	--	--	--	180 U	210 U	210 U	NA	180 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	700 UJ	210 U	210 U	NA
Pyrene	**170000**	2300000	4000	20000	--	**110**	**1400**	4.1 U	NA	**23**	3.5 U	4.1 U	NA	**18**	**29**	4.1 U	NA	**61**	**7**	4.1 U	NA	**24**	NA	**20**	4 U	NA	NA	**3200 J**	**8**	**4.9**	NA
	Pesticides/PCBs (ug/kg)																														
4,4'-DDD	2200	9600	--	--	--	3.5 R	**4.3 J**	4.1 R	NA	3.6 R	3.5 R	4.1 R	NA	3.6 R	3.5 R	4.2 R	NA	3.7 R	4.2 R	4.2 R	NA	3.5 R	NA	3.6 R	4.1 U	NA	NA	14 UJ	4.1 U	4.1 U	NA
4,4'-DDE	1600	6800	--	--	--	3.5 R	4.1 U	4.1 R	NA	3.6 R	3.5 R	4.1 R	NA	3.6 R	3.5 R	4.2 R	NA	3.7 R	4.2 R	4.2 R	NA	3.5 R	NA	3.6 R	4.1 U	NA	NA	14 UJ	4.1 U	4.1 U	NA
4,4'-DDT	1900	8600	--	--	--	3.5 U	4.1 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.2 U	NA	3.7 U	4.2 U	4.2 U	NA	3.5 U	NA	3.6 U	4.1 U	NA	NA	**42 J**	4.1 U	4.1 U	NA
Aldrin	31	140	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
alpha-BHC	85	370	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
Alpha-Chlordane	--	--	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
Aroclor 1016	400	5200	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1221	150	660	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1232	150	660	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1242	240	1000	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 UJ	35 U	41 U	NA	37 UJ	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1248	**240**	1000	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1254	**110**	1000	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1260	**240**	**1000**	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1262	--	--	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
Aroclor 1268	--	--	--	--	--	35 U	41 U	41 U	NA	36 U	35 U	41 U	NA	36 U	35 U	41 U	NA	37 U	41 U	41 U	NA	35 U	NA	37 U	40 U	NA	NA	140 UJ	41 U	41 U	NA
beta-BHC	300	1300	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
delta-BHC	--	--	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
Dieldrin	33	140	--	--	--	3.5 R	4.1 U	4.1 R	NA	3.6 R	3.5 R	4.1 R	NA	3.6 R	3.5 R	4.2 R	NA	3.7 R	4.2 R	4.2 R	NA	3.5 R	NA	3.6 R	4.1 U	NA	NA	14 UJ	4.1 U	4.1 U	NA
Endosulfan I	--	--	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
Endosulfan II	--	--	--	--	--	3.5 U	4.1 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.2 U	NA	3.7 U	4.2 U	4.2 U	NA	3.5 U	NA	3.6 U	4.1 U	NA	NA	14 UJ	4.1 U	4.1 U	NA
Endosulfan Sulfate	--	--	--	--	--	3.5 U	4.1 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.2 U	NA	3.7 U	4.2 U	4.2 U	NA	3.5 U	NA	3.6 U	4.1 U	NA	NA	**22 J**	4.1 U	4.1 U	NA
Endrin	1800	25000	--	--	--	3.5 U	4.1 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.2 U	NA	3.7 U	4.2 U	4.2 U	NA	3.5 U	NA	3.6 U	4.1 U	NA	NA	14 UJ	4.1 U	4.1 U	NA
Endrin Aldehyde	--	--	--	--	--	3.5 U	4.1 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.2 U	NA	3.7 U	4.2 U	4.2 U	NA	3.5 U	NA	3.6 U	4.1 U	NA	NA	**19 J**	4.1 U	4.1 U	NA
Endrin Ketone	--	--	--	--	--	3.5 U	4.1 U	4.1 U	NA	3.6 U	3.5 U	4.1 U	NA	3.6 U	3.5 U	4.2 U	NA	3.7 U	4.2 U	4.2 U	NA	3.5 U	NA	3.6 U	4.1 U	NA	NA	14 UJ	4.1 U	4.1 U	NA
gamma-BHC (Lindane)	560	2500	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
gamma-Chlordane	--	--	--	--	--	1.8 R	2.1 U	2.1 R	NA	1.9 R	1.8 R	2.1 R	NA	1.8 R	1.8 R	2.1 R	NA	1.9 R	2.1 R	2.1 R	NA	1.8 R	NA	1.9 R	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
Heptachlor	120	510	--	--	--	1.8 U	2.1 U	2.1 U	NA	1.9 U	1.8 U	2.1 U	NA	1.8 U	1.8 U	2.1 U	NA	1.9 U	2.1 U	2.1 U	NA	1.8 U	NA	1.9 U	2.1 U	NA	NA	7.1 R	2.1 R	2.1 R	NA
Heptachlor Epoxide	59	250	--	--	--	1.8 R	2.1 U	2.1 R	NA	1.9 R	1.8 R	2.1 R	NA	1.8 R	1.8 R	2.1 R	NA	1.9 R	2.1 R	2.1 R	NA	1.8 R	NA	1.9 R	2.1 U	NA	NA	7.1 UJ	2.1 U	2.1 U	NA
Methoxychlor	31000	410000	--	--	--	18 U	21 U	21 U	NA	19 U	18 U	21 U	NA	18 U	18 U	21 U	NA	19 U	21 U	21 U	NA	18 U	NA	19 U	21 U	NA	NA	71 UJ	21 U	21 U	NA
Toxaphene	480	2100	--	--	--	180 U	210 U	210 U	NA	190 U	180 U	210 U	NA	180 U	180 U	210 U	NA	190 U	210 U	210 U	NA	180 U	NA	190 U	210 U	NA	NA	710 UJ	210 U	210 U	NA

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	12 Cheever St.																						20 Cheever St.			
					Sample Location	12CH-01				12CH-02				12CH-03				12CH-04				12CH-05						20CH-01			
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/26/14	06/26/14	06/26/14	06/26/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	12CH-SS01-0102-062614X	12CH-SB01-0204-062614X	12CH-SB01-0406-062614X	12CH-SB01-0608-062614X	12CH-SS02-0102-062514X	12CH-SB02-0204-062514X	12CH-SB02-0406-062514X	12CH-SB02-0608-062514X	12CH-SS03-0102-062514X	12CH-SB03-0204-062514X	12CH-SB03-0406-062514X	12CH-SB03-0608-062514X	12CH-SS04-0102-062514X	12CH-SB04-0204-062514X	12CH-SB04-0406-062514X	12CH-SB04-0608-062514X	12CH-SS05-0102-062514X	12CH-SB05-0204-062514X	12CH-SB05-0406-062514X	12CH-SB05-0608-062514X	12CH-SB05-0810-062514X	12CH-SB05-1012-062514X	20CH-SS01-0001-061614X	20CH-SB01-0204-061614X	20CH-SB01-0406-061614X	20CH-SB01-0608-061614X
Metals (mg/kg)																															
Aluminum	7700	110000	10000	10000	10700	7260	24300	23600	NA	5180	9700	22500	NA	4450	10100	23000	NA	9020	33000	21500	NA	4020	NA	31200	21900	NA	NA	10900	18700	20500	NA
Antimony	3.1	47	1	7	--	0.29 J	0.79 J	0.72 J	NA	0.17 J	0.48 J	0.77 J	NA	0.81 U	0.62 J	0.88 J	NA	0.42 J	1.2 J	0.89 J	NA	0.13 J	NA	0.66 J	0.86 J	NA	NA	2 UJ	0.81 UJ	0.94 UJ	NA
Arsenic	0.67	3	20	20	8.78	4.7	13.1	13.5	NA	6.6	23	14.6	NA	3.7	22.9	17.7	NA	4.6	20.9	15.2	NA	2.9	NA	10.4	16.1	NA	NA	56.2 J	14.5 J	11.7 J	NA
Barium	1500	22000	50	50	16	35.9	77.9	72.6	NA	22.5	35.6	71	NA	14.7 J	44.3	67.6	NA	50.5	96.1	62.6	NA	18.4	NA	72.3	66.4	NA	NA	25.9 J	53.7	50	NA
Beryllium	16	230	0.4	0.9	0.315	0.83	1.4	1.8	NA	0.37 J	0.46	1.7	NA	0.54	0.48	1.8	NA	0.56	2.1	1.6	NA	0.57	NA	1.6	1.7	NA	NA	0.91	1.2	1.4	NA
Cadmium	7	98	2	3	--	0.39 J	0.53 J	0.92 J	NA	0.15 J	0.31 J	0.85 J	NA	0.27 J	0.41 J	0.82 J	NA	0.62 J	0.67 J	0.67 J	NA	0.32 J	NA	0.51 J	0.89 J	NA	NA	0.57 J	0.55 J	0.92 J	NA
Calcium	--	--	--	--	634	2350 J	3460 J	3750 J	NA	1800 J	4290 J	4130 J	NA	1060 J	4720 J	3750	NA	3760 J	2080	4070	NA	1320 J	NA	2620 J	4600	NA	NA	3360	726	3690	NA
Chromium	12000	180000	30	40	15.2	11.9	53.1	51.1	NA	11.8	28.3	58.5	NA	5.5	27.8	61.5	NA	30.9	77.7	54.6	NA	3.9	NA	67.2	55.5	NA	NA	212	45.4	57.5	NA
Chromium-Hexavalent	0.3	6.3	30	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	2.3	35	4	4	5.68	6.7	13.6	16.2	NA	4.8	9.8	18.8	NA	4.6	10.8	24.1	NA	8	29.4	18.2	NA	4.2	NA	12.1	17.8 J	NA	NA	7 J	14.1	17.9	NA
Copper	310	4700	40	200	6.28	12.5	21.3	23	NA	7.9	15.8	21.6	NA	4.8	20.7	24.3 J+	NA	16.1	25.6 J+	22 J+	NA	5.1	NA	24.9	23.4	NA	NA	52.6	17.4	25.5	NA
Iron	5500	82000	20000	20000	11200	15500 J	35900 J	36300 J	NA	10400 J	20900 J	35800 J	NA	9250 J	23600 J	38700 J+	NA	17900 J	[illegible]	34800 J+	NA	11200 J	NA	36100 J	39500	NA	NA	23400	29800	36400	NA
Lead	400	800	100	600	41.8	45.2	68	25.5	NA	5.8	7.6	22.6	NA	13.4	18.8	32.2	NA	280	22.2	21.6	NA	9.3	NA	41	22.1	NA	NA	242	16.1	20.1	NA
Magnesium	--	--	5000	5000	2780	3150	8060	9760	NA	2480	5670	10300	NA	1380	6050	10200	NA	5160	10300	9640	NA	1310	NA	8790	11600	NA	NA	6380	6850	11400	NA
Manganese	180	2600	300	300	155	401 J	624 J	646 J	NA	202 J	310 J	781 J	NA	156 J	402 J	[illegible]	NA	333 J	[illegible]	[illegible]	NA	352 J	NA	875 J	746	NA	NA	432 EB	528 EB	568 EB	NA
Mercury	0.94	4	0.3	1	0.0242	0.034 J	0.037 J	0.01 J	NA	0.012 J	0.0052 J	0.0035 J	NA	0.097 U	0.0075 J	0.0027 J	NA	0.044 J	0.012 J	0.0085 J	NA	0.0088 J	NA	0.069 J	0.0042 J	NA	NA	1.1	0.11 U	0.12 U	NA
Nickel	150	2200	20	30	11.2	11.4	30	46.8	NA	12.3	24.1	50.3	NA	7.5	24.8	81.6	NA	30.1	45.2	42.8	NA	5.4	NA	35.1	43.7 J	NA	NA	20.8	29.9	45.6	NA
Potassium	--	--	--	--	382	740 J	1880 J	2410 J	NA	575 J	1160 J	3060 J	NA	412 J	1180 J	3060	NA	390 UJ	3930	3070	NA	496 J	NA	1920 J	3420	NA	NA	1990	2410	3810	NA
Selenium	39	580	0.5	1	--	2.4 J	5.7	5.6	NA	1.7 J	3.6	5.3	NA	1.5 J	3.7	5.1	NA	2.9	6.5	4.5	NA	1.7 J	NA	5.9	5.8	NA	NA	5 U	4.1 U	4.7 U	NA
Silver	39	580	0.6	5	--	0.77 U	0.9 U	0.95 U	NA	0.78 U	0.78 U	0.86 U	NA	0.75 U	0.83 U	0.89 U	NA	0.78 U	0.87 U	0.88 U	NA	0.77 U	NA	1 U	0.93 U	NA	NA	0.27 J	0.82 U	0.96 U	NA
Sodium	--	--	--	--	--	249 J	317 J	382 J	NA	524	902	748	NA	381	1270	658 EB	NA	241 J	282 JEB	314 JEB	NA	205 J	NA	626	557	NA	NA	11800	1740	1770	NA
Thallium	0.078	1.2	0.6	5	--	0.13 J	0.22 J	0.34 J	NA	0.13 J	0.13 J	0.37 J	NA	0.2 J	0.14 J	0.33 J	NA	0.1 J	0.38 J	0.26 J	NA	0.2 J	NA	0.3 J	0.34 J	NA	NA	0.15 J+	0.22 J+	0.31 J+	NA
Vanadium	39	580	30	30	19.4	24.7	61.3	62.2	NA	16.1	29.3	58.5	NA	12.8	35	63.6	NA	29.5	78.9	56.3	NA	11.5	NA	66.4	63.1	NA	NA	52.7	47	59.5	NA
Zinc	2300	35000	100	300	35.3	62.2	90.7	83.6	NA	26.5	43	82.7	NA	50.5	58.8	89	NA	112	89.6	82.7	NA	45.8	NA	76	87.4	NA	NA	112	56.1	81.7	NA
Asbestos (%v/v)																															
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	12 Cheever St.																						20 Cheever St.			
					Sample Location	12CH-01				12CH-02				12CH-03				12CH-04				12CH-05						20CH-01			
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/26/14	06/26/14	06/26/14	06/26/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	12CH-SS01-0102-062614X	12CH-SB01-0204-062614X	12CH-SB01-0406-062614X	12CH-SB01-0608-062614X	12CH-SS02-0102-062514X	12CH-SB02-0204-062514X	12CH-SB02-0406-062514X	12CH-SB02-0608-062514X	12CH-SS03-0102-062514X	12CH-SB03-0204-062514X	12CH-SB03-0406-062514X	12CH-SB03-0608-062514X	12CH-SS04-0102-062514X	12CH-SB04-0204-062514X	12CH-SB04-0406-062514X	12CH-SB04-0608-062514X	12CH-SS05-0102-062514X	12CH-SB05-0204-062514X	12CH-SB05-0406-062514X	12CH-SB05-0608-062514X	12CH-SB05-0810-062514X	12CH-SB05-1012-062514X	20CH-SS01-0001-061614X	20CH-SB01-0204-061614X	20CH-SB01-0406-061614X	20CH-SB01-0608-061614X
Dioxins/Furans (ng/Kg)																															
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11.2**	NA	NA	NA	NA	NA	NA	NA	NA	1.13 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**550**	NA	NA	NA	NA	NA	NA	NA	NA	**101000 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.28 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.789 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**21.7**	NA	NA	NA	NA	NA	NA	NA	NA	**426**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.407 J**	NA	NA	NA	NA	NA	NA	NA	NA	0.606 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.293 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.3 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.405 U	NA	NA	NA	NA	NA	NA	NA	NA	**1.61 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.254 J**	NA	NA	NA	NA	NA	NA	NA	NA	0.36 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.574 J**	NA	NA	NA	NA	NA	NA	NA	NA	**2.06 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.224 U	NA	NA	NA	NA	NA	NA	NA	NA	0.349 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.402 J**	NA	NA	NA	NA	NA	NA	NA	NA	**3.15 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.191 J**	NA	NA	NA	NA	NA	NA	NA	NA	0.261 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.22 U	NA	NA	NA	NA	NA	NA	NA	NA	**0.657 J**	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.356 J**	NA	NA	NA	NA	NA	NA	NA	NA	0.396 U	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.356 J**	NA	NA	NA	NA	NA	NA	NA	NA	0.242 U	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.187 J**	NA	NA	NA	NA	NA	NA	NA	NA	0.444 U	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.237 U	NA	NA	NA	NA	NA	NA	NA	NA	0.39 U	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	**1.55 J**	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**39.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	**1010 J**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.21 J**	NA	NA	NA	NA	NA	NA	NA	NA	**1.39 J**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.94 J**	NA	NA	NA	NA	NA	NA	NA	NA	**44.2 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.47 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.855 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.22 UJ	NA	NA	NA	NA	NA	NA	NA	NA	**4.84 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.189 J**	NA	NA	NA	NA	NA	NA	NA	NA	**0.678 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.88 J**	NA	NA	NA	NA	NA	NA	NA	NA	**4.02 J**	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.741 J**	NA	NA	NA	NA	NA	NA	NA	NA	**35.9 J**	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	12 Cheever St.																						20 Cheever St.			
					Sample Location	12CH-01				12CH-02				12CH-03				12CH-04				12CH-05						20CH-01			
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/26/14	06/26/14	06/26/14	06/26/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	12CH-SS01-0102-062614X	12CH-SB01-0204-062614X	12CH-SB01-0406-062614X	12CH-SB01-0608-062614X	12CH-SS02-0102-062514X	12CH-SB02-0204-062514X	12CH-SB02-0406-062514X	12CH-SB02-0608-062514X	12CH-SS03-0102-062514X	12CH-SB03-0204-062514X	12CH-SB03-0406-062514X	12CH-SB03-0608-062514X	12CH-SS04-0102-062514X	12CH-SB04-0204-062514X	12CH-SB04-0406-062514X	12CH-SB04-0608-062514X	12CH-SS05-0102-062514X	12CH-SB05-0204-062514X	12CH-SB05-0406-062514X	12CH-SB05-0608-062514X	12CH-SB05-0810-062514X	12CH-SB05-1012-062514X	20CH-SS01-0001-061614X	20CH-SB01-0204-061614X	20CH-SB01-0406-061614X	20CH-SB01-0608-061614X
General Chemistry (%)																															
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																															
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																															
Oxidation-Reduction Potential	--	--	--	--	--	**360**	**420**	NA	NA	**304**	NA	NA	NA	**312**	NA	NA	NA	**426**	NA	NA	NA	**425**	NA	**348**	NA	NA	NA	**262**	NA	NA	NA
General Chemistry (S.U.)																															
pH	--	--	--	--	--	**6.92**	**6.06**	NA	NA	**8.68**	NA	NA	NA	**7.9**	NA	NA	NA	**6.59**	NA	NA	NA	**7.4**	NA	**6.1**	NA	NA	NA	**7.11**	NA	NA	NA
General Chemistry (ug/g)																															
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																															
Arsenic	**0.67**	**3**	20	20	8.78	**10**	**7**	**10**	**8**	**12**	**8**	**16**	**14**	6 U	**16**	**12**	**11**	**9**	**9**	**11**	**13**	**6**	**33**	**23**	**21**	**8**	**11**	**42**	**11**	6 U	**14**
Chromium	**12000**	180000	30	40	15.2	34 U	**53**	**74**	**75**	33 U	35 U	**69**	**88**	32 U	34 U	**97**	**110**	32 U	**48**	**79**	**67**	33 U	**114**	**77**	**83**	**78**	**90**	**296**	**76**	**127**	**78**
Lead	**400**	**800**	100	600	41.8	**60**	**40**	**24**	**26**	**20**	**26**	**29**	**27**	**20**	**26**	**30**	**38**	**70**	**43**	**21**	**39**	**19**	**79**	**112**	**24**	**29**	**28**	**157**	**27**	**27**	**29**
Mercury	0.94	4	0.3	1	0.0242	6 U	6 U	6 U	7 U	6 U	7 U	7 U	7 U	7 U	7 U	7 U	7 U	6 U	6 U	7 U	7 U	7 U	6 U	6 U	7 U	7 U	7 U	5 U	6 U	7 U	7 U
Nickel	150	2200	20	30	11.2	34 U	33 U	**42**	**49**	33 U	35 U	37 U	**48**	33 U	35 U	**53**	37 U	**54**	**37**	**40**	35 U	37 U	34 U	34 U	38 U	**55**	36 U	26 U	**46**	**48**	**43**
PAH Screening (ug/kg)																															
Total PAH	--	--	--	--	--	NA	**2000 J**	10 U	10 U	NA	**68**	10 U	10 U	NA	**600 J**	11 U	**49**	NA	**32**	**10**	10 U	NA	**2200 J**	**3300 J**	10 U	10 U	NA	NA	10 U	10 U	10 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																											
					Sample Location	20CH-02				20CH-03				20CH-04				20CH-05				20CH-06				20CH-07				20CH-08			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS02-0001-061714X	20CH-SB02-0204-061714X	20CH-SB02-0406-061714X	20CH-SB02-0608-061714X	20CH-SS03-0001-061714X	20CH-SB03-0204-061714X	20CH-SB03-0406-061714X	20CH-SB03-0608-061714X	20CH-SS04-0001-061714X	20CH-SB04-0204-061714X	20CH-SB04-0406-061714X	20CH-SB04-0608-061714X	20CH-SS05-0001-061914X	20CH-SB05-0204-061914X	20CH-SB05-0406-061914X	20CH-SB05-0608-061914X	20CH-SS06-0001-061914X	20CH-SB06-0204-061914X	20CH-SB06-0406-061914X	20CH-SB06-0608-061914X	20CH-SS07-0001-061914X	20CH-SB07-0204-061914X	20CH-SB07-0406-061914X	20CH-SB07-0608-061914X	20CH-SS08-0001-061914X	20CH-SB08-0204-061914X	20CH-SB08-0406-061914X	20CH-SB08-0608-061914X
Volatiles (ug/kg)																																	
1,1,1-Trichloroethane	810000	3600000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,1,2-Trichloroethane	150	630	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,1-Dichloroethane	3600	16000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,1-Dichloroethene	23000	100000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 R	4.9 R	4.9 R	NA	8.2 R	4.9 R	4.5 R	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 R	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,2-Dibromoethane	36	160	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,2-Dichloroethane	460	2000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,2-Dichloropropane	1000	4400	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,3-Dichlorobenzene	--	--	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
1,4-Dioxane	5300	23000	--	--	--	170 R	120 R	110 R	NA	110 R	100 R	97 R	NA	230 R	120 R	94 R	NA	170 R	98 R	98 R	NA	160 R	97 R	91 R	NA	140 R	94 R	110 R	NA	620 R	100 R	97 R	NA
2-Butanone	2700000	19000000	--	--	--	17 U	12 U	11 U	NA	11 U	10 U	9.7 U	NA	**24 EB**	12 U	9.4 U	NA	**30 J**	9.8 U	9.8 U	NA	**37 EB**	9.7 U	9.1 U	NA	**41 J**	9.4 U	11 U	NA	**73 J**	10 U	9.7 U	NA
2-Hexanone	20000	130000	--	--	--	17 U	12 U	11 U	NA	11 U	10 U	9.7 U	NA	23 U	12 U	9.4 U	NA	17 U	9.8 U	9.8 U	NA	16 U	9.7 U	9.1 U	NA	14 U	9.4 U	11 U	NA	62 UJ	10 U	9.7 U	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	17 U	12 U	11 U	NA	11 U	10 U	9.7 U	NA	23 U	12 U	9.4 U	NA	17 R	9.8 R	9.8 R	NA	16 R	9.7 R	9.1 R	NA	14 U	9.4 U	11 U	NA	62 UJ	10 U	9.7 R	NA
Acetone	6100000	67000000	--	--	--	**280 EB**	12 U	11 U	NA	**310 EB**	10 U	9.7 U	NA	**210 EB**	**27 EB**	**15 EB**	NA	**360 JEB**	**23 JEB**	**4.9 JEB**	NA	**400 EB**	**61 EB**	**17 EB**	NA	**420 JEB**	**60 EB**	**16 EB**	NA	**360 JEB**	**55 EB**	**27 EB**	NA
Benzene	1200	5100	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Bromochloromethane	15000	63000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Bromodichloromethane	290	1300	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 R	5.9 R	4.7 R	NA	8.3 R	4.9 R	4.9 R	NA	8.2 R	4.9 R	4.5 R	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 R	NA
Bromoform	67000	290000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 R	4.9 R	4.9 R	NA	8.2 R	4.9 R	4.5 R	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 R	NA
Bromomethane	680	3000	--	--	--	8.4 R	5.8 R	5.6 R	NA	5.3 R	5 R	4.9 R	NA	12 R	5.9 R	4.7 R	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 R	4.7 R	5.5 R	NA	31 R	5 R	4.9 U	NA
Carbon disulfide	77000	350000	--	--	--	8.4 R	5.8 R	5.6 R	NA	5.3 R	5 R	4.9 R	NA	12 R	5.9 R	4.7 R	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 R	4.7 R	5.5 R	NA	31 R	**2.9 J**	4.9 U	NA
Carbon tetrachloride	650	2900	--	--	--	8.4 R	5.8 R	5.6 R	NA	5.3 R	5 R	4.9 R	NA	12 R	5.9 R	4.7 R	NA	8.3 R	4.9 R	4.9 R	NA	8.2 R	4.9 R	4.5 R	NA	7 R	4.7 R	5.5 R	NA	31 R	5 R	4.9 R	NA
Chlorobenzene	28000	130000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Chloroethane	1400000	5700000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Chloroform	320	1400	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Chloromethane	11000	46000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
cis-1,3-Dichloropropene	--	--	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Cyclohexane	650000	2700000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Dibromochloromethane	730	3200	--	--	--	8.4 R	5.8 R	5.6 R	NA	5.3 R	5 R	4.9 R	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 R	4.7 R	5.5 R	NA	31 R	5 R	4.9 U	NA
Dichlorodifluoromethane	8700	37000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Ethylbenzene	5800	25000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Isopropylbenzene	190000	990000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
m,p-Xylene	--	--	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**58 EB**	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	**17 EB**	5.9 U	4.7 U	NA	**250 EB**	4.9 U	4.9 U	NA	**84 EB**	4.9 U	4.5 U	NA	**38 EB**	4.7 U	5.5 U	NA	**440 JEB**	**7.8 EB**	4.9 U	NA
Methyl tert-butyl ether	47000	210000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Methylcyclohexane	--	--	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Methylene chloride	35000	320000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	**70 J**	**29**	**18**	NA
o-Xylene	65000	280000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Styrene	600000	3500000	--	--	--	8.4 R	5.8 R	5.6 R	NA	5.3 R	5 R	4.9 R	NA	12 R	5.9 R	4.7 R	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 R	4.7 R	5.5 R	NA	31 R	5 R	4.9 U	NA
Tetrachloroethene	8100	39000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Toluene	490000	4700000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
trans-1,3-Dichloropropene	--	--	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 R	4.9 R	4.9 R	NA	8.2 R	4.9 R	4.5 R	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 R	NA
Trichloroethene	410	1900	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Trichlorofluoromethane	73000	310000	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA
Vinyl chloride	59	1700	--	--	--	8.4 U	5.8 U	5.6 U	NA	5.3 U	5 U	4.9 U	NA	12 U	5.9 U	4.7 U	NA	8.3 U	4.9 U	4.9 U	NA	8.2 U	4.9 U	4.5 U	NA	7 U	4.7 U	5.5 U	NA	31 UJ	5 U	4.9 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																											
					Sample Location	20CH-02				20CH-03				20CH-04				20CH-05				20CH-06				20CH-07				20CH-08			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS02-0001-061714X	20CH-SB02-0204-061714X	20CH-SB02-0406-061714X	20CH-SB02-0608-061714X	20CH-SS03-0001-061714X	20CH-SB03-0204-061714X	20CH-SB03-0406-061714X	20CH-SB03-0608-061714X	20CH-SS04-0001-061714X	20CH-SB04-0204-061714X	20CH-SB04-0406-061714X	20CH-SB04-0608-061714X	20CH-SS05-0001-061914X	20CH-SB05-0204-061914X	20CH-SB05-0406-061914X	20CH-SB05-0608-061914X	20CH-SS06-0001-061914X	20CH-SB06-0204-061914X	20CH-SB06-0406-061914X	20CH-SB06-0608-061914X	20CH-SS07-0001-061914X	20CH-SB07-0204-061914X	20CH-SB07-0406-061914X	20CH-SB07-0608-061914X	20CH-SS08-0001-061914X	20CH-SB08-0204-061914X	20CH-SB08-0406-061914X	20CH-SB08-0608-061914X
Semivolatiles (ug/kg)																																	
1,1'-Biphenyl	4700	20000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	300 UJ	210 UJ	210 UJ	NA	220 UJ	210 UJ	210 UJ	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,4-Dichlorophenol	18000	250000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,4-Dinitrophenol	12000	160000	--	--	--	570 U	400 U	410 U	NA	420 U	400 U	400 U	NA	700 U	420 U	400 U	NA	490 U	410 U	420 U	NA	520 U	400 U	410 U	NA	450 U	400 U	400 U	NA	1900 UJ	400 U	430 U	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2,6-Dinitrotoluene	360	1500	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2-Chloronaphthalene	630000	9300000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2-Chlorophenol	39000	580000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2-Methylnaphthalene	23000	300000	500	1000	--	5.7 U	4 U	4.1 U	NA	4.2 U	4 U	4 U	NA	7 U	4.2 U	4 U	NA	**8.2 EB**	4.1 U	4.2 U	NA	5.2 U	4.1 U	4.1 U	NA	**8.1 EB**	4 U	4 U	NA	**87 JEB**	4 U	4.3 U	NA
2-Methylphenol	310000	4100000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
2-Nitroaniline	61000	800000	--	--	--	570 U	400 U	410 U	NA	420 U	400 U	400 U	NA	700 U	420 U	400 U	NA	490 U	410 U	420 U	NA	520 U	400 U	410 U	NA	450 U	400 U	400 U	NA	1900 UJ	400 U	430 U	NA
2-Nitrophenol	--	--	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
3-Nitroaniline	--	--	--	--	--	570 U	400 U	410 U	NA	420 U	400 U	400 U	NA	700 U	420 U	400 U	NA	490 U	410 U	420 U	NA	520 U	400 U	410 U	NA	450 U	400 U	400 U	NA	1900 UJ	400 U	430 U	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	570 U	400 U	410 U	NA	420 U	400 U	400 U	NA	700 U	420 U	400 U	NA	490 U	410 U	420 U	NA	520 U	400 U	410 U	NA	450 U	400 U	400 U	NA	1900 UJ	400 U	430 U	NA
4-Bromophenyl-phenylether	--	--	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 UJ	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
4-Chloroaniline	2700	12000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 UJ	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
4-Methylphenol	620000	8200000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
4-Nitroaniline	25000	120000	--	--	--	570 U	400 U	410 U	NA	420 U	400 U	400 U	NA	700 U	420 U	400 U	NA	490 U	410 U	420 U	NA	520 U	400 U	410 U	NA	450 U	400 U	400 U	NA	1900 UJ	400 U	430 U	NA
4-Nitrophenol	--	--	--	--	--	570 U	400 U	410 U	NA	420 U	400 U	400 U	NA	700 U	420 U	400 U	NA	490 U	410 U	420 U	NA	520 U	400 U	410 U	NA	450 U	400 U	400 U	NA	1900 UJ	400 U	430 U	NA
Acenaphthene	350000	4500000	500	2000	--	5.7 U	4 U	4.1 U	NA	4.2 U	4 U	4 U	NA	**8.9**	4.2 U	4 U	NA	**6.3**	4.1 U	4.2 U	NA	5.2 U	4.1 U	4.1 U	NA	**11 J**	4 U	4 U	NA	**180 J**	4 U	4.3 U	NA
Acenaphthylene	--	--	500	1000	--	**24**	4 U	4.1 U	NA	**15**	4 U	4 U	NA	**67**	4.2 U	4 U	NA	**54 J**	4.1 U	4.2 U	NA	**26**	4.1 U	4.1 U	NA	**57**	4 U	4 U	NA	**1400 J**	4 U	4.3 U	NA
Acetophenone	780000	12000000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	**81 JEB**	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	**290 JEB**	210 U	220 U	NA
Anthracene	1700000	23000000	1000	4000	--	**18**	4 U	4.1 U	NA	**12**	4 U	**4.9**	NA	**110**	4.2 U	4 U	NA	**28**	4.1 U	4.2 U	NA	**17**	4.1 U	4.1 U	NA	**56**	4 U	4 U	NA	**1600 J**	4 U	4.3 U	NA
Atrazine	2300	10000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Benzaldehyde	780000	12000000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**92**	4 U	4.1 U	NA	**61**	4 U	**10**	NA	**420**	4.2 U	4 U	NA	**97**	4.1 U	4.2 U	NA	**58**	4.1 U	4.1 U	NA	**250**	4 U	4 U	NA	**5600 J**	4 U	4.3 U	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**87**	4 U	4.1 U	NA	**56**	4 U	**12**	NA	**350**	4.2 U	4 U	NA	**96 J**	4.1 U	**7.6**	NA	**56 J**	4.1 U	4.1 U	NA	**200**	4 U	4 U	NA	**4700 J**	4 U	4.3 U	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**110**	4 U	4.1 U	NA	**75**	4 U	**10**	NA	**490**	4.2 U	4 U	NA	**130 J**	4.1 U	**4.6**	NA	**73 J**	4.1 U	4.1 U	NA	**310 J**	4 U	4 U	NA	**6700 J**	4 U	4.3 U	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**50**	4 U	4.1 U	NA	**36**	4 U	4 U	NA	**170**	4.2 U	4 U	NA	**91 J**	4.1 U	4.2 U	NA	**44**	4.1 U	4.1 U	NA	**140**	4 U	4 U	NA	**2100 J**	4 U	4.3 U	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**75**	4 U	4.1 U	NA	**55**	4 U	**5.1**	NA	**270 J**	4.2 U	4 U	NA	**83 J**	4.1 UJ	4.2 UJ	NA	**44 J**	4.1 UJ	4.1 UJ	NA	**100**	4 U	4 U	NA	**2300 J**	4 U	4.3 UJ	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**71 J**	210 U	210 U	NA	**59 J**	210 U	210 U	NA	**120 J**	220 U	200 U	NA	**110 J**	210 U	220 U	NA	**170 J**	210 U	210 U	NA	**99 J**	210 UJ	210 UJ	NA	**290 J**	**42 J**	220 U	NA
Butylbenzylphthalate	280000	1200000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
Caprolactam	3100000	40000000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
Carbazole	--	--	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 UJ	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
Chrysene	**15000**	290000	2000	7000	--	**100**	4 U	4.1 U	NA	**78**	4 U	**11**	NA	**550**	4.2 U	4 U	NA	**120**	4.1 U	4.2 U	NA	**71**	4.1 U	4.1 U	NA	**240**	4 U	4 U	NA	**4500 J**	4 U	4.3 U	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**18**	4 U	4.1 U	NA	**13**	4 U	4 U	NA	**52**	4.2 U	4 U	NA	**22**	4.1 U	4.2 U	NA	**14**	4.1 U	4.1 U	NA	**33**	4 U	4 U	NA	**840 J**	4 U	4.3 U	NA
Dibenzofuran	**7200**	100000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 UJ	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
Diethylphthalate	4900000	66000000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
Dimethylphthalate	--	--	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**610 EB**	**360 EB**	**330 EB**	NA	**400 EB**	**330 EB**	**400 EB**	NA	**910 EB**	**460 EB**	**520 EB**	NA	**560**	**530**	**430**	NA	**650**	**520**	**610**	NA	**460 J**	**450 J**	**390 J**	NA	**2300 J**	**650**	**510**	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 UJ	210 UJ	210 UJ	NA	990 UJ	210 U	220 U	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**190**	**5.5**	4.1 U	NA	**140**	4 U	**21**	NA	**830**	4.2 U	4 U	NA	**220**	4.1 U	**5.9**	NA	**130**	4.1 U	4.1 U	NA	**450**	4 U	4 U	NA	**11000 J**	**6**	4.3 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																											
					Sample Location	20CH-02				20CH-03				20CH-04				20CH-05				20CH-06				20CH-07				20CH-08			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS02-0001-061714X	20CH-SB02-0204-061714X	20CH-SB02-0406-061714X	20CH-SB02-0608-061714X	20CH-SS03-0001-061714X	20CH-SB03-0204-061714X	20CH-SB03-0406-061714X	20CH-SB03-0608-061714X	20CH-SS04-0001-061714X	20CH-SB04-0204-061714X	20CH-SB04-0406-061714X	20CH-SB04-0608-061714X	20CH-SS05-0001-061914X	20CH-SB05-0204-061914X	20CH-SB05-0406-061914X	20CH-SB05-0608-061914X	20CH-SS06-0001-061914X	20CH-SB06-0204-061914X	20CH-SB06-0406-061914X	20CH-SB06-0608-061914X	20CH-SS07-0001-061914X	20CH-SB07-0204-061914X	20CH-SB07-0406-061914X	20CH-SB07-0608-061914X	20CH-SS08-0001-061914X	20CH-SB08-0204-061914X	20CH-SB08-0406-061914X	20CH-SB08-0608-061914X
Fluorene	230000	3000000	1000	2000	--	**11**	4 U	4.1 U	NA	**7.1**	4 U	4 U	NA	**35**	4.2 U	4 U	NA	**11 J**	4.1 UJ	4.2 UJ	NA	**6.2 J**	4.1 UJ	4.1 UJ	NA	**17**	4 U	4 U	NA	**610 J**	4 U	4.3 UJ	NA
Hexachlorobenzene	330	1400	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Hexachlorobutadiene	6200	30000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Hexachloroethane	4300	58000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**54**	4 U	4.1 U	NA	**38**	4 U	4 U	NA	**180**	4.2 U	4 U	NA	**82 J**	4.1 U	4.2 U	NA	**47**	4.1 U	4.1 U	NA	**120**	4 U	4 U	NA	**2600 J**	4 U	4.3 U	NA
Isophorone	560000	2400000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Naphthalene	**3800**	17000	500	1000	--	5.7 U	4 U	4.1 U	NA	4.2 U	4 U	4 U	NA	7 U	4.2 U	4 U	NA	**6.2 EB**	4.1 U	4.2 U	NA	5.2 U	4.1 U	4.1 U	NA	**11 EB**	4 U	4 U	NA	**360 JEB**	4 U	4.3 U	NA
Nitrobenzene	5100	22000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Pentachlorophenol	990	4000	--	--	--	12 U	8.1 U	8.2 U	NA	8.5 U	8.1 U	8.2 U	NA	14 U	8.5 U	8.1 U	NA	9.9 U	8.4 U	8.5 U	NA	11 U	8.3 U	8.3 U	NA	9.2 U	400 U	8.2 U	NA	39 UJ	8.2 U	8.7 U	NA
Phenanthrene	--	--	3000	20000	--	**93**	**6.7**	4.1 U	NA	**66**	4 U	**26**	NA	**440**	4.2 U	4 U	NA	**120**	4.1 U	**5.8**	NA	**59**	4.1 U	4.1 U	NA	**230**	4 U	4 U	NA	**4200 J**	4 U	4.3 U	NA
Phenol	1800000	25000000	--	--	--	300 U	210 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	220 U	NA	270 U	210 U	210 U	NA	230 U	210 U	210 U	NA	990 UJ	210 U	220 U	NA
Pyrene	**170000**	2300000	4000	20000	--	**140**	**7.8**	**4.3**	NA	**99**	**4.2**	**27**	NA	**690**	4.2 U	4 U	NA	**160**	4.1 U	**7.4**	NA	**100**	4.1 U	4.1 U	NA	**360 J**	**5.4**	4 U	NA	**7500 J**	**4.9**	4.3 U	NA
	Pesticides/PCBs (ug/kg)																																
4,4'-DDD	2200	9600	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 U	4 U	4 U	NA	19 UJ	4.1 U	4.3 U	NA
4,4'-DDE	1600	6800	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 R	4.2 R	4 R	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 R	4 R	4 R	NA	19 R	4.1 R	4.3 U	NA
4,4'-DDT	1900	8600	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 R	4 R	4 R	NA	19 R	4.1 R	4.3 U	NA
Aldrin	31	140	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 R	2 R	2 R	NA	10 R	2.1 R	2.2 U	NA
alpha-BHC	85	370	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 R	2 R	2 R	NA	10 R	2.1 R	2.2 U	NA
Alpha-Chlordane	--	--	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 U	2 U	2 U	NA	10 UJ	2.1 U	2.2 U	NA
Aroclor 1016	400	5200	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1221	150	660	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1232	150	660	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1242	240	1000	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1248	**240**	1000	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1254	**110**	1000	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1260	**240**	**1000**	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1262	--	--	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
Aroclor 1268	--	--	--	--	--	57 U	39 U	40 U	NA	42 U	40 U	40 U	NA	69 U	41 U	40 U	NA	49 U	41 U	42 U	NA	52 U	41 U	40 U	NA	46 U	40 U	40 U	NA	190 UJ	40 U	43 U	NA
beta-BHC	300	1300	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 U	2 U	2 U	NA	10 UJ	2.1 U	2.2 U	NA
delta-BHC	--	--	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 R	2 R	2 R	NA	10 R	2.1 R	2.2 U	NA
Dieldrin	33	140	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 U	4 U	4 U	NA	19 UJ	4.1 U	4.3 U	NA
Endosulfan I	--	--	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 U	2 U	2 U	NA	10 UJ	2.1 U	2.2 U	NA
Endosulfan II	--	--	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 U	4 U	4 U	NA	19 UJ	4.1 U	4.3 U	NA
Endosulfan Sulfate	--	--	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 R	4 R	4 R	NA	19 R	4.1 R	4.3 U	NA
Endrin	1800	25000	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 U	4 U	4 U	NA	19 UJ	4.1 U	4.3 U	NA
Endrin Aldehyde	--	--	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 U	4.1 U	4.2 U	NA	5.2 U	4.1 U	4 U	NA	4.6 U	4 U	4 U	NA	19 UJ	4.1 U	4.3 U	NA
Endrin Ketone	--	--	--	--	--	5.8 U	3.9 U	4 U	NA	4.2 U	4 U	4.1 U	NA	7 U	4.2 U	4 U	NA	4.9 UJ	4.1 UJ	4.2 UJ	NA	5.2 UJ	4.1 UJ	4 UJ	NA	4.6 UJ	4 UJ	4 UJ	NA	19 UJ	4.1 UJ	4.3 UJ	NA
gamma-BHC (Lindane)	560	2500	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 R	2 R	2 R	NA	10 R	2.1 R	2.2 U	NA
gamma-Chlordane	--	--	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	**3.3 J**	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 U	2 U	2 U	NA	**21 J**	2.1 U	2.2 U	NA
Heptachlor	120	510	--	--	--	3 R	2 R	2.1 R	NA	2.2 R	2.1 R	2.1 R	NA	3.6 R	2.2 R	2 R	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 R	2 R	2 R	NA	10 R	2.1 R	2.2 U	NA
Heptachlor Epoxide	59	250	--	--	--	3 U	2 U	2.1 U	NA	2.2 U	2.1 U	2.1 U	NA	3.6 U	2.2 U	2 U	NA	2.5 U	2.1 U	2.1 U	NA	2.7 U	2.1 U	2.1 U	NA	2.4 U	2 U	2 U	NA	10 UJ	2.1 U	2.2 U	NA
Methoxychlor	31000	410000	--	--	--	30 U	20 U	21 U	NA	22 U	21 U	21 U	NA	36 U	22 U	20 U	NA	25 U	21 U	21 U	NA	27 U	21 U	21 U	NA	24 U	20 U	20 U	NA	100 UJ	21 U	22 U	NA
Toxaphene	480	2100	--	--	--	300 U	200 U	210 U	NA	220 U	210 U	210 U	NA	360 U	220 U	200 U	NA	250 U	210 U	210 U	NA	270 U	210 U	210 U	NA	240 U	200 U	200 U	NA	1000 UJ	210 U	220 U	NA

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J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																											
					Sample Location	20CH-02				20CH-03				20CH-04				20CH-05				20CH-06				20CH-07				20CH-08			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS02-0001-061714X	20CH-SB02-0204-061714X	20CH-SB02-0406-061714X	20CH-SB02-0608-061714X	20CH-SS03-0001-061714X	20CH-SB03-0204-061714X	20CH-SB03-0406-061714X	20CH-SB03-0608-061714X	20CH-SS04-0001-061714X	20CH-SB04-0204-061714X	20CH-SB04-0406-061714X	20CH-SB04-0608-061714X	20CH-SS05-0001-061914X	20CH-SB05-0204-061914X	20CH-SB05-0406-061914X	20CH-SB05-0608-061914X	20CH-SS06-0001-061914X	20CH-SB06-0204-061914X	20CH-SB06-0406-061914X	20CH-SB06-0608-061914X	20CH-SS07-0001-061914X	20CH-SB07-0204-061914X	20CH-SB07-0406-061914X	20CH-SB07-0608-061914X	20CH-SS08-0001-061914X	20CH-SB08-0204-061914X	20CH-SB08-0406-061914X	20CH-SB08-0608-061914X
Metals (mg/kg)																																	
Aluminum	7700	110000	10000	10000	10700	18200	22200	20900	NA	15200	23200	24500	NA	13300	25600	22600	NA	16300	21900	24700	NA	18200	21200	23500	NA	13900	18900	21000	NA	13500 J	17600	24800	NA
Antimony	3.1	47	1	7	--	1.3 UJ	0.86 UJ	0.92 UJ	NA	1 UJ	0.85 UJ	0.83 UJ	NA	1.4 UJ	0.94 UJ	0.96 UJ	NA	1.1 UJ	0.87 UJ	0.9 UJ	NA	1.2 UJ	0.9 UJ	0.91 UJ	NA	1.1 UJ	0.93 UJ	0.84 UJ	NA	0.92 J	0.99 UJ	0.93 UJ	NA
Arsenic	0.67	3	20	20	8.78	14.7 J	10.4 J	12.6 J	NA	8.3 J	10.1 J	15 J	NA	34.5 J	14.2 J	9.3 J	NA	8.1	17.3 J	13.1	NA	10.1	11.9 J	13.6 J	NA	13.1 J	13.6 J	8.4	NA	133 J	11.4	11.9 J	NA
Barium	1500	22000	50	50	16	22.4 J	85.2 J	65.7 J	NA	47.6 J	75 J	85.1 J	NA	14 J	50.4	68.1	NA	67.5	64.5	64.2	NA	25.9	68.7	65.6	NA	332 J	72.3	71.3	NA	23.3 J	24.9	37.6	NA
Beryllium	16	230	0.4	0.9	0.315	1	1.6	1.4	NA	0.89	1.5	1.6	NA	0.73 J	1.7	1.6	NA	1.1	1.5	1.7	NA	0.99	1.5	1.6	NA	0.96	1.5	1.6	NA	0.97 J	1.1	1.5	NA
Cadmium	7	98	2	3	--	0.25 J	0.73 J	0.63 J	NA	0.27 J	0.6 J	0.72 J	NA	0.2 J	0.71 J	0.31 J	NA	0.19 J	0.23 J	0.37 J	NA	0.05 J	0.26 J	0.31 J	NA	1.2 J	0.52 J	0.55 J	NA	0.35 J	0.02 J	0.11 J	NA
Calcium	--	--	--	--	634	1520 J	2360 J	3620 J	NA	1240 J	3260 J	3800 J	NA	2800	1470	2520	NA	1440	2580	4030	NA	1130	2630	3290	NA	4440 J	2870	3540	NA	4320 J	796	669	NA
Chromium	12000	180000	30	40	15.2	53.6 J	57.6 J	53.9 J	NA	40.2 J	58.7 J	72.4 J	NA	129	62.6	62.1	NA	46.1	63	68.6	NA	56.4	54.8	65.3	NA	53 J	50.5	57.3	NA	865 J	29.6	57.9	NA
Chromium-Hexavalent	0.3	6.3	30	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	60 J	NA	NA	NA
Cobalt	2.3	35	4	4	5.68	8.6	25.4	19.4	NA	6.3	13.6	13.2	NA	5.6 J	17.7 J	18.2 J	NA	4.8 J	10.9	27.9	NA	8.7	22	16.2	NA	7.8	20.4	19.5	NA	7.4 J	7.6	14.1	NA
Copper	310	4700	40	200	6.28	15 J	28.5 J	23.7 J	NA	13.4 J	21.9 J	22.9 J	NA	22.6	23.2	23.7	NA	20.5	21.7	26.6	NA	15.4	25.8	22.7	NA	165 J	23	23.7	NA	123 J	8.5	22.3	NA
Iron	5500	82000	20000	20000	11200	24100 J	38900 J	35500 J	NA	21200 J	35300 J	38400 J	NA	20500 J	38700 J	39000 J	NA	16000	36400	40900	NA	23700	37100	38500	NA	23400 J	33900	36000	NA	23300 J	18500	35900	NA
Lead	400	800	100	600	41.8	78.3	21	19.4	NA	58.3	16.2	16.7	NA	113	22.3	18.1	NA	96.4	15.6	22.5	NA	73.2	17.8	18.3	NA	1220	17.1	18.5	NA	290 J	11.5	21.2	NA
Magnesium	--	--	5000	5000	2780	5490	9210	9740	NA	4190	9000	10800	NA	5030	9500	10200	NA	3050	9250	12100	NA	4630	9210	10400	NA	3450	7910	10000	NA	9220 J	4190	9120	NA
Manganese	180	2600	300	300	155	519 J	825 J	668 J	NA	495 J	461 J	435 J	NA	419 J	570 J	513 J	NA	155 J	276 J	585 J	NA	429 J	1050 J	446 J	NA	488 J	716	813	NA	333 J	152 J	361 J	NA
Mercury	0.94	4	0.3	1	0.0242	0.19	0.0082 J	0.0051 J	NA	0.2	0.0077 J	0.0045 J	NA	0.26	0.12 U	0.1 U	NA	0.21	0.11 U	0.11 U	NA	0.2	0.11 U	0.11 U	NA	0.53	0.01 J	0.011 J	NA	4.1 J	0.008 J	0.11 U	NA
Nickel	150	2200	20	30	11.2	20.3	51.4	45.8	NA	16.3	42.1	50	NA	19.6	45.1	46.8	NA	16.6	47.1	53.7	NA	22.5	49.6	47	NA	20.3	43.5	47.4	NA	24.7 J	25.6	33.4	NA
Potassium	--	--	--	--	382	1110	3700	3430	NA	637	2650	4440	NA	1150	3530	3720	NA	449 J	2790 J	4550 J	NA	1090 J	3070 J	3850 J	NA	916	2270	2860	NA	3460 J	1100 J	3030 J	NA
Selenium	39	580	0.5	1	--	3.3 U	4.3 U	4.6 U	NA	2.6 U	4.2 U	4.2 U	NA	3.6 U	4.7 U	4.8 U	NA	2.7 U	2.2 UJ	4.5 U	NA	2.9 U	2.3 UJ	2.3 UJ	NA	2.6 U	2.3 UJ	4.2 U	NA	3.4 J	4.9 U	2.3 UJ	NA
Silver	39	580	0.6	5	--	1.2 U	0.92 U	0.92 U	NA	1 U	0.95 U	0.94 U	NA	1.5 U	0.95 U	0.95 U	NA	1.1 U	0.86 U	0.88 U	NA	1.1 U	0.95 U	0.91 U	NA	0.46 J	0.89 U	0.92 U	NA	0.34 J	0.97 U	0.89 U	NA
Sodium	--	--	--	--	--	3070	1610	957	NA	225 J	354 J	395 J	NA	5960	1600	1450	NA	141 J	299 J	415 J	NA	622	755	731	NA	138 J	294 J	392 J	NA	27000 J	2320	2210	NA
Thallium	0.078	1.2	0.6	5	--	0.18 J	0.27 J	0.29 J	NA	0.16 J	0.29 J	0.31 J	NA	0.14 J	0.3 J	0.27 J	NA	0.17 J	0.32 J	0.3 J	NA	0.14 J	0.28 J	0.29 J	NA	0.19 J	0.46 U	0.42 U	NA	0.13 J	0.16 J	0.24 J	NA
Vanadium	39	580	30	30	19.4	58 J	62.5 J	58.8 J	NA	52.1 J	54.9 J	64.1 J	NA	56.2	67.4	63.9	NA	40	53.9	67	NA	54.7	56	60.5	NA	46.4 J	54	59	NA	71.5 J	39.3	59.9	NA
Zinc	2300	35000	100	300	35.3	67.6	87.8	74.1	NA	63.6	76.5	88.8	NA	85.6	77.6	83.7	NA	71.4	76.6	92.1	NA	74.7	79	83.9	NA	520	73.9 J	75.8 J	NA	88.4 J	50.9	77.7	NA
Asbestos (%v/v)																																	
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																											
					Sample Location	20CH-02				20CH-03				20CH-04				20CH-05				20CH-06				20CH-07				20CH-08			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS02-0001-061714X	20CH-SB02-0204-061714X	20CH-SB02-0406-061714X	20CH-SB02-0608-061714X	20CH-SS03-0001-061714X	20CH-SB03-0204-061714X	20CH-SB03-0406-061714X	20CH-SB03-0608-061714X	20CH-SS04-0001-061714X	20CH-SB04-0204-061714X	20CH-SB04-0406-061714X	20CH-SB04-0608-061714X	20CH-SS05-0001-061914X	20CH-SB05-0204-061914X	20CH-SB05-0406-061914X	20CH-SB05-0608-061914X	20CH-SS06-0001-061914X	20CH-SB06-0204-061914X	20CH-SB06-0406-061914X	20CH-SB06-0608-061914X	20CH-SS07-0001-061914X	20CH-SB07-0204-061914X	20CH-SB07-0406-061914X	20CH-SB07-0608-061914X	20CH-SS08-0001-061914X	20CH-SB08-0204-061914X	20CH-SB08-0406-061914X	20CH-SB08-0608-061914X
Dioxins/Furans (ng/Kg)																																	
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**62.4 J**	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1090 J**	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**49.3 J**	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**146 J**	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.39 J**	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.05 J**	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.5 J**	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.42 J**	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.24 J**	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.11 J**	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.64 J**	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.18 J**	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.82 J**	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.64 J**	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.55 J**	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.91 J**	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.882 J**	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**108 J**	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**300 J**	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**86.7 J**	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**77.6 J**	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**62 J**	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**19.3 J**	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10.8 J**	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**61 J**	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9.18 J**	NA	NA	NA

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																											
					Sample Location	20CH-02				20CH-03				20CH-04				20CH-05				20CH-06				20CH-07				20CH-08			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS02-0001-061714X	20CH-SB02-0204-061714X	20CH-SB02-0406-061714X	20CH-SB02-0608-061714X	20CH-SS03-0001-061714X	20CH-SB03-0204-061714X	20CH-SB03-0406-061714X	20CH-SB03-0608-061714X	20CH-SS04-0001-061714X	20CH-SB04-0204-061714X	20CH-SB04-0406-061714X	20CH-SB04-0608-061714X	20CH-SS05-0001-061914X	20CH-SB05-0204-061914X	20CH-SB05-0406-061914X	20CH-SB05-0608-061914X	20CH-SS06-0001-061914X	20CH-SB06-0204-061914X	20CH-SB06-0406-061914X	20CH-SB06-0608-061914X	20CH-SS07-0001-061914X	20CH-SB07-0204-061914X	20CH-SB07-0406-061914X	20CH-SB07-0608-061914X	20CH-SS08-0001-061914X	20CH-SB08-0204-061914X	20CH-SB08-0406-061914X	20CH-SB08-0608-061914X
General Chemistry (%)																																	
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.1 J**	NA	NA	NA	**11 J**	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**12 J**	NA	NA	NA	**14 J**	NA	NA	NA
General Chemistry (mg/kg as NaCl)																																	
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000 U	NA	NA	NA	**64000 J**	NA	NA	NA
General Chemistry (mV)																																	
Oxidation-Reduction Potential	--	--	--	--	--	NA	**324**	NA	NA	NA	NA	**323**	NA	**328**	NA	NA	NA	**388**	NA	NA	NA	**381**	**396**	NA	NA	**373**	**380**	NA	NA	**48 J**	**374**	NA	NA
General Chemistry (S.U.)																																	
pH	--	--	--	--	--	NA	**6.99**	NA	NA	NA	NA	**7.5**	NA	**6.47**	NA	NA	NA	**5.27**	NA	NA	NA	**5.77**	**6.27**	NA	NA	**6.27**	**6.29**	NA	NA	**6.21 J**	**6.18**	NA	NA
General Chemistry (ug/g)																																	
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**450 J**	NA	NA	NA	**390 J**	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**450 J**	NA	NA	NA	**390 J**	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	NA	NA	**35000 J**	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**27**	NA	NA	NA	1 UJ	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4**	NA	NA	NA	**18000 J**	NA	NA	NA
Metals Screening (mg/kg)																																	
Arsenic	**0.67**	**3**	20	20	8.78	8 U	**10**	**11**	**15**	6 U	**16**	**11**	**9**	**22**	**13**	**16**	**10**	7 U	**13**	**14**	**10**	6 U	**14**	**16**	**13**	24 U	**13**	**13**	**16**	**92**	**8**	**7**	**8**
Chromium	**12000**	180000	30	40	15.2	**72**	**92**	**49**	**69**	**55**	**111**	**148**	**78**	**148**	**95**	**82**	**60**	**64**	**79**	**80**	**95**	**85**	**94**	**93**	**66**	**139**	**84**	**73**	**98**	**1012**	**101**	**78**	**79**
Lead	**400**	**800**	100	600	41.8	**77**	**29**	**32**	**26**	**46**	**25**	**22**	**27**	**79**	**27**	**25**	**23**	**72**	**19**	**24**	**30**	**53**	**28**	**26**	**24**	**949**	**56**	**28**	**23**	**142**	**16**	**24**	**28**
Mercury	0.94	4	0.3	1	0.0242	6 U	7 U	7 U	7 U	5 U	6 U	7 U	7 U	5 U	6 U	7 U	7 U	5 U	7 U	6 U	6 U	5 U	7 U	7 U	7 U	6 U	7 U	7 U	7 U	4 U	5 U	6 U	6 U
Nickel	150	2200	20	30	11.2	31 U	**46**	**45**	**46**	27 U	**41**	**40**	36 U	24 U	**44**	39 U	36 U	26 U	34 U	**45**	**37**	26 U	36 U	**43**	38 U	28 U	**43**	38 U	**42**	22 U	**34**	**42**	34 U
PAH Screening (ug/kg)																																	
Total PAH	--	--	--	--	--	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U	10 U	10 U	NA	10 U	10 U	13 U	NA	10 U	**12**	10 U	NA	10 U	10 U	10 U	**33**	**25**	10 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																									
					Sample Location	20CH-09				20CH-10						20CH-11						20CH-12						20CH-13			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS09-0001-061914X	20CH-SB09-0204-061914X	20CH-SB09-0406-061914X	20CH-SB09-0608-061914X	20CH-SS10-0001-061814X	20CH-SB10-0204-061814X	20CH-SB10-0406-061814X	20CH-SB10-0608-061814X	20CH-SB10-0810-061814X	20CH-SB10-1012-061814X	20CH-SS11-0001-062014X-MAX	20CH-SB11-0204-062014X	20CH-SB11-0406-062014X	20CH-SB11-0608-062014X	20CH-SB11-0810-062014X	20CH-SB11-1012-062014X	20CH-SS12-0001-062014X	20CH-SB12-0204-062014X	20CH-SB12-0406-062014X	20CH-SB12-0608-062014X	20CH-SB12-0810-062014X	20CH-SB12-1012-062014X	20CH-SS13-0001-061814X	20CH-SB13-0204-061814X	20CH-SB13-0406-061814X	20CH-SB13-0608-061814X
Volatiles (ug/kg)																															
1,1,1-Trichloroethane	810000	3600000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,1,2-Trichloroethane	150	630	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,1-Dichloroethane	3600	16000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,1-Dichloroethene	23000	100000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,2-Dibromoethane	36	160	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,2-Dichloroethane	460	2000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,2-Dichloropropane	1000	4400	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,3-Dichlorobenzene	--	--	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
1,4-Dioxane	5300	23000	--	--	--	160 R	110 R	98 R	NA	940 R	100 R	160 R	NA	NA	NA	150 R	200 R	NA	NA	93 R	NA	130 R	NA	130 R	NA	110 R	NA	190 R	91 R	99 R	NA
2-Butanone	2700000	19000000	--	--	--	**71 J**	11 U	9.8 U	NA	94 UJ	10 U	16 U	NA	NA	NA	15 U	**41**	NA	NA	9.3 U	NA	**31**	NA	**81**	NA	11 U	NA	**22**	9.1 U	9.9 U	NA
2-Hexanone	20000	130000	--	--	--	16 U	11 U	9.8 U	NA	94 UJ	10 U	16 U	NA	NA	NA	15 U	20 U	NA	NA	9.3 U	NA	13 U	NA	13 U	NA	11 U	NA	19 U	9.1 U	9.9 U	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	16 U	11 U	9.8 U	NA	94 UJ	10 U	16 U	NA	NA	NA	15 U	20 U	NA	NA	9.3 U	NA	13 U	NA	13 U	NA	11 U	NA	19 U	9.1 U	9.9 U	NA
Acetone	6100000	67000000	--	--	--	**630 JEB**	**90 EB**	**32 JEB**	NA	**450 J**	**23**	**37 J**	NA	NA	NA	**440**	**180**	NA	NA	**9.5 J**	NA	**220**	NA	**270**	NA	**5.6 J**	NA	**210**	**21**	**4.2 J**	NA
Benzene	1200	5100	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Bromochloromethane	15000	63000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Bromodichloromethane	290	1300	--	--	--	8 U	5.3 U	4.9 U	NA	47 R	5.2 R	8.1 R	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 R	4.6 R	5 R	NA
Bromoform	67000	290000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Bromomethane	680	3000	--	--	--	8 R	5.3 R	4.9 R	NA	47 R	5.2 R	8.1 R	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 R	4.6 R	5 R	NA
Carbon disulfide	77000	350000	--	--	--	8 R	5.3 R	4.9 R	NA	47 R	5.2 R	8.1 R	NA	NA	NA	7.6 R	**15 J**	NA	NA	4.7 R	NA	**9.7 J**	NA	**17 J**	NA	5.3 R	NA	9.7 R	4.6 R	5 R	NA
Carbon tetrachloride	650	2900	--	--	--	8 R	5.3 R	4.9 R	NA	47 R	5.2 R	8.1 R	NA	NA	NA	7.6 R	9.9 R	NA	NA	4.7 R	NA	6.7 R	NA	6.6 R	NA	5.3 R	NA	9.7 R	4.6 R	5 R	NA
Chlorobenzene	28000	130000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Chloroethane	1400000	5700000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Chloroform	320	1400	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Chloromethane	11000	46000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	**4.7 J**	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
cis-1,3-Dichloropropene	--	--	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Cyclohexane	650000	2700000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Dibromochloromethane	730	3200	--	--	--	8 R	5.3 R	4.9 R	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 R	9.9 R	NA	NA	4.7 R	NA	6.7 R	NA	6.6 R	NA	5.3 R	NA	9.7 U	4.6 U	5 U	NA
Dichlorodifluoromethane	8700	37000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Ethylbenzene	5800	25000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Isopropylbenzene	190000	990000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
m,p-Xylene	--	--	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**69 EB**	5.3 U	4.9 U	NA	**210 J**	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	**4.1 J**	NA	**3.5 J**	NA	5.3 U	NA	**42**	4.6 U	5 U	NA
Methyl tert-butyl ether	47000	210000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Methylcyclohexane	--	--	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Methylene chloride	35000	320000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
o-Xylene	65000	280000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Styrene	600000	3500000	--	--	--	8 R	5.3 R	4.9 R	NA	47 R	5.2 R	8.1 R	NA	NA	NA	7.6 R	9.9 R	NA	NA	4.7 R	NA	6.7 R	NA	6.6 R	NA	5.3 R	NA	9.7 R	4.6 R	5 R	NA
Tetrachloroethene	8100	39000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Toluene	490000	4700000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
trans-1,3-Dichloropropene	--	--	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Trichloroethene	410	1900	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Trichlorofluoromethane	73000	310000	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA
Vinyl chloride	59	1700	--	--	--	8 U	5.3 U	4.9 U	NA	47 UJ	5.2 U	8.1 U	NA	NA	NA	7.6 U	9.9 U	NA	NA	4.7 U	NA	6.7 U	NA	6.6 U	NA	5.3 U	NA	9.7 U	4.6 U	5 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																									
					Sample Location	20CH-09				20CH-10						20CH-11						20CH-12						20CH-13			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS09-0001-061914X	20CH-SB09-0204-061914X	20CH-SB09-0406-061914X	20CH-SB09-0608-061914X	20CH-SS10-0001-061814X	20CH-SB10-0204-061814X	20CH-SB10-0406-061814X	20CH-SB10-0608-061814X	20CH-SB10-0810-061814X	20CH-SB10-1012-061814X	20CH-SS11-0001-062014X-MAX	20CH-SB11-0204-062014X	20CH-SB11-0406-062014X	20CH-SB11-0608-062014X	20CH-SB11-0810-062014X	20CH-SB11-1012-062014X	20CH-SS12-0001-062014X	20CH-SB12-0204-062014X	20CH-SB12-0406-062014X	20CH-SB12-0608-062014X	20CH-SB12-0810-062014X	20CH-SB12-1012-062014X	20CH-SS13-0001-061814X	20CH-SB13-0204-061814X	20CH-SB13-0406-061814X	20CH-SB13-0608-061814X
Semivolatiles (ug/kg)																															
1,1'-Biphenyl	4700	20000	--	--	--	250 U	210 U	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	**96 J**	220 U	210 U	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2,4-Dichlorophenol	18000	250000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 UJ	330 UJ	NA	NA	210 UJ	NA	250 UJ	NA	250 UJ	NA	220 UJ	NA	320 U	220 U	210 U	NA
2,4-Dinitrophenol	12000	160000	--	--	--	480 U	410 U	410 U	NA	2800 UJ	440 U	450 U	NA	NA	NA	450 U	650 U	NA	NA	420 U	NA	490 U	NA	490 U	NA	420 U	NA	630 U	420 U	410 U	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2,6-Dinitrotoluene	360	1500	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2-Chloronaphthalene	630000	9300000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2-Chlorophenol	39000	580000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2-Methylnaphthalene	23000	300000	500	1000	--	4.8 U	4.1 U	4.1 U	NA	28 UJ	4.4 U	4.5 U	NA	NA	NA	**33**	**28**	NA	NA	4.2 U	NA	**29**	NA	**10 J**	NA	4.2 U	NA	**400**	4.2 U	4.1 U	NA
2-Methylphenol	310000	4100000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
2-Nitroaniline	61000	800000	--	--	--	480 U	410 U	410 U	NA	2800 UJ	440 U	450 U	NA	NA	NA	450 U	650 U	NA	NA	420 U	NA	490 U	NA	490 U	NA	420 U	NA	630 U	420 U	410 U	NA
2-Nitrophenol	--	--	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
3-Nitroaniline	--	--	--	--	--	480 U	410 U	410 U	NA	2800 UJ	440 U	450 U	NA	NA	NA	450 U	650 U	NA	NA	420 U	NA	490 U	NA	490 U	NA	420 U	NA	630 U	420 U	410 U	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	480 U	410 U	410 U	NA	2800 UJ	440 U	450 U	NA	NA	NA	450 U	650 U	NA	NA	420 U	NA	490 U	NA	490 U	NA	420 U	NA	630 U	420 U	410 U	NA
4-Bromophenyl-phenylether	--	--	--	--	--	250 UJ	210 UJ	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
4-Chloroaniline	2700	12000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	250 UJ	210 UJ	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
4-Methylphenol	620000	8200000	--	--	--	250 U	210 U	210 U	NA	**350 J**	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
4-Nitroaniline	25000	120000	--	--	--	480 U	410 U	410 U	NA	2800 UJ	440 U	450 U	NA	NA	NA	450 U	650 U	NA	NA	420 U	NA	490 U	NA	490 U	NA	420 U	NA	630 U	420 U	410 U	NA
4-Nitrophenol	--	--	--	--	--	480 U	410 U	410 U	NA	2800 UJ	440 U	450 U	NA	NA	NA	450 U	650 U	NA	NA	420 U	NA	490 U	NA	490 U	NA	420 U	NA	630 U	420 U	410 U	NA
Acenaphthene	350000	4500000	500	2000	--	4.8 U	4.1 U	4.1 U	NA	28 UJ	4.4 U	4.5 U	NA	NA	NA	**34 J**	**12**	NA	NA	4.2 U	NA	**9.5**	NA	**8.6 J**	NA	4.2 U	NA	**310**	4.2 U	4.1 U	NA
Acenaphthylene	--	--	500	1000	--	**27**	4.1 U	4.1 U	NA	**46 J**	4.4 U	4.5 U	NA	NA	NA	**54**	**200 J**	NA	NA	4.2 UJ	NA	**55**	NA	**11 J**	NA	4.2 U	NA	**170**	4.2 U	4.1 U	NA
Acetophenone	780000	12000000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	**130 J**	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Anthracene	1700000	23000000	1000	4000	--	**20**	4.1 U	4.1 U	NA	**38 J**	4.4 U	4.5 U	NA	NA	NA	**160 J**	**54 J**	NA	NA	210 U	NA	**58 J**	NA	**25 J**	NA	220 U	NA	**540**	4.2 U	4.1 U	NA
Atrazine	2300	10000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Benzaldehyde	780000	12000000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**73**	4.1 U	4.1 U	NA	**230 J**	4.4 U	4.5 U	NA	NA	NA	**410**	**170 J**	NA	NA	4.2 U	NA	**160 J**	NA	**130 J**	NA	4.2 U	NA	**2400 J-**	**4.4**	4.1 U	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**65**	4.1 U	4.1 U	NA	**210 J**	4.4 U	4.5 U	NA	NA	NA	**470 J**	**180 J**	NA	NA	4.2 U	NA	**160 J**	NA	**94 J**	NA	4.2 U	NA	**1900**	4.2 U	4.1 U	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**85 J**	4.1 U	4.1 U	NA	**330 J**	4.4 U	4.5 U	NA	NA	NA	**450**	**400 J**	NA	NA	4.2 U	NA	**300 J**	NA	**140 J**	NA	4.2 U	NA	**3200**	4.2 U	4.1 U	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**36**	4.1 U	4.1 U	NA	**140 J**	4.4 U	4.5 U	NA	NA	NA	4.5 UJ	**160 J**	NA	NA	4.2 UJ	NA	**110 J**	NA	**57 J**	NA	4.2 U	NA	**880**	4.2 U	4.1 U	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**72**	4.1 U	4.1 U	NA	**110 J**	4.4 U	4.5 U	NA	NA	NA	**250**	**110 J**	NA	NA	4.2 U	NA	**130 J**	NA	**63 J**	NA	4.2 U	NA	**1100**	4.2 U	4.1 U	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**100 J**	210 U	210 UJ	NA	**510 J**	230 U	230 U	NA	NA	NA	**310**	330 U	NA	NA	210 U	NA	**500**	NA	250 U	NA	220 U	NA	**100 J**	220 U	210 U	NA
Butylbenzylphthalate	280000	1200000	--	--	--	250 U	210 U	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Caprolactam	3100000	40000000	--	--	--	250 U	210 U	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Carbazole	--	--	--	--	--	250 UJ	210 UJ	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	**58 J**	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	**610**	220 U	210 U	NA
Chrysene	**15000**	290000	2000	7000	--	**79**	4.1 U	4.1 U	NA	**280 J**	4.4 U	4.5 U	NA	NA	NA	**430**	**350 J**	NA	NA	**4.2**	NA	**270 J**	NA	**170 J**	NA	4.2 U	NA	**2500**	4.2 U	4.1 U	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**11**	4.1 U	4.1 U	NA	**37 J**	4.4 U	4.5 U	NA	NA	NA	**47 J**	**37 J**	NA	NA	4.2 UJ	NA	**20 J**	NA	**16 J**	NA	4.2 U	NA	**330**	4.2 U	4.1 U	NA
Dibenzofuran	**7200**	100000	--	--	--	250 UJ	210 UJ	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	**680**	220 U	210 U	NA
Diethylphthalate	4900000	66000000	--	--	--	250 U	210 U	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Dimethylphthalate	--	--	--	--	--	250 U	210 U	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**470**	**410**	**400 J**	NA	**2400 J**	**520**	**500**	NA	NA	NA	**670**	**450**	NA	NA	**360**	NA	**540**	NA	**530**	NA	**400**	NA	**600**	**440**	**440**	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	250 U	210 U	210 UJ	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**150**	4.1 U	4.1 U	NA	**410 J**	4.4 U	4.5 U	NA	NA	NA	**940**	**330**	NA	NA	**7.3**	NA	**440**	NA	**270 J**	NA	**5.1**	NA	**4700**	4.2 U	4.1 U	NA

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J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																									
					Sample Location	20CH-09				20CH-10						20CH-11						20CH-12						20CH-13			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS09-0001-061914X	20CH-SB09-0204-061914X	20CH-SB09-0406-061914X	20CH-SB09-0608-061914X	20CH-SS10-0001-061814X	20CH-SB10-0204-061814X	20CH-SB10-0406-061814X	20CH-SB10-0608-061814X	20CH-SB10-0810-061814X	20CH-SB10-1012-061814X	20CH-SS11-0001-062014X-MAX	20CH-SB11-0204-062014X	20CH-SB11-0406-062014X	20CH-SB11-0608-062014X	20CH-SB11-0810-062014X	20CH-SB11-1012-062014X	20CH-SS12-0001-062014X	20CH-SB12-0204-062014X	20CH-SB12-0406-062014X	20CH-SB12-0608-062014X	20CH-SB12-0810-062014X	20CH-SB12-1012-062014X	20CH-SS13-0001-061814X	20CH-SB13-0204-061814X	20CH-SB13-0406-061814X	20CH-SB13-0608-061814X
Fluorene	230000	3000000	1000	2000	--	**6.5**	4.1 U	4.1 U	NA	28 UJ	4.4 U	4.5 U	NA	NA	NA	**41 J**	**39**	NA	NA	4.2 U	NA	**38**	NA	**17 J**	NA	4.2 U	NA	**710 J-**	4.2 U	4.1 U	NA
Hexachlorobenzene	330	1400	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Hexachlorobutadiene	6200	30000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Hexachloroethane	4300	58000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**38**	4.1 U	4.1 U	NA	**140 J**	4.4 U	4.5 U	NA	NA	NA	**180 J**	**120 J**	NA	NA	4.2 UJ	NA	**110 J**	NA	**52 J**	NA	4.2 U	NA	**1200 J**	4.2 U	4.1 U	NA
Isophorone	560000	2400000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Naphthalene	**3800**	17000	500	1000	--	4.8 U	4.1 U	4.1 U	NA	28 UJ	4.4 U	4.5 U	NA	NA	NA	**28**	**35**	NA	NA	4.2 U	NA	**30**	NA	**24 J**	NA	4.2 U	NA	**590**	4.2 U	4.1 U	NA
Nitrobenzene	5100	22000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Pentachlorophenol	990	4000	--	--	--	9.8 U	8.2 U	8.4 U	NA	56 UJ	9 U	9.1 U	NA	NA	NA	9.1 U	130 UJ	NA	NA	420 U	NA	100 UJ	NA	10 U	NA	**8.9 J**	NA	13 U	8.6 U	8.3 U	NA
Phenanthrene	--	--	3000	20000	--	**72**	4.1 U	4.1 U	NA	**190 J**	4.4 U	4.5 U	NA	NA	NA	**340**	**140**	NA	NA	**4.2**	NA	**170**	NA	**150 J**	NA	4.2 U	NA	**4900**	4.2 U	4.1 U	NA
Phenol	1800000	25000000	--	--	--	250 U	210 U	210 U	NA	**290 J**	230 U	230 U	NA	NA	NA	230 U	330 U	NA	NA	210 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA
Pyrene	**170000**	2300000	4000	20000	--	**130**	4.1 U	4.1 U	NA	**380 J**	4.4 U	4.5 U	NA	NA	NA	**980**	**370 J**	NA	NA	**5.7**	NA	**300 J**	NA	**200 J**	NA	**4.5**	NA	**4500**	4.2 U	4.1 U	NA
	Pesticides/PCBs (ug/kg)																														
4,4'-DDD	2200	9600	--	--	--	4.8 U	4.1 U	4.1 U	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	**41 J**	6.5 U	NA	NA	4.2 U	NA	4.9 U	NA	4.9 U	NA	4.2 U	NA	6.2 U	4.2 U	4.1 U	NA
4,4'-DDE	1600	6800	--	--	--	4.8 R	4.1 R	4.1 R	NA	27 R	4.4 R	4.5 R	NA	NA	NA	**12 J**	6.5 R	NA	NA	4.2 R	NA	4.9 R	NA	4.9 R	NA	4.2 R	NA	6.2 R	4.2 R	4.1 R	NA
4,4'-DDT	1900	8600	--	--	--	4.8 R	4.1 R	4.1 R	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	**12 J**	6.5 R	NA	NA	4.2 R	NA	**15 J**	NA	4.9 R	NA	4.2 R	NA	6.2 U	4.2 U	4.1 U	NA
Aldrin	31	140	--	--	--	2.5 R	2.1 R	2.1 R	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	2.3 R	3.4 R	NA	NA	2.2 R	NA	2.5 R	NA	2.5 R	NA	2.2 R	NA	3.2 U	2.2 U	2.1 U	NA
alpha-BHC	85	370	--	--	--	2.5 R	2.1 R	2.1 R	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	**9.4 J**	3.4 R	NA	NA	2.2 R	NA	2.5 R	NA	2.5 R	NA	2.2 R	NA	3.2 U	2.2 U	2.1 U	NA
Alpha-Chlordane	--	--	--	--	--	2.5 U	2.1 U	2.1 U	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	2.3 U	3.4 U	NA	NA	2.2 U	NA	2.5 U	NA	2.5 U	NA	2.2 U	NA	3.2 U	2.2 U	2.1 U	NA
Aroclor 1016	400	5200	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	45 U	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1221	150	660	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	45 U	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1232	150	660	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	45 U	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1242	240	1000	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	45 U	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1248	**240**	1000	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	45 U	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1254	**110**	1000	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	**68**	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1260	**240**	**1000**	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	**1400 J**	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1262	--	--	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	45 U	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
Aroclor 1268	--	--	--	--	--	48 U	41 U	41 U	NA	270 UJ	44 U	45 U	NA	NA	NA	45 U	64 U	NA	NA	42 U	NA	49 U	NA	49 U	NA	42 U	NA	62 U	42 U	41 U	NA
beta-BHC	300	1300	--	--	--	2.5 U	2.1 U	2.1 U	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	**18 J**	3.4 U	NA	NA	2.2 U	NA	2.5 U	NA	2.5 U	NA	2.2 U	NA	3.2 U	2.2 U	2.1 U	NA
delta-BHC	--	--	--	--	--	2.5 R	2.1 R	2.1 R	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	2.3 R	3.4 R	NA	NA	2.2 R	NA	2.5 R	NA	2.5 R	NA	2.2 R	NA	3.2 U	2.2 U	2.1 U	NA
Dieldrin	33	140	--	--	--	4.8 U	4.1 U	4.1 U	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	**18 J**	6.5 U	NA	NA	4.2 U	NA	4.9 U	NA	4.9 U	NA	4.2 U	NA	6.2 U	4.2 U	4.1 U	NA
Endosulfan I	--	--	--	--	--	2.5 U	2.1 U	2.1 U	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	2.3 U	3.4 U	NA	NA	2.2 U	NA	2.5 U	NA	2.5 U	NA	2.2 U	NA	3.2 U	2.2 U	2.1 U	NA
Endosulfan II	--	--	--	--	--	4.8 U	4.1 U	4.1 U	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	**6.2 J**	6.5 U	NA	NA	4.2 U	NA	4.9 U	NA	4.9 U	NA	4.2 U	NA	6.2 U	4.2 U	4.1 U	NA
Endosulfan Sulfate	--	--	--	--	--	4.8 R	4.1 R	4.1 R	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	4.5 R	6.5 R	NA	NA	4.2 R	NA	4.9 R	NA	4.9 R	NA	4.2 R	NA	**25 J**	4.2 U	4.1 U	NA
Endrin	1800	25000	--	--	--	4.8 U	4.1 U	4.1 U	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	**7.7 J**	6.5 U	NA	NA	4.2 U	NA	4.9 U	NA	4.9 U	NA	4.2 U	NA	6.2 U	4.2 U	4.1 U	NA
Endrin Aldehyde	--	--	--	--	--	4.8 U	4.1 U	4.1 U	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	**14 J**	6.5 U	NA	NA	4.2 U	NA	4.9 U	NA	4.9 U	NA	4.2 U	NA	**7.5 J**	4.2 U	4.1 U	NA
Endrin Ketone	--	--	--	--	--	4.8 UJ	4.1 UJ	4.1 UJ	NA	27 UJ	4.4 U	4.5 U	NA	NA	NA	4.5 U	6.5 U	NA	NA	4.2 U	NA	4.9 U	NA	4.9 U	NA	4.2 U	NA	**26 J**	4.2 U	4.1 U	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2.5 R	2.1 R	2.1 R	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	2.3 R	3.4 R	NA	NA	2.2 R	NA	2.5 R	NA	2.5 R	NA	2.2 R	NA	3.2 U	2.2 U	2.1 U	NA
gamma-Chlordane	--	--	--	--	--	2.5 U	2.1 U	2.1 U	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	**4.7 J**	3.4 U	NA	NA	2.2 U	NA	**4.7 J**	NA	2.5 U	NA	2.2 U	NA	3.2 U	2.2 U	2.1 U	NA
Heptachlor	120	510	--	--	--	2.5 R	2.1 R	2.1 R	NA	14 R	2.3 R	2.3 R	NA	NA	NA	**4.6 J**	3.4 R	NA	NA	2.2 R	NA	2.5 R	NA	2.5 R	NA	2.2 R	NA	3.2 R	2.2 R	2.1 R	NA
Heptachlor Epoxide	59	250	--	--	--	2.5 U	2.1 U	2.1 U	NA	14 UJ	2.3 U	2.3 U	NA	NA	NA	**9.3 J**	3.4 U	NA	NA	2.2 U	NA	2.5 U	NA	2.5 U	NA	2.2 U	NA	3.2 U	2.2 U	2.1 U	NA
Methoxychlor	31000	410000	--	--	--	25 U	21 U	21 U	NA	140 UJ	23 U	23 U	NA	NA	NA	23 U	34 U	NA	NA	22 U	NA	25 U	NA	25 U	NA	22 U	NA	32 U	22 U	21 U	NA
Toxaphene	480	2100	--	--	--	250 U	210 U	210 U	NA	1400 UJ	230 U	230 U	NA	NA	NA	230 U	340 U	NA	NA	220 U	NA	250 U	NA	250 U	NA	220 U	NA	320 U	220 U	210 U	NA

					Property	20 Cheever St.																									
					Sample Location	20CH-09				20CH-10						20CH-11						20CH-12						20CH-13			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS09-0001-061914X	20CH-SB09-0204-061914X	20CH-SB09-0406-061914X	20CH-SB09-0608-061914X	20CH-SS10-0001-061814X	20CH-SB10-0204-061814X	20CH-SB10-0406-061814X	20CH-SB10-0608-061814X	20CH-SB10-0810-061814X	20CH-SB10-1012-061814X	20CH-SS11-0001-062014X-MAX	20CH-SB11-0204-062014X	20CH-SB11-0406-062014X	20CH-SB11-0608-062014X	20CH-SB11-0810-062014X	20CH-SB11-1012-062014X	20CH-SS12-0001-062014X	20CH-SB12-0204-062014X	20CH-SB12-0406-062014X	20CH-SB12-0608-062014X	20CH-SB12-0810-062014X	20CH-SB12-1012-062014X	20CH-SS13-0001-061814X	20CH-SB13-0204-061814X	20CH-SB13-0406-061814X	20CH-SB13-0608-061814X
Metals (mg/kg)																															
Aluminum	**7700**	110000	10000	10000	10700	**17500**	**25800**	**23800**	NA	**8200 J**	**14500**	**21400**	NA	NA	NA	**10000**	**5420**	NA	NA	**21200**	NA	**8620**	NA	**17400**	NA	**21800**	NA	**12000**	**17500**	**19900**	NA
Antimony	**3.1**	47	1	7	--	1 UJ	0.87 UJ	0.9 UJ	NA	0.88 UJ	1 UJ	0.94 UJ	NA	NA	NA	**7**	**9.2**	NA	NA	**0.88 J**	NA	**4.2 J**	NA	0.96 U	NA	**0.9 J**	NA	1.4 UJ	0.95 UJ	0.89 UJ	NA
Arsenic	**0.67**	**3**	20	20	8.78	**11.5**	**12.8 J**	**9.8 J**	NA	**49.6 J**	**11.6 J**	**10.2 J**	NA	NA	NA	**32.9**	**522**	NA	NA	**12.1**	NA	**71.9**	NA	**83.3**	NA	**13.7**	NA	**23.5 J**	**5.2 J**	**16.8 J**	NA
Barium	**1500**	22000	50	50	16	**76.2**	**86.2**	**67.5**	NA	**16.7 J**	**23.6**	**32.1**	NA	NA	NA	**4040**	**2170**	NA	NA	**66.4**	NA	**84**	NA	**129**	NA	**60.9**	NA	**14.7 J**	**15.7 J**	**78.4**	NA
Beryllium	16	230	0.4	0.9	0.315	**0.94**	**1.8**	**1.6**	NA	**0.62 J**	**0.74**	**1.9**	NA	NA	NA	**1.7**	**2**	NA	NA	**1.4**	NA	**3.1**	NA	**1.6**	NA	**1.5**	NA	**0.78**	**1**	**1.7**	NA
Cadmium	**7**	98	2	3	--	**0.43 J**	**0.69 J**	**0.56 J**	NA	**0.35 J**	0.48 UJ	**0.17 J**	NA	NA	NA	**9 J**	**7.6 J**	NA	NA	0.45 UJ	NA	**8.8 J**	NA	**0.9 J**	NA	0.48 UJ	NA	**0.11 J**	**0.02 J**	**0.66 J**	NA
Calcium	--	--	--	--	634	**1570**	**3430**	**3440**	NA	**4000 J**	**604**	**379 J**	NA	NA	NA	**14300**	**3740**	NA	NA	**3170**	NA	580 U	NA	**3830**	NA	**3660**	NA	**2020**	**713**	**1960**	NA
Chromium	**12000**	180000	30	40	15.2	**43.6**	**72.9**	**62.1**	NA	**423 J**	**24**	**53.6**	NA	NA	NA	**560**	**459**	NA	NA	**57.7**	NA	**598**	NA	**390**	NA	**60**	NA	**113**	**36.1**	**52.1**	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**16 J**	**6.3 J**	NA	NA	NA	NA	**2.9 J**	NA	**1.2 J**	NA	**1.3 J**	NA	**2 J**	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**7.2**	**17.7**	**15.4**	NA	**4.1 J**	**7.7 J**	**14.1 J**	NA	NA	NA	**18.6**	**17**	NA	NA	**14.2**	NA	**40.4**	NA	**15.6**	NA	**19.6**	NA	**5.6 J**	**8.7 J**	**14.1 J**	NA
Copper	**310**	4700	40	200	6.28	**36.7**	**26.1**	**23.6**	NA	**33.4 J**	**8.7**	**17.7**	NA	NA	NA	**525 J**	**372 J**	NA	NA	**24.9 J**	NA	**291 J**	NA	**1250 J**	NA	**74.6 J**	NA	**19**	**11.1**	**21.4**	NA
Iron	**5500**	**82000**	20000	20000	11200	**18700**	**40900**	**37500**	NA	**14500 J**	**15700 J**	**33200 J**	NA	NA	NA	**233000**	**248000**	NA	NA	**36100**	NA	**423000**	NA	**80800**	NA	**38200**	NA	**19800 J**	**23600 J**	**33400 J**	NA
Lead	**400**	**800**	100	600	41.8	**177**	**21.4**	**17.3**	NA	**149 J**	**10.2**	**18.7**	NA	NA	NA	**24000 J+**	**2410 J+**	NA	NA	**19.1 J+**	NA	**3610 J+**	NA	**323 J+**	NA	**25.5 J+**	NA	**167**	**17**	**24.8**	NA
Magnesium	--	--	5000	5000	2780	**3030**	**11000**	**10400**	NA	**8950 J**	**4080**	**7300**	NA	NA	NA	**3920**	**4460**	NA	NA	**9860**	NA	**5320**	NA	**10100**	NA	**10700**	NA	**5780**	**5680**	**8390**	NA
Manganese	**180**	**2600**	300	300	155	**210**	**543**	**504**	NA	**185 J**	**152 J**	**261 J**	NA	NA	NA	**1410**	**1280**	NA	NA	**380**	NA	**2980**	NA	**672**	NA	**484**	NA	**243 J**	**246 J**	**357 J**	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.2**	**0.01 J**	**0.01 J**	NA	**1.1 J**	**0.01 J**	**0.0025 J**	NA	NA	NA	**4**	**6.6**	NA	NA	0.11 U	NA	**1.5**	NA	**1.5**	NA	0.12 U	NA	**0.2**	0.12 U	0.11 U	NA
Nickel	**150**	2200	20	30	11.2	**21.1**	**55.1**	**48.3**	NA	**16.8 J**	**19.8**	**31.6**	NA	NA	NA	**62.1**	**63.6**	NA	NA	**41.7**	NA	**91.6**	NA	**41.9**	NA	**43.2**	NA	**18.9**	**26**	**44.6**	NA
Potassium	--	--	--	--	382	**702**	**3310**	**3260**	NA	**4010 J**	**986**	**2740**	NA	NA	NA	**799**	**865**	NA	NA	**3600**	NA	**1680**	NA	**3410**	NA	**4020**	NA	**1670**	**1420**	**3250**	NA
Selenium	39	580	0.5	1	--	2.5 U	2.2 UJ	2.2 UJ	NA	**4.3 J**	2.5 U	4.7 U	NA	NA	NA	3.9 U	5.7 U	NA	NA	3.1 U	NA	4.1 U	NA	3.6 U	NA	3.4 U	NA	3.4 U	2.4 U	4.4 U	NA
Silver	39	580	0.6	5	--	0.96 U	0.92 U	0.94 U	NA	**0.07 J**	0.95 U	0.9 U	NA	NA	NA	1.1 U	1.6 U	NA	NA	0.9 U	NA	1.2 U	NA	1 U	NA	0.97 U	NA	1.2 U	1 U	0.87 U	NA
Sodium	--	--	--	--	--	**116 J**	**428 J**	**358 J**	NA	**41300 J**	**1890**	**2160**	NA	NA	NA	**2570**	**13300**	NA	NA	**1650**	NA	**6980**	NA	**5260**	NA	**1290**	NA	**7800**	**2250**	**3240**	NA
Thallium	**0.078**	1.2	0.6	5	--	0.51 U	0.43 U	0.45 U	NA	**0.1 J**	**0.11 J**	**0.24 J**	NA	NA	NA	**0.062 J+**	**0.21 J+**	NA	NA	**0.29 J+**	NA	**0.16 J+**	NA	**0.32 J+**	NA	**0.32 J+**	NA	**0.17 J**	**0.1 J**	**0.31 J**	NA
Vanadium	**39**	580	30	30	19.4	**44.1**	**68.6**	**64.9**	NA	**45.8 J**	**24.4**	**60.1**	NA	NA	NA	**46.1**	**32.9**	NA	NA	**61.1**	NA	**85.5**	NA	**52.5**	NA	**61.4**	NA	**51.8**	**38.5**	**56.1**	NA
Zinc	**2300**	35000	100	300	35.3	**128 J**	**90.2 J**	**81 J**	NA	**63.3 J**	**39.6**	**59.6**	NA	NA	NA	**4980 J+**	**3220 J+**	NA	NA	**79.9 J+**	NA	**1190 J+**	NA	**399 J+**	NA	**92.4 J+**	NA	**67.3**	**55.2**	**83.9**	NA
Asbestos (%v/v)																															
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																									
					Sample Location	20CH-09				20CH-10						20CH-11						20CH-12						20CH-13			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS09-0001-061914X	20CH-SB09-0204-061914X	20CH-SB09-0406-061914X	20CH-SB09-0608-061914X	20CH-SS10-0001-061814X	20CH-SB10-0204-061814X	20CH-SB10-0406-061814X	20CH-SB10-0608-061814X	20CH-SB10-0810-061814X	20CH-SB10-1012-061814X	20CH-SS11-0001-062014X-MAX	20CH-SB11-0204-062014X	20CH-SB11-0406-062014X	20CH-SB11-0608-062014X	20CH-SB11-0810-062014X	20CH-SB11-1012-062014X	20CH-SS12-0001-062014X	20CH-SB12-0204-062014X	20CH-SB12-0406-062014X	20CH-SB12-0608-062014X	20CH-SB12-0810-062014X	20CH-SB12-1012-062014X	20CH-SS13-0001-061814X	20CH-SB13-0204-061814X	20CH-SB13-0406-061814X	20CH-SB13-0608-061814X
Dioxins/Furans (ng/Kg)																															
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**28.3 J**	NA	NA	NA	NA	NA	NA	**7.04 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4750**	NA	NA	NA	NA	NA	NA	**2000**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**26.7 J**	NA	NA	NA	NA	NA	NA	**4.95 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**90**	NA	NA	NA	NA	NA	NA	**22.5**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.19 J**	NA	NA	NA	NA	NA	NA	0.445 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.3 J**	NA	NA	NA	NA	NA	NA	**0.666 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.72 U	NA	NA	NA	NA	NA	NA	**0.347 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.09 U	NA	NA	NA	NA	NA	NA	**0.489 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.44 U	NA	NA	NA	NA	NA	NA	**0.796 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.03 U	NA	NA	NA	NA	NA	NA	**0.293 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.03 U	NA	NA	NA	NA	NA	NA	**0.732 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.86 J**	NA	NA	NA	NA	NA	NA	**0.345 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6.3 U	NA	NA	NA	NA	NA	NA	0.249 U	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.44 U	NA	NA	NA	NA	NA	NA	**0.592 J**	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.54 U	NA	NA	NA	NA	NA	NA	**0.728 J**	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10.9 J**	NA	NA	NA	NA	NA	NA	**0.594 J**	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.3 U	NA	NA	NA	NA	NA	NA	0.329 U	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**50 J**	NA	NA	NA	NA	NA	NA	**9.07 J**	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**222 J**	NA	NA	NA	NA	NA	NA	**59.2 J**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**44.7 J**	NA	NA	NA	NA	NA	NA	**7.67 J**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**38.5 J**	NA	NA	NA	NA	NA	NA	**12.7 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**88 J**	NA	NA	NA	NA	NA	NA	**6.88 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.34 J**	NA	NA	NA	NA	NA	NA	**1.93 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.58 J**	NA	NA	NA	NA	NA	NA	**0.473 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**206 J**	NA	NA	NA	NA	NA	NA	**5.9 J**	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.56 J**	NA	NA	NA	NA	NA	NA	**1.56 J**	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																									
					Sample Location	20CH-09				20CH-10						20CH-11						20CH-12						20CH-13			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS09-0001-061914X	20CH-SB09-0204-061914X	20CH-SB09-0406-061914X	20CH-SB09-0608-061914X	20CH-SS10-0001-061814X	20CH-SB10-0204-061814X	20CH-SB10-0406-061814X	20CH-SB10-0608-061814X	20CH-SB10-0810-061814X	20CH-SB10-1012-061814X	20CH-SS11-0001-062014X-MAX	20CH-SB11-0204-062014X	20CH-SB11-0406-062014X	20CH-SB11-0608-062014X	20CH-SB11-0810-062014X	20CH-SB11-1012-062014X	20CH-SS12-0001-062014X	20CH-SB12-0204-062014X	20CH-SB12-0406-062014X	20CH-SB12-0608-062014X	20CH-SB12-0810-062014X	20CH-SB12-1012-062014X	20CH-SS13-0001-061814X	20CH-SB13-0204-061814X	20CH-SB13-0406-061814X	20CH-SB13-0608-061814X
General Chemistry (%)																															
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.7 J**	NA	NA	NA	NA	NA	NA	NA	**1.1 J**	NA	NA	NA	**2.7 J**	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10 J**	NA	NA	NA	NA	NA	NA	NA	1 UJ	NA	NA	NA	**5.7 J**	NA	NA	NA
General Chemistry (mg/kg as NaCl)																															
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3000**	NA	NA	NA	NA	NA	NA	NA	**9200**	NA	NA	NA	**13000**	NA	NA	NA
General Chemistry (mV)																															
Oxidation-Reduction Potential	--	--	--	--	--	**384**	NA	**361**	NA	**79**	NA	NA	NA	NA	NA	**266**	**132**	NA	NA	NA	NA	**277**	NA	**41**	NA	**249**	NA	**283**	NA	NA	NA
General Chemistry (S.U.)																															
pH	--	--	--	--	--	**5.83**	NA	**6.42**	NA	**6.37**	NA	NA	NA	NA	NA	**7.74**	**6.11**	NA	NA	NA	NA	**7.29**	NA	**6.84**	NA	**6.95**	NA	**6.65**	NA	NA	NA
General Chemistry (ug/g)																															
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**340 J**	NA	NA	NA	NA	NA	NA	NA	**300 J**	NA	NA	NA	**99 J**	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**340 J**	NA	NA	NA	NA	NA	NA	NA	**300 J**	NA	NA	NA	**99 J**	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1400**	NA	NA	NA	NA	NA	NA	NA	**3500**	NA	NA	NA	**6100**	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15**	NA	NA	NA	NA	NA	NA	NA	0.3 U	NA	NA	NA	**8.9 J**	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**140**	NA	NA	NA	NA	NA	NA	NA	**1400**	NA	NA	NA	**700**	NA	NA	NA
Metals Screening (mg/kg)																															
Arsenic	**0.67**	**3**	20	20	8.78	10 U	**14**	**11**	**14**	**11**	**9**	6 U	**12**	8 U	**22**	**456**	**353**	**37**	**7**	**18**	**10**	**114**	**150**	**67**	**12**	**57**	**7**	**20**	6 U	**10**	**11**
Chromium	**12000**	180000	30	40	15.2	**95**	**76**	**79**	**125**	**164**	35 U	**64**	**58**	**97**	**50**	**2854**	**680**	**869**	**87**	**99**	**91**	**1221**	**1530**	**811**	**41**	**206**	**58**	**222**	**68**	47 U	**98**
Lead	**400**	**800**	100	600	41.8	**143**	**22**	**23**	**24**	**54**	**19**	**33**	**31**	**50**	**32**	**8875**	**1154**	**68**	**24**	**23**	**23**	**1437**	**577**	**120**	**24**	**118**	**21**	**97**	**28**	**31**	**33**
Mercury	0.94	4	0.3	1	0.0242	5 U	7 U	6 U	7 U	4 U	6 U	6 U	7 U	7 U	7 U	15 U	11 U	6 U	6 U	6 U	6 U	10 U	10 U	7 U	7 U	7 U	6 U	5 U	6 U	7 U	7 U
Nickel	150	2200	20	30	11.2	28 U	**58**	**45**	**47**	18 U	30 U	30 U	37 U	**41**	**48**	57 U	63 U	30 U	34 U	**44**	**56**	56 U	55 U	38 U	37 U	**68**	34 U	25 U	33 U	**44**	36 U
PAH Screening (ug/kg)																															
Total PAH	--	--	--	--	--	NA	10 U	**11**	10 U	NA	10 U	10 U	10 U	10 U	NA	NA	**870 J**	**1200 J**	**23**	**300**	NA	NA	**840 J**	**2000 J**	**280**	**17**	NA	NA	10 U	10 U	10 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																										20 Cheev
					Sample Location	20CH-14						20CH-15				20CH-16				SB-12	SB-13	SB-14	SB-15	SS-12		SS-13		SS-14		SS-15		SS-27
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 1	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	3 - 4.75	3 - 4.5	3 - 4.5	3 - 4	0 - 2	2 - 3	0 - 1	1 - 3	0 - 2	2 - 3	0 - 2	2 - 3	0 - 1
					Sample Date	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/18/14	06/18/14	06/18/14	06/18/14	06/26/14	06/26/14	06/26/14	06/26/14	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	04/22/11	04/18/11	04/18/11	04/18/11	04/18/11	04/22/11	04/22/11	04/20/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	MAX	N	N	N	N	N	MAX	MAX	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS14-0001-062414X	20CH-SB14-0204-062414X	20CH-SB14-0406-062414X	20CH-SB14-0608-062414X	20CH-SB14-0810-062414X	20CH-SB14-1012-062414X	20CH-SS15-0001-061814X	20CH-SB15-0204-061814X	20CH-SB15-0406-061814X	20CH-SB15-0608-061814X	20CH-SS16-0001-062614X-MAX	20CH-SB16-0204-062614X	20CH-SB16-0406-062614X	20CH-SB16-0608-062614X	SB-12 (3-4.75)	SB-13 (3-4.5)	SB-14 (3-4.5)-MAX	SB-15 (3-4)	SS-12A (0-2)	SS-12C (2-3)	SS-13A (0-1)	SS-13C (1-3)	SS-14A (0-2)-MAX	SS-14C (2-3)-MAX	SS-15A (0-2)	SS-15C (2-3)	SS-27A (0-1)
Volatiles (ug/kg)																																
1,1,1-Trichloroethane	810000	3600000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,1,2-Trichloroethane	150	630	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,1-Dichloroethane	3600	16000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,1-Dichloroethene	23000	100000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,2,3-Trichlorobenzene	4900	66000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,2,4-Trichlorobenzene	5800	26000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,2-Dibromoethane	36	160	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,2-Dichlorobenzene	180000	930000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,2-Dichloroethane	460	2000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,2-Dichloropropane	1000	4400	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,3-Dichlorobenzene	--	--	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,4-Dichlorobenzene	2600	11000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
1,4-Dioxane	5300	23000	--	--	--	170 R	120 R	110 R	NA	NA	NA	110 R	120 R	110 R	NA	150 R	86 R	99 R	NA	110 UJ	110 UJ	180 UJ	110 UJ	110 UJ	NA	110 UJ	NA	130 UJ	NA	120 UJ	NA	110 UJ
2-Butanone	2700000	19000000	--	--	--	17 U	12 U	11 U	NA	NA	NA	11 U	12 U	11 U	NA	15 U	8.6 U	9.9 U	NA	11 U	11 U	**210 J**	11 U	11 U	NA	11 U	NA	13 U	NA	12 U	NA	11 U
2-Hexanone	20000	130000	--	--	--	17 U	12 U	11 U	NA	NA	NA	11 U	12 U	11 U	NA	15 U	8.6 U	9.9 U	NA	11 U	11 U	18 U	11 U	11 U	NA	11 U	NA	13 U	NA	12 U	NA	11 U
4-Methyl-2-pentanone	530000	5600000	--	--	--	17 R	12 R	11 R	NA	NA	NA	11 U	12 U	11 U	NA	15 U	8.6 U	9.9 U	NA	11 U	11 U	18 U	11 U	11 U	NA	11 U	NA	13 U	NA	12 U	NA	11 U
Acetone	6100000	67000000	--	--	--	**76 EB**	12 U	**41 EB**	NA	NA	NA	**140**	**33**	**83 J**	NA	**160**	**56**	9.9 U	NA	**160**	11 U	**490 J**	**47 J**	**95 J**	NA	**100 J**	NA	**240 J**	NA	**320 J**	NA	**170**
Benzene	1200	5100	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	**2.6 J**	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Bromochloromethane	15000	63000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Bromodichloromethane	290	1300	--	--	--	8.3 R	6 R	5.6 R	NA	NA	NA	5.7 R	6.1 R	5.6 R	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Bromoform	67000	290000	--	--	--	8.3 R	6 R	5.6 R	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Bromomethane	680	3000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 R	6.1 R	5.6 R	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Carbon disulfide	77000	350000	--	--	--	8.3 U	6 U	**7.5**	NA	NA	NA	5.7 R	6.1 R	5.6 R	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	**68**	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Carbon tetrachloride	650	2900	--	--	--	8.3 R	6 R	5.6 R	NA	NA	NA	5.7 R	6.1 R	5.6 R	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Chlorobenzene	28000	130000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Chloroethane	1400000	5700000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Chloroform	320	1400	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Chloromethane	11000	46000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 UJ	5.6 U	8.8 U	5.6 UJ	5.7 UJ	NA	5.7 U	NA	6.6 U	NA	6.2 UJ	NA	5.4 UJ
cis-1,2-Dichloroethene	16000	230000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
cis-1,3-Dichloropropene	--	--	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Cyclohexane	650000	2700000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Dibromochloromethane	730	3200	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Dichlorodifluoromethane	8700	37000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 UJ	8.8 UJ	5.6 U	5.7 UJ	NA	5.7 UJ	NA	6.6 UJ	NA	6.2 U	NA	5.4 U
Ethylbenzene	5800	25000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Isopropylbenzene	190000	990000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
m,p-Xylene	--	--	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Methyl acetate	7800000	1.2E+08	--	--	--	**31 EB**	6 U	5.6 U	NA	NA	NA	**24**	**6.8**	5.6 U	NA	**85**	**3.1 J**	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Methyl tert-butyl ether	47000	210000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Methylcyclohexane	--	--	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Methylene chloride	35000	320000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
o-Xylene	65000	280000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Styrene	600000	3500000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 R	6.1 R	5.6 R	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Tetrachloroethene	8100	39000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Toluene	490000	4700000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
trans-1,2-Dichloroethene	160000	2300000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
trans-1,3-Dichloropropene	--	--	--	--	--	8.3 R	6 R	5.6 R	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Trichloroethene	410	1900	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U
Trichlorofluoromethane	73000	310000	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 UJ	5.6 U	8.8 UJ	5.6 U	5.7 UJ	NA	5.7 U	NA	6.6 U	NA	6.2 UJ	NA	5.4 U
Vinyl chloride	59	1700	--	--	--	8.3 U	6 U	5.6 U	NA	NA	NA	5.7 U	6.1 U	5.6 U	NA	7.6 U	4.3 U	4.9 U	NA	5.7 U	5.6 U	8.8 U	5.6 U	5.7 U	NA	5.7 U	NA	6.6 U	NA	6.2 U	NA	5.4 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																										20 Cheev
					Sample Location	20CH-14						20CH-15				20CH-16				SB-12	SB-13	SB-14	SB-15	SS-12		SS-13		SS-14		SS-15		SS-27
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 1	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	3 - 4.75	3 - 4.5	3 - 4.5	3 - 4	0 - 2	2 - 3	0 - 1	1 - 3	0 - 2	2 - 3	0 - 2	2 - 3	0 - 1
					Sample Date	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/18/14	06/18/14	06/18/14	06/18/14	06/26/14	06/26/14	06/26/14	06/26/14	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	04/22/11	04/18/11	04/18/11	04/18/11	04/18/11	04/22/11	04/22/11	04/20/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	MAX	N	N	N	N	N	MAX	MAX	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS14-0001-062414X	20CH-SB14-0204-062414X	20CH-SB14-0406-062414X	20CH-SB14-0608-062414X	20CH-SB14-0810-062414X	20CH-SB14-1012-062414X	20CH-SS15-0001-061814X	20CH-SB15-0204-061814X	20CH-SB15-0406-061814X	20CH-SB15-0608-061814X	20CH-SS16-0001-062614X-MAX	20CH-SB16-0204-062614X	20CH-SB16-0406-062614X	20CH-SB16-0608-062614X	SB-12 (3-4.75)	SB-13 (3-4.5)	SB-14 (3-4.5)-MAX	SB-15 (3-4)	SS-12A (0-2)	SS-12C (2-3)	SS-13A (0-1)	SS-13C (1-3)	SS-14A (0-2)-MAX	SS-14C (2-3)-MAX	SS-15A (0-2)	SS-15C (2-3)	SS-27A (0-1)
Semivolatiles (ug/kg)																																
1,1'-Biphenyl	4700	20000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	**200 J**	NA	260 U	NA	220 U	NA	230 U
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2,4,5-Trichlorophenol	620000	8200000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2,4,6-Trichlorophenol	6200	82000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2,4-Dichlorophenol	18000	250000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2,4-Dimethylphenol	120000	1600000	--	--	--	250 UJ	210 UJ	220 UJ	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2,4-Dinitrophenol	12000	160000	--	--	--	490 U	410 U	430 U	NA	NA	NA	380 U	430 U	430 U	NA	520 UJ	390 UJ	400 UJ	NA	430 UJ	390 UJ	640 UJ	410 UJ	510 UJ	NA	460 UJ	NA	510 UJ	NA	410 UJ	NA	450 UJ
2,4-Dinitrotoluene	1700	7400	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 UJ	200 U	330 UJ	220 UJ	260 UJ	NA	230 U	NA	260 U	NA	220 UJ	NA	230 UJ
2,6-Dinitrotoluene	360	1500	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2-Chloronaphthalene	630000	9300000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2-Chlorophenol	39000	580000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2-Methylnaphthalene	23000	300000	500	1000	--	**54 J**	**11 EB**	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	**34 J**	3.9 U	4 U	NA	220 U	200 U	330 U	220 U	260 U	NA	**640**	NA	260 U	NA	220 U	NA	230 U
2-Methylphenol	310000	4100000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
2-Nitroaniline	61000	800000	--	--	--	490 U	410 U	430 U	NA	NA	NA	380 U	430 U	430 U	NA	520 U	390 U	400 U	NA	430 U	390 U	640 U	410 U	510 U	NA	460 U	NA	510 U	NA	410 U	NA	450 U
2-Nitrophenol	--	--	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
3,3'-Dichlorobenzidine	1200	5100	--	--	--	250 UJ	210 U	220 U	NA	NA	NA	200 UJ	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
3-Nitroaniline	--	--	--	--	--	490 U	410 U	430 U	NA	NA	NA	380 U	430 U	430 U	NA	520 U	390 U	400 U	NA	430 U	390 U	640 U	410 U	510 U	NA	460 U	NA	510 U	NA	410 U	NA	450 U
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	490 U	410 U	430 U	NA	NA	NA	380 U	430 U	430 U	NA	520 UJ	390 UJ	400 UJ	NA	430 UJ	390 UJ	640 UJ	410 UJ	510 UJ	NA	460 UJ	NA	510 UJ	NA	410 UJ	NA	450 UJ
4-Bromophenyl-phenylether	--	--	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
4-Chloro-3-methylphenol	620000	8200000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 UJ	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
4-Chloroaniline	2700	12000	--	--	--	250 UJ	210 U	220 U	NA	NA	NA	200 UJ	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
4-Chlorophenyl-phenylether	--	--	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
4-Methylphenol	620000	8200000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	**110 J**	NA	260 U	NA	220 U	NA	230 U
4-Nitroaniline	25000	120000	--	--	--	490 U	410 U	430 U	NA	NA	NA	380 U	430 U	430 U	NA	520 U	390 U	400 U	NA	430 UJ	390 U	640 UJ	410 UJ	510 UJ	NA	460 U	NA	510 U	NA	410 UJ	NA	450 UJ
4-Nitrophenol	--	--	--	--	--	490 U	410 U	430 U	NA	NA	NA	380 U	430 U	430 U	NA	520 U	390 U	400 U	NA	430 U	390 U	640 U	410 U	510 U	NA	460 U	NA	510 U	NA	410 U	NA	450 U
Acenaphthene	350000	4500000	500	2000	--	**16 EB**	**4.9 EB**	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	**6.3**	3.9 U	4 U	NA	220 U	200 U	330 U	220 U	**59 J**	NA	**350**	NA	260 U	NA	220 U	NA	230 U
Acenaphthylene	--	--	500	1000	--	**250**	**32 J**	4.3 U	NA	NA	NA	**15**	4.3 U	4.3 U	NA	**120 J**	3.9 U	4 U	NA	**45 J**	200 U	**120 J**	220 U	**170 J**	NA	**320**	NA	**140 J**	NA	220 U	NA	230 U
Acetophenone	780000	12000000	--	--	--	**140 JEB**	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Anthracene	1700000	23000000	1000	4000	--	**290**	**89**	4.3 U	NA	NA	NA	**9.9**	4.3 U	4.3 U	NA	**100 J**	3.9 U	4 U	NA	**59 J**	200 U	**90 J**	220 U	**270**	NA	**890**	NA	**200 J**	NA	220 U	NA	230 U
Atrazine	2300	10000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Benzaldehyde	780000	12000000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**930**	**170**	**5.9**	NA	NA	NA	**35**	4.3 U	4.3 U	NA	**220 J**	3.9 U	4 U	NA	**140 J**	200 U	**150 J**	220 U	**570**	NA	**3200**	NA	**710**	NA	220 U	NA	230 U
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**850**	**110**	4.3 U	NA	NA	NA	**44**	4.3 U	4.3 U	NA	**230 J**	3.9 U	4 U	NA	**120 J**	200 U	330 UJ	220 U	**550**	NA	**3600**	NA	**650 J**	NA	220 U	NA	230 U
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**1200**	**160**	**14**	NA	NA	NA	**67**	4.3 U	4.3 U	NA	**230 J**	3.9 U	4 U	NA	**140 J**	200 U	**120 J**	220 U	**600**	NA	**3400**	NA	**700**	NA	220 U	NA	230 U
Benzo(g,h,i)perylene	--	--	1000	3000	--	**430**	**57**	4.3 U	NA	NA	NA	**27**	4.3 U	4.3 U	NA	**100**	3.9 U	4 U	NA	**86 J**	200 UJ	330 UJ	220 U	**320**	NA	**1500 J**	NA	**190 J**	NA	220 U	NA	230 U
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**320**	**73**	**5.3**	NA	NA	NA	**25**	4.3 U	4.3 U	NA	**170**	3.9 U	4 U	NA	**95 J**	200 U	330 UJ	220 U	**540**	NA	**3300**	NA	**490**	NA	220 U	NA	230 U
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Bis(2-chloroethyl)ether	230	1000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**400**	210 U	220 U	NA	NA	NA	**87 J**	220 U	220 U	NA	**73 J**	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	**130 J**	NA	220 U	NA	**94 J**
Butylbenzylphthalate	280000	1200000	--	--	--	**77 J**	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Caprolactam	3100000	40000000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 UJ	200 U	330 UJ	220 UJ	260 UJ	NA	230 U	NA	260 U	NA	220 UJ	NA	230 UJ
Carbazole	--	--	--	--	--	**50 J**	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	**78 J**	NA	**1000**	NA	**74 J**	NA	220 U	NA	230 U
Chrysene	**15000**	290000	2000	7000	--	**1200 J**	**180**	**6.6**	NA	NA	NA	**62**	4.3 U	4.3 U	NA	**200 J**	3.9 U	4 U	NA	**140 J**	200 U	**120 J**	220 U	**680**	NA	**4500 ***	NA	**630**	NA	220 U	NA	230 U
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**110**	**47 J**	4.3 U	NA	NA	NA	**8.5**	4.3 U	4.3 U	NA	**39 J**	3.9 U	4 U	NA	220 U	200 U	330 UJ	220 U	**100 J**	NA	**520**	NA	**100 J**	NA	220 U	NA	230 U
Dibenzofuran	**7200**	100000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	**58 J**	NA	**1200**	NA	260 U	NA	220 U	NA	230 U
Diethylphthalate	4900000	66000000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Dimethylphthalate	--	--	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	**310 J**	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Di-N-Butylphthalate	620000	8200000	--	--	--	**150 JEB**	210 U	220 U	NA	NA	NA	**380**	**300**	**440**	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	**66 JEB**	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Di-N-Octyl Phthalate	62000	820000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 UJ	200 U	330 U	220 UJ	260 UJ	NA	230 U	NA	260 U	NA	220 UJ	NA	230 UJ
Fluoranthene	**230000**	3000000	4000	10000	--	**1700**	**460**	**7.9**	NA	NA	NA	**92**	4.3 U	4.3 U	NA	**660**	3.9 U	4 U	NA	**240**	200 U	**250 J**	220 U	**1200**	NA	**8500 ***	NA	**1400**	NA	220 U	NA	230 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																										20 Cheev
					Sample Location	20CH-14						20CH-15				20CH-16				SB-12	SB-13	SB-14	SB-15	SS-12		SS-13		SS-14		SS-15		SS-27
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 1	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	3 - 4.75	3 - 4.5	3 - 4.5	3 - 4	0 - 2	2 - 3	0 - 1	1 - 3	0 - 2	2 - 3	0 - 2	2 - 3	0 - 1
					Sample Date	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/18/14	06/18/14	06/18/14	06/18/14	06/26/14	06/26/14	06/26/14	06/26/14	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	04/22/11	04/18/11	04/18/11	04/18/11	04/18/11	04/22/11	04/22/11	04/20/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	MAX	N	N	N	N	N	MAX	MAX	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS14-0001-062414X	20CH-SB14-0204-062414X	20CH-SB14-0406-062414X	20CH-SB14-0608-062414X	20CH-SB14-0810-062414X	20CH-SB14-1012-062414X	20CH-SS15-0001-061814X	20CH-SB15-0204-061814X	20CH-SB15-0406-061814X	20CH-SB15-0608-061814X	20CH-SS16-0001-062614X-MAX	20CH-SB16-0204-062614X	20CH-SB16-0406-062614X	20CH-SB16-0608-062614X	SB-12 (3-4.75)	SB-13 (3-4.5)	SB-14 (3-4.5)-MAX	SB-15 (3-4)	SS-12A (0-2)	SS-12C (2-3)	SS-13A (0-1)	SS-13C (1-3)	SS-14A (0-2)-MAX	SS-14C (2-3)-MAX	SS-15A (0-2)	SS-15C (2-3)	SS-27A (0-1)
Fluorene	230000	3000000	1000	2000	--	**70**	**15**	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	**14**	3.9 U	4 U	NA	220 U	200 U	330 U	220 U	**91 J**	NA	**1000**	NA	**92 J**	NA	220 U	NA	230 U
Hexachlorobenzene	330	1400	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Hexachlorobutadiene	6200	30000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Hexachlorocyclopentadiene	37000	490000	--	--	--	250 UJ	210 U	220 U	NA	NA	NA	200 UJ	220 U	220 U	NA	270 UJ	200 UJ	210 UJ	NA	220 UJ	200 UJ	330 UJ	220 UJ	260 UJ	NA	230 UJ	NA	260 UJ	NA	220 UJ	NA	230 UJ
Hexachloroethane	4300	58000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**400**	**66**	4.3 U	NA	NA	NA	**27**	4.3 U	4.3 U	NA	**130**	3.9 U	4 U	NA	**86 J**	200 U	330 UJ	220 U	**340**	NA	**1600**	NA	**340 J**	NA	220 U	NA	230 U
Isophorone	560000	2400000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Naphthalene	**3800**	17000	500	1000	--	**44 EB**	**15 EB**	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	**22 J**	3.9 U	4 U	NA	220 U	200 U	330 U	220 U	260 U	NA	**1400**	NA	260 U	NA	220 U	NA	230 U
Nitrobenzene	5100	22000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
N-Nitrosodiphenylamine	110000	470000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 U	NA	230 U	NA	260 U	NA	220 U	NA	230 U
Pentachlorophenol	990	4000	--	--	--	**32 J**	410 U	430 U	NA	NA	NA	7.8 U	8.8 U	8.8 U	NA	520 U	390 U	400 U	NA	430 U	390 U	640 UJ	410 U	510 U	NA	460 U	NA	510 U	NA	410 U	NA	450 U
Phenanthrene	--	--	3000	20000	--	**1200**	**210**	4.3 U	NA	NA	NA	**48**	4.3 U	4.3 U	NA	**180**	3.9 U	4 U	NA	**190 J**	200 U	**270 J**	220 U	**1000**	NA	**10000 ***	NA	**1300**	NA	220 U	NA	230 U
Phenol	1800000	25000000	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	270 U	200 U	210 U	NA	220 UJ	200 U	330 U	220 UJ	260 UJ	NA	**61 J**	NA	260 U	NA	220 UJ	NA	230 UJ
Pyrene	**170000**	2300000	4000	20000	--	**2000**	**270**	**7.9**	NA	NA	NA	**93**	4.3 U	4.3 U	NA	**330 J**	3.9 U	4 U	NA	**300**	200 U	**69 J**	220 U	**1500**	NA	**10000 ***	NA	**1700**	NA	220 U	NA	**52 J**
	Pesticides/PCBs (ug/kg)																															
4,4'-DDD	2200	9600	--	--	--	**12 J**	4.1 R	4.3 R	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	4.3 U	3.9 U	6.4 U	4.1 U	5 UJ	NA	4.6 U	NA	5.1 U	NA	4.2 U	NA	4.5 U
4,4'-DDE	1600	6800	--	--	--	**8.3 J**	4.1 R	4.3 R	NA	NA	NA	3.8 R	4.3 R	4.3 R	NA	5.1 U	3.9 U	4 U	NA	4.3 U	3.9 U	6.4 U	4.1 U	7.5 R	NA	4.6 U	NA	5.1 U	NA	4.2 U	NA	4.5 U
4,4'-DDT	1900	8600	--	--	--	**65 J**	4.1 U	4.3 U	NA	NA	NA	**3.9**	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	**2.7 J**	3.9 U	6.4 U	4.1 U	**33 J**	NA	**3.9 J**	NA	5.1 U	NA	4.2 U	NA	**3.2 J**
Aldrin	31	140	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
alpha-BHC	85	370	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
Alpha-Chlordane	--	--	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
Aroclor 1016	400	5200	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 UJ	NA	45 U
Aroclor 1221	150	660	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 U	NA	45 U
Aroclor 1232	150	660	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 U	NA	45 U
Aroclor 1242	240	1000	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 U	NA	45 U
Aroclor 1248	**240**	1000	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 U	NA	45 U
Aroclor 1254	**110**	1000	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 U	NA	45 U
Aroclor 1260	**240**	**1000**	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 U	NA	45 U
Aroclor 1262	--	--	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	51 UJ	NA	46 U	NA	51 U	NA	42 U	NA	45 U
Aroclor 1268	--	--	--	--	--	49 U	42 U	43 U	NA	NA	NA	38 U	43 U	44 U	NA	51 U	39 U	40 U	NA	43 U	39 U	64 U	42 U	**150 J**	NA	46 U	NA	51 U	NA	42 U	NA	45 U
beta-BHC	300	1300	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
delta-BHC	--	--	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	**1.6 J**	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
Dieldrin	33	140	--	--	--	4.9 R	4.1 R	4.3 R	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	4.3 U	3.9 U	6.4 U	4.1 U	5 UJ	NA	4.6 U	NA	5.1 U	NA	4.2 U	NA	4.5 U
Endosulfan I	--	--	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
Endosulfan II	--	--	--	--	--	4.9 U	4.1 U	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	4.3 U	3.9 U	6.4 U	4.1 U	5 UJ	NA	4.6 U	NA	5.1 U	NA	4.2 U	NA	4.5 U
Endosulfan Sulfate	--	--	--	--	--	4.9 U	4.1 U	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	4.3 U	**7.3 J**	6.4 U	4.1 U	9.9 R	NA	4.6 U	NA	**4.1 J**	NA	4.2 U	NA	4.5 U
Endrin	1800	25000	--	--	--	4.9 U	4.1 U	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	4.3 U	3.9 U	6.4 U	4.1 U	3.1 R	NA	4.6 U	NA	5.1 U	NA	4.2 U	NA	4.5 U
Endrin Aldehyde	--	--	--	--	--	4.9 U	4.1 U	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	4.3 U	3.9 U	6.4 U	4.1 U	**16 J**	NA	4.6 U	NA	**3.1 J**	NA	4.2 U	NA	4.5 U
Endrin Ketone	--	--	--	--	--	4.9 U	4.1 U	4.3 U	NA	NA	NA	3.8 U	4.3 U	4.3 U	NA	5.1 U	3.9 U	4 U	NA	4.3 U	2.9 R	6.4 U	4.1 U	9.7 R	NA	**6.5**	NA	4.1 R	NA	4.2 U	NA	4.5 U
gamma-BHC (Lindane)	560	2500	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	**1.9 J**	2.2 U	**1.9 J**	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
gamma-Chlordane	--	--	--	--	--	2.5 R	2.1 R	2.2 R	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2 R	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
Heptachlor	120	510	--	--	--	2.5 U	2.1 U	2.2 U	NA	NA	NA	2 R	2.2 R	2.2 R	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
Heptachlor Epoxide	59	250	--	--	--	2.5 R	2.1 R	2.2 R	NA	NA	NA	2 U	2.2 U	2.2 U	NA	2.6 U	2 U	2.1 U	NA	2.2 U	2 U	3.3 U	2.2 U	2.6 UJ	NA	2.4 U	NA	2.6 U	NA	2.1 U	NA	2.3 U
Methoxychlor	31000	410000	--	--	--	25 U	21 U	22 U	NA	NA	NA	20 U	22 U	22 U	NA	26 U	20 U	21 U	NA	22 U	20 U	33 U	22 U	26 UJ	NA	24 U	NA	26 U	NA	21 U	NA	23 U
Toxaphene	480	2100	--	--	--	250 U	210 U	220 U	NA	NA	NA	200 U	220 U	220 U	NA	260 U	200 U	210 U	NA	220 U	200 U	330 U	220 U	260 UJ	NA	240 U	NA	260 U	NA	210 U	NA	230 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																										20 Cheev
					Sample Location	20CH-14						20CH-15				20CH-16				SB-12	SB-13	SB-14	SB-15	SS-12		SS-13		SS-14		SS-15		SS-27
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 1	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	3 - 4.75	3 - 4.5	3 - 4.5	3 - 4	0 - 2	2 - 3	0 - 1	1 - 3	0 - 2	2 - 3	0 - 2	2 - 3	0 - 1
					Sample Date	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/18/14	06/18/14	06/18/14	06/18/14	06/26/14	06/26/14	06/26/14	06/26/14	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	04/22/11	04/18/11	04/18/11	04/18/11	04/18/11	04/22/11	04/22/11	04/20/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	MAX	N	N	N	N	N	MAX	MAX	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS14-0001-062414X	20CH-SB14-0204-062414X	20CH-SB14-0406-062414X	20CH-SB14-0608-062414X	20CH-SB14-0810-062414X	20CH-SB14-1012-062414X	20CH-SS15-0001-061814X	20CH-SB15-0204-061814X	20CH-SB15-0406-061814X	20CH-SB15-0608-061814X	20CH-SS16-0001-062614X-MAX	20CH-SB16-0204-062614X	20CH-SB16-0406-062614X	20CH-SB16-0608-062614X	SB-12 (3-4.75)	SB-13 (3-4.5)	SB-14 (3-4.5)-MAX	SB-15 (3-4)	SS-12A (0-2)	SS-12C (2-3)	SS-13A (0-1)	SS-13C (1-3)	SS-14A (0-2)-MAX	SS-14C (2-3)-MAX	SS-15A (0-2)	SS-15C (2-3)	SS-27A (0-1)
Metals (mg/kg)																																
Aluminum	**7700**	110000	10000	10000	10700	**8460**	**18400**	**19400**	NA	NA	NA	**16600**	**15800**	**29100**	NA	**18700**	**20600**	**19200**	NA	**13800**	**24600**	**4710**	**27000**	**7270**	NA	**9760**	NA	**8350**	NA	**22800**	NA	**16400**
Antimony	**3.1**	47	1	7	--	**2.2 J**	**0.84 J**	**0.71 J**	NA	NA	NA	0.85 UJ	1 UJ	0.96 UJ	NA	**2.1 J**	**0.72 J**	**0.63 J**	NA	**17 J**	R	11.9 UJ	5.6 UJ	5.9 UJ	NA	R	NA	R	NA	6.8 UJ	NA	6 UJ
Arsenic	**0.67**	**3**	20	20	8.78	**16.7**	**27.7**	**26.4**	NA	NA	NA	**8.9 J**	**5.4 J**	**12 J**	NA	**11**	**14.1**	**17.4**	NA	**77.3**	**18.3 EB**	**451 J**	**23**	**20.4**	**91.1**	**26.8 EB**	**13.1 J**	**19 EB**	**62.9 J**	**13.6**	**17.5 J**	**9.6 J**
Barium	**1500**	22000	50	50	16	**1000**	**59.1**	**51.7**	NA	NA	NA	**31.3**	**36.7**	**54.7**	NA	**94.3**	**63.3**	**63.2**	NA	**923**	**78.6**	**756**	**92.1**	**859**	NA	**744**	NA	**1080**	NA	**62.8**	NA	**22.4**
Beryllium	16	230	0.4	0.9	0.315	**0.89**	**1.4**	**1.1**	NA	NA	NA	**0.89**	**0.99**	**2**	NA	**1.4**	**1.5**	**1.3**	NA	**0.93 J**	**1.9 J**	R	**2 J**	**0.72 J**	NA	**0.97 J**	NA	**0.94 J**	NA	**1.4 J**	NA	**0.92 J**
Cadmium	**7**	98	2	3	--	**3.7 J**	**0.56 J**	**0.36 J**	NA	NA	NA	**0.12 J**	**0.03 J**	**0.25 J**	NA	**1.1 J**	**0.66 J**	**0.66 J**	NA	**2.8 J**	**0.29 J**	**9.7 J**	**0.11 J**	**10.2**	NA	**2.4**	NA	**2.2**	NA	0.57 U	NA	0.5 UJ
Calcium	--	--	--	--	634	**5130**	**2880**	**2230**	NA	NA	NA	**610**	**602**	**542**	NA	**2310**	**2620**	**3230**	NA	**5300**	**5580**	**11000**	**5160**	**5680**	NA	**20100**	NA	**8520**	NA	**2140**	NA	**1530**
Chromium	**12000**	180000	30	40	15.2	**160**	**51.4**	**44.6**	NA	NA	NA	**51.2**	**33.9**	**72.7**	NA	**66.9**	**54.2**	**55.2**	NA	**173**	**64.8**	**187 J**	**69.9**	**91.1**	**437**	**100**	**54.9 J**	**119**	**149 J**	**45.5**	**64.3**	**42.4 J**
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	**16 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.3 U	NA	NA	NA	2.1 UJ	NA	**4.9 J**	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**10.6**	**17.2**	**7.9**	NA	NA	NA	**8.7 J**	**7.6 J**	**17.6 J**	NA	**9.3 J**	**16.4 J**	**15.3 J**	NA	**9.9**	**12.2**	**15**	**15.8**	**6.5**	NA	**8**	NA	**7.3**	NA	**9**	NA	**6.4**
Copper	**310**	4700	40	200	6.28	**205 J+**	**20.2 J+**	**15.4 J+**	NA	NA	NA	**13.3**	**10.6**	**22.7**	NA	**56.9**	**20.5**	**24.1**	NA	**71.5 J**	**23.5 J**	**843 J**	**25.9 J**	**86**	NA	**185**	NA	**137**	NA	**14.8**	NA	**11.6 J**
Iron	**5500**	**82000**	20000	20000	11200	**61700 J+**	**32000 J+**	**26200 J+**	NA	NA	NA	**21800 J**	**22400 J**	**45100 J**	NA	**26800**	**33000**	**34200**	NA	**54400 J**	**40500 J**	**281000 J**	**42000 J**	**69700 J**	NA	**22900 ***	NA	**40400**	NA	**30000 J**	NA	**17500 J**
Lead	**400**	**800**	100	600	41.8	**1720**	**20.3**	**34.9**	NA	NA	NA	**40.1**	**14.8**	**27.7**	NA	**104**	**18.2**	**15.8**	NA	**2930 J**	**18.9 J**	**5400 J**	**20 J**	**1750**	NA	**3100 J**	NA	**4160 J**	NA	**37.6**	NA	**84**
Magnesium	--	--	5000	5000	2780	**2470**	**8270**	**4910**	NA	NA	NA	**4810**	**4760**	**10300**	NA	**4510**	**8410**	**8930**	NA	**4480**	**10800**	**3160**	**10300**	**1330**	NA	**3770**	NA	**3510**	NA	**5290**	NA	**4350**
Manganese	**180**	**2600**	300	300	155	**520 J+EB**	**809 J+EB**	**263 J+EB**	NA	NA	NA	**249 J**	**228 J**	**390 J**	NA	**710**	**364**	**551**	NA	**612 J**	**503 J**	**1620 J**	**804 J**	**365 J**	NA	**508 J**	NA	**429 J**	NA	**420 J**	NA	**214 J**
Mercury	**0.94**	**4**	0.3	1	0.0242	**2.9**	**0.29**	**0.1 J**	NA	NA	NA	**0.11**	**0.0034 J**	0.12 U	NA	**0.6**	0.11 U	**0.0035 J**	NA	**0.58**	**0.011 J**	**371**	**0.0097 J**	**0.63 J**	NA	**1.1**	NA	**4.6**	NA	**0.05 J**	NA	**0.1 J**
Nickel	**150**	2200	20	30	11.2	**43**	**39.6**	**21.6**	NA	NA	NA	**23.6**	**20.3**	**45.1**	NA	**23.2 J**	**40.3 J**	**43.7 J**	NA	**25.8**	**36.8**	**65.9**	**46.7**	**24.3**	NA	**34.2**	NA	**22.9**	NA	**20.1**	NA	**18.6**
Potassium	--	--	--	--	382	**679**	**2970**	**913**	NA	NA	NA	**974**	**1500**	**3970**	NA	**807**	**2500**	**3270**	NA	**1570 J**	**4130 J**	**768 J**	**4200**	**675 J**	NA	**959 J**	NA	**967 J**	NA	**2070 J**	NA	**1420 J**
Selenium	39	580	0.5	1	--	**9.7**	**4.5**	**4**	NA	NA	NA	2.1 U	2.5 U	4.8 U	NA	**4.6**	**4.9**	**5.1**	NA	**1.5 J**	3.2 U	6.9 U	3.2 U	**1.5 J**	NA	R	NA	R	NA	**0.79 J**	NA	3.5 U
Silver	39	580	0.6	5	--	1.2 U	0.91 U	1 U	NA	NA	NA	0.86 U	1.1 U	0.95 U	NA	1.1 U	0.83 U	0.94 U	NA	1.7 U	**0.54 J**	**6.4**	0.93 U	**2.7**	NA	**1.3**	NA	**1.5**	NA	1.1 U	NA	**0.37 J**
Sodium	--	--	--	--	--	**893 EB**	**1420 EB**	**1130 EB**	NA	NA	NA	**126 J**	**2720**	**3330**	NA	**182 J**	**266 J**	**299 J**	NA	**1190 J**	**1060 J**	**6430 J**	R	R	NA	**387 J**	NA	**1680 J**	NA	R	NA	**684 J**
Thallium	**0.078**	1.2	0.6	5	--	**0.13 J**	**0.27 J**	**0.19 J**	NA	NA	NA	**0.18 J**	**0.1 J**	**0.31 J**	NA	**0.26 J**	**0.27 J**	**0.27 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**59.6**	**51.2**	**44.3**	NA	NA	NA	**42.1**	**36.5**	**74**	NA	**56.7**	**54.9**	**53.3**	NA	**41.1**	**63**	**34.6**	**71.7**	**33.7**	NA	**49**	NA	**34.8**	NA	**53.8**	NA	**40.4**
Zinc	**2300**	35000	100	300	35.3	**1670**	**74.4**	**73.4**	NA	NA	NA	**62.7**	**44.2**	**94.3**	NA	**140**	**68.7**	**76.9**	NA	**683 J**	**83 J**	**3060 J**	**82.6 J**	**1100 ***	NA	**6540**	NA	**935**	NA	**54.4**	NA	**57.1**
Asbestos (%v/v)																																
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	20 Cheever St.																										20 Cheev
					Sample Location	20CH-14						20CH-15				20CH-16				SB-12	SB-13	SB-14	SB-15	SS-12		SS-13		SS-14		SS-15		SS-27
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 1	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	3 - 4.75	3 - 4.5	3 - 4.5	3 - 4	0 - 2	2 - 3	0 - 1	1 - 3	0 - 2	2 - 3	0 - 2	2 - 3	0 - 1
					Sample Date	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/18/14	06/18/14	06/18/14	06/18/14	06/26/14	06/26/14	06/26/14	06/26/14	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	04/22/11	04/18/11	04/18/11	04/18/11	04/18/11	04/22/11	04/22/11	04/20/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	MAX	N	N	N	N	N	MAX	MAX	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS14-0001-062414X	20CH-SB14-0204-062414X	20CH-SB14-0406-062414X	20CH-SB14-0608-062414X	20CH-SB14-0810-062414X	20CH-SB14-1012-062414X	20CH-SS15-0001-061814X	20CH-SB15-0204-061814X	20CH-SB15-0406-061814X	20CH-SB15-0608-061814X	20CH-SS16-0001-062614X-MAX	20CH-SB16-0204-062614X	20CH-SB16-0406-062614X	20CH-SB16-0608-062614X	SB-12 (3-4.75)	SB-13 (3-4.5)	SB-14 (3-4.5)-MAX	SB-15 (3-4)	SS-12A (0-2)	SS-12C (2-3)	SS-13A (0-1)	SS-13C (1-3)	SS-14A (0-2)-MAX	SS-14C (2-3)-MAX	SS-15A (0-2)	SS-15C (2-3)	SS-27A (0-1)
Dioxins/Furans (ng/Kg)																																
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**433**	**0.753 J**	**38.5 J**	**0.394 EMPC**	**1240**	NA	**36.7 J**	NA	**28.2 J**	NA	**2.41 J**	NA	**13.1**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**28500 J**	**5020 J**	**727 J**	**1580**	**6910 JEB**	NA	**9180 J**	NA	**1210 J**	NA	**6340 JEB**	NA	**2860 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**105**	**0.823 J**	**76.9 J**	0.231 U	**1050**	NA	**35.5 J**	NA	**31 J**	NA	**1.78 J**	NA	**7.28**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**309**	**37.6**	**98.8 J**	**16.1**	**1000 EB**	NA	**145**	NA	**94.6 J**	NA	**29 EB**	NA	**60.1**
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.26 J**	0.173 U	**7.02 J**	0.0896 U	**15.3**	NA	3.44 U	NA	**2.13 J**	NA	0.353 U	NA	0.609 U
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.98 J**	**0.217 JEB**	**15.4 J**	0.0478 U	**16**	NA	**8.51 JEB**	NA	**7.03 J**	NA	**0.342 J**	NA	**0.568 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.8 J**	**0.179 J**	**4.8 J**	0.0821 U	**4.61 J**	NA	4.39 U	NA	**1.76 J**	NA	**0.178 J**	NA	**0.428 J**
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.76 J**	**0.202 JEB**	**15.6 J**	0.0442 U	**16.3**	NA	**8.21 JEB**	NA	**6.93 J**	NA	0.201 U	NA	**0.443 J**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.6**	**0.225 EMPC**	**10 J**	**0.116 EMPC**	**52.5**	NA	**5.32 EMPC**	NA	**4.74 J**	NA	**0.379 J**	NA	**1.19 J**
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.412 J**	0.0997 U	**6.02 J**	0.0609 U	**6.26 J**	NA	**1.86 J**	NA	**1.76 J**	NA	0.302 U	NA	0.299 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.02 J**	**0.25 J**	**6.09 J**	**0.157 J**	**25.4**	NA	**4.14 J**	NA	**3.9 J**	NA	**0.385 J**	NA	**0.973 J**
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.34 J**	**0.268 JEB**	**7.87 J**	0.0639 U	**4.19 J**	NA	**11.1 JEB**	NA	**5.53 J**	NA	0.227 U	NA	**0.764 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.653 J**	0.148 U	**6.75 J**	0.0879 U	**8.31**	NA	**2.51 J**	NA	**2.69 J**	NA	0.291 U	NA	0.271 U
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.3 J**	**0.175 J**	**21.3 J**	0.0439 U	**31.4**	NA	**7.58 J**	NA	**8.04 J**	NA	**0.272 J**	NA	**0.555 J**
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.03 J**	**0.219 J**	**15.5 J**	**0.0712 J**	**32.4**	NA	**10.7 J**	NA	**12.9 J**	NA	0.223 U	NA	**0.396 J**
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.78**	0.629 UEMC	**7.01 J**	0.317 U	**8.82**	NA	16 U	NA	**9.02 J**	NA	0.522 UEMC	NA	0.658 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.274 J**	0.166 U	**1.17 J**	0.112 U	**1.18**	NA	4.07 U	NA	**0.821 J**	NA	0.437 U	NA	0.314 U
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**16.5 J**	**2.09 J**	**23.5 J**	**0.684 J**	**58.6 J**	NA	**14.2 J**	NA	**13.5 J**	NA	**2.37 J**	NA	**2.09 J**

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	20 Cheever St.																										20 Cheev
					Sample Location	20CH-14						20CH-15				20CH-16				SB-12	SB-13	SB-14	SB-15	SS-12		SS-13		SS-14		SS-15		SS-27
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 1	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	3 - 4.75	3 - 4.5	3 - 4.5	3 - 4	0 - 2	2 - 3	0 - 1	1 - 3	0 - 2	2 - 3	0 - 2	2 - 3	0 - 1
					Sample Date	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/18/14	06/18/14	06/18/14	06/18/14	06/26/14	06/26/14	06/26/14	06/26/14	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	04/22/11	04/18/11	04/18/11	04/18/11	04/18/11	04/22/11	04/22/11	04/20/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	MAX	N	N	N	N	N	MAX	MAX	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	20CH-SS14-0001-062414X	20CH-SB14-0204-062414X	20CH-SB14-0406-062414X	20CH-SB14-0608-062414X	20CH-SB14-0810-062414X	20CH-SB14-1012-062414X	20CH-SS15-0001-061814X	20CH-SB15-0204-061814X	20CH-SB15-0406-061814X	20CH-SB15-0608-061814X	20CH-SS16-0001-062614X-MAX	20CH-SB16-0204-062614X	20CH-SB16-0406-062614X	20CH-SB16-0608-062614X	SB-12 (3-4.75)	SB-13 (3-4.5)	SB-14 (3-4.5)-MAX	SB-15 (3-4)	SS-12A (0-2)	SS-12C (2-3)	SS-13A (0-1)	SS-13C (1-3)	SS-14A (0-2)-MAX	SS-14C (2-3)-MAX	SS-15A (0-2)	SS-15C (2-3)	SS-27A (0-1)
General Chemistry (%)																																
Chemical Oxygen Demand	--	--	--	--	--	**7.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	**20 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																																
Salinity	--	--	--	--	--	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																																
Oxidation-Reduction Potential	--	--	--	--	--	**427**	NA	NA	NA	NA	NA	NA	**360**	NA	NA	**456**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																																
pH	--	--	--	--	--	**7.19**	NA	NA	NA	NA	NA	NA	**5.89**	NA	NA	**6.93**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																																
Alkalinity, Bicarbonate (as CaCO2)	--	--	--	--	--	**110 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	**110 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	**32**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	**17**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	**36**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																																
Arsenic	**0.67**	**3**	20	20	8.78	**55**	**25**	**10**	**11**	**10**	**51**	**7**	5 U	**12**	**12**	**8**	**16**	**15**	**15**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**396**	**70**	**116**	**102**	**102**	**96**	**71**	**50**	**86**	**102**	**100**	43 U	**81**	**97**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**1292**	**36**	**21**	**20**	**23**	**30**	**47**	**18**	**30**	**26**	**69**	**24**	**23**	**26**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.94	4	0.3	1	0.0242	6 U	7 U	6 U	6 U	7 U	6 U	6 U	5 U	7 U	7 U	5 U	7 U	6 U	7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	150	2200	20	30	11.2	**37**	34 U	34 U	**36**	**50**	**41**	31 U	28 U	**41**	**41**	27 U	**39**	**50**	**51**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAH Screening (ug/kg)																																
Total PAH	--	--	--	--	--	NA	**87**	**12**	10 U	10 U	10 U	NA	**15**	10 U	10 U	NA	10 U	10 U	10 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	er St.						55 Clinton Ave.																		55 Clinton Ave.
					Sample Location	SS-28		SS-29		SS-30		SO-01	SO-02	SO-03	SO-04	SO-05		SO-06	SO-07	SO-08	SO-09	SO-10	SO-11	SO-12	SO-13	SO-14	SO-15	SO-16	SO-17	SO-18
					Sample Depth (ft bgs)	0.7 - 2	2 - 3	0 - 1.5	1.5 - 2.8	0 - 2	2 - 3	0.5 - 2	1.5 - 2.5	0 - 1.8	0.5 - 2	7 - 9	15 - 16	1 - 2	0 - 1.5	5.5 - 6.5	3.5 - 4	4 - 5	4.5 - 5.5	0.5 - 1.2	0.8 - 1.5	1.5 - 2	1.5 - 2.5	2 - 3	2 - 2.5	1 - 2
					Sample Date	04/22/11	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-28A (0.7-2)	SS-28C (2-3)	SS-29A (0-1.5)	SS-29C (1.5-2.8)	SS-30A (0-2)	SS-30C (2-3)	SO-01 (0.5-2)	SO-02 (1.5-2.5)	SO-03 (0-1.8)	SO-04 (0.5-2)	SO-05 (7-9)-MAX	SO-05B (15-16)	SO-06 (1-2)	SO-07 (0-1.5)	SO-08 (5.5-6.5)	SO-09 (3.5-4)	SO-10 (4-5)	SO-11 (4.5-5.5)	SO-12 (0.5-1.2)	SO-13 (0.8-1.5)	SO-14 (1.5-2)	SO-15 (1.5-2.5)	SO-16 (2-3)	SO-17 (2-2.5)	SO-18 (1-2)
Volatiles (ug/kg)																														
1,1,1-Trichloroethane	810000	3600000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	130 UJ	NA	130 UJ	NA	120 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	13 U	NA	13 U	NA	12 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	13 U	NA	13 U	NA	12 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	13 U	NA	13 U	NA	12 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**41 J**	NA	**180 J**	NA	**120 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzene	1200	5100	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoform	67000	290000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromomethane	680	3000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	**3.6 J**	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloroform	320	1400	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloromethane	11000	46000	--	--	--	6.4 UJ	NA	6.7 U	NA	5.9 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	6.4 U	NA	6.7 UJ	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
m,p-Xylene	--	--	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**7.2**	NA	**23**	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o-Xylene	65000	280000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Styrene	600000	3500000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toluene	490000	4700000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichloroethene	410	1900	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	6.4 UJ	NA	6.7 U	NA	5.9 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	6.4 U	NA	6.7 U	NA	5.9 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	er St.						55 Clinton Ave.																		55 Clinton Ave.	
					Sample Location	SS-28		SS-29		SS-30		SO-01	SO-02	SO-03	SO-04	SO-05		SO-06	SO-07	SO-08	SO-09	SO-10	SO-11	SO-12	SO-13	SO-14	SO-15	SO-16	SO-17	SO-18
					Sample Depth (ft bgs)	0.7 - 2	2 - 3	0 - 1.5	1.5 - 2.8	0 - 2	2 - 3	0.5 - 2	1.5 - 2.5	0 - 1.8	0.5 - 2	7 - 9	15 - 16	1 - 2	0 - 1.5	5.5 - 6.5	3.5 - 4	4 - 5	4.5 - 5.5	0.5 - 1.2	0.8 - 1.5	1.5 - 2	1.5 - 2.5	2 - 3	2 - 2.5	1 - 2
					Sample Date	04/22/11	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-28A (0.7-2)	SS-28C (2-3)	SS-29A (0-1.5)	SS-29C (1.5-2.8)	SS-30A (0-2)	SS-30C (2-3)	SO-01 (0.5-2)	SO-02 (1.5-2.5)	SO-03 (0-1.8)	SO-04 (0.5-2)	SO-05 (7-9)-MAX	SO-05B (15-16)	SO-06 (1-2)	SO-07 (0-1.5)	SO-08 (5.5-6.5)	SO-09 (3.5-4)	SO-10 (4-5)	SO-11 (4.5-5.5)	SO-12 (0.5-1.2)	SO-13 (0.8-1.5)	SO-14 (1.5-2)	SO-15 (1.5-2.5)	SO-16 (2-3)	SO-17 (2-2.5)	SO-18 (1-2)
Semivolatiles (ug/kg)																														
1,1'-Biphenyl	4700	20000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	440 UJ	NA	500 UJ	NA	420 UJ	NA	NA	NA	400 UJ	390 UJ	NA	340 UJ	350 UJ	370 UJ	400 UJ	360 UJ	380 UJ	350 UJ	NA	NA	350 UJ	NA	350 UJ	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	230 UJ	NA	260 U	NA	220 UJ	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2-Chlorophenol	39000	580000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2-Methylphenol	310000	4100000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
2-Nitroaniline	61000	800000	--	--	--	440 U	NA	500 U	NA	420 U	NA	NA	NA	400 U	390 U	NA	340 U	350 U	370 U	400 U	360 U	380 U	350 U	NA	NA	350 U	NA	350 U	NA	NA
2-Nitrophenol	--	--	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
3-Nitroaniline	--	--	--	--	--	440 U	NA	500 U	NA	420 U	NA	NA	NA	400 U	390 U	NA	340 U	350 U	370 U	400 U	360 U	380 U	350 U	NA	NA	350 U	NA	350 U	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	440 UJ	NA	500 UJ	NA	420 UJ	NA	NA	NA	400 U	390 U	NA	340 U	350 U	370 U	400 U	360 U	380 U	350 U	NA	NA	350 U	NA	350 U	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
4-Chloroaniline	2700	12000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
4-Methylphenol	620000	8200000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
4-Nitroaniline	25000	120000	--	--	--	440 UJ	NA	500 U	NA	420 UJ	NA	NA	NA	400 U	390 U	NA	340 U	350 U	370 U	400 U	360 U	380 U	350 U	NA	NA	350 U	NA	350 U	NA	NA
4-Nitrophenol	--	--	--	--	--	440 U	NA	500 U	NA	420 U	NA	NA	NA	400 U	390 U	NA	340 U	350 U	370 U	400 U	360 U	380 U	350 U	NA	NA	350 U	NA	350 U	NA	NA
Acenaphthene	350000	4500000	500	2000	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	**37 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Acenaphthylene	--	--	500	1000	--	230 U	NA	**110 J**	NA	**220 J**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Acetophenone	780000	12000000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Anthracene	1700000	23000000	1000	4000	--	230 U	NA	**79 J**	NA	**170 J**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	**66 J**	200 U	**90 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Atrazine	2300	10000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Benzaldehyde	780000	12000000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 UJ	200 UJ	NA	180 UJ	180 UJ	190 UJ	200 UJ	190 UJ	190 UJ	180 UJ	NA	NA	180 UJ	NA	180 UJ	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	230 U	NA	**300**	NA	**450**	NA	NA	NA	**42 J**	200 U	NA	180 U	180 U	**220 J**	200 U	**200**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	230 U	NA	**230 J**	NA	**410**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	**200**	200 U	**160 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	230 U	NA	**460**	NA	**480**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	**220**	200 U	**170 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	230 U	NA	260 UJ	NA	**230**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	**110 J**	200 U	**72 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	230 U	NA	**320**	NA	**420**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	**150 J**	200 U	**130 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	230 U	NA	260 U	NA	**90 J**	NA	NA	NA	**63 J**	200 U	NA	180 U	180 U	190 U	200 U	**290**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	230 U	NA	260 U	NA	**49 J**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Caprolactam	3100000	40000000	--	--	--	230 UJ	NA	260 U	NA	220 UJ	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Carbazole	--	--	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	**42 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Chrysene	**15000**	290000	2000	7000	--	230 U	NA	**450**	NA	**610**	NA	NA	NA	**52 J**	200 U	NA	180 U	180 U	**240 J**	200 U	**240**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	230 U	NA	**52 J**	NA	**64 J**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Dimethylphthalate	--	--	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	230 UJ	NA	260 U	NA	220 UJ	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	230 U	NA	**530**	NA	**780**	NA	NA	NA	**71 J**	**54 J**	NA	180 U	**40 J**	**480 J**	200 U	**430**	190 U	180 U	NA	NA	**59 J**	NA	180 U	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	er St.						55 Clinton Ave.																		55 Clinton Ave.	
					Sample Location	SS-28		SS-29		SS-30		SO-01	SO-02	SO-03	SO-04	SO-05		SO-06	SO-07	SO-08	SO-09	SO-10	SO-11	SO-12	SO-13	SO-14	SO-15	SO-16	SO-17	SO-18
					Sample Depth (ft bgs)	0.7 - 2	2 - 3	0 - 1.5	1.5 - 2.8	0 - 2	2 - 3	0.5 - 2	1.5 - 2.5	0 - 1.8	0.5 - 2	7 - 9	15 - 16	1 - 2	0 - 1.5	5.5 - 6.5	3.5 - 4	4 - 5	4.5 - 5.5	0.5 - 1.2	0.8 - 1.5	1.5 - 2	1.5 - 2.5	2 - 3	2 - 2.5	1 - 2
					Sample Date	04/22/11	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-28A (0.7-2)	SS-28C (2-3)	SS-29A (0-1.5)	SS-29C (1.5-2.8)	SS-30A (0-2)	SS-30C (2-3)	SO-01 (0.5-2)	SO-02 (1.5-2.5)	SO-03 (0-1.8)	SO-04 (0.5-2)	SO-05 (7-9)-MAX	SO-05B (15-16)	SO-06 (1-2)	SO-07 (0-1.5)	SO-08 (5.5-6.5)	SO-09 (3.5-4)	SO-10 (4-5)	SO-11 (4.5-5.5)	SO-12 (0.5-1.2)	SO-13 (0.8-1.5)	SO-14 (1.5-2)	SO-15 (1.5-2.5)	SO-16 (2-3)	SO-17 (2-2.5)	SO-18 (1-2)
Fluorene	230000	3000000	1000	2000	--	230 U	NA	260 U	NA	**57 J**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Hexachlorobenzene	330	1400	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	230 UJ	NA	260 UJ	NA	220 UJ	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Hexachloroethane	4300	58000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	230 U	NA	**120 J**	NA	**270**	NA	NA	NA	200 U	200 U	NA	180 U	180 U	**100 J**	200 U	**74 J**	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Isophorone	560000	2400000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Naphthalene	**3800**	17000	500	1000	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Nitrobenzene	5100	22000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Pentachlorophenol	990	4000	--	--	--	440 U	NA	500 U	NA	420 U	NA	NA	NA	400 U	390 U	NA	340 U	350 U	370 U	400 U	360 U	380 U	350 U	NA	NA	350 U	NA	350 U	NA	NA
Phenanthrene	--	--	3000	20000	--	230 U	NA	**150 J**	NA	**620**	NA	NA	NA	**48 J**	200 U	NA	180 U	180 U	**300**	200 U	**400**	190 U	180 U	NA	NA	**43 J**	NA	180 U	NA	NA
Phenol	1800000	25000000	--	--	--	230 UJ	NA	260 U	NA	220 UJ	NA	NA	NA	200 U	200 U	NA	180 U	180 U	190 U	200 U	190 U	190 U	180 U	NA	NA	180 U	NA	180 U	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	230 U	NA	**660**	NA	**1300**	NA	NA	NA	**94 J**	**68 J**	NA	180 U	**48 J**	**650 J**	200 U	**600**	190 U	180 U	NA	NA	**59 J**	NA	180 U	NA	NA
	Pesticides/PCBs (ug/kg)																													
4,4'-DDD	2200	9600	--	--	--	4.4 U	NA	5.1 U	NA	4.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	4.4 U	NA	**2.8 J**	NA	4.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	4.4 U	NA	**8.9**	NA	**5.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	31	140	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	85	370	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1221	150	660	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1232	150	660	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1242	240	1000	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1248	**240**	1000	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1254	**110**	1000	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	**92**	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1260	**240**	**1000**	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1262	--	--	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
Aroclor 1268	--	--	--	--	--	44 U	NA	50 U	NA	41 U	NA	36 U	37 U	40 U	39 U	39 U	34 U	35 U	37 U	40 U	36 U	37 U	35 U	35 U	35 U	35 U	34 U	35 U	34 U	36 U
beta-BHC	300	1300	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	--	--	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	33	140	--	--	--	4.4 U	NA	5.1 U	NA	4.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	--	--	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	--	--	--	--	--	4.4 U	NA	5.1 U	NA	4.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	4.4 U	NA	5.1 U	NA	5.3 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	1800	25000	--	--	--	4.4 U	NA	5.1 U	NA	4.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	4.4 U	NA	**3.1 J**	NA	**8.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Ketone	--	--	--	--	--	4.4 U	NA	**3.9 J**	NA	6.5 R	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	120	510	--	--	--	2.3 U	NA	1.7 R	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	2.3 U	NA	2.6 U	NA	2.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	23 U	NA	26 U	NA	22 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Toxaphene	480	2100	--	--	--	230 U	NA	260 U	NA	220 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	er St.						55 Clinton Ave.																		55 Clinton Ave.	
					Sample Location	SS-28		SS-29		SS-30		SO-01	SO-02	SO-03	SO-04	SO-05		SO-06	SO-07	SO-08	SO-09	SO-10	SO-11	SO-12	SO-13	SO-14	SO-15	SO-16	SO-17	SO-18
					Sample Depth (ft bgs)	0.7 - 2	2 - 3	0 - 1.5	1.5 - 2.8	0 - 2	2 - 3	0.5 - 2	1.5 - 2.5	0 - 1.8	0.5 - 2	7 - 9	15 - 16	1 - 2	0 - 1.5	5.5 - 6.5	3.5 - 4	4 - 5	4.5 - 5.5	0.5 - 1.2	0.8 - 1.5	1.5 - 2	1.5 - 2.5	2 - 3	2 - 2.5	1 - 2
					Sample Date	04/22/11	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-28A (0.7-2)	SS-28C (2-3)	SS-29A (0-1.5)	SS-29C (1.5-2.8)	SS-30A (0-2)	SS-30C (2-3)	SO-01 (0.5-2)	SO-02 (1.5-2.5)	SO-03 (0-1.8)	SO-04 (0.5-2)	SO-05 (7-9)-MAX	SO-05B (15-16)	SO-06 (1-2)	SO-07 (0-1.5)	SO-08 (5.5-6.5)	SO-09 (3.5-4)	SO-10 (4-5)	SO-11 (4.5-5.5)	SO-12 (0.5-1.2)	SO-13 (0.8-1.5)	SO-14 (1.5-2)	SO-15 (1.5-2.5)	SO-16 (2-3)	SO-17 (2-2.5)	SO-18 (1-2)
Metals (mg/kg)																															
Aluminum	7700	110000	10000	10000	10700	11400	NA	18200	NA	18800	NA	9700	10000	9610	11400	13500	5830	8660	11000	21400	7700	13800	4940	8250	7430	9740	8200	10900	9380	8210
Antimony	3.1	47	1	7	--	8.8 UJ	NA	R	NA	6.3 UJ	NA	5.5 UJ	5.3 UJ	R	6.2 UJ	4.9 UJ	4.5 UJ	5.4 UJ	4.7 UJ	5.6 UJ	5 UJ	5.6 UJ	4.6 UJ	5.4 UJ	4.8 UJ	4.8 UJ	4.5 UJ	4.5 UJ	4.3 UJ	5.2 UJ
Arsenic	0.67	3	20	20	8.78	11.5	10.2	18.9 EB	14.1 J	12.9	20.2 J	11.7 J	93.1 J	160 J	198 J	373 J	18.9	42.1	26.4	49.7	31.9	8.5	9.7	10.4 J	23.4 J	20.9	13.7 J	147	103 J	63.4 J
Barium	1500	22000	50	50	16	16 J	NA	77.6	NA	67.8	NA	17.3 J	24.6 J	31	33.1	40.2 J	12.2 J	18.3	20.7	53.4	28.8	26.4	9.4 J	21.9 J	30.9 J	22 J	21.7 J	27.2	20.8 J	25 J
Beryllium	16	230	0.4	0.9	0.315	0.56 J	NA	1.3 J	NA	1.3 J	NA	0.55 J	0.54 J	0.51 J	0.63 J	0.71 J	0.35 J	0.49 J	0.53 J	1.2 J	0.45 J	0.82	0.32 J	0.4 J	0.46 J	0.55 J	0.48 J	0.59 J	0.57 J	0.52 J
Cadmium	7	98	2	3	--	0.73 U	NA	0.37 J	NA	0.19 J	NA	0.077 J	0.13 J	0.22 J	0.21 J	0.53	0.12 J	0.095 J	0.22 J	0.17 J	0.36 J	0.067 J	0.056 J	0.039 J	0.059 J	0.15 J	0.086 J	0.13 J	0.055 J	0.072 J
Calcium	--	--	--	--	634	1840	NA	2520	NA	4010	NA	1270	3700	14200	9160	7920	2270	3390	2390	9050	8780	1980	1480	2800	2400	2320	2810	4720	2130	2800
Chromium	12000	180000	30	40	15.2	27.3	30.3	40.3	50.6 J	47.1	76.4	16.3 EB	356 EB	2360 *	1560 *	325 EB	85.2	37.5	25.6	182	609 *	29.5	15.6	32.1 EB	35.5 EB	53.7	28.1 EB	55.3	70 EB	70.3 EB
Chromium-Hexavalent	0.3	6.3	30	40	--	NA	NA	NA	NA	NA	NA	1.2 J	14 J	17 J	6.1 J	9.6 J	18 J	1.7 J	0.95 J	1.3 J	15 J	0.51 J	0.47	1.9	2	0.89	0.89	0.34 U	1.2	4.8
Cobalt	2.3	35	4	4	5.68	3 J	NA	6.6	NA	10.1	NA	5.2	5.7	4.4 J	5.8 J	4.5	3.5 J	5.7	5.4	12.4	4.4	6.6	4	6.1	6.4	5.9	7.3	8	7.1	6.1
Copper	310	4700	40	200	6.28	3.7 J	NA	19.8	NA	66.6	NA	6.6	10.7	19.2	17.2	14.3	8	11.2	10.9	20.2	17	9.5	6.4	11.3	14.5	10.9	12.8	18.8	18.7	14.4
Iron	5500	82000	20000	20000	11200	14000 J	NA	26900 *	NA	23300 J	NA	10100 EB	12100 EB	11200 EB	14100 EB	13300	8220 EB	11900 EB	12800 EB	23300 EB	10300 EB	14500 EB	8000 EB	11300 EB	12000 EB	12300 EB	16400 EB	17100 EB	13800 EB	13600 EB
Lead	400	800	100	600	41.8	12.3	NA	457 J	NA	143	NA	8.4 J	31.7 J	42.2	37.1	64.6 J	7.2 J	12.9	31	24.5	57.5	11.6 J	4.1 J	10.6 J	10.2 J	11.2 J	9 J	8.9 J	9.4 J	13.1 J
Magnesium	--	--	5000	5000	2780	3530	NA	4620	NA	6270	NA	2640	3410	2670	2960	2950	2390	3530	3010	5900	2410	3730	1890	3690	3420	3630	4600	4790	4230	4250
Manganese	180	2600	300	300	155	115 J	NA	467 J	NA	350 J	NA	147 J	224 J	184	223	252 J	152	220	181	291	162	197	87.7	202 J	261 J	291	266 J	238	225 J	282 J
Mercury	0.94	4	0.3	1	0.0242	0.043 J	NA	0.51	NA	0.43 J	NA	0.012 J	0.2	0.26	0.29	1.3	0.019 J	0.16	0.2	0.086 J	0.17	0.014 J	0.1 U	0.032 J	0.031 J	0.033 J	0.011 J	0.046 J	0.088 J	0.23
Nickel	150	2200	20	30	11.2	10.7	NA	17.3	NA	23.7	NA	9.4	20.4	9.6	13.2	11.9	7.7	12.9	11.7	50.4	10.1	14.2	6.5	13.2	13.9	11.8	14.3	15.7	18.6	12.2
Potassium	--	--	--	--	382	1300 J	NA	1220 J	NA	2060 J	NA	638	601 J	632	824	622 J	465	581 J	610 J	1930	621	1040 J	477	716	824	831	734 J	1050	819	984
Selenium	39	580	0.5	1	--	0.97 J	NA	R	NA	0.75 J	NA	3.2 U	1.2 J	2.9 UJ	3.6 UJ	1.8 J	2.6 U	3.1 U	2.7 U	3.2 U	2.9 U	3.2 U	2.7 U	3.2 U	0.65 J	2.8 U	0.65 J	2.6 U	0.8 J	3 U
Silver	39	580	0.6	5	--	1.5 U	NA	0.52 J	NA	1.1 U	NA	0.91 UJ	0.88 UJ	0.83 U	1 U	0.81 UJ	0.76 U	0.9 U	0.78 U	0.93 U	0.83 U	0.93 U	0.76 U	0.9 UJ	0.79 UJ	0.8 U	0.75 UJ	0.76 U	0.72 UJ	0.86 UJ
Sodium	--	--	--	--	--	3130	NA	R	NA	637 J	NA	R	R	R	R	R	R	R	R	R	124 J	R	R	243 J	R	R	R	R	R	153 J
Thallium	0.078	1.2	0.6	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	39	580	30	30	19.4	37.1	NA	48.2	NA	53.2	NA	17.9	25.1	19.8 J	24.3 J	27.4	12.7	22	21.1	42.7	26.5	31.2	12.9	19.8	23.4	20.8	22.8	30.5	24.6	23.8
Zinc	2300	35000	100	300	35.3	37.8	NA	131	NA	131	NA	20.6	42.5	60.5 JEB	61.3 JEB	115	23 EB	28 EB	95.6 EB	55.3 EB	73 EB	30.4 EB	16.1 EB	30.5	27.3	28.8 EB	32.6	36.1 EB	39.6	53.1
Asbestos (%v/v)																															
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	er St.						55 Clinton Ave.																		55 Clinton Ave.	
					Sample Location	SS-28		SS-29		SS-30		SO-01	SO-02	SO-03	SO-04	SO-05		SO-06	SO-07	SO-08	SO-09	SO-10	SO-11	SO-12	SO-13	SO-14	SO-15	SO-16	SO-17	SO-18
					Sample Depth (ft bgs)	0.7 - 2	2 - 3	0 - 1.5	1.5 - 2.8	0 - 2	2 - 3	0.5 - 2	1.5 - 2.5	0 - 1.8	0.5 - 2	7 - 9	15 - 16	1 - 2	0 - 1.5	5.5 - 6.5	3.5 - 4	4 - 5	4.5 - 5.5	0.5 - 1.2	0.8 - 1.5	1.5 - 2	1.5 - 2.5	2 - 3	2 - 2.5	1 - 2
					Sample Date	04/22/11	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-28A (0.7-2)	SS-28C (2-3)	SS-29A (0-1.5)	SS-29C (1.5-2.8)	SS-30A (0-2)	SS-30C (2-3)	SO-01 (0.5-2)	SO-02 (1.5-2.5)	SO-03 (0-1.8)	SO-04 (0.5-2)	SO-05 (7-9)-MAX	SO-05B (15-16)	SO-06 (1-2)	SO-07 (0-1.5)	SO-08 (5.5-6.5)	SO-09 (3.5-4)	SO-10 (4-5)	SO-11 (4.5-5.5)	SO-12 (0.5-1.2)	SO-13 (0.8-1.5)	SO-14 (1.5-2)	SO-15 (1.5-2.5)	SO-16 (2-3)	SO-17 (2-2.5)	SO-18 (1-2)
Dioxins/Furans (ng/Kg)																															
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	**4.79 J**	NA	**80.2**	NA	**38.8**	NA	**4.38 J**	**1230 J**	**1800 J**	**3030 J**	**324 J**	**72.6**	**77.5 J**	**578 J**	**937 J**	**3160 J**	**191 J**	**4.65 J**	**5.77 J**	**34.8 J**	**77 J**	**9.89 J**	**48.6 J**	**58.8 J**	**66 J**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	**473 EB**	NA	**6590 J**	NA	**4260 JEB**	NA	**484 J**	**102000 J**	**540000 JEB**	**289000 JEB**	**56800 J**	**22000 JEB**	**5090 JEB**	**9160 JEB**	**23800 JEB**	**127000 JEB**	**6740 JEB**	**1990 JEB**	**918 J**	**5420 J**	**14400 JEB**	**2290 J**	**7660 JEB**	**6310 J**	**8010 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	**1.1 J**	NA	**28.5**	NA	**15.7**	NA	**3.05 J**	**961 J**	**2810 JEB**	**2130 JEB**	**287 J**	**103 JEB**	**26.9 JEB**	**205 JEB**	**323 JEB**	**1880 JEB**	**78.1 JEB**	**5.5 JEB**	**3.34 J**	**25.1 J**	**75.1 JEB**	**8.07 J**	**32.5 JEB**	**36.5 J**	**31 J**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	**9.93 EB**	NA	**168**	NA	**97.5 EB**	NA	**31.6 J**	**9000 J**	**51000 JEB**	**27100 JEB**	**4560 J**	**1730 JEB**	**337 JEB**	**750 JEB**	**1790 JEB**	**11400 JEB**	**325 JEB**	**140 JEB**	**39.6 J**	**404 J**	**1120 JEB**	**149 J**	**588 JEB**	**517 J**	**1190 J**
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	0.406 U	NA	**2.07 J**	NA	**1.25 J**	NA	**0.124 EMPC**	**30.5 J**	**89.3 J**	**62.9 J**	**7.41 J**	**2 J**	**1.34 J**	**8.03 J**	**11.1 J**	**83.2 J**	**3.39 J**	**0.161 EMPC**	**0.293 J**	**1.16 J**	**2.36 J**	**0.384 EMPC**	**1.28 J**	**1.84 J**	**1.43 J**
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	0.229 U	NA	**1.64 JEB**	NA	**1.66 EMPC**	NA	**0.104 EMPC**	**22.1 JEB**	**75.6 J**	**45.3 J**	**9.49 JEB**	**2.36 J**	**0.853 EMPC**	**3.01 J**	**4.3 J**	**38.7 J**	**1.93 J**	0.176 UJ	**0.282 JEB**	**0.932 JEB**	**1.76 J**	**0.344 JEB**	**0.666 J**	**0.73 JEB**	**0.871 JEB**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	0.47 U	NA	**1.46 J**	NA	**1.16 J**	NA	**0.219 EMPC**	**19.7 J**	**111 J**	**45.7 J**	**11.2 J**	**2.96 J**	**1.06 J**	**1.89 J**	**6.57 J**	**36.6 J**	**2.34 J**	**0.231 EMPC**	**0.302 EMPC**	**1.59 EMPC**	**1.93 J**	**0.588 J**	**1 J**	**1.22 J**	**7.28 J**
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	0.215 U	NA	**1.68 JEB**	NA	**1.39 J**	NA	**0.0845 EMPC**	**11.3 JEB**	**31.2 J**	**17.3 J**	**3.52 JEB**	**1.02 J**	**0.542 EMPC**	**1.31 J**	**2.05 EMPC**	**13.4 J**	**1.7 EMPC**	0.168 UJ	**0.157 JEB**	**0.506 JEB**	**0.657 J**	**0.165 JEB**	0.285 UJ	**0.305 EMPC**	**0.459 JEB**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	0.483 U	NA	**4.19 J**	NA	**2.84 J**	NA	**0.903 J**	**274 J**	**1570 JEB**	**890 JEB**	**141 J**	**49.7 JEB**	**6.72 JEB**	**20.7 JEB**	**57.7 JEB**	**369 JEB**	**8.9 JEB**	**2.7 JEB**	**1.09 J**	**8.94 J**	**21 JEB**	**3.14 J**	**19.5 JEB**	**19.9 J**	**124 J**
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	0.32 U	NA	**0.367 J**	NA	**0.497 J**	NA	0.0565 UJ	**0.311 EMPC**	**1.03 EMPC**	**0.494 EMPC**	0.218 UJ	0.105 UJ	0.0956 UJ	0.0999 UJ	0.177 UJ	**0.484 EMPC**	0.194 UJ	0.0741 UJ	**0.0402 EMPC**	0.0541 UJ	**0.0476 EMPC**	0.0352 UJ	0.082 UJ	0.0628 UJ	0.0529 UJ
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	0.501 U	NA	**3.34 J**	NA	**2.12 J**	NA	**0.645 J**	**71.2 J**	**380 J**	**203 J**	**51.6 J**	**12.1 J**	**3.25 J**	**6.46 J**	**29.2 J**	**132 J**	**6.31 J**	**0.94 J**	**0.403 J**	**4.68 J**	**5.94 J**	**1.64 J**	**5.22 J**	**5.41 J**	**49.8 J**
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	0.287 U	NA	**1.47 JEB**	NA	**0.434 J**	NA	0.0627 UJ	**1.4 EMPC**	**2.84 J**	**1.78 J**	**1.15 EMPC**	0.223 UJ	0.105 UEMC	0.223 UEMC	0.262 UJ	**1.15 EMPC**	0.148 UJ	0.0424 UJ	**0.106 EMPC**	0.0616 UJ	0.117 UJ	**0.0591 J**	0.0331 UJ	0.0507 UJ	**0.157 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	0.291 U	NA	**1.11 EMPC**	NA	**1.03 J**	NA	0.636 UJ	**4.6 J**	**24.1 J**	**9.95 J**	**3.66 J**	**0.679 J**	**0.533 J**	**1.02 JEB**	**3.3 J**	**12.1 J**	**1.35 EMPC**	0.0713 UJ	0.0327 UJ	**0.559 J**	**0.483 EMPC**	**0.237 EMPC**	**1.27 J**	**1.19 J**	**16.6 J**
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	0.241 U	NA	**1.96 J**	NA	**2.37 J**	NA	**0.212 J**	**25.5 J**	**199 J**	**93.9 J**	**11.5 J**	**4.05 J**	**0.92 EMPC**	**3.49 J**	**7.27 J**	**71.9 J**	**2.11 J**	**0.294 EMPC**	**0.231 EMPC**	**1.41 J**	**3 J**	**0.572 EMPC**	**0.895 J**	**0.966 J**	**0.797 EMPC**
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	0.278 U	NA	**2.46 J**	NA	**4.48 J**	NA	0.0516 UJ	**1.47 J**	**4.66 J**	**2.52 J**	**1.73 J**	0.307 UJ	0.256 UEMC	0.409 UJ	**0.49 J**	**2.45 J**	0.129 UJ	0.0372 UJ	**0.17 EMPC**	**0.188 J**	0.17 UJ	**0.0822 J**	0.0895 UEMC	**0.125 J**	**0.221 J**
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	0.58 U	NA	**1.57**	NA	1.27 U	NA	0.0591 UJ	**0.914 EMPC**	**1.91 JEB**	**1.16 JEB**	**3 J**	0.0561 UJ	**0.268 EMPC**	**0.564 JEB**	**0.415 JEB**	0.037 UJ	0.088 UJ	0.045 UJ	**0.157 J**	**0.162 EMPC**	**0.17 EMPC**	**0.0659 EMPC**	**0.0966 EMPC**	**0.139 EMPC**	**0.397 EMPC**
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	0.297 U	NA	**0.336 J**	NA	0.375 U	NA	0.09 UJ	**3.24 J**	**20 J**	**10.2 J**	**2.89 EMPC**	**0.824 J**	**0.279 EMPC**	**0.277 EMPC**	**1.3 J**	**13.2 J**	0.164 UJ	0.0689 UJ	0.0483 UJ	**0.246 J**	**0.31 J**	0.0446 UJ	**0.12 J**	**0.189 EMPC**	**0.894 J**
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	**0.254 J**	NA	**7.84 J**	NA	**6.02 J**	NA	**0.711 J**	**182 J**	**984 J**	**531 J**	**93.1 J**	**33.7 J**	**7.38 J**	**17.6 J**	**44.2 J**	**265 J**	**9.82 J**	**2.47 J**	**1.03 J**	**8.62 J**	**20.6 J**	**3.18 J**	**12.7 J**	**11.7 J**	**50.6 J**

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	er St.						55 Clinton Ave.																		55 Clinton Ave.	
					Sample Location	SS-28		SS-29		SS-30		SO-01	SO-02	SO-03	SO-04	SO-05		SO-06	SO-07	SO-08	SO-09	SO-10	SO-11	SO-12	SO-13	SO-14	SO-15	SO-16	SO-17	SO-18
					Sample Depth (ft bgs)	0.7 - 2	2 - 3	0 - 1.5	1.5 - 2.8	0 - 2	2 - 3	0.5 - 2	1.5 - 2.5	0 - 1.8	0.5 - 2	7 - 9	15 - 16	1 - 2	0 - 1.5	5.5 - 6.5	3.5 - 4	4 - 5	4.5 - 5.5	0.5 - 1.2	0.8 - 1.5	1.5 - 2	1.5 - 2.5	2 - 3	2 - 2.5	1 - 2
					Sample Date	04/22/11	04/22/11	04/18/11	04/18/11	04/22/11	04/22/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11	05/23/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-28A (0.7-2)	SS-28C (2-3)	SS-29A (0-1.5)	SS-29C (1.5-2.8)	SS-30A (0-2)	SS-30C (2-3)	SO-01 (0.5-2)	SO-02 (1.5-2.5)	SO-03 (0-1.8)	SO-04 (0.5-2)	SO-05 (7-9)-MAX	SO-05B (15-16)	SO-06 (1-2)	SO-07 (0-1.5)	SO-08 (5.5-6.5)	SO-09 (3.5-4)	SO-10 (4-5)	SO-11 (4.5-5.5)	SO-12 (0.5-1.2)	SO-13 (0.8-1.5)	SO-14 (1.5-2)	SO-15 (1.5-2.5)	SO-16 (2-3)	SO-17 (2-2.5)	SO-18 (1-2)
General Chemistry (%)																														
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																														
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																														
Oxidation-Reduction Potential	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																														
pH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																														
Alkalinity, Bicarbonate (as CaCO2)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																														
Arsenic	**0.67**	**3**	20	20	8.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.94	4	0.3	1	0.0242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	150	2200	20	30	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAH Screening (ug/kg)																														
Total PAH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property																		71 Purchase St.	33 Water St.		
					Sample Location	SO-19	SO-20	SO-21	SO-23	SO-50	SO-51	SO-52	SO-53	SO-54	SO-55	SO-56	SO-57	SO-58	SO-59	SO-60	SO-61	SO-64	SO-65	SS-31	33WS-01		
					Sample Depth (ft bgs)	2.5 - 3	0 - 2	1 - 2	2 - 4	0 - 1	0 - 1.5	0.75 - 1.5	0.75 - 2	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 1	0 - 0.25	0 - 0.25	0.25 - 0.83	2.5 - 3.3	2.5 - 3.3	0 - 1	2 - 4	4 - 6	6 - 8
					Sample Date	05/23/11	05/23/11	05/23/11	05/23/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	04/22/11	06/24/14	06/24/14	06/24/14
					Sample Type	N	MAX	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SO-19 (2.5-3)	SO-20 (0-2)-MAX	SO-21 (1-2)	SO-23 (2-4)	SO-50 (0-1)	SO-51 (0-1.5)	SO-52 (0.75-1.5)	SO-53 (0.75-2)	SO-54 (0-0.25)	SO-55 (0-0.25)	SO-56 (0-0.25)	SO-57 (0-0.25)	SO-58 (0-1)-MAX	SO-59 (0-0.25)	SO-60 (0-0.25)	SO-61 (0.25-0.83)	SO-64 (2.5-3.3)	SO-65 (2.5-3.3)	SS-31A (0-1)	33WS-SB01-0204-062414X	33WS-SB01-0406-062414X	33WS-SB01-0608-062414X
Volatiles (ug/kg)																											
1,1,1-Trichloroethane	810000	3600000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,1,2-Trichloroethane	150	630	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,1-Dichloroethane	3600	16000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,1-Dichloroethene	23000	100000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,2,3-Trichlorobenzene	4900	66000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,2,4-Trichlorobenzene	5800	26000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,2-Dibromoethane	36	160	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,2-Dichlorobenzene	180000	930000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,2-Dichloroethane	460	2000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,2-Dichloropropane	1000	4400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,3-Dichlorobenzene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,4-Dichlorobenzene	2600	11000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
1,4-Dioxane	5300	23000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	110 R	130 R	94 R
2-Butanone	2700000	19000000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11 U	13 U	9.4 U
2-Hexanone	20000	130000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11 U	13 U	9.4 U
4-Methyl-2-pentanone	530000	5600000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11 U	13 U	9.4 U
Acetone	6100000	67000000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43 JEB**	**11 JEB**	**5.4 JEB**
Benzene	1200	5100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Bromochloromethane	15000	63000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Bromodichloromethane	290	1300	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Bromoform	67000	290000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Bromomethane	680	3000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 R	6.4 R	4.7 R
Carbon disulfide	77000	350000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 R	6.4 R	4.7 R
Carbon tetrachloride	650	2900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 R	6.4 R	4.7 R
Chlorobenzene	28000	130000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Chloroethane	1400000	5700000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Chloroform	320	1400	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Chloromethane	11000	46000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
cis-1,2-Dichloroethene	16000	230000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
cis-1,3-Dichloropropene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Cyclohexane	650000	2700000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Dibromochloromethane	730	3200	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 R	6.4 R	4.7 R
Dichlorodifluoromethane	8700	37000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Ethylbenzene	5800	25000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Isopropylbenzene	190000	990000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
m,p-Xylene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Methyl acetate	7800000	1.2E+08	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.4 JEB**	6.4 U	4.7 U
Methyl tert-butyl ether	47000	210000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Methylcyclohexane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Methylene chloride	35000	320000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.5 J**	6.4 U	4.7 U
o-Xylene	65000	280000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Styrene	600000	3500000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 R	6.4 R	4.7 R
Tetrachloroethene	8100	39000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Toluene	490000	4700000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
trans-1,2-Dichloroethene	160000	2300000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
trans-1,3-Dichloropropene	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Trichloroethene	410	1900	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Trichlorofluoromethane	73000	310000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U
Vinyl chloride	59	1700	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.5 U	6.4 U	4.7 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property																		71 Purchase St.	33 Water St.		
					Sample Location	SO-19	SO-20	SO-21	SO-23	SO-50	SO-51	SO-52	SO-53	SO-54	SO-55	SO-56	SO-57	SO-58	SO-59	SO-60	SO-61	SO-64	SO-65	SS-31	33WS-01		
					Sample Depth (ft bgs)	2.5 - 3	0 - 2	1 - 2	2 - 4	0 - 1	0 - 1.5	0.75 - 1.5	0.75 - 2	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 1	0 - 0.25	0 - 0.25	0.25 - 0.83	2.5 - 3.3	2.5 - 3.3	0 - 1	2 - 4	4 - 6	6 - 8
					Sample Date	05/23/11	05/23/11	05/23/11	05/23/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	04/22/11	06/24/14	06/24/14	06/24/14
					Sample Type	N	MAX	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SO-19 (2.5-3)	SO-20 (0-2)-MAX	SO-21 (1-2)	SO-23 (2-4)	SO-50 (0-1)	SO-51 (0-1.5)	SO-52 (0.75-1.5)	SO-53 (0.75-2)	SO-54 (0-0.25)	SO-55 (0-0.25)	SO-56 (0-0.25)	SO-57 (0-0.25)	SO-58 (0-1)-MAX	SO-59 (0-0.25)	SO-60 (0-0.25)	SO-61 (0.25-0.83)	SO-64 (2.5-3.3)	SO-65 (2.5-3.3)	SS-31A (0-1)	33WS-SB01-0204-062414X	33WS-SB01-0406-062414X	33WS-SB01-0608-062414X
Semivolatiles (ug/kg)																											
1,1'-Biphenyl	4700	20000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,4,5-Trichlorophenol	620000	8200000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,4,6-Trichlorophenol	6200	82000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,4-Dichlorophenol	18000	250000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,4-Dimethylphenol	120000	1600000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,4-Dinitrophenol	12000	160000	--	--	--	NA	350 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	430 U	400 U	410 U
2,4-Dinitrotoluene	1700	7400	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2,6-Dinitrotoluene	360	1500	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2-Chloronaphthalene	630000	9300000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2-Chlorophenol	39000	580000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2-Methylnaphthalene	23000	300000	500	1000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.1 EB**	4 U	4.1 U
2-Methylphenol	310000	4100000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
2-Nitroaniline	61000	800000	--	--	--	NA	350 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	430 U	400 U	410 U
2-Nitrophenol	--	--	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
3,3'-Dichlorobenzidine	1200	5100	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
3-Nitroaniline	--	--	--	--	--	NA	350 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	430 U	400 U	410 U
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	NA	350 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	430 U	400 U	410 U
4-Bromophenyl-phenylether	--	--	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
4-Chloro-3-methylphenol	620000	8200000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
4-Chloroaniline	2700	12000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
4-Methylphenol	620000	8200000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
4-Nitroaniline	25000	120000	--	--	--	NA	350 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	430 U	400 U	410 U
4-Nitrophenol	--	--	--	--	--	NA	350 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	430 U	400 U	410 U
Acenaphthene	350000	4500000	500	2000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**17 EB**	4 U	4.1 U
Acenaphthylene	--	--	500	1000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**66**	4 U	4.1 U
Acetophenone	780000	12000000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Anthracene	1700000	23000000	1000	4000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**120**	4 U	4.1 U
Atrazine	2300	10000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Benzaldehyde	780000	12000000	--	--	--	NA	180 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**430**	4 U	4.1 U
Benzo(a)pyrene	**15**	**290**	2000	7000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**370**	4 U	4.1 U
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**490**	4 U	4.1 U
Benzo(g,h,i)perylene	--	--	1000	3000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**240**	4 U	4.1 U
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**210**	4 U	4.1 U
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Bis(2-chloroethyl)ether	230	1000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Butylbenzylphthalate	280000	1200000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Caprolactam	3100000	40000000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Carbazole	--	--	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**46 J**	210 U	210 U
Chrysene	**15000**	290000	2000	7000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**480**	4 U	**4.3**
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**49**	4 U	4.1 U
Dibenzofuran	**7200**	100000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Diethylphthalate	4900000	66000000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Dimethylphthalate	--	--	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Di-N-Butylphthalate	620000	8200000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Di-N-Octyl Phthalate	62000	820000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Fluoranthene	**230000**	3000000	4000	10000	--	NA	**66 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**840**	4 U	**6.8**

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property																			71 Purchase St.	33 Water St.		
					Sample Location	SO-19	SO-20	SO-21	SO-23	SO-50	SO-51	SO-52	SO-53	SO-54	SO-55	SO-56	SO-57	SO-58	SO-59	SO-60	SO-61	SO-64	SO-65	SS-31	33WS-01		
					Sample Depth (ft bgs)	2.5 - 3	0 - 2	1 - 2	2 - 4	0 - 1	0 - 1.5	0.75 - 1.5	0.75 - 2	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 1	0 - 0.25	0 - 0.25	0.25 - 0.83	2.5 - 3.3	2.5 - 3.3	0 - 1	2 - 4	4 - 6	6 - 8
					Sample Date	05/23/11	05/23/11	05/23/11	05/23/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	04/22/11	06/24/14	06/24/14	06/24/14
					Sample Type	N	MAX	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SO-19 (2.5-3)	SO-20 (0-2)-MAX	SO-21 (1-2)	SO-23 (2-4)	SO-50 (0-1)	SO-51 (0-1.5)	SO-52 (0.75-1.5)	SO-53 (0.75-2)	SO-54 (0-0.25)	SO-55 (0-0.25)	SO-56 (0-0.25)	SO-57 (0-0.25)	SO-58 (0-1)-MAX	SO-59 (0-0.25)	SO-60 (0-0.25)	SO-61 (0.25-0.83)	SO-64 (2.5-3.3)	SO-65 (2.5-3.3)	SS-31A (0-1)	33WS-SB01-0204-062414X	33WS-SB01-0406-062414X	33WS-SB01-0608-062414X
Fluorene	230000	3000000	1000	2000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**40**	4 U	4.1 U
Hexachlorobenzene	330	1400	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Hexachlorobutadiene	6200	30000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Hexachlorocyclopentadiene	37000	490000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Hexachloroethane	4300	58000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**260**	4 U	4.1 U
Isophorone	560000	2400000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Naphthalene	**3800**	17000	500	1000	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.5 EB**	4 U	4.1 U
Nitrobenzene	5100	22000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
N-Nitrosodiphenylamine	110000	470000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Pentachlorophenol	990	4000	--	--	--	NA	350 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	430 UJ	400 UJ	410 UJ
Phenanthrene	--	--	3000	20000	--	NA	**40 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**470**	4 U	4.1 U
Phenol	1800000	25000000	--	--	--	NA	180 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U
Pyrene	**170000**	2300000	4000	20000	--	NA	**72 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**660**	4 U	**6.4**
	Pesticides/PCBs (ug/kg)																										
4,4'-DDD	2200	9600	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
4,4'-DDE	1600	6800	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
4,4'-DDT	1900	8600	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
Aldrin	31	140	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
alpha-BHC	85	370	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
Alpha-Chlordane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
Aroclor 1016	400	5200	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1221	150	660	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1232	150	660	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1242	240	1000	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1248	**240**	1000	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1254	**110**	1000	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1260	**240**	**1000**	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1262	--	--	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
Aroclor 1268	--	--	--	--	--	36 U	35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	43 U	41 U	41 U
beta-BHC	300	1300	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
delta-BHC	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
Dieldrin	33	140	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
Endosulfan I	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
Endosulfan II	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
Endosulfan Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
Endrin	1800	25000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
Endrin Aldehyde	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
Endrin Ketone	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.3 U	4 U	4.1 U
gamma-BHC (Lindane)	560	2500	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
gamma-Chlordane	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.3 J**	2.1 U	2.1 U
Heptachlor	120	510	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
Heptachlor Epoxide	59	250	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.2 U	2.1 U	2.1 U
Methoxychlor	31000	410000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22 U	21 U	21 U
Toxaphene	480	2100	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	220 U	210 U	210 U

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property																			71 Purchase St.	33 Water St.		
					Sample Location	SO-19	SO-20	SO-21	SO-23	SO-50	SO-51	SO-52	SO-53	SO-54	SO-55	SO-56	SO-57	SO-58	SO-59	SO-60	SO-61	SO-64	SO-65	SS-31	33WS-01		
					Sample Depth (ft bgs)	2.5 - 3	0 - 2	1 - 2	2 - 4	0 - 1	0 - 1.5	0.75 - 1.5	0.75 - 2	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 1	0 - 0.25	0 - 0.25	0.25 - 0.83	2.5 - 3.3	2.5 - 3.3	0 - 1	2 - 4	4 - 6	6 - 8
					Sample Date	05/23/11	05/23/11	05/23/11	05/23/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	04/22/11	06/24/14	06/24/14	06/24/14
					Sample Type	N	MAX	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SO-19 (2.5-3)	SO-20 (0-2)-MAX	SO-21 (1-2)	SO-23 (2-4)	SO-50 (0-1)	SO-51 (0-1.5)	SO-52 (0.75-1.5)	SO-53 (0.75-2)	SO-54 (0-0.25)	SO-55 (0-0.25)	SO-56 (0-0.25)	SO-57 (0-0.25)	SO-58 (0-1)-MAX	SO-59 (0-0.25)	SO-60 (0-0.25)	SO-61 (0.25-0.83)	SO-64 (2.5-3.3)	SO-65 (2.5-3.3)	SS-31A (0-1)	33WS-SB01-0204-062414X	33WS-SB01-0406-062414X	33WS-SB01-0608-062414X
Metals (mg/kg)																											
Aluminum	**7700**	110000	10000	10000	10700	**8320**	**9800**	NA	NA	**14500**	**7750**	**13900**	**13400**	**10300**	**12200**	**9260**	**5840**	**1210**	**10900**	**5550**	**11400**	**8880**	**6530**	NA	**15600 J**	**28800 J**	**21100 J**
Antimony	**3.1**	47	1	7	--	4.6 UJ	4.5 UJ	NA	NA	R	R	R	R	R	R	R	R	R	R	R	R	R	R	NA	**0.7 J-**	**1.4 J-**	**0.92 J-**
Arsenic	**0.67**	**3**	20	20	8.78	**94.6 J**	**83.2**	NA	NA	**203**	**22.2**	**11.4**	**9.6**	**56.8**	**82.9**	**100**	**42.6**	2.7 U	**93.9**	**565**	**93.4**	**7.1 J**	**7**	NA	**9.5**	**26.5**	**17.1**
Barium	**1500**	22000	50	50	16	**19.5 J**	**28.7**	NA	NA	**102**	**22.7**	**19.3 J**	**21.2 J**	**45.5**	**41.5**	**80.2**	**1020**	**496**	**274**	**36.8**	**127**	**14 J**	**9.6 J**	NA	**91.6**	**103**	**73.3**
Beryllium	16	230	0.4	0.9	0.315	**0.49 J**	**0.59 J**	NA	NA	**0.55 J**	**0.23 J**	**0.36 J**	**0.36 J**	R	**0.5 J**	**0.28 J**	1 U	1.4 U	**0.33 J**	**0.17 J**	**0.36 J**	**0.29 J**	**0.25 J**	NA	**1.1**	**2.5**	**1.4**
Cadmium	**7**	98	2	3	--	**0.086 J**	**0.16 J**	NA	NA	**1.9**	0.54 UJ	0.59 UJ	0.59 UJ	**0.55 J**	**0.94**	**3.3**	1 UJ	1.4 UJ	**23.2**	**5.3**	**14.8**	0.54 UJ	0.53 UJ	NA	**0.4 J**	**0.76 J**	**0.61 J**
Calcium	--	--	--	--	634	**2080**	**2900**	NA	NA	**6450**	**1990**	**506 J**	**435 J**	**3610**	**3190**	**7140**	**3620**	**792 J**	**6090**	**8980**	**2010**	**867**	**729**	NA	**2320**	**2530**	**3570**
Chromium	**12000**	180000	30	40	15.2	**41.9 EB**	**173**	NA	NA	**340**	**57.1**	**17.3**	**16.5**	**71.9**	**218**	**7330 ***	**13900 ***	**20500 ***	**4020 ***	**1140**	**1230**	**16.9**	**10.2**	NA	**39.8**	**69**	**60.4**
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	0.84 U	**5.6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.1 UJ	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**7**	**8**	NA	NA	**9**	**7.2**	**6.2**	**5.7 J**	**10.4**	**9.2**	**4.2 J**	**4 J**	**1.7 J**	**4.9 J**	**2.8 J**	**5 J**	**6**	**4.8 J**	NA	**10.4**	**16.7**	**16.8**
Copper	**310**	4700	40	200	6.28	**15.4**	**32.5**	NA	NA	**18 J**	**10.6 J**	**4.6 J**	**5 J**	**17.6 J**	**19.3**	**34**	**80**	**87.7**	**42**	**11.4**	**23.9 J**	**9 J**	**6.5 J**	NA	**30.9**	**23**	**24.9**
Iron	**5500**	**82000**	20000	20000	11200	**13300 EB**	**16600 EB**	NA	NA	**19500**	**13100**	**12500**	**12000**	**19600**	**16900**	**12300**	**12900**	**8750**	**16000**	**6230**	**21400**	**10800**	**9410**	NA	**20200**	**51000**	**35400**
Lead	**400**	**800**	100	600	41.8	**8.4 J**	**15.3**	NA	NA	**68.2**	**12.8**	**55**	**64.5**	**9.2**	**33.3**	**202**	**254**	**407**	**919**	**61.3**	**468**	**28.5**	**19.2**	NA	**328**	**23.7**	**17.9**
Magnesium	--	--	5000	5000	2780	**3950**	**4380**	NA	NA	**5530**	**3910**	**2780**	**2700**	**5970**	**4400**	**2140**	**2010**	**147 J**	**2670**	**1270**	**2840**	**3170**	**2450**	NA	**4290 J**	**8270 J**	**10400 J**
Manganese	**180**	**2600**	300	300	155	**199 J**	**265**	NA	NA	**337**	**249**	**133**	**157**	**373**	**367**	**224**	**102**	**22.5**	**267**	**96.1**	**295**	**159**	**170**	NA	**722 J**	**2010 J**	**752 J**
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.07 J**	**0.085 J**	NA	NA	**0.97**	**0.0054 J**	**0.0083 J**	**0.04 J**	**0.16**	**0.097 J**	**0.4**	**9.3**	**5.4**	**0.37**	**1.9**	**0.34**	0.11 UJ	0.11 UJ	NA	**1.9**	0.11 U	**0.011 J**
Nickel	**150**	2200	20	30	11.2	**13.8**	**15.8**	NA	NA	**21.2**	**14.9**	**11.4**	**11.2**	**16.7**	**18.1**	**11.1**	**7.3 J**	**0.93 J**	**14**	**6.1**	**12.7**	**13.7**	**8.4**	NA	**18.7**	**36.6**	**47.8**
Potassium	--	--	--	--	382	**804**	**1080**	NA	NA	**1510 J**	**832 J**	**355 J**	**396 J**	**2060 J**	**1330 J**	**549 J**	**361 J**	1350 U	**755 J**	**271 J**	**515 J**	**448 J**	**327 J**	NA	**1180 J**	**3530 J**	**4190 J**
Selenium	39	580	0.5	1	--	2.7 U	2.6 U	NA	NA	4.2 U	3.8 U	4.1 U	4.1 U	4.2 U	0.53 U	**0.64 J**	**0.83 J**	9.5 U	**0.74 J**	4.9 U	4.8 U	3.8 U	3.7 U	NA	**3.3 J**	**6.8**	**4.9**
Silver	39	580	0.6	5	--	0.76 UJ	0.75 U	NA	NA	1.2 UJ	1.1 UJ	1.2 UJ	1.2 UJ	1.2 UJ	1.5 UJ	1.4 UJ	2 UJ	**2.4 J**	**0.18 J**	1.4 UJ	1.4 UJ	1.1 UJ	1.1 UJ	NA	1 U	0.85 U	0.9 U
Sodium	--	--	--	--	--	R	R	NA	NA	R	R	R	R	R	R	R	R	**138 J**	R	702 U	**778 J**	R	R	NA	**482 J**	**477**	**361 J**
Thallium	**0.078**	1.2	0.6	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.21 J**	**0.29 J**	**0.33 J**
Vanadium	**39**	580	30	30	19.4	**21.4**	**29.3**	NA	NA	**36.9**	**22**	**22.4**	**22**	**36.1**	**35**	**28.7**	**31**	**19.8 J**	**27.4**	**11.7**	**27.6**	**18.8**	**14.5**	NA	**36**	**75.9**	**55.8**
Zinc	**2300**	35000	100	300	35.3	**31.4**	**43.6 EB**	NA	NA	**112**	**35.1**	**34.2**	**53.7**	**65.3**	**65.6**	**239**	**42.2**	**31.4**	**333**	**72.7**	**347**	**32.1**	**21.1**	NA	**202**	**77.7**	**79.9**
Asbestos (%v/v)																											
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property																		71 Purchase St.	33 Water St.		
					Sample Location	SO-19	SO-20	SO-21	SO-23	SO-50	SO-51	SO-52	SO-53	SO-54	SO-55	SO-56	SO-57	SO-58	SO-59	SO-60	SO-61	SO-64	SO-65	SS-31	33WS-01		
					Sample Depth (ft bgs)	2.5 - 3	0 - 2	1 - 2	2 - 4	0 - 1	0 - 1.5	0.75 - 1.5	0.75 - 2	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 1	0 - 0.25	0 - 0.25	0.25 - 0.83	2.5 - 3.3	2.5 - 3.3	0 - 1	2 - 4	4 - 6	6 - 8
					Sample Date	05/23/11	05/23/11	05/23/11	05/23/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	04/22/11	06/24/14	06/24/14	06/24/14
					Sample Type	N	MAX	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SO-19 (2.5-3)	SO-20 (0-2)-MAX	SO-21 (1-2)	SO-23 (2-4)	SO-50 (0-1)	SO-51 (0-1.5)	SO-52 (0.75-1.5)	SO-53 (0.75-2)	SO-54 (0-0.25)	SO-55 (0-0.25)	SO-56 (0-0.25)	SO-57 (0-0.25)	SO-58 (0-1)-MAX	SO-59 (0-0.25)	SO-60 (0-0.25)	SO-61 (0.25-0.83)	SO-64 (2.5-3.3)	SO-65 (2.5-3.3)	SS-31A (0-1)	33WS-SB01-0204-062414X	33WS-SB01-0406-062414X	33WS-SB01-0608-062414X
Dioxins/Furans (ng/Kg)																											
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	**34.8 J**	**116 J**	**0.637 J**	**0.359 EMPC**	**386**	**76.7**	NA	**2.83 J**	NA	NA	**18800 ***	**194000 ***	**457000**	**8970 ***	**91900 ***	**8050**	**3.05 J**	NA	NA	**5.39 J**	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	**3360 J**	**10100 JEB**	**1130 JEB**	**5050 JEB**	**12000 J**	**8200 J**	NA	**1440**	NA	NA	**261000 J**	**1020000 J**	**6380000 J**	**230000 J**	**1290000 J**	**174000 J**	**592**	NA	NA	**12100 J**	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	**16 J**	**57.2 JEB**	**0.749 EMPC**	**0.342 EMPC**	**115**	**40.1**	NA	**1.77 J**	NA	NA	**5180 ***	**29500**	**136000**	**4480 ***	**34200 ***	**3930**	**1.15 J**	NA	NA	**5.2**	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	**270 J**	**858 JEB**	**10.5 JEB**	**27.2 JEB**	**797**	**605**	NA	**21.2**	NA	NA	**30400 ***	**122000 ***	**769000**	**29400 ***	**191000 ***	**17700 ***	**9.66**	NA	NA	**69.2**	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	**0.913 J**	**2.89 J**	0.0561 UJ	0.047 UJ	**7.1**	**1.65 J**	NA	0.14 U	NA	NA	**342 ***	**1770**	**12200**	**272 ***	**2630 ***	**164**	0.597 U	NA	NA	**0.229 J**	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**0.395 JEB**	**1.23 J**	0.121 UEMC	0.0812 UEMC	**3.98 J**	**1.26 J**	NA	0.265 U	NA	NA	**121**	**288**	**2230**	**227**	**537**	**89.8**	0.304 U	NA	NA	**0.972 J**	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**0.433 EMPC**	**1.53 J**	**0.088 EMPC**	**0.116 J**	**4.1 J**	**2.64 J**	NA	0.317 U	NA	NA	**159**	**253**	**3130**	**100**	**690**	**122**	0.734 U	NA	NA	**0.565 J**	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**0.204 EMPC**	**0.585 EMPC**	0.083 UEMC	0.0437 UEMC	**4.14 J**	**1 J**	NA	0.209 U	NA	NA	**119**	**214**	**960**	**53.1**	**352**	**39.6**	0.312 U	NA	NA	**0.669 J**	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**5.94 J**	**24.8 JEB**	**0.161 EMPC**	**0.132 JEB**	**22.4**	**16.4**	NA	0.371 U	NA	NA	**1170**	**3280**	**20200**	**1380**	**4850**	**735**	0.752 U	NA	NA	**1.23 J**	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	0.0552 UJ	0.148 UJ	0.044 UJ	0.0256 UJ	**1.08 J**	0.202 U	NA	0.0982 U	NA	NA	**16.2 J**	**70.1 J**	**282**	**15.5 J**	**76.9**	**13 J**	0.47 U	NA	NA	0.335 U	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**1.97 J**	**7.13 J**	**0.251 EMPC**	**0.237 J**	**1.87 J**	**6.05**	NA	0.425 U	NA	NA	**288**	**396**	**2650**	**192**	**889**	**196**	0.772 U	NA	NA	**1.31 J**	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	0.0605 UJ	0.098 UJ	0.0579 UJ	0.0167 UJ	**1.02 J**	0.237 U	NA	0.183 U	NA	NA	**9.77**	**19.4 J**	**35.7 J**	**10.5**	**11.5 J**	**9.01 J**	0.226 U	NA	NA	**0.378 J**	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	**0.369 EMPC**	**1.39 J**	0.0362 UJ	0.03 UJ	**3.51 J**	0.623 U	NA	0.204 U	NA	NA	**74.8**	**42.4 J**	**263 J**	**47.5**	**49.8 J**	**37 J**	0.881 U	NA	NA	**0.361 J**	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**0.296 EMPC**	**1.03 EMPC**	**0.0916 EMPC**	**0.0523 EMPC**	**4.34 J**	**2.59 J**	NA	0.338 U	NA	NA	**181**	**386**	**1360**	**149**	**426**	**126**	0.345 U	NA	NA	**1.22 J**	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**0.11 J**	0.196 UJ	0.042 UJ	0.0549 UEMC	**2.68 J**	0.81 U	NA	0.35 U	NA	NA	**20.1**	**35.3 J**	**95.6 J**	**29.5**	**27.5 J**	**20.2 J**	0.252 U	NA	NA	**2.32 J**	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	0.0481 UJ	**0.361 EMPC**	**0.231 EMPC**	**0.0711 EMPC**	**1.27**	0.343 U	NA	0.259 U	NA	NA	**4.41**	12.1 U	16.2 U	**6.66**	6.75 U	**12.4**	0.169 U	NA	NA	**0.777 J**	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	0.0646 UJ	**0.146 EMPC**	0.0563 UJ	0.0343 UJ	**0.654 J**	**0.255 J**	NA	0.0847 U	NA	NA	**8.74**	**83.6**	**76.6**	**8.32**	**22**	**8.68**	0.242 U	NA	NA	0.41 U	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9.65 J**	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**154 J**	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**16.6 J**	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**19.5 J**	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**21.8 J**	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.17 J**	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.93 J**	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**17.4 J**	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	**5.21 J**	**17.4 J**	**0.534 J**	**1.85 J**	**22.2 J**	**12.2 J**	NA	**0.663 J**	NA	NA	**739 J**	**2520 J**	**14700 J**	**691 J**	**3560 J**	**458 J**	**0.287 J**	NA	NA	**6.12 J**	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property																		71 Purchase St.	33 Water St.		
					Sample Location	SO-19	SO-20	SO-21	SO-23	SO-50	SO-51	SO-52	SO-53	SO-54	SO-55	SO-56	SO-57	SO-58	SO-59	SO-60	SO-61	SO-64	SO-65	SS-31	33WS-01		
					Sample Depth (ft bgs)	2.5 - 3	0 - 2	1 - 2	2 - 4	0 - 1	0 - 1.5	0.75 - 1.5	0.75 - 2	0 - 0.25	0 - 0.25	0 - 0.25	0 - 0.25	0 - 1	0 - 0.25	0 - 0.25	0.25 - 0.83	2.5 - 3.3	2.5 - 3.3	0 - 1	2 - 4	4 - 6	6 - 8
					Sample Date	05/23/11	05/23/11	05/23/11	05/23/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	12/05/11	04/22/11	06/24/14	06/24/14	06/24/14
					Sample Type	N	MAX	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SO-19 (2.5-3)	SO-20 (0-2)-MAX	SO-21 (1-2)	SO-23 (2-4)	SO-50 (0-1)	SO-51 (0-1.5)	SO-52 (0.75-1.5)	SO-53 (0.75-2)	SO-54 (0-0.25)	SO-55 (0-0.25)	SO-56 (0-0.25)	SO-57 (0-0.25)	SO-58 (0-1)-MAX	SO-59 (0-0.25)	SO-60 (0-0.25)	SO-61 (0.25-0.83)	SO-64 (2.5-3.3)	SO-65 (2.5-3.3)	SS-31A (0-1)	33WS-SB01-0204-062414X	33WS-SB01-0406-062414X	33WS-SB01-0608-062414X
General Chemistry (%)																											
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.8 J**	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9 J**	NA	NA
General Chemistry (mg/kg as NaCl)																											
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1300**	NA	NA
General Chemistry (mV)																											
Oxidation-Reduction Potential	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**384**	**321**	NA
General Chemistry (S.U.)																											
pH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.16**	**7.07**	NA
General Chemistry (ug/g)																											
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**47 J**	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**47 J**	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**340**	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.79**	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**89**	NA	NA
Metals Screening (mg/kg)																											
Arsenic	**0.67**	**3**	20	20	8.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8 U	**10**	**13**
Chromium	**12000**	180000	30	40	15.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**73**	**96**	**55**
Lead	**400**	**800**	100	600	41.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**61**	**22**	**21**
Mercury	0.94	4	0.3	1	0.0242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7 U	6 U	7 U
Nickel	150	2200	20	30	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35 U	36 U	**61**
PAH Screening (ug/kg)																											
Total PAH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2400 J**	**2100 J**	10 U

					Property	33 Water St.																										
					Sample Location	33WS-02			33WS-03						33WS-04						33WS-05						33WS-06					
					Sample Depth (ft bgs)	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/24/14	06/24/14	06/24/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SB02-0204-062414X-MAX	33WS-SB02-0406-062414X	33WS-SB02-0608-062414X	33WS-SS03-0001-061314X	33WS-SB03-0204-061314X	33WS-SB03-0406-061314X	33WS-SB03-0608-061314X	33WS-SB03-0810-061314X	33WS-SB03-1012-061314X	33WS-SS04-0001-061314X	33WS-SB04-0204-061314X	33WS-SB04-0406-061314X	33WS-SB04-0608-061314X	33WS-SB04-0810-061314X	33WS-SB04-1012-061314X	33WS-SS05-0001-061214X	33WS-SB05-0204-061214X	33WS-SB05-0406-061214X	33WS-SB05-0608-061214X	33WS-SB05-0810-061214X	33WS-SB05-1012-061214X	33WS-SS06-0001-061614X	33WS-SB06-0204-061614X	33WS-SB06-0406-061614X	33WS-SB06-0608-061614X	33WS-SB06-0810-061614X	33WS-SB06-1012-061614X
Volatiles (ug/kg)																																
1,1,1-Trichloroethane	810000	3600000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,2-Dibromoethane	36	160	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
1,4-Dioxane	5300	23000	--	--	--	110 R	120 R	120 R	120 R	NA	120 R	100 R	NA	NA	140 R	NA	110 R	NA	100 R	NA	110 R	100 R	NA	100 R	NA	NA	150 R	NA	120 R	100 R	NA	NA
2-Butanone	2700000	19000000	--	--	--	11 U	12 U	12 U	12 U	NA	12 U	10 U	NA	NA	**13 J**	NA	11 U	NA	10 UJ	NA	11 U	10 U	NA	10 U	NA	NA	15 U	NA	12 U	10 U	NA	NA
2-Hexanone	20000	130000	--	--	--	11 U	12 U	12 U	12 U	NA	12 U	10 U	NA	NA	14 U	NA	11 U	NA	10 U	NA	11 U	10 U	NA	10 U	NA	NA	15 U	NA	12 U	10 U	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	11 U	12 R	12 U	12 U	NA	12 U	10 U	NA	NA	14 U	NA	11 U	NA	10 U	NA	11 U	10 U	NA	10 U	NA	NA	15 U	NA	12 U	10 U	NA	NA
Acetone	6100000	67000000	--	--	--	**71 EB**	**10 JEB**	**6.8 JEB**	12 U	NA	**220**	**87**	NA	NA	**140 J**	NA	**110**	NA	10 U	NA	**78 JEB**	**21 JEB**	NA	**52 JEB**	NA	NA	**130 EB**	NA	**110 EB**	**88 EB**	NA	NA
Benzene	1200	5100	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Bromochloromethane	15000	63000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Bromodichloromethane	290	1300	--	--	--	5.4 U	5.8 R	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Bromoform	67000	290000	--	--	--	5.4 U	5.8 R	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Bromomethane	680	3000	--	--	--	5.4 R	5.8 U	5.8 R	6.2 U	NA	6.2 R	5.1 R	NA	NA	6.9 U	NA	5.4 U	NA	5 R	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 R	NA	5.8 R	5.1 R	NA	NA
Carbon disulfide	77000	350000	--	--	--	5.4 R	5.8 U	5.8 R	6.2 R	NA	6.2 R	5.1 R	NA	NA	6.9 R	NA	5.4 R	NA	5 R	NA	5.4 R	5.1 R	NA	5.1 R	NA	NA	7.3 R	NA	5.8 R	5.1 R	NA	NA
Carbon tetrachloride	650	2900	--	--	--	5.4 R	5.8 R	5.8 R	6.2 R	NA	6.2 R	5.1 R	NA	NA	6.9 R	NA	5.4 R	NA	5 R	NA	5.4 R	5.1 R	NA	5.1 R	NA	NA	7.3 R	NA	5.8 R	5.1 R	NA	NA
Chlorobenzene	28000	130000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Chloroethane	1400000	5700000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Chloroform	320	1400	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Chloromethane	11000	46000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	**6.1 J**	**50**	**140**	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Cyclohexane	650000	2700000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Dibromochloromethane	730	3200	--	--	--	5.4 R	5.8 U	5.8 R	6.2 R	NA	6.2 R	5.1 R	NA	NA	6.9 R	NA	5.4 R	NA	5 R	NA	5.4 R	5.1 R	NA	5.1 R	NA	NA	7.3 R	NA	5.8 R	5.1 R	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Ethylbenzene	5800	25000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Isopropylbenzene	190000	990000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
m,p-Xylene	--	--	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**9.4 EB**	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	**3.7 J**	NA	5.4 U	NA	5 U	NA	**4.7 J**	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Methylcyclohexane	--	--	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Methylene chloride	35000	320000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
o-Xylene	65000	280000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Styrene	600000	3500000	--	--	--	5.4 R	5.8 U	5.8 R	6.2 R	NA	6.2 R	5.1 R	NA	NA	6.9 R	NA	5.4 R	NA	5 R	NA	5.4 R	5.1 R	NA	5.1 R	NA	NA	7.3 R	NA	5.8 R	5.1 R	NA	NA
Tetrachloroethene	8100	39000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Toluene	490000	4700000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	5.4 U	5.8 R	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Trichloroethene	410	1900	--	--	--	5.4 U	5.8 U	**18**	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA
Vinyl chloride	59	1700	--	--	--	5.4 U	5.8 U	5.8 U	6.2 U	NA	6.2 U	5.1 U	NA	NA	6.9 U	NA	5.4 U	NA	5 U	NA	5.4 U	5.1 U	NA	5.1 U	NA	NA	7.3 U	NA	5.8 U	5.1 U	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																										
					Sample Location	33WS-02			33WS-03						33WS-04						33WS-05						33WS-06					
					Sample Depth (ft bgs)	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/24/14	06/24/14	06/24/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SB02-0204-062414X-MAX	33WS-SB02-0406-062414X	33WS-SB02-0608-062414X	33WS-SS03-0001-061314X	33WS-SB03-0204-061314X	33WS-SB03-0406-061314X	33WS-SB03-0608-061314X	33WS-SB03-0810-061314X	33WS-SB03-1012-061314X	33WS-SS04-0001-061314X	33WS-SB04-0204-061314X	33WS-SB04-0406-061314X	33WS-SB04-0608-061314X	33WS-SB04-0810-061314X	33WS-SB04-1012-061314X	33WS-SS05-0001-061214X	33WS-SB05-0204-061214X	33WS-SB05-0406-061214X	33WS-SB05-0608-061214X	33WS-SB05-0810-061214X	33WS-SB05-1012-061214X	33WS-SS06-0001-061614X	33WS-SB06-0204-061614X	33WS-SB06-0406-061614X	33WS-SB06-0608-061614X	33WS-SB06-0810-061614X	33WS-SB06-1012-061614X
Semivolatiles (ug/kg)																																
1,1'-Biphenyl	4700	20000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	**1400 J**	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	210 U	220 U	220 U	240 UJ	NA	200 UJ	210 UJ	NA	NA	210 UJ	NA	1800 UJ	NA	220 UJ	NA	200 UJ	180 UJ	NA	190 UJ	NA	NA	190 UJ	NA	210 UJ	210 UJ	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	210 U	220 U	220 U	240 UJ	NA	200 U	210 U	NA	NA	210 UJ	NA	**530 J**	NA	220 U	NA	200 UJ	180 UJ	NA	190 UJ	NA	NA	190 U	NA	210 U	210 U	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	410 U	420 U	420 U	460 U	NA	390 U	400 U	NA	NA	410 U	NA	3500 U	NA	420 U	NA	380 U	350 U	NA	370 U	NA	NA	380 U	NA	410 U	420 U	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2-Chlorophenol	39000	580000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	4.1 U	4.2 U	4.2 U	**51 J**	NA	3.9 U	4 U	NA	NA	**12 J**	NA	**5300**	NA	4.2 U	NA	**6.2 JEB**	**9.8 JEB**	NA	3.7 U	NA	NA	**39 EB**	NA	4.1 U	4.2 U	NA	NA
2-Methylphenol	310000	4100000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
2-Nitroaniline	61000	800000	--	--	--	410 U	420 U	420 U	460 U	NA	390 U	400 U	NA	NA	410 U	NA	3500 U	NA	420 U	NA	380 U	350 U	NA	370 U	NA	NA	380 U	NA	410 U	420 U	NA	NA
2-Nitrophenol	--	--	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 UJ	NA	1800 U	NA	220 U	NA	200 UJ	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
3-Nitroaniline	--	--	--	--	--	410 U	420 U	420 U	460 U	NA	390 U	400 U	NA	NA	410 U	NA	3500 U	NA	420 U	NA	380 U	350 U	NA	370 U	NA	NA	380 U	NA	410 U	420 U	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	410 U	420 U	420 U	460 U	NA	390 U	400 U	NA	NA	410 U	NA	3500 U	NA	420 U	NA	380 U	350 U	NA	370 U	NA	NA	380 U	NA	410 U	420 U	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
4-Chloroaniline	2700	12000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 UJ	NA	1800 U	NA	220 U	NA	200 UJ	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
4-Methylphenol	620000	8200000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	**660 J**	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
4-Nitroaniline	25000	120000	--	--	--	410 U	420 U	420 U	460 U	NA	390 U	400 U	NA	NA	410 U	NA	3500 U	NA	420 U	NA	380 U	350 U	NA	370 U	NA	NA	380 U	NA	410 U	420 U	NA	NA
4-Nitrophenol	--	--	--	--	--	410 U	420 U	420 U	460 U	NA	390 U	400 U	NA	NA	410 U	NA	3500 U	NA	420 U	NA	380 U	350 U	NA	370 U	NA	NA	380 U	NA	410 U	420 U	NA	NA
Acenaphthene	350000	4500000	500	2000	--	4.1 U	4.2 U	4.2 U	**51**	NA	3.9 U	4 U	NA	NA	**61**	NA	**20000**	NA	4.2 U	NA	**29 J**	**38 J**	NA	3.7 U	NA	NA	**65**	NA	4.1 U	4.2 U	NA	NA
Acenaphthylene	--	--	500	1000	--	4.1 U	**10**	4.2 U	**32 J**	NA	3.9 U	4 U	NA	NA	**79 J**	NA	**840 J**	NA	4.2 U	NA	**32 J**	**14 J**	NA	3.7 U	NA	NA	**81**	NA	**5.2**	4.2 U	NA	NA
Acetophenone	780000	12000000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	**53 JEB**	NA	210 U	210 U	NA	NA
Anthracene	1700000	23000000	1000	4000	--	4.1 U	**9.6**	4.2 U	**110**	NA	3.9 U	4 U	NA	NA	**170**	NA	**72000**	NA	4.2 U	NA	**75**	**83 J**	NA	3.7 U	NA	NA	**180**	NA	**7.8**	4.2 U	NA	NA
Atrazine	2300	10000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Benzaldehyde	780000	12000000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**15 J**	**43**	4.2 U	**300**	NA	3.9 U	4 U	NA	NA	**810**	NA	**170000**	NA	4.2 U	NA	**370**	**250**	NA	3.7 U	NA	NA	**520 J**	NA	**27**	4.2 U	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**7.6**	**26**	4.2 U	**270**	NA	3.9 U	4 U	NA	NA	**860**	NA	**150000**	NA	4.2 U	NA	**390**	**250**	NA	3.7 U	NA	NA	**460**	NA	**19**	4.2 U	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**15 J**	**50**	4.2 U	**420**	NA	3.9 U	4 U	NA	NA	**1500**	NA	**200000**	NA	4.2 U	NA	**680**	**370**	NA	3.7 U	NA	NA	**700**	NA	**29**	4.2 U	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**4.4**	**15**	4.2 U	**150**	NA	3.9 U	4 U	NA	NA	**550**	NA	**68000**	NA	4.2 U	NA	**250**	**140**	NA	3.7 U	NA	NA	**280**	NA	**11**	4.2 U	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**5.6**	**16**	4.2 U	**200**	NA	3.9 U	4 U	NA	NA	**510**	NA	**17000**	NA	4.2 U	NA	**210**	**160**	NA	3.7 U	NA	NA	**380**	NA	**9.7**	4.2 U	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	210 U	220 U	220 U	**77 J**	NA	200 U	210 U	NA	NA	**270**	NA	1800 U	NA	220 U	NA	**110 JEB**	**180 JEB**	NA	190 U	NA	NA	**47 JEB**	NA	210 U	210 U	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Caprolactam	3100000	40000000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Carbazole	--	--	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	**81 J**	NA	**26000 J**	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	**47 J**	NA	210 U	210 U	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**17 J**	**48**	4.2 U	**430**	NA	3.9 U	4 U	NA	NA	**990**	NA	**160000**	NA	4.2 U	NA	**450**	**330**	NA	3.7 U	NA	NA	**500 J**	NA	**31**	4.2 U	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	4.1 U	**4.8**	4.2 U	**55 J**	NA	3.9 U	4 U	NA	NA	**130**	NA	**22000**	NA	4.2 U	NA	**71**	**43**	NA	3.7 U	NA	NA	**86**	NA	4.1 U	4.2 U	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	**15000**	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Dimethylphthalate	--	--	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	210 U	220 U	220 U	**970 J**	NA	**330**	**290**	NA	NA	**780 J**	NA	1800 U	NA	**270**	NA	**590 JEB**	**570 JEB**	NA	**650 JEB**	NA	NA	190 U	NA	**340 EB**	**250 EB**	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**27 J**	**83**	**4.3**	**800**	NA	3.9 U	4 U	NA	NA	**2000**	NA	**370000**	NA	4.2 U	NA	**820**	**570**	NA	**3.4 J**	NA	NA	**880 J**	NA	**58**	**4.3**	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																										
					Sample Location	33WS-02			33WS-03						33WS-04						33WS-05						33WS-06					
					Sample Depth (ft bgs)	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/24/14	06/24/14	06/24/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SB02-0204-062414X-MAX	33WS-SB02-0406-062414X	33WS-SB02-0608-062414X	33WS-SS03-0001-061314X	33WS-SB03-0204-061314X	33WS-SB03-0406-061314X	33WS-SB03-0608-061314X	33WS-SB03-0810-061314X	33WS-SB03-1012-061314X	33WS-SS04-0001-061314X	33WS-SB04-0204-061314X	33WS-SB04-0406-061314X	33WS-SB04-0608-061314X	33WS-SB04-0810-061314X	33WS-SB04-1012-061314X	33WS-SS05-0001-061214X	33WS-SB05-0204-061214X	33WS-SB05-0406-061214X	33WS-SB05-0608-061214X	33WS-SB05-0810-061214X	33WS-SB05-1012-061214X	33WS-SS06-0001-061614X	33WS-SB06-0204-061614X	33WS-SB06-0406-061614X	33WS-SB06-0608-061614X	33WS-SB06-0810-061614X	33WS-SB06-1012-061614X
Fluorene	230000	3000000	1000	2000	--	4.1 U	**5.4**	4.2 U	**55 J**	NA	3.9 U	4 U	NA	NA	**52 J**	NA	**23000**	NA	4.2 U	NA	**30 J**	**27 J**	NA	3.7 UJ	NA	NA	**59**	NA	**4.7**	4.2 U	NA	NA
Hexachlorobenzene	330	1400	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 UJ	NA	1800 U	NA	220 U	NA	200 UJ	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Hexachloroethane	4300	58000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**4.5**	**15**	4.2 U	**140**	NA	3.9 U	4 U	NA	NA	**620**	NA	**79000**	NA	4.2 U	NA	**260**	**130**	NA	3.7 U	NA	NA	**270**	NA	**11**	4.2 U	NA	NA
Isophorone	560000	2400000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Naphthalene	**3800**	17000	500	1000	--	4.1 U	4.2 U	4.2 U	**52 J**	NA	3.9 U	4 U	NA	NA	**14 J**	NA	**6600**	NA	4.2 U	NA	**6.9 JEB**	**8.3 JEB**	NA	3.7 U	NA	NA	**33 EB**	NA	**7.4 EB**	4.2 U	NA	NA
Nitrobenzene	5100	22000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Pentachlorophenol	990	4000	--	--	--	410 UJ	420 U	420 UJ	**4.7 J**	NA	8 U	8.2 U	NA	NA	**5.6 J**	NA	360 U	NA	8.6 U	NA	**4.2 J**	**4.7 J**	NA	7.6 U	NA	NA	**8.7**	NA	8.3 U	8.4 U	NA	NA
Phenanthrene	--	--	3000	20000	--	**19 J**	**51**	4.2 U	**620**	NA	3.9 U	4 U	NA	NA	**960**	NA	**320000**	NA	4.2 U	NA	**360**	**430**	NA	3.7 U	NA	NA	**530**	NA	**44**	4.2 U	NA	NA
Phenol	1800000	25000000	--	--	--	210 U	220 U	220 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	1800 U	NA	220 U	NA	200 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**26 J**	**76**	**4.6**	**740**	NA	3.9 U	4 U	NA	NA	**1700**	NA	**340000**	NA	4.2 U	NA	**740**	**610**	NA	**5.7**	NA	NA	**750 J**	NA	**38**	**4.7**	NA	NA
	Pesticides/PCBs (ug/kg)																															
4,4'-DDD	2200	9600	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	**9.6 J**	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
4,4'-DDE	1600	6800	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	**9.4 J**	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
4,4'-DDT	1900	8600	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	**6.2**	NA	**110 J**	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
Aldrin	31	140	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	**23 J**	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
alpha-BHC	85	370	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	**4.6 J**	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
Alpha-Chlordane	--	--	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	**62 J**	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
Aroclor 1016	400	5200	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1221	150	660	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1232	150	660	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1242	240	1000	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1248	**240**	1000	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1254	**110**	1000	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	**60 J**	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1262	--	--	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
Aroclor 1268	--	--	--	--	--	42 U	42 U	42 U	46 U	NA	39 U	40 U	NA	NA	41 U	NA	36 U	NA	42 U	NA	38 U	35 U	NA	38 U	NA	NA	37 U	NA	41 U	41 U	NA	NA
beta-BHC	300	1300	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	1.8 U	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	**2.8 J**	NA	2.1 U	2.1 U	NA	NA
delta-BHC	--	--	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	1.8 U	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
Dieldrin	33	140	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	3.6 U	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
Endosulfan I	--	--	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	**6.5 J**	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
Endosulfan II	--	--	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	**24 J**	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
Endosulfan Sulfate	--	--	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	**850 J**	NA	4.2 U	NA	**3.8**	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
Endrin	1800	25000	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	**22 J**	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
Endrin Aldehyde	--	--	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	**45 J**	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	3.7 U	NA	4.1 U	4.1 U	NA	NA
Endrin Ketone	--	--	--	--	--	4.2 U	4.3 U	4.1 U	4.6 U	NA	4 U	4 U	NA	NA	4.1 U	NA	**270 J**	NA	4.2 U	NA	3.8 U	3.5 U	NA	3.8 U	NA	NA	**4.1 J**	NA	4.1 U	4.1 U	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	1.8 U	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
gamma-Chlordane	--	--	--	--	--	2.1 U	2.2 U	2.1 U	**2.5 J**	NA	2 U	2.1 U	NA	NA	**3.7 J**	NA	**86 J**	NA	2.2 U	NA	**4.2 J**	**1.9 J**	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
Heptachlor	120	510	--	--	--	2.1 U	2.2 U	2.1 U	2.4 R	NA	2 R	2.1 R	NA	NA	2.1 R	NA	**8.4 J**	NA	2.2 R	NA	1.9 R	1.8 R	NA	1.9 R	NA	NA	1.9 R	NA	2.1 R	2.1 R	NA	NA
Heptachlor Epoxide	59	250	--	--	--	2.1 U	2.2 U	2.1 U	2.4 U	NA	2 U	2.1 U	NA	NA	2.1 U	NA	**15 J**	NA	2.2 U	NA	1.9 U	1.8 U	NA	1.9 U	NA	NA	1.9 U	NA	2.1 U	2.1 U	NA	NA
Methoxychlor	31000	410000	--	--	--	21 U	22 U	21 U	24 U	NA	20 U	21 U	NA	NA	21 U	NA	18 U	NA	22 U	NA	19 U	18 U	NA	19 U	NA	NA	19 U	NA	21 U	21 U	NA	NA
Toxaphene	480	2100	--	--	--	210 U	220 U	210 U	240 U	NA	200 U	210 U	NA	NA	210 U	NA	180 U	NA	220 U	NA	190 U	180 U	NA	190 U	NA	NA	190 U	NA	210 U	210 U	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																										
					Sample Location	33WS-02			33WS-03						33WS-04						33WS-05						33WS-06					
					Sample Depth (ft bgs)	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/24/14	06/24/14	06/24/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SB02-0204-062414X-MAX	33WS-SB02-0406-062414X	33WS-SB02-0608-062414X	33WS-SS03-0001-061314X	33WS-SB03-0204-061314X	33WS-SB03-0406-061314X	33WS-SB03-0608-061314X	33WS-SB03-0810-061314X	33WS-SB03-1012-061314X	33WS-SS04-0001-061314X	33WS-SB04-0204-061314X	33WS-SB04-0406-061314X	33WS-SB04-0608-061314X	33WS-SB04-0810-061314X	33WS-SB04-1012-061314X	33WS-SS05-0001-061214X	33WS-SB05-0204-061214X	33WS-SB05-0406-061214X	33WS-SB05-0608-061214X	33WS-SB05-0810-061214X	33WS-SB05-1012-061214X	33WS-SS06-0001-061614X	33WS-SB06-0204-061614X	33WS-SB06-0406-061614X	33WS-SB06-0608-061614X	33WS-SB06-0810-061614X	33WS-SB06-1012-061614X
Metals (mg/kg)																																
Aluminum	**7700**	110000	10000	10000	10700	**26100 J**	**21800 J**	**24200 J**	**11400**	NA	**10700**	**23400**	NA	NA	**11000**	NA	**6250**	NA	**16000**	NA	**11400**	**8020**	NA	**9090**	NA	NA	**7980**	NA	**13100**	**9620**	NA	NA
Antimony	**3.1**	47	1	7	--	**0.64 J-**	**0.98 J-**	**1 J-**	1 UJ	NA	0.84 UJ	0.95 UJ	NA	NA	0.91 UJ	NA	0.78 UJ	NA	0.89 UJ	NA	0.79 UJ	0.81 UJ	NA	0.8 UJ	NA	NA	0.82 UJ	NA	0.88 UJ	0.92 UJ	NA	NA
Arsenic	**0.67**	**3**	20	20	8.78	**13.2**	**15.1**	**15.8**	**16.6 J**	NA	**21.3 J**	**8.5 J**	NA	NA	**15.9 J**	NA	**26.3 J**	NA	**9.6 J**	NA	**17.8 J**	**40.3 J**	NA	**7.6 J**	NA	NA	**29.1 J**	NA	**401 J**	**21.1 J**	NA	NA
Barium	**1500**	22000	50	50	16	**80.9**	**58.6**	**65.9**	**58.5**	NA	**32.9**	**64.7**	NA	NA	**58.4**	NA	**70.3**	NA	**50.2**	NA	**54.9**	**46**	NA	**18.9**	NA	NA	**59.2**	NA	**119**	**21.4**	NA	NA
Beryllium	16	230	0.4	0.9	0.315	**1.5**	**1.6**	**1.9**	**0.6**	NA	**0.51**	**1.7**	NA	NA	**0.62**	NA	**0.47**	NA	**1.2**	NA	**0.58**	**0.44**	NA	**0.67**	NA	NA	**0.6**	NA	**0.86**	**0.6**	NA	NA
Cadmium	**7**	98	2	3	--	**0.32 J**	**0.57 J**	**0.74 J**	**0.59 J**	NA	**0.19 J**	**0.87 J**	NA	NA	**0.57 J**	NA	**0.65 J**	NA	**0.64 J**	NA	**0.56 J**	**0.34 J**	NA	**0.21 J**	NA	NA	**0.46 J**	NA	**0.4 J**	**0.2 J**	NA	NA
Calcium	--	--	--	--	634	**1590**	**3490**	**3790**	**2880**	NA	**2450**	**1880**	NA	NA	**2340**	NA	**6270**	NA	**2230**	NA	**2620**	**22900**	NA	**1010**	NA	NA	**2950**	NA	**2290**	**1820**	NA	NA
Chromium	**12000**	180000	30	40	15.2	**36.2**	**56.5**	**64.9**	**99.8**	NA	**19100**	**72.8**	NA	NA	**68.3**	NA	**226**	NA	**38.8**	NA	**200**	**307**	NA	**16.7**	NA	NA	**259**	NA	**46.7**	**13.9**	NA	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	NA	NA	NA	NA	NA	**2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**13.2**	**13.9**	**12.8**	**9.1**	NA	**7.4**	**17.1**	NA	NA	**6.8**	NA	**5.8**	NA	**15**	NA	**7.7**	**6.3**	NA	**4.9**	NA	NA	**6**	NA	**10.4**	**5.5**	NA	NA
Copper	**310**	4700	40	200	6.28	**21.3**	**22**	**22.8**	**24.6**	NA	**11**	**21.5**	NA	NA	**31.3**	NA	**20.9**	NA	**18.8**	NA	**20.9**	**17**	NA	**8.5**	NA	NA	**23**	NA	**46.5**	**13.1**	NA	NA
Iron	**5500**	**82000**	20000	20000	11200	**27400**	**35800**	**39500**	**20400**	NA	**11600**	**37500**	NA	NA	**15900**	NA	**11600**	NA	**26600**	NA	**17600**	**12300**	NA	**13300**	NA	NA	**14200**	NA	**19700**	**10800**	NA	NA
Lead	**400**	**800**	100	600	41.8	**25.9**	**23**	**22.6**	**117**	NA	**10.9**	**19.4**	NA	NA	**212**	NA	**119**	NA	**20**	NA	**103**	**39.5**	NA	**9.3**	NA	NA	**80**	NA	**249**	**14.2**	NA	NA
Magnesium	--	--	5000	5000	2780	**6150 J**	**9350 J**	**10700 J**	**4290**	NA	**3590**	**8620**	NA	NA	**3230**	NA	**3330**	NA	**6450**	NA	**4010**	**3380**	NA	**2710**	NA	NA	**2550**	NA	**4480**	**2530**	NA	NA
Manganese	**180**	**2600**	300	300	155	**667 J**	**390 J**	**349 J**	**379**	NA	**125**	**434**	NA	NA	**317**	NA	**167**	NA	**747**	NA	**330 J**	**193**	NA	**206**	NA	NA	**232 EB**	NA	**258 EB**	**161 EB**	NA	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.044 J**	**0.008 J**	**0.0037 J**	**0.24**	NA	0.11 U	0.12 U	NA	NA	**0.44**	NA	**0.21**	NA	0.11 U	NA	**0.3**	**0.16**	NA	0.11 U	NA	NA	**0.26**	NA	**0.3**	0.12 U	NA	NA
Nickel	**150**	2200	20	30	11.2	**27.7**	**38.8**	**43.7**	**20.1**	NA	**15.7**	**37.8**	NA	NA	**15.3**	NA	**31.3**	NA	**32.4**	NA	**16.3**	**16.3**	NA	**11.8**	NA	NA	**12.5**	NA	**20.5**	**11.5**	NA	NA
Potassium	--	--	--	--	382	**2590 J**	**3170 J**	**3960 J**	**832**	NA	**671**	**3070**	NA	NA	**653**	NA	**577**	NA	**2460**	NA	**581**	**780**	NA	**497**	NA	NA	**574**	NA	**1120**	**400 J**	NA	NA
Selenium	39	580	0.5	1	--	**3.8**	**5**	**5.3**	2.6 U	NA	2.1 U	2.4 UJ	NA	NA	2.3 U	NA	3.9 U	NA	4.4 U	NA	**0.08 J**	2 U	NA	4 U	NA	NA	2 U	NA	2.2 U	2.3 U	NA	NA
Silver	39	580	0.6	5	--	0.85 U	0.97 U	0.86 U	1 U	NA	0.82 U	0.96 U	NA	NA	0.87 U	NA	0.8 U	NA	0.83 U	NA	0.81 U	0.85 U	NA	0.85 U	NA	NA	0.86 U	NA	0.89 U	0.94 U	NA	NA
Sodium	--	--	--	--	--	**214 J**	**326 J**	**354 J**	**102 J**	NA	**115 J**	**394 J**	NA	NA	**107 J**	NA	**202 J**	NA	**872**	NA	**112 J**	**121 J**	NA	**200 J**	NA	NA	**181 J**	NA	**148 J**	**150 J**	NA	NA
Thallium	**0.078**	1.2	0.6	5	--	**0.3 J**	**0.36 J**	**0.33 J**	**0.12 J+**	NA	**0.16 J+**	**0.27 J+**	NA	NA	**0.12 J+**	NA	**0.15 J+**	NA	**0.16 J+**	NA	0.39 U	**0.089 J+**	NA	**0.052 J+**	NA	NA	**0.11 J+**	NA	**0.13 J+**	**0.066 J+**	NA	NA
Vanadium	**39**	580	30	30	19.4	**46**	**60**	**63.8**	**34.6**	NA	4.1 U	**55.7**	NA	NA	**29.3**	NA	**31.9**	NA	**41.6**	NA	**34.6**	**27.1**	NA	**21.4**	NA	NA	**23.8**	NA	**31.3**	**17.4**	NA	NA
Zinc	**2300**	35000	100	300	35.3	**57.2**	**82.9**	**95.4**	**79.8**	NA	**145**	**77.2**	NA	NA	**91.6**	NA	**91.7**	NA	**62.8**	NA	**70.5**	**44.5**	NA	**26.8**	NA	NA	**61.8**	NA	**69.8**	**28.1**	NA	NA
Asbestos (%v/v)																																
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	33WS-02			33WS-03						33WS-04						33WS-05						33WS-06					
					Sample Depth (ft bgs)	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/24/14	06/24/14	06/24/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SB02-0204-062414X-MAX	33WS-SB02-0406-062414X	33WS-SB02-0608-062414X	33WS-SS03-0001-061314X	33WS-SB03-0204-061314X	33WS-SB03-0406-061314X	33WS-SB03-0608-061314X	33WS-SB03-0810-061314X	33WS-SB03-1012-061314X	33WS-SS04-0001-061314X	33WS-SB04-0204-061314X	33WS-SB04-0406-061314X	33WS-SB04-0608-061314X	33WS-SB04-0810-061314X	33WS-SB04-1012-061314X	33WS-SS05-0001-061214X	33WS-SB05-0204-061214X	33WS-SB05-0406-061214X	33WS-SB05-0608-061214X	33WS-SB05-0810-061214X	33WS-SB05-1012-061214X	33WS-SS06-0001-061614X	33WS-SB06-0204-061614X	33WS-SB06-0406-061614X	33WS-SB06-0608-061614X	33WS-SB06-0810-061614X	33WS-SB06-1012-061614X
Dioxins/Furans (ng/Kg)																																
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**127 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4660**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**60.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**320 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.72 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	13.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**17 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.6 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	9.35 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9.46 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**18.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.92 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**182 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**708 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**170 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**142 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**180 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**205 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**262 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**52.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**25.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	33WS-02			33WS-03						33WS-04						33WS-05						33WS-06					
					Sample Depth (ft bgs)	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/24/14	06/24/14	06/24/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/13/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SB02-0204-062414X-MAX	33WS-SB02-0406-062414X	33WS-SB02-0608-062414X	33WS-SS03-0001-061314X	33WS-SB03-0204-061314X	33WS-SB03-0406-061314X	33WS-SB03-0608-061314X	33WS-SB03-0810-061314X	33WS-SB03-1012-061314X	33WS-SS04-0001-061314X	33WS-SB04-0204-061314X	33WS-SB04-0406-061314X	33WS-SB04-0608-061314X	33WS-SB04-0810-061314X	33WS-SB04-1012-061314X	33WS-SS05-0001-061214X	33WS-SB05-0204-061214X	33WS-SB05-0406-061214X	33WS-SB05-0608-061214X	33WS-SB05-0810-061214X	33WS-SB05-1012-061214X	33WS-SS06-0001-061614X	33WS-SB06-0204-061614X	33WS-SB06-0406-061614X	33WS-SB06-0608-061614X	33WS-SB06-0810-061614X	33WS-SB06-1012-061614X
General Chemistry (%)																																
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																																
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																																
Oxidation-Reduction Potential	--	--	--	--	--	**363**	**412**	NA	NA	NA	**327**	NA	NA	NA	NA	NA	**242**	NA	NA	NA	**400**	**29**	NA	NA	NA	NA	**347**	NA	NA	NA	NA	NA
General Chemistry (S.U.)																																
pH	--	--	--	--	--	**6.78**	**7.05**	NA	NA	NA	**6.98**	NA	NA	NA	NA	NA	**8.42**	NA	NA	NA	**7.27**	**11.49**	NA	NA	NA	NA	**7.65**	NA	NA	NA	NA	NA
General Chemistry (ug/g)																																
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																																
Arsenic	**0.67**	**3**	20	20	8.78	**7**	**11**	**14**	**10**	**19**	**22**	**13**	**16**	**18**	11 U	**13**	**37**	**11**	**14**	6 U	**20**	**66**	6 U	6 U	**8**	**8**	**30**	**33**	**215**	**15**	**7**	**12**
Chromium	**12000**	180000	30	40	15.2	35 U	**91**	**69**	**204**	**7781**	**23000**	**95**	**115**	**70**	**183**	**527**	**563**	**122**	**53**	**75**	**467**	**706**	**283**	33 U	35 U	**77**	**609**	**206**	**135**	30 U	**81**	**47**
Lead	**400**	**800**	100	600	41.8	**30**	**29**	**24**	**119**	**25**	**23**	**31**	**25**	**27**	**184**	**63**	**119**	**35**	**30**	**27**	**129**	**68**	**37**	**22**	**24**	**22**	**104**	**155**	**186**	**21**	**21**	**27**
Mercury	0.94	4	0.3	1	0.0242	6 U	7 U	7 U	6 U	6 U	6 U	7 U	7 U	7 U	5 U	6 U	7 U	6 U	7 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	7 U
Nickel	150	2200	20	30	11.2	**46**	**36**	**57**	**32**	35 U	30 U	**51**	**43**	35 U	28 U	32 U	**72**	**42**	35 U	32 U	32 U	**34**	29 U	31 U	32 U	**54**	31 U	**36**	30 U	30 U	33 U	**42**
PAH Screening (ug/kg)																																
Total PAH	--	--	--	--	--	**180**	10 U	10 U	NA	**750 J**	**14**	10 U	10 U	NA	NA	**1900 J**	**4400 J**	**480**	**15**	NA	NA	**1600 J**	**2700 J**	10 U	10 U	NA	NA	**840 J**	**700 J**	**110**	10 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																					
					Sample Location	33WS-07								33WS-08							33WS-09							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
					Sample Type	MAX	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS07-0001-061214X-MAX	33WS-SB07-0204-061214X	33WS-SB07-0406-061214X	33WS-SB07-0608-061214X	33WS-SB07-0810-061214X	33WS-SB07-1012-061214X	33WS-SB07-1214-061214X	33WS-SB07-1416-061214X	33WS-SS08-0001-061714X-MAX	33WS-SB08-0204-061714X	33WS-SB08-0408-061714X	33WS-SB08-0810-061714X	33WS-SB08-1012-061714X	33WS-SB08-1214-061714X	33WS-SB08-1416-061714X	33WS-SS09-0001-061714X	33WS-SB09-0204-061714X	33WS-SB09-0406-061714X	33WS-SB09-0608-061714X	33WS-SB09-0810-061714X	33WS-SB09-1012-061714X	33WS-SB09-1214-061714X	33WS-SB09-1416-061714X
Volatiles (ug/kg)																											
1,1,1-Trichloroethane	810000	3600000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	120 R	NA	99 R	NA	NA	NA	110 R	NA	87 R	120 R	NA	NA	100 R	NA	NA	140 R	96 R	85 R	NA	NA	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	**20 JEB**	NA	9.9 U	NA	NA	NA	11 U	NA	**18 J**	12 U	NA	NA	10 U	NA	NA	14 U	9.6 U	**8.7 EB**	NA	NA	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	12 U	NA	9.9 U	NA	NA	NA	11 U	NA	8.7 U	12 U	NA	NA	10 U	NA	NA	14 U	9.6 U	8.5 U	NA	NA	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	12 U	NA	9.9 U	NA	NA	NA	11 U	NA	8.7 U	12 U	NA	NA	10 U	NA	NA	14 U	9.6 U	8.5 U	NA	NA	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**180 JEB**	NA	**56 JEB**	NA	NA	NA	**12 JEB**	NA	**290 EB**	**37 EB**	NA	NA	**5.2 JEB**	NA	NA	**130 EB**	**83 JEB**	**140 EB**	NA	NA	NA	NA	NA
Benzene	1200	5100	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 R	NA	NA	5.2 R	NA	NA	7.2 R	4.8 R	4.2 R	NA	NA	NA	NA	NA
Bromoform	67000	290000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Bromomethane	680	3000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 R	6 R	NA	NA	5.2 R	NA	NA	7.2 R	4.8 R	4.2 R	NA	NA	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	5.8 R	NA	4.9 R	NA	NA	NA	5.4 R	NA	4.4 R	6 R	NA	NA	5.2 R	NA	NA	7.2 R	**13 J-**	4.2 R	NA	NA	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	5.8 R	NA	4.9 R	NA	NA	NA	5.4 R	NA	4.4 R	6 R	NA	NA	5.2 R	NA	NA	7.2 R	4.8 R	4.2 R	NA	NA	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Chloroform	320	1400	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Chloromethane	11000	46000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	5.8 R	NA	4.9 R	NA	NA	NA	5.4 R	NA	4.4 R	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
m,p-Xylene	--	--	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**170 J**	NA	4.9 U	NA	NA	NA	5.4 U	NA	**12**	6 U	NA	NA	5.2 U	NA	NA	**23 EB**	**36 EB**	**4.4 EB**	NA	NA	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
o-Xylene	65000	280000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Styrene	600000	3500000	--	--	--	5.8 R	NA	4.9 R	NA	NA	NA	5.4 R	NA	4.4 R	6 R	NA	NA	5.2 R	NA	NA	7.2 R	4.8 R	4.2 R	NA	NA	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Toluene	490000	4700000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Trichloroethene	410	1900	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	5.8 U	NA	4.9 U	NA	NA	NA	5.4 U	NA	4.4 U	6 U	NA	NA	5.2 U	NA	NA	7.2 U	4.8 U	4.2 U	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																						
					Sample Location	33WS-07								33WS-08							33WS-09							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
					Sample Type	MAX	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS07-0001-061214X-MAX	33WS-SB07-0204-061214X	33WS-SB07-0406-061214X	33WS-SB07-0608-061214X	33WS-SB07-0810-061214X	33WS-SB07-1012-061214X	33WS-SB07-1214-061214X	33WS-SB07-1416-061214X	33WS-SS08-0001-061714X-MAX	33WS-SB08-0204-061714X	33WS-SB08-0408-061714X	33WS-SB08-0810-061714X	33WS-SB08-1012-061714X	33WS-SB08-1214-061714X	33WS-SB08-1416-061714X	33WS-SS09-0001-061714X	33WS-SB09-0204-061714X	33WS-SB09-0406-061714X	33WS-SB09-0608-061714X	33WS-SB09-0810-061714X	33WS-SB09-1012-061714X	33WS-SB09-1214-061714X	33WS-SB09-1416-061714X
Semivolatiles (ug/kg)																												
1,1'-Biphenyl	4700	20000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	200 UJ	NA	200 UJ	NA	NA	NA	230 UJ	NA	190 UJ	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	200 UJ	NA	200 UJ	NA	NA	NA	230 UJ	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	390 U	NA	380 U	NA	NA	NA	440 U	NA	370 U	360 U	NA	NA	400 U	NA	NA	400 U	360 U	370 U	NA	NA	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	**51 JEB**	NA	3.8 U	NA	NA	NA	4.4 U	NA	**18 EB**	**10**	NA	NA	4 U	NA	NA	**61**	3.6 U	3.7 U	NA	NA	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	390 U	NA	380 U	NA	NA	NA	440 U	NA	370 U	360 U	NA	NA	400 U	NA	NA	400 U	360 U	370 U	NA	NA	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 UJ	180 U	190 U	NA	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	390 U	NA	380 U	NA	NA	NA	440 U	NA	370 U	360 U	NA	NA	400 U	NA	NA	400 U	360 U	370 U	NA	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	390 U	NA	380 U	NA	NA	NA	440 U	NA	370 U	360 U	NA	NA	400 U	NA	NA	400 U	360 U	370 U	NA	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 UJ	180 U	190 U	NA	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	390 U	NA	380 U	NA	NA	NA	440 U	NA	370 U	360 U	NA	NA	400 U	NA	NA	400 U	360 U	370 U	NA	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	390 U	NA	380 U	NA	NA	NA	440 U	NA	370 U	360 U	NA	NA	400 U	NA	NA	400 U	360 U	370 U	NA	NA	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	**210 J**	NA	3.8 U	NA	NA	NA	4.4 U	NA	**62**	**87**	NA	NA	4 U	NA	NA	**85**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	**81 J**	NA	**11 J**	NA	NA	NA	4.4 U	NA	**140**	**61**	NA	NA	4 U	NA	NA	**77**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	**54 J**	NA	200 U	NA	NA	NA	230 U	NA	**150 J**	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**360**	NA	**13**	NA	NA	NA	4.4 U	NA	**230 J**	**170**	NA	NA	4 U	NA	NA	**220**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Atrazine	2300	10000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	**51 J**	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**1300**	NA	**45**	NA	NA	NA	4.4 U	NA	**670**	**600 J-**	NA	NA	4 U	NA	NA	**1400 J-**	**16**	3.7 U	NA	NA	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**1200**	NA	**37**	NA	NA	NA	4.4 U	NA	**580**	**560**	NA	NA	4 U	NA	NA	**1200**	**16**	3.7 U	NA	NA	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**2400**	NA	**51**	NA	NA	NA	4.4 U	NA	**940**	**780**	NA	NA	4 U	NA	NA	**1900**	**19**	3.7 U	NA	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**780**	NA	**15**	NA	NA	NA	4.4 U	NA	**350**	**300**	NA	NA	4 U	NA	NA	**690**	**7.5**	3.7 U	NA	NA	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**680**	NA	**19**	NA	NA	NA	4.4 U	NA	**330**	**280**	NA	NA	4 U	NA	NA	**460**	**6.3**	3.7 U	NA	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**100 J**	NA	**440 EB**	NA	NA	NA	230 U	NA	**130 J**	**66 J**	NA	NA	210 U	NA	NA	**70 J**	**79 J**	190 U	NA	NA	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Carbazole	--	--	--	--	--	**220**	NA	200 U	NA	NA	NA	230 U	NA	**56 J**	190 U	NA	NA	210 U	NA	NA	**110 J**	180 U	190 U	NA	NA	NA	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**1500**	NA	**40**	NA	NA	NA	4.4 U	NA	**670**	**630**	NA	NA	4 U	NA	NA	**1400**	**17**	3.7 U	NA	NA	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**230 J**	NA	**5.1**	NA	NA	NA	4.4 U	NA	**110**	**110**	NA	NA	4 U	NA	NA	**180**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	**89 J**	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**660 J**	NA	**560 JEB**	NA	NA	NA	**870 JEB**	NA	**440**	**320 EB**	NA	NA	**480 EB**	NA	NA	**480 EB**	**400 EB**	**390 EB**	NA	NA	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**2900**	NA	**79**	NA	NA	NA	4.4 U	NA	**1600**	**1200**	NA	NA	4 U	NA	NA	**2300**	**17**	3.7 U	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																						
					Sample Location	33WS-07								33WS-08							33WS-09							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
					Sample Type	MAX	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS07-0001-061214X-MAX	33WS-SB07-0204-061214X	33WS-SB07-0406-061214X	33WS-SB07-0608-061214X	33WS-SB07-0810-061214X	33WS-SB07-1012-061214X	33WS-SB07-1214-061214X	33WS-SB07-1416-061214X	33WS-SS08-0001-061714X-MAX	33WS-SB08-0204-061714X	33WS-SB08-0408-061714X	33WS-SB08-0810-061714X	33WS-SB08-1012-061714X	33WS-SB08-1214-061714X	33WS-SB08-1416-061714X	33WS-SS09-0001-061714X	33WS-SB09-0204-061714X	33WS-SB09-0406-061714X	33WS-SB09-0608-061714X	33WS-SB09-0810-061714X	33WS-SB09-1012-061714X	33WS-SB09-1214-061714X	33WS-SB09-1416-061714X
Fluorene	230000	3000000	1000	2000	--	**180 J**	NA	**6.1**	NA	NA	NA	4.4 U	NA	**62**	**71**	NA	NA	4 U	NA	NA	**59**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 UJ	180 U	190 U	NA	NA	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**880**	NA	**15**	NA	NA	NA	4.4 U	NA	**380**	**350 J**	NA	NA	4 U	NA	NA	**750 J**	**7**	3.7 U	NA	NA	NA	NA	NA
Isophorone	560000	2400000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Naphthalene	**3800**	17000	500	1000	--	**100 JEB**	NA	**12 EB**	NA	NA	NA	4.4 U	NA	**31 JEB**	**15 EB**	NA	NA	4 U	NA	NA	**45 JEB**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Pentachlorophenol	990	4000	--	--	--	**9.5**	NA	**6.8 J**	NA	NA	NA	9 U	NA	**4.1 J**	7.3 U	NA	NA	8.2 U	NA	NA	**62 J**	7.2 U	7.6 U	NA	NA	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**1900 J**	NA	**42 EB**	NA	NA	NA	4.4 U	NA	**940**	**630**	NA	NA	4 U	NA	NA	**1200**	**11**	3.7 U	NA	NA	NA	NA	NA
Phenol	1800000	25000000	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**2600**	NA	**71**	NA	NA	NA	4.4 U	NA	**1300**	**1100**	NA	NA	**5**	NA	NA	**2600**	**21**	3.7 U	NA	NA	NA	NA	NA
	Pesticides/PCBs (ug/kg)																											
4,4'-DDD	2200	9600	--	--	--	3.9 U	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 U	NA	NA	4 U	NA	NA	4 U	3.6 U	3.7 U	NA	NA	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	3.9 U	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 R	NA	NA	4 R	NA	NA	4 R	3.6 R	3.7 R	NA	NA	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	**6.9**	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 U	NA	NA	4 U	NA	NA	**14 J**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Aldrin	31	140	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
alpha-BHC	85	370	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1221	150	660	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1232	150	660	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1242	240	1000	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1248	**240**	1000	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1254	**110**	1000	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	**59 J**	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1262	--	--	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
Aroclor 1268	--	--	--	--	--	39 U	NA	39 U	NA	NA	NA	45 U	NA	37 U	37 U	NA	NA	41 U	NA	NA	40 U	36 U	37 U	NA	NA	NA	NA	NA
beta-BHC	300	1300	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
delta-BHC	--	--	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
Dieldrin	33	140	--	--	--	3.9 U	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 U	NA	NA	4 U	NA	NA	4 U	3.6 U	3.7 U	NA	NA	NA	NA	NA
Endosulfan I	--	--	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
Endosulfan II	--	--	--	--	--	3.9 U	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 U	NA	NA	4 U	NA	NA	4 U	3.6 U	3.7 U	NA	NA	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	**5.2 J**	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 U	NA	NA	4 U	NA	NA	**9.7 J**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Endrin	1800	25000	--	--	--	3.9 U	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 U	NA	NA	4 U	NA	NA	4 U	3.6 U	3.7 U	NA	NA	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	3.9 U	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	3.6 U	NA	NA	4 U	NA	NA	**6.3 J**	3.6 U	3.7 U	NA	NA	NA	NA	NA
Endrin Ketone	--	--	--	--	--	3.9 U	NA	3.9 U	NA	NA	NA	4.5 U	NA	3.7 U	**3.9 J**	NA	NA	4 U	NA	NA	**13 J**	3.6 U	3.7 U	NA	NA	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	**14**	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
Heptachlor	120	510	--	--	--	2 R	NA	2 R	NA	NA	NA	2.3 R	NA	1.9 R	1.9 R	NA	NA	2.1 R	NA	NA	2.1 R	1.8 R	1.9 R	NA	NA	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	2 U	NA	2 U	NA	NA	NA	2.3 U	NA	1.9 U	1.9 U	NA	NA	2.1 U	NA	NA	2.1 U	1.8 U	1.9 U	NA	NA	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	20 U	NA	20 U	NA	NA	NA	23 U	NA	19 U	19 U	NA	NA	21 U	NA	NA	21 U	18 U	19 U	NA	NA	NA	NA	NA
Toxaphene	480	2100	--	--	--	200 U	NA	200 U	NA	NA	NA	230 U	NA	190 U	190 U	NA	NA	210 U	NA	NA	210 U	180 U	190 U	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																						
					Sample Location	33WS-07								33WS-08							33WS-09							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
					Sample Type	MAX	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS07-0001-061214X-MAX	33WS-SB07-0204-061214X	33WS-SB07-0406-061214X	33WS-SB07-0608-061214X	33WS-SB07-0810-061214X	33WS-SB07-1012-061214X	33WS-SB07-1214-061214X	33WS-SB07-1416-061214X	33WS-SS08-0001-061714X-MAX	33WS-SB08-0204-061714X	33WS-SB08-0408-061714X	33WS-SB08-0810-061714X	33WS-SB08-1012-061714X	33WS-SB08-1214-061714X	33WS-SB08-1416-061714X	33WS-SS09-0001-061714X	33WS-SB09-0204-061714X	33WS-SB09-0406-061714X	33WS-SB09-0608-061714X	33WS-SB09-0810-061714X	33WS-SB09-1012-061714X	33WS-SB09-1214-061714X	33WS-SB09-1416-061714X
Metals (mg/kg)																												
Aluminum	**7700**	110000	10000	10000	10700	**12000**	NA	**11100**	NA	NA	NA	**21800**	NA	**12600**	**11200**	NA	NA	**18000**	NA	NA	**7140**	**8780**	**16600**	NA	NA	NA	NA	NA
Antimony	**3.1**	47	1	7	--	0.88 UJ	NA	0.9 UJ	NA	NA	NA	0.99 UJ	NA	0.79 UJ	0.83 UJ	NA	NA	0.92 UJ	NA	NA	0.89 UJ	0.82 UJ	0.85 UJ	NA	NA	NA	NA	NA
Arsenic	**0.67**	**3**	20	20	8.78	**14.3 J**	NA	**26.3 J**	NA	NA	NA	**9.7 J**	NA	**11.2 J**	**11.4 J**	NA	NA	**5.9 J**	NA	NA	**12.1 J**	**11.7 J**	**8 J**	NA	NA	NA	NA	NA
Barium	**1500**	22000	50	50	16	**51.9**	NA	**56.6**	NA	NA	NA	**59.8**	NA	**68.6 J**	**67.2 J**	NA	NA	**66.4 J**	NA	NA	**91.5**	**27.7**	**42.7**	NA	NA	NA	NA	NA
Beryllium	16	230	0.4	0.9	0.315	**0.63**	NA	**0.4**	NA	NA	NA	**1.6**	NA	**0.67**	**0.67**	NA	NA	**1.3**	NA	NA	**0.61**	**0.55**	**1.1**	NA	NA	NA	NA	NA
Cadmium	**7**	98	2	3	--	**0.55 J**	NA	**0.66 J**	NA	NA	NA	**1 J**	NA	**0.45 J**	**0.38 J**	NA	NA	**0.38 J**	NA	NA	**0.37 J**	**0.08 J**	**0.1 J**	NA	NA	NA	NA	NA
Calcium	--	--	--	--	634	**2210**	NA	**6090**	NA	NA	NA	**3460**	NA	**1970 J**	**7660 J**	NA	NA	**1680 J**	NA	NA	**1850**	**1760**	**1260**	NA	NA	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**145**	NA	0.8 U	NA	NA	NA	**95.3**	NA	**99 J**	**81.6 J**	NA	NA	**37.6 J**	NA	NA	**80.2**	**20.1**	**32.5**	NA	NA	NA	NA	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	NA	NA	**1.1**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1 J**	NA	NA	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**7**	NA	**11.7**	NA	NA	NA	**19**	NA	**7.6**	**5.9**	NA	NA	**13.4**	NA	NA	**5.3 J**	**8 J**	**10.1 J**	NA	NA	NA	NA	NA
Copper	**310**	4700	40	200	6.28	**24.2**	NA	**58.6**	NA	NA	NA	**24.3**	NA	**56.8 J**	**28.1 J**	NA	NA	**17.3 J**	NA	NA	**32.6**	**16.9**	**12.3**	NA	NA	NA	NA	NA
Iron	**5500**	**82000**	20000	20000	11200	**17400**	NA	**19900**	NA	NA	NA	**35300**	NA	**17100 J**	**14400 J**	NA	NA	**25900 J**	NA	NA	**13400 J**	**18300 J**	**23100 J**	NA	NA	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**103**	NA	**127**	NA	NA	NA	**24.7**	NA	**249**	**166**	NA	NA	**13.9**	NA	NA	**77.7**	**28**	**12.6**	NA	NA	NA	NA	NA
Magnesium	--	--	5000	5000	2780	**3560**	NA	**8550**	NA	NA	NA	**10500**	NA	**3430**	**3050**	NA	NA	**6440**	NA	NA	**1810**	**4730**	**5480**	NA	NA	NA	NA	NA
Manganese	**180**	**2600**	300	300	155	**337 J**	NA	**411 J**	NA	NA	NA	**544 J**	NA	**754 J**	**306 J**	NA	NA	**357 J**	NA	NA	**183 J**	**315 J**	**365 J**	NA	NA	NA	NA	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.21**	NA	**0.22**	NA	NA	NA	0.13 U	NA	**0.64**	**0.33**	NA	NA	0.1 U	NA	NA	**0.099 J**	**0.048 J**	0.099 U	NA	NA	NA	NA	NA
Nickel	**150**	2200	20	30	11.2	**15.8**	NA	**15.5**	NA	NA	NA	**45.7**	NA	**17.3**	**13.9**	NA	NA	**25.1**	NA	NA	**11.7**	**18**	**21.8**	NA	NA	NA	NA	NA
Potassium	--	--	--	--	382	**614**	NA	**602**	NA	NA	NA	**4290**	NA	**519**	403 U	NA	NA	**1550**	NA	NA	**229 J**	**365 J**	**947**	NA	NA	NA	NA	NA
Selenium	39	580	0.5	1	--	**0.31 J**	NA	2.3 UJ	NA	NA	NA	2.5 UJ	NA	2 U	2.1 U	NA	NA	2.3 U	NA	NA	2.2 U	2.1 U	2.1 U	NA	NA	NA	NA	NA
Silver	39	580	0.6	5	--	0.86 U	NA	0.8 U	NA	NA	NA	0.92 U	NA	0.8 U	0.81 U	NA	NA	0.96 U	NA	NA	0.88 U	0.77 U	0.81 U	NA	NA	NA	NA	NA
Sodium	--	--	--	--	--	**120 J**	NA	**125 J**	NA	NA	NA	**1240**	NA	**106 J**	**114 J**	NA	NA	**195 J**	NA	NA	**113 J**	**133 J**	**122 J**	NA	NA	NA	NA	NA
Thallium	**0.078**	1.2	0.6	5	--	0.44 U	NA	**0.078 J**	NA	NA	NA	**0.3 J**	NA	**0.11 J**	**0.12 J**	NA	NA	**0.074 J**	NA	NA	**0.12 J**	**0.064 J**	**0.13 J**	NA	NA	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**35.9**	NA	**20**	NA	NA	NA	**59.7**	NA	**33.6 J**	**31.7 J**	NA	NA	**36.5 J**	NA	NA	**23.1**	**25.1**	**35.9**	NA	NA	NA	NA	NA
Zinc	**2300**	35000	100	300	35.3	**78.9**	NA	**268**	NA	NA	NA	**93.3**	NA	**117**	**108**	NA	NA	**63.6**	NA	NA	**52.8**	**39.8**	**45.4**	NA	NA	NA	NA	NA
Asbestos (%v/v)																												
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																						
					Sample Location	33WS-07								33WS-08							33WS-09							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
					Sample Type	MAX	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS07-0001-061214X-MAX	33WS-SB07-0204-061214X	33WS-SB07-0406-061214X	33WS-SB07-0608-061214X	33WS-SB07-0810-061214X	33WS-SB07-1012-061214X	33WS-SB07-1214-061214X	33WS-SB07-1416-061214X	33WS-SS08-0001-061714X-MAX	33WS-SB08-0204-061714X	33WS-SB08-0408-061714X	33WS-SB08-0810-061714X	33WS-SB08-1012-061714X	33WS-SB08-1214-061714X	33WS-SB08-1416-061714X	33WS-SS09-0001-061714X	33WS-SB09-0204-061714X	33WS-SB09-0406-061714X	33WS-SB09-0608-061714X	33WS-SB09-0810-061714X	33WS-SB09-1012-061714X	33WS-SB09-1214-061714X	33WS-SB09-1416-061714X
Dioxins/Furans (ng/Kg)																												
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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					Property	33 Water St.																					
					Sample Location	33WS-07								33WS-08							33WS-09							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14	06/17/14
					Sample Type	MAX	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS07-0001-061214X-MAX	33WS-SB07-0204-061214X	33WS-SB07-0406-061214X	33WS-SB07-0608-061214X	33WS-SB07-0810-061214X	33WS-SB07-1012-061214X	33WS-SB07-1214-061214X	33WS-SB07-1416-061214X	33WS-SS08-0001-061714X-MAX	33WS-SB08-0204-061714X	33WS-SB08-0408-061714X	33WS-SB08-0810-061714X	33WS-SB08-1012-061714X	33WS-SB08-1214-061714X	33WS-SB08-1416-061714X	33WS-SS09-0001-061714X	33WS-SB09-0204-061714X	33WS-SB09-0406-061714X	33WS-SB09-0608-061714X	33WS-SB09-0810-061714X	33WS-SB09-1012-061714X	33WS-SB09-1214-061714X	33WS-SB09-1416-061714X
General Chemistry (%)																											
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	**2.9**	NA	NA	NA	NA	NA	NA	**1.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	**2.9 J**	NA	NA	NA	NA	NA	NA	**3.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																											
Salinity	--	--	--	--	--	NA	NA	**1200**	NA	NA	NA	NA	NA	NA	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																											
Oxidation-Reduction Potential	--	--	--	--	--	**435**	NA	**393**	NA	NA	NA	NA	NA	NA	**273**	NA	NA	NA	NA	NA	**398**	**306**	NA	NA	NA	NA	NA
General Chemistry (S.U.)																											
pH	--	--	--	--	--	**7.12**	NA	**7.46**	NA	NA	NA	NA	NA	NA	**7.62**	NA	NA	NA	NA	NA	**5.7**	**7.27**	NA	NA	NA	NA	NA
General Chemistry (ug/g)																											
Alkalinity, Bicarbonate (as CaCO2)	--	--	--	--	--	NA	NA	**215 J**	NA	NA	NA	NA	NA	NA	**370 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	**215 J**	NA	NA	NA	NA	NA	NA	**370 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	**53**	NA	NA	NA	NA	NA	NA	**3.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	**3.8**	NA	NA	NA	NA	NA	NA	**1.6 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	**300**	NA	NA	NA	NA	NA	NA	**31**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																											
Arsenic	**0.67**	**3**	20	20	8.78	**13**	**20**	**32**	**38**	**39**	**9**	**10**	**8**	**20**	**17**	5 U	5 U	5 U	**6**	**8**	**12**	**19**	**8**	6 U	**9**	5 U	5 U	5 U
Chromium	**12000**	180000	30	40	15.2	**270**	**650**	**19900**	**65600**	**41900**	**4462**	**53**	**475**	**164**	**232**	**44**	**52**	31 U	**59**	**78**	**213**	**141**	**66**	**100**	**43**	31 U	33 U	**77**
Lead	**400**	**800**	100	600	41.8	**100**	**58**	**105**	**181**	**779**	**31**	**24**	**28**	**267**	**186**	**18**	**16**	**17**	**19**	**22**	**94**	**43**	**20**	**24**	**30**	**16**	**19**	**20**
Mercury	0.94	4	0.3	1	0.0242	6 U	7 U	7 U	7 U	6 U	6 U	6 U	7 U	6 U	6 U	6 U	6 U	5 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Nickel	150	2200	20	30	11.2	30 U	**69**	36 U	30 U	31 U	32 U	33 U	**51**	31 U	**37**	29 U	28 U	28 U	32 U	34 U	**42**	**34**	**35**	32 U	**44**	29 U	29 U	30 U
PAH Screening (ug/kg)																											
Total PAH	--	--	--	--	--	NA	**2500 J**	**1000 J**	**270**	**1700 J**	NA	NA	NA	NA	**3300 J**	**4700 J**	**780 J**	NA	NA	NA	NA	**220**	10 U	10 U	10 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																							
					Sample Location	33WS-10								33WS-11								33WS-12							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS10-0001-061814X	33WS-SB10-0204-061814X	33WS-SB10-0406-061814X	33WS-SB10-0608-061814X	33WS-SB10-0810-061814X	33WS-SB10-1012-061814X	33WS-SB10-1214-061814X	33WS-SB10-1416-061814X	33WS-SS11-0102-061214X	33WS-SB11-0204-061214X	33WS-SB11-0406-061214X	33WS-SB11-0608-061214X	33WS-SB11-0810-061214X	33WS-SB11-1012-061214X	33WS-SB11-1214-061214X	33WS-SB11-1416-061214X	33WS-SS12-0001-061614X	33WS-SB12-0204-061614X	33WS-SB12-0406-061614X	33WS-SB12-0608-061614X	33WS-SB12-0810-061614X	33WS-SB12-1012-061614X	33WS-SB12-1214-061614X	33WS-SB12-1416-061614X
Volatiles (ug/kg)																													
1,1,1-Trichloroethane	810000	3600000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	7.2 U	6.8 R	NA	4.4 R	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	140 R	140 R	NA	87 R	NA	NA	NA	NA	110 R	110 R	NA	NA	100 R	NA	NA	NA	99 R	NA	100 R	NA	140 R	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	**47 J**	14 U	NA	**11**	NA	NA	NA	NA	11 U	11 U	NA	NA	10 U	NA	NA	NA	9.9 U	NA	10 U	NA	14 U	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	14 U	14 U	NA	8.7 U	NA	NA	NA	NA	11 U	11 U	NA	NA	10 U	NA	NA	NA	9.9 U	NA	10 U	NA	14 U	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	14 U	14 R	NA	8.7 R	NA	NA	NA	NA	11 U	11 U	NA	NA	10 U	NA	NA	NA	9.9 U	NA	10 U	NA	14 U	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**470 J**	**110**	NA	**78**	NA	NA	NA	NA	11 U	**100 JEB**	NA	NA	10 U	NA	NA	NA	**190 EB**	NA	**85 EB**	NA	**120 EB**	NA	NA	NA
Benzene	1200	5100	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	7.2 R	6.8 R	NA	4.4 R	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Bromoform	67000	290000	--	--	--	7.2 U	6.8 R	NA	4.4 R	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Bromomethane	680	3000	--	--	--	7.2 R	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 R	NA	5.1 R	NA	7.2 R	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	7.2 R	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 R	5.5 R	NA	NA	5.1 R	NA	NA	NA	5 R	NA	5.1 R	NA	7.2 R	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	7.2 R	6.8 R	NA	4.4 R	NA	NA	NA	NA	5.6 R	5.5 R	NA	NA	5.1 R	NA	NA	NA	5 R	NA	5.1 R	NA	7.2 R	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Chloroform	320	1400	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Chloromethane	11000	46000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 R	5.5 R	NA	NA	5.1 R	NA	NA	NA	5 R	NA	5.1 R	NA	7.2 R	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
m,p-Xylene	--	--	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**180**	6.8 U	NA	**12**	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
o-Xylene	65000	280000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Styrene	600000	3500000	--	--	--	7.2 R	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 R	5.5 R	NA	NA	5.1 R	NA	NA	NA	5 R	NA	5.1 R	NA	7.2 R	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Toluene	490000	4700000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	7.2 U	6.8 R	NA	4.4 R	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Trichloroethene	410	1900	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	7.2 U	6.8 U	NA	4.4 U	NA	NA	NA	NA	5.6 U	5.5 U	NA	NA	5.1 U	NA	NA	NA	5 U	NA	5.1 U	NA	7.2 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																							
					Sample Location	33WS-10								33WS-11								33WS-12							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS10-0001-061814X	33WS-SB10-0204-061814X	33WS-SB10-0406-061814X	33WS-SB10-0608-061814X	33WS-SB10-0810-061814X	33WS-SB10-1012-061814X	33WS-SB10-1214-061814X	33WS-SB10-1416-061814X	33WS-SS11-0102-061214X	33WS-SB11-0204-061214X	33WS-SB11-0406-061214X	33WS-SB11-0608-061214X	33WS-SB11-0810-061214X	33WS-SB11-1012-061214X	33WS-SB11-1214-061214X	33WS-SB11-1416-061214X	33WS-SS12-0001-061614X	33WS-SB12-0204-061614X	33WS-SB12-0406-061614X	33WS-SB12-0608-061614X	33WS-SB12-0810-061614X	33WS-SB12-1012-061614X	33WS-SB12-1214-061614X	33WS-SB12-1416-061614X
Semivolatiles (ug/kg)																													
1,1'-Biphenyl	4700	20000	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	**46 J**	NA	NA	210 U	NA	NA	NA	180 U	NA	**1900**	NA	210 U	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 UJ	190 UJ	NA	NA	210 UJ	NA	NA	NA	180 UJ	NA	1900 UJ	NA	210 UJ	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 UJ	190 UJ	NA	NA	210 UJ	NA	NA	NA	180 U	NA	**550 J**	NA	210 U	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	390 U	380 U	NA	390 U	NA	NA	NA	NA	350 U	370 U	NA	NA	410 U	NA	NA	NA	350 U	NA	3600 U	NA	400 U	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	**9.5**	**38**	NA	3.9 U	NA	NA	NA	NA	3.5 U	**370 EB**	NA	NA	4.1 U	NA	NA	NA	**22 EB**	NA	**9100**	NA	4 U	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 UJ	NA	210 U	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	390 U	380 U	NA	390 U	NA	NA	NA	NA	350 U	370 U	NA	NA	410 U	NA	NA	NA	350 U	NA	3600 U	NA	400 U	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	390 U	380 U	NA	390 U	NA	NA	NA	NA	350 U	370 U	NA	NA	410 U	NA	NA	NA	350 U	NA	3600 U	NA	400 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	390 U	380 U	NA	390 U	NA	NA	NA	NA	350 U	370 U	NA	NA	410 U	NA	NA	NA	350 U	NA	3600 U	NA	400 U	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	**760 J**	NA	210 U	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	390 U	380 U	NA	390 U	NA	NA	NA	NA	350 U	370 U	NA	NA	410 U	NA	NA	NA	350 U	NA	3600 U	NA	400 U	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	390 U	380 U	NA	390 U	NA	NA	NA	NA	350 U	370 U	NA	NA	410 U	NA	NA	NA	350 U	NA	3600 U	NA	400 U	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	**19 J**	**67**	NA	3.9 U	NA	NA	NA	NA	**6.7**	**1200**	NA	NA	4.1 U	NA	NA	NA	**140**	NA	**25000**	NA	4 U	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	39 U	**90**	NA	3.9 U	NA	NA	NA	NA	**5.5 J**	**250 J**	NA	NA	4.1 U	NA	NA	NA	**75**	NA	**2000**	NA	4 U	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	**130 JEB**	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**64**	**180**	NA	3.9 U	NA	NA	NA	NA	**30**	**2400**	NA	NA	4.1 U	NA	NA	NA	**250**	NA	**46000**	NA	**6.3**	NA	NA	NA
Atrazine	2300	10000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**370 J-**	**520 J**	NA	**4.3**	NA	NA	NA	NA	**130**	**9000**	NA	NA	4.1 U	NA	NA	NA	**790**	NA	**88000**	NA	**13**	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**340**	**480**	NA	3.9 U	NA	NA	NA	NA	**140**	**6000**	NA	NA	4.1 U	NA	NA	NA	**700**	NA	**76000**	NA	**13**	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**490**	**640**	NA	3.9 U	NA	NA	NA	NA	**270**	**8100**	NA	NA	4.1 U	NA	NA	NA	**910**	NA	**100000**	NA	**10**	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**220**	**290**	NA	3.9 U	NA	NA	NA	NA	**110**	**3200**	NA	NA	4.1 U	NA	NA	NA	**390**	NA	**26000**	NA	**19**	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**260 J**	**280**	NA	3.9 UJ	NA	NA	NA	NA	**120**	**1000**	NA	NA	4.1 U	NA	NA	NA	**340**	NA	**19000**	NA	**5.3**	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**79 J**	**69 J**	NA	200 UJ	NA	NA	NA	NA	**38 JEB**	**78 JEB**	NA	NA	210 U	NA	NA	NA	**63 JEB**	NA	**1300 JEB**	NA	210 U	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Carbazole	--	--	--	--	--	200 U	**65 J**	NA	200 UJ	NA	NA	NA	NA	180 U	**310**	NA	NA	210 U	NA	NA	NA	**95 J**	NA	**19000**	NA	210 U	NA	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**390**	**600 J**	NA	3.9 U	NA	NA	NA	NA	**240**	**9600**	NA	NA	4.1 U	NA	NA	NA	**780**	NA	**100000**	NA	**14**	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**64**	**110**	NA	3.9 U	NA	NA	NA	NA	**29**	**1400**	NA	NA	4.1 U	NA	NA	NA	**140**	NA	**11000**	NA	4 U	NA	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	**210**	NA	NA	210 U	NA	NA	NA	180 U	NA	**12000**	NA	210 U	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**440**	**320**	NA	**360 J**	NA	NA	NA	NA	**600 JEB**	**510 JEB**	NA	NA	**710 JEB**	NA	NA	NA	**310 EB**	NA	1900 U	NA	**390 EB**	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	200 U	190 U	NA	200 UJ	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**680**	**1100 J**	NA	3.9 U	NA	NA	NA	NA	**370**	**13000**	NA	NA	**6.2**	NA	NA	NA	**1600**	NA	**220000**	NA	**25**	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																							
					Sample Location	33WS-10								33WS-11								33WS-12							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS10-0001-061814X	33WS-SB10-0204-061814X	33WS-SB10-0406-061814X	33WS-SB10-0608-061814X	33WS-SB10-0810-061814X	33WS-SB10-1012-061814X	33WS-SB10-1214-061814X	33WS-SB10-1416-061814X	33WS-SS11-0102-061214X	33WS-SB11-0204-061214X	33WS-SB11-0406-061214X	33WS-SB11-0608-061214X	33WS-SB11-0810-061214X	33WS-SB11-1012-061214X	33WS-SB11-1214-061214X	33WS-SB11-1416-061214X	33WS-SS12-0001-061614X	33WS-SB12-0204-061614X	33WS-SB12-0406-061614X	33WS-SB12-0608-061614X	33WS-SB12-0810-061614X	33WS-SB12-1012-061614X	33WS-SB12-1214-061614X	33WS-SB12-1416-061614X
Fluorene	230000	3000000	1000	2000	--	**18**	**54 J**	NA	3.9 UJ	NA	NA	NA	NA	**7**	**810**	NA	NA	4.1 U	NA	NA	NA	**96**	NA	**23000**	NA	4 U	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**210**	**340**	NA	3.9 U	NA	NA	NA	NA	**100**	**3100**	NA	NA	4.1 U	NA	NA	NA	**420**	NA	**33000 J**	NA	**4.2**	NA	NA	NA
Isophorone	560000	2400000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Naphthalene	**3800**	17000	500	1000	--	**8.6**	**35**	NA	3.9 U	NA	NA	NA	NA	3.5 U	**100 EB**	NA	NA	4.1 U	NA	NA	NA	**18 EB**	NA	**13000 EB**	NA	4 U	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 UJ	NA	210 U	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	1900 U	NA	210 U	NA	NA	NA
Pentachlorophenol	990	4000	--	--	--	**4.2 J**	**8**	NA	7.8 U	NA	NA	NA	NA	7.1 U	61 U	NA	NA	8.2 U	NA	NA	NA	**6.3 J**	NA	370 U	NA	8.2 U	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**310**	**840**	NA	3.9 U	NA	NA	NA	NA	**170 EB**	**20000**	NA	NA	**6 EB**	NA	NA	NA	**1100**	NA	**260000**	NA	**35**	NA	NA	NA
Phenol	1800000	25000000	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	**370 JEB**	NA	210 U	NA	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**610**	**1100 J**	NA	3.9 U	NA	NA	NA	NA	**330**	**20000**	NA	NA	**5.6**	NA	NA	NA	**1400**	NA	**230000**	NA	**41**	NA	NA	NA
	Pesticides/PCBs (ug/kg)																												
4,4'-DDD	2200	9600	--	--	--	4 U	3.7 U	NA	3.9 U	NA	NA	NA	NA	3.5 U	**17 J**	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	4 R	3.7 U	NA	3.9 U	NA	NA	NA	NA	3.5 U	3.8 U	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	**5.8**	**15**	NA	3.9 U	NA	NA	NA	NA	3.5 U	3.8 U	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
Aldrin	31	140	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	**2.1 J**	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
alpha-BHC	85	370	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1221	150	660	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1232	150	660	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1242	240	1000	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1248	**240**	1000	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1254	**110**	1000	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1262	--	--	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
Aroclor 1268	--	--	--	--	--	39 U	37 U	NA	39 U	NA	NA	NA	NA	35 U	38 U	NA	NA	41 U	NA	NA	NA	35 U	NA	37 U	NA	41 U	NA	NA	NA
beta-BHC	300	1300	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
delta-BHC	--	--	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
Dieldrin	33	140	--	--	--	4 U	3.7 U	NA	3.9 U	NA	NA	NA	NA	3.5 U	3.8 U	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
Endosulfan I	--	--	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	**23 J**	NA	2.1 U	NA	NA	NA
Endosulfan II	--	--	--	--	--	4 U	3.7 U	NA	3.9 U	NA	NA	NA	NA	3.5 U	3.8 U	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	4 U	**3.9 J**	NA	3.9 U	NA	NA	NA	NA	3.5 U	**7 J**	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
Endrin	1800	25000	--	--	--	4 U	3.7 U	NA	3.9 U	NA	NA	NA	NA	3.5 U	3.8 U	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	4 U	3.7 U	NA	3.9 U	NA	NA	NA	NA	3.5 U	**24**	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
Endrin Ketone	--	--	--	--	--	4 U	3.7 UJ	NA	3.9 UJ	NA	NA	NA	NA	3.5 U	**5.9 J**	NA	NA	4.1 U	NA	NA	NA	3.5 U	NA	3.6 U	NA	4.1 U	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	**7.8 J**	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
Heptachlor	120	510	--	--	--	2 R	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 R	1.9 R	NA	NA	2.1 R	NA	NA	NA	1.8 R	NA	1.9 R	NA	2.1 R	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	2 U	1.9 U	NA	2 U	NA	NA	NA	NA	1.8 U	1.9 U	NA	NA	2.1 U	NA	NA	NA	1.8 U	NA	1.9 U	NA	2.1 U	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	20 U	19 U	NA	20 U	NA	NA	NA	NA	18 U	19 U	NA	NA	21 U	NA	NA	NA	18 U	NA	19 U	NA	21 U	NA	NA	NA
Toxaphene	480	2100	--	--	--	200 U	190 U	NA	200 U	NA	NA	NA	NA	180 U	190 U	NA	NA	210 U	NA	NA	NA	180 U	NA	190 U	NA	210 U	NA	NA	NA

					Property	33 Water St.																							
					Sample Location	33WS-10								33WS-11								33WS-12							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS10-0001-061814X	33WS-SB10-0204-061814X	33WS-SB10-0406-061814X	33WS-SB10-0608-061814X	33WS-SB10-0810-061814X	33WS-SB10-1012-061814X	33WS-SB10-1214-061814X	33WS-SB10-1416-061814X	33WS-SS11-0102-061214X	33WS-SB11-0204-061214X	33WS-SB11-0406-061214X	33WS-SB11-0608-061214X	33WS-SB11-0810-061214X	33WS-SB11-1012-061214X	33WS-SB11-1214-061214X	33WS-SB11-1416-061214X	33WS-SS12-0001-061614X	33WS-SB12-0204-061614X	33WS-SB12-0406-061614X	33WS-SB12-0608-061614X	33WS-SB12-0810-061614X	33WS-SB12-1012-061614X	33WS-SB12-1214-061614X	33WS-SB12-1416-061614X
Metals (mg/kg)																													
Aluminum	**7700**	110000	10000	10000	10700	**11400**	**7180**	NA	**11500**	NA	NA	NA	NA	**17500**	**10000**	NA	NA	**6920**	NA	NA	NA	**11600**	NA	**8890**	NA	**15400**	NA	NA	NA
Antimony	**3.1**	47	1	7	--	0.9 UJ	0.96 UJ	NA	0.9 UJ	NA	NA	NA	NA	0.77 UJ	0.85 UJ	NA	NA	0.89 UJ	NA	NA	NA	0.86 UJ	NA	0.79 UJ	NA	0.88 UJ	NA	NA	NA
Arsenic	**0.67**	**3**	20	20	8.78	**9.5 J**	**14 J**	NA	**11.7 J**	NA	NA	NA	NA	**17.1 J**	**10.8 J**	NA	NA	**4.8 J**	NA	NA	NA	**16.4 J**	NA	**11.3 J**	NA	**6.9 J**	NA	NA	NA
Barium	**1500**	22000	50	50	16	**49.5**	**54.1**	NA	**34.5**	NA	NA	NA	NA	**89.5**	**54.7**	NA	NA	**16.1 J**	NA	NA	NA	**66.2**	NA	**89.6**	NA	**43.5**	NA	NA	NA
Beryllium	16	230	0.4	0.9	0.315	**0.6**	**0.6**	NA	**0.85**	NA	NA	NA	NA	**0.67**	**0.52**	NA	NA	**0.49**	NA	NA	NA	**0.67**	NA	**0.49**	NA	**1.1**	NA	NA	NA
Cadmium	**7**	98	2	3	--	**0.22 J**	**0.17 J**	NA	**0.1 J**	NA	NA	NA	NA	**1.1 J**	**0.53 J**	NA	NA	**0.57 J**	NA	NA	NA	**0.63 J**	NA	**1.1 J**	NA	**0.52 J**	NA	NA	NA
Calcium	--	--	--	--	634	**2620**	**2250**	NA	**1850**	NA	NA	NA	NA	**6560**	**5550**	NA	NA	**1560**	NA	NA	NA	**2570**	NA	**50500**	NA	**1460**	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**109**	**79**	NA	**33.6**	NA	NA	NA	NA	**79.6**	**141**	NA	NA	**20.3**	NA	NA	NA	**225**	NA	**156**	NA	**37.2**	NA	NA	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**7.2 J**	**5.4 J**	NA	**9.5 J**	NA	NA	NA	NA	**22.3**	**9.5**	NA	NA	**6**	NA	NA	NA	**7.5**	NA	**5.6**	NA	**10.4**	NA	NA	NA
Copper	**310**	4700	40	200	6.28	**20.2**	**51.5**	NA	**14.3**	NA	NA	NA	NA	**34**	**32.3**	NA	NA	**9.2**	NA	NA	NA	**28.1**	NA	**26.2**	NA	**16**	NA	NA	NA
Iron	**5500**	**82000**	20000	20000	11200	**16600 J**	**14700 J**	NA	**21100 J**	NA	NA	NA	NA	**42300**	**20100**	NA	NA	**13000**	NA	NA	NA	**17100**	NA	**13600**	NA	**24800**	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**91.6**	**81.1**	NA	**12.7**	NA	NA	NA	NA	**14.8**	**69.9**	NA	NA	**8.1**	NA	NA	NA	**168**	NA	**115**	NA	**15.6**	NA	NA	NA
Magnesium	--	--	5000	5000	2780	**3780**	**1940**	NA	**5070**	NA	NA	NA	NA	**12900**	**4650**	NA	NA	**3290**	NA	NA	NA	**3890**	NA	**4090**	NA	**6460**	NA	NA	NA
Manganese	**180**	**2600**	300	300	155	**328 J**	**209 J**	NA	**393 J**	NA	NA	NA	NA	**651 J**	**291 J**	NA	NA	**188 J**	NA	NA	NA	**418 EB**	NA	**261 EB**	NA	**478 EB**	NA	NA	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.21**	**0.26**	NA	0.1 U	NA	NA	NA	NA	0.11 U	**0.15**	NA	NA	0.11 U	NA	NA	NA	**0.44**	NA	**0.32**	NA	0.12 U	NA	NA	NA
Nickel	**150**	2200	20	30	11.2	**17.1**	**12**	NA	**21.6**	NA	NA	NA	NA	**62.6**	**18.7**	NA	NA	**12.9**	NA	NA	NA	**17.2**	NA	**20.5**	NA	**25.2**	NA	NA	NA
Potassium	--	--	--	--	382	**272 J**	**208 J**	NA	**1650**	NA	NA	NA	NA	**3790**	**1020**	NA	NA	**850**	NA	NA	NA	**684**	NA	**762**	NA	**2560**	NA	NA	NA
Selenium	39	580	0.5	1	--	2.3 U	2.4 U	NA	2.2 U	NA	NA	NA	NA	**0.12 J**	4.2 U	NA	NA	4.5 U	NA	NA	NA	2.2 U	NA	2 U	NA	4.4 U	NA	NA	NA
Silver	39	580	0.6	5	--	0.91 U	0.87 U	NA	0.82 U	NA	NA	NA	NA	0.74 U	0.82 U	NA	NA	0.84 U	NA	NA	NA	0.88 U	NA	0.8 U	NA	0.89 U	NA	NA	NA
Sodium	--	--	--	--	--	**116 J**	**142 J**	NA	**171 J**	NA	NA	NA	NA	**954**	**1710**	NA	NA	**112 J**	NA	NA	NA	**111 J**	NA	**417**	NA	**930**	NA	NA	NA
Thallium	**0.078**	1.2	0.6	5	--	**0.11 J**	**0.14 J**	NA	**0.12 J**	NA	NA	NA	NA	0.38 U	**0.1 J**	NA	NA	**0.068 J**	NA	NA	NA	**0.12 J+**	NA	**0.094 J+**	NA	**0.16 J+**	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**32**	**23.2**	NA	**31.7**	NA	NA	NA	NA	**69.9**	**31.3**	NA	NA	**20.8**	NA	NA	NA	**50**	NA	**98**	NA	**39.8**	NA	NA	NA
Zinc	**2300**	35000	100	300	35.3	**76.6**	**57.8**	NA	**49.3**	NA	NA	NA	NA	**83.8**	**75.9**	NA	NA	**93.5**	NA	NA	NA	**113**	NA	**73.4**	NA	**60.9**	NA	NA	NA
Asbestos (%v/v)																													
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																							
					Sample Location	33WS-10								33WS-11								33WS-12							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS10-0001-061814X	33WS-SB10-0204-061814X	33WS-SB10-0406-061814X	33WS-SB10-0608-061814X	33WS-SB10-0810-061814X	33WS-SB10-1012-061814X	33WS-SB10-1214-061814X	33WS-SB10-1416-061814X	33WS-SS11-0102-061214X	33WS-SB11-0204-061214X	33WS-SB11-0406-061214X	33WS-SB11-0608-061214X	33WS-SB11-0810-061214X	33WS-SB11-1012-061214X	33WS-SB11-1214-061214X	33WS-SB11-1416-061214X	33WS-SS12-0001-061614X	33WS-SB12-0204-061614X	33WS-SB12-0406-061614X	33WS-SB12-0608-061614X	33WS-SB12-0810-061614X	33WS-SB12-1012-061614X	33WS-SB12-1214-061614X	33WS-SB12-1416-061614X
Dioxins/Furans (ng/Kg)																													
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	**211**	NA	NA	NA	NA	NA	NA	NA	**34.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	**7340 J**	NA	NA	NA	NA	NA	NA	NA	**2410**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	**76.2**	NA	NA	NA	NA	NA	NA	NA	**21 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	**385**	NA	NA	NA	NA	NA	NA	NA	**162**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	**4.33 J**	NA	NA	NA	NA	NA	NA	NA	6.39 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	**4.04 J**	NA	NA	NA	NA	NA	NA	NA	3.4 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	**3.51 J**	NA	NA	NA	NA	NA	NA	NA	4.33 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	**2.93 J**	NA	NA	NA	NA	NA	NA	NA	3.52 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	**13.7**	NA	NA	NA	NA	NA	NA	NA	4.67 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	**1.11 J**	NA	NA	NA	NA	NA	NA	NA	2.95 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	**6.11**	NA	NA	NA	NA	NA	NA	NA	4.84 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	**1.58 J**	NA	NA	NA	NA	NA	NA	NA	1.95 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	**1.68 J**	NA	NA	NA	NA	NA	NA	NA	2.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	**4.55 J**	NA	NA	NA	NA	NA	NA	NA	3.48 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	**3.95 J**	NA	NA	NA	NA	NA	NA	NA	**3.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	**1.65**	NA	NA	NA	NA	NA	NA	NA	3.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	**0.618 J**	NA	NA	NA	NA	NA	NA	NA	2.41 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	**236 J**	NA	NA	NA	NA	NA	NA	NA	**51.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	**994 J**	NA	NA	NA	NA	NA	NA	NA	**399 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	**99 J**	NA	NA	NA	NA	NA	NA	NA	**21.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	**108 J**	NA	NA	NA	NA	NA	NA	NA	**24.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	**45.8 J**	NA	NA	NA	NA	NA	NA	NA	**24.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	**25.1 J**	NA	NA	NA	NA	NA	NA	NA	2.1 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	**15.2 J**	NA	NA	NA	NA	NA	NA	NA	2.41 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	**44.2 J**	NA	NA	NA	NA	NA	NA	NA	**6.88 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	**14.2 J**	NA	NA	NA	NA	NA	NA	NA	**3.52 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																						
					Sample Location	33WS-10								33WS-11								33WS-12							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/12/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14	06/16/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS10-0001-061814X	33WS-SB10-0204-061814X	33WS-SB10-0406-061814X	33WS-SB10-0608-061814X	33WS-SB10-0810-061814X	33WS-SB10-1012-061814X	33WS-SB10-1214-061814X	33WS-SB10-1416-061814X	33WS-SS11-0102-061214X	33WS-SB11-0204-061214X	33WS-SB11-0406-061214X	33WS-SB11-0608-061214X	33WS-SB11-0810-061214X	33WS-SB11-1012-061214X	33WS-SB11-1214-061214X	33WS-SB11-1416-061214X	33WS-SS12-0001-061614X	33WS-SB12-0204-061614X	33WS-SB12-0406-061614X	33WS-SB12-0608-061614X	33WS-SB12-0810-061614X	33WS-SB12-1012-061614X	33WS-SB12-1214-061614X	33WS-SB12-1416-061614X
General Chemistry (%)																												
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																												
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																												
Oxidation-Reduction Potential	--	--	--	--	--	**382**	**342**	NA	NA	NA	NA	NA	NA	**188**	**279**	NA	NA	NA	NA	NA	NA	**388**	NA	**-14**	NA	NA	NA	NA	NA
General Chemistry (S.U.)																												
pH	--	--	--	--	--	**6.13**	**7.14**	NA	NA	NA	NA	NA	NA	**9.55**	**8.65**	NA	NA	NA	NA	NA	NA	**7.41**	NA	**11.79**	NA	NA	NA	NA	NA
General Chemistry (ug/g)																												
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																												
Arsenic	**0.67**	**3**	20	20	8.78	**13**	**12**	6 U	**6**	**7**	**15**	**8**	**7**	**18**	**17**	10 U	**6**	5 U	6 U	5 U	6 U	**16**	**19**	**40**	5 U	**6**	6 U	6 U	6 U
Chromium	**12000**	180000	30	40	15.2	**254**	**221**	32 U	**38**	**62**	**80**	**51**	**75**	**135**	**560**	**128**	31 U	**56**	**86**	32 U	**46**	**404**	**307**	**570**	31 U	33 U	40 U	**111**	**49**
Lead	**400**	**800**	100	600	41.8	**95**	**96**	**32**	**18**	**21**	**26**	**25**	**27**	**23**	**142**	**142**	**21**	**19**	**20**	**16**	**23**	**170**	**76**	**206**	**18**	**16**	**25**	**27**	**26**
Mercury	0.94	4	0.3	1	0.0242	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	7 U	6 U	5 U	6 U	6 U	6 U	6 U	6 U	6 U	7 U	7 U	6 U	6 U	6 U	6 U	6 U
Nickel	150	2200	20	30	11.2	31 U	33 U	31 U	31 U	32 U	**38**	32 U	**37**	**119**	**36**	**35**	30 U	30 U	30 U	29 U	34 U	32 U	**110**	**55**	**34**	29 U	32 U	**54**	32 U
PAH Screening (ug/kg)																												
Total PAH	--	--	--	--	--	NA	**2100 J**	**900 J**	10 U	12 U	NA	NA	NA	NA	**3200 J**	**3200 J**	**720 J**	**18**	NA	NA	NA	NA	**2500 J**	**3100 J**	**2300 J**	**420**	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																										
					Sample Location	33WS-13							33WS-14						33WS-15						33WS-16						SB-01		SB-02
					Sample Depth (ft bgs)	0 - 1	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	4 - 4.8	4.9 - 6.4	4 - 6.5
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	04/21/11	04/18/11	04/18/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS13-0001-062014X	33WS-SS13-0102-062014X	33WS-SB13-0204-062014X	33WS-SB13-0406-062014X	33WS-SB13-0608-062014X	33WS-SB13-0810-062014X	33WS-SB13-1012-062014X	33WS-SS14-0001-062314X	33WS-SB14-0204-062314X	33WS-SB14-0406-062314X	33WS-SB14-0608-062314X	33WS-SB14-0810-062314X	33WS-SB14-1012-062314X	33WS-SS15-0001-062614X	33WS-SB15-0204-062614X	33WS-SB15-0406-062614X	33WS-SB15-0608-062614X	33WS-SB15-0810-062614X	33WS-SB15-1012-062614X	33WS-SS16-0102-062614X	33WS-SB16-0204-062614X	33WS-SB16-0406-062614X	33WS-SB16-0608-062614X	33WS-SB16-0810-062614X	33WS-SB16-1012-062614X	SB-01A (4-4.8)	SB-01 (4.9-6.4)	SB-02 (4-6.5)
Volatiles (ug/kg)																																
1,1,1-Trichloroethane	810000	3600000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
1,1,2-Trichloroethane	150	630	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
1,1-Dichloroethane	3600	16000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
1,1-Dichloroethene	23000	100000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
1,2,3-Trichlorobenzene	4900	66000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 UJ
1,2,4-Trichlorobenzene	5800	26000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 UJ
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 UJ
1,2-Dibromoethane	36	160	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
1,2-Dichlorobenzene	180000	930000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 UJ
1,2-Dichloroethane	460	2000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
1,2-Dichloropropane	1000	4400	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
1,3-Dichlorobenzene	--	--	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 UJ
1,4-Dichlorobenzene	2600	11000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 UJ
1,4-Dioxane	5300	23000	--	--	--	NA	120 R	NA	130 R	110 R	NA	NA	110 R	NA	110 R	NA	100 R	NA	110 R	86 R	NA	96 R	NA	NA	99 R	100 R	93 R	NA	NA	NA	NA	130 UJ	99 UJ
2-Butanone	2700000	19000000	--	--	--	NA	12 U	NA	13 U	11 U	NA	NA	11 U	NA	11 U	NA	10 U	NA	11 U	8.6 U	NA	9.6 U	NA	NA	9.9 U	10 U	9.3 U	NA	NA	NA	NA	13 U	9.9 U
2-Hexanone	20000	130000	--	--	--	NA	12 U	NA	13 U	11 U	NA	NA	11 U	NA	11 U	NA	10 U	NA	11 U	8.6 U	NA	9.6 U	NA	NA	9.9 U	10 U	9.3 U	NA	NA	NA	NA	13 U	9.9 R
4-Methyl-2-pentanone	530000	5600000	--	--	--	NA	12 U	NA	13 U	11 U	NA	NA	11 U	NA	11 U	NA	10 U	NA	11 U	8.6 U	NA	9.6 U	NA	NA	9.9 U	10 U	9.3 U	NA	NA	NA	NA	13 U	9.9 R
Acetone	6100000	67000000	--	--	--	NA	**150**	NA	**36**	**7.9 J**	NA	NA	**140 JEB**	NA	**76 EB**	NA	**9.9 JEB**	NA	**31**	**120**	NA	9.6 U	NA	NA	**140**	**55**	**120**	NA	NA	NA	NA	**33 J**	**69 J**
Benzene	1200	5100	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Bromochloromethane	15000	63000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
Bromodichloromethane	290	1300	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Bromoform	67000	290000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	**4.9 J**
Bromomethane	680	3000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 R	NA	NA	5.4 R	NA	5.6 R	NA	5.2 R	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
Carbon disulfide	77000	350000	--	--	--	NA	5.8 R	NA	**7.6 J**	5.4 R	NA	NA	5.4 R	NA	5.6 R	NA	5.2 R	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
Carbon tetrachloride	650	2900	--	--	--	NA	5.8 R	NA	6.6 R	5.4 R	NA	NA	5.4 R	NA	5.6 R	NA	5.2 R	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Chlorobenzene	28000	130000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Chloroethane	1400000	5700000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
Chloroform	320	1400	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
Chloromethane	11000	46000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
cis-1,2-Dichloroethene	16000	230000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
cis-1,3-Dichloropropene	--	--	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Cyclohexane	650000	2700000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Dibromochloromethane	730	3200	--	--	--	NA	5.8 R	NA	6.6 R	5.4 R	NA	NA	5.4 R	NA	5.6 R	NA	5.2 R	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Dichlorodifluoromethane	8700	37000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 UJ	4.9 UJ
Ethylbenzene	5800	25000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Isopropylbenzene	190000	990000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
m,p-Xylene	--	--	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Methyl acetate	7800000	1.2E+08	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	**28 EB**	NA	**2.5 JEB**	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	**4.9**	NA	NA	NA	NA	6.7 U	4.9 U
Methyl tert-butyl ether	47000	210000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
Methylcyclohexane	--	--	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Methylene chloride	35000	320000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	**4.8 J**	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
o-Xylene	65000	280000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Styrene	600000	3500000	--	--	--	NA	5.8 R	NA	6.6 R	5.4 R	NA	NA	5.4 R	NA	5.6 R	NA	5.2 R	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Tetrachloroethene	8100	39000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Toluene	490000	4700000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
trans-1,2-Dichloroethene	160000	2300000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
trans-1,3-Dichloropropene	--	--	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Trichloroethene	410	1900	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 R
Trichlorofluoromethane	73000	310000	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U
Vinyl chloride	59	1700	--	--	--	NA	5.8 U	NA	6.6 U	5.4 U	NA	NA	5.4 U	NA	5.6 U	NA	5.2 U	NA	5.4 U	4.3 U	NA	4.8 U	NA	NA	4.9 U	5.1 U	4.7 U	NA	NA	NA	NA	6.7 U	4.9 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	33WS-13							33WS-14						33WS-15						33WS-16						SB-01		SB-02
					Sample Depth (ft bgs)	0 - 1	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	4 - 4.8	4.9 - 6.4	4 - 6.5
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	04/21/11	04/18/11	04/18/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS13-0001-062014X	33WS-SS13-0102-062014X	33WS-SB13-0204-062014X	33WS-SB13-0406-062014X	33WS-SB13-0608-062014X	33WS-SB13-0810-062014X	33WS-SB13-1012-062014X	33WS-SS14-0001-062314X	33WS-SB14-0204-062314X	33WS-SB14-0406-062314X	33WS-SB14-0608-062314X	33WS-SB14-0810-062314X	33WS-SB14-1012-062314X	33WS-SS15-0001-062614X	33WS-SB15-0204-062614X	33WS-SB15-0406-062614X	33WS-SB15-0608-062614X	33WS-SB15-0810-062614X	33WS-SB15-1012-062614X	33WS-SS16-0102-062614X	33WS-SB16-0204-062614X	33WS-SB16-0406-062614X	33WS-SB16-0608-062614X	33WS-SB16-0810-062614X	33WS-SB16-1012-062614X	SB-01A (4-4.8)	SB-01 (4.9-6.4)	SB-02 (4-6.5)
Semivolatiles (ug/kg)																																
1,1'-Biphenyl	4700	20000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	**120 J**	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,4,5-Trichlorophenol	620000	8200000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,4,6-Trichlorophenol	6200	82000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,4-Dichlorophenol	18000	250000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,4-Dimethylphenol	120000	1600000	--	--	--	NA	180 UJ	NA	230 UJ	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,4-Dinitrophenol	12000	160000	--	--	--	NA	350 U	NA	450 U	410 U	NA	NA	340 U	NA	420 U	NA	410 U	NA	380 UJ	370 UJ	NA	390 UJ	NA	NA	350 UJ	400 UJ	380 UJ	NA	NA	NA	NA	470 UJ	380 UJ
2,4-Dinitrotoluene	1700	7400	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2,6-Dinitrotoluene	360	1500	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2-Chloronaphthalene	630000	9300000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2-Chlorophenol	39000	580000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2-Methylnaphthalene	23000	300000	500	1000	--	NA	**6.4**	NA	**170**	4.1 U	NA	NA	**38 EB**	NA	**9.4 EB**	NA	4.1 U	NA	**14**	**4.3**	NA	3.9 U	NA	NA	**11**	**11**	3.8 U	NA	NA	NA	NA	**120 J**	200 U
2-Methylphenol	310000	4100000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
2-Nitroaniline	61000	800000	--	--	--	NA	350 U	NA	450 U	410 U	NA	NA	340 U	NA	420 U	NA	410 U	NA	380 U	370 U	NA	390 U	NA	NA	350 U	400 U	380 U	NA	NA	NA	NA	470 U	380 U
2-Nitrophenol	--	--	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
3,3'-Dichlorobenzidine	1200	5100	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
3-Nitroaniline	--	--	--	--	--	NA	350 U	NA	450 U	410 U	NA	NA	340 U	NA	420 U	NA	410 U	NA	380 U	370 U	NA	390 U	NA	NA	350 U	400 U	380 U	NA	NA	NA	NA	470 U	380 U
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	NA	350 U	NA	450 U	410 U	NA	NA	340 U	NA	420 U	NA	410 U	NA	380 UJ	370 UJ	NA	390 UJ	NA	NA	350 UJ	400 UJ	380 UJ	NA	NA	NA	NA	470 UJ	380 UJ
4-Bromophenyl-phenylether	--	--	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
4-Chloro-3-methylphenol	620000	8200000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
4-Chloroaniline	2700	12000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
4-Chlorophenyl-phenylether	--	--	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
4-Methylphenol	620000	8200000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
4-Nitroaniline	25000	120000	--	--	--	NA	350 U	NA	450 U	410 U	NA	NA	340 U	NA	420 U	NA	410 U	NA	380 U	370 U	NA	390 U	NA	NA	350 U	400 U	380 U	NA	NA	NA	NA	470 U	380 U
4-Nitrophenol	--	--	--	--	--	NA	350 U	NA	450 U	410 U	NA	NA	340 U	NA	420 U	NA	410 U	NA	380 U	370 U	NA	390 U	NA	NA	350 U	400 U	380 U	NA	NA	NA	NA	470 U	380 U
Acenaphthene	350000	4500000	500	2000	--	NA	**33**	NA	**230 J**	4.1 U	NA	NA	**220 EB**	NA	**33 EB**	NA	4.1 U	NA	**50**	**12**	NA	3.9 U	NA	NA	**58**	**8.6**	3.8 U	NA	NA	NA	NA	**62 J**	**64 J**
Acenaphthylene	--	--	500	1000	--	NA	**23**	NA	**18 J**	4.1 U	NA	NA	**50**	NA	**80**	NA	4.1 U	NA	**31**	**22**	NA	3.9 U	NA	NA	**32**	**25**	3.8 U	NA	NA	NA	NA	**140 J**	200 U
Acetophenone	780000	12000000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	**49 JEB**	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Anthracene	1700000	23000000	1000	4000	--	NA	**160 J**	NA	**490**	4.1 U	NA	NA	**340 J**	NA	**110**	NA	4.1 U	NA	**220 J**	**58 J**	NA	3.9 U	NA	NA	**330**	**32**	3.8 U	NA	NA	NA	NA	**270**	**150 J**
Atrazine	2300	10000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Benzaldehyde	780000	12000000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	NA	**590**	NA	**680**	4.1 U	NA	NA	**1700 J**	NA	**470**	NA	4.1 U	NA	**640**	**150**	NA	**4.3**	NA	NA	**1500**	**190**	3.8 U	NA	NA	NA	NA	**940**	**450**
Benzo(a)pyrene	**15**	**290**	2000	7000	--	NA	**620**	NA	**400 J**	4.1 U	NA	NA	**1500 J**	NA	**580**	NA	4.1 U	NA	**620**	**100**	NA	3.9 U	NA	NA	**1300**	**130**	3.8 U	NA	NA	NA	NA	**540**	**250**
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	NA	**900**	NA	**640**	4.1 U	NA	NA	**2500 J**	NA	**670**	NA	4.1 U	NA	**700**	**180**	NA	3.9 U	NA	NA	**1800**	**330**	3.8 U	NA	NA	NA	NA	**1200**	**440**
Benzo(g,h,i)perylene	--	--	1000	3000	--	NA	**300**	NA	**210 J**	4.1 U	NA	NA	**940 J**	NA	**410**	NA	4.1 U	NA	**200**	**51**	NA	3.9 U	NA	NA	**840**	**66**	3.8 U	NA	NA	NA	NA	240 UJ	200 UJ
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	NA	**310**	NA	**220 J**	4.1 U	NA	NA	**1300 J**	NA	**300**	NA	4.1 U	NA	**220**	**59**	NA	3.9 U	NA	NA	**1200**	**87**	3.8 U	NA	NA	NA	NA	**640**	**170 J**
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Bis(2-chloroethyl)ether	230	1000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	NA	**180**	NA	**660**	210 U	NA	NA	170 UJ	NA	**300**	NA	210 U	NA	**100 J**	**87 J**	NA	200 U	NA	NA	**57 J**	200 U	200 U	NA	NA	NA	NA	**160 J**	**77 J**
Butylbenzylphthalate	280000	1200000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	**51 J**	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Caprolactam	3100000	40000000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Carbazole	--	--	--	--	--	NA	**110 J**	NA	**210 J**	210 U	NA	NA	**290 J**	NA	**47 J**	NA	210 U	NA	**98 J**	190 U	NA	200 U	NA	NA	**310**	200 U	200 U	NA	NA	NA	NA	**84 J**	**48 J**
Chrysene	**15000**	290000	2000	7000	--	NA	**810**	NA	**780**	4.1 U	NA	NA	**2200 J**	NA	**690**	NA	4.1 U	NA	**810**	**150**	NA	**4.7**	NA	NA	**1800**	**340**	3.8 U	NA	NA	NA	NA	**1200**	**430**
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	NA	**56**	NA	**44 J**	4.1 U	NA	NA	**270 J**	NA	**69**	NA	4.1 U	NA	**65**	**18**	NA	3.9 U	NA	NA	**120**	**27**	3.8 U	NA	NA	NA	NA	**110 J**	**47 J**
Dibenzofuran	**7200**	100000	--	--	--	NA	180 U	NA	**190 J**	210 U	NA	NA	**86 J**	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	**50 J**	200 U	200 U	NA	NA	NA	NA	**85 J**	200 U
Diethylphthalate	4900000	66000000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Dimethylphthalate	--	--	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Di-N-Butylphthalate	620000	8200000	--	--	--	NA	**440**	NA	**480**	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Di-N-Octyl Phthalate	62000	820000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Fluoranthene	**230000**	3000000	4000	10000	--	NA	**1300**	NA	**1600**	**4.8**	NA	NA	**5100 J**	NA	**1000**	NA	4.1 U	NA	**1400**	**470**	NA	**4.5**	NA	NA	**4300**	**440**	3.8 U	NA	NA	NA	NA	**1600**	**770**

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																										
					Sample Location	33WS-13							33WS-14						33WS-15						33WS-16						SB-01		SB-02
					Sample Depth (ft bgs)	0 - 1	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	4 - 4.8	4.9 - 6.4	4 - 6.5
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	04/21/11	04/18/11	04/18/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS13-0001-062014X	33WS-SS13-0102-062014X	33WS-SB13-0204-062014X	33WS-SB13-0406-062014X	33WS-SB13-0608-062014X	33WS-SB13-0810-062014X	33WS-SB13-1012-062014X	33WS-SS14-0001-062314X	33WS-SB14-0204-062314X	33WS-SB14-0406-062314X	33WS-SB14-0608-062314X	33WS-SB14-0810-062314X	33WS-SB14-1012-062314X	33WS-SS15-0001-062614X	33WS-SB15-0204-062614X	33WS-SB15-0406-062614X	33WS-SB15-0608-062614X	33WS-SB15-0810-062614X	33WS-SB15-1012-062614X	33WS-SS16-0102-062614X	33WS-SB16-0204-062614X	33WS-SB16-0406-062614X	33WS-SB16-0608-062614X	33WS-SB16-0810-062614X	33WS-SB16-1012-062614X	SB-01A (4-4.8)	SB-01 (4.9-6.4)	SB-02 (4-6.5)
Fluorene	230000	3000000	1000	2000	--	NA	**31**	NA	**280 J**	4.1 U	NA	NA	**160**	NA	**33**	NA	4.1 U	NA	**53 J**	**13**	NA	3.9 U	NA	NA	**65**	**12**	3.8 U	NA	NA	NA	NA	**71 J**	**54 J**
Hexachlorobenzene	330	1400	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Hexachlorobutadiene	6200	30000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Hexachlorocyclopentadiene	37000	490000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 UJ	NA	220 U	NA	210 U	NA	190 UJ	190 UJ	NA	200 UJ	NA	NA	180 UJ	200 UJ	200 UJ	NA	NA	NA	NA	240 UJ	200 UJ
Hexachloroethane	4300	58000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	NA	**290**	NA	**230 J**	4.1 U	NA	NA	**830 J**	NA	**370**	NA	4.1 U	NA	**220**	**59**	NA	3.9 U	NA	NA	**710**	**81**	3.8 U	NA	NA	NA	NA	**280**	**110 J**
Isophorone	560000	2400000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Naphthalene	**3800**	17000	500	1000	--	NA	**6.2**	NA	**270**	4.1 U	NA	NA	**56 EB**	NA	**12 EB**	NA	4.1 U	NA	**17**	**8.2**	NA	3.9 U	NA	NA	**11**	**9.2**	3.8 U	NA	NA	NA	NA	**150 J**	200 U
Nitrobenzene	5100	22000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
N-Nitrosodiphenylamine	110000	470000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Pentachlorophenol	990	4000	--	--	--	NA	**12 J**	NA	**31 J**	410 UJ	NA	NA	**18 J**	NA	**16 J**	NA	410 UJ	NA	**70 J**	**22 J**	NA	390 U	NA	NA	**11 J**	400 U	380 U	NA	NA	NA	NA	470 U	380 U
Phenanthrene	--	--	3000	20000	--	NA	**710**	NA	**2400**	**4.6**	NA	NA	**2100 J**	NA	**420**	NA	4.1 U	NA	**870**	**260**	NA	3.9 U	NA	NA	**2100**	**250**	3.8 U	NA	NA	NA	NA	**940**	**690**
Phenol	1800000	25000000	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	220 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U
Pyrene	**170000**	2300000	4000	20000	--	NA	**1300**	NA	**1600**	**5.6**	NA	NA	**5000**	NA	**890**	NA	4.1 U	NA	**1300**	**450**	NA	**4.5**	NA	NA	**3200**	**450**	3.8 U	NA	NA	NA	NA	**1600**	**930**
	Pesticides/PCBs (ug/kg)																																
4,4'-DDD	2200	9600	--	--	--	NA	3.5 U	NA	4.5 U	4.1 U	NA	NA	3.4 U	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	**16 J**	3.8 U
4,4'-DDE	1600	6800	--	--	--	NA	3.5 R	NA	4.5 R	4.1 U	NA	NA	**4.9 J**	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	**9.1 J**	3.8 U
4,4'-DDT	1900	8600	--	--	--	NA	**7.1 J**	NA	4.5 R	4.1 U	NA	NA	**16 J**	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	**25 J**	**3.9 J**
Aldrin	31	140	--	--	--	NA	1.8 R	NA	2.3 R	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	**2.4 J**	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
alpha-BHC	85	370	--	--	--	NA	1.8 R	NA	2.3 R	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	1.9 U	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
Alpha-Chlordane	--	--	--	--	--	NA	1.8 U	NA	2.3 U	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	1.9 U	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.1 R	2 U
Aroclor 1016	400	5200	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1221	150	660	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1232	150	660	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1242	240	1000	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1248	**240**	1000	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	**150**	**150**	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1254	**110**	1000	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1260	**240**	**1000**	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1262	--	--	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
Aroclor 1268	--	--	--	--	--	NA	35 U	NA	44 U	41 U	NA	NA	34 U	NA	42 U	NA	40 U	NA	38 U	37 U	NA	40 U	NA	NA	35 U	39 U	39 U	NA	NA	NA	39 U	48 U	38 U
beta-BHC	300	1300	--	--	--	NA	1.8 U	NA	2.3 U	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	1.9 U	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	1.5 R
delta-BHC	--	--	--	--	--	NA	**2.2 J**	NA	2.3 R	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	**4.9**	**5.1**	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
Dieldrin	33	140	--	--	--	NA	3.5 U	NA	4.5 U	4.1 U	NA	NA	3.4 U	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	4.8 U	3.8 U
Endosulfan I	--	--	--	--	--	NA	1.8 U	NA	2.3 U	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	1.9 U	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
Endosulfan II	--	--	--	--	--	NA	3.5 U	NA	4.5 U	4.1 U	NA	NA	3.4 U	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	4.8 U	3.8 U
Endosulfan Sulfate	--	--	--	--	--	NA	3.5 R	NA	4.5 R	4.1 U	NA	NA	**4.4 J**	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	8.7 R	6.9 R
Endrin	1800	25000	--	--	--	NA	3.5 U	NA	4.5 U	4.1 U	NA	NA	3.4 U	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	3.5 R	3.8 U
Endrin Aldehyde	--	--	--	--	--	NA	3.5 U	NA	4.5 U	4.1 U	NA	NA	**3.7 J**	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	**6.4**	3.2 R
Endrin Ketone	--	--	--	--	--	NA	3.5 U	NA	4.5 U	4.1 U	NA	NA	**5.6 J**	NA	4.2 U	NA	4 U	NA	3.7 U	3.7 U	NA	3.9 U	NA	NA	3.5 U	4 U	3.8 U	NA	NA	NA	NA	**8.8 J**	3.9 R
gamma-BHC (Lindane)	560	2500	--	--	--	NA	1.8 R	NA	2.3 R	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	1.9 U	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
gamma-Chlordane	--	--	--	--	--	NA	**10 J**	NA	**4 J**	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	1.9 U	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
Heptachlor	120	510	--	--	--	NA	1.8 R	NA	2.3 R	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	1.9 U	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
Heptachlor Epoxide	59	250	--	--	--	NA	1.8 U	NA	2.3 U	2.1 U	NA	NA	1.7 U	NA	2.1 U	NA	2.1 U	NA	**3 J**	1.9 U	NA	2 U	NA	NA	1.8 U	2 U	2 U	NA	NA	NA	NA	2.4 U	2 U
Methoxychlor	31000	410000	--	--	--	NA	18 U	NA	23 U	21 U	NA	NA	17 U	NA	21 U	NA	21 U	NA	19 U	19 U	NA	20 U	NA	NA	18 U	20 U	20 U	NA	NA	NA	NA	24 U	20 U
Toxaphene	480	2100	--	--	--	NA	180 U	NA	230 U	210 U	NA	NA	170 U	NA	210 U	NA	210 U	NA	190 U	190 U	NA	200 U	NA	NA	180 U	200 U	200 U	NA	NA	NA	NA	240 U	200 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	33WS-13							33WS-14						33WS-15						33WS-16						SB-01		SB-02
					Sample Depth (ft bgs)	0 - 1	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	4 - 4.8	4.9 - 6.4	4 - 6.5
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	04/21/11	04/18/11	04/18/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS13-0001-062014X	33WS-SS13-0102-062014X	33WS-SB13-0204-062014X	33WS-SB13-0406-062014X	33WS-SB13-0608-062014X	33WS-SB13-0810-062014X	33WS-SB13-1012-062014X	33WS-SS14-0001-062314X	33WS-SB14-0204-062314X	33WS-SB14-0406-062314X	33WS-SB14-0608-062314X	33WS-SB14-0810-062314X	33WS-SB14-1012-062314X	33WS-SS15-0001-062614X	33WS-SB15-0204-062614X	33WS-SB15-0406-062614X	33WS-SB15-0608-062614X	33WS-SB15-0810-062614X	33WS-SB15-1012-062614X	33WS-SS16-0102-062614X	33WS-SB16-0204-062614X	33WS-SB16-0406-062614X	33WS-SB16-0608-062614X	33WS-SB16-0810-062614X	33WS-SB16-1012-062614X	SB-01A (4-4.8)	SB-01 (4.9-6.4)	SB-02 (4-6.5)
Metals (mg/kg)																																
Aluminum	**7700**	110000	10000	10000	10700	NA	**13100**	NA	**23800**	**17900**	NA	NA	**9740 J**	NA	**23700 J**	NA	**22400 J**	NA	**10700**	**10200**	NA	**23500**	NA	NA	**10600**	**10100**	**14600**	NA	NA	NA	NA	**19600**	**17000**
Antimony	**3.1**	47	1	7	--	NA	**0.77 J**	NA	1 U	**0.55 J**	NA	NA	**0.45 J-**	NA	0.85 U	NA	**1.1 J-**	NA	0.84 U	0.81 U	NA	**0.62 J**	NA	NA	**0.47 J**	0.81 U	**0.39 J**	NA	NA	NA	NA	R	R
Arsenic	**0.67**	**3**	20	20	8.78	NA	**11.8**	NA	**363**	**10**	NA	NA	**9.4**	NA	**13.7**	NA	**18.6**	NA	**11**	**7.7**	NA	**10.4**	NA	NA	**13.1**	**18.5**	**6.1**	NA	NA	NA	NA	**326 ***	**39.2**
Barium	**1500**	22000	50	50	16	NA	**251**	NA	**84.9**	**43.1**	NA	NA	**41.5**	NA	**54.1**	NA	**66.9**	NA	**43.8**	**42.3**	NA	**63.9**	NA	NA	**141**	**47.3**	**39.8**	NA	NA	NA	NA	**177**	**91.6**
Beryllium	16	230	0.4	0.9	0.315	NA	**0.57**	NA	**1.5**	**1.3**	NA	NA	**0.52**	NA	**1.3**	NA	**1.7**	NA	**0.62**	**0.55**	NA	**1.5**	NA	NA	**0.51**	**0.59**	**0.85**	NA	NA	NA	NA	**1.2 J**	**1.2 J**
Cadmium	**7**	98	2	3	--	NA	0.38 UJ	NA	0.53 UJ	0.43 UJ	NA	NA	**0.37 J**	NA	**0.47 J**	NA	**0.61 J**	NA	**0.66 J**	**0.38 J**	NA	**0.46 J**	NA	NA	**0.46 J**	**0.24 J**	**0.27 J**	NA	NA	NA	NA	**0.91 J**	**0.28 J**
Calcium	--	--	--	--	634	NA	**9660**	NA	**3530**	**1320**	NA	NA	**2150**	NA	**1270**	NA	**3090**	NA	**4610**	**7580**	NA	**1730**	NA	NA	**24900**	**6210 J**	**1830**	NA	NA	NA	NA	**8800**	**3890**
Chromium	**12000**	180000	30	40	15.2	NA	**123**	NA	**2480**	**94**	NA	NA	**64.8**	NA	**1440**	NA	**71.6**	NA	**1030**	**1010**	NA	**38.2**	NA	NA	**38.6**	**303**	**22.6**	NA	NA	NA	NA	**382**	**870 ***
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	NA	0.5 UJ	NA	**3.3 J**	NA	NA	NA	**3.9 J**	NA	**3.8 J**	NA	NA	NA	0.5 UJ	0.5 UJ	NA	NA	NA	NA	**0.8 J**	0.5 UJ	NA	NA	NA	NA	NA	2 U	**36**
Cobalt	**2.3**	**35**	4	4	5.68	NA	**18.1**	NA	**16.1**	**13.5**	NA	NA	**6.4**	NA	**10.7**	NA	**17.3**	NA	**7.9 J**	**5.8 J**	NA	**13.7 J**	NA	NA	**12.2 J**	**8.7**	**8.3 J**	NA	NA	NA	NA	**12**	**7.3**
Copper	**310**	4700	40	200	6.28	NA	**38.2 J**	NA	**40.8 J**	**16 J**	NA	NA	**22.3**	NA	**56.7**	NA	**24.2**	NA	**18.7**	**15.5**	NA	**16.7**	NA	NA	**19**	**20.5**	**10.2**	NA	NA	NA	NA	**196 J**	**23.7 J**
Iron	**5500**	**82000**	20000	20000	11200	NA	**33400**	NA	**42700**	**23500**	NA	NA	**14400**	NA	**39300**	NA	**38500**	NA	**17700**	**13600**	NA	**28400**	NA	NA	**21600**	**17200 J**	**18400**	NA	NA	NA	NA	**41200 J**	**24400 J**
Lead	**400**	**800**	100	600	41.8	NA	**85.5 J+**	NA	**193 J+**	**20.3 J+**	NA	NA	**79.1**	NA	**28.3**	NA	**22.3**	NA	**70.1**	**69.4**	NA	**15.1**	NA	NA	**96.8**	**48.3**	**27**	NA	NA	NA	NA	**540 J**	**55.2 J**
Magnesium	--	--	5000	5000	2780	NA	**11700**	NA	**7870**	**6130**	NA	NA	**3200 J**	NA	**7590 J**	NA	**9210 J**	NA	**3880**	**2830**	NA	**6610**	NA	NA	**6580**	**4040**	**4250**	NA	NA	NA	NA	**7140**	**5510**
Manganese	**180**	**2600**	300	300	155	NA	**459**	NA	**534**	**294**	NA	NA	**269 J**	NA	**495 J**	NA	**526 J**	NA	**288**	**181**	NA	**506**	NA	NA	**373**	**318 J**	**433**	NA	NA	NA	NA	**560 J**	**292 J**
Mercury	**0.94**	**4**	0.3	1	0.0242	NA	**1.6**	NA	**0.17**	**0.0075 J**	NA	NA	**0.12**	NA	**0.027 J**	NA	**0.0069 J**	NA	**0.29**	**0.17**	NA	**0.0027 J**	NA	NA	**0.074 J**	**0.11**	**0.057 J**	NA	NA	NA	NA	**1.2**	**0.22**
Nickel	**150**	2200	20	30	11.2	NA	**57**	NA	**36.5**	**25.7**	NA	NA	**15.6**	NA	**26.4**	NA	**44.6**	NA	**18.5 J**	**14.7 J**	NA	**25.6 J**	NA	NA	**25.5 J**	**14.7**	**16.8 J**	NA	NA	NA	NA	**30.8**	**22.6**
Potassium	--	--	--	--	382	NA	**1840**	NA	**3100**	**1780**	NA	NA	**527 J**	NA	**1670 J**	NA	**4180 J**	NA	**673**	384 U	NA	**1870**	NA	NA	**1200**	**747 J**	**802**	NA	NA	NA	NA	**1510 J**	**2260 J**
Selenium	39	580	0.5	1	--	NA	2.7 U	NA	3.7 U	3 U	NA	NA	**2.4 J**	NA	**5.8**	NA	**5.4**	NA	**2.7 J**	**2.2 J**	NA	**4.4**	NA	NA	**3.5**	**3**	**2.8 J**	NA	NA	NA	NA	R	3.2 U
Silver	39	580	0.6	5	--	NA	0.77 U	NA	1.1 U	0.86 U	NA	NA	0.77 U	NA	0.85 U	NA	0.94 U	NA	0.78 U	0.77 U	NA	0.91 U	NA	NA	0.78 U	0.79 U	0.83 U	NA	NA	NA	NA	**0.84 J**	**0.43 J**
Sodium	--	--	--	--	--	NA	**486**	NA	**757**	**754**	NA	NA	**121 J**	NA	**813**	NA	**797**	NA	**107 J**	**109 J**	NA	**214 J**	NA	NA	**622**	**249 J**	**253 J**	NA	NA	NA	NA	R	R
Thallium	**0.078**	1.2	0.6	5	--	NA	**0.19 J+**	NA	**0.3 J+**	**0.32 J+**	NA	NA	**0.11 J**	NA	**0.21 J**	NA	**0.33 J**	NA	**0.12 J**	**0.076 J**	NA	**0.23 J**	NA	NA	**0.14 J**	**0.1 J**	**0.11 J**	NA	NA	NA	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	NA	**53.7**	NA	**68.6**	**45.7**	NA	NA	**25.3**	NA	**63.7**	NA	**58.9**	NA	**29.5**	**20.4**	NA	**48.2**	NA	NA	**33.1**	**28.9**	**31.1**	NA	NA	NA	NA	**145**	**77**
Zinc	**2300**	35000	100	300	35.3	NA	**191 J+**	NA	**170 J+**	**65.6 J+**	NA	NA	**82.1**	NA	**89.5**	NA	**85**	NA	**67.9**	**63.6**	NA	**54.4**	NA	NA	**113**	**45.3**	**41.7**	NA	NA	NA	NA	**322 J**	**85 J**
Asbestos (%v/v)																																
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	33WS-13							33WS-14						33WS-15						33WS-16						SB-01		SB-02
					Sample Depth (ft bgs)	0 - 1	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	4 - 4.8	4.9 - 6.4	4 - 6.5
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	04/21/11	04/18/11	04/18/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS13-0001-062014X	33WS-SS13-0102-062014X	33WS-SB13-0204-062014X	33WS-SB13-0406-062014X	33WS-SB13-0608-062014X	33WS-SB13-0810-062014X	33WS-SB13-1012-062014X	33WS-SS14-0001-062314X	33WS-SB14-0204-062314X	33WS-SB14-0406-062314X	33WS-SB14-0608-062314X	33WS-SB14-0810-062314X	33WS-SB14-1012-062314X	33WS-SS15-0001-062614X	33WS-SB15-0204-062614X	33WS-SB15-0406-062614X	33WS-SB15-0608-062614X	33WS-SB15-0810-062614X	33WS-SB15-1012-062614X	33WS-SS16-0102-062614X	33WS-SB16-0204-062614X	33WS-SB16-0406-062614X	33WS-SB16-0608-062614X	33WS-SB16-0810-062614X	33WS-SB16-1012-062614X	SB-01A (4-4.8)	SB-01 (4.9-6.4)	SB-02 (4-6.5)
Dioxins/Furans (ng/Kg)																																
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**455**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**233**	**101**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	**27800 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**17500 JEB**	**3170 JEB**
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**65.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**109**	**30.3**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	**731**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**588**	**200**
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**7.55**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.22 J**	**1.91 J**
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**2.48 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.97 J**	**1.73 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	**2.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	5.4 U	**1.68 J**
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**1.55 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.79 J**	**1.52 J**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	**15.5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**16.5 J**	**6.93**
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**0.758 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.78 U	**0.474 J**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	**3.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**12.6 J**	**2.14 J**
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**0.959 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2.48 U	**0.677 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	**1.05 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.9 J**	**2.63 J**
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**6.06**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.24 J**	**1.94 J**
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**1.76 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.42 J**	**2.25 J**
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	**1.56**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.98 U	1.12 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	**1.52**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.18 U	**0.561 J**
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	**356 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	**2140 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	**96.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	**228 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	**16.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	**32 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	**5.54 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	**24.6 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	**23.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**22.1 J**	**8.83 J**

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	33WS-13							33WS-14						33WS-15						33WS-16						SB-01		SB-02
					Sample Depth (ft bgs)	0 - 1	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	4 - 4.8	4.9 - 6.4	4 - 6.5
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	06/26/14	04/21/11	04/18/11	04/18/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	33WS-SS13-0001-062014X	33WS-SS13-0102-062014X	33WS-SB13-0204-062014X	33WS-SB13-0406-062014X	33WS-SB13-0608-062014X	33WS-SB13-0810-062014X	33WS-SB13-1012-062014X	33WS-SS14-0001-062314X	33WS-SB14-0204-062314X	33WS-SB14-0406-062314X	33WS-SB14-0608-062314X	33WS-SB14-0810-062314X	33WS-SB14-1012-062314X	33WS-SS15-0001-062614X	33WS-SB15-0204-062614X	33WS-SB15-0406-062614X	33WS-SB15-0608-062614X	33WS-SB15-0810-062614X	33WS-SB15-1012-062614X	33WS-SS16-0102-062614X	33WS-SB16-0204-062614X	33WS-SB16-0406-062614X	33WS-SB16-0608-062614X	33WS-SB16-0810-062614X	33WS-SB16-1012-062614X	SB-01A (4-4.8)	SB-01 (4.9-6.4)	SB-02 (4-6.5)
General Chemistry (%)																																
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	**7.7 J**	NA	NA	NA	NA	NA	0.14 U	NA	NA	NA	**1.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	**4.7 J**	NA	NA	NA	NA	NA	**0.65 J**	NA	NA	NA	**3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																																
Salinity	--	--	--	--	--	NA	NA	NA	**1400**	NA	NA	NA	NA	NA	1000 U	NA	NA	NA	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																																
Oxidation-Reduction Potential	--	--	--	--	--	NA	**204**	NA	**192**	NA	NA	NA	**481**	NA	**431**	NA	NA	NA	**471**	**402**	NA	NA	NA	NA	**361**	**389**	NA	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																																
pH	--	--	--	--	--	NA	**9.08**	NA	**7.97**	NA	NA	NA	**5.89**	NA	**6.39**	NA	NA	NA	**7.47**	**7.18**	NA	NA	NA	NA	**7.81**	**7.49**	NA	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																																
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	**230 J**	NA	NA	NA	NA	NA	**18 J**	NA	NA	NA	**53 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	**230 J**	NA	NA	NA	NA	NA	**18 J**	NA	NA	NA	**53 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	**440**	NA	NA	NA	NA	NA	**120**	NA	NA	NA	**5**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	0.3 U	NA	NA	NA	NA	NA	**0.51**	NA	NA	NA	**2.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	**780**	NA	NA	NA	NA	NA	**54**	NA	NA	NA	**6**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																																
Arsenic	**0.67**	**3**	20	20	8.78	**30**	NA	**21**	**199**	6 U	**18**	**13**	**12**	12 U	**9**	**16**	**19**	**20**	**16**	8 U	7 U	**6**	**16**	6 U	**37**	**18**	6 U	**16**	**9**	**6**	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**304**	NA	**527**	**11900**	34 U	**83**	**79**	**161**	**180**	**1308**	**107**	**57**	**77**	**5037**	**3149**	**108**	32 U	**121**	36 U	**210**	**2005**	36 U	32 U	37 U	**52**	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**135**	NA	**31**	**225**	**27**	**30**	**27**	**102**	**155**	**48**	**31**	**27**	**33**	**73**	**67**	**46**	**18**	**25**	**31**	**90**	**54**	**34**	**19**	**21**	**27**	NA	NA	NA
Mercury	0.94	4	0.3	1	0.0242	8 U	NA	7 U	6 U	6 U	7 U	7 U	7 U	6 U	7 U	7 U	7 U	7 U	6 U	6 U	6 U	6 U	6 U	6 U	8 U	6 U	6 U	6 U	6 U	6 U	NA	NA	NA
Nickel	150	2200	20	30	11.2	**73**	NA	**42**	31 U	32 U	35 U	34 U	34 U	35 U	35 U	35 U	36 U	**43**	33 U	33 U	**46**	30 U	**42**	32 U	**43**	**38**	32 U	31 U	33 U	32 U	NA	NA	NA
PAH Screening (ug/kg)																																
Total PAH	--	--	--	--	--	NA	NA	**2000 J**	**2200 J**	**24**	**17**	NA	NA	**3600 J**	**390**	**260**	10 U	NA	NA	**1800 J**	**510 J**	10 U	10 U	NA	NA	**1800 J**	10 U	10 U	10 U	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																											
					Sample Location	SB-03	SB-05		SB-06		SB-07		SB-08		SB-09		SB-10	SB-11		SS-01		SS-02		SS-03		SS-04		SS-05		SS-06		SS-07	
					Sample Depth (ft bgs)	4 - 8	4.4 - 6.3	8.5 - 10	4 - 8	8 - 10.5	0.5 - 1.7	8 - 9.3	5.3 - 7	8.9 - 11	4 - 5.9	5.9 - 7.9	4 - 4.8	4 - 6.4	8 - 12	0 - 1.7	2 - 3	0 - 1	1 - 3	0.3 - 1	2 - 3	0 - 1	1 - 1.5	0.5 - 1.7	1 - 3	0 - 2	1 - 3	0.5 - 1.7	1 - 3
					Sample Date	04/19/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SB-03 (4-8)	SB-05A (4.4-6.3)	SB-05B (8.5-10)	SB-06A (4-8)	SB-06B (8-10.5)	SB-07A (0.5-1.7)	SB-07B (8-9.3)	SB-08A (5.3-7)	SB-08B (8.9-11)	SB-09A (4-5.9)	SB-09B (5.9-7.9)	SB-10A (4-4.8)	SB-11A (4-6.4)	SB-11B (8-12)	SS-01A (0-1.7)	SS-01C (2-3)	SS-02A (0-1)	SS-02C (1-3)	SS-03A (0.3-1)	SS-03C (2-3)	SS-04A (0-1)	SS-04C (1-1.5)	SS-05A (0.5-1.7)	SS-05C (1-3)	SS-06A (0-2)	SS-06C (1-3)	SS-07A (0.5-1.7)	SS-07C (1-3)
Volatiles (ug/kg)																																	
1,1,1-Trichloroethane	810000	3600000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,1,2-Trichloroethane	150	630	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,1-Dichloroethane	3600	16000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,1-Dichloroethene	23000	100000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 UJ	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 UJ	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 UJ	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 UJ	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 UJ	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 UJ	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 UJ	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 UJ	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 UJ	NA
1,2-Dibromoethane	36	160	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 UJ	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 UJ	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 UJ	NA
1,2-Dichloroethane	460	2000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,2-Dichloropropane	1000	4400	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
1,3-Dichlorobenzene	--	--	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 UJ	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 UJ	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 UJ	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 UJ	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 UJ	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 UJ	NA
1,4-Dioxane	5300	23000	--	--	--	130 UJ	130 UJ	95 UJ	96 UJ	110 UJ	99 UJ	120 UJ	120 UJ	110 UJ	110 UJ	110 UJ	95 UJ	150 UJ	100 UJ	110 UJ	NA	120 UJ	NA	120 UJ	NA	100 UJ	NA	99 UJ	NA	130 UJ	NA	95 UJ	NA
2-Butanone	2700000	19000000	--	--	--	13 U	13 U	9.5 U	9.6 U	11 U	9.9 U	12 U	**33 J**	**16**	11 U	11 U	9.5 U	15 U	10 U	11 U	NA	12 U	NA	12 U	NA	10 U	NA	9.9 U	NA	13 U	NA	9.5 U	NA
2-Hexanone	20000	130000	--	--	--	13 U	13 U	9.5 U	9.6 U	11 U	9.9 U	12 U	12 U	11 U	11 U	11 U	9.5 U	15 U	10 U	11 U	NA	12 U	NA	12 U	NA	10 U	NA	9.9 U	NA	13 U	NA	9.5 U	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	13 U	13 U	9.5 U	9.6 U	11 U	9.9 U	12 U	12 U	11 U	11 U	11 U	9.5 U	15 U	10 U	11 U	NA	12 U	NA	12 U	NA	10 U	NA	9.9 U	NA	13 U	NA	9.5 U	NA
Acetone	6100000	67000000	--	--	--	**65 J**	**130 J**	**22 J**	**49 J**	**27 J**	**97 J**	**17 J**	**110 J**	**48 J**	**66 J**	**17 J**	**54**	15 U	10 U	**100 J**	NA	**120 J**	NA	**30 J**	NA	**65 J**	NA	**62 J**	NA	**92 J**	NA	**130 J**	NA
Benzene	1200	5100	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Bromochloromethane	15000	63000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Bromodichloromethane	290	1300	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Bromoform	67000	290000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 UJ	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 UJ	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 UJ	NA
Bromomethane	680	3000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Carbon disulfide	77000	350000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	**10**	**21**	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Carbon tetrachloride	650	2900	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Chlorobenzene	28000	130000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Chloroethane	1400000	5700000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Chloroform	320	1400	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Chloromethane	11000	46000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 UJ	5.3 UJ	4.7 UJ	7.5 UJ	5.1 UJ	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
cis-1,3-Dichloropropene	--	--	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Cyclohexane	650000	2700000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Dibromochloromethane	730	3200	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Dichlorodifluoromethane	8700	37000	--	--	--	6.7 UJ	6.3 UJ	4.8 UJ	4.8 UJ	5.5 UJ	5 UJ	5.8 UJ	5.8 UJ	5.3 UJ	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 UJ	NA	5.9 UJ	NA	6 UJ	NA	5 UJ	NA	5 UJ	NA	6.4 UJ	NA	4.7 UJ	NA
Ethylbenzene	5800	25000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Isopropylbenzene	190000	990000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	**18**	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
m,p-Xylene	--	--	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Methyl acetate	7800000	1.2E+08	--	--	--	6.7 U	**11**	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Methyl tert-butyl ether	47000	210000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Methylcyclohexane	--	--	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Methylene chloride	35000	320000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	**41**	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
o-Xylene	65000	280000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Styrene	600000	3500000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Tetrachloroethene	8100	39000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Toluene	490000	4700000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
trans-1,3-Dichloropropene	--	--	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Trichloroethene	410	1900	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Trichlorofluoromethane	73000	310000	--	--	--	6.7 U	6.3 UJ	4.8 UJ	4.8 UJ	5.5 UJ	5 UJ	5.8 UJ	5.8 UJ	5.3 UJ	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 UJ	NA	5 U	NA	6.4 U	NA	4.7 U	NA
Vinyl chloride	59	1700	--	--	--	6.7 U	6.3 U	4.8 U	4.8 U	5.5 U	5 U	5.8 U	5.8 U	5.3 U	5.7 U	5.3 U	4.7 U	7.5 U	5.1 U	5.3 U	NA	5.9 U	NA	6 U	NA	5 U	NA	5 U	NA	6.4 U	NA	4.7 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																											
					Sample Location	SB-03	SB-05		SB-06		SB-07		SB-08		SB-09		SB-10	SB-11		SS-01		SS-02		SS-03		SS-04		SS-05		SS-06		SS-07	
					Sample Depth (ft bgs)	4 - 8	4.4 - 6.3	8.5 - 10	4 - 8	8 - 10.5	0.5 - 1.7	8 - 9.3	5.3 - 7	8.9 - 11	4 - 5.9	5.9 - 7.9	4 - 4.8	4 - 6.4	8 - 12	0 - 1.7	2 - 3	0 - 1	1 - 3	0.3 - 1	2 - 3	0 - 1	1 - 1.5	0.5 - 1.7	1 - 3	0 - 2	1 - 3	0.5 - 1.7	1 - 3
					Sample Date	04/19/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SB-03 (4-8)	SB-05A (4.4-6.3)	SB-05B (8.5-10)	SB-06A (4-8)	SB-06B (8-10.5)	SB-07A (0.5-1.7)	SB-07B (8-9.3)	SB-08A (5.3-7)	SB-08B (8.9-11)	SB-09A (4-5.9)	SB-09B (5.9-7.9)	SB-10A (4-4.8)	SB-11A (4-6.4)	SB-11B (8-12)	SS-01A (0-1.7)	SS-01C (2-3)	SS-02A (0-1)	SS-02C (1-3)	SS-03A (0.3-1)	SS-03C (2-3)	SS-04A (0-1)	SS-04C (1-1.5)	SS-05A (0.5-1.7)	SS-05C (1-3)	SS-06A (0-2)	SS-06C (1-3)	SS-07A (0.5-1.7)	SS-07C (1-3)
Semivolatiles (ug/kg)																																	
1,1'-Biphenyl	4700	20000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 UJ	200 U	190 U	200 U	**71 J**	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2,4-Dichlorophenol	18000	250000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2,4-Dinitrophenol	12000	160000	--	--	--	510 UJ	440 UJ	400 UJ	400 UJ	440 UJ	390 UJ	400 UJ	390 UJ	430 UJ	390 UJ	380 UJ	380 UJ	510 UJ	430 UJ	370 UJ	NA	360 UJ	NA	400 UJ	NA	360 U	NA	360 UJ	NA	440 UJ	NA	370 UJ	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	200 UJ	210 UJ	200 UJ	220 UJ	200 UJ	190 UJ	200 UJ	260 UJ	220 UJ	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 UJ	NA	230 U	NA	190 UJ	NA
2,6-Dinitrotoluene	360	1500	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2-Chloronaphthalene	630000	9300000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2-Chlorophenol	39000	580000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2-Methylnaphthalene	23000	300000	500	1000	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	**190 J**	220 U	**38 J**	NA	**42 J**	NA	**76 J**	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2-Methylphenol	310000	4100000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
2-Nitroaniline	61000	800000	--	--	--	510 U	440 U	400 U	400 U	440 U	390 U	400 U	390 U	430 U	390 U	380 U	380 U	510 U	430 U	370 U	NA	360 U	NA	400 U	NA	360 U	NA	360 U	NA	440 U	NA	370 U	NA
2-Nitrophenol	--	--	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
3-Nitroaniline	--	--	--	--	--	510 U	440 U	400 U	400 U	440 U	390 U	400 U	390 U	430 U	390 U	380 U	380 U	510 U	430 U	370 U	NA	360 U	NA	400 U	NA	360 U	NA	360 U	NA	440 U	NA	370 U	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	510 UJ	440 UJ	400 UJ	400 UJ	440 UJ	390 UJ	400 UJ	390 UJ	430 UJ	390 UJ	380 UJ	380 UJ	510 UJ	430 UJ	370 UJ	NA	360 UJ	NA	400 UJ	NA	360 U	NA	360 UJ	NA	440 UJ	NA	370 UJ	NA
4-Bromophenyl-phenylether	--	--	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	200 UJ	210 UJ	200 UJ	220 UJ	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 UJ	NA	230 U	NA	190 UJ	NA
4-Chloroaniline	2700	12000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
4-Methylphenol	620000	8200000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
4-Nitroaniline	25000	120000	--	--	--	510 U	440 UJ	400 UJ	400 UJ	440 UJ	390 UJ	400 UJ	390 UJ	430 UJ	390 UJ	380 UJ	380 UJ	510 UJ	430 UJ	370 U	NA	360 U	NA	400 U	NA	360 U	NA	360 UJ	NA	440 U	NA	370 UJ	NA
4-Nitrophenol	--	--	--	--	--	510 U	440 U	400 U	400 U	440 U	390 U	400 U	390 U	430 U	390 U	380 U	380 U	510 U	430 U	370 U	NA	360 U	NA	400 U	NA	360 U	NA	360 U	NA	440 U	NA	370 U	NA
Acenaphthene	350000	4500000	500	2000	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	**220 J**	220 U	**150 J**	NA	**180 J**	NA	200 U	NA	180 U	NA	**73 J**	NA	230 U	NA	**140 J**	NA
Acenaphthylene	--	--	500	1000	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	**46 J**	**740**	220 U	**46 J**	NA	**120 J**	NA	200 U	NA	180 U	NA	**45 J**	NA	**420**	NA	**53 J**	NA
Acetophenone	780000	12000000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Anthracene	1700000	23000000	1000	4000	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	**50 J**	**1200**	220 U	**320**	NA	**630**	NA	**56 J**	NA	**65 J**	NA	**170 J**	NA	**210 J**	NA	**370**	NA
Atrazine	2300	10000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Benzaldehyde	780000	12000000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	260 U	230 U	210 U	210 U	230 U	**150 J**	210 UJ	200 UJ	220 UJ	200 U	190 U	**120 J**	**3000**	220 U	**800**	NA	**1600**	NA	**260**	NA	**250**	NA	**370 J**	NA	**2900**	NA	**1000 J**	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	**52 J**	210 UJ	200 UJ	220 UJ	200 U	190 U	**92 J**	**3900**	220 U	**760**	NA	**1500**	NA	**270**	NA	**200**	NA	**43 J**	NA	**3400 ***	NA	**150 J**	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	**150 J**	210 UJ	200 UJ	220 UJ	200 U	190 U	**93 J**	**3200 ***	220 U	**1100**	NA	**1800**	NA	**360**	NA	**240**	NA	**250 J**	NA	**3600 ***	NA	**850 J**	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	260 UJ	230 UJ	210 UJ	210 UJ	230 UJ	200 UJ	210 UJ	200 UJ	220 UJ	200 U	190 U	200 U	**1400**	220 U	**470 J**	NA	**850 J**	NA	**170 J**	NA	**120 J**	NA	180 UJ	NA	**2500 J**	NA	190 UJ	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	**76 J**	210 UJ	200 UJ	220 UJ	200 U	190 U	**72 J**	**2300**	220 U	**400**	NA	**920**	NA	**140 J**	NA	**140 J**	NA	**130 J**	NA	**3000 ***	NA	**390 J**	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	260 U	**1100**	210 U	210 U	230 U	**220**	210 U	**120 J**	220 UJ	200 U	190 U	200 U	260 U	220 U	**340**	NA	**72 J**	NA	**50 J**	NA	**52 J**	NA	**110 J**	NA	**200 J**	NA	**110 J**	NA
Butylbenzylphthalate	280000	1200000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 UJ	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Caprolactam	3100000	40000000	--	--	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	200 UJ	210 UJ	**52 J**	220 UJ	200 UJ	190 UJ	200 UJ	260 UJ	220 UJ	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 UJ	NA	230 U	NA	190 UJ	NA
Carbazole	--	--	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	**750**	220 U	**130 J**	NA	**250**	NA	200 U	NA	180 U	NA	**37 J**	NA	230 U	NA	**110 J**	NA
Chrysene	**15000**	290000	2000	7000	--	260 U	230 U	210 U	210 U	230 U	**150 J**	210 UJ	200 UJ	220 UJ	200 U	190 U	**110 J**	**3600**	220 U	**910**	NA	**1700**	NA	**320**	NA	**250**	NA	**330 J**	NA	**2900**	NA	**1000 J**	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	200 UJ	210 UJ	200 UJ	220 UJ	200 U	190 U	200 U	**520**	220 U	**96 J**	NA	**270**	NA	**41 J**	NA	180 U	NA	180 UJ	NA	**720**	NA	**98 J**	NA
Dibenzofuran	**7200**	100000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	**40 J**	**470**	220 U	**84 J**	NA	**130 J**	NA	200 U	NA	180 U	NA	**38 J**	NA	230 U	NA	**72 J**	NA
Diethylphthalate	4900000	66000000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Dimethylphthalate	--	--	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 UJ	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 UJ	200 UJ	190 UJ	200 UJ	260 UJ	220 UJ	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Fluoranthene	**230000**	3000000	4000	10000	--	260 U	230 U	210 U	210 U	230 U	**230**	210 UJ	200 UJ	220 UJ	200 U	190 U	**300**	**8400 ***	220 U	**1800**	NA	**3000 ***	NA	**490**	NA	**430**	NA	**660 J**	NA	**4000 ***	NA	**1800 J**	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	SB-03	SB-05		SB-06		SB-07		SB-08		SB-09		SB-10	SB-11		SS-01		SS-02		SS-03		SS-04		SS-05		SS-06		SS-07	
					Sample Depth (ft bgs)	4 - 8	4.4 - 6.3	8.5 - 10	4 - 8	8 - 10.5	0.5 - 1.7	8 - 9.3	5.3 - 7	8.9 - 11	4 - 5.9	5.9 - 7.9	4 - 4.8	4 - 6.4	8 - 12	0 - 1.7	2 - 3	0 - 1	1 - 3	0.3 - 1	2 - 3	0 - 1	1 - 1.5	0.5 - 1.7	1 - 3	0 - 2	1 - 3	0.5 - 1.7	1 - 3
					Sample Date	04/19/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SB-03 (4-8)	SB-05A (4.4-6.3)	SB-05B (8.5-10)	SB-06A (4-8)	SB-06B (8-10.5)	SB-07A (0.5-1.7)	SB-07B (8-9.3)	SB-08A (5.3-7)	SB-08B (8.9-11)	SB-09A (4-5.9)	SB-09B (5.9-7.9)	SB-10A (4-4.8)	SB-11A (4-6.4)	SB-11B (8-12)	SS-01A (0-1.7)	SS-01C (2-3)	SS-02A (0-1)	SS-02C (1-3)	SS-03A (0.3-1)	SS-03C (2-3)	SS-04A (0-1)	SS-04C (1-1.5)	SS-05A (0.5-1.7)	SS-05C (1-3)	SS-06A (0-2)	SS-06C (1-3)	SS-07A (0.5-1.7)	SS-07C (1-3)
Fluorene	230000	3000000	1000	2000	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	**42 J**	**620**	220 U	**130 J**	NA	**170 J**	NA	200 U	NA	180 U	NA	**110 J**	NA	230 U	NA	**180 J**	NA
Hexachlorobenzene	330	1400	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Hexachlorobutadiene	6200	30000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	260 UJ	230 UJ	210 UJ	210 UJ	230 UJ	200 UJ	210 UJ	200 UJ	220 UJ	200 UJ	190 UJ	200 UJ	260 UJ	220 UJ	190 UJ	NA	190 UJ	NA	200 UJ	NA	180 UJ	NA	180 UJ	NA	230 UJ	NA	190 UJ	NA
Hexachloroethane	4300	58000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	260 U	230 UJ	210 UJ	210 UJ	230 UJ	**41 J**	210 UJ	200 UJ	220 UJ	200 U	190 U	**45 J**	**1900**	220 U	**410**	NA	**790**	NA	**150 J**	NA	**110 J**	NA	**38 J**	NA	**2600**	NA	**140 J**	NA
Isophorone	560000	2400000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Naphthalene	**3800**	17000	500	1000	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	**63 J**	**710**	220 U	**45 J**	NA	**51 J**	NA	200 U	NA	180 U	NA	180 U	NA	**87 J**	NA	**45 J**	NA
Nitrobenzene	5100	22000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 U	190 U	200 U	260 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Pentachlorophenol	990	4000	--	--	--	510 U	440 UJ	400 UJ	400 UJ	440 UJ	390 UJ	400 UJ	390 UJ	430 UJ	390 U	380 U	380 U	510 U	430 U	370 U	NA	360 U	NA	400 U	NA	360 U	NA	360 UJ	NA	440 U	NA	370 UJ	NA
Phenanthrene	--	--	3000	20000	--	260 U	230 U	210 U	210 U	230 U	**140 J**	210 U	200 U	220 U	200 U	190 U	**350**	**7400 ***	220 U	**1400**	NA	**2800**	NA	**300**	NA	**260**	NA	**680**	NA	**610**	NA	**1500**	NA
Phenol	1800000	25000000	--	--	--	260 U	230 U	210 U	210 U	230 U	200 U	210 U	200 U	220 U	200 UJ	190 UJ	200 UJ	260 UJ	220 UJ	190 U	NA	190 U	NA	200 U	NA	180 U	NA	180 U	NA	230 U	NA	190 U	NA
Pyrene	**170000**	2300000	4000	20000	--	260 U	230 U	210 U	210 U	230 U	**230**	210 UJ	200 UJ	220 UJ	200 U	190 U	**260**	**9400 ***	220 U	**1900 J**	NA	**3700 ***	NA	**540**	NA	**440**	NA	**360 J**	NA	**5400 ***	NA	**1100 J**	NA
	Pesticides/PCBs (ug/kg)																																
4,4'-DDD	2200	9600	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	8.2 R	4.3 U	3.7 U	NA	2.7 R	NA	4 U	NA	**1.5 J**	NA	3.7 U	NA	4.5 U	NA	**4.2**	NA
4,4'-DDE	1600	6800	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	3.3 R	4.3 U	**4.3 J**	NA	**2.2 J**	NA	2.3 R	NA	3.6 U	NA	3.7 U	NA	4.5 U	NA	3.7 U	NA
4,4'-DDT	1900	8600	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	7.7 R	4.3 U	**24 J**	NA	7.5 R	NA	**13**	NA	**5**	NA	**2.5 J**	NA	**11**	NA	**11**	NA
Aldrin	31	140	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 U	NA	1.9 U	NA	2 U	NA	4.8 R	NA	1.9 U	NA	2.3 U	NA	1.9 U	NA
alpha-BHC	85	370	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 U	NA	1.9 U	NA	2 U	NA	1.8 U	NA	1.9 U	NA	2.3 U	NA	1.9 U	NA
Alpha-Chlordane	--	--	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 U	NA	1.5 R	NA	2 U	NA	1.8 U	NA	1.9 U	NA	2.3 U	NA	**1.3 J**	NA
Aroclor 1016	400	5200	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
Aroclor 1221	150	660	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
Aroclor 1232	150	660	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
Aroclor 1242	240	1000	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
Aroclor 1248	**240**	1000	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	**190**	NA	**40 J**	NA	44 U	NA	**420 J**	NA
Aroclor 1254	**110**	1000	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
Aroclor 1260	**240**	**1000**	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 UJ	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
Aroclor 1262	--	--	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
Aroclor 1268	--	--	--	--	--	51 U	44 U	40 U	40 U	44 U	39 U	40 U	38 U	43 U	39 U	37 U	NA	51 U	43 U	37 U	NA	37 U	NA	39 U	NA	35 U	NA	37 U	NA	44 U	NA	37 U	NA
beta-BHC	300	1300	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	**1.2 J**	2 U	1.6 R	1.1 R	1.9 U	NA	1.9 U	NA	2 U	NA	**2.2 J**	NA	1.9 U	NA	2.3 U	NA	**8.6 J**	NA
delta-BHC	--	--	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 U	NA	1.9 U	NA	2 U	NA	1.8 U	NA	1.9 U	NA	2.3 U	NA	1.9 U	NA
Dieldrin	33	140	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	4.4 R	4.3 U	3.7 U	NA	3.7 U	NA	4 U	NA	3.6 U	NA	3.7 U	NA	4.5 U	NA	3.7 U	NA
Endosulfan I	--	--	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 U	NA	**3.3 J**	NA	2 U	NA	1.8 U	NA	1.9 U	NA	2.3 U	NA	1.9 U	NA
Endosulfan II	--	--	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	2.9 R	4.3 U	3.7 U	NA	3.7 U	NA	4 U	NA	3.6 U	NA	3.7 U	NA	4.5 U	NA	3.7 U	NA
Endosulfan Sulfate	--	--	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	5.6 R	4.3 U	3.7 R	NA	20 R	NA	4 U	NA	3.6 U	NA	3.7 U	NA	**9.9 J**	NA	6.9 R	NA
Endrin	1800	25000	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	5.7 R	4.3 U	3.9 R	NA	2 R	NA	4 U	NA	1.6 R	NA	3.7 U	NA	4.5 U	NA	3.7 U	NA
Endrin Aldehyde	--	--	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	8.7 R	4.3 U	**2.3 J**	NA	7.9 R	NA	4 U	NA	3.6 U	NA	3.7 U	NA	**7.2**	NA	3.7 U	NA
Endrin Ketone	--	--	--	--	--	5.1 U	4.4 U	4 U	4.1 U	4.4 U	3.9 U	4 U	3.9 U	4.3 U	3.9 U	3.8 U	3.8 U	**28**	4.3 U	**4.3**	NA	**11 J**	NA	**4.1 J**	NA	3.6 U	NA	**3.3 J**	NA	**15 J**	NA	8.1 R	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 UJ	NA	1.9 U	NA	2 U	NA	**1.6 J**	NA	1.9 U	NA	2.3 U	NA	3.6 R	NA
gamma-Chlordane	--	--	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	**3.2**	2.2 U	1.9 U	NA	1.2 R	NA	1.2 R	NA	1.9 R	NA	2.2 R	NA	1.2 R	NA	11 R	NA
Heptachlor	120	510	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 U	NA	1.9 U	NA	2 U	NA	1.8 U	NA	1.9 U	NA	2.3 U	NA	**2.1**	NA
Heptachlor Epoxide	59	250	--	--	--	2.6 U	2.3 U	2 U	2.1 U	2.3 U	2 U	2 U	2 U	2.2 U	2 U	2 U	2 U	2.7 U	2.2 U	1.9 U	NA	1.9 U	NA	2 U	NA	0.97 R	NA	1.9 U	NA	2.3 U	NA	**19**	NA
Methoxychlor	31000	410000	--	--	--	26 U	23 U	20 U	21 U	23 U	20 U	20 U	20 U	22 U	20 U	20 U	20 U	20 R	22 U	19 U	NA	19 U	NA	20 U	NA	18 U	NA	19 U	NA	23 U	NA	19 U	NA
Toxaphene	480	2100	--	--	--	260 U	230 U	200 U	210 U	230 U	200 U	200 U	200 U	220 U	200 U	200 U	200 U	270 U	220 U	190 U	NA	190 U	NA	200 U	NA	180 U	NA	190 U	NA	230 U	NA	190 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																											
					Sample Location	SB-03	SB-05		SB-06		SB-07		SB-08		SB-09		SB-10	SB-11		SS-01		SS-02		SS-03		SS-04		SS-05		SS-06		SS-07	
					Sample Depth (ft bgs)	4 - 8	4.4 - 6.3	8.5 - 10	4 - 8	8 - 10.5	0.5 - 1.7	8 - 9.3	5.3 - 7	8.9 - 11	4 - 5.9	5.9 - 7.9	4 - 4.8	4 - 6.4	8 - 12	0 - 1.7	2 - 3	0 - 1	1 - 3	0.3 - 1	2 - 3	0 - 1	1 - 1.5	0.5 - 1.7	1 - 3	0 - 2	1 - 3	0.5 - 1.7	1 - 3
					Sample Date	04/19/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SB-03 (4-8)	SB-05A (4.4-6.3)	SB-05B (8.5-10)	SB-06A (4-8)	SB-06B (8-10.5)	SB-07A (0.5-1.7)	SB-07B (8-9.3)	SB-08A (5.3-7)	SB-08B (8.9-11)	SB-09A (4-5.9)	SB-09B (5.9-7.9)	SB-10A (4-4.8)	SB-11A (4-6.4)	SB-11B (8-12)	SS-01A (0-1.7)	SS-01C (2-3)	SS-02A (0-1)	SS-02C (1-3)	SS-03A (0.3-1)	SS-03C (2-3)	SS-04A (0-1)	SS-04C (1-1.5)	SS-05A (0.5-1.7)	SS-05C (1-3)	SS-06A (0-2)	SS-06C (1-3)	SS-07A (0.5-1.7)	SS-07C (1-3)
Metals (mg/kg)																																	
Aluminum	7700	110000	10000	10000	10700	7840	14000	10100	14400	12200	12100	15800	9650 U	22400	18200	21700	9900	13200	25500	13000	NA	8830	NA	5590	NA	11600	NA	12900	NA	7100	NA	11300	NA
Antimony	3.1	47	1	7	--	R	4.9 UJ	6 UJ	5.1 UJ	5.5 UJ	5.2 UJ	6.5 UJ	6 UJ	6.1 UJ	5.5 UJ	5.9 UJ	4.6 UJ	6.3 UJ	7.7 UJ	R	NA	R	NA	R	NA	5.9 UJ	NA	R	NA	R	NA	R	NA
Arsenic	0.67	3	20	20	8.78	201 *	3.8 JEB	9.7 JEB	11.1 J	7.2 J	7.7 J	10.4 J	1 UJ	1 UJ	33.7	15.1	5.8	43.7	21.8	79.4 EB	1530 J	9.1 EB	19.9 J	10.6	10.4 J	12.9 J	20.6 J	13	13.6 J	17.7	5.4 J	50	17.2 J
Barium	1500	22000	50	50	16	16.6	51.4	27.4	42.2	32.9	33.7	41	20.1	57.9	46.5	70.1	18.1	191	74	60.5	NA	73.4	NA	86.1	NA	45.5	NA	48.1	NA	67.8	NA	51.1	NA
Beryllium	16	230	0.4	0.9	0.315	0.53 J	R	0.79 J	1.1 J	0.92 J	0.84 J	1.2 J	0.43 J	1.4 J	0.92 J	1.8 J	0.59 J	0.99 J	2 J	0.83 J	NA	0.56 J	NA	0.52 J	NA	0.75 J	NA	0.73 J	NA	0.71 J	NA	0.69 J	NA
Cadmium	7	98	2	3	--	0.087 J	0.18 J	0.5 UJ	0.42 UJ	0.46 UJ	0.13 J	0.54 UJ	0.5 UJ	0.51 UJ	0.46 UJ	0.49 UJ	0.38 UJ	0.42 J	0.64 UJ	0.47 J	NA	0.47 J	NA	0.46 J	NA	0.24 J	NA	0.23 J	NA	0.39	NA	0.3 J	NA
Calcium	--	--	--	--	634	2050	2940	2240	2280	2300	2120	2460	2060	2180	2460	4100	1450	27100	5740	5090	NA	4200	NA	4160	NA	3830	NA	5200	NA	3200	NA	4630	NA
Chromium	12000	180000	30	40	15.2	58	2930 J	20.2 J	40.9 J	29.2 J	93.9 J	38.2 J	21300 J	19100 J	27.1	47.8	15.3	780 *	57.4	831 *	739 J	94.6	141 J	491	16.6 J	861 J	871 J	196	755 J	337	30.4 J	623 *	1330 J
Chromium-Hexavalent	0.3	6.3	30	40	--	NA	49	NA	NA	NA	NA	NA	0.94 U	0.97 U	NA	NA	NA	3.3	NA	6.3 J	NA	NA	NA	3.2 JEB	NA	3 J	NA	NA	NA	10 JEB	NA	2.3 JEB	NA
Cobalt	2.3	35	4	4	5.68	5.2	4.8 J	6.7	8.8	8.3	7.5	9.5	5 J	12.2 J	6.3	13.3	4.8	8	14.3	8	NA	7.4	NA	5 J	NA	7.2	NA	11.5	NA	5.9	NA	6	NA
Copper	310	4700	40	200	6.28	15.6 J	19.2 J	10.4 J	14.3 J	11.6 J	12.2 J	13.7 J	12.2 J	16.8 J	11.4 J	17.5 J	8.1 J	47.5 J	19.7 J	24.6	NA	20.2	NA	33.5	NA	18.9	NA	26.4	NA	31.5	NA	19.2	NA
Iron	5500	82000	20000	20000	11200	12400 J	14100 J	15100 J	18800 J	15600 J	14400 J	22800 J	9430 J	21700 J	18200 J	30600 J	12100 J	25900 J	33100 J	18300	NA	16400	NA	21500 *	NA	16400	NA	24400 *	NA	16800 *	NA	14900	NA
Lead	400	800	100	600	41.8	8.5 J	69.6 J	8.6 J	11.4 J	10.5 J	28.8 J	13.3 J	42.5 J	22.5 J	36 J	19.1 J	7.1 J	424 J	21.4 J	112 J	NA	189 J	NA	103 J	NA	75.8	NA	74.3 J	NA	90.7 J	NA	78.5 J	NA
Magnesium	--	--	5000	5000	2780	3840	3090	3770	5140	4610	4050	5600	3320	6730	4140	7800	3330	3520	9910	5030	NA	4970	NA	1760	NA	9070	NA	7900	NA	3010	NA	3680	NA
Manganese	180	2600	300	300	155	183 J	341 J	385 J	480 J	399 J	304 J	419 J	120 J	214 J	315 J	574 J	139 J	316 J	688 J	334 J	NA	228 J	NA	167 J	NA	250 J	NA	374 J	NA	275 J	NA	220 J	NA
Mercury	0.94	4	0.3	1	0.0242	0.011 J	0.42	0.11 UJ	0.12 UJ	0.019 J	0.24	0.11 UJ	0.049 J	0.12 UJ	0.061 J	0.0045 J	0.0068 J	0.14 U	0.13 U	0.27	NA	0.23	NA	0.29	NA	0.31	NA	0.23	NA	7.2	NA	0.7	NA
Nickel	150	2200	20	30	11.2	10.7	11.8	13.5	17.8	16.3	15.3	20	13.2	26	17.1	29.2	11.8	17.5	33.3	21.9	NA	20.4	NA	12.5	NA	33.8	NA	29.6	NA	14.1	NA	16.9	NA
Potassium	--	--	--	--	382	532 J	773 J	1260 J	1890 J	1660 J	1020 J	2190 J	695 J	2480 J	1250 J	2760 J	1030 J	1270 J	4300	1000 J	NA	672 J	NA	461 J	NA	941 J	NA	1190 J	NA	929 J	NA	883 J	NA
Selenium	39	580	0.5	1	--	2.9 U	2.9 UJ	3.5 U	2.9 U	3.2 U	3 U	3.8 U	3.5 UJ	3.6 UJ	1 J	3.4 U	2.7 U	2.5 J	4.5 U	R	NA	R	NA	R	NA	3.4 U	NA	R	NA	R	NA	R	NA
Silver	39	580	0.6	5	--	0.82 U	0.43 J	0.34 J	0.35 J	0.25 J	0.27 J	0.49 J	0.32 J	0.38 J	0.92 U	0.98 U	0.77 U	1 U	1.3 U	0.38 J	NA	0.3 J	NA	0.4 J	NA	0.38 J	NA	0.42 J	NA	0.29 J	NA	0.23 J	NA
Sodium	--	--	--	--	--	R	412 U	502 U	421 U	460 U	435 U	476 J	499 U	R	R	524 J	R	451 J	457 J	R	NA	R	NA	R	NA	493 U	NA	478 J	NA	R	NA	R	NA
Thallium	0.078	1.2	0.6	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	39	580	30	30	19.4	19.9	24.9 J	27.1	32.6	27.6	26.3	39.7	7 J	39.7 J	34	57.5	20.1	31.1	62.9	75.9	NA	31.3	NA	25.5	NA	31.3	NA	41.7	NA	24.4	NA	30.1	NA
Zinc	2300	35000	100	300	35.3	29.1 J	86.3 J	32.4 J	46 J	40.9 J	67.7 J	51.2 J	372 J	241 J	76.1 J	64.9 J	26.2 J	375 J	82.8 J	104	NA	99	NA	98.6	NA	79.6	NA	78.4	NA	98	NA	96.6	NA
Asbestos (%v/v)																																	
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																										
					Sample Location	SB-03	SB-05		SB-06		SB-07		SB-08		SB-09		SB-10	SB-11		SS-01		SS-02		SS-03		SS-04		SS-05		SS-06		SS-07	
					Sample Depth (ft bgs)	4 - 8	4.4 - 6.3	8.5 - 10	4 - 8	8 - 10.5	0.5 - 1.7	8 - 9.3	5.3 - 7	8.9 - 11	4 - 5.9	5.9 - 7.9	4 - 4.8	4 - 6.4	8 - 12	0 - 1.7	2 - 3	0 - 1	1 - 3	0.3 - 1	2 - 3	0 - 1	1 - 1.5	0.5 - 1.7	1 - 3	0 - 2	1 - 3	0.5 - 1.7	1 - 3
					Sample Date	04/19/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SB-03 (4-8)	SB-05A (4.4-6.3)	SB-05B (8.5-10)	SB-06A (4-8)	SB-06B (8-10.5)	SB-07A (0.5-1.7)	SB-07B (8-9.3)	SB-08A (5.3-7)	SB-08B (8.9-11)	SB-09A (4-5.9)	SB-09B (5.9-7.9)	SB-10A (4-4.8)	SB-11A (4-6.4)	SB-11B (8-12)	SS-01A (0-1.7)	SS-01C (2-3)	SS-02A (0-1)	SS-02C (1-3)	SS-03A (0.3-1)	SS-03C (2-3)	SS-04A (0-1)	SS-04C (1-1.5)	SS-05A (0.5-1.7)	SS-05C (1-3)	SS-06A (0-2)	SS-06C (1-3)	SS-07A (0.5-1.7)	SS-07C (1-3)
Dioxins/Furans (ng/Kg)																																	
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	**0.355 J**	**1.08 J**	0.415 U	0.362 U	**0.479 EMPC**	**128**	**0.559 J**	**36.3**	0.405 U	**6.06 J**	0.685 U	0.594 U	**2.15 J**	0.266 U	**505**	NA	**138**	NA	**253**	NA	**314**	NA	**54.5**	NA	**447**	NA	**334**	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	**257 J**	**2840**	**6.54 J**	**159**	**121**	**6410 J**	**195**	**3880**	**2240**	**11700 J**	**1250 J**	**1590 J**	**210 J**	**44.1 J**	**9360 J**	NA	**3500 J**	NA	**9710 J**	NA	**13100 J**	NA	**2380**	NA	**19900 J**	NA	**16800**	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	**0.177 J**	**0.779 EMPC**	0.306 U	0.382 U	**0.175 J**	**26.7**	**0.107 EMPC**	**12.5**	0.125 U	**0.803 J**	0.175 U	0.142 U	**2.56 J**	0.0869 U	**104**	NA	**41.1**	NA	**77.1**	NA	**101**	NA	**19.9**	NA	**134**	NA	**96.2**	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	**3.09 J**	**36.8**	**0.519 J**	**1.72 J**	**1.95 J**	**278**	**2.86 J**	**74.6**	**9.67**	**64**	**7.6**	**9.33**	**8.1**	**0.285 J**	**594**	NA	**223**	NA	**687**	NA	**694**	NA	**141**	NA	**1160**	NA	**885**	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	0.106 U	0.403 U	0.479 U	0.601 U	0.26 U	**2.03 EMPC**	0.465 U	**1.06 J**	0.19 U	0.376 U	0.315 U	0.225 U	0.315 U	0.134 U	**5.26**	NA	**2.97**	NA	**4.77**	NA	**7.09**	NA	**1.31 J**	NA	**11.2 J**	NA	**7.15 J**	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	0.0907 U	**0.178 EMPC**	0.166 U	0.155 U	0.129 U	**0.913 J**	0.0952 U	**1.52 J**	0.102 U	0.174 U	0.106 U	0.111 U	**1.38 J**	0.0684 U	**3.2 JEB**	NA	**3.75**	NA	**2.9 J**	NA	**2.95 JEB**	NA	**1.42 J**	NA	**4.6 J**	NA	**5.12 J**	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	0.108 U	0.436 U	0.257 U	0.22 U	0.217 U	**1.61 J**	0.276 U	**0.329 J**	0.225 U	**0.361 J**	0.286 U	0.263 U	**0.392 J**	0.135 U	**3.1 J**	NA	**1.65 J**	NA	**15.9**	NA	**6.14**	NA	**1.58 J**	NA	**6.13 EMPC**	NA	**6.04 J**	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	0.0932 U	0.194 U	0.163 U	0.145 U	0.124 U	**0.465 J**	0.0917 U	**0.629 J**	0.0955 U	0.164 U	0.104 U	0.106 U	**0.707 J**	0.065 U	**2.72 JEB**	NA	**3.16**	NA	**2.55 J**	NA	**1.28 J**	NA	**1 J**	NA	**3.93 J**	NA	**3.41 J**	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	0.111 U	**0.614 J**	0.26 U	0.222 U	0.219 U	**5.94**	0.253 U	**2.16 J**	0.213 U	0.362 U	0.271 U	0.251 U	**0.965 J**	0.129 U	**23.3**	NA	**7.61**	NA	**4.07 J**	NA	**21.6**	NA	**3.73 J**	NA	**21.7 J**	NA	**20.2 J**	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	0.112 U	0.27 U	0.225 U	0.198 U	0.169 U	0.287 U	0.145 U	**0.453 J**	0.132 U	0.248 U	0.162 U	0.114 U	0.365 UJ	0.106 U	**0.914 J**	NA	**1.17**	NA	**0.502 J**	NA	**0.597 J**	NA	**0.257 J**	NA	2.12 U	NA	1.97 UJ	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	0.118 U	**0.818 EMPC**	0.272 U	0.231 U	0.229 U	**2.96 J**	0.276 U	**0.78 J**	0.229 U	0.382 U	0.29 U	0.268 U	**0.403 J**	0.138 U	**1.23 J**	NA	**2.08 J**	NA	**5.37**	NA	**5.09**	NA	**1.55 J**	NA	**8.66 EMPC**	NA	**8.14 J**	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	0.112 U	0.307 U	0.204 U	0.142 U	0.119 U	**0.346 J**	0.103 U	**0.651 J**	0.109 U	0.215 U	0.163 U	0.106 U	**1.01 J**	0.0918 U	**0.395 EMPC**	NA	**2.2 JEB**	NA	**0.578 J**	NA	**0.64 J**	NA	**0.878 J**	NA	1.86 U	NA	**5.28 J**	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	0.145 U	0.344 U	0.225 U	0.197 U	0.135 U	0.335 U	0.189 U	**0.316 J**	0.143 U	0.266 U	0.207 U	0.149 U	**0.271 J**	0.115 U	**17.3**	NA	**2.66 J**	NA	**6.11**	NA	**2.96 J**	NA	**0.577 EMPC**	NA	2.46 U	NA	**2.68 J**	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	0.0892 U	**0.235 J**	0.167 U	0.154 U	0.13 U	**0.763 J**	0.0988 U	**0.735 J**	0.0923 U	0.17 U	0.112 U	0.115 U	**0.514 J**	0.0684 U	**3.9 J**	NA	**4.66**	NA	**3.97 J**	NA	**2.6 J**	NA	**1.29 J**	NA	**6.73 J**	NA	**3.41 J**	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	0.108 U	**0.342 EMPC**	0.2 U	0.135 U	0.106 U	**0.842 J**	0.0952 U	**0.964 J**	0.0979 U	0.198 U	0.154 U	0.102 U	**0.94 J**	0.0897 U	**1.67 J**	NA	**7.31**	NA	**3.05 J**	NA	**1.61 J**	NA	**1.35 J**	NA	**2.51 J**	NA	**2.67 J**	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	0.383 U	0.876 UEMC	0.462 UEMC	0.43 U	0.47 U	0.878 U	0.414 U	0.321 U	0.339 UEMC	0.552 U	0.438 U	0.338 U	**1.65**	0.418 U	0.744 U	NA	**3.14**	NA	0.888 U	NA	**5.75**	NA	0.867 U	NA	5.01 U	NA	**12.1 J**	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	0.245 U	0.53 U	0.332 U	0.208 U	0.233 U	**0.22 J**	0.232 U	0.29 U	0.24 U	0.367 U	0.324 U	0.232 U	0.604 U	0.295 U	**0.343 J**	NA	**0.491 EMPC**	NA	**0.889**	NA	**0.694 J**	NA	**0.313 J**	NA	3.15 U	NA	**1.84 EMPC**	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	**0.11 J**	**1.52 J**	**0.00715 J**	**0.0649 J**	**0.0577 J**	**6.78 J**	**0.0883 J**	**3.34 J**	**0.769**	**4.2 J**	**0.451 J**	**0.57 J**	**1.35 J**	**0.0161 J**	**32 J**	NA	**11.9 J**	NA	**22.1 J**	NA	**20.802 J**	NA	**4.76 J**	NA	**0.0577 J**	NA	**26.3 J**	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																										
					Sample Location	SB-03	SB-05		SB-06		SB-07		SB-08		SB-09		SB-10	SB-11		SS-01		SS-02		SS-03		SS-04		SS-05		SS-06		SS-07	
					Sample Depth (ft bgs)	4 - 8	4.4 - 6.3	8.5 - 10	4 - 8	8 - 10.5	0.5 - 1.7	8 - 9.3	5.3 - 7	8.9 - 11	4 - 5.9	5.9 - 7.9	4 - 4.8	4 - 6.4	8 - 12	0 - 1.7	2 - 3	0 - 1	1 - 3	0.3 - 1	2 - 3	0 - 1	1 - 1.5	0.5 - 1.7	1 - 3	0 - 2	1 - 3	0.5 - 1.7	1 - 3
					Sample Date	04/19/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SB-03 (4-8)	SB-05A (4.4-6.3)	SB-05B (8.5-10)	SB-06A (4-8)	SB-06B (8-10.5)	SB-07A (0.5-1.7)	SB-07B (8-9.3)	SB-08A (5.3-7)	SB-08B (8.9-11)	SB-09A (4-5.9)	SB-09B (5.9-7.9)	SB-10A (4-4.8)	SB-11A (4-6.4)	SB-11B (8-12)	SS-01A (0-1.7)	SS-01C (2-3)	SS-02A (0-1)	SS-02C (1-3)	SS-03A (0.3-1)	SS-03C (2-3)	SS-04A (0-1)	SS-04C (1-1.5)	SS-05A (0.5-1.7)	SS-05C (1-3)	SS-06A (0-2)	SS-06C (1-3)	SS-07A (0.5-1.7)	SS-07C (1-3)
General Chemistry (%)																																	
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																																	
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																																	
Oxidation-Reduction Potential	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																																	
pH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																																	
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																																	
Arsenic	**0.67**	**3**	20	20	8.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.94	4	0.3	1	0.0242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	150	2200	20	30	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAH Screening (ug/kg)																																	
Total PAH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																				35 Water St.							
					Sample Location	SS-08		SS-09		SS-10		SS-11		SS-16		SS-17		SS-18		SS-19		SS-20		SS-21		35WS-01							
					Sample Depth (ft bgs)	0 - 1	2.5 - 3	0 - 1	1 - 3	0.5 - 2	1 - 3	0 - 1	2 - 3	0 - 1	2.5 - 3	0 - 1.5	2 - 2.5	0 - 1	1 - 2	0 - 1	1 - 2.7	0 - 1	1 - 1.5	0 - 1	1 - 2.2	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	04/21/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/20/11	04/20/11	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
					Sample Type	N	N	MAX	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-08A (0-1)	SS-08C (2.5-3)	SS-09A (0-1)-MAX	SS-09C (1-3)-MAX	SS-10A (0.5-2)	SS-10C (1-3)	SS-11A (0-1)	SS-11C (2-3)	SS-16A (0-1)	SS-16C (2.5-3)	SS-17A (0-1.5)	SS-17C (2-2.5)	SS-18A (0-1)	SS-18C (1-2)	SS-19A (0-1)	SS-19C (1-2.7)	SS-20A (0-1)	SS-20C (1-1.5)	SS-21A (0-1)	SS-21C (1-2.2)	35WS-SS01-0001-061114X	35WS-SB01-0204-061114X	35WS-SB01-0406-061114X	35WS-SB01-0608-061114X	35WS-SB01-0810-061114X	35WS-SB01-1012-061114X	35WS-SB01-1214-061114X	35WS-SB01-1416-061114X
Volatiles (ug/kg)																																	
1,1,1-Trichloroethane	810000	3600000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	94 UJ	NA	100 UJ	NA	94 UJ	NA	110 UJ	NA	110 UJ	NA	120 UJ	NA	110 UJ	NA	110 UJ	NA	110 UJ	NA	120 UJ	NA	130 R	100 R	NA	110 R	NA	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	9.4 U	NA	10 U	NA	9.4 U	NA	11 U	NA	11 U	NA	12 U	NA	11 U	NA	11 U	NA	11 U	NA	12 U	NA	**22 J**	**10**	NA	11 U	NA	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	9.4 U	NA	10 U	NA	9.4 U	NA	11 U	NA	11 U	NA	12 U	NA	11 U	NA	11 U	NA	11 U	NA	12 U	NA	13 U	10 U	NA	11 U	NA	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	9.4 U	NA	10 U	NA	9.4 U	NA	11 U	NA	11 U	NA	12 U	NA	11 U	NA	11 U	NA	11 U	NA	12 U	NA	13 U	10 U	NA	11 U	NA	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**39 J**	NA	**74 J**	NA	**63 J**	NA	**60 J**	NA	**110 J**	NA	**120 J**	NA	**36 J**	NA	**200 J**	NA	**100 J**	NA	**210 J**	NA	**240 J**	**140**	NA	**110 JEB**	NA	NA	NA	NA
Benzene	1200	5100	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Bromoform	67000	290000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Bromomethane	680	3000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 R	NA	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 R	NA	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Chloroform	320	1400	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Chloromethane	11000	46000	--	--	--	4.7 U	NA	5.1 UJ	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 R	5 R	NA	5.3 R	NA	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	4.7 UJ	NA	5.1 UJ	NA	4.7 UJ	NA	5.4 UJ	NA	5.5 UJ	NA	5.9 UJ	NA	5.6 UJ	NA	5.4 UJ	NA	5.3 UJ	NA	5.9 UJ	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
m,p-Xylene	--	--	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**7**	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	**29**	**11 J**	NA	**4 J**	NA	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
o-Xylene	65000	280000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Styrene	600000	3500000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 R	NA	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Toluene	490000	4700000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Trichloroethene	410	1900	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	4.7 UJ	NA	5.1 UJ	NA	4.7 UJ	NA	5.4 UJ	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 UJ	NA	5.9 UJ	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	4.7 U	NA	5.1 U	NA	4.7 U	NA	5.4 U	NA	5.5 U	NA	5.9 U	NA	5.6 U	NA	5.4 U	NA	5.3 U	NA	5.9 U	NA	6.6 U	5 U	NA	5.3 U	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																				35 Water St.							
					Sample Location	SS-08		SS-09		SS-10		SS-11		SS-16		SS-17		SS-18		SS-19		SS-20		SS-21		35WS-01							
					Sample Depth (ft bgs)	0 - 1	2.5 - 3	0 - 1	1 - 3	0.5 - 2	1 - 3	0 - 1	2 - 3	0 - 1	2.5 - 3	0 - 1.5	2 - 2.5	0 - 1	1 - 2	0 - 1	1 - 2.7	0 - 1	1 - 1.5	0 - 1	1 - 2.2	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	04/21/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/20/11	04/20/11	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
					Sample Type	N	N	MAX	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-08A (0-1)	SS-08C (2.5-3)	SS-09A (0-1)-MAX	SS-09C (1-3)-MAX	SS-10A (0.5-2)	SS-10C (1-3)	SS-11A (0-1)	SS-11C (2-3)	SS-16A (0-1)	SS-16C (2.5-3)	SS-17A (0-1.5)	SS-17C (2-2.5)	SS-18A (0-1)	SS-18C (1-2)	SS-19A (0-1)	SS-19C (1-2.7)	SS-20A (0-1)	SS-20C (1-1.5)	SS-21A (0-1)	SS-21C (1-2.2)	35WS-SS01-0001-061114X	35WS-SB01-0204-061114X	35WS-SB01-0406-061114X	35WS-SB01-0608-061114X	35WS-SB01-0810-061114X	35WS-SB01-1012-061114X	35WS-SB01-1214-061114X	35WS-SB01-1416-061114X
Semivolatiles (ug/kg)																																	
1,1'-Biphenyl	4700	20000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	**220**	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 UJ	180 UJ	NA	190 UJ	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 UJ	180 UJ	NA	190 UJ	NA	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	360 UJ	NA	350 UJ	NA	410 U	NA	370 U	NA	420 UJ	NA	400 UJ	NA	360 UJ	NA	370 UJ	NA	360 U	NA	410 UJ	NA	390 U	360 U	NA	370 U	NA	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	190 UJ	NA	180 UJ	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 UJ	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	190 U	NA	180 U	NA	**150 J**	NA	**53 J**	NA	**65 J**	NA	210 U	NA	**750**	NA	190 U	NA	**43 J**	NA	**100 J**	NA	**6.8**	3.6 U	NA	3.7 U	NA	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	360 U	NA	350 U	NA	410 U	NA	370 U	NA	420 U	NA	400 U	NA	360 U	NA	370 U	NA	360 U	NA	410 U	NA	390 U	360 U	NA	370 U	NA	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 UJ	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	360 U	NA	350 U	NA	410 U	NA	370 U	NA	420 U	NA	400 U	NA	360 U	NA	370 U	NA	360 U	NA	410 U	NA	390 U	360 U	NA	370 U	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	360 UJ	NA	350 UJ	NA	410 U	NA	370 U	NA	420 UJ	NA	400 UJ	NA	360 UJ	NA	370 UJ	NA	360 U	NA	410 UJ	NA	390 U	360 U	NA	370 U	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	190 UJ	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 UJ	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 UJ	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	190 U	NA	180 U	NA	**71 J**	NA	190 U	NA	220 U	NA	210 U	NA	**80 J**	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	360 UJ	NA	350 UJ	NA	410 U	NA	370 U	NA	420 U	NA	400 U	NA	360 U	NA	370 U	NA	360 U	NA	410 UJ	NA	390 U	360 U	NA	370 U	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	360 U	NA	350 U	NA	410 U	NA	370 U	NA	420 U	NA	400 U	NA	360 U	NA	370 U	NA	360 U	NA	410 U	NA	390 U	360 U	NA	370 U	NA	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	190 U	NA	**46 J**	NA	**460**	NA	**120 J**	NA	**310**	NA	210 U	NA	**6100 ***	NA	190 U	NA	**290**	NA	**650**	NA	**11 J**	3.6 UJ	NA	3.7 U	NA	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	190 U	NA	180 U	NA	**1200**	NA	**760**	NA	**87 J**	NA	210 U	NA	**230**	NA	190 U	NA	**150 J**	NA	**200 J**	NA	**210**	**12 J**	NA	3.7 U	NA	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	**39 J**	NA	190 U	NA	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**71 J**	NA	**75 J**	NA	**1600**	NA	**750**	NA	**650**	NA	210 U	NA	**9600 ***	NA	**110 J**	NA	**670**	NA	**1700**	NA	**170**	**35**	NA	3.7 U	NA	NA	NA	NA
Atrazine	2300	10000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**330**	NA	**270 J**	NA	**4800 ***	NA	**2500**	NA	**1600**	NA	**170 J**	NA	**30000 ***	NA	**920**	NA	**2000**	NA	**5800 ***	NA	**610**	**140**	NA	3.7 U	NA	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**160 J**	NA	**230 J**	NA	**3200 ***	NA	**2500**	NA	**1400**	NA	**130 J**	NA	**18000 ***	NA	**960**	NA	**2300**	NA	**2500 ***	NA	**600**	**180**	NA	3.7 U	NA	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**370 J**	NA	**300 J**	NA	**3600 ***	NA	**2300 ***	NA	**1900**	NA	**180 J**	NA	**37000 ***	NA	**1800**	NA	**2800**	NA	**5000 ***	NA	**1000**	**200 J**	NA	3.7 U	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	190 UJ	NA	**140 J**	NA	**2200**	NA	**1300**	NA	**200 J**	NA	210 UJ	NA	**570 J**	NA	**110 J**	NA	**1300**	NA	**240**	NA	**400**	**140**	NA	3.7 U	NA	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**200 J**	NA	**140 J**	NA	**3400 ***	NA	**2300**	NA	**1200**	NA	**150 J**	NA	**14000 ***	NA	**1300**	NA	**1900**	NA	**5100 ***	NA	**380**	**150**	NA	3.7 U	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**60 J**	NA	**47 J**	NA	210 U	NA	190 U	NA	**77 J**	NA	**55 J**	NA	**160 J**	NA	190 U	NA	**1700**	NA	**550**	NA	**120 J**	**41 J**	NA	190 U	NA	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	190 UJ	NA	180 UJ	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 UJ	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Carbazole	--	--	--	--	--	190 U	NA	**36 J**	NA	**500**	NA	**310**	NA	**340**	NA	210 U	NA	**6700 ***	NA	**140 J**	NA	**400**	NA	**730**	NA	**49 J**	180 U	NA	190 U	NA	NA	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**350**	NA	**280**	NA	**5000 ***	NA	**2900**	NA	**1700**	NA	**180 J**	NA	**34000 ***	NA	**1400**	NA	**2600**	NA	**5000 ***	NA	**710**	**140**	NA	3.7 U	NA	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**45 J**	NA	180 U	NA	**800**	NA	**390**	NA	**250**	NA	210 U	NA	**3700 ***	NA	**160 J**	NA	**390**	NA	**1000**	NA	**310**	**36**	NA	3.7 U	NA	NA	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	190 U	NA	180 U	NA	**550**	NA	**150 J**	NA	**180 J**	NA	210 U	NA	**2700**	NA	190 U	NA	**140 J**	NA	**280**	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	**710**	**430**	NA	**640 JEB**	NA	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	190 U	NA	180 UJ	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**550**	NA	**490 J**	NA	**12000 ***	NA	**5900 ***	NA	**3400**	NA	**390**	NA	**67000 ***	NA	**2400**	NA	**4200 ***	NA	**11000 ***	NA	**1500**	**250**	NA	3.7 U	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																				35 Water St.							
					Sample Location	SS-08		SS-09		SS-10		SS-11		SS-16		SS-17		SS-18		SS-19		SS-20		SS-21		35WS-01							
					Sample Depth (ft bgs)	0 - 1	2.5 - 3	0 - 1	1 - 3	0.5 - 2	1 - 3	0 - 1	2 - 3	0 - 1	2.5 - 3	0 - 1.5	2 - 2.5	0 - 1	1 - 2	0 - 1	1 - 2.7	0 - 1	1 - 1.5	0 - 1	1 - 2.2	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	04/21/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/20/11	04/20/11	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
					Sample Type	N	N	MAX	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-08A (0-1)	SS-08C (2.5-3)	SS-09A (0-1)-MAX	SS-09C (1-3)-MAX	SS-10A (0.5-2)	SS-10C (1-3)	SS-11A (0-1)	SS-11C (2-3)	SS-16A (0-1)	SS-16C (2.5-3)	SS-17A (0-1.5)	SS-17C (2-2.5)	SS-18A (0-1)	SS-18C (1-2)	SS-19A (0-1)	SS-19C (1-2.7)	SS-20A (0-1)	SS-20C (1-1.5)	SS-21A (0-1)	SS-21C (1-2.2)	35WS-SS01-0001-061114X	35WS-SB01-0204-061114X	35WS-SB01-0406-061114X	35WS-SB01-0608-061114X	35WS-SB01-0810-061114X	35WS-SB01-1012-061114X	35WS-SB01-1214-061114X	35WS-SB01-1416-061114X
Fluorene	230000	3000000	1000	2000	--	190 U	NA	**38 J**	NA	**750**	NA	**250**	NA	**300**	NA	210 U	NA	**5500 ***	NA	190 U	NA	**290**	NA	**560**	NA	**27**	**6**	NA	3.7 U	NA	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	190 UJ	NA	180 UJ	NA	210 UJ	NA	190 UJ	NA	220 UJ	NA	210 UJ	NA	190 UJ	NA	190 UJ	NA	190 UJ	NA	210 UJ	NA	200 U	**38 J**	NA	190 U	NA	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**140 J**	NA	**140 J**	NA	**2400**	NA	**1300**	NA	**720**	NA	**72 J**	NA	**13000 ***	NA	**610**	NA	**1300**	NA	**2400**	NA	**470**	**140**	NA	3.7 U	NA	NA	NA	NA
Isophorone	560000	2400000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Naphthalene	**3800**	17000	500	1000	--	190 U	NA	180 U	NA	**330**	NA	**100 J**	NA	**170 J**	NA	210 U	NA	**1700**	NA	190 U	NA	**87 J**	NA	**180 J**	NA	**9.1**	3.6 U	NA	3.7 U	NA	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	190 U	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Pentachlorophenol	990	4000	--	--	--	360 UJ	NA	350 U	NA	410 U	NA	370 U	NA	420 U	NA	400 U	NA	360 U	NA	370 U	NA	360 U	NA	410 UJ	NA	8 U	7.2 U	NA	7.6 U	NA	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**390 J**	NA	**460 J**	NA	**7300 ***	NA	**3600 ***	NA	**3100**	NA	**310**	NA	**59000 ***	NA	**1000**	NA	**3000 ***	NA	**7200 ***	NA	**590**	**120**	NA	3.7 U	NA	NA	NA	NA
Phenol	1800000	25000000	--	--	--	190 U	NA	180 UJ	NA	210 U	NA	190 U	NA	220 U	NA	210 U	NA	**50 J**	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**690 J**	NA	**730 J**	NA	**12000 ***	NA	**5700 ***	NA	**4800 ***	NA	**380**	NA	**80000 ***	NA	**2500**	NA	**4100 ***	NA	**9600 ***	NA	**1200**	**200**	NA	3.7 U	NA	NA	NA	NA
	Pesticides/PCBs (ug/kg)																																
4,4'-DDD	2200	9600	--	--	--	3.7 U	NA	3.6 U	NA	11 R	NA	3.7 U	NA	4.2 U	NA	4 U	NA	**15 J**	NA	3.8 U	NA	**4.1 J**	NA	2.1 R	NA	3.9 U	3.5 U	NA	3.8 U	NA	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	**5.5**	NA	3.6 U	NA	2.3 R	NA	3.7 U	NA	**3.4 J**	NA	4 U	NA	**7.1 J**	NA	3.8 U	NA	2 R	NA	**49**	NA	**7.1**	**5.9 J**	NA	3.8 U	NA	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	**25 J**	NA	**3.4 J**	NA	7.5 R	NA	**5**	NA	**14**	NA	**17 J**	NA	**17 J**	NA	1.9 R	NA	**19**	NA	**160 ***	NA	**13 J**	**5**	NA	3.8 U	NA	NA	NA	NA
Aldrin	31	140	--	--	--	1.9 U	NA	1.8 U	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	1.9 U	NA	1.9 U	NA	2.1 U	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
alpha-BHC	85	370	--	--	--	1.9 U	NA	1.8 U	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	1.9 U	NA	1.9 U	NA	2.1 U	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	1.9 U	NA	**1.3 J**	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	**6.7 J**	NA	1.9 U	NA	2.1 U	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	37 UJ	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1221	150	660	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1232	150	660	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1242	240	1000	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1248	**240**	1000	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	**390 J**	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1254	**110**	1000	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	**110 J**	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1262	--	--	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
Aroclor 1268	--	--	--	--	--	37 U	NA	35 U	NA	40 U	NA	37 U	NA	42 U	NA	40 U	NA	37 U	NA	37 U	NA	36 U	NA	41 U	NA	40 U	35 U	NA	38 U	NA	NA	NA	NA
beta-BHC	300	1300	--	--	--	1.9 U	NA	0.96 R	NA	2.1 U	NA	1.9 U	NA	1.8 R	NA	2 U	NA	1.9 UJ	NA	1.9 U	NA	**7.9**	NA	1.1 R	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
delta-BHC	--	--	--	--	--	1.9 U	NA	**0.98 J**	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	1.9 U	NA	1.9 U	NA	2.1 U	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
Dieldrin	33	140	--	--	--	3.7 U	NA	3.6 U	NA	4 U	NA	3.7 U	NA	4.2 U	NA	4 U	NA	3 R	NA	3.8 U	NA	3.7 U	NA	**3 J**	NA	3.9 U	3.5 U	NA	3.8 U	NA	NA	NA	NA
Endosulfan I	--	--	--	--	--	1.9 U	NA	1.8 U	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	**1.6 J**	NA	1.9 U	NA	2.1 U	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
Endosulfan II	--	--	--	--	--	3.7 U	NA	3.6 U	NA	4 U	NA	3.7 U	NA	4.2 U	NA	4 U	NA	3.6 UJ	NA	3.8 U	NA	3.7 U	NA	4.1 U	NA	3.9 U	3.5 U	NA	3.8 U	NA	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	3.7 U	NA	3.6 U	NA	8.7 R	NA	3.7 U	NA	4.9 R	NA	4 U	NA	38 R	NA	13 R	NA	3.7 U	NA	7.6 R	NA	3.9 U	3.5 U	NA	3.8 U	NA	NA	NA	NA
Endrin	1800	25000	--	--	--	3.4 R	NA	3.6 U	NA	3.8 R	NA	3.7 U	NA	2.1 R	NA	4 U	NA	8.2 R	NA	3.8 U	NA	3.7 U	NA	19 R	NA	3.9 U	3.5 U	NA	3.8 U	NA	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	3.7 U	NA	3.6 U	NA	7.4 R	NA	**6.3**	NA	4.5 R	NA	4 U	NA	**18 J**	NA	**3.9 J**	NA	3.7 U	NA	4 R	NA	**7.2 J**	3.5 U	NA	3.8 U	NA	NA	NA	NA
Endrin Ketone	--	--	--	--	--	5.9 R	NA	2 R	NA	**36**	NA	8.4 R	NA	**13**	NA	4 U	NA	**39 J**	NA	3.6 R	NA	7 R	NA	**21**	NA	3.9 U	3.5 U	NA	3.8 U	NA	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	1.9 U	NA	1.8 U	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	1.9 U	NA	**3.4 J**	NA	2.1 U	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	1.9 U	NA	1.8 U	NA	1.9 R	NA	1.9 U	NA	**1.9 J**	NA	2 U	NA	**8.2 J**	NA	**1.6 J**	NA	7.2 R	NA	**2.4 J**	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
Heptachlor	120	510	--	--	--	1.9 U	NA	1.8 U	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	1.9 U	NA	1.9 U	NA	2.1 U	NA	2 R	1.8 R	NA	1.9 R	NA	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	1.9 U	NA	1.8 U	NA	2.1 U	NA	1.9 U	NA	2.2 U	NA	2 U	NA	1.9 UJ	NA	1.9 U	NA	**18**	NA	2.2 R	NA	2 U	1.8 U	NA	1.9 U	NA	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	19 U	NA	18 U	NA	25 R	NA	19 U	NA	22 U	NA	20 U	NA	33 R	NA	19 U	NA	19 U	NA	21 U	NA	20 U	18 U	NA	19 U	NA	NA	NA	NA
Toxaphene	480	2100	--	--	--	190 U	NA	180 U	NA	210 U	NA	190 U	NA	220 U	NA	200 U	NA	190 UJ	NA	190 U	NA	190 U	NA	210 U	NA	200 U	180 U	NA	190 U	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																				35 Water St.							
					Sample Location	SS-08		SS-09		SS-10		SS-11		SS-16		SS-17		SS-18		SS-19		SS-20		SS-21		35WS-01							
					Sample Depth (ft bgs)	0 - 1	2.5 - 3	0 - 1	1 - 3	0.5 - 2	1 - 3	0 - 1	2 - 3	0 - 1	2.5 - 3	0 - 1.5	2 - 2.5	0 - 1	1 - 2	0 - 1	1 - 2.7	0 - 1	1 - 1.5	0 - 1	1 - 2.2	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	04/21/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/20/11	04/20/11	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
					Sample Type	N	N	MAX	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-08A (0-1)	SS-08C (2.5-3)	SS-09A (0-1)-MAX	SS-09C (1-3)-MAX	SS-10A (0.5-2)	SS-10C (1-3)	SS-11A (0-1)	SS-11C (2-3)	SS-16A (0-1)	SS-16C (2.5-3)	SS-17A (0-1.5)	SS-17C (2-2.5)	SS-18A (0-1)	SS-18C (1-2)	SS-19A (0-1)	SS-19C (1-2.7)	SS-20A (0-1)	SS-20C (1-1.5)	SS-21A (0-1)	SS-21C (1-2.2)	35WS-SS01-0001-061114X	35WS-SB01-0204-061114X	35WS-SB01-0406-061114X	35WS-SB01-0608-061114X	35WS-SB01-0810-061114X	35WS-SB01-1012-061114X	35WS-SB01-1214-061114X	35WS-SB01-1416-061114X
Metals (mg/kg)																																	
Aluminum	7700	110000	10000	10000	10700	10800	NA	10900	NA	5560	NA	12900	NA	17800	NA	5200	NA	9580	NA	12300	NA	8480	NA	12700	NA	10000	11200	NA	6580	NA	NA	NA	NA
Antimony	3.1	47	1	7	--	4.9 UJ	NA	5.6 UJ	NA	5.8 UJ	NA	4.7 UJ	NA	R	NA	R	NA	R	NA	R	NA	5.2 UJ	NA	R	NA	0.89 UJ	0.79 UJ	NA	0.85 UJ	NA	NA	NA	NA
Arsenic	0.67	3	20	20	8.78	12.4 J	11.7 J	18.4	14.9 J	26.4 J	11.2 J	19.4 J	13.6 J	67.2 EB	29 J	8.5 EB	13.8 J	12.4	18.2 J	12.9	15.1 J	13.6 J	10.5 J	16.8	10.4 J	36.4	6.5 J	NA	4 J	NA	NA	NA	NA
Barium	1500	22000	50	50	16	36.8	NA	44.2	NA	68.5	NA	54.5	NA	85.4	NA	22.7	NA	47.7	NA	63.2	NA	164	NA	73.6	NA	40.6	27.6	NA	8.2 J	NA	NA	NA	NA
Beryllium	16	230	0.4	0.9	0.315	0.69 J	NA	0.73 J	NA	0.68 J	NA	0.75 J	NA	1.2 J	NA	0.38 J	NA	0.63 J	NA	0.61 J	NA	0.5 J	NA	0.78 J	NA	0.71	0.67	NA	0.4	NA	NA	NA	NA
Cadmium	7	98	2	3	--	0.15 J	NA	0.11 J	NA	0.33 J	NA	0.28 J	NA	0.46 J	NA	0.49 U	NA	0.12 J	NA	0.21 J	NA	0.33 J	NA	0.43 J	NA	0.23 J	0.36 J	NA	0.21 J	NA	NA	NA	NA
Calcium	--	--	--	--	634	2640	NA	3470	NA	2960	NA	3800	NA	3990	NA	1990	NA	4180	NA	14000	NA	3180	NA	3080	NA	1710	1180	NA	950	NA	NA	NA	NA
Chromium	12000	180000	30	40	15.2	93.1 J	1730 *	59.3	85.4 J	79.9 J	19 J	175 J	42.1 J	539 *	311 J	20.9	56.5 J	72.5	272 J	18.9	40.5 J	169 J	216 J	117	33 J	292	34.6	NA	13	NA	NA	NA	NA
Chromium-Hexavalent	0.3	6.3	30	40	--	NA	NA	NA	NA	NA	NA	6.2 J	NA	4.1 J	NA	NA	NA	NA	NA	NA	NA	2 UJ	NA	1.9 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	2.3	35	4	4	5.68	6.5	NA	9.1	NA	7.2	NA	7.1	NA	8	NA	3 J	NA	14.6	NA	14	NA	5.9	NA	6	NA	5.5	7.1	NA	5.3	NA	NA	NA	NA
Copper	310	4700	40	200	6.28	15.4	NA	17.6	NA	32	NA	25	NA	29.1	NA	9.2	NA	17.8	NA	16.8	NA	21.2	NA	25.6	NA	21.1	13.7	NA	11.3	NA	NA	NA	NA
Iron	5500	82000	20000	20000	11200	13700	NA	18300 J	NA	16200	NA	19700 *	NA	22400 *	NA	9560	NA	15400	NA	30700 *	NA	12900	NA	16800	NA	13400 J	16500	NA	12000	NA	NA	NA	NA
Lead	400	800	100	600	41.8	51.6	NA	70.2	NA	109	NA	106	NA	121 J	NA	12.5 J	NA	51.2 J	NA	9.6 J	NA	112	NA	157 J	NA	84.4	48	NA	7.5	NA	NA	NA	NA
Magnesium	--	--	5000	5000	2780	3760	NA	4400	NA	2240	NA	4400	NA	4640	NA	2390	NA	4360	NA	14400	NA	3820	NA	4200	NA	2440	3600	NA	3360	NA	NA	NA	NA
Manganese	180	2600	300	300	155	279 J	NA	453 J	NA	154 J	NA	264 J	NA	370 J	NA	106 J	NA	358 J	NA	360 J	NA	338 J	NA	275 J	NA	228 J	286 J EB	NA	250 J EB	NA	NA	NA	NA
Mercury	0.94	4	0.3	1	0.0242	0.15	NA	0.7 J	NA	0.39	NA	0.21	NA	0.34	NA	0.13	NA	0.24	NA	0.017 J	NA	0.32	NA	0.47	NA	0.17	0.11 U	NA	0.1 U	NA	NA	NA	NA
Nickel	150	2200	20	30	11.2	13.7	NA	22.1	NA	13.4	NA	17.4	NA	19.7	NA	10.8	NA	19.4	NA	23.2	NA	14	NA	17	NA	12.8	15.9	NA	10.7	NA	NA	NA	NA
Potassium	--	--	--	--	382	969 J	NA	1140 J	NA	633 J	NA	1070 J	NA	1250 J	NA	1040 J	NA	1170 J	NA	2670 J	NA	860 J	NA	1120 J	NA	472 J	873	NA	377 J	NA	NA	NA	NA
Selenium	39	580	0.5	1	--	2.8 U	NA	0.91 J	NA	3.4 U	NA	2.7 U	NA	R	NA	3.4 UJ	NA	R	NA	R	NA	3 U	NA	R	NA	0.28 J	2 U	NA	2.1 U	NA	NA	NA	NA
Silver	39	580	0.6	5	--	0.25 J	NA	0.93 U	NA	0.45 J	NA	0.44 J	NA	0.4 J	NA	0.97 U	NA	0.94 U	NA	0.49 J	NA	0.36 J	NA	0.27 J	NA	0.85 U	0.75 U	NA	0.77 U	NA	NA	NA	NA
Sodium	--	--	--	--	--	404 U	NA	R	NA	R	NA	R	NA	R	NA	121 J	NA	R	NA	478 J	NA	430 U	NA	R	NA	93.4 J	90.5 J	NA	52.5 J	NA	NA	NA	NA
Thallium	0.078	1.2	0.6	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 J	0.39 U	NA	0.43 U	NA	NA	NA	NA
Vanadium	39	580	30	30	19.4	28.3	NA	34.2	NA	24.5	NA	31.6	NA	53.3	NA	12.7	NA	29.4	NA	41.8	NA	29.7	NA	32.3	NA	28	26.8	NA	18.3	NA	NA	NA	NA
Zinc	2300	35000	100	300	35.3	47.9	NA	55.7	NA	87	NA	87.5	NA	164	NA	23.3	NA	52.7	NA	56.6	NA	144	NA	115	NA	52.2	44.3	NA	38.2	NA	NA	NA	NA
Asbestos (%v/v)																																	
Actinolite	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	33 Water St.																				35 Water St.							
					Sample Location	SS-08		SS-09		SS-10		SS-11		SS-16		SS-17		SS-18		SS-19		SS-20		SS-21		35WS-01							
					Sample Depth (ft bgs)	0 - 1	2.5 - 3	0 - 1	1 - 3	0.5 - 2	1 - 3	0 - 1	2 - 3	0 - 1	2.5 - 3	0 - 1.5	2 - 2.5	0 - 1	1 - 2	0 - 1	1 - 2.7	0 - 1	1 - 1.5	0 - 1	1 - 2.2	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	04/21/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/20/11	04/20/11	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
					Sample Type	N	N	MAX	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-08A (0-1)	SS-08C (2.5-3)	SS-09A (0-1)-MAX	SS-09C (1-3)-MAX	SS-10A (0.5-2)	SS-10C (1-3)	SS-11A (0-1)	SS-11C (2-3)	SS-16A (0-1)	SS-16C (2.5-3)	SS-17A (0-1.5)	SS-17C (2-2.5)	SS-18A (0-1)	SS-18C (1-2)	SS-19A (0-1)	SS-19C (1-2.7)	SS-20A (0-1)	SS-20C (1-1.5)	SS-21A (0-1)	SS-21C (1-2.2)	35WS-SS01-0001-061114X	35WS-SB01-0204-061114X	35WS-SB01-0406-061114X	35WS-SB01-0608-061114X	35WS-SB01-0810-061114X	35WS-SB01-1012-061114X	35WS-SB01-1214-061114X	35WS-SB01-1416-061114X
Dioxins/Furans (ng/Kg)																																	
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	**89.5**	NA	**67.8**	NA	**160**	NA	**15.4**	NA	**153**	NA	**10.1**	NA	**42.9 J**	NA	**11.6**	NA	**193**	NA	**314**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	**3320**	NA	**2500**	NA	**4280 J**	NA	**2320 J**	NA	**8360 J**	NA	**342 J**	NA	**1820 J**	NA	**222 J**	NA	**7040 J**	NA	**13900**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	**42.7**	NA	**17.8**	NA	**55.1**	NA	**8.02**	NA	**50.8**	NA	**4.79**	NA	**14.4 J**	NA	**4.9**	NA	**71.1**	NA	**132**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	**231**	NA	**145**	NA	**313**	NA	**58**	NA	**309**	NA	**24.5**	NA	**105**	NA	**20.8**	NA	**523**	NA	**1010**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	**3.41 J**	NA	**1.35 J**	NA	**4.03 J**	NA	**0.454 J**	NA	**2.99 J**	NA	**0.3 J**	NA	4.12 U	NA	**0.428 J**	NA	**4.11 J**	NA	**7.96 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**2.16 J**	NA	**0.997 J**	NA	**4.09 J**	NA	**0.908 J**	NA	**2.07 JEB**	NA	**0.357 JEB**	NA	2.37 U	NA	**0.464 J**	NA	**3.53 J**	NA	**6.96 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**2.53 J**	NA	**0.994 EMPC**	NA	**3.4 J**	NA	**0.74 J**	NA	**2.2 J**	NA	**0.283 J**	NA	**2.85 EMPC**	NA	**0.387 J**	NA	**4.04 J**	NA	**9.03 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**2.1 J**	NA	**1.07 J**	NA	**3.42 J**	NA	**0.709 J**	NA	**1.79 JEB**	NA	**0.311 JEB**	NA	2.18 U	NA	**0.441 J**	NA	**3.02 J**	NA	**5.66 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**7.78**	NA	**4.27 J**	NA	**15.1 J**	NA	**1.9 J**	NA	**10.1**	NA	**0.871 J**	NA	**3.85 EMPC**	NA	**0.971 J**	NA	**16.1**	NA	**26.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	**0.448 J**	NA	**0.232 EMPC**	NA	1.87 UJ	NA	**0.259 J**	NA	**0.553 J**	NA	0.112 U	NA	1.61 UJ	NA	0.41 U	NA	**0.722 J**	NA	2.35 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**4.16 J**	NA	**1.53 J**	NA	**6.17 J**	NA	**0.787 J**	NA	**4.56 J**	NA	**0.504 J**	NA	3.33 U	NA	**0.842 J**	NA	**5.9 J**	NA	**12.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**0.913 J**	NA	**1.72 J**	NA	**3.52 J**	NA	**0.51 J**	NA	**1.14 JEB**	NA	**0.355 JEB**	NA	1.92 U	NA	**0.534 J**	NA	**0.738 J**	NA	**5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	**1.03 J**	NA	**0.744 J**	NA	**1.93 J**	NA	**1.03 J**	NA	**1.13 J**	NA	**0.185 J**	NA	**3.04 J**	NA	**0.571 J**	NA	**30.9**	NA	**3.11 EMPC**	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**2.99 J**	NA	**1.49 J**	NA	**3.62 J**	NA	**0.881 J**	NA	**2.44 J**	NA	**0.367 J**	NA	1.83 U	NA	**0.397 J**	NA	**4.38 J**	NA	**7.85 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**2.42 J**	NA	**1.65 J**	NA	**3.42 J**	NA	**2.43 J**	NA	**2.13 J**	NA	**0.539 J**	NA	2.72 U	NA	**0.428 J**	NA	**3.74 J**	NA	**5.13 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	0.951 U	NA	**1.62**	NA	5.15 U	NA	0.615 U	NA	0.9 U	NA	0.516 U	NA	5.2 U	NA	0.555 U	NA	1.2 U	NA	4.05 U	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	**0.311 J**	NA	**0.257**	NA	2.22 U	NA	0.781 U	NA	**0.33 J**	NA	**0.0611 EMPC**	NA	4.39 U	NA	**0.426 J**	NA	**1.18**	NA	**1.81 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	**8.11 J**	NA	**4.98 J**	NA	**11.7 J**	NA	**3.76 J**	NA	**10.7 J**	NA	**1.09 J**	NA	**5.46 J**	NA	**1.82 J**	NA	**45.1 J**	NA	**29.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	33 Water St.																			35 Water St.							
					Sample Location	SS-08		SS-09		SS-10		SS-11		SS-16		SS-17		SS-18		SS-19		SS-20		SS-21		35WS-01							
					Sample Depth (ft bgs)	0 - 1	2.5 - 3	0 - 1	1 - 3	0.5 - 2	1 - 3	0 - 1	2 - 3	0 - 1	2.5 - 3	0 - 1.5	2 - 2.5	0 - 1	1 - 2	0 - 1	1 - 2.7	0 - 1	1 - 1.5	0 - 1	1 - 2.2	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	04/21/11	04/20/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/18/11	04/18/11	04/18/11	04/18/11	04/19/11	04/19/11	04/19/11	04/19/11	04/20/11	04/20/11	04/20/11	04/20/11	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14
					Sample Type	N	N	MAX	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SS-08A (0-1)	SS-08C (2.5-3)	SS-09A (0-1)-MAX	SS-09C (1-3)-MAX	SS-10A (0.5-2)	SS-10C (1-3)	SS-11A (0-1)	SS-11C (2-3)	SS-16A (0-1)	SS-16C (2.5-3)	SS-17A (0-1.5)	SS-17C (2-2.5)	SS-18A (0-1)	SS-18C (1-2)	SS-19A (0-1)	SS-19C (1-2.7)	SS-20A (0-1)	SS-20C (1-1.5)	SS-21A (0-1)	SS-21C (1-2.2)	35WS-SS01-0001-061114X	35WS-SB01-0204-061114X	35WS-SB01-0406-061114X	35WS-SB01-0608-061114X	35WS-SB01-0810-061114X	35WS-SB01-1012-061114X	35WS-SB01-1214-061114X	35WS-SB01-1416-061114X
General Chemistry (%)																																
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																																
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																																
Oxidation-Reduction Potential	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**374**	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																																
pH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.89**	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																																
Alkalinity, Bicarbonate (as CaCO2)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																																
Arsenic	**0.67**	**3**	20	20	8.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**38**	**11**	**6**	5 U	5 U	**5**	**5**	5 U
Chromium	**12000**	180000	30	40	15.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**794**	**73**	31 U	30 U	30 U	30 U	**43**	**38**
Lead	**400**	**800**	100	600	41.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**101**	**54**	**19**	**20**	**14**	**12**	**13**	**15**
Mercury	0.94	4	0.3	1	0.0242	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	6 U	6 U	6 U	6 U	6 U	30 U	6 U	5 U
Nickel	150	2200	20	30	11.2	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30 U	32 U	32 U	29 U	28 U	27 U	27 U	29 U
PAH Screening (ug/kg)																																
Total PAH	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**980 J**	**99**	10 U	10 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	45 Water St.																							
					Sample Location	45WS-01								45WS-02								45WS-03							
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14
					Sample Type	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS01-0102-061114X	45WS-SB01-0204-061114X	45WS-SB01-0406-061114X	45WS-SB01-0608-061114X	45WS-SB01-0810-061114X	45WS-SB01-1012-061114X	45WS-SB01-1214-061114X	45WS-SB01-1416-061114X	45WS-SS02-0001-061014X-MAX	45WS-SB02-0204-061014X	45WS-SB02-0406-061014X	45WS-SB02-0608-061014X	45WS-SB02-0810-061014X	45WS-SB02-1012-061014X	45WS-SB02-1214-061014X	45WS-SB02-1416-061014X	45WS-SS03-0001-061014X	45WS-SB03-0204-061014X	45WS-SB03-0406-061014X	45WS-SB03-0608-061014X	45WS-SB03-0810-061014X	45WS-SB03-1012-061014X	45WS-SB03-1214-061014X	45WS-SB03-1416-061014X
Volatiles (ug/kg)																													
1,1,1-Trichloroethane	810000	3600000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	110 R	NA	110 R	110 R	NA	NA	NA	NA	110 R	NA	90 R	NA	100 R	NA	NA	NA	120 R	130 R	NA	NA	100 R	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	11 U	NA	11 U	11 U	NA	NA	NA	NA	11 U	NA	9 U	NA	10 U	NA	NA	NA	12 U	13 U	NA	NA	10 U	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	11 U	NA	11 U	11 U	NA	NA	NA	NA	11 U	NA	9 U	NA	10 U	NA	NA	NA	12 U	13 U	NA	NA	10 U	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	11 U	NA	11 U	11 U	NA	NA	NA	NA	11 U	NA	9 U	NA	10 U	NA	NA	NA	12 U	13 U	NA	NA	10 U	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**19 JEB**	NA	**110 JEB**	**41 JEB**	NA	NA	NA	NA	**76 JTB**	NA	**67 TB**	NA	**17 TB**	NA	NA	NA	**160 JTB**	**30 J**	NA	NA	**14 TB**	NA	NA	NA
Benzene	1200	5100	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Bromoform	67000	290000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Bromomethane	680	3000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	5.6 R	NA	5.7 R	5.5 R	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 R	NA	NA	5.1 U	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	5.6 R	NA	5.7 R	5.5 R	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 R	NA	NA	5.1 U	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Chloroform	320	1400	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Chloromethane	11000	46000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	5.6 R	NA	5.7 R	5.5 R	NA	NA	NA	NA	5.5 R	NA	4.5 R	NA	5.1 R	NA	NA	NA	6 R	6.3 R	NA	NA	5.1 R	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
m,p-Xylene	--	--	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	5.6 U	NA	**11 J**	5.5 U	NA	NA	NA	NA	**8.4 J**	NA	**5.7**	NA	5.1 U	NA	NA	NA	**17**	6.3 U	NA	NA	5.1 U	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
o-Xylene	65000	280000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Styrene	600000	3500000	--	--	--	5.6 R	NA	5.7 R	5.5 R	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 R	NA	NA	5.1 U	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Toluene	490000	4700000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Trichloroethene	410	1900	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	5.6 U	NA	5.7 U	5.5 U	NA	NA	NA	NA	5.5 U	NA	4.5 U	NA	5.1 U	NA	NA	NA	6 U	6.3 U	NA	NA	5.1 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	45 Water St.																							
					Sample Location	45WS-01								45WS-02								45WS-03							
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14
					Sample Type	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS01-0102-061114X	45WS-SB01-0204-061114X	45WS-SB01-0406-061114X	45WS-SB01-0608-061114X	45WS-SB01-0810-061114X	45WS-SB01-1012-061114X	45WS-SB01-1214-061114X	45WS-SB01-1416-061114X	45WS-SS02-0001-061014X-MAX	45WS-SB02-0204-061014X	45WS-SB02-0406-061014X	45WS-SB02-0608-061014X	45WS-SB02-0810-061014X	45WS-SB02-1012-061014X	45WS-SB02-1214-061014X	45WS-SB02-1416-061014X	45WS-SS03-0001-061014X	45WS-SB03-0204-061014X	45WS-SB03-0406-061014X	45WS-SB03-0608-061014X	45WS-SB03-0810-061014X	45WS-SB03-1012-061014X	45WS-SB03-1214-061014X	45WS-SB03-1416-061014X
Semivolatiles (ug/kg)																													
1,1'-Biphenyl	4700	20000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	**90 J**	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	180 UJ	NA	190 UJ	190 UJ	NA	NA	NA	NA	200 UJ	NA	200 UJ	NA	210 UJ	NA	NA	NA	200 UJ	190 UJ	NA	NA	220 UJ	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	180 UJ	NA	190 UJ	190 UJ	NA	NA	NA	NA	200 UJ	NA	200 UJ	NA	210 UJ	NA	NA	NA	200 UJ	190 UJ	NA	NA	220 UJ	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	350 U	NA	370 U	370 U	NA	NA	NA	NA	380 U	NA	400 U	NA	400 U	NA	NA	NA	390 U	380 U	NA	NA	420 U	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	3.5 U	NA	3.7 U	3.7 U	NA	NA	NA	NA	3.8 U	NA	**310**	NA	4 U	NA	NA	NA	**8.8 JEB**	3.8 U	NA	NA	4.2 U	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	350 U	NA	370 U	370 U	NA	NA	NA	NA	380 U	NA	400 U	NA	400 U	NA	NA	NA	390 U	380 U	NA	NA	420 U	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	350 U	NA	370 U	370 U	NA	NA	NA	NA	380 U	NA	400 U	NA	400 U	NA	NA	NA	390 U	380 U	NA	NA	420 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	350 U	NA	370 U	370 U	NA	NA	NA	NA	380 U	NA	400 U	NA	400 U	NA	NA	NA	390 U	380 U	NA	NA	420 U	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	350 U	NA	370 U	370 U	NA	NA	NA	NA	380 U	NA	400 U	NA	400 U	NA	NA	NA	390 U	380 U	NA	NA	420 U	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	350 U	NA	370 U	370 U	NA	NA	NA	NA	380 U	NA	400 U	NA	400 U	NA	NA	NA	390 U	380 U	NA	NA	420 U	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	3.5 U	NA	3.7 U	3.7 U	NA	NA	NA	NA	3.8 UJ	NA	**1300**	NA	4 UJ	NA	NA	NA	**26 J**	3.8 U	NA	NA	4.2 UJ	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	**13 J**	NA	**8.9 J**	3.7 U	NA	NA	NA	NA	3.8 UJ	NA	**490**	NA	4 UJ	NA	NA	NA	**110**	**6.6 J**	NA	NA	4.2 UJ	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	**46 JEB**	NA	**370 EB**	NA	210 U	NA	NA	NA	**52 JEB**	**100 J**	NA	NA	220 U	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**8**	NA	**3.8**	3.7 U	NA	NA	NA	NA	**4.7**	NA	**12000**	NA	**30**	NA	NA	NA	**110**	**9.5**	NA	NA	4.2 U	NA	NA	NA
Atrazine	2300	10000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**32**	NA	**10**	3.7 U	NA	NA	NA	NA	**36 J**	NA	**29000**	NA	**55**	NA	NA	NA	**500**	**41**	NA	NA	4.2 U	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**31**	NA	**13**	3.7 U	NA	NA	NA	NA	**69 J**	NA	**23000**	NA	**66**	NA	NA	NA	**450**	**46**	NA	NA	4.2 U	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**56**	NA	**17**	3.7 U	NA	NA	NA	NA	**86 J**	NA	**32000**	NA	**67 J**	NA	NA	NA	**790**	**64**	NA	NA	4.2 U	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**17**	NA	**5.8**	3.7 U	NA	NA	NA	NA	**72 J**	NA	**10000**	NA	**33**	NA	NA	NA	**300**	**28**	NA	NA	4.2 U	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**23**	NA	**9.1**	3.7 U	NA	NA	NA	NA	**45 J**	NA	**12000**	NA	**40**	NA	NA	NA	**260**	**23**	NA	NA	4.2 U	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**51 JEB**	NA	190 U	190 U	NA	NA	NA	NA	**120 J**	NA	200 U	NA	**52 J**	NA	NA	NA	**170 J**	190 U	NA	NA	220 U	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	**55 J**	190 U	NA	NA	220 U	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Carbazole	--	--	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	**1800**	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**53**	NA	**14**	3.7 U	NA	NA	NA	NA	**62 J**	NA	**27000**	NA	**56**	NA	NA	NA	**500**	**46**	NA	NA	4.2 U	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**5.6**	NA	3.7 U	3.7 U	NA	NA	NA	NA	**14 J**	NA	**3300 J**	NA	**9.2**	NA	NA	NA	**150 J**	**7.7**	NA	NA	4.2 U	NA	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	**700**	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**590 JEB**	NA	**780 JEB**	**590 JEB**	NA	NA	NA	NA	**730**	NA	**610**	NA	**830**	NA	NA	NA	**440**	**600 J**	NA	NA	**490**	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**74**	NA	**23**	3.7 U	NA	NA	NA	NA	**87 J**	NA	**60000**	NA	**110**	NA	NA	NA	**900**	**65**	NA	NA	4.2 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	45 Water St.																							
					Sample Location	45WS-01								45WS-02								45WS-03							
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14
					Sample Type	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS01-0102-061114X	45WS-SB01-0204-061114X	45WS-SB01-0406-061114X	45WS-SB01-0608-061114X	45WS-SB01-0810-061114X	45WS-SB01-1012-061114X	45WS-SB01-1214-061114X	45WS-SB01-1416-061114X	45WS-SS02-0001-061014X-MAX	45WS-SB02-0204-061014X	45WS-SB02-0406-061014X	45WS-SB02-0608-061014X	45WS-SB02-0810-061014X	45WS-SB02-1012-061014X	45WS-SB02-1214-061014X	45WS-SB02-1416-061014X	45WS-SS03-0001-061014X	45WS-SB03-0204-061014X	45WS-SB03-0406-061014X	45WS-SB03-0608-061014X	45WS-SB03-0810-061014X	45WS-SB03-1012-061014X	45WS-SB03-1214-061014X	45WS-SB03-1416-061014X
Fluorene	230000	3000000	1000	2000	--	3.5 U	NA	3.7 U	3.7 UJ	NA	NA	NA	NA	3.8 U	NA	**2400 J**	NA	**5.2**	NA	NA	NA	**22 J**	3.8 U	NA	NA	4.2 U	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**16**	NA	**5.8**	3.7 U	NA	NA	NA	NA	**61 J**	NA	**13000**	NA	**30**	NA	NA	NA	**340**	**25**	NA	NA	4.2 U	NA	NA	NA
Isophorone	560000	2400000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Naphthalene	**3800**	17000	500	1000	--	3.5 U	NA	3.7 U	3.7 U	NA	NA	NA	NA	**6.6 EB**	NA	**110 EB**	NA	4 U	NA	NA	NA	**9.5 JEB**	3.8 U	NA	NA	4.2 U	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA
Pentachlorophenol	990	4000	--	--	--	7.1 U	NA	7.5 U	7.5 U	NA	NA	NA	NA	7.7 U	NA	64 U	NA	8.1 U	NA	NA	NA	**5 J**	7.7 U	NA	NA	8.6 U	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**24 EB**	NA	**9.9 EB**	3.7 U	NA	NA	NA	NA	**28 J**	NA	**26000**	NA	**51**	NA	NA	NA	**360**	**28**	NA	NA	4.2 U	NA	NA	NA
Phenol	1800000	25000000	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	**45 J**	NA	NA	220 U	NA	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**57**	NA	**17**	3.7 U	NA	NA	NA	NA	**74 J**	NA	**45000**	NA	**79**	NA	NA	NA	**640**	**69**	NA	NA	4.2 U	NA	NA	NA
	Pesticides/PCBs (ug/kg)																												
4,4'-DDD	2200	9600	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	**14 J**	NA	4.1 U	NA	NA	NA	3.9 U	3.7 U	NA	NA	4.2 U	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	**28 J**	NA	4.1 U	NA	NA	NA	**35 J**	3.7 U	NA	NA	4.2 U	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	**60 J**	NA	4.1 U	NA	NA	NA	**98**	3.7 U	NA	NA	4.2 U	NA	NA	NA
Aldrin	31	140	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	**3.6 J**	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
alpha-BHC	85	370	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	2 U	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	**12 J**	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1221	150	660	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1232	150	660	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1242	240	1000	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1248	**240**	1000	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1254	**110**	1000	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	**300 J**	NA	40 U	NA	NA	NA	**200 J**	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1262	--	--	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
Aroclor 1268	--	--	--	--	--	36 U	NA	37 U	36 U	NA	NA	NA	NA	38 U	NA	39 U	NA	40 U	NA	NA	NA	39 U	37 U	NA	NA	43 U	NA	NA	NA
beta-BHC	300	1300	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	2 U	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
delta-BHC	--	--	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	2 U	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
Dieldrin	33	140	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	3.9 U	NA	4.1 U	NA	NA	NA	3.9 U	3.7 U	NA	NA	4.2 U	NA	NA	NA
Endosulfan I	--	--	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	2 U	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
Endosulfan II	--	--	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	3.9 U	NA	4.1 U	NA	NA	NA	3.9 U	3.7 U	NA	NA	4.2 U	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	**47 J**	NA	4.1 U	NA	NA	NA	3.9 U	3.7 U	NA	NA	4.2 U	NA	NA	NA
Endrin	1800	25000	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	3.9 U	NA	4.1 U	NA	NA	NA	3.9 U	3.7 U	NA	NA	4.2 U	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	**12 J**	NA	4.1 U	NA	NA	NA	**9.1 J**	3.7 U	NA	NA	4.2 U	NA	NA	NA
Endrin Ketone	--	--	--	--	--	3.6 U	NA	3.7 U	3.6 U	NA	NA	NA	NA	3.8 U	NA	**53 J**	NA	4.1 U	NA	NA	NA	3.9 U	3.7 U	NA	NA	4.2 U	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	2 U	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	**19 J**	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
Heptachlor	120	510	--	--	--	1.8 R	NA	1.9 R	1.9 R	NA	NA	NA	NA	2 R	NA	2 R	NA	2.1 R	NA	NA	NA	2 R	1.9 R	NA	NA	2.2 R	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	1.8 U	NA	1.9 U	1.9 U	NA	NA	NA	NA	2 U	NA	**2.4 J**	NA	2.1 U	NA	NA	NA	2 U	1.9 U	NA	NA	2.2 U	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	18 U	NA	19 U	19 U	NA	NA	NA	NA	20 U	NA	**160 J**	NA	21 U	NA	NA	NA	20 U	19 U	NA	NA	22 U	NA	NA	NA
Toxaphene	480	2100	--	--	--	180 U	NA	190 U	190 U	NA	NA	NA	NA	200 U	NA	200 U	NA	210 U	NA	NA	NA	200 U	190 U	NA	NA	220 U	NA	NA	NA

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	45 Water St.																							
					Sample Location	45WS-01								45WS-02								45WS-03							
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14
					Sample Type	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS01-0102-061114X	45WS-SB01-0204-061114X	45WS-SB01-0406-061114X	45WS-SB01-0608-061114X	45WS-SB01-0810-061114X	45WS-SB01-1012-061114X	45WS-SB01-1214-061114X	45WS-SB01-1416-061114X	45WS-SS02-0001-061014X-MAX	45WS-SB02-0204-061014X	45WS-SB02-0406-061014X	45WS-SB02-0608-061014X	45WS-SB02-0810-061014X	45WS-SB02-1012-061014X	45WS-SB02-1214-061014X	45WS-SB02-1416-061014X	45WS-SS03-0001-061014X	45WS-SB03-0204-061014X	45WS-SB03-0406-061014X	45WS-SB03-0608-061014X	45WS-SB03-0810-061014X	45WS-SB03-1012-061014X	45WS-SB03-1214-061014X	45WS-SB03-1416-061014X
Metals (mg/kg)																													
Aluminum	**7700**	110000	10000	10000	10700	**11500**	NA	**10200**	**8040**	NA	NA	NA	NA	**10800**	NA	**6080**	NA	**23500**	NA	NA	NA	**11200**	**6390**	NA	NA	**24300**	NA	NA	NA
Antimony	**3.1**	47	1	7	--	0.78 UJ	NA	0.82 UJ	0.79 UJ	NA	NA	NA	NA	0.87 UJ	NA	0.86 UJ	NA	0.84 UJ	NA	NA	NA	0.84 UJ	0.83 UJ	NA	NA	0.85 UJ	NA	NA	NA
Arsenic	**0.67**	**3**	20	20	8.78	**8.5 J**	NA	**9.6 J**	**4.7 J**	NA	NA	NA	NA	**65**	NA	**8.2**	NA	**11.7**	NA	NA	NA	**74.2**	**7.6 J**	NA	NA	**11.9 J**	NA	NA	NA
Barium	**1500**	22000	50	50	16	**37**	NA	**111**	**19.2**	NA	NA	NA	NA	**28.9**	NA	**154**	NA	**51.3**	NA	NA	NA	**92.5**	**54.6**	NA	NA	**79.1**	NA	NA	NA
Beryllium	16	230	0.4	0.9	0.315	**0.62**	NA	**0.52**	**0.53**	NA	NA	NA	NA	**0.58**	NA	**0.51**	NA	**1.4**	NA	NA	NA	**0.68**	**0.25 J**	NA	NA	**1.8**	NA	NA	NA
Cadmium	**7**	98	2	3	--	**0.52 J**	NA	**0.36 J**	**0.22 J**	NA	NA	NA	NA	**0.28 J**	NA	**1.2**	NA	**0.46**	NA	NA	NA	**0.95**	**0.23 J**	NA	NA	**1.2 J**	NA	NA	NA
Calcium	--	--	--	--	634	**2530**	NA	**11200**	**1170**	NA	NA	NA	NA	**2090**	NA	**8800**	NA	**2140**	NA	NA	NA	**3420**	**1940**	NA	NA	**2630**	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**32.1**	NA	**17.9**	**15.8**	NA	NA	NA	NA	**697 J**	NA	**125**	NA	**56**	NA	NA	NA	**959**	**24.3**	NA	NA	**68.9**	NA	NA	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.6 J**	NA	NA	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**11.5**	NA	**6.5**	**6.2**	NA	NA	NA	NA	**8.2**	NA	**17.2**	NA	**15.4**	NA	NA	NA	**7.8**	**3.9 J**	NA	NA	**17.9**	NA	NA	NA
Copper	**310**	4700	40	200	6.28	**19.1**	NA	**19.4**	**10.7**	NA	NA	NA	NA	**16.3**	NA	**48.3**	NA	**15.4**	NA	NA	NA	**45.7**	**12**	NA	NA	**24.9**	NA	NA	NA
Iron	**5500**	**82000**	20000	20000	11200	**22100**	NA	**16000**	**12300**	NA	NA	NA	NA	**15400 J**	NA	**22400 J**	NA	**34900 J**	NA	NA	NA	**17400 J**	**11300**	NA	NA	**39700**	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**27.9**	NA	**601**	**7.6**	NA	NA	NA	NA	**28.6**	NA	**415**	NA	**24.7**	NA	NA	NA	**285**	**601**	NA	NA	**24.4**	NA	NA	NA
Magnesium	--	--	5000	5000	2780	**6560**	NA	**3870**	**3550**	NA	NA	NA	NA	**4730**	NA	**25300**	NA	**8510**	NA	NA	NA	**3380**	**2480**	NA	NA	**10600**	NA	NA	NA
Manganese	**180**	**2600**	300	300	155	**373 J EB**	NA	**313 J EB**	**347 J EB**	NA	NA	NA	NA	**336 JEB**	NA	**374 JEB**	NA	**550 JEB**	NA	NA	NA	**318 JEB**	**190 J**	NA	NA	**609 J**	NA	NA	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	0.1 U	NA	**0.26**	0.11 U	NA	NA	NA	NA	**0.15**	NA	**0.25**	NA	0.12 U	NA	NA	NA	**0.37**	**0.2**	NA	NA	0.13 U	NA	NA	NA
Nickel	**150**	2200	20	30	11.2	**28.7**	NA	**14.5**	**12.9**	NA	NA	NA	NA	**29**	NA	**219**	NA	**29.8**	NA	NA	NA	**17**	**9.9**	NA	NA	**52.4**	NA	NA	NA
Potassium	--	--	--	--	382	**908**	NA	**753**	**614**	NA	NA	NA	NA	419 UJ	NA	**602 J**	NA	**1850 J**	NA	NA	NA	**749 J**	**680**	NA	NA	**4540**	NA	NA	NA
Selenium	39	580	0.5	1	--	**0.023 J**	NA	4.1 U	4 U	NA	NA	NA	NA	**0.048 J**	NA	**0.59 J**	NA	2.1 U	NA	NA	NA	**0.35 J**	**0.075 J**	NA	NA	4.3 U	NA	NA	NA
Silver	39	580	0.6	5	--	0.77 U	NA	0.77 U	0.84 U	NA	NA	NA	NA	0.84 U	NA	0.85 U	NA	0.9 U	NA	NA	NA	0.86 U	0.85 U	NA	NA	0.88 U	NA	NA	NA
Sodium	--	--	--	--	--	**780**	NA	**1090**	**191 J**	NA	NA	NA	NA	**172 J**	NA	**194 J**	NA	**464**	NA	NA	NA	**145 J**	**130 J**	NA	NA	**1090**	NA	NA	NA
Thallium	**0.078**	1.2	0.6	5	--	0.39 U	NA	**0.11 J**	**0.07 J**	NA	NA	NA	NA	**0.074 J**	NA	**0.18 J**	NA	**0.28 J**	NA	NA	NA	**0.12 J**	0.42 U	NA	NA	0.43 U	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**37.3**	NA	**25.7**	**19.2**	NA	NA	NA	NA	**28**	NA	**30.4**	NA	**63.4**	NA	NA	NA	**34**	**19**	NA	NA	**65.3**	NA	NA	NA
Zinc	**2300**	35000	100	300	35.3	**59.4**	NA	**56.3**	**29.8**	NA	NA	NA	NA	**44.8**	NA	**279**	NA	**61.5**	NA	NA	NA	**147**	**38.7**	NA	NA	**94.8**	NA	NA	NA
Asbestos (%v/v)																													
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	45 Water St.																						
					Sample Location	45WS-01								45WS-02								45WS-03							
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14
					Sample Type	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS01-0102-061114X	45WS-SB01-0204-061114X	45WS-SB01-0406-061114X	45WS-SB01-0608-061114X	45WS-SB01-0810-061114X	45WS-SB01-1012-061114X	45WS-SB01-1214-061114X	45WS-SB01-1416-061114X	45WS-SS02-0001-061014X-MAX	45WS-SB02-0204-061014X	45WS-SB02-0406-061014X	45WS-SB02-0608-061014X	45WS-SB02-0810-061014X	45WS-SB02-1012-061014X	45WS-SB02-1214-061014X	45WS-SB02-1416-061014X	45WS-SS03-0001-061014X	45WS-SB03-0204-061014X	45WS-SB03-0406-061014X	45WS-SB03-0608-061014X	45WS-SB03-0810-061014X	45WS-SB03-1012-061014X	45WS-SB03-1214-061014X	45WS-SB03-1416-061014X
Dioxins/Furans (ng/Kg)																												
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43.2 J**	NA	NA	NA	NA	NA	**1710**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2210**	NA	NA	NA	NA	NA	**141000 D**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43.6 J**	NA	NA	NA	NA	NA	**936**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**75.5 J**	NA	NA	NA	NA	NA	**13600 D**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.72 J**	NA	NA	NA	NA	NA	**32.1**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15.8 J**	NA	NA	NA	NA	NA	**39.7**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.45 U	NA	NA	NA	NA	NA	**68 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**18.2 J**	NA	NA	NA	NA	NA	**16.1**	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.67 J**	NA	NA	NA	NA	NA	**472**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14 UJ	NA	NA	NA	NA	NA	**5.98 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.5 U	NA	NA	NA	NA	NA	**195**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**14 J**	NA	NA	NA	NA	NA	**4.17 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8.05 J**	NA	NA	NA	NA	NA	**16.1**	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**17.8 J**	NA	NA	NA	NA	NA	**81.7**	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**30 J**	NA	NA	NA	NA	NA	**14.2**	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**22.8 J**	NA	NA	NA	NA	NA	**4.06**	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.55 U	NA	NA	NA	NA	NA	**7.33**	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**92.9 J**	NA	NA	NA	NA	NA	**2470 J**	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**167 J**	NA	NA	NA	NA	NA	**32500 JD**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**199 J**	NA	NA	NA	NA	NA	**1760 J**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**43.5 J**	NA	NA	NA	NA	NA	**3880 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**306 J**	NA	NA	NA	NA	NA	**209 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**42.6 J**	NA	NA	NA	NA	NA	**217 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**26 J**	NA	NA	NA	NA	NA	**41.5 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**310 J**	NA	NA	NA	NA	NA	**103 J**	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**27.6 J**	NA	NA	NA	NA	NA	**305 J**	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	45 Water St.																						
					Sample Location	45WS-01								45WS-02								45WS-03							
					Sample Depth (ft bgs)	1 - 2	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14
					Sample Type	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS01-0102-061114X	45WS-SB01-0204-061114X	45WS-SB01-0406-061114X	45WS-SB01-0608-061114X	45WS-SB01-0810-061114X	45WS-SB01-1012-061114X	45WS-SB01-1214-061114X	45WS-SB01-1416-061114X	45WS-SS02-0001-061014X-MAX	45WS-SB02-0204-061014X	45WS-SB02-0406-061014X	45WS-SB02-0608-061014X	45WS-SB02-0810-061014X	45WS-SB02-1012-061014X	45WS-SB02-1214-061014X	45WS-SB02-1416-061014X	45WS-SS03-0001-061014X	45WS-SB03-0204-061014X	45WS-SB03-0406-061014X	45WS-SB03-0608-061014X	45WS-SB03-0810-061014X	45WS-SB03-1012-061014X	45WS-SB03-1214-061014X	45WS-SB03-1416-061014X
General Chemistry (%)																												
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																												
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																												
Oxidation-Reduction Potential	--	--	--	--	--	**251**	NA	NA	NA	NA	NA	NA	NA	**384**	NA	**314**	NA	NA	NA	NA	NA	**348**	**384**	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																												
pH	--	--	--	--	--	**9.06**	NA	NA	NA	NA	NA	NA	NA	**8.33**	NA	**8.47**	NA	NA	NA	NA	NA	**6.65**	**7.33**	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																												
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																												
Arsenic	**0.67**	**3**	20	20	8.78	**9**	12 U	**20**	5 U	5 U	5 U	5 U	5 U	**60**	9 U	**20**	12 U	**11**	**16**	**15**	**9**	**72**	**13**	6 U	**16**	**12**	**14**	**10**	7 U
Chromium	**12000**	180000	30	40	15.2	34 U	35 U	33 U	32 U	32 U	**51**	29 U	**53**	**1596**	**60**	**137**	**41**	**81**	**76**	**99**	**72**	**1889**	**74**	**48**	**82**	**77**	**93**	**98**	**86**
Lead	**400**	**800**	100	600	41.8	**38**	**174**	**397**	**18**	**19**	**16**	**10**	**15**	**33**	**88**	**299**	**196**	**25**	**30**	**33**	**29**	**247**	**200**	**24**	**24**	**23**	**24**	**29**	**34**
Mercury	0.94	4	0.3	1	0.0242	6 U	6 U	6 U	6 U	6 U	6 U	5 U	5 U	6 U	6 U	7 U	6 U	6 U	7 U	6 U	7 U	6 U	6 U	6 U	6 U	6 U	6 U	7 U	6 U
Nickel	150	2200	20	30	11.2	33 U	31 U	**37**	30 U	29 U	**36**	28 U	28 U	29 U	33 U	**124**	29 U	34 U	**38**	**44**	**48**	31 U	31 U	29 U	35 U	**41**	36 U	35 U	**49**
PAH Screening (ug/kg)																												
Total PAH	--	--	--	--	--	NA	**1000 J**	**300**	10 U	**15**	NA	NA	NA	**360**	**500 J**	**500 J**	**500 J**	NA	NA	NA	NA	**2200 J**	**410**	**14**	10 U	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	45 Water St.								MBTA ROW																	
					Sample Location	45WS-04								ROW-01				ROW-02								ROW-03					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS04-0001-060914X	45WS-SB04-0204-060914X	45WS-SB04-0406-060914X	45WS-SB04-0608-061014X	45WS-SB04-0810-060914X	45WS-SB04-1012-060914X	45WS-SB04-1214-060914X	45WS-SB04-1416-060914X	ROW-SS01-0001-062314X	ROW-SB01-0204-062314X	ROW-SB01-0406-062314X	ROW-SB01-0608-062314X	ROW-SS02-0001-062314X-MAX	ROW-SB02-0204-062314X	ROW-SB02-0406-062314X	ROW-SB02-0608-062314X	ROW-SB02-0810-062314X	ROW-SB02-1012-062314X	ROW-SB02-1214-062314X	ROW-SB02-1416-062314X	ROW-SS03-0001-062314X	ROW-SB03-0204-062314X	ROW-SB03-0406-062314X	ROW-SB03-0608-062314X	ROW-SB03-0810-062314X	ROW-SB03-1012-062314X
Volatiles (ug/kg)																															
1,1,1-Trichloroethane	810000	3600000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	**22**	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	28 UJ	NA	NA	**5.3**	NA	NA	NA	**4.1 J**	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	28 UJ	NA	NA	**4.1 J**	NA	NA	NA	**12**	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	**22 J**	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	560 R	NA	NA	100 R	NA	NA	NA	100 R	110 R	NA	100 R	92 R	110 R	120 R	99 R	NA	NA	NA	NA	NA	110 R	120 R	97 R	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	56 UJ	NA	NA	10 U	NA	NA	NA	10 U	**16**	NA	10 U	9.2 U	11 U	12 U	9.9 U	NA	NA	NA	NA	NA	**15 J**	12 U	9.7 U	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	56 UJ	NA	NA	10 U	NA	NA	NA	10 U	11 U	NA	10 U	9.2 U	11 U	12 U	9.9 U	NA	NA	NA	NA	NA	11 U	12 U	9.7 U	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	56 UJ	NA	NA	10 U	NA	NA	NA	10 U	11 U	NA	10 U	9.2 U	11 U	12 U	9.9 U	NA	NA	NA	NA	NA	11 U	12 U	9.7 U	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**300 J**	NA	NA	10 U	NA	NA	NA	**11**	**140 EB**	NA	**82 EB**	**34 JEB**	**150 JEB**	**20 EB**	**42 EB**	NA	NA	NA	NA	NA	**120 JEB**	**96 EB**	**100 EB**	NA	NA	NA
Benzene	1200	5100	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Bromoform	67000	290000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Bromomethane	680	3000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 R	4.6 R	5.4 R	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 R	6.1 R	4.8 R	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 R	NA	5.1 R	4.6 R	5.4 R	5.8 R	4.9 R	NA	NA	NA	NA	NA	5.6 R	6.1 R	4.8 R	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 R	NA	5.1 R	4.6 R	5.4 R	5.8 R	4.9 R	NA	NA	NA	NA	NA	5.6 R	6.1 R	4.8 R	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Chloroform	320	1400	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Chloromethane	11000	46000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	28 R	NA	NA	5.2 R	NA	NA	NA	5 R	5.5 R	NA	5.1 R	4.6 R	5.4 R	5.8 R	4.9 R	NA	NA	NA	NA	NA	5.6 R	6.1 R	4.8 R	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
m,p-Xylene	--	--	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**45 J**	NA	NA	5.2 U	NA	NA	NA	5 U	**34 EB**	NA	5.1 U	**19 EB**	**7.3 EB**	5.8 U	4.9 U	NA	NA	NA	NA	NA	**2.6 JEB**	6.1 U	4.8 U	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
o-Xylene	65000	280000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Styrene	600000	3500000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 R	NA	5.1 R	4.6 R	5.4 R	5.8 R	4.9 R	NA	NA	NA	NA	NA	5.6 R	6.1 R	4.8 R	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Toluene	490000	4700000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Trichloroethene	410	1900	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	28 UJ	NA	NA	5.2 U	NA	NA	NA	5 U	5.5 U	NA	5.1 U	4.6 U	5.4 U	5.8 U	4.9 U	NA	NA	NA	NA	NA	5.6 U	6.1 U	4.8 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	45 Water St.								MBTA ROW																	
					Sample Location	45WS-04								ROW-01				ROW-02								ROW-03					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS04-0001-060914X	45WS-SB04-0204-060914X	45WS-SB04-0406-060914X	45WS-SB04-0608-061014X	45WS-SB04-0810-060914X	45WS-SB04-1012-060914X	45WS-SB04-1214-060914X	45WS-SB04-1416-060914X	ROW-SS01-0001-062314X	ROW-SB01-0204-062314X	ROW-SB01-0406-062314X	ROW-SB01-0608-062314X	ROW-SS02-0001-062314X-MAX	ROW-SB02-0204-062314X	ROW-SB02-0406-062314X	ROW-SB02-0608-062314X	ROW-SB02-0810-062314X	ROW-SB02-1012-062314X	ROW-SB02-1214-062314X	ROW-SB02-1416-062314X	ROW-SS03-0001-062314X	ROW-SB03-0204-062314X	ROW-SB03-0406-062314X	ROW-SB03-0608-062314X	ROW-SB03-0810-062314X	ROW-SB03-1012-062314X
Semivolatiles (ug/kg)																															
1,1'-Biphenyl	4700	20000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	710 UJ	NA	NA	210 UJ	NA	NA	NA	200 UJ	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	710 UJ	NA	NA	210 UJ	NA	NA	NA	200 UJ	190 UJ	NA	210 U	210 U	180 U	170 UJ	180 UJ	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	1400 UJ	NA	NA	420 U	NA	NA	NA	390 U	360 U	NA	410 U	400 U	340 U	340 U	350 U	NA	NA	NA	NA	NA	360 U	370 U	370 U	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	**66 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**99 EB**	NA	4.1 U	4 U	**210 EB**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**150 EB**	3.7 U	3.7 U	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	1400 UJ	NA	NA	420 U	NA	NA	NA	390 U	360 U	NA	410 U	400 U	340 U	340 U	350 U	NA	NA	NA	NA	NA	360 U	370 U	370 U	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 UJ	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	1400 UJ	NA	NA	420 U	NA	NA	NA	390 U	360 U	NA	410 U	400 U	340 U	340 U	350 U	NA	NA	NA	NA	NA	360 U	370 U	370 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	1400 UJ	NA	NA	420 U	NA	NA	NA	390 U	360 U	NA	410 U	400 U	340 U	340 U	350 U	NA	NA	NA	NA	NA	360 U	370 U	370 U	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 UJ	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 UJ	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 UJ	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	1400 UJ	NA	NA	420 U	NA	NA	NA	390 U	360 U	NA	410 U	400 U	340 U	340 U	350 U	NA	NA	NA	NA	NA	360 U	370 U	370 U	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	1400 UJ	NA	NA	420 U	NA	NA	NA	390 U	360 U	NA	410 U	400 U	340 U	340 U	350 U	NA	NA	NA	NA	NA	360 U	370 U	370 U	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	**43 J**	NA	NA	4.2 UJ	NA	NA	NA	3.9 UJ	**26 EB**	NA	4.1 U	4 U	**54 EB**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**640**	3.7 U	3.7 U	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	**660 J**	NA	NA	4.2 UJ	NA	NA	NA	3.9 UJ	**230**	NA	4.1 U	4 U	**680**	**6 J**	3.5 UJ	NA	NA	NA	NA	NA	**550**	3.7 U	3.7 U	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	**300 J**	NA	NA	210 U	NA	NA	NA	200 U	**94 JEB**	NA	210 U	210 U	**69 J**	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**360 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**380**	NA	4.1 U	4 U	**570**	170 U	180 U	NA	NA	NA	NA	NA	**1600**	3.7 U	3.7 U	NA	NA	NA
Atrazine	2300	10000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**1400 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**470**	NA	4.1 U	4 U	**1800**	**11**	3.5 U	NA	NA	NA	NA	NA	**6400**	**3.8**	3.7 U	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**2600 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**350 J**	NA	4.1 U	4 U	**1500**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**5300**	3.7 U	3.7 U	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**2900 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**2200**	NA	4.1 U	4 U	**3300**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**7800**	3.7 U	3.7 U	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**2100 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**600**	NA	4.1 U	4 U	**770**	3.4 UJ	3.5 UJ	NA	NA	NA	NA	NA	**2500**	3.7 U	3.7 U	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**1700 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**610**	NA	4.1 U	4 U	**1300 J**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**5500**	3.7 U	3.7 U	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**380 J**	NA	NA	**64 J**	NA	NA	NA	**70 J**	**120 J**	NA	210 U	210 U	**120 J**	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Carbazole	--	--	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	**280**	NA	210 UJ	210 U	**270**	170 U	180 U	NA	NA	NA	NA	NA	**1200**	190 U	190 U	NA	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**1900 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**1100**	NA	4.1 U	4 U	**3300**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**7700**	3.7 U	3.7 U	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**270 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**98 J**	NA	4.1 U	4 U	**200**	3.4 UJ	3.5 UJ	NA	NA	NA	NA	NA	**1100**	3.7 U	3.7 U	NA	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	**85 J**	NA	210 UJ	210 U	**110 J**	170 U	180 U	NA	NA	NA	NA	NA	**260**	190 U	190 U	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**1700 J**	NA	NA	**860**	NA	NA	NA	**430**	**340**	NA	**460**	**420**	**350**	**360**	**410**	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**2900 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**1100**	NA	**5**	4 U	**4100**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**15000**	**5.9**	3.7 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
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					Property	45 Water St.								MBTA ROW																	
					Sample Location	45WS-04								ROW-01				ROW-02								ROW-03					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS04-0001-060914X	45WS-SB04-0204-060914X	45WS-SB04-0406-060914X	45WS-SB04-0608-061014X	45WS-SB04-0810-060914X	45WS-SB04-1012-060914X	45WS-SB04-1214-060914X	45WS-SB04-1416-060914X	ROW-SS01-0001-062314X	ROW-SB01-0204-062314X	ROW-SB01-0406-062314X	ROW-SB01-0608-062314X	ROW-SS02-0001-062314X-MAX	ROW-SB02-0204-062314X	ROW-SB02-0406-062314X	ROW-SB02-0608-062314X	ROW-SB02-0810-062314X	ROW-SB02-1012-062314X	ROW-SB02-1214-062314X	ROW-SB02-1416-062314X	ROW-SS03-0001-062314X	ROW-SB03-0204-062314X	ROW-SB03-0406-062314X	ROW-SB03-0608-062314X	ROW-SB03-0810-062314X	ROW-SB03-1012-062314X
Fluorene	230000	3000000	1000	2000	--	**120 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**8.7 J**	NA	4.1 U	4 U	**84 J**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**470**	3.7 U	3.7 U	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 UJ	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**1800 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**570**	NA	4.1 U	4 U	**900**	3.4 UJ	3.5 UJ	NA	NA	NA	NA	NA	**2700**	3.7 U	3.7 U	NA	NA	NA
Isophorone	560000	2400000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Naphthalene	**3800**	17000	500	1000	--	**69 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**76 EB**	NA	4.1 U	4 U	**160 JEB**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**100 EB**	3.7 U	3.7 U	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Pentachlorophenol	990	4000	--	--	--	56 UJ	NA	NA	8.4 U	NA	NA	NA	7.9 U	**110 J**	NA	8.3 U	8.1 U	**24 J**	340 U	350 U	NA	NA	NA	NA	NA	360 UJ	370 UJ	370 UJ	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**1700 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**310**	NA	**4.3**	4 U	**770**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**7000**	3.7 U	3.7 U	NA	NA	NA
Phenol	1800000	25000000	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	190 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**2700 J**	NA	NA	4.2 U	NA	NA	NA	3.9 U	**1100**	NA	4.1 U	4 U	**3600**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**10000**	**5.7**	3.7 U	NA	NA	NA
	Pesticides/PCBs (ug/kg)																														
4,4'-DDD	2200	9600	--	--	--	14 UJ	NA	NA	4.1 U	NA	NA	NA	3.9 U	3.6 U	NA	4.1 U	4 U	3.4 U	3.4 U	3.5 U	NA	NA	NA	NA	NA	3.5 U	3.6 U	3.7 U	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	**14 J**	NA	NA	4.1 U	NA	NA	NA	3.9 U	**3.7 J**	NA	4.1 R	4 R	3.4 R	3.4 R	3.5 R	NA	NA	NA	NA	NA	3.5 U	3.6 U	3.7 U	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	14 UJ	NA	NA	4.1 U	NA	NA	NA	3.9 U	**47 J**	NA	4.1 R	4 R	**25 J**	3.4 R	3.5 R	NA	NA	NA	NA	NA	3.5 U	3.6 U	3.7 U	NA	NA	NA
Aldrin	31	140	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 R	NA	2.1 R	2.1 R	1.8 R	1.7 R	1.8 R	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
alpha-BHC	85	370	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 R	NA	2.1 R	2.1 R	1.8 R	1.7 R	1.8 R	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 U	NA	2.1 U	2.1 U	1.8 U	1.7 U	1.8 U	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1221	150	660	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1232	150	660	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1242	240	1000	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1248	**240**	1000	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1254	**110**	1000	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1262	--	--	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
Aroclor 1268	--	--	--	--	--	140 UJ	NA	NA	41 U	NA	NA	NA	39 U	36 U	NA	41 U	40 U	35 U	34 U	35 U	NA	NA	NA	NA	NA	36 U	37 U	38 U	NA	NA	NA
beta-BHC	300	1300	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 U	NA	2.1 U	2.1 U	1.8 U	1.7 U	1.8 U	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
delta-BHC	--	--	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 R	NA	2.1 R	2.1 R	1.8 R	1.7 R	1.8 R	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
Dieldrin	33	140	--	--	--	14 UJ	NA	NA	4.1 U	NA	NA	NA	3.9 U	3.6 UJ	NA	4.1 U	4 U	3.4 U	3.4 U	3.5 U	NA	NA	NA	NA	NA	3.5 U	3.6 U	3.7 U	NA	NA	NA
Endosulfan I	--	--	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 U	NA	2.1 U	2.1 U	1.8 U	1.7 U	1.8 U	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
Endosulfan II	--	--	--	--	--	14 UJ	NA	NA	4.1 U	NA	NA	NA	3.9 U	3.6 U	NA	4.1 U	4 U	3.4 U	3.4 U	3.5 U	NA	NA	NA	NA	NA	3.5 U	3.6 U	3.7 U	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	**2.1 J**	NA	NA	4.1 U	NA	NA	NA	3.9 U	3.6 R	NA	4.1 R	4 R	**14 J**	3.4 R	3.5 R	NA	NA	NA	NA	NA	**13 J**	3.6 U	3.7 U	NA	NA	NA
Endrin	1800	25000	--	--	--	14 UJ	NA	NA	4.1 U	NA	NA	NA	3.9 U	**4.4 J**	NA	4.1 U	4 U	**9.5 J**	3.4 U	3.5 U	NA	NA	NA	NA	NA	3.5 U	3.6 U	3.7 U	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	**40 J**	NA	NA	4.1 U	NA	NA	NA	3.9 U	3.6 U	NA	4.1 U	4 U	3.4 U	3.4 U	3.5 U	NA	NA	NA	NA	NA	**6.8 J**	3.6 U	3.7 U	NA	NA	NA
Endrin Ketone	--	--	--	--	--	14 UJ	NA	NA	4.1 U	NA	NA	NA	3.9 U	3.6 U	NA	4.1 UJ	4 UJ	**13 J**	3.4 U	3.5 U	NA	NA	NA	NA	NA	**16 J**	3.6 U	3.7 U	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 R	NA	2.1 R	2.1 R	1.8 R	1.7 R	1.8 R	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 U	NA	2.1 U	2.1 U	**20 J**	1.7 U	1.8 U	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
Heptachlor	120	510	--	--	--	7.1 R	NA	NA	2.1 R	NA	NA	NA	2 R	1.8 R	NA	2.1 R	2.1 R	1.8 R	1.7 R	1.8 R	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	7.1 UJ	NA	NA	2.1 U	NA	NA	NA	2 U	1.8 U	NA	2.1 U	2.1 U	1.8 U	1.7 U	1.8 U	NA	NA	NA	NA	NA	1.8 U	1.9 U	1.9 U	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	71 UJ	NA	NA	21 U	NA	NA	NA	20 U	18 U	NA	21 U	21 U	18 U	17 U	18 U	NA	NA	NA	NA	NA	18 U	19 U	19 U	NA	NA	NA
Toxaphene	480	2100	--	--	--	710 UJ	NA	NA	210 U	NA	NA	NA	200 U	180 U	NA	210 U	210 U	180 U	170 U	180 U	NA	NA	NA	NA	NA	180 U	190 U	190 U	NA	NA	NA

					Property	45 Water St.								MBTA ROW																	
					Sample Location	45WS-04								ROW-01				ROW-02								ROW-03					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS04-0001-060914X	45WS-SB04-0204-060914X	45WS-SB04-0406-060914X	45WS-SB04-0608-061014X	45WS-SB04-0810-060914X	45WS-SB04-1012-060914X	45WS-SB04-1214-060914X	45WS-SB04-1416-060914X	ROW-SS01-0001-062314X	ROW-SB01-0204-062314X	ROW-SB01-0406-062314X	ROW-SB01-0608-062314X	ROW-SS02-0001-062314X-MAX	ROW-SB02-0204-062314X	ROW-SB02-0406-062314X	ROW-SB02-0608-062314X	ROW-SB02-0810-062314X	ROW-SB02-1012-062314X	ROW-SB02-1214-062314X	ROW-SB02-1416-062314X	ROW-SS03-0001-062314X	ROW-SB03-0204-062314X	ROW-SB03-0406-062314X	ROW-SB03-0608-062314X	ROW-SB03-0810-062314X	ROW-SB03-1012-062314X
Metals (mg/kg)																															
Aluminum	**7700**	110000	10000	10000	10700	**15200**	NA	NA	**17400**	NA	NA	NA	**8320**	**9670**	NA	**27700**	**20800**	**7340**	**7900**	**8830**	NA	NA	NA	NA	NA	**5970**	**10300**	**11700**	NA	NA	NA
Antimony	**3.1**	47	1	7	--	2.2 UJ	NA	NA	0.9 UJ	NA	NA	NA	0.84 UJ	0.85 UJ	NA	0.88 UJ	0.83 UJ	**0.82 J**	0.8 UJ	0.79 UJ	NA	NA	NA	NA	NA	**3.1 J**	**0.39 J**	**0.43 J**	NA	NA	NA
Arsenic	**0.67**	**3**	20	20	8.78	**107**	NA	NA	**12.7 J**	NA	NA	NA	**5.3**	**99.5**	NA	**11.2**	**14.9**	**90.4**	**5.6**	**9.5**	NA	NA	NA	NA	NA	**16.9**	**8**	**9.1**	NA	NA	NA
Barium	**1500**	22000	50	50	16	**72**	NA	NA	**67.2**	NA	NA	NA	**24.2**	**64.9**	NA	**57.4**	**68.6**	**68.8**	**21.2**	**21**	NA	NA	NA	NA	NA	**67.2**	**18.4**	**16.1 J**	NA	NA	NA
Beryllium	16	230	0.4	0.9	0.315	**1.3**	NA	NA	**1.3**	NA	NA	NA	**0.68**	**0.74**	NA	**1.5**	**1.5**	**0.9**	**0.67**	**0.53**	NA	NA	NA	NA	NA	**0.68**	**0.55**	**0.59**	NA	NA	NA
Cadmium	**7**	98	2	3	--	**0.53 J**	NA	NA	**0.38 J**	NA	NA	NA	**0.19 J**	**0.7 J**	NA	**0.32 J**	**0.54 J**	**0.63 J**	**0.17 J**	**0.16 J**	NA	NA	NA	NA	NA	0.43 UJ	0.39 UJ	0.42 UJ	NA	NA	NA
Calcium	--	--	--	--	634	**5030**	NA	NA	**1500**	NA	NA	NA	**1020**	**3040**	NA	**1080**	**3790**	**4710**	**1050**	**1440**	NA	NA	NA	NA	NA	**2240**	**690**	**338 J**	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**2070**	NA	NA	**36.5**	NA	NA	NA	**16.4**	**40.7**	NA	**56.4**	**56.3**	**21.1**	**15**	**18.1**	NA	NA	NA	NA	NA	**23.2**	**16.6**	**16.2**	NA	NA	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	**25 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**6.6 J**	NA	NA	**12.2**	NA	NA	NA	**6.9**	**10**	NA	**10**	**16.3**	**6.5**	**7**	**7.4**	NA	NA	NA	NA	NA	**6.7**	**5.8**	**6.1**	NA	NA	NA
Copper	**310**	4700	40	200	6.28	**63.2**	NA	NA	**17.9**	NA	NA	NA	**11.9**	**60.6**	NA	**18.4**	**25.1**	**73.9**	**14.5**	**13.6**	NA	NA	NA	NA	NA	**54 J**	**12.9 J**	**10.1 J**	NA	NA	NA
Iron	**5500**	**82000**	20000	20000	11200	**28200 J**	NA	NA	**27600 J**	NA	NA	NA	**14100 J**	**35600**	NA	**37800**	**34300**	**27400**	**11500**	**13600**	NA	NA	NA	NA	NA	**41200**	**12900**	**14300**	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**346**	NA	NA	**21.7**	NA	NA	NA	**11.6**	**155**	NA	**18.8**	**16.6**	**113**	**11.9**	**9.3**	NA	NA	NA	NA	NA	**63.4 J+**	**11.6 J+**	**10.5 J+**	NA	NA	NA
Magnesium	--	--	5000	5000	2780	**8910**	NA	NA	**6550**	NA	NA	NA	**3660**	**3320**	NA	**7840**	**9330**	**1130**	**3560**	**3550**	NA	NA	NA	NA	NA	**2340**	**2940**	**3030**	NA	NA	NA
Manganese	**180**	**2600**	300	300	155	**233 J**	NA	NA	**765 J**	NA	NA	NA	**475 J**	**456**	NA	**303**	**648**	**231**	**372**	**272**	NA	NA	NA	NA	NA	**199**	**272**	**234**	NA	NA	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**4**	NA	NA	0.12 U	NA	NA	NA	0.11 U	**0.1 J**	NA	**0.023 J**	**0.0077 J**	**0.18**	**0.0021 J**	**0.0055 J**	NA	NA	NA	NA	NA	**0.13**	**0.026 J**	**0.0037 J**	NA	NA	NA
Nickel	**150**	2200	20	30	11.2	**24.5**	NA	NA	**26.1**	NA	NA	NA	**12.8**	**24.4**	NA	**30.2**	**49.2**	**14.5**	**14.5**	**14.6**	NA	NA	NA	NA	NA	**16**	**12.5**	**12.2**	NA	NA	NA
Potassium	--	--	--	--	382	**3080 J**	NA	NA	**2320 J**	NA	NA	NA	**713 J**	**861**	NA	**2230**	**2920**	399 U	396 U	396 U	NA	NA	NA	NA	NA	**1210**	393 U	423 U	NA	NA	NA
Selenium	39	580	0.5	1	--	**3.1 J**	NA	NA	4.5 UJ	NA	NA	NA	4.2 U	2.1 U	NA	4.4 U	4.2 U	2 U	2 U	2 U	NA	NA	NA	NA	NA	3 U	2.8 U	3 U	NA	NA	NA
Silver	39	580	0.6	5	--	2.1 U	NA	NA	0.84 U	NA	NA	NA	0.86 U	0.88 U	NA	0.91 U	0.88 U	0.8 U	0.79 U	0.79 U	NA	NA	NA	NA	NA	0.86 U	0.79 U	0.85 U	NA	NA	NA
Sodium	--	--	--	--	--	**20400**	NA	NA	**1460**	NA	NA	NA	**819**	**214 J**	NA	**372 J**	**364 J**	**187 J**	**567**	**90.3 J**	NA	NA	NA	NA	NA	**169 J**	**107 J**	**96.8 J**	NA	NA	NA
Thallium	**0.078**	1.2	0.6	5	--	**0.14 J**	NA	NA	**0.24 J**	NA	NA	NA	**0.084 J**	0.42 U	NA	0.44 U	0.42 U	0.4 U	0.4 U	0.39 U	NA	NA	NA	NA	NA	**0.15 J+**	**0.069 J+**	**0.084 J+**	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**110**	NA	NA	**44.2**	NA	NA	NA	**22.8**	**39.1**	NA	**69.1**	**57**	**30.4**	**17.4**	**21.2**	NA	NA	NA	NA	NA	**29.3**	**19.1**	**21.1**	NA	NA	NA
Zinc	**2300**	35000	100	300	35.3	**124**	NA	NA	**50.8**	NA	NA	NA	**28.2**	**82.4 J**	NA	**64.8 J**	**78.7 J**	**54.9 J**	**34.4 J**	**34.1 J**	NA	NA	NA	NA	NA	**43.5 J+**	**30.5 J+**	**26.2 J+**	NA	NA	NA
Asbestos (%v/v)																															
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	45 Water St.								MBTA ROW																	
					Sample Location	45WS-04								ROW-01				ROW-02								ROW-03					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS04-0001-060914X	45WS-SB04-0204-060914X	45WS-SB04-0406-060914X	45WS-SB04-0608-061014X	45WS-SB04-0810-060914X	45WS-SB04-1012-060914X	45WS-SB04-1214-060914X	45WS-SB04-1416-060914X	ROW-SS01-0001-062314X	ROW-SB01-0204-062314X	ROW-SB01-0406-062314X	ROW-SB01-0608-062314X	ROW-SS02-0001-062314X-MAX	ROW-SB02-0204-062314X	ROW-SB02-0406-062314X	ROW-SB02-0608-062314X	ROW-SB02-0810-062314X	ROW-SB02-1012-062314X	ROW-SB02-1214-062314X	ROW-SB02-1416-062314X	ROW-SS03-0001-062314X	ROW-SB03-0204-062314X	ROW-SB03-0406-062314X	ROW-SB03-0608-062314X	ROW-SB03-0810-062314X	ROW-SB03-1012-062314X
Dioxins/Furans (ng/Kg)																															
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

					Property	45 Water St.								MBTA ROW																	
					Sample Location	45WS-04								ROW-01				ROW-02								ROW-03					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	45WS-SS04-0001-060914X	45WS-SB04-0204-060914X	45WS-SB04-0406-060914X	45WS-SB04-0608-061014X	45WS-SB04-0810-060914X	45WS-SB04-1012-060914X	45WS-SB04-1214-060914X	45WS-SB04-1416-060914X	ROW-SS01-0001-062314X	ROW-SB01-0204-062314X	ROW-SB01-0406-062314X	ROW-SB01-0608-062314X	ROW-SS02-0001-062314X-MAX	ROW-SB02-0204-062314X	ROW-SB02-0406-062314X	ROW-SB02-0608-062314X	ROW-SB02-0810-062314X	ROW-SB02-1012-062314X	ROW-SB02-1214-062314X	ROW-SB02-1416-062314X	ROW-SS03-0001-062314X	ROW-SB03-0204-062314X	ROW-SB03-0406-062314X	ROW-SB03-0608-062314X	ROW-SB03-0810-062314X	ROW-SB03-1012-062314X
General Chemistry (%)																															
Chemical Oxygen Demand	--	--	--	--	--	**7.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	**8.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																															
Salinity	--	--	--	--	--	**53000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																															
Oxidation-Reduction Potential	--	--	--	--	--	**206**	NA	NA	NA	NA	NA	NA	NA	**367**	NA	**364**	NA	**391**	**43**	NA	NA	NA	NA	NA	NA	**387**	**414**	NA	NA	NA	NA
General Chemistry (S.U.)																															
pH	--	--	--	--	--	**6.42**	NA	NA	NA	NA	NA	NA	NA	**6.58**	NA	**6.03**	NA	**6.54**	**6.25**	NA	NA	NA	NA	NA	NA	**6.22**	**6.29**	NA	NA	NA	NA
General Chemistry (ug/g)																															
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	**160 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	**160 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	**25000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	**12 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	**3000**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																															
Arsenic	**0.67**	**3**	20	20	8.78	**62**	5 U	**5**	**7**	**10**	5 U	5 U	5 U	**85**	6 U	**10**	**12**	**128**	**9**	**13**	**9**	**7**	5 U	**6**	6 U	**23**	6 U	**9**	5 U	6 U	**8**
Chromium	**12000**	180000	30	40	15.2	**1857**	**37**	**34**	**63**	**75**	**78**	**78**	34 U	**73**	37 U	**54**	**64**	**122**	33 U	**35**	30 U	34 U	33 U	**43**	38 U	**81**	32 U	32 U	33 U	33 U	**42**
Lead	**400**	**800**	100	600	41.8	**151**	**13**	**14**	**24**	**30**	**18**	**16**	**16**	**155**	**23**	**24**	**21**	**191**	**23**	**21**	**21**	**20**	**20**	**20**	**21**	**72**	**19**	**20**	**27**	**33**	**18**
Mercury	0.94	4	0.3	1	0.0242	5 U	5 U	6 U	6 U	6 U	6 U	6 U	6 U	7 U	6 U	6 U	7 U	8 U	6 U	7 U	6 U	6 U	6 U	6 U	6 U	7 U	6 U	6 U	5 U	5 U	6 U
Nickel	150	2200	20	30	11.2	24 U	**29**	29 U	33 U	34 U	**39**	29 U	29 U	36 U	**37**	**45**	36 U	**46**	33 U	35 U	30 U	27 U	29 U	31 U	**38**	35 U	31 U	29 U	27 U	**30**	31 U
PAH Screening (ug/kg)																															
Total PAH	--	--	--	--	--	**490**	10 U	NA	10 U	10 U	NA	NA	NA	NA	10 U	**190**	10 U	NA	**44**	10 U	10 U	10 U	NA	NA	NA	NA	**69**	10 U	**17**	10 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-04					ROW-05				ROW-06				ROW-07				ROW-08				ROW-09			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/25/14	06/25/14	06/25/14	06/25/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS04-0001-062314X	ROW-SB04-0204-062314X	ROW-SB04-0406-062314X	ROW-SB04-0608-062314X	ROW-SB04-1012-062314X	ROW-SS05-0001-062414X	ROW-SB05-0204-062414X	ROW-SB05-0406-062414X	ROW-SB05-0608-062414X	ROW-SS06-0001-062414X	ROW-SB06-0204-062414X	ROW-SB06-0406-062414X	ROW-SB06-0608-062414X	ROW-SS07-0001-062414X	ROW-SB07-0204-062414X	ROW-SB07-0406-062414X	ROW-SB07-0608-062414X	ROW-SS08-0001-062414X	ROW-SB08-0204-062414X	ROW-SB08-0406-062414X	ROW-SB08-0608-062414X	ROW-SS09-0001-062414X	ROW-SB09-0204-062514X	ROW-SB09-0406-062514X	ROW-SB09-0608-062514X
Volatiles (ug/kg)																													
1,1,1-Trichloroethane	810000	3600000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,1,2-Trichloroethane	150	630	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,1-Dichloroethane	3600	16000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,1-Dichloroethene	23000	100000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	6.3 R	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	6.3 R	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	6.3 R	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,2-Dibromoethane	36	160	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	6.3 R	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,2-Dichloroethane	460	2000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,2-Dichloropropane	1000	4400	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,3-Dichlorobenzene	--	--	--	--	--	6.3 R	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	6.3 R	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
1,4-Dioxane	5300	23000	--	--	--	130 R	95 R	99 R	NA	NA	130 R	NA	92 R	97 R	130 R	99 R	100 R	NA	120 R	92 R	96 R	NA	130 R	93 R	96 R	NA	120 R	95 R	100 R	NA
2-Butanone	2700000	19000000	--	--	--	**54 J**	9.5 U	9.9 U	NA	NA	**20 J**	NA	9.2 U	9.7 U	**15**	9.9 U	10 U	NA	12 U	**8.9 J**	9.6 U	NA	13 U	9.3 U	9.6 U	NA	12 U	**9.6**	10 U	NA
2-Hexanone	20000	130000	--	--	--	13 U	9.5 U	9.9 U	NA	NA	13 U	NA	9.2 U	9.7 U	13 U	9.9 U	10 U	NA	12 U	9.2 U	9.6 U	NA	13 U	9.3 U	9.6 U	NA	12 U	9.5 U	10 U	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	13 U	9.5 U	9.9 U	NA	NA	13 U	NA	9.2 U	9.7 U	13 R	9.9 U	10 U	NA	12 R	9.2 R	9.6 R	NA	13 R	9.3 R	9.6 R	NA	12 R	9.5 R	10 R	NA
Acetone	6100000	67000000	--	--	--	**500 JEB**	**49 EB**	**82 EB**	NA	NA	**200 JEB**	NA	**4.4 JEB**	**5 JEB**	**160 EB**	**56 EB**	**5 JEB**	NA	**410 EB**	**130 EB**	**42 EB**	NA	**200 EB**	**25 EB**	**14 JEB**	NA	**58 JEB**	**120 EB**	**67 JEB**	NA
Benzene	1200	5100	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Bromochloromethane	15000	63000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Bromodichloromethane	290	1300	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 R	5 U	5.1 U	NA	6.1 R	4.6 R	4.8 R	NA	6.4 R	4.6 R	4.8 R	NA	5.9 R	4.7 R	5 R	NA
Bromoform	67000	290000	--	--	--	6.3 R	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 R	5 U	5.1 U	NA	6.1 R	4.6 R	4.8 R	NA	6.4 R	4.6 R	4.8 R	NA	5.9 R	4.7 R	5 R	NA
Bromomethane	680	3000	--	--	--	6.3 R	4.7 R	5 R	NA	NA	6.7 R	NA	4.6 R	4.9 R	6.7 U	5 R	5.1 R	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Carbon disulfide	77000	350000	--	--	--	6.3 R	4.7 R	5 R	NA	NA	6.7 R	NA	4.6 R	4.9 R	6.7 U	5 R	5.1 R	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Carbon tetrachloride	650	2900	--	--	--	6.3 R	4.7 R	5 R	NA	NA	6.7 R	NA	4.6 R	4.9 R	6.7 R	5 R	5.1 R	NA	6.1 R	4.6 R	4.8 R	NA	6.4 R	4.6 R	4.8 R	NA	5.9 R	4.7 R	5 R	NA
Chlorobenzene	28000	130000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Chloroethane	1400000	5700000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Chloroform	320	1400	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Chloromethane	11000	46000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
cis-1,3-Dichloropropene	--	--	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Cyclohexane	650000	2700000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Dibromochloromethane	730	3200	--	--	--	6.3 R	4.7 R	5 R	NA	NA	6.7 R	NA	4.6 R	4.9 R	6.7 U	5 R	5.1 R	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Dichlorodifluoromethane	8700	37000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Ethylbenzene	5800	25000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Isopropylbenzene	190000	990000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
m,p-Xylene	--	--	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**4.6 J**	**3.2 J**	**3 J**	NA	NA	**140 EB**	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	**27 EB**	**7.2 EB**	4.8 U	NA	**230 EB**	4.6 U	4.8 U	NA	**5.4 JEB**	**8.7 EB**	5 U	NA
Methyl tert-butyl ether	47000	210000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Methylcyclohexane	--	--	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Methylene chloride	35000	320000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
o-Xylene	65000	280000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Styrene	600000	3500000	--	--	--	6.3 R	4.7 R	5 R	NA	NA	6.7 R	NA	4.6 R	4.9 R	6.7 U	5 R	5.1 R	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Tetrachloroethene	8100	39000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Toluene	490000	4700000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
trans-1,3-Dichloropropene	--	--	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 R	5 U	5.1 U	NA	6.1 R	4.6 R	4.8 R	NA	6.4 R	4.6 R	4.8 R	NA	5.9 R	4.7 R	5 R	NA
Trichloroethene	410	1900	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Trichlorofluoromethane	73000	310000	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA
Vinyl chloride	59	1700	--	--	--	6.3 U	4.7 U	5 U	NA	NA	6.7 U	NA	4.6 U	4.9 U	6.7 U	5 U	5.1 U	NA	6.1 U	4.6 U	4.8 U	NA	6.4 U	4.6 U	4.8 U	NA	5.9 U	4.7 U	5 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																								
					Sample Location	ROW-04					ROW-05				ROW-06				ROW-07				ROW-08				ROW-09			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/25/14	06/25/14	06/25/14	06/25/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS04-0001-062314X	ROW-SB04-0204-062314X	ROW-SB04-0406-062314X	ROW-SB04-0608-062314X	ROW-SB04-1012-062314X	ROW-SS05-0001-062414X	ROW-SB05-0204-062414X	ROW-SB05-0406-062414X	ROW-SB05-0608-062414X	ROW-SS06-0001-062414X	ROW-SB06-0204-062414X	ROW-SB06-0406-062414X	ROW-SB06-0608-062414X	ROW-SS07-0001-062414X	ROW-SB07-0204-062414X	ROW-SB07-0406-062414X	ROW-SB07-0608-062414X	ROW-SS08-0001-062414X	ROW-SB08-0204-062414X	ROW-SB08-0406-062414X	ROW-SB08-0608-062414X	ROW-SS09-0001-062414X	ROW-SB09-0204-062514X	ROW-SB09-0406-062514X	ROW-SB09-0608-062514X
Semivolatiles (ug/kg)																														
1,1'-Biphenyl	4700	20000	--	--	--	**44 J**	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	**43 J**	190 U	200 UJ	NA	180 U	180 U	210 U	NA	180 U	210 U	220 UJ	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	**63 J**	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2,4-Dichlorophenol	18000	250000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	**120 J**	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 UJ	210 U	220 U	NA
2,4-Dinitrophenol	12000	160000	--	--	--	360 U	350 U	380 U	NA	NA	350 U	NA	400 U	400 U	400 U	400 U	410 U	NA	360 U	370 U	390 U	NA	350 U	350 U	410 U	NA	350 U	410 U	420 U	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2,6-Dinitrotoluene	360	1500	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2-Chloronaphthalene	630000	9300000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2-Chlorophenol	39000	580000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2-Methylnaphthalene	23000	300000	500	1000	--	**270 EB**	3.5 U	3.8 U	NA	NA	**270 EB**	NA	4 U	4 U	**330 EB**	**33 EB**	4.1 U	NA	**220 EB**	3.7 U	3.9 U	NA	**46 EB**	3.5 U	4.1 U	NA	**110 EB**	4.1 U	4.2 U	NA
2-Methylphenol	310000	4100000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
2-Nitroaniline	61000	800000	--	--	--	360 U	350 U	380 U	NA	NA	350 U	NA	400 U	400 U	400 U	400 U	410 U	NA	360 U	370 U	390 U	NA	350 U	350 U	410 U	NA	350 U	410 U	420 U	NA
2-Nitrophenol	--	--	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
3-Nitroaniline	--	--	--	--	--	360 U	350 U	380 U	NA	NA	350 U	NA	400 U	400 U	400 U	400 U	410 U	NA	360 U	370 U	390 U	NA	350 U	350 U	410 U	NA	350 U	410 U	420 U	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	360 U	350 U	380 U	NA	NA	350 U	NA	400 U	400 U	400 U	400 U	410 U	NA	360 U	370 U	390 U	NA	350 U	350 U	410 U	NA	350 U	410 U	420 U	NA
4-Bromophenyl-phenylether	--	--	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
4-Chloroaniline	2700	12000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
4-Methylphenol	620000	8200000	--	--	--	**130 J**	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
4-Nitroaniline	25000	120000	--	--	--	360 U	350 U	380 U	NA	NA	350 U	NA	400 U	400 U	400 U	400 U	410 U	NA	360 U	370 U	390 U	NA	350 U	350 U	410 U	NA	350 U	410 U	420 U	NA
4-Nitrophenol	--	--	--	--	--	360 U	350 U	380 U	NA	NA	350 U	NA	400 U	400 U	400 U	400 U	410 U	NA	360 U	370 U	390 U	NA	350 U	350 U	410 U	NA	350 U	410 U	420 U	NA
Acenaphthene	350000	4500000	500	2000	--	**240 JEB**	3.5 U	3.8 U	NA	NA	**15 EB**	NA	4 U	4 U	4 U	**10 EB**	4.1 U	NA	36 U	3.7 U	3.9 U	NA	35 U	3.5 U	4.1 U	NA	3.5 U	4.1 U	4.2 U	NA
Acenaphthylene	--	--	500	1000	--	**1600**	3.5 U	3.8 U	NA	NA	**290**	NA	4 U	4 U	**710 J**	**31**	4.1 U	NA	**1700**	3.7 U	3.9 U	NA	**1200**	3.5 U	4.1 U	NA	**670**	4.1 U	4.2 U	NA
Acetophenone	780000	12000000	--	--	--	**140 JEB**	180 U	190 U	NA	NA	**81 JEB**	NA	200 U	210 U	**86 JEB**	200 U	210 U	NA	**98 JEB**	190 U	200 U	NA	**55 JEB**	180 U	210 U	NA	**140 JEB**	210 U	220 U	NA
Anthracene	1700000	23000000	1000	4000	--	**1700**	3.5 U	3.8 U	NA	NA	**290**	NA	**50**	4 U	**520 J**	**80**	4.1 U	NA	**810**	3.7 U	3.9 U	NA	**690**	3.5 U	4.1 U	NA	**360**	4.1 U	4.2 U	NA
Atrazine	2300	10000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	**88 J**	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Benzaldehyde	780000	12000000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**4900**	**4.8**	3.8 U	NA	NA	**980 J**	NA	**100**	4 U	**1500 J**	**130**	**6.3**	NA	**1800 J**	**12**	**6.9**	NA	**2600 J**	3.5 U	4.1 U	NA	**1400 J**	**7.1**	4.2 U	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**4000**	3.5 U	3.8 U	NA	NA	**1000 J**	NA	**58**	4 U	**1100**	**38**	4.1 U	NA	**2000 J**	3.7 U	3.9 U	NA	**2000 J**	3.5 U	4.1 U	NA	**1600**	4.1 U	4.2 U	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**9400**	**5.4**	3.8 U	NA	NA	**1900 J**	NA	**76**	4 U	**2400**	**77**	4.1 U	NA	**4500**	3.7 U	**13**	NA	**5800 J**	3.5 U	4.1 U	NA	**2700**	4.1 U	4.2 U	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**620 J**	3.5 U	3.8 U	NA	NA	**620 J**	NA	**72**	4 U	**640**	**10**	4.1 U	NA	**1100 J**	3.7 U	3.9 U	NA	**1100 J**	3.5 U	4.1 U	NA	**710**	4.1 U	4.2 U	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**6200**	3.5 U	3.8 U	NA	NA	**840 J**	NA	**67**	4 U	**1700**	**23**	4.1 U	NA	**3400**	3.7 U	**4.9**	NA	**2600 J**	3.5 U	4.1 U	NA	**2500**	4.1 U	4.2 U	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	180 U	180 U	190 U	NA	NA	**62 J**	NA	**110 J**	210 U	**240 J**	200 U	210 U	NA	180 U	190 U	200 UJ	NA	180 U	180 U	210 U	NA	**50 J**	210 U	220 UJ	NA
Butylbenzylphthalate	280000	1200000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	**110 J**	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 UJ	NA	180 U	180 U	210 U	NA	180 U	210 U	220 UJ	NA
Caprolactam	3100000	40000000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 UJ	NA	180 U	180 U	210 U	NA	180 U	210 U	220 UJ	NA
Carbazole	--	--	--	--	--	**1200**	180 U	190 U	NA	NA	**110 J**	NA	**100 J**	210 U	**100 J**	200 U	210 U	NA	**210**	190 U	200 U	NA	**140 J**	180 U	210 U	NA	**74 J**	210 U	220 U	NA
Chrysene	**15000**	290000	2000	7000	--	**8900**	**6.3**	3.8 U	NA	NA	**1600 J**	NA	**93**	4 U	**1800 J**	**97**	**5.2**	NA	**3300**	**3.7**	**6.8**	NA	**3600 J**	3.5 U	4.1 U	NA	**2000 J**	4.1 U	4.2 U	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**220 J**	3.5 U	3.8 U	NA	NA	**270**	NA	**78**	4 U	**350**	**6.4**	4.1 U	NA	**320**	3.7 U	3.9 U	NA	**510 J**	3.5 U	4.1 U	NA	**310**	4.1 U	4.2 U	NA
Dibenzofuran	**7200**	100000	--	--	--	**170 J**	180 U	190 U	NA	NA	**70 J**	NA	200 U	210 U	**83 J**	200 U	210 U	NA	**100 J**	190 U	200 U	NA	180 U	180 U	210 U	NA	**55 J**	210 U	220 U	NA
Diethylphthalate	4900000	66000000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	**63 JEB**	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 UJ	NA	180 U	180 U	210 U	NA	180 U	210 U	220 UJ	NA
Dimethylphthalate	--	--	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 UJ	NA	180 U	180 U	210 U	NA	180 U	210 U	220 UJ	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**72 J**	180 U	190 U	NA	NA	180 U	NA	**130 JEB**	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 UJ	NA	180 U	180 U	210 U	NA	180 U	210 U	220 UJ	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	**90 J**	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 UJ	NA	180 U	180 U	210 U	NA	180 U	210 U	220 UJ	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**16000**	**9.7**	3.8 U	NA	NA	**2000 J**	NA	**91**	4 U	**3000 J**	**200**	**8.8**	NA	**3600**	**4.6**	**8.8**	NA	**4900**	3.5 U	4.1 U	NA	**2200 J**	4.1 U	4.2 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																								
					Sample Location	ROW-04					ROW-05				ROW-06				ROW-07				ROW-08				ROW-09			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/25/14	06/25/14	06/25/14	06/25/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS04-0001-062314X	ROW-SB04-0204-062314X	ROW-SB04-0406-062314X	ROW-SB04-0608-062314X	ROW-SB04-1012-062314X	ROW-SS05-0001-062414X	ROW-SB05-0204-062414X	ROW-SB05-0406-062414X	ROW-SB05-0608-062414X	ROW-SS06-0001-062414X	ROW-SB06-0204-062414X	ROW-SB06-0406-062414X	ROW-SB06-0608-062414X	ROW-SS07-0001-062414X	ROW-SB07-0204-062414X	ROW-SB07-0406-062414X	ROW-SB07-0608-062414X	ROW-SS08-0001-062414X	ROW-SB08-0204-062414X	ROW-SB08-0406-062414X	ROW-SB08-0608-062414X	ROW-SS09-0001-062414X	ROW-SB09-0204-062514X	ROW-SB09-0406-062514X	ROW-SB09-0608-062514X
Fluorene	230000	3000000	1000	2000	--	**220**	3.5 U	3.8 U	NA	NA	**17**	NA	**15**	4 U	**30**	**57**	4.1 U	NA	**39**	3.7 U	3.9 U	NA	35 U	3.5 U	4.1 U	NA	**17**	4.1 U	4.2 U	NA
Hexachlorobenzene	330	1400	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Hexachlorobutadiene	6200	30000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	180 U	180 U	190 U	NA	NA	180 UJ	NA	200 U	210 U	200 UJ	200 U	210 U	NA	180 UJ	190 UJ	200 UJ	NA	180 UJ	180 UJ	210 UJ	NA	180 U	210 UJ	220 UJ	NA
Hexachloroethane	4300	58000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**1600 J**	3.5 U	3.8 U	NA	NA	**570 J**	NA	**73**	4 U	**710**	**12**	4.1 U	NA	**1300 J**	3.7 U	3.9 U	NA	**1300 J**	3.5 U	4.1 U	NA	**1000**	4.1 U	4.2 U	NA
Isophorone	560000	2400000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Naphthalene	**3800**	17000	500	1000	--	**170 EB**	3.5 U	3.8 U	NA	NA	**150 EB**	NA	4 U	4 U	**170 EB**	**13 EB**	4.1 U	NA	**150 EB**	3.7 U	3.9 U	NA	**41 EB**	3.5 U	4.1 U	NA	**73 EB**	4.1 U	4.2 U	NA
Nitrobenzene	5100	22000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	**46 J**	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	220 U	NA
Pentachlorophenol	990	4000	--	--	--	**44 J**	350 UJ	380 UJ	NA	NA	**13 J**	NA	**180 J**	400 UJ	**18 J**	**13 J**	410 UJ	NA	360 U	370 U	390 U	NA	350 U	350 U	410 U	NA	**25 J**	410 U	420 U	NA
Phenanthrene	--	--	3000	20000	--	**4400**	**4.1**	3.8 U	NA	NA	**380**	NA	**67**	4 U	**340 J**	**210**	**10**	NA	**490**	3.7 U	**7.1**	NA	**220**	3.5 U	4.1 U	NA	**250**	4.1 U	4.2 U	NA
Phenol	1800000	25000000	--	--	--	**64 JEB**	180 U	190 U	NA	NA	180 U	NA	200 U	210 U	200 U	200 U	210 U	NA	180 U	190 U	200 U	NA	180 U	180 U	210 U	NA	**49 JEB**	210 U	220 U	NA
Pyrene	**170000**	2300000	4000	20000	--	**11000**	**8.8**	3.8 U	NA	NA	**2300 J**	NA	**89**	4 U	**2800 J**	**150**	**8.1**	NA	**4100**	**3.9**	**8.7**	NA	**5200 J**	3.5 U	4.1 U	NA	**2400 J**	4.1 U	4.2 U	NA
Pesticides/PCBs (ug/kg)																														
4,4'-DDD	2200	9600	--	--	--	**37 J**	3.5 U	3.8 U	NA	NA	**7.9 J**	NA	4 U	4.1 U	**8.7 J**	3.9 U	4.1 U	NA	**9 J**	3.7 U	3.9 U	NA	**17 J**	3.5 U	4.1 U	NA	**11 J**	4.1 U	4.1 U	NA
4,4'-DDE	1600	6800	--	--	--	**17 J**	3.5 U	3.8 U	NA	NA	3.5 U	NA	4 U	4.1 U	**6.1 J**	3.9 U	4.1 U	NA	**5.4 J**	3.7 U	3.9 U	NA	3.5 U	3.5 U	4.1 U	NA	**6.1 J**	4.1 U	4.1 U	NA
4,4'-DDT	1900	8600	--	--	--	**36 J**	3.5 U	3.8 U	NA	NA	**18 J**	NA	4 U	4.1 U	**23 J**	3.9 U	4.1 U	NA	**26 J**	3.7 U	3.9 U	NA	**25 J**	3.5 U	4.1 U	NA	**23 J**	4.1 U	4.1 U	NA
Aldrin	31	140	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 U	2.1 U	2.1 U	NA
alpha-BHC	85	370	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 U	2.1 U	2.1 U	NA
Alpha-Chlordane	--	--	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	**2.5 J**	2.1 U	2.1 U	NA
Aroclor 1016	400	5200	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
Aroclor 1221	150	660	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
Aroclor 1232	150	660	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
Aroclor 1242	240	1000	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 UJ	41 U	41 U	NA
Aroclor 1248	**240**	1000	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
Aroclor 1254	**110**	1000	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
Aroclor 1260	**240**	**1000**	--	--	--	**140 J**	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	**66 J**	40 U	41 U	NA	**100 J**	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
Aroclor 1262	--	--	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
Aroclor 1268	--	--	--	--	--	36 U	35 U	37 U	NA	NA	35 U	NA	40 U	40 U	39 U	40 U	41 U	NA	36 U	37 U	40 U	NA	35 U	35 U	41 U	NA	35 U	41 U	41 U	NA
beta-BHC	300	1300	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 U	2.1 U	2.1 U	NA
delta-BHC	--	--	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 U	2.1 U	2.1 U	NA
Dieldrin	33	140	--	--	--	3.5 U	3.5 U	3.8 U	NA	NA	3.5 U	NA	4 U	4.1 U	4 U	3.9 U	4.1 U	NA	3.6 U	3.7 U	3.9 U	NA	3.5 U	3.5 U	4.1 U	NA	3.5 R	4.1 U	4.1 U	NA
Endosulfan I	--	--	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 U	2.1 U	2.1 U	NA
Endosulfan II	--	--	--	--	--	3.5 U	3.5 U	3.8 U	NA	NA	3.5 U	NA	4 U	4.1 U	4 U	3.9 U	4.1 U	NA	3.6 U	3.7 U	3.9 U	NA	3.5 U	3.5 U	4.1 U	NA	3.5 U	4.1 U	4.1 U	NA
Endosulfan Sulfate	--	--	--	--	--	**31 J**	3.5 U	3.8 U	NA	NA	3.5 U	NA	4 U	4.1 U	4 U	3.9 U	4.1 U	NA	**15 J**	3.7 U	3.9 U	NA	**35 J**	3.5 U	4.1 U	NA	**5.5 J**	4.1 U	4.1 U	NA
Endrin	1800	25000	--	--	--	3.5 U	3.5 U	3.8 U	NA	NA	3.5 U	NA	4 U	4.1 U	4 U	3.9 U	4.1 U	NA	3.6 U	3.7 U	3.9 U	NA	3.5 U	3.5 U	4.1 U	NA	3.5 U	4.1 U	4.1 U	NA
Endrin Aldehyde	--	--	--	--	--	**7.5 J**	3.5 U	3.8 U	NA	NA	**5.1 J**	NA	4 U	4.1 U	4 U	3.9 U	4.1 U	NA	**5.2 J**	3.7 U	3.9 U	NA	**14 J**	3.5 U	4.1 U	NA	3.5 U	4.1 U	4.1 U	NA
Endrin Ketone	--	--	--	--	--	**23 J**	3.5 U	3.8 U	NA	NA	**5.5 J**	NA	4 U	4.1 U	**8.1 J**	3.9 U	4.1 U	NA	**20 J**	3.7 U	3.9 U	NA	**46 J**	3.5 U	4.1 U	NA	**9.5 J**	4.1 U	4.1 U	NA
gamma-BHC (Lindane)	560	2500	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 U	2.1 U	2.1 U	NA
gamma-Chlordane	--	--	--	--	--	**5.7 J**	1.8 U	1.9 U	NA	NA	**11 J**	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	**11 J**	1.9 U	2 U	NA	**46 J**	1.8 U	2.1 U	NA	1.8 R	2.1 U	2.1 U	NA
Heptachlor	120	510	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 U	2.1 U	2.1 U	NA
Heptachlor Epoxide	59	250	--	--	--	1.8 U	1.8 U	1.9 U	NA	NA	1.8 U	NA	2.1 U	2.1 U	2 U	2 U	2.1 U	NA	1.9 U	1.9 U	2 U	NA	1.8 U	1.8 U	2.1 U	NA	1.8 R	2.1 U	2.1 U	NA
Methoxychlor	31000	410000	--	--	--	18 U	18 U	19 U	NA	NA	18 U	NA	21 U	21 U	20 U	20 U	21 U	NA	19 U	19 U	20 U	NA	18 U	18 U	21 U	NA	18 U	21 U	21 U	NA
Toxaphene	480	2100	--	--	--	180 U	180 U	190 U	NA	NA	180 U	NA	210 U	210 U	200 U	200 U	210 U	NA	190 U	190 U	200 U	NA	180 U	180 U	210 U	NA	180 U	210 U	210 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
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SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	MBTA ROW																							
					Sample Location	ROW-04					ROW-05				ROW-06				ROW-07				ROW-08				ROW-09			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/25/14	06/25/14	06/25/14	06/25/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS04-0001-062314X	ROW-SB04-0204-062314X	ROW-SB04-0406-062314X	ROW-SB04-0608-062314X	ROW-SB04-1012-062314X	ROW-SS05-0001-062414X	ROW-SB05-0204-062414X	ROW-SB05-0406-062414X	ROW-SB05-0608-062414X	ROW-SS06-0001-062414X	ROW-SB06-0204-062414X	ROW-SB06-0406-062414X	ROW-SB06-0608-062414X	ROW-SS07-0001-062414X	ROW-SB07-0204-062414X	ROW-SB07-0406-062414X	ROW-SB07-0608-062414X	ROW-SS08-0001-062414X	ROW-SB08-0204-062414X	ROW-SB08-0406-062414X	ROW-SB08-0608-062414X	ROW-SS09-0001-062414X	ROW-SB09-0204-062514X	ROW-SB09-0406-062514X	ROW-SB09-0608-062514X
Metals (mg/kg)																													
Aluminum	7700	110000	10000	10000	10700	4340	9070 J	11200 J	NA	NA	5580 J	NA	19000 J	22400 J	9170 J	24800 J	19900 J	NA	6560	21700	25400	NA	5330	7800	23000	NA	8300	10700	32600	NA
Antimony	3.1	47	1	7	--	4.7 J	0.39 J-	0.42 J-	NA	NA	3.1 J-	NA	0.86 J-	0.85 J-	2.6 J-	0.83 J-	1 J-	NA	1.9 J	0.73 J	0.8 J	NA	3.3 J	0.27 J	0.9 J	NA	2.3 J	0.47 J	1.2 J	NA
Arsenic	0.67	3	20	20	8.78	65.8	7.1	10.5	NA	NA	46.1	NA	17.4	19.8	94.9	15.3	17	NA	69.6	10.4	16.1	NA	117	8.3	15.8	NA	110	8.1	14.7	NA
Barium	1500	22000	50	50	16	55.3	16.9	16.2	NA	NA	87.8	NA	64.4	73.4	90.6	70	62.1	NA	56.5	39.4	79.6	NA	52.9	24.3	75.9	NA	77.6	33.3	69.8	NA
Beryllium	16	230	0.4	0.9	0.315	0.78	0.49	0.58	NA	NA	0.83	NA	1.5	1.6	0.95	1.2	1.4	NA	0.75	1	1.8	NA	0.59	0.5	1.7	NA	0.85	0.73	1.5	NA
Cadmium	7	98	2	3	--	0.44 J	0.14 J	0.15 J	NA	NA	0.69 J	NA	0.56 J	0.68 J	0.85 J	0.39 J	0.57 J	NA	0.7 J	0.33 J	0.64 J	NA	0.53 J	0.17 J	0.54 J	NA	0.56 J	0.28 J	0.49 J	NA
Calcium	--	--	--	--	634	1620	831	1210	NA	NA	2500	NA	3340	3550	8800	1020	3160	NA	3880	1060	2080	NA	2790	1300	2570	NA	5320	1440	1270	NA
Chromium	12000	180000	30	40	15.2	40.8	13.4	14.6	NA	NA	26.9	NA	52.6	64.8	30.6	56.4	55.9	NA	26.6	42.8	64.9	NA	27.5	12.6	52.4	NA	22.4	20	68.5	NA
Chromium-Hexavalent	0.3	6.3	30	40	--	1.5 J	NA	NA	NA	NA	NA	NA	NA	NA	9.4 J	NA	NA	NA	6.9 J	NA	NA	NA	2.8 J	NA	NA	NA	2.6 J	NA	NA	NA
Cobalt	2.3	35	4	4	5.68	8.6	5.6	6.1	NA	NA	6.3	NA	15.3	16.7	7.1	11.1	14.8	NA	5.3	10.3	12.1	NA	4.1	7.5	19.1	NA	5	13.8	10.4	NA
Copper	310	4700	40	200	6.28	100 J	11.2	9.2	NA	NA	70.3	NA	23	24.3	46.8	20.1	23.1	NA	53.1 J+	11.7 J+	21 J+	NA	57.1 J+	13.9 J+	17.6 J+	NA	39.4 J+	13 J+	14.7 J+	NA
Iron	5500	82000	20000	20000	11200	58200	11100	12200	NA	NA	27200	NA	33300	37700	27700	34900	34100	NA	19100 J+	29000 J+	37300 J+	NA	33600 J+	12800 J+	31700 J+	NA	27300 J+	16600 J+	45200 J+	NA
Lead	400	800	100	600	41.8	162 J+	10	10.2	NA	NA	221	NA	19	18	142	20.2	16.2	NA	129	16	19.3	NA	114	9.2	24	NA	70.3	13.1	17.9	NA
Magnesium	--	--	5000	5000	2780	766	2530 J	2630 J	NA	NA	830 J	NA	8680 J	10700 J	1950 J	7720 J	9000 J	NA	564	6960	8660	NA	472	3360	7700	NA	543	4040	8720	NA
Manganese	180	2600	300	300	155	488	224 J	190 J	NA	NA	180 J	NA	550 J	641 J	231 J	357 J	562 J	NA	129 J+EB	363 J+EB	337 J+EB	NA	153 J+EB	236 J+EB	542 J+EB	NA	149 J+EB	433 J+EB	336 J+EB	NA
Mercury	0.94	4	0.3	1	0.0242	0.35	0.052 J	0.016 J	NA	NA	0.12	NA	0.0034 J	0.0067 J	0.14	0.026 J	0.0069 J	NA	0.13	0.023 J	0.0045 J	NA	0.17	0.0052 J	0.049 J	NA	0.11	0.02 J	0.025 J	NA
Nickel	150	2200	20	30	11.2	27.4	11.7	11.7	NA	NA	13.1	NA	41.3	48.8	20.3	32.7	43	NA	12.5	22.5	39	NA	11.6	13.9	38.7	NA	12.2	15.6	29	NA
Potassium	--	--	--	--	382	405 U	180 J	127 J	NA	NA	223 J	NA	2890 J	4250 J	557 J	2350 J	3370 J	NA	19.6 J	1220	2950	NA	32 J	335 J	2170	NA	201 J	551	1960	NA
Selenium	39	580	0.5	1	--	2.8 U	1.7 J	2.2 J	NA	NA	4.9	NA	4.5	5.2	4.7	5.9	4.6	NA	3.6	4.6	5.3	NA	5.6	1.8 J	4.7	NA	4.5	2.5 J	6.9	NA
Silver	39	580	0.6	5	--	0.81 U	0.84 U	0.76 U	NA	NA	0.8 U	NA	0.89 U	0.88 U	0.98 U	0.96 U	0.91 U	NA	0.88 U	0.82 U	0.89 U	NA	0.81 U	0.79 U	0.93 U	NA	0.83 U	0.83 U	0.98 U	NA
Sodium	--	--	--	--	--	201 J	65.8 J	79 J	NA	NA	143 J	NA	291 J	320 J	192 J	169 J	265 J	NA	197 JEB	130 JEB	228 JEB	NA	176 JEB	97.6 JEB	216 JEB	NA	253 JEB	103 JEB	151 JEB	NA
Thallium	0.078	1.2	0.6	5	--	0.096 J+	0.072 J	0.07 J	NA	NA	0.11 J	NA	0.3 J	0.35 J	0.14 J	0.3 J	0.3 J	NA	0.089 J	0.19 J	0.29 J	NA	0.085 J	0.057 J	0.25 J	NA	0.089 J	0.072 J	0.33 J	NA
Vanadium	39	580	30	30	19.4	32.2	17.1	18.3	NA	NA	30.2	NA	52.5	59.4	47.5	58.6	54.1	NA	40	54.1	63.6	NA	37	19.5	57.3	NA	30.6	28.2	79.1	NA
Zinc	2300	35000	100	300	35.3	111 J+	27.8	24.8	NA	NA	52.2	NA	73.3	83.9	133	75.7	74.8	NA	56.4	61.3	84	NA	31.1	41.9	77.6	NA	38.7	54.6	81.3	NA
Asbestos (%v/v)																														
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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					Sample Location	ROW-04					ROW-05				ROW-06				ROW-07				ROW-08				ROW-09			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/25/14	06/25/14	06/25/14	06/25/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS04-0001-062314X	ROW-SB04-0204-062314X	ROW-SB04-0406-062314X	ROW-SB04-0608-062314X	ROW-SB04-1012-062314X	ROW-SS05-0001-062414X	ROW-SB05-0204-062414X	ROW-SB05-0406-062414X	ROW-SB05-0608-062414X	ROW-SS06-0001-062414X	ROW-SB06-0204-062414X	ROW-SB06-0406-062414X	ROW-SB06-0608-062414X	ROW-SS07-0001-062414X	ROW-SB07-0204-062414X	ROW-SB07-0406-062414X	ROW-SB07-0608-062414X	ROW-SS08-0001-062414X	ROW-SB08-0204-062414X	ROW-SB08-0406-062414X	ROW-SB08-0608-062414X	ROW-SS09-0001-062414X	ROW-SB09-0204-062514X	ROW-SB09-0406-062514X	ROW-SB09-0608-062514X
Dioxins/Furans (ng/Kg)																														
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.492 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13800 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.182 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**62.2**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.213 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.121 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.263 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.117 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.294 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.131 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.361 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.105 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.252 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.129 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0989 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.182 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.248 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.325 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**111 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.117 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.29 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0524 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.388 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.248 UJ	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.482 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.84 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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SOIL - ANALYTICAL RESULTS
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DANVERS, MASSACHUSETTS

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					Sample Location	ROW-04					ROW-05				ROW-06				ROW-07				ROW-08				ROW-09			
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8
					Sample Date	06/23/14	06/23/14	06/23/14	06/23/14	06/23/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/24/14	06/25/14	06/25/14	06/25/14	06/25/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS04-0001-062314X	ROW-SB04-0204-062314X	ROW-SB04-0406-062314X	ROW-SB04-0608-062314X	ROW-SB04-1012-062314X	ROW-SS05-0001-062414X	ROW-SB05-0204-062414X	ROW-SB05-0406-062414X	ROW-SB05-0608-062414X	ROW-SS06-0001-062414X	ROW-SB06-0204-062414X	ROW-SB06-0406-062414X	ROW-SB06-0608-062414X	ROW-SS07-0001-062414X	ROW-SB07-0204-062414X	ROW-SB07-0406-062414X	ROW-SB07-0608-062414X	ROW-SS08-0001-062414X	ROW-SB08-0204-062414X	ROW-SB08-0406-062414X	ROW-SB08-0608-062414X	ROW-SS09-0001-062414X	ROW-SB09-0204-062514X	ROW-SB09-0406-062514X	ROW-SB09-0608-062514X
General Chemistry (%)																														
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.75 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																														
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																														
Oxidation-Reduction Potential	--	--	--	--	--	**460**	NA	NA	NA	NA	**473**	NA	**441**	NA	**362**	**506**	NA	NA	**424**	NA	NA	NA	**490**	NA	NA	NA	**452**	NA	NA	NA
General Chemistry (S.U.)																														
pH	--	--	--	--	--	**5.95**	NA	NA	NA	NA	**5.91**	NA	**6.51**	NA	**6.6**	**4.97**	NA	NA	**5.94**	NA	NA	NA	**6.06**	NA	NA	NA	**5.93**	NA	NA	NA
General Chemistry (ug/g)																														
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**41 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**41 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.32**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**24**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																														
Arsenic	**0.67**	**3**	20	20	8.78	**95**	**7**	**12**	5 U	6 U	**91**	**13**	**16**	**16**	**109**	**9**	**17**	**15**	**140**	**6**	**11**	**12**	**181**	**7**	**10**	**9**	**161**	6 U	**8**	**17**
Chromium	**12000**	180000	30	40	15.2	**143**	31 U	32 U	33 U	33 U	**146**	**92**	**92**	**106**	**144**	35 U	**78**	**66**	**210**	32 U	**87**	**79**	**227**	32 U	**135**	**93**	**142**	34 U	**51**	**87**
Lead	**400**	**800**	100	600	41.8	**288**	**25**	**23**	**21**	**21**	**276**	**29**	**24**	**26**	**166**	**21**	**22**	**23**	**279**	**16**	**33**	**29**	**178**	**22**	**27**	**27**	**104**	**25**	**19**	**25**
Mercury	0.94	4	0.3	1	0.0242	8 U	6 U	6 U	5 U	6 U	8 U	7 U	7 U	7 U	6 U	6 U	7 U	7 U	6 U	6 U	7 U	7 U	7 U	7 U	6 U	6 U	7 U	6 U	6 U	6 U
Nickel	150	2200	20	30	11.2	51 U	32 U	32 U	29 U	36 U	**45**	37 U	36 U	**60**	35 U	31 U	**48**	37 U	**41**	31 U	**37**	**37**	40 U	35 U	**39**	36 U	**55**	**39**	33 U	**51**
PAH Screening (ug/kg)																														
Total PAH	--	--	--	--	--	NA	**38**	**19**	10 U	NA	NA	**11**	**45**	10 U	NA	**2100 J**	**58**	**130**	NA	10 U	**120**	16 U	NA	**23**	10 U	10 U	NA	**18**	**12**	10 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-10				ROW-11				ROW-12				ROW-13						ROW-14					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS10-0001-062014X	ROW-SB10-0204-062014X	ROW-SB10-0406-062014X	ROW-SB10-0608-062014X	ROW-SS11-0001-062514D	ROW-SS11-0001-062514X	ROW-SB11-0204-062514X	ROW-SB11-0406-062514X	ROW-SB11-0608-062514X	ROW-SS12-0001-062514X	ROW-SB12-0204-062514X	ROW-SB12-0406-062514X	ROW-SB12-0608-062514X	ROW-SS13-0001-062014X-MAX	ROW-SB13-0204-062014X	ROW-SB13-0406-062014X	ROW-SB13-0608-062014X	ROW-SB13-0810-062014X	ROW-SB13-1012-062014X	ROW-SS14-0001-061914X	ROW-SB14-0204-061914X	ROW-SB14-0406-061914X	ROW-SB14-0608-061914X	ROW-SB14-0810-061914X	ROW-SB14-1012-061914X
Volatiles (ug/kg)																													
1,1,1-Trichloroethane	810000	3600000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	110 R	90 R	84 R	NA	140 R	140 R	89 R	92 R	NA	150 R	98 R	98 R	NA	140 R	96 R	88 R	NA	NA	NA	170 R	85 R	95 R	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	**14**	9 U	8.4 U	NA	14 U	14 U	8.9 U	9.2 U	NA	**23 J**	9.8 U	9.8 U	NA	14 U	9.6 U	8.8 U	NA	NA	NA	17 U	8.5 U	9.5 U	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	11 U	9 U	8.4 U	NA	14 U	14 U	8.9 U	9.2 U	NA	15 U	9.8 U	9.8 U	NA	14 U	9.6 U	8.8 U	NA	NA	NA	17 U	8.5 U	9.5 U	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	11 U	9 U	8.4 U	NA	14 R	14 R	8.9 R	9.2 R	NA	15 R	9.8 R	9.8 R	NA	14 U	9.6 U	8.8 U	NA	NA	NA	17 U	8.5 U	9.5 U	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**190**	**44**	**4.8 J**	NA	**140 EB**	**170 JEB**	**79 JEB**	**6.8 JEB**	NA	**420 JEB**	**79 EB**	**11 EB**	NA	**46**	**79**	**34**	NA	NA	NA	**180 EB**	**110 EB**	**64 EB**	NA	NA	NA
Benzene	1200	5100	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 R	7.2 R	4.5 R	4.6 R	NA	7.3 R	4.9 R	4.9 R	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Bromoform	67000	290000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 R	7.2 R	4.5 R	4.6 R	NA	7.3 R	4.9 R	4.9 R	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Bromomethane	680	3000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 R	4.3 R	4.7 R	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	5.4 R	4.5 R	4.2 R	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 R	4.8 R	4.4 R	NA	NA	NA	8.5 R	4.3 R	4.7 R	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	5.4 R	4.5 R	4.2 R	NA	7.2 R	7.2 R	4.5 R	4.6 R	NA	7.3 R	4.9 R	4.9 R	NA	6.8 R	4.8 R	4.4 R	NA	NA	NA	8.5 R	4.3 R	4.7 R	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Chloroform	320	1400	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Chloromethane	11000	46000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	5.4 R	4.5 R	4.2 R	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 R	4.8 R	4.4 R	NA	NA	NA	8.5 R	4.3 R	4.7 R	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
m,p-Xylene	--	--	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**81**	**27**	4.2 U	NA	**9.9 EB**	**11 EB**	4.5 U	4.6 U	NA	**52 EB**	4.9 U	4.9 U	NA	**4.5 J**	**5.4**	4.4 U	NA	NA	NA	**55 EB**	**21 EB**	4.7 U	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	**9.1**	**11**	NA	NA	NA
o-Xylene	65000	280000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Styrene	600000	3500000	--	--	--	5.4 R	4.5 R	4.2 R	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 R	4.8 R	4.4 R	NA	NA	NA	8.5 R	4.3 R	4.7 R	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Toluene	490000	4700000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 R	7.2 R	4.5 R	4.6 R	NA	7.3 R	4.9 R	4.9 R	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Trichloroethene	410	1900	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	5.4 U	4.5 U	4.2 U	NA	7.2 U	7.2 U	4.5 U	4.6 U	NA	7.3 U	4.9 U	4.9 U	NA	6.8 U	4.8 U	4.4 U	NA	NA	NA	8.5 U	4.3 U	4.7 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-10				ROW-11					ROW-12				ROW-13						ROW-14					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5		2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/25/14		06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N		N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS10-0001-062014X	ROW-SB10-0204-062014X	ROW-SB10-0406-062014X	ROW-SB10-0608-062014X	ROW-SS11-0001-062514D	ROW-SS11-0001-062514X	ROW-SB11-0204-062514X	ROW-SB11-0406-062514X	ROW-SB11-0608-062514X	ROW-SS12-0001-062514X	ROW-SB12-0204-062514X	ROW-SB12-0406-062514X	ROW-SB12-0608-062514X	ROW-SS13-0001-062014X-MAX	ROW-SB13-0204-062014X	ROW-SB13-0406-062014X	ROW-SB13-0608-062014X	ROW-SB13-0810-062014X	ROW-SB13-1012-062014X	ROW-SS14-0001-061914X	ROW-SB14-0204-061914X	ROW-SB14-0406-061914X	ROW-SB14-0608-061914X	ROW-SB14-0810-061914X	ROW-SB14-1012-061914X
Semivolatiles (ug/kg)																													
1,1'-Biphenyl	4700	20000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 UJ	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	220 UJ	210 UJ	200 UJ	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	**53 J**	170 UJ	200 UJ	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	430 U	400 U	390 U	NA	380 U	390 U	370 U	400 U	NA	380 U	410 U	400 U	NA	400 U	340 U	380 U	NA	NA	NA	440 U	360 U	390 U	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	**72**	4 U	3.9 U	NA	**73 EB**	**63 EB**	3.7 U	4 U	NA	**75 EB**	4.1 U	4 U	NA	**110**	3.4 U	3.8 U	NA	NA	NA	**61 EB**	3.6 U	3.9 U	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	430 U	400 U	390 U	NA	380 U	390 U	370 U	400 U	NA	380 U	410 U	400 U	NA	400 U	340 U	380 U	NA	NA	NA	440 U	360 U	390 U	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	220 UJ	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	430 U	400 U	390 U	NA	380 U	390 U	370 U	400 U	NA	380 U	410 U	400 U	NA	400 U	340 U	380 U	NA	NA	NA	440 U	360 U	390 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	430 U	400 U	390 U	NA	380 U	390 U	370 U	400 U	NA	380 U	410 U	400 U	NA	400 U	340 U	380 U	NA	NA	NA	440 U	360 U	390 U	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	220 UJ	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	220 U	210 U	200 U	NA	**60 J**	**49 J**	190 U	210 U	NA	200 U	210 U	210 U	NA	**48 J**	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	430 U	400 U	390 U	NA	380 U	390 U	370 U	400 U	NA	380 U	410 U	400 U	NA	400 U	340 U	380 U	NA	NA	NA	440 U	360 U	390 U	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	430 U	400 U	390 U	NA	380 U	390 U	370 U	400 U	NA	380 U	410 U	400 U	NA	400 U	340 U	380 U	NA	NA	NA	440 U	360 U	390 U	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	**19**	4 U	3.9 U	NA	38 U	39 U	3.7 U	4 U	NA	38 U	4.1 U	4 U	NA	**23**	3.4 U	3.8 U	NA	NA	NA	**33**	3.6 U	3.9 U	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	**90**	**7.6 J**	3.9 U	NA	**1900**	**1500 J**	3.7 U	4 U	NA	**680**	4.1 U	4 U	NA	**450**	**25 J**	**4.4 J**	NA	NA	NA	**260**	3.6 U	3.9 U	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	**73 J**	210 U	200 U	NA	**100 JEB**	**94 JEB**	190 U	210 U	NA	**110 JEB**	210 U	210 U	NA	**69 J**	170 U	200 U	NA	NA	NA	**81 JEB**	190 U	200 U	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**72 J**	**4.1 J**	**3.1 J**	NA	**1100**	**900 J**	3.7 U	4 U	NA	**570**	4.1 U	4 U	NA	**350 J**	**8.1 J**	200 U	NA	NA	NA	**340**	3.6 U	3.9 U	NA	NA	NA
Atrazine	2300	10000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**340**	4 U	3.9 U	NA	**2700**	**1900 J**	**3.9**	4 U	NA	**1400**	4.1 U	4 U	NA	**1100**	**14**	3.8 U	NA	NA	NA	**1300**	**3.9**	3.9 U	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**260**	4 U	3.9 U	NA	**2100**	**1800 J**	3.7 U	4 U	NA	**1100**	4.1 U	4 U	NA	**1000**	**10**	3.8 U	NA	NA	NA	**950**	**5.3**	3.9 U	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**690**	**6.8**	**4.9**	NA	**6400**	**4800**	3.7 U	4 U	NA	**2700**	4.1 U	4 U	NA	**2600**	**19**	3.8 U	NA	NA	NA	**1800**	**5.3**	3.9 U	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**140**	4 UJ	3.9 UJ	NA	**1200**	**1100 J**	3.7 U	4 U	NA	**630**	4.1 U	4 U	NA	**670**	**3.8 J**	3.8 UJ	NA	NA	NA	**530**	3.6 U	3.9 U	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**200**	**3.3 J**	**3.6 J**	NA	**2200**	**3400**	3.7 U	4 U	NA	**1200**	4.1 U	4 U	NA	**860**	**11**	3.8 U	NA	NA	NA	**600**	**3.8**	3.9 U	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**78 J**	**49 J**	200 U	NA	200 U	200 U	190 U	210 UJ	NA	**80 J**	210 UJ	210 U	NA	**200 J**	**36 J**	200 U	NA	NA	NA	**340**	190 U	200 UJ	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	**77 J**	210 UJ	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 UJ	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
Carbazole	--	--	--	--	--	220 U	210 U	200 U	NA	**310**	**250 J**	190 U	210 UJ	NA	**140 J**	210 U	210 U	NA	**180 J**	170 U	200 U	NA	NA	NA	**85 J**	190 U	200 UJ	NA	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**610**	4 U	3.9 U	NA	**4200**	**3900**	**5.4**	4 U	NA	**1900**	4.1 U	4 U	NA	**1800**	**22**	3.8 U	NA	NA	NA	**1300**	**3.7**	3.9 U	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**44**	4 UJ	3.9 U	NA	**610**	**540 J**	3.7 U	4 U	NA	**190**	4.1 U	4 U	NA	**150**	3.4 UJ	3.8 UJ	NA	NA	NA	**220**	3.6 U	3.9 U	NA	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	220 U	210 U	200 U	NA	**84 J**	**69 J**	190 U	210 UJ	NA	**52 J**	210 U	210 U	NA	**90 J**	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	**420**	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 UJ	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 UJ	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**480**	**500**	**420**	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 UJ	210 U	NA	**580**	**410**	**390**	NA	NA	NA	**540**	**420**	**340 J**	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 UJ	NA	200 U	210 UJ	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 UJ	NA	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**730**	**6.2**	**5.8**	NA	**4300**	**3700**	**8.9**	4 U	NA	**2300**	4.1 U	**4.6**	NA	**2200**	**25**	3.8 U	NA	NA	NA	**2200**	**6.5**	3.9 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-10				ROW-11					ROW-12				ROW-13						ROW-14					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5		2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/25/14		06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N		N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS10-0001-062014X	ROW-SB10-0204-062014X	ROW-SB10-0406-062014X	ROW-SB10-0608-062014X	ROW-SS11-0001-062514D	ROW-SS11-0001-062514X	ROW-SB11-0204-062514X	ROW-SB11-0406-062514X	ROW-SB11-0608-062514X	ROW-SS12-0001-062514X	ROW-SB12-0204-062514X	ROW-SB12-0406-062514X	ROW-SB12-0608-062514X	ROW-SS13-0001-062014X-MAX	ROW-SB13-0204-062014X	ROW-SB13-0406-062014X	ROW-SB13-0608-062014X	ROW-SB13-0810-062014X	ROW-SB13-1012-062014X	ROW-SS14-0001-061914X	ROW-SB14-0204-061914X	ROW-SB14-0406-061914X	ROW-SB14-0608-061914X	ROW-SB14-0810-061914X	ROW-SB14-1012-061914X
Fluorene	230000	3000000	1000	2000	--	**32**	4 U	3.9 U	NA	**57**	**54**	3.7 U	4 U	NA	**42**	4.1 U	4 U	NA	**62 J**	**3.7**	3.8 U	NA	NA	NA	**67**	3.6 U	3.9 U	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	220 UJ	210 U	200 U	NA	200 UJ	200 UJ	190 UJ	210 UJ	NA	200 U	210 UJ	210 UJ	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**160**	4 UJ	3.9 UJ	NA	**1500**	**1300 J**	3.7 U	4 U	NA	**720**	4.1 U	4 U	NA	**710**	**4 J**	3.8 UJ	NA	NA	NA	**610**	3.6 U	3.9 U	NA	NA	NA
Isophorone	560000	2400000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Naphthalene	**3800**	17000	500	1000	--	**62**	4 U	3.9 U	NA	**94 EB**	**76 EB**	3.7 U	4 U	NA	**79 EB**	4.1 U	4 U	NA	**99**	3.4 U	3.8 U	NA	NA	NA	**51 EB**	3.6 U	3.9 U	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	220 U	210 U	200 U	NA	200 U	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Pentachlorophenol	990	4000	--	--	--	**79 J**	**6.9 J**	**7.1 J**	NA	380 U	390 U	370 U	400 U	NA	380 U	410 U	400 U	NA	**74 J**	340 U	380 U	NA	NA	NA	**65 J**	7.3 U	390 U	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**260**	**3.8 J**	**4.9**	NA	**560**	**460 J**	3.7 U	4 U	NA	**420**	4.1 U	4 U	NA	**600**	**12**	3.8 U	NA	NA	NA	**410**	3.6 U	3.9 U	NA	NA	NA
Phenol	1800000	25000000	--	--	--	220 U	210 U	200 U	NA	**46 JEB**	200 U	190 U	210 U	NA	200 U	210 U	210 U	NA	210 U	170 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**700**	**4.5**	**4.6**	NA	**5100**	**4400**	**7.5**	4 U	NA	**2200**	4.1 U	**4.1**	NA	**2100**	**13**	3.8 U	NA	NA	NA	**2000**	**4.3**	3.9 U	NA	NA	NA
	Pesticides/PCBs (ug/kg)																													
4,4'-DDD	2200	9600	--	--	--	4.3 U	4 U	3.9 U	NA	3.8 U	3.9 U	3.7 U	4 U	NA	3.8 U	4.1 U	4 U	NA	4 U	3.4 U	3.8 U	NA	NA	NA	4.4 U	3.6 U	3.8 U	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	4.3 R	4 R	3.9 R	NA	3.8 U	3.9 U	3.7 U	4 U	NA	**4.7 J**	4.1 U	4 U	NA	**28 J**	3.4 R	3.8 R	NA	NA	NA	**9.1 J**	3.6 R	3.8 R	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	4.3 R	4 R	3.9 R	NA	**17 J**	**19 J**	3.7 U	4 U	NA	**31 J**	4.1 U	4 U	NA	**61 J**	3.4 R	3.8 R	NA	NA	NA	**22 J**	3.6 R	3.8 R	NA	NA	NA
Aldrin	31	140	--	--	--	2.2 R	2 R	2 R	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 R	1.8 R	2 R	NA	NA	NA	2.3 R	1.9 R	2 R	NA	NA	NA
alpha-BHC	85	370	--	--	--	2.2 R	2 R	2 R	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 R	1.8 R	2 R	NA	NA	NA	2.3 R	1.9 R	2 R	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	2.2 U	2 U	2 U	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 U	1.8 U	2 U	NA	NA	NA	2.3 U	1.9 U	2 U	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1221	150	660	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1232	150	660	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1242	240	1000	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1248	**240**	1000	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1254	**110**	1000	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	42 U	40 U	39 U	NA	39 UJ	**190 J**	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1262	--	--	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
Aroclor 1268	--	--	--	--	--	42 U	40 U	39 U	NA	39 U	38 U	38 U	40 U	NA	39 U	41 U	41 U	NA	40 U	34 U	38 U	NA	NA	NA	45 U	36 U	38 U	NA	NA	NA
beta-BHC	300	1300	--	--	--	2.2 U	2 U	2 U	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 U	1.8 U	2 U	NA	NA	NA	2.3 U	1.9 U	2 U	NA	NA	NA
delta-BHC	--	--	--	--	--	2.2 R	2 R	2 R	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 R	1.8 R	2 R	NA	NA	NA	2.3 R	1.9 R	2 R	NA	NA	NA
Dieldrin	33	140	--	--	--	4.3 U	4 U	3.9 U	NA	3.8 U	3.9 U	3.7 U	4 U	NA	3.8 U	4.1 U	4 U	NA	4 U	3.4 U	3.8 U	NA	NA	NA	4.4 U	3.6 U	3.8 U	NA	NA	NA
Endosulfan I	--	--	--	--	--	2.2 U	2 U	2 U	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 U	1.8 U	2 U	NA	NA	NA	2.3 U	1.9 U	2 U	NA	NA	NA
Endosulfan II	--	--	--	--	--	4.3 U	4 U	3.9 U	NA	3.8 U	3.9 U	3.7 U	4 U	NA	3.8 U	4.1 U	4 U	NA	4 U	3.4 U	3.8 U	NA	NA	NA	4.4 U	3.6 U	3.8 U	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	4.3 R	4 R	3.9 R	NA	**30 J**	**31 J**	3.7 U	4 U	NA	**10 J**	4.1 U	4 U	NA	**17 J**	3.4 R	3.8 R	NA	NA	NA	**7.1 J**	3.6 R	3.8 R	NA	NA	NA
Endrin	1800	25000	--	--	--	4.3 U	4 U	3.9 U	NA	3.8 U	3.9 U	3.7 U	4 U	NA	3.8 U	4.1 U	4 U	NA	**6 J**	3.4 U	3.8 U	NA	NA	NA	4.4 U	3.6 U	3.8 U	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	4.3 U	4 U	3.9 U	NA	3.8 U	**5.3 J**	3.7 U	4 U	NA	3.8 U	4.1 U	4 U	NA	4 U	3.4 U	3.8 U	NA	NA	NA	4.4 U	3.6 U	3.8 U	NA	NA	NA
Endrin Ketone	--	--	--	--	--	4.3 U	4 U	3.9 U	NA	**30 J**	**30 J**	3.7 U	4 U	NA	**7.2 J**	4.1 U	4 U	NA	**16 J**	3.4 U	3.8 U	NA	NA	NA	**7.8 J**	3.6 UJ	3.8 UJ	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2.2 R	2 R	2 R	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 R	1.8 R	2 R	NA	NA	NA	2.3 R	1.9 R	2 R	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	**3.9 J**	2 U	2 U	NA	**12 J**	**20 J**	1.9 U	2 U	NA	**15 J**	2.1 U	2.1 U	NA	**19 J**	1.8 U	2 U	NA	NA	NA	**6.4 J**	1.9 U	2 U	NA	NA	NA
Heptachlor	120	510	--	--	--	2.2 R	2 R	2 R	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 R	1.8 R	2 R	NA	NA	NA	2.3 R	1.9 R	2 R	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	2.2 U	2 U	2 U	NA	2 U	2 U	1.9 U	2 U	NA	2 U	2.1 U	2.1 U	NA	2.1 U	1.8 U	2 U	NA	NA	NA	2.3 U	1.9 U	2 U	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	22 U	20 U	20 U	NA	20 U	20 U	19 U	20 U	NA	20 U	21 U	21 U	NA	21 U	18 U	20 U	NA	NA	NA	23 U	19 U	20 U	NA	NA	NA
Toxaphene	480	2100	--	--	--	220 U	200 U	200 U	NA	200 U	200 U	190 U	200 U	NA	200 U	210 U	210 U	NA	210 U	180 U	200 U	NA	NA	NA	230 U	190 U	200 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	MBTA ROW																							
					Sample Location	ROW-10				ROW-11					ROW-12				ROW-13						ROW-14					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/25/14		06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N		N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS10-0001-062014X	ROW-SB10-0204-062014X	ROW-SB10-0406-062014X	ROW-SB10-0608-062014X	ROW-SS11-0001-062514D	ROW-SS11-0001-062514X	ROW-SB11-0204-062514X	ROW-SB11-0406-062514X	ROW-SB11-0608-062514X	ROW-SS12-0001-062514X	ROW-SB12-0204-062514X	ROW-SB12-0406-062514X	ROW-SB12-0608-062514X	ROW-SS13-0001-062014X-MAX	ROW-SB13-0204-062014X	ROW-SB13-0406-062014X	ROW-SB13-0608-062014X	ROW-SB13-0810-062014X	ROW-SB13-1012-062014X	ROW-SS14-0001-061914X	ROW-SB14-0204-061914X	ROW-SB14-0406-061914X	ROW-SB14-0608-061914X	ROW-SB14-0810-061914X	ROW-SB14-1012-061914X
Metals (mg/kg)																													
Aluminum	**7700**	110000	10000	10000	10700	**7670**	**21000**	**21000**	NA	**5240**	**5590**	**18200**	**21200**	NA	**8080**	**14200**	**23600**	NA	**6450**	**8430**	**11000**	NA	NA	NA	**11400**	**8680**	**10900**	NA	NA	NA
Antimony	**3.1**	47	1	7	--	0.92 UJ	0.8 UJ	**1 J**	NA	**2.3 J**	**2.5 J**	**0.75 J**	**0.85 J**	NA	**1.9 J**	**0.65 J**	**0.88 J**	NA	**6.2**	**0.49 J**	**0.57 J**	NA	NA	NA	1.1 UJ	0.8 UJ	0.86 UJ	NA	NA	NA
Arsenic	**0.67**	**3**	20	20	8.78	**30.1**	**5.6**	**19.6**	NA	**81.5**	**71.4**	**13.4**	**17.9**	NA	**139**	**9.1**	**13.9**	NA	**269**	**5.8**	**6.2**	NA	NA	NA	**28 J**	**4.7 J**	**6.2 J**	NA	NA	NA
Barium	**1500**	22000	50	50	16	**65**	**83.2**	**77.3**	NA	**66**	**55.5**	**47.4**	**68.2**	NA	**85.4**	**25.5**	**65.7**	NA	**70.7**	**55**	**48.8**	NA	NA	NA	**91.5 J**	**31.7 J**	**48.1 J**	NA	NA	NA
Beryllium	16	230	0.4	0.9	0.315	**0.83**	**1.9**	**1.5**	NA	**0.63**	**0.76**	**1.5**	**1.6**	NA	**0.65**	**0.78**	**1.5**	NA	**0.65**	**0.49**	**0.59**	NA	NA	NA	**0.73**	**0.49**	**0.71**	NA	NA	NA
Cadmium	**7**	98	2	3	--	**0.4 J**	**0.57 J**	0.48 UJ	NA	**0.65 J**	**0.76 J**	**0.37 J**	**0.88 J**	NA	**1.1 J**	**0.2 J**	**0.71 J**	NA	0.44 UJ	0.38 UJ	0.4 UJ	NA	NA	NA	**0.87 J**	**0.2 J**	**0.36 J**	NA	NA	NA
Calcium	--	--	--	--	634	**1980**	**2360**	**3460**	NA	**2790 J**	**2570 J**	**1360**	**3870**	NA	**3380 J**	**633**	**3650 J**	NA	**3540**	**2590**	**2280**	NA	NA	NA	**5460 J**	**2100 J**	**3400 J**	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**34.6**	**54.6**	**60.7**	NA	**28.3**	**24.3**	**41**	**53.5**	NA	**49.3**	**33**	**56.9**	NA	**80.9**	**53.5**	**18.4**	NA	NA	NA	**640 J**	**28.4 J**	**24.7 J**	NA	NA	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.97 J**	NA	NA	NA	**4.6 J**	NA	NA	NA	NA	NA	**0.79 J**	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**7**	**21.8**	**20.7**	NA	**6.2**	**6.6**	**10.8**	**22.5**	NA	**8.2**	**6.3**	**17.9**	NA	**8.2**	**11.8**	**13.7**	NA	NA	NA	**9**	**8.1**	**11.2**	NA	NA	NA
Copper	**310**	4700	40	200	6.28	**64.2**	**24.4**	**30.3 J**	NA	**62**	**58.2**	**19.7 J+**	**23.7 J+**	NA	**72.7**	**9.4 J+**	**22**	NA	**73.2 J**	**21.2 J**	**15.7 J**	NA	NA	NA	**79.3 J**	**22.2 J**	**17.2 J**	NA	NA	NA
Iron	**5500**	**82000**	20000	20000	11200	**29100**	**38400**	**37600**	NA	**35100 J**	**51200 J**	**28300 J+**	**36700 J+**	NA	**31300 J**	**22700 J+**	**36300 J**	NA	**36300**	**20700**	**19700**	NA	NA	NA	**30100 J**	**14900 J**	**24100 J**	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**160**	**25.6**	**25.1 J+**	NA	**126**	**108**	**23.9**	**23.4**	NA	**164**	**15.2**	**21.6**	NA	**170 J+**	**12.8 J+**	**9 J+**	NA	NA	NA	**176**	**9.1**	**11.6**	NA	NA	NA
Magnesium	--	--	5000	5000	2780	**2050**	**8440**	**9560**	NA	**1670**	**1990**	**6280**	**9860**	NA	**3270**	**5900**	**10100**	NA	**3270**	**4910**	**3930**	NA	NA	NA	**3790**	**3660**	**4650**	NA	NA	NA
Manganese	**180**	**2600**	300	300	155	**385**	**865**	**887**	NA	**258 J**	**245 J**	**358 J+EB**	**1010 J+EB**	NA	**361 J**	**231 J+EB**	**661 J**	NA	**276**	**231**	**677**	NA	NA	NA	**374 J**	**425 J**	**232 J**	NA	NA	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**3.1**	0.11 U	**0.042 J**	NA	**4.7**	**4.6**	**0.17**	**0.0044 J**	NA	**6**	**0.059 J**	**0.01 J**	NA	**2.4**	**0.013 J**	0.1 U	NA	NA	NA	**3.4**	**0.39**	**0.054 J**	NA	NA	NA
Nickel	**150**	2200	20	30	11.2	**14.6**	**42.9**	**51.3**	NA	**14.4**	**13.5**	**24.6**	**47.2**	NA	**21.2**	**16**	**44.2**	NA	**19.4**	**23.6**	**20.9**	NA	NA	NA	**22.1**	**14.9**	**18.5**	NA	NA	NA
Potassium	--	--	--	--	382	463 U	**2570**	**3180**	NA	442 UJ	440 UJ	**1550**	**2750**	NA	**603 J**	**991**	**2830 J**	NA	436 U	**969**	**1140**	NA	NA	NA	**860**	421 U	**764**	NA	NA	NA
Selenium	39	580	0.5	1	--	2.3 U	4 U	3.4 U	NA	**6.4**	**8.5**	**4.1**	**4.8**	NA	**5.4**	**3.5**	**5.5**	NA	3.1 U	2.7 U	2.8 U	NA	NA	NA	2.7 U	2 U	2.2 U	NA	NA	NA
Silver	39	580	0.6	5	--	0.93 U	0.89 U	0.96 U	NA	0.88 U	0.88 U	0.8 U	0.86 U	NA	0.86 U	0.95 U	0.88 U	NA	0.87 U	0.77 U	0.79 U	NA	NA	NA	1.1 U	0.84 U	0.9 U	NA	NA	NA
Sodium	--	--	--	--	--	**152 J**	**282 J**	**429 J**	NA	**414 J**	**381 J**	**372 JEB**	**473 EB**	NA	**564**	**189 JEB**	**713**	NA	**308 J**	**225 J**	**199 J**	NA	NA	NA	**185 J**	**127 J**	**192 J**	NA	NA	NA
Thallium	**0.078**	1.2	0.6	5	--	0.46 U	0.4 U	**0.3 J+**	NA	**0.13 J**	**0.13 J**	**0.17 J**	**0.31 J**	NA	**0.14 J**	**0.31 J**	**0.33 J**	NA	**0.14 J**	**0.068 J+**	**0.14 J+**	NA	NA	NA	**0.13 J**	**0.066 J**	**0.064 J**	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**27.6**	**66.4**	**59.1**	NA	**25.3**	**24.2**	**47.3**	**60.1**	NA	**39**	**40.9**	**60.4**	NA	**43**	**40.8**	**35**	NA	NA	NA	**60.2 J**	**25.8 J**	**36.8 J**	NA	NA	NA
Zinc	**2300**	35000	100	300	35.3	**72 J**	**74.4 J**	**84.7 J+**	NA	**69.6**	**62.2**	**63.7**	**82.5**	NA	**240**	**40.7**	**81.2**	NA	**65.1 J+**	**44.7 J+**	**37.3 J+**	NA	NA	NA	**136**	**53.8**	**54.5**	NA	NA	NA
Asbestos (%v/v)																													
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-10				ROW-11					ROW-12				ROW-13						ROW-14					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5		2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/25/14		06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N		N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS10-0001-062014X	ROW-SB10-0204-062014X	ROW-SB10-0406-062014X	ROW-SB10-0608-062014X	ROW-SS11-0001-062514D	ROW-SS11-0001-062514X	ROW-SB11-0204-062514X	ROW-SB11-0406-062514X	ROW-SB11-0608-062514X	ROW-SS12-0001-062514X	ROW-SB12-0204-062514X	ROW-SB12-0406-062514X	ROW-SB12-0608-062514X	ROW-SS13-0001-062014X-MAX	ROW-SB13-0204-062014X	ROW-SB13-0406-062014X	ROW-SB13-0608-062014X	ROW-SB13-0810-062014X	ROW-SB13-1012-062014X	ROW-SS14-0001-061914X	ROW-SB14-0204-061914X	ROW-SB14-0406-061914X	ROW-SB14-0608-061914X	ROW-SB14-0810-061914X	ROW-SB14-1012-061914X
Dioxins/Furans (ng/Kg)																													
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**463 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**8100 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**204 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**761 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**14.6 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7.03**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**29.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.97 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.6 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9.62**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**24.3**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.07**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.24**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**560 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2090 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**316 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**239 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**259 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**68.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**39.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**130 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**35.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

					Property	MBTA ROW																							
					Sample Location	ROW-10				ROW-11					ROW-12				ROW-13						ROW-14					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5		2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/20/14	06/20/14	06/20/14	06/20/14	06/25/14		06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/25/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/20/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14
					Sample Type	N	N	N	N	N		N	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS10-0001-062014X	ROW-SB10-0204-062014X	ROW-SB10-0406-062014X	ROW-SB10-0608-062014X	ROW-SS11-0001-062514D	ROW-SS11-0001-062514X	ROW-SB11-0204-062514X	ROW-SB11-0406-062514X	ROW-SB11-0608-062514X	ROW-SS12-0001-062514X	ROW-SB12-0204-062514X	ROW-SB12-0406-062514X	ROW-SB12-0608-062514X	ROW-SS13-0001-062014X-MAX	ROW-SB13-0204-062014X	ROW-SB13-0406-062014X	ROW-SB13-0608-062014X	ROW-SB13-0810-062014X	ROW-SB13-1012-062014X	ROW-SS14-0001-061914X	ROW-SB14-0204-061914X	ROW-SB14-0406-061914X	ROW-SB14-0608-061914X	ROW-SB14-0810-061914X	ROW-SB14-1012-061914X
General Chemistry (%)																													
Chemical Oxygen Demand	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**22 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																													
Salinity	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																													
Oxidation-Reduction Potential	--	--	--	--	--	**445**	NA	NA	NA	NA	**412**	NA	NA	NA	**374**	NA	NA	NA	**394**	NA	NA	NA	NA	NA	**378**	NA	**380**	NA	NA	NA
General Chemistry (S.U.)																													
pH	--	--	--	--	--	**5.26**	NA	NA	NA	NA	**6.54**	NA	NA	NA	**7.16**	NA	NA	NA	**6.49**	NA	NA	NA	NA	NA	**6.33**	NA	**6.22**	NA	NA	NA
General Chemistry (ug/g)																													
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**170 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**170 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.39**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																													
Arsenic	**0.67**	**3**	20	20	8.78	**37**	**10**	**19**	**16**	NA	**88**	**8**	**13**	**18**	**142**	6 U	**10**	**16**	**282**	7 U	**6**	**13**	**11**	**17**	**22**	6 U	6 U	6 U	**14**	**10**
Chromium	**12000**	180000	30	40	15.2	**88**	**49**	**62**	**96**	NA	**84**	32 U	**77**	**76**	**146**	**44**	**78**	**132**	**218**	38 U	**79**	54 U	**77**	44 U	**1177**	**42**	44 U	**39**	**78**	**90**
Lead	**400**	**800**	100	600	41.8	**155**	**23**	**26**	**34**	NA	**132**	**26**	**31**	**28**	**165**	**27**	**26**	**18**	**162**	**28**	**17**	**22**	**21**	**20**	**133**	**21**	**23**	**17**	**31**	**33**
Mercury	0.94	4	0.3	1	0.0242	6 U	6 U	7 U	6 U	NA	7 U	7 U	7 U	7 U	6 U	6 U	7 U	7 U	7 U	8 U	7 U	6 U	7 U	6 U	6 U	6 U	6 U	7 U	7 U	7 U
Nickel	150	2200	20	30	11.2	31 U	34 U	37 U	6 U	NA	**42**	37 U	**50**	**41**	**56**	**37**	**44**	36 U	36 U	**44**	35 U	**34**	**38**	**49**	28 U	34 U	36 U	33 U	38 U	36 U
PAH Screening (ug/kg)																													
Total PAH	--	--	--	--	--	NA	**29**	**32**	10 U	NA	NA	**41**	**16**	**10**	NA	**12**	**68**	10 U	**2200 J**	**140**	10 U	10 U	NA	NA	NA	**19**	10 U	10 U	10 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-15						ROW-16						ROW-17						ROW-18					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS15-0001-061914X	ROW-SB15-0204-061914X	ROW-SB15-0406-061914X	ROW-SB15-0608-061914X	ROW-SB15-0810-061914X	ROW-SB15-1012-061914X	ROW-SS16-0001-061914X-MAX	ROW-SB16-0204-061914X	ROW-SB16-0406-061914X	ROW-SB16-0608-061914X	ROW-SB16-0810-061914X	ROW-SB16-1012-061914X	ROW-SS17-0001-061814X	ROW-SB17-0204-061814X	ROW-SB17-0406-061814X	ROW-SB17-0608-061814X	ROW-SB17-0810-061814X	ROW-SB17-1012-061814X	ROW-SS18-0001-061814X	ROW-SB18-0204-061814X	ROW-SB18-0406-061814X	ROW-SB18-0608-061814X	ROW-SB18-0810-061814X	ROW-SB18-1012-061814X
Volatiles (ug/kg)																													
1,1,1-Trichloroethane	810000	3600000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,1,2-Trichloroethane	150	630	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 UJ	4.9 U	4.6 U	NA	NA	NA
1,1-Dichloroethane	3600	16000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,1-Dichloroethene	23000	100000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 R	4.7 R	NA	4.9 R	NA	NA	6.7 R	4.9 R	5.3 R	NA	NA	NA	7.9 R	4.9 R	4.6 R	NA	NA	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,2-Dibromoethane	36	160	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,2-Dichloroethane	460	2000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,2-Dichloropropane	1000	4400	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,3-Dichlorobenzene	--	--	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
1,4-Dioxane	5300	23000	--	--	--	160 R	97 R	95 R	NA	NA	NA	130 R	94 R	NA	98 R	NA	NA	130 R	98 R	110 R	NA	NA	NA	160 R	98 R	93 R	NA	NA	NA
2-Butanone	2700000	19000000	--	--	--	16 U	9.7 U	**13**	NA	NA	NA	13 U	**35 J**	NA	9.8 U	NA	NA	**42 J**	9.8 U	11 U	NA	NA	NA	**40 J**	9.8 U	9.3 U	NA	NA	NA
2-Hexanone	20000	130000	--	--	--	16 U	9.7 U	9.5 U	NA	NA	NA	13 U	9.4 U	NA	9.8 U	NA	NA	13 U	9.8 U	11 U	NA	NA	NA	16 U	9.8 U	9.3 U	NA	NA	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	16 U	9.7 U	9.5 U	NA	NA	NA	13 R	9.4 R	NA	9.8 R	NA	NA	13 R	9.8 R	11 R	NA	NA	NA	16 R	9.8 R	9.3 R	NA	NA	NA
Acetone	6100000	67000000	--	--	--	**290 EB**	**42 EB**	**170 EB**	NA	NA	NA	**340 EB**	**190 JEB**	NA	**9.8 JEB**	NA	NA	**520 J**	**200**	**79**	NA	NA	NA	**480 J**	**120**	**56**	NA	NA	NA
Benzene	1200	5100	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Bromochloromethane	15000	63000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Bromodichloromethane	290	1300	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 R	4.7 R	NA	4.9 R	NA	NA	6.7 R	4.9 R	5.3 R	NA	NA	NA	7.9 R	4.9 R	4.6 R	NA	NA	NA
Bromoform	67000	290000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 R	4.7 R	NA	4.9 R	NA	NA	6.7 R	4.9 R	5.3 R	NA	NA	NA	7.9 R	4.9 R	4.6 R	NA	NA	NA
Bromomethane	680	3000	--	--	--	7.9 R	4.9 R	4.8 R	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Carbon disulfide	77000	350000	--	--	--	7.9 R	4.9 R	4.8 R	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Carbon tetrachloride	650	2900	--	--	--	7.9 R	4.9 R	4.8 R	NA	NA	NA	6.5 R	4.7 R	NA	4.9 R	NA	NA	6.7 R	4.9 R	5.3 R	NA	NA	NA	7.9 R	4.9 R	4.6 R	NA	NA	NA
Chlorobenzene	28000	130000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Chloroethane	1400000	5700000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Chloroform	320	1400	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Chloromethane	11000	46000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
cis-1,3-Dichloropropene	--	--	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 UJ	4.9 U	4.6 U	NA	NA	NA
Cyclohexane	650000	2700000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Dibromochloromethane	730	3200	--	--	--	7.9 R	4.9 R	4.8 R	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Dichlorodifluoromethane	8700	37000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Ethylbenzene	5800	25000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Isopropylbenzene	190000	990000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
m,p-Xylene	--	--	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Methyl acetate	7800000	1.2E+08	--	--	--	7.9 U	4.9 U	**4.3 JEB**	NA	NA	NA	**86 J**	**27 EB**	NA	4.9 U	NA	NA	**110**	4.9 U	**9.7**	NA	NA	NA	**90**	**11**	**3.3 J**	NA	NA	NA
Methyl tert-butyl ether	47000	210000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Methylcyclohexane	--	--	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Methylene chloride	35000	320000	--	--	--	7.9 U	4.9 U	**9.7**	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
o-Xylene	65000	280000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Styrene	600000	3500000	--	--	--	7.9 R	4.9 R	4.8 R	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Tetrachloroethene	8100	39000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Toluene	490000	4700000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
trans-1,3-Dichloropropene	--	--	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 R	4.7 R	NA	4.9 R	NA	NA	6.7 R	4.9 R	5.3 R	NA	NA	NA	7.9 R	4.9 R	4.6 R	NA	NA	NA
Trichloroethene	410	1900	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Trichlorofluoromethane	73000	310000	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA
Vinyl chloride	59	1700	--	--	--	7.9 U	4.9 U	4.8 U	NA	NA	NA	6.5 U	4.7 U	NA	4.9 U	NA	NA	6.7 U	4.9 U	5.3 U	NA	NA	NA	7.9 U	4.9 U	4.6 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-15						ROW-16						ROW-17						ROW-18					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS15-0001-061914X	ROW-SB15-0204-061914X	ROW-SB15-0406-061914X	ROW-SB15-0608-061914X	ROW-SB15-0810-061914X	ROW-SB15-1012-061914X	ROW-SS16-0001-061914X-MAX	ROW-SB16-0204-061914X	ROW-SB16-0406-061914X	ROW-SB16-0608-061914X	ROW-SB16-0810-061914X	ROW-SB16-1012-061914X	ROW-SS17-0001-061814X	ROW-SB17-0204-061814X	ROW-SB17-0406-061814X	ROW-SB17-0608-061814X	ROW-SB17-0810-061814X	ROW-SB17-1012-061814X	ROW-SS18-0001-061814X	ROW-SB18-0204-061814X	ROW-SB18-0406-061814X	ROW-SB18-0608-061814X	ROW-SB18-0810-061814X	ROW-SB18-1012-061814X
Semivolatiles (ug/kg)																													
1,1'-Biphenyl	4700	20000	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	490 U	370 U	410 U	NA	NA	NA	380 U	380 U	NA	400 U	NA	NA	350 U	370 U	430 U	NA	NA	NA	410 U	400 U	390 U	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	**140 EB**	3.7 U	4.1 U	NA	NA	NA	**210 EB**	3.8 U	NA	4 U	NA	NA	**54**	3.7 U	4.3 U	NA	NA	NA	**48 J**	4 U	3.9 U	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	490 U	370 U	410 U	NA	NA	NA	380 U	380 U	NA	400 U	NA	NA	350 U	370 U	430 U	NA	NA	NA	410 U	400 U	390 U	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	250 UJ	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	490 U	370 U	410 U	NA	NA	NA	380 U	380 U	NA	400 U	NA	NA	350 U	370 U	430 U	NA	NA	NA	410 U	400 U	390 U	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	490 U	370 U	410 U	NA	NA	NA	380 U	380 U	NA	400 U	NA	NA	350 U	370 U	430 U	NA	NA	NA	410 U	400 U	390 U	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	250 UJ	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	490 U	370 U	410 U	NA	NA	NA	380 U	380 U	NA	400 U	NA	NA	350 U	370 U	430 U	NA	NA	NA	410 U	400 U	390 U	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	490 U	370 U	410 U	NA	NA	NA	380 U	380 U	NA	400 U	NA	NA	350 U	370 U	430 U	NA	NA	NA	410 U	400 U	390 U	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	**130**	3.7 U	4.1 U	NA	NA	NA	**170**	3.8 U	NA	4 U	NA	NA	**110**	3.7 U	4.3 U	NA	NA	NA	**12**	4 U	3.9 U	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	**590**	3.7 U	4.1 U	NA	NA	NA	**2900**	**15**	NA	4 U	NA	NA	**94**	3.7 U	4.3 U	NA	NA	NA	**290**	4 U	3.9 U	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	250 U	190 U	210 U	NA	NA	NA	**350 EB**	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**500**	**2 J**	4.1 U	NA	NA	NA	**1900**	**9.1**	NA	4 U	NA	NA	**120**	3.7 U	4.3 U	NA	NA	NA	**140**	4 U	3.9 U	NA	NA	NA
Atrazine	2300	10000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	250 U	190 U	210 U	NA	NA	NA	**60 JEB**	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**2100 J**	**5.1**	4.1 U	NA	NA	NA	**9400**	**17**	NA	4 U	NA	NA	**410**	**5.6**	4.3 U	NA	NA	NA	**670**	**7.8**	3.9 U	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**1700 J**	**8.8**	4.1 U	NA	NA	NA	**9300**	**18**	NA	**7.1**	NA	NA	**320 J**	**11**	4.3 U	NA	NA	NA	**710**	**11**	3.9 U	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**4000 J**	**7.7 J**	4.1 U	NA	NA	NA	**22000**	**26**	NA	4 U	NA	NA	**690**	**10**	4.3 U	NA	NA	NA	**1600**	**11**	3.9 U	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**1200 J**	3.7 U	4.1 U	NA	NA	NA	**2800**	**12**	NA	4 U	NA	NA	**280 J**	**4.2**	4.3 U	NA	NA	NA	**420**	**4.1**	3.9 U	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**1100 J**	**5.9**	4.1 U	NA	NA	NA	**2300**	**22 J**	NA	4 UJ	NA	NA	**290 J**	**8.2 J**	4.3 UJ	NA	NA	NA	**470**	**9.7 J**	3.9 UJ	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**6400**	190 UJ	210 UJ	NA	NA	NA	**750 J**	**47 J**	NA	210 U	NA	NA	**77 J**	190 U	220 U	NA	NA	NA	**120 J**	210 U	200 U	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Carbazole	--	--	--	--	--	**180 J**	190 UJ	210 UJ	NA	NA	NA	**780**	200 U	NA	210 U	NA	NA	**66 J**	190 U	220 U	NA	NA	NA	**85 J**	210 U	200 U	NA	NA	NA
Chrysene	**15000**	290000	2000	7000	--	**2600 J**	**6**	4.1 U	NA	NA	NA	**9100**	**18**	NA	4 U	NA	NA	**520**	**5.9**	4.3 U	NA	NA	NA	**870**	**5.3**	3.9 U	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**410**	3.7 U	4.1 U	NA	NA	NA	**1500**	3.8 U	NA	4 U	NA	NA	**73 J**	3.7 U	4.3 U	NA	NA	NA	**140 J**	4 U	3.9 U	NA	NA	NA
Dibenzofuran	**7200**	100000	--	--	--	**68 J**	190 UJ	210 UJ	NA	NA	NA	**190 J**	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	**42 JEB**	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	**720**	**320 J**	**370 J**	NA	NA	NA	**500**	**470**	NA	**500**	NA	NA	**420**	**420**	**440**	NA	NA	NA	**540**	**430**	**420**	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	250 U	190 UJ	210 UJ	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**3800 J**	**8**	4.1 U	NA	NA	NA	**9000**	**24**	NA	4 U	NA	NA	**980**	**8.5**	4.3 U	NA	NA	NA	**1400**	**6.6**	3.9 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-15						ROW-16						ROW-17						ROW-18					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS15-0001-061914X	ROW-SB15-0204-061914X	ROW-SB15-0406-061914X	ROW-SB15-0608-061914X	ROW-SB15-0810-061914X	ROW-SB15-1012-061914X	ROW-SS16-0001-061914X-MAX	ROW-SB16-0204-061914X	ROW-SB16-0406-061914X	ROW-SB16-0608-061914X	ROW-SB16-0810-061914X	ROW-SB16-1012-061914X	ROW-SS17-0001-061814X	ROW-SB17-0204-061814X	ROW-SB17-0406-061814X	ROW-SB17-0608-061814X	ROW-SB17-0810-061814X	ROW-SB17-1012-061814X	ROW-SS18-0001-061814X	ROW-SB18-0204-061814X	ROW-SB18-0406-061814X	ROW-SB18-0608-061814X	ROW-SB18-0810-061814X	ROW-SB18-1012-061814X
Fluorene	230000	3000000	1000	2000	--	**150**	3.7 U	4.1 U	NA	NA	NA	**190 J**	3.8 UJ	NA	4 UJ	NA	NA	**81 J**	3.7 UJ	4.3 UJ	NA	NA	NA	**26 J**	4 UJ	3.9 UJ	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	250 UJ	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**1300 J**	3.7 U	4.1 U	NA	NA	NA	**7400**	**13**	NA	4 U	NA	NA	**240 J**	**4.2**	4.3 U	NA	NA	NA	**530**	**4.3**	3.9 U	NA	NA	NA
Isophorone	560000	2400000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Naphthalene	**3800**	17000	500	1000	--	**110 EB**	3.7 U	4.1 U	NA	NA	NA	**230 EB**	3.8 U	NA	4 U	NA	NA	**57**	3.7 U	4.3 U	NA	NA	NA	**35**	4 U	3.9 U	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	250 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Pentachlorophenol	990	4000	--	--	--	**400 J**	370 U	8.3 U	NA	NA	NA	**360 J**	7.7 U	NA	8.2 U	NA	NA	**20**	7.5 U	8.6 U	NA	NA	NA	**11**	8.1 U	8 U	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**1300**	**4.5**	4.1 U	NA	NA	NA	**1600**	**8.9**	NA	4 U	NA	NA	**930**	3.7 U	4.3 U	NA	NA	NA	**500**	4 U	3.9 U	NA	NA	NA
Phenol	1800000	25000000	--	--	--	250 U	190 U	210 U	NA	NA	NA	**120 JEB**	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA
Pyrene	**170000**	2300000	4000	20000	--	**3300 J**	**11**	4.1 U	NA	NA	NA	**12000**	**28**	NA	4 U	NA	NA	**970**	**9**	4.3 U	NA	NA	NA	**1200**	**9.9**	3.9 U	NA	NA	NA
	Pesticides/PCBs (ug/kg)																												
4,4'-DDD	2200	9600	--	--	--	5 U	3.7 U	4.1 U	NA	NA	NA	**15 J**	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	4.1 U	4 U	3.9 U	NA	NA	NA
4,4'-DDE	1600	6800	--	--	--	**8.2 J**	3.7 R	4.1 R	NA	NA	NA	**13 J**	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	4.1 U	4 U	3.9 U	NA	NA	NA
4,4'-DDT	1900	8600	--	--	--	**53 J**	3.7 R	4.1 R	NA	NA	NA	**35 J**	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	**8.8**	4 U	3.9 U	NA	NA	NA
Aldrin	31	140	--	--	--	2.6 R	1.9 R	2.1 R	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
alpha-BHC	85	370	--	--	--	2.6 R	1.9 R	2.1 R	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
Alpha-Chlordane	--	--	--	--	--	2.6 U	1.9 U	2.1 U	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
Aroclor 1016	400	5200	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1221	150	660	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1232	150	660	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1242	240	1000	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1248	**240**	1000	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1254	**110**	1000	--	--	--	**330**	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1260	**240**	**1000**	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1262	--	--	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
Aroclor 1268	--	--	--	--	--	50 U	37 U	41 U	NA	NA	NA	38 U	38 U	NA	40 U	NA	NA	35 U	37 U	43 U	NA	NA	NA	40 U	40 U	40 U	NA	NA	NA
beta-BHC	300	1300	--	--	--	2.6 U	1.9 U	2.1 U	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
delta-BHC	--	--	--	--	--	2.6 R	1.9 R	2.1 R	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
Dieldrin	33	140	--	--	--	5 U	3.7 U	4.1 U	NA	NA	NA	3.8 U	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	4.1 U	4 U	3.9 U	NA	NA	NA
Endosulfan I	--	--	--	--	--	2.6 U	1.9 U	2.1 U	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
Endosulfan II	--	--	--	--	--	5 U	3.7 U	4.1 U	NA	NA	NA	3.8 U	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	4.1 U	4 U	3.9 U	NA	NA	NA
Endosulfan Sulfate	--	--	--	--	--	**14 J**	3.7 R	4.1 R	NA	NA	NA	**28 J**	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	4.1 U	4 U	3.9 U	NA	NA	NA
Endrin	1800	25000	--	--	--	5 U	3.7 U	4.1 U	NA	NA	NA	**17 J**	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	4.1 U	4 U	3.9 U	NA	NA	NA
Endrin Aldehyde	--	--	--	--	--	**9.3 J**	3.7 U	4.1 U	NA	NA	NA	**27 J**	3.8 U	NA	4 U	NA	NA	3.5 U	3.7 U	4.3 U	NA	NA	NA	4.1 U	4 U	3.9 U	NA	NA	NA
Endrin Ketone	--	--	--	--	--	**12 J**	3.7 UJ	4.1 UJ	NA	NA	NA	**35 J**	3.8 UJ	NA	4 UJ	NA	NA	**3.7 J**	3.7 UJ	4.3 UJ	NA	NA	NA	4.1 UJ	4 UJ	3.9 UJ	NA	NA	NA
gamma-BHC (Lindane)	560	2500	--	--	--	2.6 R	1.9 R	2.1 R	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
gamma-Chlordane	--	--	--	--	--	**5.7 J**	1.9 U	2.1 U	NA	NA	NA	**2.7 J**	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	**2.5 J**	2.1 U	2 U	NA	NA	NA
Heptachlor	120	510	--	--	--	2.6 R	1.9 R	2.1 R	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
Heptachlor Epoxide	59	250	--	--	--	2.6 U	1.9 U	2.1 U	NA	NA	NA	2 U	2 U	NA	2.1 U	NA	NA	1.8 U	1.9 U	2.2 U	NA	NA	NA	2.1 U	2.1 U	2 U	NA	NA	NA
Methoxychlor	31000	410000	--	--	--	26 U	19 U	21 U	NA	NA	NA	20 U	20 U	NA	21 U	NA	NA	18 U	19 U	22 U	NA	NA	NA	21 U	21 U	20 U	NA	NA	NA
Toxaphene	480	2100	--	--	--	260 U	190 U	210 U	NA	NA	NA	200 U	200 U	NA	210 U	NA	NA	180 U	190 U	220 U	NA	NA	NA	210 U	210 U	200 U	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	MBTA ROW																							
					Sample Location	ROW-15						ROW-16						ROW-17						ROW-18					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS15-0001-061914X	ROW-SB15-0204-061914X	ROW-SB15-0406-061914X	ROW-SB15-0608-061914X	ROW-SB15-0810-061914X	ROW-SB15-1012-061914X	ROW-SS16-0001-061914X-MAX	ROW-SB16-0204-061914X	ROW-SB16-0406-061914X	ROW-SB16-0608-061914X	ROW-SB16-0810-061914X	ROW-SB16-1012-061914X	ROW-SS17-0001-061814X	ROW-SB17-0204-061814X	ROW-SB17-0406-061814X	ROW-SB17-0608-061814X	ROW-SB17-0810-061814X	ROW-SB17-1012-061814X	ROW-SS18-0001-061814X	ROW-SB18-0204-061814X	ROW-SB18-0406-061814X	ROW-SB18-0608-061814X	ROW-SB18-0810-061814X	ROW-SB18-1012-061814X
Metals (mg/kg)																													
Aluminum	**7700**	110000	10000	10000	10700	**6320**	**8950**	**9330**	NA	NA	NA	**7300**	**8830**	NA	**19900**	NA	NA	**7990**	**13500**	**16600**	NA	NA	NA	**7040**	**15600**	**9880**	NA	NA	NA
Antimony	**3.1**	47	1	7	--	1.1 UJ	0.88 UJ	0.83 UJ	NA	NA	NA	0.91 UJ	0.9 UJ	NA	1 UJ	NA	NA	0.75 UJ	0.81 UJ	0.89 UJ	NA	NA	NA	**1.3 J**	0.89 UJ	0.81 UJ	NA	NA	NA
Arsenic	**0.67**	**3**	20	20	8.78	**44.2 J**	**6.9 J**	**190 J**	NA	NA	NA	**128**	**4.4**	NA	**7.1**	NA	NA	**17.5**	**8.3**	**10.3**	NA	NA	NA	**156**	**7.6**	**5.9**	NA	NA	NA
Barium	**1500**	22000	50	50	16	**109 J**	**32.7 J**	**42.9 J**	NA	NA	NA	**71.2**	**24.7**	NA	**54.6**	NA	NA	**29.3**	**36.5**	**45.4**	NA	NA	NA	**41.9**	**33.4**	**20.5**	NA	NA	NA
Beryllium	16	230	0.4	0.9	0.315	**0.52 J**	**0.55**	**0.43 J**	NA	NA	NA	**0.7**	**0.61**	NA	**1.5**	NA	NA	**0.58**	**1**	**1.3**	NA	NA	NA	**0.66**	**1**	**0.6**	NA	NA	NA
Cadmium	**7**	98	2	3	--	**0.96 J**	**0.24 J**	**0.46 J**	NA	NA	NA	**0.44 J**	**0.11 J**	NA	**0.3 J**	NA	NA	**0.11 J**	**0.12 J**	**0.26 J**	NA	NA	NA	**0.28 J**	**0.07 J**	0.46 U	NA	NA	NA
Calcium	--	--	--	--	634	**3600 J**	**2330 J**	**3490 J**	NA	NA	NA	**3140**	**663**	NA	**3740**	NA	NA	**318 J**	**728**	**2120**	NA	NA	NA	**1680**	**918**	**696**	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**4790 J**	**77.9 J**	**50.3 J**	NA	NA	NA	**706**	**21.5**	NA	**48.8**	NA	NA	**153**	**54.3**	**40.5**	NA	NA	NA	**64.3**	**33**	**14.6**	NA	NA	NA
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	**11 J**	NA	NA	NA	NA	NA	**6 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**7.4**	**9.2**	**9.8**	NA	NA	NA	**11.2**	**6.9**	NA	**16**	NA	NA	**6.2**	**13.2**	**16.4**	NA	NA	NA	**9.2**	**8.4**	**5.3**	NA	NA	NA
Copper	**310**	4700	40	200	6.28	**79.4 J**	**24.1 J**	**13.6 J**	NA	NA	NA	**74.3**	**8.9**	NA	**20.2**	NA	NA	**44.7**	**14.5**	**18.6**	NA	NA	NA	**93.3**	**11.9**	**10.8**	NA	NA	NA
Iron	**5500**	**82000**	20000	20000	11200	**23600 J**	**16000 J**	**15800 J**	NA	NA	NA	**40100**	**13000**	NA	**34400**	NA	NA	**16000**	**21400**	**30400**	NA	NA	NA	**39500**	**24500**	**12500**	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**466**	**18.3**	**8.8**	NA	NA	NA	**162**	**9.9**	NA	**20.3**	NA	NA	**129**	**17**	**20.1**	NA	NA	NA	**182**	**16.3**	**7.4**	NA	NA	NA
Magnesium	--	--	5000	5000	2780	**2580**	**4120**	**3850**	NA	NA	NA	**2530**	**3230**	NA	**9270**	NA	NA	**2870**	**4560**	**7240**	NA	NA	NA	**3420**	**5130**	**3200**	NA	NA	NA
Manganese	**180**	**2600**	300	300	155	**254 J**	**349 J**	**286 J**	NA	NA	NA	**325 J**	**1040 J**	NA	**630 J**	NA	NA	**274 J**	**787 J**	**707 J**	NA	NA	NA	**322 J**	**300 J**	**294 J**	NA	NA	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**4.7**	**0.23**	**0.075 J**	NA	NA	NA	**2**	**0.021 J**	NA	0.13 U	NA	NA	**0.14**	**0.0034 J**	0.11 U	NA	NA	NA	**2.1**	0.11 U	0.11 U	NA	NA	NA
Nickel	**150**	2200	20	30	11.2	**46.1**	**17**	**17.4**	NA	NA	NA	**21.9**	**12.9**	NA	**36**	NA	NA	**12.1**	**19.1**	**30.9**	NA	NA	NA	**18.2**	**18.3**	**13.1**	NA	NA	NA
Potassium	--	--	--	--	382	584 U	**637**	441 U	NA	NA	NA	**408 J**	**380 J**	NA	**3750 J**	NA	NA	**357 J**	**914 J**	**2480 J**	NA	NA	NA	**455 J**	**887 J**	**523 J**	NA	NA	NA
Selenium	39	580	0.5	1	--	**2.8**	2.2 U	2.1 U	NA	NA	NA	2.3 U	2.3 U	NA	5.2 U	NA	NA	1.9 U	4 U	4.5 U	NA	NA	NA	2.3 U	4.4 U	4 U	NA	NA	NA
Silver	39	580	0.6	5	--	**0.06 J**	0.88 U	0.88 U	NA	NA	NA	0.86 U	0.84 U	NA	0.93 U	NA	NA	0.75 U	0.84 U	0.87 U	NA	NA	NA	0.93 U	0.93 U	0.91 U	NA	NA	NA
Sodium	--	--	--	--	--	**157 J**	**132 J**	**139 J**	NA	NA	NA	**170 J**	**96.1 J**	NA	**379 J**	NA	NA	**70.5 J**	**151 J**	**376 J**	NA	NA	NA	**127 J**	**112 J**	**81.3 J**	NA	NA	NA
Thallium	**0.078**	1.2	0.6	5	--	**0.13 J**	**0.068 J**	**0.076 J**	NA	NA	NA	**0.11 J**	**0.072 J**	NA	**0.21 J**	NA	NA	**0.085 J**	**0.12 J**	**0.12 J**	NA	NA	NA	**0.11 J**	**0.13 J**	**0.087 J**	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**398 J**	**27 J**	**28.2 J**	NA	NA	NA	**46.3**	**21.3**	NA	**52.8**	NA	NA	**23.4**	**32.9**	**44.8**	NA	NA	NA	**29.9**	**41.7**	**18.4**	NA	NA	NA
Zinc	**2300**	35000	100	300	35.3	**194**	**49.2**	**57.1**	NA	NA	NA	**74**	**29.9**	NA	**82.9**	NA	NA	**43.9**	**49.1**	**66.8**	NA	NA	NA	**64.7**	**43.9**	**30.7**	NA	NA	NA
Asbestos (%v/v)																													
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-15						ROW-16						ROW-17						ROW-18					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS15-0001-061914X	ROW-SB15-0204-061914X	ROW-SB15-0406-061914X	ROW-SB15-0608-061914X	ROW-SB15-0810-061914X	ROW-SB15-1012-061914X	ROW-SS16-0001-061914X-MAX	ROW-SB16-0204-061914X	ROW-SB16-0406-061914X	ROW-SB16-0608-061914X	ROW-SB16-0810-061914X	ROW-SB16-1012-061914X	ROW-SS17-0001-061814X	ROW-SB17-0204-061814X	ROW-SB17-0406-061814X	ROW-SB17-0608-061814X	ROW-SB17-0810-061814X	ROW-SB17-1012-061814X	ROW-SS18-0001-061814X	ROW-SB18-0204-061814X	ROW-SB18-0406-061814X	ROW-SB18-0608-061814X	ROW-SB18-0810-061814X	ROW-SB18-1012-061814X
Dioxins/Furans (ng/Kg)																													
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**2440**	NA	NA	NA	NA	NA	**380**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**47700 J**	NA	NA	NA	NA	NA	**9100 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**1030**	NA	NA	NA	NA	NA	**123**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**4250**	NA	NA	NA	NA	NA	**582**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**65.9 J**	NA	NA	NA	NA	NA	**9.75**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**43.2 J**	NA	NA	NA	NA	NA	**4.68 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**38.5 J**	NA	NA	NA	NA	NA	**7.45**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**41.6 J**	NA	NA	NA	NA	NA	**6.59**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**144 J**	NA	NA	NA	NA	NA	**20.7**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	10.9 UJ	NA	NA	NA	NA	NA	**1.44 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**62.5**	NA	NA	NA	NA	NA	**11.4**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**7.33 J**	NA	NA	NA	NA	NA	**1.15 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**11.5 J**	NA	NA	NA	NA	NA	**2.49 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**54.6 J**	NA	NA	NA	NA	NA	**9.01**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**30.3 J**	NA	NA	NA	NA	NA	**9.62**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**7.02 J**	NA	NA	NA	NA	NA	**0.966 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	**4.56 J**	NA	NA	NA	NA	NA	**1.28**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**2860 J**	NA	NA	NA	NA	NA	**383 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**10900 J**	NA	NA	NA	NA	NA	**1410 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**1450 J**	NA	NA	NA	NA	NA	**195 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	**1150 J**	NA	NA	NA	NA	NA	**150 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**434 J**	NA	NA	NA	NA	NA	**102 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**111 J**	NA	NA	NA	NA	NA	**21 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**30.5 J**	NA	NA	NA	NA	NA	**7.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	**115 J**	NA	NA	NA	NA	NA	**35.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	**132 J**	NA	NA	NA	NA	NA	**22.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-15						ROW-16						ROW-17						ROW-18					
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12
					Sample Date	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/19/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14	06/18/14
					Sample Type	N	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS15-0001-061914X	ROW-SB15-0204-061914X	ROW-SB15-0406-061914X	ROW-SB15-0608-061914X	ROW-SB15-0810-061914X	ROW-SB15-1012-061914X	ROW-SS16-0001-061914X-MAX	ROW-SB16-0204-061914X	ROW-SB16-0406-061914X	ROW-SB16-0608-061914X	ROW-SB16-0810-061914X	ROW-SB16-1012-061914X	ROW-SS17-0001-061814X	ROW-SB17-0204-061814X	ROW-SB17-0406-061814X	ROW-SB17-0608-061814X	ROW-SB17-0810-061814X	ROW-SB17-1012-061814X	ROW-SS18-0001-061814X	ROW-SB18-0204-061814X	ROW-SB18-0406-061814X	ROW-SB18-0608-061814X	ROW-SB18-0810-061814X	ROW-SB18-1012-061814X
General Chemistry (%)																													
Chemical Oxygen Demand	--	--	--	--	--	**7.7 J**	NA	NA	NA	NA	NA	**2.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	**17 J**	NA	NA	NA	NA	NA	**18 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																													
Salinity	--	--	--	--	--	1000 U	NA	NA	NA	NA	NA	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																													
Oxidation-Reduction Potential	--	--	--	--	--	**394**	**411**	NA	NA	NA	NA	**378**	NA	NA	NA	NA	NA	**427**	NA	NA	NA	NA	NA	**405**	NA	NA	NA	NA	NA
General Chemistry (S.U.)																													
pH	--	--	--	--	--	**6.15**	**5.95**	NA	NA	NA	NA	**5.92**	NA	NA	NA	NA	NA	**4.99**	NA	NA	NA	NA	NA	**5.96**	NA	NA	NA	NA	NA
General Chemistry (ug/g)																													
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	**180 J**	NA	NA	NA	NA	NA	**43 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	**180 J**	NA	NA	NA	NA	NA	**43 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	**9**	NA	NA	NA	NA	NA	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	**16**	NA	NA	NA	NA	NA	**15**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	**17**	NA	NA	NA	NA	NA	**8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																													
Arsenic	**0.67**	**3**	20	20	8.78	**59**	6 U	**131**	**13**	6 U	5 U	**123**	5 U	5 U	**7**	**12**	6 U	**23**	5 U	**11**	**13**	**21**	**12**	**92**	**8**	5 U	5 U	**8**	**6**
Chromium	**12000**	180000	30	40	15.2	**13800**	**103**	42 U	36 U	**50**	39 U	**2079**	32 U	34 U	**47**	**49**	**45**	**375**	**74**	**75**	**79**	**61**	**75**	**125**	**93**	33 U	**38**	**80**	**60**
Lead	**400**	**800**	100	600	41.8	**479**	**28**	**14**	**20**	**24**	**21**	**155**	**13**	**18**	**24**	**22**	**25**	**95**	**16**	**23**	**28**	**25**	**30**	**182**	**23**	**19**	**21**	**22**	**26**
Mercury	0.94	4	0.3	1	0.0242	6 U	6 U	7 U	6 U	6 U	5 U	7 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U	6 U
Nickel	150	2200	20	30	11.2	**70**	**32**	**65**	32 U	32 U	28 U	39 U	**31**	29 U	32 U	31 U	32 U	32 U	30 U	**33**	36 U	**35**	35 U	31 U	33 U	29 U	30 U	**42**	34 U
PAH Screening (ug/kg)																													
Total PAH	--	--	--	--	--	NA	**23**	10 U	10 U	10 U	NA	NA	**310**	**10**	10 U	10 U	NA	NA	**160**	10 U	10 U	10 U	NA	NA	**15**	10 U	10 U	10 U	NA

					Property	MBTA ROW																						
					Sample Location	ROW-19								ROW-20								ROW-21							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS19-0001-061114X	ROW-SB19-0204-061114X	ROW-SB19-0406-061114X	ROW-SB19-0608-061114X	ROW-SB19-0810-061114X	ROW-SB19-1012-061114X	ROW-SB19-1214-061114X	ROW-SB19-1416-061114X	ROW-SS20-0001-061014X	ROW-SB20-0204-061014X	ROW-SB20-0406-061014X	ROW-SB20-0608-061014X	ROW-SB20-0810-061014X	ROW-SB20-1012-061014X	ROW-SB20-1214-061014X	ROW-SB20-1416-061014X	ROW-SS21-0001-060914X	ROW-SB21-0204-060914X	ROW-SB21-0406-060914X	ROW-SB21-0608-060914X	ROW-SB21-0810-060914X	ROW-SB21-1012-060914X	ROW-SB21-1214-060914X	ROW-SB21-1416-060914X
Volatiles (ug/kg)																												
1,1,1-Trichloroethane	810000	3600000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,1,2-Trichloroethane	150	630	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,1-Dichloroethane	3600	16000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,1-Dichloroethene	23000	100000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,2,3-Trichlorobenzene	4900	66000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 R	NA	NA	13 U	NA	NA	NA	5.1 U
1,2,4-Trichlorobenzene	5800	26000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 R	NA	NA	13 U	NA	NA	NA	5.1 U
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 R	NA	NA	13 U	NA	NA	NA	5.1 U
1,2-Dibromoethane	36	160	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,2-Dichlorobenzene	180000	930000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 R	NA	NA	13 U	NA	NA	NA	5.1 U
1,2-Dichloroethane	460	2000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,2-Dichloropropane	1000	4400	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
1,3-Dichlorobenzene	--	--	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 R	NA	NA	13 U	NA	NA	NA	5.1 U
1,4-Dichlorobenzene	2600	11000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 R	NA	NA	13 U	NA	NA	NA	5.1 U
1,4-Dioxane	5300	23000	--	--	--	110 R	110 R	NA	100 R	NA	NA	NA	NA	100 R	110 R	NA	120 R	NA	NA	NA	NA	120 R	NA	NA	260 R	NA	NA	NA	100 R
2-Butanone	2700000	19000000	--	--	--	11 U	11 U	NA	10 U	NA	NA	NA	NA	10 U	11 U	NA	12 U	NA	NA	NA	NA	**19 J**	NA	NA	**31 J**	NA	NA	NA	10 U
2-Hexanone	20000	130000	--	--	--	11 U	11 U	NA	10 U	NA	NA	NA	NA	10 U	11 U	NA	12 U	NA	NA	NA	NA	12 U	NA	NA	26 U	NA	NA	NA	10 U
4-Methyl-2-pentanone	530000	5600000	--	--	--	11 U	11 U	NA	10 U	NA	NA	NA	NA	10 U	11 U	NA	12 U	NA	NA	NA	NA	12 U	NA	NA	26 U	NA	NA	NA	10 U
Acetone	6100000	67000000	--	--	--	**140**	**35 J**	NA	**9.8 J**	NA	NA	NA	NA	**98 JTB**	**19 TB**	NA	**61 JTB**	NA	NA	NA	NA	**240 J**	NA	NA	**140 J**	NA	NA	NA	10 U
Benzene	1200	5100	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Bromochloromethane	15000	63000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Bromodichloromethane	290	1300	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Bromoform	67000	290000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 R	NA	NA	13 U	NA	NA	NA	5.1 U
Bromomethane	680	3000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Carbon disulfide	77000	350000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	**15**	NA	NA	NA	5.1 U
Carbon tetrachloride	650	2900	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Chlorobenzene	28000	130000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Chloroethane	1400000	5700000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Chloroform	320	1400	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Chloromethane	11000	46000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
cis-1,2-Dichloroethene	16000	230000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
cis-1,3-Dichloropropene	--	--	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Cyclohexane	650000	2700000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Dibromochloromethane	730	3200	--	--	--	5.4 R	5.6 R	NA	5.2 R	NA	NA	NA	NA	5.2 R	5.4 R	NA	5.9 R	NA	NA	NA	NA	5.8 R	NA	NA	13 R	NA	NA	NA	5.1 R
Dichlorodifluoromethane	8700	37000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Ethylbenzene	5800	25000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Isopropylbenzene	190000	990000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
m,p-Xylene	--	--	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Methyl acetate	7800000	1.2E+08	--	--	--	**19**	5.6 U	NA	5.2 U	NA	NA	NA	NA	**12**	5.4 U	NA	**8.8 J**	NA	NA	NA	NA	**47 J**	NA	NA	**17 J**	NA	NA	NA	5.1 U
Methyl tert-butyl ether	47000	210000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Methylcyclohexane	--	--	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Methylene chloride	35000	320000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
o-Xylene	65000	280000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Styrene	600000	3500000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Tetrachloroethene	8100	39000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Toluene	490000	4700000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
trans-1,2-Dichloroethene	160000	2300000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
trans-1,3-Dichloropropene	--	--	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Trichloroethene	410	1900	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Trichlorofluoromethane	73000	310000	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U
Vinyl chloride	59	1700	--	--	--	5.4 U	5.6 U	NA	5.2 U	NA	NA	NA	NA	5.2 U	5.4 U	NA	5.9 U	NA	NA	NA	NA	5.8 U	NA	NA	13 U	NA	NA	NA	5.1 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-19								ROW-20								ROW-21							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS19-0001-061114X	ROW-SB19-0204-061114X	ROW-SB19-0406-061114X	ROW-SB19-0608-061114X	ROW-SB19-0810-061114X	ROW-SB19-1012-061114X	ROW-SB19-1214-061114X	ROW-SB19-1416-061114X	ROW-SS20-0001-061014X	ROW-SB20-0204-061014X	ROW-SB20-0406-061014X	ROW-SB20-0608-061014X	ROW-SB20-0810-061014X	ROW-SB20-1012-061014X	ROW-SB20-1214-061014X	ROW-SB20-1416-061014X	ROW-SS21-0001-060914X	ROW-SB21-0204-060914X	ROW-SB21-0406-060914X	ROW-SB21-0608-060914X	ROW-SB21-0810-060914X	ROW-SB21-1012-060914X	ROW-SB21-1214-060914X	ROW-SB21-1416-060914X
Semivolatiles (ug/kg)																													
1,1'-Biphenyl	4700	20000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	190 UJ	180 UJ	NA	210 UJ	NA	NA	NA	NA	180 UJ	180 UJ	NA	200 UJ	NA	NA	NA	NA	200 UJ	NA	NA	430 UJ	NA	NA	NA	220 UJ
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2,4,5-Trichlorophenol	620000	8200000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2,4,6-Trichlorophenol	6200	82000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2,4-Dichlorophenol	18000	250000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2,4-Dimethylphenol	120000	1600000	--	--	--	190 UJ	180 UJ	NA	210 UJ	NA	NA	NA	NA	180 UJ	180 UJ	NA	200 UJ	NA	NA	NA	NA	200 UJ	NA	NA	430 UJ	NA	NA	NA	220 UJ
2,4-Dinitrophenol	12000	160000	--	--	--	370 U	340 U	NA	410 U	NA	NA	NA	NA	360 U	350 U	NA	400 U	NA	NA	NA	NA	380 U	NA	NA	830 U	NA	NA	NA	430 U
2,4-Dinitrotoluene	1700	7400	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2,6-Dinitrotoluene	360	1500	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2-Chloronaphthalene	630000	9300000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2-Chlorophenol	39000	580000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2-Methylnaphthalene	23000	300000	500	1000	--	**73**	3.4 U	NA	4.1 U	NA	NA	NA	NA	**53 EB**	3.5 U	NA	4 U	NA	NA	NA	NA	**4.6**	NA	NA	8.3 U	NA	NA	NA	4.3 U
2-Methylphenol	310000	4100000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
2-Nitroaniline	61000	800000	--	--	--	370 U	340 U	NA	410 U	NA	NA	NA	NA	360 U	350 U	NA	400 U	NA	NA	NA	NA	380 U	NA	NA	830 U	NA	NA	NA	430 U
2-Nitrophenol	--	--	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
3,3'-Dichlorobenzidine	1200	5100	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
3-Nitroaniline	--	--	--	--	--	370 U	340 U	NA	410 U	NA	NA	NA	NA	360 U	350 U	NA	400 U	NA	NA	NA	NA	380 U	NA	NA	830 U	NA	NA	NA	430 U
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	370 U	340 U	NA	410 U	NA	NA	NA	NA	360 U	350 U	NA	400 U	NA	NA	NA	NA	380 U	NA	NA	830 U	NA	NA	NA	430 U
4-Bromophenyl-phenylether	--	--	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
4-Chloro-3-methylphenol	620000	8200000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
4-Chloroaniline	2700	12000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
4-Chlorophenyl-phenylether	--	--	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
4-Methylphenol	620000	8200000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
4-Nitroaniline	25000	120000	--	--	--	370 U	340 U	NA	410 U	NA	NA	NA	NA	360 U	350 U	NA	400 U	NA	NA	NA	NA	380 U	NA	NA	830 U	NA	NA	NA	430 U
4-Nitrophenol	--	--	--	--	--	370 U	340 U	NA	410 U	NA	NA	NA	NA	360 U	350 U	NA	400 U	NA	NA	NA	NA	380 U	NA	NA	830 U	NA	NA	NA	430 U
Acenaphthene	350000	4500000	500	2000	--	**39 J**	3.4 UJ	NA	4.1 UJ	NA	NA	NA	NA	**140 J**	3.5 UJ	NA	4 UJ	NA	NA	NA	NA	3.8 UJ	NA	NA	8.3 UJ	NA	NA	NA	4.3 UJ
Acenaphthylene	--	--	500	1000	--	**1100**	3.4 UJ	NA	4.1 UJ	NA	NA	NA	NA	**1400**	3.5 UJ	NA	4 UJ	NA	NA	NA	NA	**14 J**	NA	NA	8.3 UJ	NA	NA	NA	4.3 UJ
Acetophenone	780000	12000000	--	--	--	**240**	180 U	NA	210 U	NA	NA	NA	NA	**210 JEB**	180 U	NA	**43 JEB**	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Anthracene	1700000	23000000	1000	4000	--	**1200**	3.4 U	NA	**4.8**	NA	NA	NA	NA	**1400**	**1.7 J**	NA	4 U	NA	NA	NA	NA	**25**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Atrazine	2300	10000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Benzaldehyde	780000	12000000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**8400**	**7.2**	NA	**7.7**	NA	NA	NA	NA	**6500**	**8.1**	NA	4 U	NA	NA	NA	NA	**190**	NA	NA	8.3 U	NA	NA	NA	**4.5**
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**7800**	**8.4**	NA	**7.3**	NA	NA	NA	NA	**7200**	**13**	NA	4 U	NA	NA	NA	NA	**230**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**12000**	**6.1**	NA	**5.1**	NA	NA	NA	NA	**12000**	**11**	NA	4 U	NA	NA	NA	NA	**320 J**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Benzo(g,h,i)perylene	--	--	1000	3000	--	**3900**	**5.7**	NA	**3.6 J**	NA	NA	NA	NA	**4400**	**6.5**	NA	4 U	NA	NA	NA	NA	**230**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**2100**	**6.6**	NA	**4.5**	NA	NA	NA	NA	**2100**	**8**	NA	4 U	NA	NA	NA	NA	**220**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Bis(2-chloroethyl)ether	230	1000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	**100 J**	180 U	NA	**42 J**	NA	NA	NA	NA	**62 J**	NA	NA	430 U	NA	NA	NA	**53 J**
Butylbenzylphthalate	280000	1200000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Caprolactam	3100000	40000000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Carbazole	--	--	--	--	--	**400**	180 U	NA	210 U	NA	NA	NA	NA	**650**	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Chrysene	**15000**	290000	2000	7000	--	**7300**	**6.8**	NA	**7.6**	NA	NA	NA	NA	**6300**	**13**	NA	4 U	NA	NA	NA	NA	**220**	NA	NA	8.3 U	NA	NA	NA	**2.2 J**
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**1700**	**1.6 J**	NA	4.1 U	NA	NA	NA	NA	**1800**	**2.3 J**	NA	4 U	NA	NA	NA	NA	**58**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Dibenzofuran	**7200**	100000	--	--	--	**160 J**	180 U	NA	210 U	NA	NA	NA	NA	**250**	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Diethylphthalate	4900000	66000000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Dimethylphthalate	--	--	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Di-N-Butylphthalate	620000	8200000	--	--	--	**460**	**400**	NA	**510**	NA	NA	NA	NA	**670**	**480**	NA	**530**	NA	NA	NA	NA	**610**	NA	NA	**1100**	NA	NA	NA	**680**
Di-N-Octyl Phthalate	62000	820000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Fluoranthene	**230000**	3000000	4000	10000	--	**15000**	**12**	NA	**17**	NA	NA	NA	NA	**12000**	**14**	NA	4 U	NA	NA	NA	NA	**310**	NA	NA	**7.9 J**	NA	NA	NA	4.3 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-19								ROW-20								ROW-21							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS19-0001-061114X	ROW-SB19-0204-061114X	ROW-SB19-0406-061114X	ROW-SB19-0608-061114X	ROW-SB19-0810-061114X	ROW-SB19-1012-061114X	ROW-SB19-1214-061114X	ROW-SB19-1416-061114X	ROW-SS20-0001-061014X	ROW-SB20-0204-061014X	ROW-SB20-0406-061014X	ROW-SB20-0608-061014X	ROW-SB20-0810-061014X	ROW-SB20-1012-061014X	ROW-SB20-1214-061014X	ROW-SB20-1416-061014X	ROW-SS21-0001-060914X	ROW-SB21-0204-060914X	ROW-SB21-0406-060914X	ROW-SB21-0608-060914X	ROW-SB21-0810-060914X	ROW-SB21-1012-060914X	ROW-SB21-1214-060914X	ROW-SB21-1416-060914X
Fluorene	230000	3000000	1000	2000	--	**260**	3.4 U	NA	4.1 U	NA	NA	NA	NA	**290 J**	3.5 U	NA	4 U	NA	NA	NA	NA	**6.5 J**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Hexachlorobenzene	330	1400	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Hexachlorobutadiene	6200	30000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Hexachlorocyclopentadiene	37000	490000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Hexachloroethane	4300	58000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**5100**	**5.2**	NA	**3.5 J**	NA	NA	NA	NA	**5500**	**7.2**	NA	4 U	NA	NA	NA	NA	**200**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Isophorone	560000	2400000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Naphthalene	**3800**	17000	500	1000	--	**70**	3.4 U	NA	4.1 U	NA	NA	NA	NA	**91 EB**	3.5 U	NA	4 U	NA	NA	NA	NA	3.8 U	NA	NA	8.3 U	NA	NA	NA	4.3 U
Nitrobenzene	5100	22000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
N-Nitrosodiphenylamine	110000	470000	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Pentachlorophenol	990	4000	--	--	--	60 U	7 U	NA	8.3 U	NA	NA	NA	NA	58 U	7.1 U	NA	8.1 U	NA	NA	NA	NA	7.7 U	NA	NA	17 U	NA	NA	NA	8.7 U
Phenanthrene	--	--	3000	20000	--	**4900**	**4.7**	NA	**6.9**	NA	NA	NA	NA	**6000**	**7.7**	NA	4 U	NA	NA	NA	NA	**120**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Phenol	1800000	25000000	--	--	--	**75 J**	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	200 U	NA	NA	430 U	NA	NA	NA	220 U
Pyrene	**170000**	2300000	4000	20000	--	**12000**	**11**	NA	**12**	NA	NA	NA	NA	**11000**	**13**	NA	4 U	NA	NA	NA	NA	**290**	NA	NA	**8.6**	NA	NA	NA	4.3 U
	Pesticides/PCBs (ug/kg)																												
4,4'-DDD	2200	9600	--	--	--	**21 J**	3.5 U	NA	4.1 U	NA	NA	NA	NA	**14 J**	3.5 U	NA	4 U	NA	NA	NA	NA	3.8 U	NA	NA	8.3 U	NA	NA	NA	4.3 U
4,4'-DDE	1600	6800	--	--	--	**21 J**	3.5 U	NA	4.1 U	NA	NA	NA	NA	**5.9 J**	3.5 U	NA	4 U	NA	NA	NA	NA	3.8 U	NA	NA	8.3 U	NA	NA	NA	4.3 U
4,4'-DDT	1900	8600	--	--	--	**9.1 J**	3.5 U	NA	4.1 U	NA	NA	NA	NA	**25 J**	3.5 U	NA	4 U	NA	NA	NA	NA	**10 J**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Aldrin	31	140	--	--	--	**2 J**	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
alpha-BHC	85	370	--	--	--	1.9 U	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
Alpha-Chlordane	--	--	--	--	--	1.9 U	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
Aroclor 1016	400	5200	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1221	150	660	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1232	150	660	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1242	240	1000	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1248	**240**	1000	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1254	**110**	1000	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1260	**240**	**1000**	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	**85 J**	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1262	--	--	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
Aroclor 1268	--	--	--	--	--	37 U	35 U	NA	41 U	NA	NA	NA	NA	35 U	36 U	NA	40 U	NA	NA	NA	NA	37 U	NA	NA	82 U	NA	NA	NA	43 U
beta-BHC	300	1300	--	--	--	**5.4 J**	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
delta-BHC	--	--	--	--	--	1.9 U	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
Dieldrin	33	140	--	--	--	3.7 U	3.5 U	NA	4.1 U	NA	NA	NA	NA	3.6 U	3.5 U	NA	4 U	NA	NA	NA	NA	3.8 U	NA	NA	8.3 U	NA	NA	NA	4.3 U
Endosulfan I	--	--	--	--	--	1.9 U	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
Endosulfan II	--	--	--	--	--	3.7 U	3.5 U	NA	4.1 U	NA	NA	NA	NA	3.6 U	3.5 U	NA	4 U	NA	NA	NA	NA	3.8 U	NA	NA	8.3 U	NA	NA	NA	4.3 U
Endosulfan Sulfate	--	--	--	--	--	**30 J**	3.5 U	NA	4.1 U	NA	NA	NA	NA	**26 J**	3.5 U	NA	4 U	NA	NA	NA	NA	**3.2 J**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Endrin	1800	25000	--	--	--	3.7 U	3.5 U	NA	4.1 U	NA	NA	NA	NA	3.6 U	3.5 U	NA	4 U	NA	NA	NA	NA	3.8 U	NA	NA	8.3 U	NA	NA	NA	4.3 U
Endrin Aldehyde	--	--	--	--	--	**11 J**	3.5 U	NA	4.1 U	NA	NA	NA	NA	**22 J**	3.5 U	NA	4 U	NA	NA	NA	NA	**6.6 J**	NA	NA	8.3 U	NA	NA	NA	4.3 U
Endrin Ketone	--	--	--	--	--	**32 J**	3.5 U	NA	4.1 U	NA	NA	NA	NA	**35 J**	3.5 U	NA	4 U	NA	NA	NA	NA	3.8 U	NA	NA	8.3 U	NA	NA	NA	4.3 U
gamma-BHC (Lindane)	560	2500	--	--	--	1.9 U	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
gamma-Chlordane	--	--	--	--	--	**4 J**	1.8 U	NA	2.1 U	NA	NA	NA	NA	1.8 U	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
Heptachlor	120	510	--	--	--	1.9 R	1.8 R	NA	2.1 R	NA	NA	NA	NA	1.8 R	1.8 R	NA	2 R	NA	NA	NA	NA	1.9 R	NA	NA	4.3 R	NA	NA	NA	2.2 R
Heptachlor Epoxide	59	250	--	--	--	**2.5 J**	1.8 U	NA	2.1 U	NA	NA	NA	NA	**5.2**	1.8 U	NA	2 U	NA	NA	NA	NA	1.9 U	NA	NA	4.3 U	NA	NA	NA	2.2 U
Methoxychlor	31000	410000	--	--	--	19 U	18 U	NA	21 U	NA	NA	NA	NA	18 U	18 U	NA	20 U	NA	NA	NA	NA	19 U	NA	NA	43 U	NA	NA	NA	22 U
Toxaphene	480	2100	--	--	--	190 U	180 U	NA	210 U	NA	NA	NA	NA	180 U	180 U	NA	200 U	NA	NA	NA	NA	190 U	NA	NA	430 U	NA	NA	NA	220 U

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	MBTA ROW																							
					Sample Location	ROW-19								ROW-20								ROW-21							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS19-0001-061114X	ROW-SB19-0204-061114X	ROW-SB19-0406-061114X	ROW-SB19-0608-061114X	ROW-SB19-0810-061114X	ROW-SB19-1012-061114X	ROW-SB19-1214-061114X	ROW-SB19-1416-061114X	ROW-SS20-0001-061014X	ROW-SB20-0204-061014X	ROW-SB20-0406-061014X	ROW-SB20-0608-061014X	ROW-SB20-0810-061014X	ROW-SB20-1012-061014X	ROW-SB20-1214-061014X	ROW-SB20-1416-061014X	ROW-SS21-0001-060914X	ROW-SB21-0204-060914X	ROW-SB21-0406-060914X	ROW-SB21-0608-060914X	ROW-SB21-0810-060914X	ROW-SB21-1012-060914X	ROW-SB21-1214-060914X	ROW-SB21-1416-060914X
Metals (mg/kg)																													
Aluminum	**7700**	110000	10000	10000	10700	**10600**	**7340**	NA	**23100**	NA	NA	NA	NA	**8500**	**10500**	NA	**15900**	NA	NA	NA	NA	**11400**	NA	NA	**20100**	NA	NA	NA	**26700**
Antimony	**3.1**	47	1	7	--	0.77 UJ	0.75 UJ	NA	0.88 UJ	NA	NA	NA	NA	0.8 UJ	0.76 UJ	NA	0.95 UJ	NA	NA	NA	NA	0.84 UJ	NA	NA	1.6 UJ	NA	NA	NA	0.91 UJ
Arsenic	**0.67**	**3**	20	20	8.78	**45.8 J**	**4.5 J**	NA	**12.6 J**	NA	NA	NA	NA	**30.5**	**7.7**	NA	**5.8**	NA	NA	NA	NA	**75.6**	NA	NA	**14.6**	NA	NA	NA	**22.4 J**
Barium	**1500**	22000	50	50	16	**41.6**	**19.3**	NA	**58.8**	NA	NA	NA	NA	**34.3**	**65.7**	NA	**9.1 J**	NA	NA	NA	NA	**45.2**	NA	NA	**45.4**	NA	NA	NA	**92.3**
Beryllium	16	230	0.4	0.9	0.315	**0.7**	**0.47**	NA	**1.6**	NA	NA	NA	NA	**0.69**	**0.63**	NA	**0.74**	NA	NA	NA	NA	**0.59**	NA	NA	**1.7**	NA	NA	NA	**1.9**
Cadmium	**7**	98	2	3	--	**0.74 J**	**0.37 J**	NA	**1.3 J**	NA	NA	NA	NA	**0.59**	**0.27 J**	NA	**0.14 J**	NA	NA	NA	NA	**0.54**	NA	NA	**0.41 J**	NA	NA	NA	**0.85**
Calcium	--	--	--	--	634	**1620**	**1930**	NA	**4050**	NA	NA	NA	NA	**1800**	**2250**	NA	**876**	NA	NA	NA	NA	**1900**	NA	NA	**3910**	NA	NA	NA	**3720**
Chromium	**12000**	180000	30	40	15.2	**298**	**12.6**	NA	**61.1**	NA	NA	NA	NA	**40.5**	**21.8**	NA	**22.4**	NA	NA	NA	NA	**518**	NA	NA	**45.2**	NA	NA	NA	**74.3**
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	**2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cobalt	**2.3**	**35**	4	4	5.68	**11.2**	**8.4**	NA	**20.4**	NA	NA	NA	NA	**8.8**	**10.3**	NA	**5.8**	NA	NA	NA	NA	**6**	NA	NA	**12.7**	NA	NA	NA	**25**
Copper	**310**	4700	40	200	6.28	**26.6**	**15.1**	NA	**24.2**	NA	NA	NA	NA	**28.8**	**23**	NA	**9**	NA	NA	NA	NA	**20.7**	NA	NA	**18.5**	NA	NA	NA	**29.2**
Iron	**5500**	**82000**	20000	20000	11200	**25700**	**14700**	NA	**41600**	NA	NA	NA	NA	**23900 J**	**20500 J**	NA	**18100 J**	NA	NA	NA	NA	**15600 J**	NA	NA	**22700 J**	NA	NA	NA	**45100 J**
Lead	**400**	**800**	100	600	41.8	**106**	**10.5**	NA	**26.9**	NA	NA	NA	NA	**74**	**31.3**	NA	**9.7**	NA	NA	NA	NA	**70.8**	NA	NA	**37.8**	NA	NA	NA	**32.8**
Magnesium	--	--	5000	5000	2780	**5360**	**3290**	NA	**11900**	NA	NA	NA	NA	**4000**	**5190**	NA	**3620**	NA	NA	NA	NA	**3450**	NA	NA	**7970**	NA	NA	NA	**13600**
Manganese	**180**	**2600**	300	300	155	**343 J EB**	**243 J EB**	NA	**899 J EB**	NA	NA	NA	NA	**341 JEB**	**295 JEB**	NA	**195 JEB**	NA	NA	NA	NA	**221 J**	NA	NA	**345 J**	NA	NA	NA	**1150 J**
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.12**	0.098 U	NA	0.12 U	NA	NA	NA	NA	0.1 U	0.1 U	NA	0.13 U	NA	NA	NA	NA	**0.26**	NA	NA	0.21 U	NA	NA	NA	0.13 U
Nickel	**150**	2200	20	30	11.2	**27.7**	**13.7**	NA	**46.6**	NA	NA	NA	NA	**22.2**	**28.2**	NA	**16.7**	NA	NA	NA	NA	**20.7**	NA	NA	**41.9**	NA	NA	NA	**63.8**
Potassium	--	--	--	--	382	**613**	**469**	NA	**3420**	NA	NA	NA	NA	**492 J**	**801 J**	NA	**522 J**	NA	NA	NA	NA	**479 J**	NA	NA	**2920 J**	NA	NA	NA	**5810 J**
Selenium	39	580	0.5	1	--	**0.25 J**	1.9 U	NA	4.4 U	NA	NA	NA	NA	**0.21 J**	**0.084 J**	NA	**0.25 J**	NA	NA	NA	NA	**0.28 J**	NA	NA	**2 J**	NA	NA	NA	2.3 UJ
Silver	39	580	0.6	5	--	0.8 U	0.74 U	NA	0.88 U	NA	NA	NA	NA	0.81 U	0.79 U	NA	1 U	NA	NA	NA	NA	0.8 U	NA	NA	1.7 U	NA	NA	NA	1 U
Sodium	--	--	--	--	--	**203 J**	**129 J**	NA	**364 J**	NA	NA	NA	NA	**118 J**	**175 J**	NA	**237 J**	NA	NA	NA	NA	**132 J**	NA	NA	**4340**	NA	NA	NA	**3180**
Thallium	**0.078**	1.2	0.6	5	--	0.39 U	0.37 U	NA	0.44 U	NA	NA	NA	NA	**0.068 J**	**0.087 J**	NA	**0.07 J**	NA	NA	NA	NA	**0.085 J**	NA	NA	**0.23 J**	NA	NA	NA	**0.32 J**
Vanadium	**39**	580	30	30	19.4	**35.6**	**26.4**	NA	**69.5**	NA	NA	NA	NA	**35.4**	**27**	NA	**34.9**	NA	NA	NA	NA	**26.2**	NA	NA	**65.6**	NA	NA	NA	**77.4**
Zinc	**2300**	35000	100	300	35.3	**75.8**	**43.5**	NA	**95.9**	NA	NA	NA	NA	**70.7**	**43.5**	NA	**31.3**	NA	NA	NA	NA	**63**	NA	NA	**55.1**	NA	NA	NA	**95.2**
Asbestos (%v/v)																													
Actinolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW																							
					Sample Location	ROW-19								ROW-20								ROW-21							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS19-0001-061114X	ROW-SB19-0204-061114X	ROW-SB19-0406-061114X	ROW-SB19-0608-061114X	ROW-SB19-0810-061114X	ROW-SB19-1012-061114X	ROW-SB19-1214-061114X	ROW-SB19-1416-061114X	ROW-SS20-0001-061014X	ROW-SB20-0204-061014X	ROW-SB20-0406-061014X	ROW-SB20-0608-061014X	ROW-SB20-0810-061014X	ROW-SB20-1012-061014X	ROW-SB20-1214-061014X	ROW-SB20-1416-061014X	ROW-SS21-0001-060914X	ROW-SB21-0204-060914X	ROW-SB21-0406-060914X	ROW-SB21-0608-060914X	ROW-SB21-0810-060914X	ROW-SB21-1012-060914X	ROW-SB21-1214-060914X	ROW-SB21-1416-060914X
Dioxins/Furans (ng/Kg)																													
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**679**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**87800 JD**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**497**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**9860 D**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**15.7**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**17**	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**63.3**	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**13.3**	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**308**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.85 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**111**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.22 J**	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11.9**	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**58.3**	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.29**	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.31**	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.39**	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1180 J**	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**21900 JD**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**896 J**	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2470 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**96.2 J**	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**154 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**26.9 J**	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**44.7 J**	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**206 J**	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

SOIL - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property	MBTA ROW																						
					Sample Location	ROW-19								ROW-20								ROW-21							
					Sample Depth (ft bgs)	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16	0 - 0.5	2 - 4	4 - 6	6 - 8	8 - 10	10 - 12	12 - 14	14 - 16
					Sample Date	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/11/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/10/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14	06/09/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS19-0001-061114X	ROW-SB19-0204-061114X	ROW-SB19-0406-061114X	ROW-SB19-0608-061114X	ROW-SB19-0810-061114X	ROW-SB19-1012-061114X	ROW-SB19-1214-061114X	ROW-SB19-1416-061114X	ROW-SS20-0001-061014X	ROW-SB20-0204-061014X	ROW-SB20-0406-061014X	ROW-SB20-0608-061014X	ROW-SB20-0810-061014X	ROW-SB20-1012-061014X	ROW-SB20-1214-061014X	ROW-SB20-1416-061014X	ROW-SS21-0001-060914X	ROW-SB21-0204-060914X	ROW-SB21-0406-060914X	ROW-SB21-0608-060914X	ROW-SB21-0810-060914X	ROW-SB21-1012-060914X	ROW-SB21-1214-060914X	ROW-SB21-1416-060914X
General Chemistry (%)																												
Chemical Oxygen Demand	--	--	--	--	--	**4.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	**4.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																												
Salinity	--	--	--	--	--	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																												
Oxidation-Reduction Potential	--	--	--	--	--	**371**	NA	NA	**340**	NA	NA	NA	NA	**344**	NA	NA	NA	NA	NA	NA	NA	**313**	NA	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																												
pH	--	--	--	--	--	**7.22**	NA	NA	**6.82**	NA	NA	NA	NA	**6.22**	NA	NA	NA	NA	NA	NA	NA	**7.75**	NA	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																												
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	**50 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	**50 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	0.5 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	**2.6 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																												
Arsenic	**0.67**	**3**	20	20	8.78	**55**	6 U	6 U	**10**	**11**	**14**	**14**	**14**	**45**	**13**	**18**	**7**	**10**	**11**	**13**	**11**	**78**	6 U	6 U	**7**	6 U	**9**	**13**	**18**
Chromium	**12000**	180000	30	40	15.2	**664**	31 U	33 U	**79**	**83**	**75**	**83**	**153**	**115**	31 U	**89**	**49**	**108**	**86**	**96**	**119**	**1076**	33 U	**55**	39 U	**117**	**70**	**91**	**85**
Lead	**400**	**800**	100	600	41.8	**106**	**23**	**21**	**25**	**26**	**35**	**30**	**28**	**97**	**40**	**25**	**14**	**36**	**31**	**24**	**34**	**68**	**36**	**24**	**16**	**35**	**25**	**40**	**32**
Mercury	0.94	4	0.3	1	0.0242	6 U	7 U	6 U	7 U	7 U	7 U	7 U	7 U	6 U	6 U	6 U	6 U	7 U	7 U	7 U	6 U	6 U	6 U	6 U	4 U	6 U	6 U	7 U	6 U
Nickel	150	2200	20	30	11.2	**55**	34 U	**40**	37 U	37 U	**44**	**52**	**41**	**64**	31 U	**49**	28 U	37 U	36 U	**49**	35 U	**36**	30 U	34 U	23 U	33 U	34 U	**64**	35 U
PAH Screening (ug/kg)																												
Total PAH	--	--	--	--	--	NA	**22**	10 U	**15**	10 U	NA	NA	NA	**500 J**	**13**	10 U	**39**	NA	NA	NA	NA	**500 J**	NA	10 U	NA	10 U	NA	10 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW													
					Sample Location	ROW-22	ROW-23	SO-62	SO-63	SS-22		SS-23		SS-24		SS-25		SS-26	
					Sample Depth (ft bgs)	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	1 - 2.5	0 - 2	2 - 3	1 - 1.5	1.5 - 2	0 - 2	2 - 3	0 - 2	2 - 3
					Sample Date	06/25/14	06/25/14	12/05/11	12/05/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	MAX	MAX	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS22-0001-062514X	ROW-SS23-0001-062514X	SO-62 (0-1)	SO-63 (0-1)	SS-22A (0-1)	SS-22C (1-2.5)	SS-23A (0-2)-MAX	SS-23C (2-3)-MAX	SS-24A (1-1.5)	SS-24C (1.5-2)	SS-25A (0-2)	SS-25C (2-3)	SS-26A (0-2)	SS-26C (2-3)
Volatiles (ug/kg)																			
1,1,1-Trichloroethane	810000	3600000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,1,2-Trichloroethane	150	630	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,1-Dichloroethane	3600	16000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,1-Dichloroethene	23000	100000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,2,3-Trichlorobenzene	4900	66000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 UJ	NA	4.7 R	NA
1,2,4-Trichlorobenzene	5800	26000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 UJ	NA	4.7 R	NA
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 UJ	NA	4.7 R	NA
1,2-Dibromoethane	36	160	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,2-Dichlorobenzene	180000	930000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 UJ	NA	4.7 R	NA
1,2-Dichloroethane	460	2000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,2-Dichloropropane	1000	4400	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
1,3-Dichlorobenzene	--	--	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 UJ	NA	4.7 R	NA
1,4-Dichlorobenzene	2600	11000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 UJ	NA	4.7 R	NA
1,4-Dioxane	5300	23000	--	--	--	120 R	130 R	NA	NA	100 UJ	NA	130 UJ	NA	140 UJ	NA	130 UJ	NA	95 UJ	NA
2-Butanone	2700000	19000000	--	--	--	12 U	**18**	NA	NA	10 UJ	NA	13 U	NA	14 U	NA	**33 J**	NA	9.5 U	NA
2-Hexanone	20000	130000	--	--	--	12 U	13 U	NA	NA	10 UJ	NA	13 U	NA	14 U	NA	13 U	NA	9.5 U	NA
4-Methyl-2-pentanone	530000	5600000	--	--	--	12 R	13 R	NA	NA	10 UJ	NA	13 U	NA	14 U	NA	13 U	NA	9.5 U	NA
Acetone	6100000	67000000	--	--	--	**160 EB**	**190 EB**	NA	NA	**180 J**	NA	**140 J**	NA	**130 J**	NA	**310 J**	NA	**120 J**	NA
Benzene	1200	5100	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Bromochloromethane	15000	63000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Bromodichloromethane	290	1300	--	--	--	6 R	6.6 R	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Bromoform	67000	290000	--	--	--	6 R	6.6 R	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 UJ	NA	4.7 R	NA
Bromomethane	680	3000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Carbon disulfide	77000	350000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.6 U	NA	4.7 U	NA
Carbon tetrachloride	650	2900	--	--	--	6 R	6.6 R	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Chlorobenzene	28000	130000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Chloroethane	1400000	5700000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Chloroform	320	1400	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Chloromethane	11000	46000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
cis-1,2-Dichloroethene	16000	230000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
cis-1,3-Dichloropropene	--	--	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Cyclohexane	650000	2700000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Dibromochloromethane	730	3200	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Dichlorodifluoromethane	8700	37000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 UJ	NA	6.8 UJ	NA	6.5 U	NA	4.7 UJ	NA
Ethylbenzene	5800	25000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Isopropylbenzene	190000	990000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
m,p-Xylene	--	--	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Methyl acetate	7800000	1.2E+08	--	--	--	**45 EB**	**63 EB**	NA	NA	5.1 UJ	NA	**34**	NA	**14**	NA	**58 J**	NA	**11**	NA
Methyl tert-butyl ether	47000	210000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Methylcyclohexane	--	--	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Methylene chloride	35000	320000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
o-Xylene	65000	280000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Styrene	600000	3500000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Tetrachloroethene	8100	39000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Toluene	490000	4700000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
trans-1,2-Dichloroethene	160000	2300000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
trans-1,3-Dichloropropene	--	--	--	--	--	6 R	6.6 R	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Trichloroethene	410	1900	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA
Trichlorofluoromethane	73000	310000	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 UJ	NA	6.8 UJ	NA	6.5 UJ	NA	4.7 UJ	NA
Vinyl chloride	59	1700	--	--	--	6 U	6.6 U	NA	NA	5.1 UJ	NA	6.3 U	NA	6.8 U	NA	6.5 U	NA	4.7 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW													
					Sample Location	ROW-22	ROW-23	SO-62	SO-63	SS-22		SS-23		SS-24		SS-25		SS-26	
					Sample Depth (ft bgs)	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	1 - 2.5	0 - 2	2 - 3	1 - 1.5	1.5 - 2	0 - 2	2 - 3	0 - 2	2 - 3
					Sample Date	06/25/14	06/25/14	12/05/11	12/05/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	MAX	MAX	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS22-0001-062514X	ROW-SS23-0001-062514X	SO-62 (0-1)	SO-63 (0-1)	SS-22A (0-1)	SS-22C (1-2.5)	SS-23A (0-2)-MAX	SS-23C (2-3)-MAX	SS-24A (1-1.5)	SS-24C (1.5-2)	SS-25A (0-2)	SS-25C (2-3)	SS-26A (0-2)	SS-26C (2-3)
Semivolatiles (ug/kg)																			
1,1'-Biphenyl	4700	20000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2,4-Dichlorophenol	18000	250000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	190 UJ	180 UJ	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2,4-Dinitrophenol	12000	160000	--	--	--	370 U	340 U	NA	NA	390 UJ	NA	430 U	NA	450 U	NA	460 UJ	NA	400 UJ	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	190 U	180 U	NA	NA	200 UJ	NA	220 U	NA	230 U	NA	240 UJ	NA	210 UJ	NA
2,6-Dinitrotoluene	360	1500	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2-Chloronaphthalene	630000	9300000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2-Chlorophenol	39000	580000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2-Methylnaphthalene	23000	300000	500	1000	--	**2.6 JEB**	**26 EB**	NA	NA	200 U	NA	220 U	NA	**170 J**	NA	**59 J**	NA	**140 J**	NA
2-Methylphenol	310000	4100000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
2-Nitroaniline	61000	800000	--	--	--	370 U	340 U	NA	NA	390 U	NA	430 U	NA	450 U	NA	460 U	NA	400 U	NA
2-Nitrophenol	--	--	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 UJ	NA	240 U	NA	210 UJ	NA
3-Nitroaniline	--	--	--	--	--	370 U	340 U	NA	NA	390 U	NA	430 U	NA	450 U	NA	460 U	NA	400 U	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	370 U	340 U	NA	NA	390 UJ	NA	430 U	NA	450 U	NA	460 UJ	NA	400 UJ	NA
4-Bromophenyl-phenylether	--	--	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 UJ	NA	210 UJ	NA
4-Chloroaniline	2700	12000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 UJ	NA	240 U	NA	210 UJ	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
4-Methylphenol	620000	8200000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
4-Nitroaniline	25000	120000	--	--	--	370 U	340 U	NA	NA	390 UJ	NA	430 U	NA	450 U	NA	460 UJ	NA	400 UJ	NA
4-Nitrophenol	--	--	--	--	--	370 U	340 U	NA	NA	390 U	NA	430 U	NA	450 U	NA	460 U	NA	400 U	NA
Acenaphthene	350000	4500000	500	2000	--	**2.5 JEB**	**13 EB**	NA	NA	200 U	NA	220 U	NA	**720**	NA	**190 J**	NA	**220**	NA
Acenaphthylene	--	--	500	1000	--	**20**	**200**	NA	NA	200 U	NA	**180 J**	NA	**350**	NA	**200 J**	NA	**150 J**	NA
Acetophenone	780000	12000000	--	--	--	190 U	**74 JEB**	NA	NA	200 U	NA	220 U	NA	**45 J**	NA	240 U	NA	210 U	NA
Anthracene	1700000	23000000	1000	4000	--	**21**	**330**	NA	NA	200 U	NA	**160 J**	NA	**1200**	NA	**400**	NA	**330**	NA
Atrazine	2300	10000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Benzaldehyde	780000	12000000	--	--	--	190 U	180 U	NA	NA	200 U	NA	**74 J**	NA	230 U	NA	240 U	NA	210 U	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**67**	**2700**	NA	NA	**49 J**	NA	**630**	NA	**3400**	NA	**1500**	NA	**1300**	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**96**	**2700**	NA	NA	**55 J**	NA	**720 J**	NA	**3100**	NA	**710**	NA	**810 J**	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**150**	**2800**	NA	NA	**65 J**	NA	**930**	NA	**4100 ***	NA	**1900 J**	NA	**1800 J**	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**50**	**1400**	NA	NA	200 U	NA	**370**	NA	**1800**	NA	**80 J**	NA	**67 J**	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**85**	**2300**	NA	NA	**46 J**	NA	**740 J**	NA	**1500 ***	NA	**830**	NA	**1300 J**	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**51 J**	**55 J**	NA	NA	200 U	NA	**130 J**	NA	**1500**	NA	**380**	NA	**1700**	NA
Butylbenzylphthalate	280000	1200000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	**49 J**	NA	240 U	NA	210 U	NA
Caprolactam	3100000	40000000	--	--	--	190 U	180 U	NA	NA	200 UJ	NA	220 U	NA	230 U	NA	240 UJ	NA	210 UJ	NA
Carbazole	--	--	--	--	--	190 U	**120 J**	NA	NA	200 U	NA	**85 J**	NA	**720**	NA	**190 J**	NA	**170 J**	NA
Chrysene	**15000**	290000	2000	7000	--	**83**	**2400 J**	NA	NA	**76 J**	NA	**850**	NA	**3900 ***	NA	**1800**	NA	**2000**	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**27**	**230**	NA	NA	200 U	NA	**130 J**	NA	**570**	NA	**250**	NA	**240 J**	NA
Dibenzofuran	**7200**	100000	--	--	--	190 U	**42 J**	NA	NA	200 U	NA	220 U	NA	**370**	NA	**77 J**	NA	**110 J**	NA
Diethylphthalate	4900000	66000000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Dimethylphthalate	--	--	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	**70 J**	NA	210 U	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	**72 EB**	NA	240 U	NA	**130 EB**	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	190 U	180 U	NA	NA	200 UJ	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Fluoranthene	**230000**	3000000	4000	10000	--	**220**	**3900**	NA	NA	**100 J**	NA	**1300**	NA	**8900 ***	NA	**2900**	NA	**2500**	NA

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					Property	MBTA ROW													
					Sample Location	ROW-22	ROW-23	SO-62	SO-63	SS-22		SS-23		SS-24		SS-25		SS-26	
					Sample Depth (ft bgs)	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	1 - 2.5	0 - 2	2 - 3	1 - 1.5	1.5 - 2	0 - 2	2 - 3	0 - 2	2 - 3
					Sample Date	06/25/14	06/25/14	12/05/11	12/05/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	MAX	MAX	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS22-0001-062514X	ROW-SS23-0001-062514X	SO-62 (0-1)	SO-63 (0-1)	SS-22A (0-1)	SS-22C (1-2.5)	SS-23A (0-2)-MAX	SS-23C (2-3)-MAX	SS-24A (1-1.5)	SS-24C (1.5-2)	SS-25A (0-2)	SS-25C (2-3)	SS-26A (0-2)	SS-26C (2-3)
Fluorene	230000	3000000	1000	2000	--	**4.1**	**37**	NA	NA	200 U	NA	220 U	NA	**540**	NA	**130 J**	NA	**140 J**	NA
Hexachlorobenzene	330	1400	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Hexachlorobutadiene	6200	30000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	190 U	180 U	NA	NA	200 UJ	NA	220 UJ	NA	230 UJ	NA	240 UJ	NA	210 UJ	NA
Hexachloroethane	4300	58000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Indeno(1,2,3-cd)pyrene	**150**	**2900**	1000	3000	--	**66**	**1400**	NA	NA	200 U	NA	**490 J**	NA	**1900**	NA	**590**	NA	**550 J**	NA
Isophorone	560000	2400000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Naphthalene	**3800**	17000	500	1000	--	**6.6 EB**	**34 EB**	NA	NA	200 U	NA	220 U	NA	**280**	NA	**75 J**	NA	**130 J**	NA
Nitrobenzene	5100	22000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	190 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Pentachlorophenol	990	4000	--	--	--	**10 J**	**12 J**	NA	NA	390 U	NA	430 U	NA	**190 J**	NA	**56 J**	NA	**130 J**	NA
Phenanthrene	--	--	3000	20000	--	**78**	**1200**	NA	NA	**40 J**	NA	**640**	NA	**6600 ***	NA	**2000**	NA	**2300**	NA
Phenol	1800000	25000000	--	--	--	190 U	180 U	NA	NA	200 UJ	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA
Pyrene	**170000**	2300000	4000	20000	--	**120**	**3700**	NA	NA	**100 J**	NA	**1500**	NA	**6900 ***	NA	**3400**	NA	**3000 ***	NA
	Pesticides/PCBs (ug/kg)																		
4,4'-DDD	2200	9600	--	--	--	2.8 R	**3.9 J**	NA	NA	3.9 U	NA	4.3 U	NA	4.8 R	NA	4.6 U	NA	2.7 R	NA
4,4'-DDE	1600	6800	--	--	--	2.8 R	3.5 R	NA	NA	3.9 U	NA	4.3 U	NA	**5.7 J**	NA	**3.3 J**	NA	2.8 R	NA
4,4'-DDT	1900	8600	--	--	--	**4.4 J**	**17 J**	NA	NA	**2 J**	NA	**11 J**	NA	**39**	NA	**27**	NA	**47 J**	NA
Aldrin	31	140	--	--	--	1.4 U	1.8 U	NA	NA	2 U	NA	2.2 U	NA	2.3 U	NA	2.4 U	NA	2.1 U	NA
alpha-BHC	85	370	--	--	--	1.4 U	1.8 U	NA	NA	2 U	NA	2.2 U	NA	2.3 U	NA	2.4 U	NA	2.1 U	NA
Alpha-Chlordane	--	--	--	--	--	1.4 U	**2.9 J**	NA	NA	2 U	NA	2.2 U	NA	2.3 U	NA	2.4 U	NA	2.1 U	NA
Aroclor 1016	400	5200	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1221	150	660	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1232	150	660	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1242	240	1000	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1248	**240**	1000	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1254	**110**	1000	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1260	**240**	**1000**	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1262	--	--	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
Aroclor 1268	--	--	--	--	--	37 U	34 U	NA	NA	39 U	NA	43 U	NA	45 U	NA	46 U	NA	40 U	NA
beta-BHC	300	1300	--	--	--	1.4 U	1.8 U	NA	NA	2 U	NA	**3.3 J**	NA	2.3 U	NA	2.4 U	NA	2.1 U	NA
delta-BHC	--	--	--	--	--	1.4 U	1.8 U	NA	NA	2 U	NA	**1.1 J**	NA	2.3 U	NA	2.4 U	NA	2.1 U	NA
Dieldrin	33	140	--	--	--	2.8 R	3.5 R	NA	NA	3.9 U	NA	4.3 U	NA	3.1 R	NA	4.6 U	NA	3.6 R	NA
Endosulfan I	--	--	--	--	--	1.4 U	1.8 U	NA	NA	2 U	NA	2.2 U	NA	2.3 U	NA	2.4 U	NA	2.1 U	NA
Endosulfan II	--	--	--	--	--	2.8 U	3.5 U	NA	NA	3.9 U	NA	4.3 U	NA	4.4 U	NA	4.6 U	NA	4 U	NA
Endosulfan Sulfate	--	--	--	--	--	2.8 U	**3.9 J**	NA	NA	3.9 U	NA	4.3 U	NA	4.4 R	NA	4.6 U	NA	4 U	NA
Endrin	1800	25000	--	--	--	2.8 U	3.5 U	NA	NA	3.9 U	NA	4.3 U	NA	2.8 R	NA	4.6 U	NA	3.1 R	NA
Endrin Aldehyde	--	--	--	--	--	2.8 U	3.5 U	NA	NA	3.9 U	NA	4.3 U	NA	4.4 U	NA	4.6 U	NA	4 U	NA
Endrin Ketone	--	--	--	--	--	2.8 U	**4.9 J**	NA	NA	3.9 U	NA	**7.2 J**	NA	**24**	NA	17 R	NA	**19 J**	NA
gamma-BHC (Lindane)	560	2500	--	--	--	1.4 U	1.8 U	NA	NA	2 U	NA	**1.8 J**	NA	2.3 U	NA	2.4 U	NA	1.1 R	NA
gamma-Chlordane	--	--	--	--	--	1.4 R	1.8 R	NA	NA	2 U	NA	2.2 U	NA	**2 J**	NA	2.4 U	NA	1.1 R	NA
Heptachlor	120	510	--	--	--	1.4 U	1.8 U	NA	NA	2 U	NA	**1.7 J**	NA	2.3 U	NA	2.4 U	NA	2.1 U	NA
Heptachlor Epoxide	59	250	--	--	--	1.4 R	1.8 R	NA	NA	2 U	NA	**2 J**	NA	2.3 U	NA	2.4 U	NA	**1.1 J**	NA
Methoxychlor	31000	410000	--	--	--	14 U	**26 J**	NA	NA	20 U	NA	22 U	NA	23 U	NA	16 R	NA	21 U	NA
Toxaphene	480	2100	--	--	--	140 U	180 U	NA	NA	200 U	NA	220 U	NA	230 U	NA	240 U	NA	210 U	NA

					Property	MBTA ROW													
					Sample Location	ROW-22	ROW-23	SO-62	SO-63	SS-22		SS-23		SS-24		SS-25		SS-26	
					Sample Depth (ft bgs)	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	1 - 2.5	0 - 2	2 - 3	1 - 1.5	1.5 - 2	0 - 2	2 - 3	0 - 2	2 - 3
					Sample Date	06/25/14	06/25/14	12/05/11	12/05/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	MAX	MAX	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS22-0001-062514X	ROW-SS23-0001-062514X	SO-62 (0-1)	SO-63 (0-1)	SS-22A (0-1)	SS-22C (1-2.5)	SS-23A (0-2)-MAX	SS-23C (2-3)-MAX	SS-24A (1-1.5)	SS-24C (1.5-2)	SS-25A (0-2)	SS-25C (2-3)	SS-26A (0-2)	SS-26C (2-3)
Metals (mg/kg)																			
Aluminum	**7700**	110000	10000	10000	10700	**8820**	**7860**	**6450**	**3950**	**22400**	NA	**7750**	NA	**7310**	NA	**8540**	NA	**7740**	NA
Antimony	**3.1**	47	1	7	--	0.83 U	**0.24 J**	R	R	R	NA	6.1 UJ	NA	10.1 UJ	NA	R	NA	6.3 UJ	NA
Arsenic	**0.67**	**3**	20	20	8.78	**22.2**	**21.1**	**23.4**	**15.4**	**12.1 J**	**15.9**	**37.2 J**	**12.1**	**35.5 J**	**22**	**45.2**	**59.4**	**16.7 J**	**34.5**
Barium	**1500**	22000	50	50	16	**29.2**	**50.1**	**114**	**37.5**	**74.6**	NA	**35**	NA	**165**	NA	**71.2**	NA	**173**	NA
Beryllium	16	230	0.4	0.9	0.315	**0.55**	**0.54**	**0.23 J**	**0.18 J**	**1.6 J**	NA	**0.59 J**	NA	**0.66 J**	NA	**0.66 J**	NA	**0.64 J**	NA
Cadmium	**7**	98	2	3	--	**0.33 J**	**0.53 J**	0.92 UJ	0.6 UJ	**0.028 J**	NA	**0.2 J**	NA	**0.42 J**	NA	**0.31 J**	NA	**0.83**	NA
Calcium	--	--	--	--	634	**2020 J**	**2980 J**	**1350**	**826**	**4100**	NA	**2110**	NA	**2160**	NA	**2430**	NA	**4500**	NA
Chromium	**12000**	180000	30	40	15.2	**214**	**178**	**10700 ***	**768**	**53.5**	**72.9**	**44.3 J**	**36.8**	**4430 J**	**152**	**1030 ***	**596 ***	**2770 J**	**827 ***
Chromium-Hexavalent	**0.3**	**6.3**	30	40	--	**2.6 J**	**26 J**	NA	NA	NA	NA	NA	NA	**580 J**	NA	**7.1 J**	NA	**2.7 JEB**	NA
Cobalt	**2.3**	**35**	4	4	5.68	**6.3**	**6.9**	**5.6 J**	**3.8 J**	**10**	NA	**7.7**	NA	**5.6 J**	NA	**5.9**	NA	**7.9 J**	NA
Copper	**310**	4700	40	200	6.28	**13.7**	**21.6**	**89.1**	**29**	**20.9**	NA	**134**	NA	**89.9 J**	NA	**60.1**	NA	**67.7**	NA
Iron	**5500**	**82000**	20000	20000	11200	**13300 J**	**15900 J**	**20100**	**10900**	**27700 J**	NA	**23200**	NA	**23300**	NA	**24100 ***	NA	**26600 ***	NA
Lead	**400**	**800**	100	600	41.8	**44.8**	**169**	**527**	**193**	**34.6**	NA	**286**	NA	**451**	NA	**407 J**	NA	**432**	NA
Magnesium	--	--	5000	5000	2780	**2670**	**3000**	**2810**	**1880**	**8110**	NA	**2670**	NA	**2690**	NA	**3510**	NA	**3690**	NA
Manganese	**180**	**2600**	300	300	155	**284 J**	**339 J**	**161**	**133**	**515 J**	NA	**377 J**	NA	**253 J**	NA	**293 J**	NA	**342 J**	NA
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.1 J**	**0.15**	**1.3**	**0.67**	**0.039 J**	NA	**0.8**	NA	**1.4**	NA	**0.85**	NA	**0.97**	NA
Nickel	**150**	2200	20	30	11.2	**15.7**	**14.9**	**15.6**	**9**	**28.8**	NA	**15.5**	NA	**17**	NA	**14.6**	NA	**29.6**	NA
Potassium	--	--	--	--	382	**529 J**	**634 J**	**643 J**	**374 J**	**3160 J**	NA	**589 J**	NA	**782 J**	NA	**1020 J**	NA	**705 J**	NA
Selenium	39	580	0.5	1	--	**2.4 J**	**2.7 J**	6.5 U	4.2 U	**0.63 J**	NA	3.6 U	NA	5.9 UJ	NA	R	NA	3.7 UJ	NA
Silver	39	580	0.6	5	--	0.8 U	0.83 U	1.8 UJ	1.2 UJ	0.88 U	NA	**0.61 J**	NA	**0.94 J**	NA	**0.5 J**	NA	**0.77 J**	NA
Sodium	--	--	--	--	--	**168 J**	**134 J**	**1330 J**	**1080 J**	R	NA	R	NA	**1160 J**	NA	**3280**	NA	**879 J**	NA
Thallium	**0.078**	1.2	0.6	5	--	**0.078 J**	**0.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Vanadium	**39**	580	30	30	19.4	**20.6**	**24.1**	**96.4**	**22.1**	**52.8**	NA	**27.2**	NA	**88.2 J**	NA	**41.5**	NA	**140 J**	NA
Zinc	**2300**	35000	100	300	35.3	**65.2**	**83.8**	**77.7**	**58.2**	**80.8**	NA	**51.4**	NA	**67.6 J**	NA	**90.2**	NA	**167 J**	NA
Asbestos (%v/v)																			
Actinolite	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Amosite	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Anthophyllite	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Chrysotile	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Crocidolite	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA
Tremolite	--	--	--	--	--	NA	NA	NA	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA	1 U	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW													
					Sample Location	ROW-22	ROW-23	SO-62	SO-63	SS-22		SS-23		SS-24		SS-25		SS-26	
					Sample Depth (ft bgs)	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	1 - 2.5	0 - 2	2 - 3	1 - 1.5	1.5 - 2	0 - 2	2 - 3	0 - 2	2 - 3
					Sample Date	06/25/14	06/25/14	12/05/11	12/05/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	MAX	MAX	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS22-0001-062514X	ROW-SS23-0001-062514X	SO-62 (0-1)	SO-63 (0-1)	SS-22A (0-1)	SS-22C (1-2.5)	SS-23A (0-2)-MAX	SS-23C (2-3)-MAX	SS-24A (1-1.5)	SS-24C (1.5-2)	SS-25A (0-2)	SS-25C (2-3)	SS-26A (0-2)	SS-26C (2-3)
Dioxins/Furans (ng/Kg)																			
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	**275**	**263**	**6000**	**2360**	**10.4**	NA	**112**	NA	**6050**	NA	**2910**	NA	**5740**	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	**74600 J**	**48700 J**	**173000 J**	**27900 J**	**8570 J**	NA	**4980 J**	NA	**141000 J**	NA	**49400**	NA	**138000 J**	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	**291**	**228**	**2840**	**829**	**6.62**	NA	**57.8**	NA	**2440**	NA	**970**	NA	**1840**	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	**5360**	**3500**	**21900**	**3260 ***	**105**	NA	**258**	NA	**17000**	NA	**4600**	NA	**12100**	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	**9.11**	**8.33 J**	**177**	**49.7**	**0.383 J**	NA	**3.12 J**	NA	**171**	NA	**61.5 J**	NA	**129**	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**8.99 J**	**6.86 J**	**102**	**26.4**	**0.34 JEB**	NA	**3.44 JEB**	NA	**94.4**	NA	**34.2 J**	NA	**60.6 J**	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**17.1 J**	**29.8 J**	**161**	**47.4**	**0.644 J**	NA	**2.84 J**	NA	**111**	NA	**38.8 J**	NA	**66.5**	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**7.91 J**	**6.39 J**	**109**	**33.5**	**0.451 J**	NA	**3.81 J**	NA	**111**	NA	**43.8 J**	NA	**61.4 J**	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**150**	**94.5**	**776**	**167**	**2.11 J**	NA	**13.2**	NA	**768**	NA	**159**	NA	**382**	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	2.42 U	5.81 UJ	**18.6 J**	**6.51 J**	0.236 U	NA	**0.571 J**	NA	**15.3 J**	NA	**13 J**	NA	**9.49 J**	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**46.6**	**36.6 J**	**391**	**34.8**	**1.29 J**	NA	**6.55 J**	NA	**205**	NA	**135**	NA	**140**	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	1.12 U	1.59 U	**15.4 J**	**4.86 J**	**0.247 J**	NA	**1.31 J**	NA	**18.1 J**	NA	**10.8 J**	NA	**13.6 J**	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	**3.94 J**	**4.31 J**	**817**	**9.08**	**0.304 J**	NA	**4.07 J**	NA	**163**	NA	**11.2 J**	NA	**21.7 J**	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**22.8 J**	**18.2 J**	**126**	**53.8**	**0.706 J**	NA	**4.91 J**	NA	**116**	NA	**94.5**	NA	**84.8**	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**4.38 J**	**6.27 J**	**38.2 J**	**86.8 J**	**0.58 J**	NA	**5.48**	NA	**49.6 J**	NA	**127**	NA	**31.8 J**	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	2.08 U	2.51 U	10.2 U	**3.59**	0.555 U	NA	**2.7**	NA	13.5 U	NA	7.79 U	NA	11.8 U	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	**22**	--	--	--	**2.41 J**	**1.94**	**43.4**	**11.1**	0.289 U	NA	**0.645 J**	NA	**44**	NA	**9.62 J**	NA	**23.8**	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	**733 J**	**571 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	**13000 J**	**7650 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	**443 J**	**445 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	**470**	--	--	--	**1100 J**	**808 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	**59.5 J**	**76.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	**68.9 J**	**54.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	**7.54 J**	**7.32 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	**16.9 J**	**20.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	**112 J**	**79.4 J**	**1340 J**	**134 J**	**4.73 J**	NA	**14.9 J**	NA	**605 J**	NA	**183 J**	NA	**320 J**	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

					Property	MBTA ROW													
					Sample Location	ROW-22	ROW-23	SO-62	SO-63	SS-22		SS-23		SS-24		SS-25		SS-26	
					Sample Depth (ft bgs)	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	1 - 2.5	0 - 2	2 - 3	1 - 1.5	1.5 - 2	0 - 2	2 - 3	0 - 2	2 - 3
					Sample Date	06/25/14	06/25/14	12/05/11	12/05/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/21/11	04/20/11	04/20/11	04/19/11	04/19/11
					Sample Type	N	N	N	N	N	N	MAX	MAX	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	ROW-SS22-0001-062514X	ROW-SS23-0001-062514X	SO-62 (0-1)	SO-63 (0-1)	SS-22A (0-1)	SS-22C (1-2.5)	SS-23A (0-2)-MAX	SS-23C (2-3)-MAX	SS-24A (1-1.5)	SS-24C (1.5-2)	SS-25A (0-2)	SS-25C (2-3)	SS-26A (0-2)	SS-26C (2-3)
General Chemistry (%)																			
Chemical Oxygen Demand	--	--	--	--	--	NA	**3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	--	--	--	--	--	NA	**2.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/kg as NaCl)																			
Salinity	--	--	--	--	--	NA	1000 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mV)																			
Oxidation-Reduction Potential	--	--	--	--	--	**429**	**446**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (S.U.)																			
pH	--	--	--	--	--	**7.45**	**7.37**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry (ug/g)																			
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	--	--	NA	**110 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	--	--	NA	**110 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chloride	--	--	--	--	--	NA	2 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate	13000	190000	--	--	--	NA	**2.8**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Sulfate	--	--	--	--	--	NA	3 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metals Screening (mg/kg)																			
Arsenic	**0.67**	**3**	20	20	8.78	**20**	**25**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chromium	**12000**	180000	30	40	15.2	**535**	**521**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lead	**400**	**800**	100	600	41.8	**58**	**192**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mercury	0.94	4	0.3	1	0.0242	6 U	7 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nickel	150	2200	20	30	11.2	32 U	34 U	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
PAH Screening (ug/kg)																			
Total PAH	--	--	--	--	--	**670 J**	**2200 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
Volatiles (ug/L)																	
1,1,1-Trichloroethane	800	200	1300	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.076	--	6.8	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5500	--	240	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.041	5	1.2	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2.7	--	13	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	28	7	31	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.7	--	--	0.5 U	0.5 U	NA	**0.22 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.4	70	9.2	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.00033	0.2	0.068	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.0075	0.05	0.36	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	30	600	610	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.17	5	4.1	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.44	5	4.5	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	--	--	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.48	75	5.7	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	560	--	410000	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	3.8	--	1700	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	120	--	110000	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	1400	--	3800000	5 U	5 U	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	0.45	5	2.8	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromochloromethane	8.3	--	120	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.13	80	1.6	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	9.2	80	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.75	--	2.6	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	81	--	200	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.45	5	0.72	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	7.8	100	82	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	2100	--	3500	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	**0.22**	80	1.4	0.5 U	0.5 U	NA	**0.49 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.14 J**	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	19	--	36	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U

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GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
cis-1,2-Dichloroethene	3.6	70	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	--	--	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	1300	--	180	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.17	80	5.2	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	**20**	--	**1.3**	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**32**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	1.5	700	7.1	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	**0.21 J**	0.5 U	0.5 U	0.5 U	**0.24 J**	0.5 U	0.5 U	**0.2 J**
Isopropylbenzene	45	--	220	0.5 U	0.5 U	NA	0.5 U	0.5 U	**0.17 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylene	--	--	--	0.5 U	**0.11 J**	NA	**0.13 J**	0.5 U	**0.16 J**	**0.13 J**	**0.11 J**	0.5 U	**0.16 J**	**0.17 J**	0.5 U	0.5 U	**0.13 J**
Methyl acetate	2000	--	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	14	--	750	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylcyclohexane	--	--	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	11	5	770	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	19	--	100	0.5 U	0.5 U	NA	0.5 U	0.5 U	**0.11 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Styrene	120	100	1900	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	4.1	5	11	0.5 U	**0.11 J**	NA	**0.12 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	110	1000	3700	0.5 U	0.5 U	NA	**0.35 J**	0.5 U	**0.12 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	36	100	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	--	--	--	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.28	5	0.95	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	110	--	28	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.019	2	0.21	0.5 U	0.5 U	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Semivolatiles (ug/L)																	
1,1'-Biphenyl	0.083	--	8.9	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	0.17	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	0.36	--	220	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	24	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2,4,5-Trichlorophenol	120	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2,4,6-Trichlorophenol	1.2	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2,4-Dichlorophenol	4.6	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2,4-Dimethylphenol	36	--	--	5 R	5 R	NA	5 R	5 R	5 R	5 R	5 R	5 R	5 R	NA	5 R	5 R	5 R
2,4-Dinitrophenol	3.9	--	--	10 UJ	10 UJ	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	10 U	10 U	10 U
2,4-Dinitrotoluene	0.24	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U

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J - Estimated; R - Rejected; NA - Not Analyzed

GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
2,6-Dinitrotoluene	0.048	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2-Chloronaphthalene	75	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 UJ	5 UJ	NA	5 U	5 U	5 U
2-Chlorophenol	9.1	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2-Methylnaphthalene	3.6	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
2-Methylphenol	93	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
2-Nitroaniline	19	--	--	10 UJ	10 UJ	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	10 U	10 U	10 U
2-Nitrophenol	--	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
3,3'-Dichlorobenzidine	0.12	--	--	5 UJ	5 UJ	NA	5 U	5 UJ	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
3-Nitroaniline	--	--	--	10 R	10 R	NA	10 R	10 R	10 R	10 R	10 R	10 R	10 R	NA	10 R	10 R	10 R
4,6-Dinitro-2-methylphenol	0.15	--	--	10 UJ	10 UJ	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	10 U	10 U	10 U
4-Bromophenyl-phenylether	--	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
4-Chloro-3-methylphenol	140	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
4-Chloroaniline	0.36	--	--	5 UJ	5 UJ	NA	5 U	5 UJ	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
4-Chlorophenyl-phenylether	--	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
4-Methylphenol	190	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
4-Nitroaniline	3.8	--	--	10 UJ	10 UJ	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	10 U	10 U	10 U
4-Nitrophenol	--	--	--	10 UJ	10 UJ	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 UJ	NA	10 U	10 U	10 U
Acenaphthene	53	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	**2.3**	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Acenaphthylene	--	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	**0.17**	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Acetophenone	190	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Anthracene	180	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	**0.51**	0.1 U	0.1 U	**0.1 J**	NA	0.1 U	0.1 U	0.1 U
Atrazine	0.3	3	--	5 UJ	5 UJ	NA	5 U	5 UJ	5 U	5 UJ	5 U	5 UJ	5 UJ	NA	5 U	5 U	5 U
Benzaldehyde	190	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Benzo(a)anthracene	0.034	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Benzo(a)pyrene	0.0034	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Benzo(b)fluoranthene	0.034	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Benzo(g,h,i)perylene	--	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Benzo(k)fluoranthene	0.34	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Bis(2-chloroethoxy)methane	5.9	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Bis(2-chloroethyl)ether	0.014	--	32	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	5.6	6	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Butylbenzylphthalate	16	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Caprolactam	990	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U

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GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
Carbazole	--	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Chrysene	3.4	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Dibenz(a,h)anthracene	**0.0034**	--	--	0.1 UJ	0.1 UJ	NA	**0.08 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Dibenzofuran	0.79	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Diethylphthalate	1500	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Dimethylphthalate	--	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Di-N-Butylphthalate	90	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Di-N-Octyl Phthalate	20	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Fluoranthene	80	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	**0.44**	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Fluorene	29	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	**1.1 J**	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Hexachlorobenzene	0.049	1	--	5 UJ	5 UJ	NA	5 U	5 UJ	5 U	5 UJ	5 U	5 UJ	5 UJ	NA	5 U	5 U	5 U
Hexachlorobutadiene	0.3	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Hexachlorocyclopentadiene	3.1	50	--	5 UJ	5 UJ	NA	5 U	5 UJ	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Hexachloroethane	0.69	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	**0.034**	--	--	0.1 UJ	0.1 UJ	NA	**0.078 J**	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Isophorone	78	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Naphthalene	**0.17**	--	11	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	**0.31**	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	**0.15**	**0.17**	0.1 U
Nitrobenzene	0.14	--	180	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
N-Nitroso-di-n-propylamine (NDPA)	0.011	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
N-Nitrosodiphenylamine	12	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Pentachlorophenol	**0.04**	**1**	--	0.2 R	0.2 R	NA	0.2 R	**0.9 J**	0.2 R	**1.2 J**	0.2 R	0.2 R	0.2 R	NA	0.2 R	0.2 R	0.2 R
Phenanthrene	--	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Phenol	580	--	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Pyrene	12	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	**0.12**	**0.24**	0.1 U	**0.14**	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Pesticides/PCBs (ug/L)																	
4,4'-DDD	0.031	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.23	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.23	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Aldrin	0.0046	--	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
alpha-BHC	0.0071	--	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	--	--	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
Aroclor 1016	0.14	--	--	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U

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GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
Aroclor 1221	0.0046	--	0.16	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
Aroclor 1232	0.0046	--	0.16	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
Aroclor 1242	0.039	--	--	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
Aroclor 1248	0.039	--	--	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
Aroclor 1254	0.039	--	--	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
Aroclor 1260	0.039	--	--	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
Aroclor 1262	--	--	--	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
Aroclor 1268	--	--	--	1 UJ	1 UJ	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	NA	1 U	1 U	1 U
beta-BHC	0.025	--	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
delta-BHC	--	--	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
Dieldrin	0.0017	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Endosulfan I	--	--	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
Endosulfan II	--	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	--	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Endrin	0.23	2	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	--	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
Endrin Ketone	--	--	--	0.1 UJ	0.1 UJ	NA	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	NA	0.1 U	0.1 U	0.1 U
gamma-BHC (Lindane)	0.041	0.2	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
gamma-Chlordane	--	--	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
Heptachlor	0.002	0.4	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.0038	0.2	--	0.05 UJ	0.05 UJ	NA	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	NA	0.05 U	0.05 U	0.05 U
Methoxychlor	3.7	40	--	0.5 UJ	0.5 UJ	NA	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	NA	0.5 U	0.5 U	0.5 U
Toxaphene	0.015	3	--	5 UJ	5 UJ	NA	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	NA	5 U	5 U	5 U
Dissolved Metals (ug/L)																	
Aluminum	2000	--	--	200 U	200 U	NA	**47.1 J**	200 U	**253 J**	**95.7 J**	200 U	**125 J**	**93.7 J**	NA	**60.8 J**	200 U	200 U
Antimony	0.78	6	--	2 U	2 U	NA	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	2 U	2 U	2 U
Arsenic	**0.052**	**10**	--	**4.5**	**0.44 J**	NA	**5**	**3.2**	**1.6**	**22.2**	**0.57 J**	**0.76 J**	**1.2**	NA	**5.2**	**8.5**	**3**
Barium	**380**	2000	--	**5.5 J**	**4.4 J**	NA	**22 J**	**37.5 J**	**35.1 J**	**38.2 J**	**240**	**105 J**	**57.7 J**	NA	**583**	**589**	**442**
Beryllium	2.5	4	--	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Cadmium	0.92	5	--	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Calcium	--	--	--	**6200**	**17400**	NA	**16200**	**16200**	**116000**	**87200**	**392000**	**50300**	**73100**	NA	**350000**	**212000**	**376000**
Chromium	2200	**100**	--	10 U	10 U	NA	10 U	10 U	**107**	10 U	10 U	10 U	10 U	NA	**31.1**	**15.8**	10 U
Cobalt	**0.6**	--	--	**3.7**	1 U	NA	**2.8**	**1.5**	**37.5**	1 U	**8.6**	1 U	**3**	NA	**1.8**	1 U	**1.9**

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GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
Copper	80	1300	--	25 U	25 U	NA	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	25 U	25 U	25 U
Iron	**1400**	--	--	**2470**	100 U	NA	**10500**	100 U	**36000**	**1360**	100 U	**240**	100 U	NA	**15900**	**8990**	**1430**
Lead	--	15	--	10 U	10 U	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	NA	10 U	10 U	10 U
Magnesium	--	--	--	**1500 J**	**3520 J**	NA	**2260 J**	**9240**	**20700**	**6380**	**67300**	**11300**	**74300**	NA	**81100**	**180000**	**76200**
Manganese	**43**	--	--	**332**	15 U	NA	**1290**	**969**	**1360**	**1400**	**10600**	**643**	**1030**	NA	**795**	**252**	**636**
Mercury	0.063	2	0.19	0.2 U	0.2 U	NA	0.2 U	**0.0084 J**	0.2 U	0.2 U	**0.013 J**	**0.01 J**	**0.011 J**	NA	**0.025 J**	**0.014 J**	**0.025 J**
Nickel	39	--	--	**2**	1 U	NA	**2**	**2.4**	**24.9**	**2.2**	**10.5**	**2.3**	**3.3**	NA	**5.6**	**3.6**	**5.7**
Potassium	--	--	--	5000 U	5000 U	NA	**5120**	5000 U	**14300**	**8510**	**41900**	**6950**	**9430**	NA	**16900**	**45900**	**8190**
Selenium	**10**	50	--	5 U	**3.8 J**	NA	5 U	5 U	**0.38 J**	**0.46 J**	**0.72 J**	**1.3 J**	**3.3 J**	NA	**1.1 J**	**12.1**	**10.5**
Silver	9.4	--	--	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Sodium	--	--	--	**9550**	**49300**	NA	**23600**	**46300**	**94700**	**71000**	**422000**	**236000**	**179000**	NA	**853000**	**1110000**	**1060000**
Thallium	0.02	2	--	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	1 U	1 U
Vanadium	8.6	--	--	5 U	5 U	NA	5 U	5 U	5 U	**3.7 J**	5 U	5 U	5 U	NA	5 U	5 U	5 U
Zinc	**600**	--	--	60 U	60 U	NA	60 U	60 U	**2370**	60 U	60 U	60 U	60 U	NA	**145**	60 U	60 U
Metals (mg/L)																	
Chromium-Hexavalent	0.000035	--	--	NA	NA	NA	0.005 U	NA	0.005 U	0.005 U	NA	0.005 U	NA	NA	NA	NA	NA
Metals (ug/L)																	
Aluminum	2000	--	--	200 U	200 U	**1400**	**44 J**	200 U	**378**	**70.3 J**	200 U	200 U	200 U	**234**	200 U	200 U	**391**
Antimony	0.78	6	--	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Arsenic	**0.052**	**10**	--	**4.8**	**0.54 J**	**9.2**	**5.1**	**3.2**	**1.7**	**22**	**0.61 J**	**0.7 J**	**0.9 J**	**0.55 J**	**5.5**	**9.1**	**3.3**
Barium	**380**	2000	--	200 U	200 U	200 U	200 U	200 U	200 U	200 U	**244**	200 U	200 U	200 U	**566**	**557**	**480**
Beryllium	2.5	4	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Cadmium	**0.92**	5	--	1 U	1 U	**4.6**	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Calcium	--	--	--	**6530**	**17200**	**560000**	**16000**	**16600**	**129000**	**87600**	**391000**	**47800**	**73500**	**66900**	**336000**	**194000**	**391000**
Chromium	2200	**100**	--	10 U	10 U	**12.7 J**	10 U	10 U	**163 J**	10 U	10 U	10 U	10 U	10 U	**42.4 J**	**30 J**	**11.2 J**
Cobalt	**0.6**	--	--	**3.9**	1 U	**108**	**3**	**1.5**	**48.4**	1 U	**8.7**	1 U	**3.2**	**1.9**	**1.8**	**1.1**	**3**
Copper	80	1300	--	25 U	25 U	**26.4**	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	**19.7 J**	25 U	25 U
Iron	**1400**	--	--	**2600**	100 U	**7690**	**10200**	100 U	**40100**	**1290**	100 U	100 U	100 U	**352**	**15800**	**8310**	**2250**
Lead	--	15	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Magnesium	--	--	--	**1690 J**	**3510 J**	**408000**	**2310 J**	**9510**	**23300**	**6390**	**66900**	**10800**	**75800**	**58900**	**77800**	**162000**	**79700**
Manganese	**43**	--	--	**339**	15 U	**29200**	**1320**	**980**	**1440**	**1430**	**10600**	**641**	**1070**	**2350**	**788**	**246**	**953**
Mercury	**0.063**	2	0.19	0.2 U	0.2 U	**0.019 J**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	**0.011 J**	0.2 U	0.2 U	**0.14 J**	**0.11 J**	**0.014 J**
Nickel	**39**	--	--	**2**	**0.41 J**	**123**	**2.2**	**2.5**	**34.1**	**2.4**	**10.6**	**2.3**	**3.5**	**4.6**	**5.8**	**4.1**	**7.1**

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
Potassium	--	--	--	5000 U	5000 U	**79600**	5000 U	5000 U	**14800**	**8320**	**41000**	**6390**	**9100**	5000 U	**15900**	**41200**	**7950**
Selenium	**10**	50	--	5 U	**4.1 J**	**30.4**	5 U	5 U	5 U	**0.47 J**	**0.65 J**	**1.3 J**	**2.2 J**	**1.7 J**	5 U	**11.4**	**9.7**
Silver	9.4	--	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Sodium	--	--	--	**9830**	**48000**	**3090000**	**23200**	**46100**	**89200**	**70900**	**406000**	**223000**	**178000**	**31000**	**823000**	**1160000**	**1050000**
Thallium	0.02	2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Vanadium	8.6	--	--	5 U	5 U	**1.3 J**	5 U	5 U	5 U	**3.7 J**	5 U	5 U	5 U	**0.49 J**	5 U	5 U	5 U
Zinc	**600**	--	--	60 U	60 U	**198**	60 U	60 U	**3070**	60 U	60 U	60 U	60 U	60 U	**142**	60 U	60 U
Dioxins/Furans (pg/L)																	
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	11.8 U	8.79 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	NA	NA	NA	NA	NA	**34.4 J**	6.76 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	2.97 U	2.2 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	NA	NA	NA	NA	NA	6.39 U	4.85 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	5.15 U	4.13 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	2 U	1.51 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	NA	NA	NA	NA	NA	3.3 U	2.14 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	1.97 U	1.29 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	NA	NA	NA	NA	NA	3.02 U	2.01 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	3.64 U	2.65 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	NA	NA	NA	NA	NA	3.33 U	2.2 U	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	**0.886 J**	1.03 U	NA	NA	NA	NA	NA	NA	NA

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GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	NA	NA	NA	NA	NA	1.75 U	1.69 U	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	2.25 U	1.55 U	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	1.15 U	0.91 U	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	NA	NA	NA	NA	NA	2.06 U	1.78 U	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	0.6	30	--	NA	NA	NA	NA	NA	3.21 U	2.73 U	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	0.6	30	--	NA	NA	NA	NA	NA	**0.0369 J**	0.00203 U	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	NA	NA	NA	NA	NA	2.97 UJ	2.2 UJ	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	NA	NA	NA	NA	NA	6.39 UJ	4.85 UJ	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	NA	NA	NA	NA	NA	1.97 UJ	1.29 UJ	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	13	--	--	NA	NA	NA	NA	NA	3.02 UJ	2.01 UJ	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzofuran (total)	--	--	--	NA	NA	NA	NA	NA	0.886 UJ	0.845 UJ	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	NA	NA	NA	NA	NA	1.75 UJ	1.69 UJ	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	NA	NA	NA	NA	NA	3.21 UJ	2.73 UJ	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	NA	NA	NA	NA	NA	2.06 UJ	1.78 UJ	NA	NA	NA	NA	NA	NA	NA
General Chemistry (mg/L as CaCO3)																	
Alkalinity, Bicarbonate (as CaCO3)	--	--	--	NA	NA	NA	**47 J**	NA	**44 J**	**340 J**	NA	**130 J**	**150 J**	NA	NA	NA	NA
Alkalinity, Total (as CaCO3)	--	--	--	NA	NA	NA	**47 J**	NA	**44 J**	**340 J**	NA	**130 J**	**150 J**	NA	NA	NA	NA
General Chemistry (mg/L as N)																	
Nitrate	--	--	--	NA	NA	NA	0.05 UJ	NA	0.05 U	**0.08**	NA	**0.24**	0.05 UJ	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

GROUNDWATER - JULY 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property														
			Sample Location	BH-1/MW-1	BH-12/MW-8	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)														
			Sample Date	07/15/14	07/15/14	07/15/14	07/14/14	07/16/14	07/14/14	07/16/14	07/14/14	07/16/14	07/15/14	07/16/14	07/17/14	07/17/14	07/17/14
			Sample Type	N	N	N	N	N	MAX	N	N	N	N	N	N	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-BH1MW1-071514X	CC-GW-BH12MW8-071514X	CC-GW-MW01-071514X	CC-GW-MW02-071414X	CC-GW-MW03-071614X	CC-GW-MW04-071414X-MAX	CC-GW-MW05-071614X	CC-GW-MW06-071414X	CC-GW-MW08-071614X	CC-GW-MW09-071514X	CC-GW-MGPMW5-071614X	CC-GW-TT01-071714X	CC-GW-TT02-071414X	CC-GW-TT06-071714X
General Chemistry (mg/L)																	
Chemical Oxygen Demand	--	--	--	NA	NA	NA	13 UJ	NA	**45 J**	**30 J**	NA	**89 J**	**94 J**	NA	NA	NA	NA
Chloride	--	--	--	NA	NA	NA	**24**	NA	**73**	**99**	NA	**400**	**430**	NA	NA	NA	NA
Phosphorus, Total (As P)	--	--	--	NA	NA	NA	**0.77**	NA	**0.05**	**0.31**	NA	0.02 U	**1.3**	NA	NA	NA	NA
Sulfate	--	--	--	NA	NA	NA	**36 J**	NA	**980 J**	**78 J**	NA	**16 J**	**53 J**	NA	NA	NA	NA
Total Dissolved Solids	--	--	--	NA	NA	NA	**140**	NA	**1200**	**470**	NA	**880**	**1100**	NA	NA	NA	NA
Total Organic Carbon	--	--	--	NA	NA	NA	**3.3**	NA	**3.4**	**3.7**	NA	**4.8**	**1.3**	NA	NA	NA	NA
Total Suspended Solids	--	--	--	NA	NA	NA	**8.5 J**	NA	**35 J**	**3.3 J**	NA	2.5 UJ	2.5 UJ	NA	NA	NA	NA
General Chemistry (ppt)																	
Salinity	--	--	--	NA	NA	NA	**0.1**	NA	**0.7**	**0.5**	NA	**0.8**	**1**	NA	NA	NA	NA
Field Measurement (deg C)																	
Temperature	--	--	--	**13.35**	**14.79**	NA	**12.82**	**13.82**	**15.74**	**14.58**	**18.52**	**24.77**	**14.54**	**14.8**	**16.82**	**15**	NA
Field Measurement (mg/L)																	
Dissolved Oxygen	--	--	--	**0.76**	**9.3**	NA	**0.25**	**0.43**	**0.5**	**0.38**	**1.04**	**1.29**	**0.79**	**0.69**	**0.27**	**0.22**	NA
Field Measurement (mV)																	
Oxidation-Reduction Potential	--	--	--	**509.4**	**560.5**	NA	**-187.5**	**420.1**	**91.2**	**-177.7**	**153.2**	**382.5**	**-253.2**	**98.2**	**-30**	**-287.3**	NA
Field Measurement (NTU)																	
Turbidity	--	--	--	**0.87**	**0.82**	NA	**0.83**	**1.88**	**2.24**	**1.71**	**1.18**	**0.94**	**3.6**	**3.48**	**2.2**	**4.24**	NA
Field Measurement (PPTH)																	
Salinity	--	--	--	**0.05**	**0.18**	NA	**0.14**	**0.16**	**0.73**	**0.44**	**2.44**	**0.79**	**1.12**	**0.51**	**3.79**	**4.5**	NA
Field Measurement (S.U.)																	
pH, Field	--	--	--	**3.16**	**5.18**	NA	**5.69**	**6.3**	**5.65**	**7.15**	**6.33**	**6.63**	**7.01**	**6.27**	**6.53**	**6.73**	NA
Field Measurement (uS/cm)																	
Specific Conductivity	--	--	--	**102**	**366**	NA	**287**	**336**	**1441**	**879**	**4556**	**1569**	**2172**	**1009**	**6864**	**8066**	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
Volatiles (ug/L)																
1,1,1-Trichloroethane	800	200	1300	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2,2-Tetrachloroethane	0.076	--	6.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloro-1,2,2-trifluoroethane	5500	--	240	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1,2-Trichloroethane	0.041	5	1.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethane	2.7	--	13	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,1-Dichloroethene	28	7	31	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,3-Trichlorobenzene	0.7	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2,4-Trichlorobenzene	0.4	70	9.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromo-3-chloropropane	0.00033	0.2	0.068	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dibromoethane	0.0075	0.05	0.36	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichlorobenzene	30	600	610	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloroethane	0.17	5	4.1	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,2-Dichloropropane	0.44	5	4.5	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,3-Dichlorobenzene	--	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
1,4-Dichlorobenzene	0.48	75	5.7	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
2-Butanone	560	--	410000	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Hexanone	3.8	--	1700	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone	120	--	110000	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Acetone	1400	--	3800000	0.5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Benzene	0.45	5	2.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.17 J**	0.5 U	0.5 U	0.5 U	**0.14 J**	0.5 U	0.5 U
Bromochloromethane	8.3	--	120	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromodichloromethane	0.13	80	1.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromoform	9.2	80	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Bromomethane	0.75	--	2.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon disulfide	81	--	200	**1.6**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.12 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Carbon tetrachloride	0.45	5	0.72	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chlorobenzene	7.8	100	82	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroethane	2100	--	3500	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloroform	0.22	80	1.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Chloromethane	19	--	36	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.37 J**	**0.17 J**	0.5 U	0.5 U	0.5 U	0.5 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
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GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
cis-1,2-Dichloroethene	3.6	70	--	0.5 U	0.5 U	0.5 U	0.5 U	**0.21 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
cis-1,3-Dichloropropene	--	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Cyclohexane	1300	--	180	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dibromochloromethane	0.17	80	5.2	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Dichlorodifluoromethane	20	--	**1.3**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**11**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Ethylbenzene	1.5	700	7.1	**0.15 J**	0.5 U	0.5 U	**0.14 J**	0.5 U	0.5 U	0.5 U	**0.2 J**	0.5 U	**0.12 J**	0.5 U	0.5 U	**0.16 J**
Isopropylbenzene	45	--	220	0.5 U	0.5 U	0.5 U	**0.13 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
m,p-Xylene	--	--	--	**0.16 J**	0.5 U	0.5 U	**0.11 J**	0.5 U	0.5 U	0.5 U	**0.13 J**	0.5 U	0.5 U	0.5 U	0.5 U	**0.12 J**
Methyl acetate	2000	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methyl tert-butyl ether	14	--	750	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylcyclohexane	--	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Methylene chloride	11	5	770	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
o-Xylene	19	--	100	**0.12 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.14 J**	0.5 U	**0.12 J**	0.5 U	**0.19 J**	0.5 U	0.5 U
Styrene	120	100	1900	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Tetrachloroethene	4.1	5	11	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toluene	110	1000	3700	**0.17 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	**0.26 J**	**0.13 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,2-Dichloroethene	36	100	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
trans-1,3-Dichloropropene	--	--	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichloroethene	0.28	5	0.95	0.5 U	0.5 U	0.5 U	0.5 U	**0.12 J**	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Trichlorofluoromethane	110	--	28	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Vinyl chloride	0.019	2	0.21	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Semivolatiles (ug/L)																
1,1'-Biphenyl	0.083	--	8.9	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
1,2,4,5-Tetrachlorobenzene	0.17	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
2,2'-Oxybis(1-chloropropane)	0.36	--	220	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,3,4,6-Tetrachlorophenol	24	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
2,4,5-Trichlorophenol	120	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
2,4,6-Trichlorophenol	1.2	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
2,4-Dichlorophenol	4.6	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
2,4-Dimethylphenol	36	--	--	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ
2,4-Dinitrophenol	3.9	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U

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GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
2,4-Dinitrotoluene	0.24	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2,6-Dinitrotoluene	0.048	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
2-Chloronaphthalene	75	--	--	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 U
2-Chlorophenol	9.1	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
2-Methylnaphthalene	3.6	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	**0.084 J**	0.1 U	0.1 UJ
2-Methylphenol	93	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
2-Nitroaniline	19	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
2-Nitrophenol	--	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
3,3'-Dichlorobenzidine	0.12	--	--	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 U	5 U	5 U
3-Nitroaniline	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4,6-Dinitro-2-methylphenol	0.15	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Bromophenyl-phenylether	--	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Chloro-3-methylphenol	140	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
4-Chloroaniline	0.36	--	--	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 U	5 U	5 U
4-Chlorophenyl-phenylether	--	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
4-Methylphenol	190	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
4-Nitroaniline	3.8	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Nitrophenol	--	--	--	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Acenaphthene	53	--	--	0.1 U	0.1 U	0.1 U	0.1 U	**0.12**	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Acenaphthylene	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	**0.4**	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Acetophenone	190	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Anthracene	180	--	--	0.1 U	0.1 U	0.1 U	**0.2**	0.1 U	0.1 U	**0.13 J**	0.1 U	0.1 U	**0.15**	0.1 U	0.1 U	0.1 UJ
Atrazine	0.3	3	--	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 U
Benzaldehyde	190	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 U
Benzo(a)anthracene	0.034	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ
Benzo(a)pyrene	**0.0034**	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	**0.14 J**	0.1 U	0.1 U	0.1 UJ
Benzo(b)fluoranthene	0.034	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ
Benzo(g,h,i)perylene	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ
Benzo(k)fluoranthene	0.34	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	**0.3 J**	0.1 U	0.1 U	0.1 UJ
Bis(2-chloroethoxy)methane	5.9	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
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GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
Bis(2-chloroethyl)ether	0.014	--	32	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Bis(2-ethylhexyl)phthalate	5.6	6	--	5 U	5 U	5 U	5 U	5 U	**1.4 J**	5 U	5 U	5 U	**1.4 J**	5 U	5 U	5 U
Butylbenzylphthalate	16	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Caprolactam	990	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Carbazole	--	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Chrysene	3.4	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	**0.2 J**	0.1 U	0.1 U	0.1 UJ
Dibenz(a,h)anthracene	0.0034	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 UJ
Dibenzofuran	0.79	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Diethylphthalate	1500	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Dimethylphthalate	--	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Di-N-Butylphthalate	90	--	--	**5.7**	5 U	**5.6**	**6.7**	**8.5**	**8.5**	**13**	**7.2**	**10**	**5.5**	**5.7**	**9**	**8.5**
Di-N-Octyl Phthalate	20	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Fluoranthene	80	--	--	0.1 U	0.1 U	0.1 U	0.1 U	**0.38**	0.1 U	0.1 UJ	0.1 U	0.1 U	**0.16 J**	0.1 U	0.1 U	0.1 UJ
Fluorene	29	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ
Hexachlorobenzene	0.049	1	--	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 U
Hexachlorobutadiene	0.3	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U
Hexachlorocyclopentadiene	3.1	50	--	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 UJ	5 U	5 U	5 U
Hexachloroethane	0.69	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Indeno(1,2,3-cd)pyrene	**0.034**	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	**0.17 J**	0.1 U	0.1 U	0.1 UJ
Isophorone	78	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Naphthalene	**0.17**	--	11	0.1 U	0.1 U	**0.092 J**	**0.16**	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	**0.078 J**	**0.49**	**0.18**	0.1 UJ
Nitrobenzene	0.14	--	180	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Nitroso-di-n-propylamine (NDPA)	0.011	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
N-Nitrosodiphenylamine	12	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U	5 U
Pentachlorophenol	**0.04**	1	--	0.2 U	0.2 U	0.2 U	0.2 U	**0.078 J**	0.2 U	0.2 UJ	0.2 U	0.2 U	**0.68**	0.2 U	0.2 U	0.2 UJ
Phenanthrene	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	**0.12**	0.1 U	0.1 UJ
Phenol	580	--	--	5 U	5 U	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 UJ	5 U	5 U	5 U
Pyrene	12	--	--	0.1 U	0.1 U	0.1 U	0.1 U	**0.68**	0.1 U	0.1 UJ	0.1 U	0.1 U	**0.33 J**	0.1 U	0.1 U	0.1 UJ
Pesticides/PCBs (ug/L)																
4,4'-DDD	0.031	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.23	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U

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GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
4,4'-DDT	0.23	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	0.0046	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
alpha-BHC	0.0071	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Alpha-Chlordane	--	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor 1016	0.14	--	--	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1221	0.0046	--	0.16	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1232	0.0046	--	0.16	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1242	0.039	--	--	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1248	0.039	--	--	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1254	0.039	--	--	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1260	0.039	--	--	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1262	--	--	--	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
Aroclor 1268	--	--	--	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U
beta-BHC	0.025	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC	--	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.0017	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	--	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	0.23	2	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 UJ	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Aldehyde	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
Endrin Ketone	--	--	--	0.1 U	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 UJ	0.1 U	0.1 U	0.1 U	0.1 U
gamma-BHC (Lindane)	0.041	0.2	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane	--	--	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.002	0.4	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 UJ	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide	0.0038	0.2	--	0.05 U	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 UJ	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	3.7	40	--	0.5 U	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 UJ	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	0.015	3	--	5 U	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	5 UJ	5 U	5 U	5 U	5 U
Dissolved Metals (ug/L)																
Aluminum	2000	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	200 UJ	NA	200 UJ
Antimony	0.78	6	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4 U	NA	4 U
Arsenic	**0.052**	**10**	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**26.1**	NA	**2.7**
Barium	380	2000	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**79.7 J**	NA	**271**

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GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
Beryllium	2.5	4	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	2 U
Cadmium	0.92	5	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	**0.38 J**
Calcium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**346000**	NA	**303000**
Chromium	2200	100	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**62.9**	NA	**1.2 J**
Cobalt	**0.6**	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.72 J**	NA	**6.3**
Copper	80	1300	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25 U	NA	25 U
Iron	**1400**	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**14900**	NA	**1930**
Lead	--	15	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5 J**	NA	10 U
Magnesium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**100000**	NA	**76300**
Manganese	**43**	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**532**	NA	**1370**
Mercury	0.063	2	0.19	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.2 U	NA	0.2 U
Nickel	39	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**4.1 J**	NA	**8.6 J**
Potassium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**21200**	NA	**5680**
Selenium	**10**	50	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.7 J**	NA	**14.8**
Silver	9.4	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	2 U	NA	2 U
Sodium	--	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**857000**	NA	**935000**
Thallium	0.02	2	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1 U	NA	1 U
Vanadium	8.6	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.57 J**	NA	**0.22 J**
Zinc	600	--	--	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**6.4 J**	NA	**5.8 J**
Metals (mg/L)																
Chromium-Hexavalent	0.000035	--	--	NA	NA	0.01 U	NA	0.01 U	0.01 U	NA	NA	NA	NA	0.01 U	NA	NA
Metals (ug/L)																
Aluminum	2000	--	--	200 UJ	200 UJ	200 R	**1280 J-**	200 R	200 R	200 UJ	200 UJ	200 R	200 UJ	NA	200 UJ	NA
Antimony	0.78	6	--	4 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	NA	4 U	NA
Arsenic	**0.052**	**10**	--	**18.4**	**8.3**	**11.4**	1 U	**15.9**	1 U	**2.5**	1 U	**2.7**	1 U	NA	**10.4**	NA
Barium	**380**	2000	--	**102 J**	**11.8 J**	**17.7 J**	**23.9 J**	**23.7 J**	**264**	**53.5 J**	**43.7 J**	**98.2 J**	**9.4 J**	NA	**1290**	NA
Beryllium	2.5	4	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	2 U	NA
Cadmium	0.92	5	--	2 U	1 U	1 U	1 U	1 U	**0.67 J**	1 U	1 U	**0.59 J**	1 U	NA	2 U	NA
Calcium	--	--	--	**213000**	**21200**	**18900**	**61000**	**65800**	**418000**	**66700**	**24600**	**161000**	**73600**	NA	**345000**	NA
Chromium	2200	**100**	--	10 U	10 U	**0.98 J**	**518**	**1.3 J**	10 U	10 U	10 U	**8.7 J**	10 U	NA	**41.6**	NA
Cobalt	**0.6**	--	--	**22.8**	**0.94 J**	**1**	**9.2**	**1.6**	**8**	**2**	**0.4 J**	**5.8**	**2.3**	NA	**1.6 J**	NA
Copper	80	1300	--	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	25 U	NA	25 U	NA
Iron	**1400**	--	--	**22100 J**	**29800 J**	**542**	**17000 J**	**3130**	100 U	**11100 J**	**173 J**	100 U	**171 J**	NA	**15500 J**	NA

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GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
Lead	--	**15**	--	10 U	**4.1 J**	**2.9 J**	**20.1**	10 U	10 U	**4.9 J**	**4.3 J**	10 U	**8.5 J**	NA	**2.4 J**	NA
Magnesium	--	--	--	**465000**	**2730 J**	**10700**	**12000**	**6010**	**64600**	**47500**	**5740**	**184000**	**63200**	NA	**317000**	NA
Manganese	**43**	--	--	**20400**	**2940**	**1410**	**1060**	**2150**	**9000**	**2980**	**788**	**1370**	**2750**	NA	**341**	NA
Mercury	**0.063**	2	**0.19**	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	0.2 U	NA	**0.21**	NA
Nickel	39	--	--	**11.5**	**1.1**	**1.4**	**8**	**2.3**	**7.6**	**5.5**	**2.4**	**18.1**	**5.6**	NA	**12.2**	NA
Potassium	--	--	--	**72000**	**6670**	5000 U	**9230**	**4170 J**	**45700**	**5960**	5000 U	**2720 J**	5000 U	NA	**67200**	NA
Selenium	**10**	**50**	--	**80.5**	5 U	5 U	5 U	5 U	5 U	5 U	5 U	**15.9**	5 U	NA	**25.7**	NA
Silver	9.4	--	--	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	2 U	NA
Sodium	--	--	--	**3920000**	**34900**	**54000**	**102000**	**54800**	**564000**	**106000**	**119000**	**518000**	**33500**	NA	**2210000**	NA
Thallium	0.02	2	--	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	NA	1 U	NA
Vanadium	8.6	--	--	**1.7 J**	**0.21 J**	5 U	**4.4 J**	5 U	5 U	**0.49 J**	**0.25 J**	5 U	**0.29 J**	NA	**0.84 J**	NA
Zinc	**600**	--	--	60 U	60 U	60 U	**783**	60 U	60 U	60 U	60 U	60 U	60 U	NA	60 U	NA
Dioxins/Furans (pg/L)																
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	NA	3.3 U	**37 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	NA	**19.5 J**	**34.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	NA	**5.14 EMPC, J**	**13.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	NA	**5.43 J**	**15.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	NA	**2.63 J**	**15.6 EMPC, J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	NA	**5.8 J**	**15.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	NA	**8.12 J**	**14.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	NA	**1.89 J**	**14.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	NA	**3.13 J**	**15.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	NA	**2.45 EMPC, J**	**16 EMPC, J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	NA	**5.97 J**	**11.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	NA	**3.34 EMPC, J**	**14.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	NA	**4.54 J**	**14.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	NA	**2.55 EMPC, J**	**15 EMPC, J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	NA	**5.95 J**	**15.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	NA	**3.4 J**	**3.69 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**0.6**	30	--	NA	**4.19 J**	**3.65 EMPC, J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dioxin/Furan - Toxic Equivalent	**0.6**	**30**	--	NA	**14.1 J**	**34.2 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzofuran (total)	--	--	--	NA	**7.77 J**	**29.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	NA	**9.55 J**	**15.1 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzofuran (total)	--	--	--	NA	**15.2 J**	**63.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorodibenzo-p-dioxin (total)	**13**	--	--	NA	**20.7 J**	**42.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Shading - Criterion Exceeded; Bold - Detected; U - Not Detected;
J - Estimated; R - Rejected; NA - Not Analyzed

GROUNDWATER - OCTOBER 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

			Property													
			Sample Location	MW-01	MW-02	MW-03	MW-04	MW-05	MW-06	MW-07	MW-08	MW-09	RR-2-MW	TT-01	TT-02	TT-06
			Sample Depth (ft bgs)											11.5 - 12.5		
			Sample Date	10/16/14	10/14/14	10/14/14	10/16/14	10/13/14	10/14/14	10/16/14	10/16/14	10/13/14	10/16/14	10/15/14	10/15/14	10/15/14
			Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N
Sample ID	**TapRSLn**	**MCL**	**VISLnGW**	CC-GW-MW01-101614X	CC-GW-MW02-101414X	CC-GW-MW03-101414X	CC-GW-MW04-101614X	CC-GW-MW05-101314X	CC-GW-MW06-101414X	CC-GW-MW07-101614X	CC-GW-MW08-101614X	CC-GW-MW09-101314X	CC-GW-RR2MW-101614X	CC-GW-TT01-101514X-MAX	CC-GW-TT02-101514X	CC-GW-TT06-101514X
Pentachlorodibenzofuran (total)	--	--	--	NA	**12.3 J**	**30.3 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Pentachlorodibenzo-p-dioxin (total)	--	--	--	NA	**5.28 J**	**14.4 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	NA	**11.1 J**	**3.94 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Tetrachlorodibenzofuran (total)	--	--	--	NA	**6.65 J**	**3.98 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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J - Estimated; R - Rejected; NA - Not Analyzed

SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
Volatiles (ug/kg)																				
1,1,1-Trichloroethane	810000	3600000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,1,2,2-Tetrachloroethane	600	2700	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,1,2-Trichloro-1,2,2-trifluoroethane	4000000	17000000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,1,2-Trichloroethane	150	630	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,1-Dichloroethane	3600	16000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,1-Dichloroethene	23000	100000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,2,3-Trichlorobenzene	4900	66000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,2,4-Trichlorobenzene	5800	26000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,2-Dibromo-3-chloropropane	5.3	64	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,2-Dibromoethane	36	160	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,2-Dichlorobenzene	180000	930000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,2-Dichloroethane	460	2000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,2-Dichloropropane	1000	4400	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,3-Dichlorobenzene	--	--	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,4-Dichlorobenzene	2600	11000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
1,4-Dioxane	5300	23000	--	--	--	120 R	700 R	430 R	290 R	300 R	250 R	200 R	290 R	150 R	440 R	450 R	250 R	220 R	150 R	450 R
2-Butanone	2700000	19000000	--	--	--	12 U	70 UJ	**130 J**	29 U	**42 J**	**30**	20 U	29 U	**18**	44 U	45 UJ	**20 J**	22 U	15 U	45 UJ
2-Hexanone	20000	130000	--	--	--	12 U	70 UJ	43 UJ	29 U	30 U	25 U	20 U	29 U	15 U	44 U	45 UJ	25 U	22 U	15 U	45 UJ
4-Methyl-2-pentanone	530000	5600000	--	--	--	12 U	70 UJ	43 UJ	29 U	30 U	25 U	20 U	29 U	15 U	44 U	45 UJ	25 U	22 U	15 U	45 UJ
Acetone	6100000	67000000	--	--	--	**53 EB**	**240 JEB**	**430 JEB**	**130 EB**	**250 JEB**	**140 EB**	**100 EB**	**530 JEB**	**150**	**100**	**210 J**	**120**	22 U	15 U	**110 J**
Benzene	1200	5100	--	--	--	6.2 UJ	35 UJ	21 UJ	14 UJ	15 U	12 U	9.8 U	15 U	7.7 U	22 UJ	22 UJ	12 U	11 U	7.5 U	22 UJ
Bromochloromethane	15000	63000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Bromodichloromethane	290	1300	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Bromoform	67000	290000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Bromomethane	680	3000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 UJ	22 UJ
Carbon disulfide	77000	350000	--	--	--	6.2 U	**24 J**	21 UJ	**7.1 J**	**35**	**8.2 J**	9.8 U	15 U	7.7 U	22 U	22 UJ	**5.5 J**	11 U	7.5 UJ	**18 J**
Carbon tetrachloride	650	2900	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Chlorobenzene	28000	130000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Chloroethane	1400000	5700000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 UJ	22 UJ
Chloroform	320	1400	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Chloromethane	11000	46000	--	--	--	6.2 U	35 UJ	**12 J**	14 U	15 U	12 U	9.8 U	**9.7 J**	7.7 U	22 U	22 UJ	12 U	11 U	7.5 UJ	22 UJ

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SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
cis-1,2-Dichloroethene	16000	230000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
cis-1,3-Dichloropropene	--	--	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Cyclohexane	650000	2700000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Dibromochloromethane	730	3200	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Dichlorodifluoromethane	8700	37000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 UJ	22 UJ
Ethylbenzene	5800	25000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Isopropylbenzene	190000	990000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
m,p-Xylene	--	--	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Methyl acetate	7800000	1.2E+08	--	--	--	**6.5**	**190 J**	**270 J**	**44**	**140**	**26**	**57**	**200**	**53**	**70**	**230 J**	**26**	11 U	**13**	**27 J**
Methyl tert-butyl ether	47000	210000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Methylcyclohexane	--	--	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Methylene chloride	35000	320000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
o-Xylene	65000	280000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Styrene	600000	3500000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Tetrachloroethene	8100	39000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Toluene	490000	4700000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
trans-1,2-Dichloroethene	160000	2300000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
trans-1,3-Dichloropropene	--	--	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Trichloroethene	410	1900	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Trichlorofluoromethane	73000	310000	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Vinyl chloride	59	1700	--	--	--	6.2 U	35 UJ	21 UJ	14 U	15 U	12 U	9.8 U	15 U	7.7 U	22 U	22 UJ	12 U	11 U	7.5 U	22 UJ
Semivolatiles (ug/kg)																				
1,1'-Biphenyl	4700	20000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,4,5-Trichlorophenol	620000	8200000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,4,6-Trichlorophenol	6200	82000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,4-Dichlorophenol	18000	250000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,4-Dimethylphenol	120000	1600000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,4-Dinitrophenol	12000	160000	--	--	--	490 U	1800 UJ	1200 UJ	840 U	950 U	650 U	710 U	900 U	510 U	1100 U	1100 UJ	850 U	680 U	650 U	1300 UJ
2,4-Dinitrotoluene	1700	7400	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2,6-Dinitrotoluene	360	1500	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ

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SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
2-Chloronaphthalene	630000	9300000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2-Chlorophenol	39000	580000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2-Methylnaphthalene	23000	300000	500	1000	--	**7.3**	**10 J**	12 UJ	**7.3 J**	9.6 U	**6.3 J**	**21**	**14**	**42**	11 U	**5.8 J**	**7.6 J**	**6.6 J**	**6 J**	13 UJ
2-Methylphenol	310000	4100000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
2-Nitroaniline	61000	800000	--	--	--	490 U	1800 UJ	1200 UJ	840 U	950 U	650 U	710 U	900 U	510 U	1100 U	1100 UJ	850 U	680 U	650 U	1300 UJ
2-Nitrophenol	--	--	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
3,3'-Dichlorobenzidine	1200	5100	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
3-Nitroaniline	--	--	--	--	--	490 U	1800 UJ	1200 UJ	840 U	950 U	650 U	710 U	900 U	510 U	1100 U	1100 UJ	850 U	680 U	650 U	1300 UJ
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	490 U	1800 UJ	1200 UJ	840 U	950 U	650 U	710 U	900 U	510 U	1100 U	1100 UJ	850 U	680 U	650 U	1300 UJ
4-Bromophenyl-phenylether	--	--	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
4-Chloro-3-methylphenol	620000	8200000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
4-Chloroaniline	2700	12000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
4-Chlorophenyl-phenylether	--	--	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
4-Methylphenol	620000	8200000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
4-Nitroaniline	25000	120000	--	--	--	490 U	1800 UJ	1200 UJ	840 U	950 U	650 U	710 U	900 U	510 U	1100 U	1100 UJ	850 U	680 U	650 U	1300 UJ
4-Nitrophenol	--	--	--	--	--	490 U	1800 UJ	1200 UJ	840 U	950 U	650 U	710 U	900 U	510 U	1100 U	1100 UJ	850 U	680 U	650 U	1300 UJ
Acenaphthene	350000	4500000	500	2000	--	**12**	**27 J**	**7 J**	**16**	**5.5 J**	**8**	**10**	**22**	**110 J**	**12**	**12 J**	**34**	**17**	**6.8**	13 UJ
Acenaphthylene	--	--	500	1000	--	**83**	**200 J**	**55 J**	**110**	**43**	**59**	**100**	**88**	**160**	**35**	**100 J**	**200**	**140**	**83**	13 UJ
Acetophenone	780000	12000000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Anthracene	1700000	23000000	1000	4000	--	**130**	**740 J**	**84 J**	**250**	**64**	**89**	**100**	**120**	**440**	**48**	**120 J**	**370**	**250**	**86**	13 UJ
Atrazine	2300	10000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Benzaldehyde	780000	12000000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Benzo(a)anthracene	**150**	2900	2000	9000	--	**480**	**1700 J**	**250 J**	**710**	**210**	**270**	**370**	**460 J**	**1300**	**130**	**500 J**	**960**	**720**	**250**	**9.5 J**
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**390**	**1200 J**	**250 J**	**610**	**230**	**250**	**290**	**390**	**1100**	**70**	**420 J**	**780**	**570**	**240**	13 UJ
Benzo(b)fluoranthene	**150**	2900	2000	8000	--	**620**	**1400 J**	**340 J**	**770**	**300**	**320**	**610**	**680**	**1800**	**65**	**520 J**	**1100**	**680**	**290**	13 UJ
Benzo(g,h,i)perylene	--	--	1000	3000	--	**210**	**530 J**	**180 J**	**310**	**150**	**150**	**170**	**230**	**740**	**43**	**230 J**	**380**	**290**	**140**	13 UJ
Benzo(k)fluoranthene	1500	29000	1000	4000	--	**220**	**670 J**	**98 J**	**310**	**130**	**140**	**180**	**210**	**690**	**63**	**250 J**	**390**	**310**	**130**	13 UJ
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Bis(2-chloroethyl)ether	230	1000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**95 J**	**240 J**	**230 J**	**91 J**	**120 J**	**99 J**	**1600**	**990**	**380**	**120 J**	**250 J**	**88 J**	350 U	340 U	680 UJ
Butylbenzylphthalate	280000	1200000	--	--	--	250 U	**380 J**	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Caprolactam	3100000	40000000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Carbazole	--	--	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	**240 J**	550 U	570 UJ	440 U	350 U	340 U	680 UJ

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SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
Chrysene	15000	290000	2000	7000	--	**470**	**1500 J**	**290 J**	**580**	**250**	**270**	**520**	**640**	**1500**	**110**	**480 J**	**780**	**620**	**240**	**6.8 J**
Dibenz(a,h)anthracene	**15**	290	500	1000	--	**61**	**140 J**	**30 J**	**77**	**33**	**38**	**50**	**58**	**130**	**11**	**56 J**	**85**	**82**	**35**	13 UJ
Dibenzofuran	7200	100000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	**110 J**	550 U	570 UJ	**43 J**	350 U	340 U	680 UJ
Diethylphthalate	4900000	66000000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Dimethylphthalate	--	--	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Di-N-Butylphthalate	620000	8200000	--	--	--	**530 EB**	**2000 JEB**	**1000 JEB**	**670 EB**	**560 EB**	**640 EB**	**740 EB**	**900 EB**	**550**	**1100**	**1000 J**	**620**	**530**	**450**	**930 J**
Di-N-Octyl Phthalate	62000	820000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Fluoranthene	230000	3000000	4000	10000	--	**920**	**2800 J**	**580 J**	**1200**	**490**	**580**	**650**	**850**	**2700**	**210**	**870 J**	**2000**	**1400**	**530**	**12 J**
Fluorene	230000	3000000	1000	2000	--	**39**	**76 J**	**17 J**	**61**	**15**	**22**	**15**	**31**	**150**	**12**	**19 J**	**85**	**62**	**22**	13 UJ
Hexachlorobenzene	330	1400	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Hexachlorobutadiene	6200	30000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Hexachlorocyclopentadiene	37000	490000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Hexachloroethane	4300	58000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Indeno(1,2,3-cd)pyrene	**150**	2900	1000	3000	--	**230**	**590 J**	**170 J**	**340**	**150**	**160**	**180**	**230**	**710**	**41**	**250 J**	**420**	**320**	**150**	13 UJ
Isophorone	560000	2400000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Naphthalene	3800	17000	500	1000	--	**7.1 EB**	**27 JEB**	**15 JEB**	**23 EB**	**13 EB**	**16 EB**	**19 EB**	**22 EB**	**75**	**9 J**	**15 J**	**15**	**14**	**11**	13 UJ
Nitrobenzene	5100	22000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
N-Nitrosodiphenylamine	110000	470000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Pentachlorophenol	990	4000	--	--	--	9.9 U	36 UJ	25 UJ	17 U	19 U	13 U	**33**	**17 J**	**51**	22 U	23 UJ	17 U	14 U	13 U	27 UJ
Phenanthrene	--	--	3000	20000	--	**440**	**810 J**	**180 J**	**500**	**160**	**220**	**220**	**510**	**2200**	**100**	**300 J**	**1200**	**870**	**220**	13 UJ
Phenol	1800000	25000000	--	--	--	250 U	920 UJ	620 UJ	430 U	490 U	340 U	360 U	460 U	260 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Pyrene	170000	2300000	4000	20000	--	**980**	**2700 J**	**450 J**	**1200**	**380**	**470**	**760**	**1000**	**2800**	**210**	**830 J**	**2000**	**1400**	**400**	**14 J**
	Pesticides/PCBs (ug/kg)																			
4,4'-DDD	2200	9600	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	5.2 U	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
4,4'-DDE	1600	6800	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	5.2 U	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
4,4'-DDT	1900	8600	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	**6.9 J**	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
Aldrin	31	140	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
alpha-BHC	85	370	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
Alpha-Chlordane	--	--	--	--	--	2.5 U	**13 J**	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
Aroclor 1016	400	5200	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
Aroclor 1221	150	660	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
Aroclor 1232	150	660	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ

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SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
Aroclor 1242	240	1000	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
Aroclor 1248	240	1000	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
Aroclor 1254	110	1000	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
Aroclor 1260	240	1000	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
Aroclor 1262	--	--	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
Aroclor 1268	--	--	--	--	--	49 U	180 UJ	120 UJ	84 U	96 U	66 U	71 U	90 U	51 U	110 U	110 UJ	85 U	68 U	65 U	130 UJ
beta-BHC	300	1300	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
delta-BHC	--	--	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
Dieldrin	33	140	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	5.2 U	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
Endosulfan I	--	--	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
Endosulfan II	--	--	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	5.2 U	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
Endosulfan Sulfate	--	--	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	5.2 U	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
Endrin	1800	25000	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	5.2 U	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
Endrin Aldehyde	--	--	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	5.2 U	11 U	11 UJ	8.6 U	6.8 U	6.5 U	13 UJ
Endrin Ketone	--	--	--	--	--	4.9 U	18 UJ	12 UJ	8.3 U	9.7 U	6.6 U	7 U	9.1 U	**6.6 J**	11 U	11 UJ	**16 J**	6.8 U	6.5 U	13 UJ
gamma-BHC (Lindane)	560	2500	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
gamma-Chlordane	--	--	--	--	--	2.5 U	**9.1 J**	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
Heptachlor	120	510	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
Heptachlor Epoxide	59	250	--	--	--	2.5 U	9.1 UJ	6.3 UJ	4.3 U	5 U	3.4 U	3.6 U	4.7 U	2.7 U	5.5 U	5.7 UJ	4.4 U	3.5 U	3.4 U	6.8 UJ
Methoxychlor	31000	410000	--	--	--	25 U	91 UJ	63 UJ	43 U	50 U	34 U	36 U	47 U	27 U	55 U	57 UJ	44 U	35 U	34 U	68 UJ
Toxaphene	480	2100	--	--	--	250 U	910 UJ	630 UJ	430 U	500 U	340 U	360 U	470 U	270 U	550 U	570 UJ	440 U	350 U	340 U	680 UJ
Metals (mg/kg)																				
Aluminum	**7700**	110000	10000	10000	10700	**7970**	**9660 J**	**8320 J**	**10500**	**11900**	**7600**	**6840 J**	**13200**	**4400 J**	**12800 J**	**12700 J**	**8590 J**	**8290 J**	**7380 J**	**10900 J**
Antimony	3.1	47	1	7	--	**0.48 J**	4.3 UJ	14.7 UJ	10.7 UJ	14.4 UJ	8 UJ	9.8 UJ	11.4 UJ	6.2 UJ	**3.1 J**	14.6 UJ	8.8 UJ	8.1 UJ	7.7 UJ	**0.63 J**
Arsenic	**0.67**	**3**	20	20	8.78	**10.6 J**	**25.7 J**	**30.6 J**	**74.6 J**	**39.6 J**	**19.6 J**	**882 J**	**36.8 J**	**55.3 J**	2.4 UJ	**30.8 J**	**26.2 J**	**97.1 J**	**26.7 J**	**7 J**
Barium	1500	22000	50	50	16	**19.4 J**	**27.3 J**	**30.6 J**	**30 J**	**40.5 J**	**28.5**	**61.5**	**63.9**	**202**	**38.4 J**	**35.8 J**	**30.4**	**30.4**	**32.7**	**23.3 J**
Beryllium	16	230	0.4	0.9	0.315	**0.67 J**	**0.71 J**	**0.77 J**	**0.74 J**	**1 J**	**0.61 J**	**0.67 J**	**0.96**	**0.49 J**	**1.1 J**	**1 J**	**0.69 J**	**0.76 J**	**0.52 J**	**0.61 J**
Cadmium	7	98	2	3	--	**0.31 J**	**0.96 J**	**0.88 J**	**0.79 J**	**0.45 J**	**0.78**	**0.43 J**	**0.92 J**	**0.22 J**	**3.1**	**0.39 J**	**0.77**	**0.59 J**	**0.49 J**	**0.48 J**
Calcium	--	--	--	--	634	**1180**	**2860 J**	**2380 J**	**3480**	**3770**	**1830**	**4600 J**	**4020**	**1410 J**	**2970 J**	**4540 J**	**2170 J**	**2300 J**	**1830 J**	**2760 J**
Chromium	12000	180000	30	40	15.2	**47.3**	**544 J**	**537 J**	**745**	**782**	**492**	**1000 J**	**2250**	**1050 J**	**1620 J**	**871 J**	**637 J**	**785 J**	**506 J**	**45.7 J**
Cobalt	**2.3**	35	4	4	5.68	**6.2**	**6.7 J**	**7 J**	**6.6 J**	**7.2 J**	**4.7 J**	**11.2**	**11**	**6.1**	**4.5 J**	**8 J**	**5.7 J**	**6.3 J**	**3.8 J**	**6 J**
Copper	**310**	4700	40	200	6.28	**23.4**	**59.7 J**	**45.8 J**	**429**	**69.1**	**51.3**	**70.3 J**	**107**	**284 J**	**75.2 J**	**86.8 J**	**56.3 J**	**62.4 J**	**31.3 J**	**12.5 J**
Iron	**5500**	82000	20000	20000	11200	**17900**	**21000 J**	**21600 J**	**21500**	**32500**	**16700**	**31300 J**	**40500**	**39600 J**	**28700 J**	**27700 J**	**20800 J**	**24900 J**	**12900 J**	**19700 J**
Lead	**400**	800	100	600	41.8	**70.8 J**	**111 J**	**113 J**	**138 J**	**127 J**	**93.1 J**	**200 J**	**652**	**193 J**	**229 J**	**164 J**	**127 J**	**109 J**	**69 J**	**11.7 J**

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SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
Magnesium	--	--	5000	5000	2780	**4090**	**7820 J**	**5470 J**	**6590**	**8030**	**4780**	**4730 J**	**9250**	**2580 J**	**8080 J**	**9380 J**	**5680 J**	**4760 J**	**3470 J**	**7730 J**
Manganese	**180**	2600	300	300	155	**223 J**	**174 J**	**1130 J**	**266 J**	**967 J**	**121 J**	**1110 J**	**503 J**	**344 J**	**251 J**	**690 J**	**152 J**	**180 J**	**97 J**	**164 J**
Mercury	**0.94**	4	0.3	1	0.0242	**0.11 J**	**1.7 J**	**1.8 J-**	**1.4**	**1.9**	**3.4**	**2.1 J-**	**1.6**	**0.59 J-**	**2.7 J-**	**1.7 J**	**2 J-**	**2.5 J-**	**2.9 J-**	0.31 UJ
Nickel	150	2200	20	30	11.2	**16.2**	**19.3 J**	**16.6**	**19**	**21.1**	**14.6**	**24.7**	**31.6**	**17.9**	**35.6**	**24.9**	**16.5**	**16.6**	**12.2**	**22.4**
Potassium	--	--	--	--	382	**1450**	**3080 J**	**2440**	**2230**	**3980**	**1730**	**1260 J**	**2670**	**506 J**	**3190 J**	**3680 J**	**2000 J**	**1770 J**	**1620**	**3830**
Selenium	**39**	580	0.5	1	--	3.6 U	2.5 U	8.5 U	6.2 U	8.4 U	4.7 U	**1.2 J**	**7 J**	3.6 U	**84.4**	**1.1 J**	**0.38 J**	**0.82 J**	**2.4 J**	**1.1 J**
Silver	39	580	0.6	5	--	0.5 U	0.85 UJ	1.2 UJ	0.89 U	1.1 U	0.73 U	0.77 UJ	0.97 U	0.49 UJ	1.2 UJ	1.1 UJ	0.77 UJ	0.66 UJ	0.62 UJ	1.2 UJ
Sodium	--	--	--	--	--	**4140**	**28300 J**	**13100 J**	**14300**	**19800**	**10100**	**10500 J**	**14700**	**4150 J**	**21100 J**	**23400 J**	**11500 J**	**9810 J**	**7480 J**	**19300 J**
Thallium	0.078	1.2	0.6	5	--	2.5 UJ	1.8 UJ	6.1 U	4.4 UJ	6 UJ	3.3 UJ	4.1 UJ	4.8 UJ	2.6 UJ	6 UJ	6.1 U	3.7 UJ	3.4 UJ	3.2 UJ	5.7 U
Vanadium	**39**	580	30	30	19.4	**29.5**	**39 J**	**38.2**	**37.4**	**52.3**	**28.1**	**64.8**	**136**	**42.5**	**65.6**	**57.3**	**36.6**	**29.5**	**22.2**	**47.7**
Zinc	2300	35000	100	300	35.3	**92 J**	**139 J**	**131**	**161 J**	**135 J**	**146 J**	**181 J**	**268 J**	**79.5 J**	**211 J**	**136 J**	**136 J**	**138 J**	**87.8 J**	**50.9**
Metals (ug/g)																				
Chromium-Hexavalent	0.3	6.3	30	40	--	NA	NA	1.4 UJ	NA	NA	NA	0.9 UJ	NA	NA	NA	**5.6 J**	NA	NA	0.64 UJ	NA
Dioxins/Furans (ng/kg)																				
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	3.05	NA	NA	**262 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**93**	NA
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	1440	NA	NA	**6530 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2910**	NA
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	1.77	NA	NA	**215 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**75.5**	NA
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	592	NA	NA	**806 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**296**	NA
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	NA	NA	**6.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.16 J**	NA
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	**12.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.37 J**	NA
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	**6.67 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.9 J**	NA
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	**7.45 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.71 J**	NA
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	**28.5 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**11.3**	NA

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SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	**0.563 EMPC, J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.23 J**	NA
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	**20.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.55 J**	NA
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	**1.93 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.91 EMPC, J**	NA
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	NA	NA	**3.93 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.28 J**	NA
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	NA	NA	**7.58 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**3.72 EMPC, J**	NA
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	NA	NA	**3.74 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**1.61 J**	NA
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	NA	NA	**6.42 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**2.47**	NA
2,3,7,8-Tetrachlorodibenzo-p-dioxin	4.9	22	--	--	--	NA	NA	**1.53 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**0.52 J**	NA
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	0.663	NA	NA	**28 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**10.3 J**	NA
Heptachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	**468 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**177 J**	NA
Heptachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	**1900 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**756 J**	NA
Hexachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	**218 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**84.9 J**	NA
Hexachlorodibenzo-p-dioxin (total)	**100**	470	--	--	--	NA	NA	**349 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**133 J**	NA
Pentachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	**58.8 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**27 J**	NA

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SEDIMENT 2014 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property															
					Sample Location	SD-101	SD-102	SD-103	SD-104	SD-105	SD-106	SD-107	SD-108	SD-109	SD-110	SD-111	SD-112	SD-113	SD-114	SD-115
					Sample Depth (ft bgs)															
					Sample Date	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/14/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14	10/13/14
					Sample Type	N	N	N	N	N	N	N	N	N	N	MAX	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD101-101514X	SD102-101414X	SD103-101414X	SD104-101414X	SD105-101414X	SD106-101414X	SD107-101414X	SD108-101414X	SD109-101314X	SD110-101314X	SD111-101314X-MAX	SD112-101314X	SD113-101314X	SD114-101314X	SD115-101314X
Pentachlorodibenzo-p-dioxin (total)	--	--	--	--	--	NA	NA	**48 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**16.7 J**	NA
Tetrachlorodibenzo(p)dioxin (total)	--	--	--	--	--	NA	NA	**15.7 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**5.68 J**	NA
Tetrachlorodibenzofuran (total)	--	--	--	--	--	NA	NA	**75.9 J**	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	**37.8 J**	NA
General Chemistry (pH units)																				
pH	--	--	--	--	--	NA	NA	**6.6 J**	NA	NA	NA	**6.8**	NA	NA	NA	**7**	NA	NA	**7.3 J**	NA
Other Analyses (mV)																				
Oxidation-Reduction Potential	--	--	--	--	--	NA	NA	**460 J**	NA	NA	NA	**460**	NA	NA	NA	**470**	NA	NA	**13**	NA

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-03	SD-04	SD-05	SD-07	SD-09	SD-11	SD-13	SD-15	SD-17	SD-18
					Sample Depth (ft bgs)	0 - 1	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	0.5 - 1	0.8 - 1.2	1 - 1.5	0 - 1
					Sample Date	05/18/11	05/17/11	05/17/11	05/17/11	05/17/11	05/17/11	05/16/11	05/16/11	05/16/11	05/16/11
					Sample Type	N	N	N	N	N	N	N	N	N	MAX
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-03 (0-1)	SD-04 (0-0.5)	SD-05 (0-0.5)	SD-07 (0-1)	SD-09 (0-1)	SD-11 (0-1)	SD-13 (0.5-1)	SD-15 (0.8-1.2)	SD-17 (1-1.5)	SD-18 (0-1)-MAX
Semivolatiles (ug/kg)															
1,1'-Biphenyl	4700	20000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	340 UJ	330 UJ	330 U	340 UJ	310 U	340 UJ	340 U	320 U	240 U	260 U
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2,4,5-Trichlorophenol	620000	8200000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2,4,6-Trichlorophenol	6200	82000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2,4-Dichlorophenol	18000	250000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2,4-Dimethylphenol	120000	1600000	--	--	--	340 UJ	330 UJ	330 UJ	340 UJ	310 UJ	340 UJ	340 U	320 UJ	240 UJ	260 UJ
2,4-Dinitrophenol	12000	160000	--	--	--	660 UJ	650 UJ	640 U	660 UJ	590 U	670 UJ	660 UJ	630 U	470 U	510 U
2,4-Dinitrotoluene	1700	7400	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2,6-Dinitrotoluene	360	1500	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2-Chloronaphthalene	630000	9300000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2-Chlorophenol	39000	580000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2-Methylnaphthalene	23000	300000	500	1000	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2-Methylphenol	310000	4100000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
2-Nitroaniline	61000	800000	--	--	--	660 U	650 U	640 U	660 U	590 U	670 U	660 U	630 U	470 U	510 U
2-Nitrophenol	--	--	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
3,3'-Dichlorobenzidine	1200	5100	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
3-Nitroaniline	--	--	--	--	--	660 U	650 U	640 U	660 U	590 U	670 U	660 U	630 U	470 U	510 U
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	660 U	650 U	640 U	660 U	590 U	670 U	660 U	630 U	470 U	510 U
4-Bromophenyl-phenylether	--	--	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
4-Chloro-3-methylphenol	620000	8200000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 UJ	320 U	240 U	260 U
4-Chloroaniline	2700	12000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
4-Chlorophenyl-phenylether	--	--	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
4-Methylphenol	620000	8200000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
4-Nitroaniline	25000	120000	--	--	--	660 U	650 U	640 U	660 U	590 U	670 U	660 U	630 U	470 U	510 U
4-Nitrophenol	--	--	--	--	--	660 UJ	650 UJ	640 U	660 UJ	590 U	670 UJ	660 U	630 U	470 U	510 U
Acenaphthene	350000	4500000	500	2000	--	**78 J**	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Acenaphthylene	--	--	500	1000	--	**390**	**110 J**	330 U	340 U	310 U	**270 J**	**410**	**170 J**	**71 J**	**89 J**
Acetophenone	780000	12000000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Anthracene	1700000	23000000	1000	4000	--	**410**	**100 J**	330 U	**87 J**	**65 J**	**360**	**440 J**	**340 J**	**68 J**	**300 J**

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-03	SD-04	SD-05	SD-07	SD-09	SD-11	SD-13	SD-15	SD-17	SD-18
					Sample Depth (ft bgs)	0 - 1	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	0.5 - 1	0.8 - 1.2	1 - 1.5	0 - 1
					Sample Date	05/18/11	05/17/11	05/17/11	05/17/11	05/17/11	05/17/11	05/16/11	05/16/11	05/16/11	05/16/11
					Sample Type	N	N	N	N	N	N	N	N	N	MAX
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-03 (0-1)	SD-04 (0-0.5)	SD-05 (0-0.5)	SD-07 (0-1)	SD-09 (0-1)	SD-11 (0-1)	SD-13 (0.5-1)	SD-15 (0.8-1.2)	SD-17 (1-1.5)	SD-18 (0-1)-MAX
Atrazine	2300	10000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Benzaldehyde	780000	12000000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**1200**	**490**	330 U	**380**	**440**	**1500**	**1900**	**950 J**	**320 J**	**730 J**
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**1300**	**510**	330 U	**290 J**	**350**	**1400**	**1900**	**760**	**260**	**570 J**
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**1600**	**660**	330 U	**350**	**430**	**1500**	**2700**	**820**	**290**	**560 J**
Benzo(g,h,i)perylene	--	--	1000	3000	--	**810**	**350**	330 U	**120 J**	**130 J**	**740**	**1100**	**330**	**130 J**	**210 J**
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**900**	**360**	330 UJ	**210 J**	**250 J**	**1200**	**950**	**830 J**	**240 J**	**610 J**
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Bis(2-chloroethyl)ether	230	1000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	1000 UJ	700 UJ	330 U	630 UJ	310 U	810 UJ	**2000**	380 U	240 U	260 U
Butylbenzylphthalate	280000	1200000	--	--	--	340 UJ	330 UJ	330 U	340 UJ	310 U	340 UJ	**100 J**	320 U	240 U	260 U
Caprolactam	3100000	40000000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Carbazole	--	--	--	--	--	**85 J**	330 U	330 U	340 U	310 U	340 U	**100 J**	320 U	240 U	260 U
Chrysene	15000	290000	2000	7000	--	**1700**	**570**	330 U	**310 J**	**380**	**1200**	**2000**	**930 J**	**310 J**	**640 J**
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**200 J**	**84 J**	330 U	340 U	310 U	**220 J**	**310 J**	**96 J**	240 U	**69 J**
Dibenzofuran	7200	100000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Diethylphthalate	4900000	66000000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Dimethylphthalate	--	--	--	--	--	**120 J**	**170 J**	330 U	**140 J**	310 U	**210 J**	340 U	320 U	240 U	260 U
Di-N-Butylphthalate	620000	8200000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	**99 J**	320 U	240 U	260 U
Di-N-Octyl Phthalate	62000	820000	--	--	--	340 UJ	330 UJ	330 UJ	340 UJ	310 UJ	340 UJ	340 U	320 UJ	240 UJ	260 UJ
Fluoranthene	230000	3000000	4000	10000	--	**2400**	**790**	330 U	**520**	**540**	**1900**	**3800**	**1600 J**	**430 J**	**1100 J**
Fluorene	230000	3000000	1000	2000	--	**180 J**	330 U	330 U	340 U	310 U	**80 J**	**140 J**	**120 J**	240 U	**55 J**
Hexachlorobenzene	330	1400	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Hexachlorobutadiene	6200	30000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Hexachlorocyclopentadiene	37000	490000	--	--	--	340 UJ	330 UJ	330 UJ	340 UJ	310 UJ	340 UJ	340 UJ	320 UJ	240 UJ	260 UJ
Hexachloroethane	4300	58000	--	--	--	340 UJ	330 UJ	330 U	340 UJ	310 U	340 UJ	340 U	320 U	240 U	260 U
Indeno(1,2,3-cd)pyrene	**150**	2900	1000	3000	--	**810**	**350**	330 U	**140 J**	**160 J**	**820**	**1200**	**350**	**130 J**	**230 J**
Isophorone	560000	2400000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Naphthalene	3800	17000	500	1000	--	340 U	330 U	330 U	340 U	310 U	**110 J**	340 U	320 U	240 U	260 U
Nitrobenzene	5100	22000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
N-Nitrosodiphenylamine	110000	470000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-03	SD-04	SD-05	SD-07	SD-09	SD-11	SD-13	SD-15	SD-17	SD-18
					Sample Depth (ft bgs)	0 - 1	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	0.5 - 1	0.8 - 1.2	1 - 1.5	0 - 1
					Sample Date	05/18/11	05/17/11	05/17/11	05/17/11	05/17/11	05/17/11	05/16/11	05/16/11	05/16/11	05/16/11
					Sample Type	N	N	N	N	N	N	N	N	N	MAX
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-03 (0-1)	SD-04 (0-0.5)	SD-05 (0-0.5)	SD-07 (0-1)	SD-09 (0-1)	SD-11 (0-1)	SD-13 (0.5-1)	SD-15 (0.8-1.2)	SD-17 (1-1.5)	SD-18 (0-1)-MAX
Pentachlorophenol	990	4000	--	--	--	660 U	650 U	640 U	660 U	590 U	670 U	660 U	630 U	470 U	510 U
Phenanthrene	--	--	3000	20000	--	**1700**	**430**	330 U	**120 J**	**150 J**	**740**	**1500 J**	**1200 J**	**180 J**	**460 J**
Phenol	1800000	25000000	--	--	--	340 U	330 U	330 U	340 U	310 U	340 U	340 U	320 U	240 U	260 U
Pyrene	170000	2300000	4000	20000	--	**2800**	**950**	330 UJ	**520**	**660 J**	**2800**	**3000**	**1900 J**	**560 J**	**1400 J**
Pesticides/PCBs (ug/kg)															
Aroclor 1016	400	5200	--	--	--	66 U	320 U	63 U	66 U	59 U	67 U	66 U	63 U	47 U	51 U
Aroclor 1221	150	660	--	--	--	66 U	320 U	63 U	66 U	59 U	67 U	66 U	63 U	47 U	51 U
Aroclor 1232	150	660	--	--	--	66 U	320 U	63 U	66 U	59 U	67 U	66 U	63 U	47 U	51 U
Aroclor 1242	**240**	**1000**	--	--	--	66 U	**31000 ***	63 U	66 U	59 U	**2200 ***	66 U	63 U	47 U	51 U
Aroclor 1248	240	1000	--	--	--	66 U	320 U	63 U	66 U	59 U	67 U	66 U	63 U	47 U	51 U
Aroclor 1254	**110**	**1000**	--	--	--	**110 J**	**14000 ***	63 U	**100**	59 U	**1300 ***	66 U	63 U	47 U	51 U
Aroclor 1260	240	1000	--	--	--	66 U	320 U	63 U	66 U	59 U	67 U	66 U	63 U	47 U	51 U
Aroclor 1262	--	--	--	--	--	66 U	320 U	63 U	66 U	59 U	67 U	66 U	63 U	47 U	51 U
Aroclor 1268	--	--	--	--	--	66 U	320 U	63 U	66 U	59 U	67 U	66 U	63 U	47 U	51 U
Metals (mg/kg)															
Aluminum	**7700**	110000	10000	10000	10700	**13000 J**	**16600 J**	**20300 J**	**24100**	**17100 J**	**11900 J**	**21900**	**14400 J**	**18700**	**16300**
Antimony	3.1	47	1	7	--	R	R	R	R	R	R	R	R	R	R
Arsenic	**0.67**	**3**	20	20	8.78	**51.6**	**62.9**	**12.4**	**20.4**	**15.5**	**21.8**	**83.1 J**	**126**	**45.6 J**	**27.4 J**
Barium	1500	22000	50	50	16	**65.2 J**	**38.9 J**	**36.1 J**	**37.9 J**	**27 J**	**28.3 J**	**50.1**	**24.2 J**	**42.5**	**44.9**
Beryllium	16	230	0.4	0.9	0.315	**0.87 J**	**0.93 J**	**1.3 J**	**1.6 J**	**1.1 J**	**0.79 J**	**1.7 J**	**0.87 J**	**1.2 J**	**1.3 J**
Cadmium	**7**	**98**	2	3	--	**3**	**1.3**	**0.43 J**	**0.41 J**	**0.47 J**	**0.66 J**	**1.4 J**	**0.19 J**	**0.78 J**	**0.8 J**
Calcium	--	--	--	--	634	**4330 EB**	**4720**	**4810**	**4960**	**4200**	**3200**	**5570**	**3000**	**2730**	**9710**
Chromium	12000	180000	30	40	15.2	**82.4**	**763**	**78.2**	**89.6**	**222**	**562**	**1110 J**	**766 ***	**561 J**	**340 J**
Chromium-Hexavalent	**0.3**	6.3	30	40	--	1.6 U	**2.6**	1.5 U	**1.7**	**1.5**	**1.7**	2.6 U	**2.4**	**3.7**	**0.54**
Cobalt	**2.3**	35	4	4	5.68	**10.6**	**7.2 J**	**9.5**	**10.7**	**8.2**	**6.6 J**	**10.6**	**5.5 J**	**8.9**	**8.2**
Copper	310	4700	40	200	6.28	**69.6**	**69.5**	**17.9**	**29.5**	**32.2**	**56.9**	**77.2**	**45**	**37.5**	**34.5**
Iron	**5500**	82000	20000	20000	11200	**23900**	**26700**	**26600**	**31900**	**22500**	**20300**	**34100 ***	**17300**	**20200**	**25500 ***
Lead	**400**	800	100	600	41.8	**188**	**249**	**25.9**	**39.5**	**56.1**	**77.1**	**260**	**167**	**127**	**65.2**
Magnesium	--	--	5000	5000	2780	**5180**	**6590**	**7490**	**8790**	**6760**	**5720**	**9560**	**5210**	**6700**	**7040**
Manganese	**180**	2600	300	300	155	**342**	**268**	**264**	**311**	**226**	**204**	**730 J**	**165**	**217 J**	**220 J**
Mercury	**0.94**	**4**	0.3	1	0.0242	**0.69**	**1.6**	**0.058 J**	**0.061 J**	**0.35**	**1.1**	**2.5**	**9.3**	**2.3**	**0.32**
Nickel	150	2200	20	30	11.2	**22.7**	**21.7**	**23.4**	**26.1**	**18.7**	**14.8**	**28.4**	**16.5**	**22.3**	**18.7**
Potassium	--	--	--	--	382	**1350 J**	**2520**	**3700**	**4250**	**2900**	**1970**	**4250**	**2050**	**2600**	**3330**

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-03	SD-04	SD-05	SD-07	SD-09	SD-11	SD-13	SD-15	SD-17	SD-18
					Sample Depth (ft bgs)	0 - 1	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	0.5 - 1	0.8 - 1.2	1 - 1.5	0 - 1
					Sample Date	05/18/11	05/17/11	05/17/11	05/17/11	05/17/11	05/17/11	05/16/11	05/16/11	05/16/11	05/16/11
					Sample Type	N	N	N	N	N	N	N	N	N	MAX
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-03 (0-1)	SD-04 (0-0.5)	SD-05 (0-0.5)	SD-07 (0-1)	SD-09 (0-1)	SD-11 (0-1)	SD-13 (0.5-1)	SD-15 (0.8-1.2)	SD-17 (1-1.5)	SD-18 (0-1)-MAX
Selenium	39	580	0.5	1	--	6.6 UJ	8.1 UJ	5.3 UJ	6.7 UJ	**1.3 J**	5.1 UJ	**1.8 J**	5.7 UJ	4.6 U	4.2 U
Silver	39	580	0.6	5	--	1.9 U	2.3 U	1.5 U	1.9 U	1.6 U	1.5 U	**0.21 J**	1.6 U	**0.056 J**	1.2 U
Sodium	--	--	--	--	--	**1210 J**	**3690**	**2600**	**3820**	**5780**	**6130**	**12500**	**5580**	**4970**	**6750**
Vanadium	**39**	580	30	30	19.4	**50**	**65.6**	**47.3**	**51.9**	**40.6**	**36.3**	**84 J**	**43.4**	**49**	**45**
Zinc	2300	35000	100	300	35.3	**273**	**144**	**73.3**	**77.5**	**81.3**	**136**	**130 J**	**69.6**	**119**	**117**
	Dioxins/Furans (ng/Kg)														
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	**149**	**141 EB**	**9.82 JEB**	**5.93 JEB**	**58.8 EB**	**109 EB**	**602 J**	**234 J**	**493**	**106**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	**2010**	**3680**	**3990**	**1430**	**2420**	**3460**	**17300 J**	**8580 J**	**18200 J**	**10500 J**
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	**62.8**	**90.6 EB**	**8.06 EB**	**5.05 EB**	**46.1 EB**	**92 EB**	**451 JEB**	**183 JEB**	**366 EB**	**93.6**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	**237 EB**	**482 EB**	**98.8 EB**	**38 EB**	**194 EB**	**365 EB**	**2000 JEB**	**779 JEB**	**1500 EB**	**468**
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	**3.59 JEB**	**4.06 EMPC**	**0.377 JEB**	**0.241 EMPC**	**1.82 EMPC**	**3.68 JEB**	**17.7 EB**	**7.66 EB**	**14.9 EB**	**3.6 J**
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**5.96 EB**	**7.6 EB**	**0.736 JEB**	**0.372 EMPC**	**2.7 JEB**	**5.55 EB**	**28 EB**	**15.3 EB**	**23.3 EB**	**5.38 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**2.7 J**	**4.57 JEB**	**0.934 EMPC**	**0.335 JEB**	**1.36 JEB**	**3.1 JEB**	**18.3**	**4.59 J**	**11.2**	**3.49 J**
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**4.02 JEB**	**3.9 JEB**	**0.358 EMPC**	**0.169 JEB**	**1.48 JEB**	**3.17 JEB**	**15.4 EB**	**7.77 EB**	**11.1 EB**	**3.21 J**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**8.39**	**17.3 EB**	**2.29 JEB**	**12.7 EB**	**7.35 EB**	**15 EB**	**76.5**	**31.4**	**56.9**	**16.4**
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	**0.184 J**	0.196 U	0.128 U	0.0771 U	**0.0705 EMPC**	**0.14 JEB**	**0.67 JEB**	**0.322 JEB**	**0.428 JEB**	**0.144**
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**7.46**	**17.6 EB**	**4.19 JEB**	**1.26 EMPC**	**5.4 EB**	**8.92 EB**	**61.2**	**17.9**	**35.8**	**12.7 J**
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**1.49 J**	**1.97 JEB**	0.126 U	0.081 U	**0.489 JEB**	**1.17 JEB**	**5.28 EB**	**3.75 JEB**	**3.72 JEB**	**0.949 J**
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	**1.61 J**	**2.13 JEB**	**0.518 JEB**	0.0944 U	**0.765 JEB**	**1.81 JEB**	**9.63 EB**	**3.7 JEB**	**5.41 EB**	**1.84 J**

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-03	SD-04	SD-05	SD-07	SD-09	SD-11	SD-13	SD-15	SD-17	SD-18
					Sample Depth (ft bgs)	0 - 1	0 - 0.5	0 - 0.5	0 - 1	0 - 1	0 - 1	0.5 - 1	0.8 - 1.2	1 - 1.5	0 - 1
					Sample Date	05/18/11	05/17/11	05/17/11	05/17/11	05/17/11	05/17/11	05/16/11	05/16/11	05/16/11	05/16/11
					Sample Type	N	N	N	N	N	N	N	N	N	MAX
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-03 (0-1)	SD-04 (0-0.5)	SD-05 (0-0.5)	SD-07 (0-1)	SD-09 (0-1)	SD-11 (0-1)	SD-13 (0.5-1)	SD-15 (0.8-1.2)	SD-17 (1-1.5)	SD-18 (0-1)-MAX
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**2.97 J**	**3.56 JEB**	**0.318 JEB**	**0.239 EMPC**	**1.34 JEB**	**2.77 JEB**	**14.5**	**6.54**	**9.97**	**2.75 J**
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**3 J**	**2.75 JEB**	**0.223 EMPC**	**0.197 JEB**	**0.816 JEB**	**1.86 JEB**	**8.31 EB**	**5.26 EB**	**5.98 EB**	**1.65 J**
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	**7.1**	**8.01 EB**	**0.55 JEB**	**0.408 JEB**	**1.81 JEB**	**4.21 EB**	**16.8**	**12**	**11.8**	**3.59**
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	22	--	--	--	**5.72**	**1.5**	0.156 U	0.122 U	**0.336 J**	**0.761 J**	**3.77**	**1.55**	**2.05**	**0.9 J**
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	**15.8 J**	**17.7 J**	**3.79 J**	**2.47 J**	**6.67 J**	**13.1 J**	**69.2 J**	**28.9 J**	**49.8 J**	**16.9 J**

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-19	SD-20	SD-23	SD-24	SD-25	SD-26	SD-50	SD-51	SD-60	SD-61
					Sample Depth (ft bgs)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 0.75	0 - 0.75	0 - 1	0 - 0.75
					Sample Date	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	12/06/11	12/06/11	12/06/11	12/06/11
					Sample Type	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-19 (0-1)	SD-20 (0-1)	SD-23 (0-1)	SD-24 (0-1)	SD-25 (0-1)	SD-26 (0-1)	SD-50 (0-0.75)	SD-51 (0-0.75)	SD-60 (0-1)	SD-61 (0-0.75)
Semivolatiles (ug/kg)															
1,1'-Biphenyl	4700	20000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
1,2,4,5-Tetrachlorobenzene	1800	25000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2,2'-Oxybis(1-chloropropane)	4900	22000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2,3,4,6-Tetrachlorophenol	180000	2500000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2,4,5-Trichlorophenol	620000	8200000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2,4,6-Trichlorophenol	6200	82000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2,4-Dichlorophenol	18000	250000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2,4-Dimethylphenol	120000	1600000	--	--	--	340 U	340 U	340 UJ	340 UJ	340 U	310 UJ	NA	NA	NA	NA
2,4-Dinitrophenol	12000	160000	--	--	--	660 UJ	670 UJ	670 UJ	660 UJ	650 UJ	600 U	NA	NA	NA	NA
2,4-Dinitrotoluene	1700	7400	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2,6-Dinitrotoluene	360	1500	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2-Chloronaphthalene	630000	9300000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2-Chlorophenol	39000	580000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2-Methylnaphthalene	23000	300000	500	1000	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2-Methylphenol	310000	4100000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
2-Nitroaniline	61000	800000	--	--	--	660 U	670 U	670 U	660 U	650 U	600 U	NA	NA	NA	NA
2-Nitrophenol	--	--	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
3,3'-Dichlorobenzidine	1200	5100	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
3-Nitroaniline	--	--	--	--	--	660 U	670 U	670 U	660 U	650 U	600 U	NA	NA	NA	NA
4,6-Dinitro-2-methylphenol	490	6600	--	--	--	660 U	670 U	670 U	660 U	650 U	600 U	NA	NA	NA	NA
4-Bromophenyl-phenylether	--	--	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
4-Chloro-3-methylphenol	620000	8200000	--	--	--	340 UJ	340 UJ	340 U	340 U	340 UJ	310 U	NA	NA	NA	NA
4-Chloroaniline	2700	12000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
4-Chlorophenyl-phenylether	--	--	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
4-Methylphenol	620000	8200000	--	--	--	340 U	340 U	**73 J**	**140 J**	340 U	310 U	NA	NA	NA	NA
4-Nitroaniline	25000	120000	--	--	--	660 U	670 U	670 U	660 U	650 U	600 U	NA	NA	NA	NA
4-Nitrophenol	--	--	--	--	--	660 U	670 U	670 UJ	660 UJ	650 U	600 U	NA	NA	NA	NA
Acenaphthene	350000	4500000	500	2000	--	**92 J**	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Acenaphthylene	--	--	500	1000	--	**240 J**	**260 J**	340 U	**110 J**	**77 J**	310 U	NA	NA	NA	NA
Acetophenone	780000	12000000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Anthracene	1700000	23000000	1000	4000	--	**290 J**	**410 J**	**89 J**	**96 J**	**91 J**	310 U	NA	NA	NA	NA

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-19	SD-20	SD-23	SD-24	SD-25	SD-26	SD-50	SD-51	SD-60	SD-61
					Sample Depth (ft bgs)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 0.75	0 - 0.75	0 - 1	0 - 0.75
					Sample Date	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	12/06/11	12/06/11	12/06/11	12/06/11
					Sample Type	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-19 (0-1)	SD-20 (0-1)	SD-23 (0-1)	SD-24 (0-1)	SD-25 (0-1)	SD-26 (0-1)	SD-50 (0-0.75)	SD-51 (0-0.75)	SD-60 (0-1)	SD-61 (0-0.75)
Atrazine	2300	10000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Benzaldehyde	780000	12000000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Benzo(a)anthracene	**150**	**2900**	2000	9000	--	**1200**	**1600**	**360**	**340 J**	**440**	**110 J**	NA	NA	NA	NA
Benzo(a)pyrene	**15**	**290**	2000	7000	--	**1200**	**1300**	**410**	**450**	**430**	**100 J**	NA	NA	NA	NA
Benzo(b)fluoranthene	**150**	**2900**	2000	8000	--	**1600**	**1600**	**490**	**520**	**460**	**120 J**	NA	NA	NA	NA
Benzo(g,h,i)perylene	--	--	1000	3000	--	**770**	**760**	**240 J**	**310 J**	**290 J**	310 U	NA	NA	NA	NA
Benzo(k)fluoranthene	**1500**	29000	1000	4000	--	**810**	**910**	**340 J**	**460**	**430**	**70 J**	NA	NA	NA	NA
Bis(2-chloroethoxy)methane	18000	250000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Bis(2-chloroethyl)ether	230	1000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Bis(2-ethylhexyl)phthalate	38000	160000	--	--	--	**2000**	**2300**	1300 U	1400 U	1500 U	310 U	NA	NA	NA	NA
Butylbenzylphthalate	280000	1200000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Caprolactam	3100000	40000000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Carbazole	--	--	--	--	--	**91 J**	**71 J**	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Chrysene	15000	290000	2000	7000	--	**1500**	**1500**	**410**	**530**	**440**	**110 J**	NA	NA	NA	NA
Dibenz(a,h)anthracene	**15**	**290**	500	1000	--	**210 J**	**220 J**	**68 J**	**75 J**	**75 J**	310 U	NA	NA	NA	NA
Dibenzofuran	7200	100000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Diethylphthalate	4900000	66000000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Dimethylphthalate	--	--	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Di-N-Butylphthalate	620000	8200000	--	--	--	340 U	**75 J**	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Di-N-Octyl Phthalate	62000	820000	--	--	--	340 U	340 U	340 UJ	340 UJ	340 U	310 UJ	NA	NA	NA	NA
Fluoranthene	230000	3000000	4000	10000	--	**2500**	**2600**	**550**	**690**	**760**	**150 J**	NA	NA	NA	NA
Fluorene	230000	3000000	1000	2000	--	**120 J**	**120 J**	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Hexachlorobenzene	330	1400	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Hexachlorobutadiene	6200	30000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Hexachlorocyclopentadiene	37000	490000	--	--	--	340 UJ	340 UJ	340 UJ	340 UJ	340 UJ	310 UJ	NA	NA	NA	NA
Hexachloroethane	4300	58000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Indeno(1,2,3-cd)pyrene	**150**	2900	1000	3000	--	**790**	**790**	**240 J**	**290 J**	**280 J**	310 U	NA	NA	NA	NA
Isophorone	560000	2400000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Naphthalene	3800	17000	500	1000	--	**77 J**	**78 J**	340 U	340 U	340 U	310 U	NA	NA	NA	NA
Nitrobenzene	5100	22000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
N-Nitroso-di-n-propylamine (NDPA)	76	330	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA
N-Nitrosodiphenylamine	110000	470000	--	--	--	340 U	340 U	340 U	340 U	340 U	310 U	NA	NA	NA	NA

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-19	SD-20	SD-23	SD-24	SD-25	SD-26	SD-50	SD-51	SD-60	SD-61
					Sample Depth (ft bgs)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 0.75	0 - 0.75	0 - 1	0 - 0.75
					Sample Date	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	12/06/11	12/06/11	12/06/11	12/06/11
					Sample Type	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-19 (0-1)	SD-20 (0-1)	SD-23 (0-1)	SD-24 (0-1)	SD-25 (0-1)	SD-26 (0-1)	SD-50 (0-0.75)	SD-51 (0-0.75)	SD-60 (0-1)	SD-61 (0-0.75)
Pentachlorophenol	990	4000	--	--	--	660 U	670 U	670 U	660 U	650 U	600 U	NA	NA	NA	NA
Phenanthrene	--	--	3000	20000	--	**1100**	**1200 J**	**210 J**	**380**	**290 J**	310 U	NA	NA	NA	NA
Phenol	1800000	25000000	--	--	--	340 U	340 U	**88 J**	340 U	340 U	310 U	NA	NA	NA	NA
Pyrene	170000	2300000	4000	20000	--	**2500**	**2700**	**610**	**830**	**790**	**190 J**	NA	NA	NA	NA
Pesticides/PCBs (ug/kg)															
Aroclor 1016	400	5200	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Aroclor 1221	150	660	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Aroclor 1232	150	660	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Aroclor 1242	**240**	**1000**	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Aroclor 1248	240	1000	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Aroclor 1254	**110**	**1000**	--	--	--	**130 J**	67 U	67 U	**120**	65 U	59 U	NA	NA	NA	NA
Aroclor 1260	240	1000	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Aroclor 1262	--	--	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Aroclor 1268	--	--	--	--	--	66 U	67 U	67 U	66 U	65 U	59 U	NA	NA	NA	NA
Metals (mg/kg)															
Aluminum	**7700**	110000	10000	10000	10700	**20300**	**16800**	**21400**	**16800**	**20500**	**16400**	**10900**	**8400**	**10300**	**12000**
Antimony	3.1	47	1	7	--	R	R	R	R	R	R	R	R	R	R
Arsenic	**0.67**	**3**	20	20	8.78	**66.4 J**	**56.8 J**	**37.1 J**	**24.6 J**	**20.7 J**	**13.5 J**	**4.8 J**	**26.9**	**36.4**	**46.3**
Barium	1500	22000	50	50	16	**67.9**	**57.2**	**52.2**	**99.5**	**54.4**	**35.8**	**13.3 J**	**21.4 J**	**34.9 J**	**41.1**
Beryllium	16	230	0.4	0.9	0.315	**1.5 J**	**1.3 J**	**1.6 J**	**1.4 J**	**1.5 J**	**1.2 J**	**0.44 J**	**0.28 J**	**0.49 J**	**0.61 J**
Cadmium	**7**	**98**	2	3	--	**3 J**	**1.7 J**	**0.87 J**	**3 J**	**1 J**	**0.67 J**	**0.11 J**	**0.57 J**	**0.85 J**	**0.55 J**
Calcium	--	--	--	--	634	**6810**	**5100**	**5260**	**19900**	**4730**	**8060**	**2490**	**1790**	**3090**	**3160**
Chromium	12000	180000	30	40	15.2	**1890 J**	**1560 J**	**948 J**	**1740 J**	**302 J**	**123 J**	**21.3 JEB**	**33.5 JEB**	**2810 JEB**	**449 JEB**
Chromium-Hexavalent	**0.3**	6.3	30	40	--	0.69 U	**1.6**	**2.1**	0.72 U	0.77 U	0.56 U	NA	NA	NA	NA
Cobalt	**2.3**	35	4	4	5.68	**9.4 J**	**8 J**	**9.4 J**	**7.5 J**	**9.1**	**6.9**	**6.2 J**	**6.2 J**	**7.2 J**	**6.1 J**
Copper	310	4700	40	200	6.28	**123**	**88.4**	**56**	**79.8**	**46.4**	**19.8**	**6.1 J**	**11.8 J**	**169 J**	**88.6 J**
Iron	**5500**	82000	20000	20000	11200	**39300 ***	**27600**	**31100**	**27900**	**29900**	**23600**	**15000**	**13100**	**22600**	**23500**
Lead	**400**	800	100	600	41.8	**276**	**182**	**121**	**242**	**73.4**	**26.9**	**7.4**	**31**	**305**	**166**
Magnesium	--	--	5000	5000	2780	**8490**	**7550**	**9930**	**8700**	**9370**	**7480**	**4440**	**3350**	**4960**	**7080**
Manganese	**180**	2600	300	300	155	**308 J**	**227 J**	**275 J**	**229 J**	**270 J**	**225 J**	**146 J**	**302 J**	**179 J**	**323 J**
Mercury	**0.94**	**4**	0.3	1	0.0242	**3**	**3.4 ***	**0.51**	**3.1**	**0.43**	**0.12 J**	0.16 UJ	**0.077 J**	**1.6 J**	**1.4 J**
Nickel	150	2200	20	30	11.2	**26.1**	**20.6**	**23.7**	**21.7**	**23.5**	**18**	**12.8**	**11.4**	**21.5**	**18.8**
Potassium	--	--	--	--	382	**3900**	**3280**	**4770**	**3940**	**4660**	**3750**	**1170 J**	**793 J**	**1590 J**	**1210 J**

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SEDIMENT 2011 - ANALYTICAL RESULTS
CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-19	SD-20	SD-23	SD-24	SD-25	SD-26	SD-50	SD-51	SD-60	SD-61
					Sample Depth (ft bgs)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 0.75	0 - 0.75	0 - 1	0 - 0.75
					Sample Date	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	12/06/11	12/06/11	12/06/11	12/06/11
					Sample Type	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-19 (0-1)	SD-20 (0-1)	SD-23 (0-1)	SD-24 (0-1)	SD-25 (0-1)	SD-26 (0-1)	SD-50 (0-0.75)	SD-51 (0-0.75)	SD-60 (0-1)	SD-61 (0-0.75)
Selenium	39	580	0.5	1	--	**2.1 J**	6.3 U	7 U	**3.9 J**	5.5 U	4.7 U	5.7 U	5.2 U	8.1 U	5.7 U
Silver	39	580	0.6	5	--	**0.59 J**	**0.24 J**	2 U	**0.49 J**	1.6 U	1.3 U	1.6 U	1.5 U	2.3 U	1.6 U
Sodium	--	--	--	--	--	**6650**	**8920**	**13300**	**16200**	**12100**	**8070**	**938 J**	**534 J**	**2140 J**	**2270 J**
Vanadium	**39**	580	30	30	19.4	**61.2 J**	**47.4**	**52.1**	**51.7**	**52.9**	**37.9**	**26.2 J**	**22 J**	**54.3 J**	**38.2 J**
Zinc	2300	35000	100	300	35.3	**411 J**	**289**	**161**	**317**	**139**	**73**	**32**	**58.7**	**189**	**118**
Dioxins/Furans (ng/Kg)															
1,2,3,4,6,7,8,9-Octachlorodibenzofuran	--	--	--	--	--	**1580**	**579**	**9.44 J**	**1580**	**82.8**	**73.1**	NA	NA	**10200**	**178**
1,2,3,4,6,7,8,9-Octachlorodibenzo-p-dioxin	--	--	--	--	--	**21900 J**	**13900 J**	**4660**	**36800 J**	**7050 J**	**3830**	NA	NA	**44200**	**1740**
1,2,3,4,6,7,8-Heptachlorodibenzofuran	--	--	--	--	--	**1090 EB**	**539 EB**	**9.81 EB**	**1730 EB**	**70.4 EB**	**46.3 EB**	NA	NA	**4850**	**37.3**
1,2,3,4,6,7,8-Heptachlorodibenzo-p-dioxin	--	--	--	--	--	**2760 EB**	**1580 EB**	**93.5 EB**	**4760 JEB**	**357 EB**	**239 EB**	NA	NA	**6400**	**190**
1,2,3,4,7,8,9-Heptachlorodibenzofuran	--	--	--	--	--	**44.6 J**	**16.5 EB**	**0.571 EMPC**	**59.6 EB**	**2.69 JEB**	**1.59 JEB**	NA	NA	**1420**	**3.24 J**
1,2,3,4,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**58.2 EB**	**33.5 EB**	**1.12 JEB**	**120 EB**	**4.91 JEB**	**2.55 JEB**	NA	NA	**981**	**1.39 J**
1,2,3,4,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**17.4**	**8.5**	**1.16 EMPC**	**15.5**	**2.98 J**	**1.7 J**	NA	NA	**56.4 J**	1.82 U
1,2,3,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**25 EB**	**13.5 EB**	**0.61 EMPC**	**34.1 EB**	**2.82 JEB**	**1.31 EMPC**	NA	NA	**715**	**1.4 J**
1,2,3,6,7,8-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**176**	**71.9**	**2.69 J**	**244**	**12.1**	**7.26**	NA	NA	**255**	**4.96**
1,2,3,7,8,9-Hexachlorodibenzofuran	--	--	--	--	--	**0.969 JEB**	**0.461 EMPC**	0.0919 U	**1.1 JEB**	**0.194 JEB**	**0.0897 EMPC**	NA	NA	**438**	0.339 U
1,2,3,7,8,9-Hexachlorodibenzo-p-dioxin	--	--	--	--	--	**63.4**	**32.9**	**4.65 J**	**62.7**	**10.5**	**5.13**	NA	NA	**103**	**4.01 J**
1,2,3,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**5.7 EB**	**4.31 JEB**	**0.342 JEB**	**6.8 EB**	**1.12 JEB**	**0.499 JEB**	NA	NA	**198**	0.313 U
1,2,3,7,8-Pentachlorodibenzo-p-dioxin	--	--	--	--	--	**10.6 EB**	**5.39 EB**	**0.7 EMPC**	**8.2 EB**	**1.7 JEB**	**1.07 JEB**	NA	NA	**17 J**	0.461 U

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CREESE & COOK TANNERY (FORMER)
DANVERS, MASSACHUSETTS

					Property										
					Sample Location	SD-19	SD-20	SD-23	SD-24	SD-25	SD-26	SD-50	SD-51	SD-60	SD-61
					Sample Depth (ft bgs)	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 1	0 - 0.75	0 - 0.75	0 - 1	0 - 0.75
					Sample Date	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	05/16/11	12/06/11	12/06/11	12/06/11	12/06/11
					Sample Type	N	N	N	N	N	N	N	N	N	N
Sample ID	**Res RSLn**	**Ind RSLn**	**madep Natural Bkg**	**madep Ash Fill Bkg**	**creese Site Soil Bkg Avg Det**	SD-19 (0-1)	SD-20 (0-1)	SD-23 (0-1)	SD-24 (0-1)	SD-25 (0-1)	SD-26 (0-1)	SD-50 (0-0.75)	SD-51 (0-0.75)	SD-60 (0-1)	SD-61 (0-0.75)
2,3,4,6,7,8-Hexachlorodibenzofuran	--	--	--	--	--	**21.2**	**11.5**	**0.483 J**	**23.6**	**2.33 J**	**1.2 EMPC**	NA	NA	**494**	**2.42 J**
2,3,4,7,8-Pentachlorodibenzofuran	--	--	--	--	--	**10.6 EB**	**7.15 EB**	**0.565 JEB**	**14 EB**	**1.64 JEB**	**0.832 JEB**	NA	NA	**271**	**2.64 J**
2,3,7,8-Tetrachlorodibenzofuran	--	--	--	--	--	**18.3**	**13.9**	**1.13**	**21.5**	**3.67**	**2.01**	NA	NA	**45.3**	**0.545 J**
2,3,7,8-Tetrachlorodibenzo-p-dioxin	**4.9**	22	--	--	--	**4.59**	**1.94**	0.18 U	**3.6**	**0.724 J**	**0.38 EMPC**	NA	NA	**9.68 J**	**0.248 J**
Dioxin/Furan - Toxic Equivalent	**4.9**	**22**	--	--	--	**103 J**	**53.9 J**	**4.5 J**	**145 J**	**13.3 J**	**7.88 J**	NA	NA	**566 J**	**5.39 J**

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APPENDIX J

UCL Statistics for Data Sets with Non-Detects

User Selected Options	
Date/Time of Computation	10/10/2014 11:19:14 AM
From File	creeseFeedProUcl20141010.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

2,3,7,8-Tetrachlorodibenzo-p-dioxin

General Statistics

Total Number of Observations	17	Number of Distinct Observations	16
		Number of Missing Observations	12
Number of Detects	12	Number of Non-Detects	5
Number of Distinct Detects	12	Number of Distinct Non-Detects	5
Minimum Detect	0.0611	Minimum Non-Detect	0.289
Maximum Detect	7.33	Maximum Non-Detect	4.39
Variance Detects	4.669	Percent Non-Detects	29.41%
Mean Detects	1.741	SD Detects	2.161
Median Detects	0.792	CV Detects	1.241
Skewness Detects	1.9	Kurtosis Detects	3.566
Mean of Logged Detects	-0.184	SD of Logged Detects	1.375

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.76	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.237	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.256	Detected Data appear Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	1.387	Standard Error of Mean	0.478
SD	1.854	95% KM (BCA) UCL	2.235
95% KM (t) UCL	2.221	95% KM (Percentile Bootstrap) UCL	2.211
95% KM (z) UCL	2.173	95% KM Bootstrap t UCL	2.795
90% KM Chebyshev UCL	2.82	95% KM Chebyshev UCL	3.469
97.5% KM Chebyshev UCL	4.37	99% KM Chebyshev UCL	6.139

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.265	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.764	Detected data appear Gamma Distributed at 5% Significance Leve
K-S Test Statistic	0.143	**Kolmogrov-Smirnoff GOF**
5% K-S Critical Value	0.254	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.803	k star (bias corrected MLE)	0.658
Theta hat (MLE)	2.167	Theta star (bias corrected MLE)	2.646
nu hat (MLE)	19.28	nu star (bias corrected)	15.79
MLE Mean (bias corrected)	1.741	MLE Sd (bias corrected)	2.146

Gamma Kaplan-Meier (KM) Statistics

k hat (KM)	0.56	nu hat (KM)	19.05
Approximate Chi Square Value (19.05, α)	10.16	Adjusted Chi Square Value (19.05, β)	9.479
95% Gamma Approximate KM-UCL (use when n>=50)	2.603	95% Gamma Adjusted KM-UCL (use when n<50)	2.789

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detected data is small such as < 0.1

For such situations, GROS method tends to yield inflated values of UCLs and BTVs

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1.309
Maximum	7.33	Median	0.477
SD	1.923	CV	1.47
k hat (MLE)	0.605	k star (bias corrected MLE)	0.537
Theta hat (MLE)	2.163	Theta star (bias corrected MLE)	2.435
nu hat (MLE)	20.57	nu star (bias corrected)	18.27
MLE Mean (bias corrected)	1.309	MLE Sd (bias corrected)	1.785

		Adjusted Level of Significance (β)	0.0346
Approximate Chi Square Value (18.27, α)	9.59	Adjusted Chi Square Value (18.27, β)	8.935
95% Gamma Approximate UCL (use when n>=50)	2.494	95% Gamma Adjusted UCL (use when n<50)	2.676

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.98	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.859	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.135	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.256	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1.334	Mean in Log Scale	-0.469
SD in Original Scale	1.908	SD in Log Scale	1.266
95% t UCL (assumes normality of ROS data)	2.141	95% Percentile Bootstrap UCL	2.11
95% BCA Bootstrap UCL	2.314	95% Bootstrap t UCL	3.147
95% H-UCL (Log ROS)	3.702		

UCLs using Lognormal Distribution and KM Estimates when Detected data are Lognormally Distributed

KM Mean (logged)	-0.486	95% H-UCL (KM -Log)	4.474
KM SD (logged)	1.344	95% Critical H Value (KM-Log)	3.217
KM Standard Error of Mean (logged)	0.378		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1.547	Mean in Log Scale	-0.22
SD in Original Scale	1.866	SD in Log Scale	1.271
95% t UCL (Assumes normality)	2.338	95% H-Stat UCL	4.816

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	2.221	95% KM (Percentile Bootstrap) UCL	2.211

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Aluminum

General Statistics

Total Number of Observations	29	Number of Distinct Observations	24
		Number of Missing Observations	0
Minimum	5200	Mean	10350
Maximum	22400	Median	10800
SD	3227	Std. Error of Mean	599.3
Coefficient of Variation	0.312	Skewness	1.539

Normal GOF Test

Shapiro Wilk Test Statistic	0.846	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.18	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	11370	95% Adjusted-CLT UCL (Chen-1995)	11519
		95% Modified-t UCL (Johnson-1978)	11398

Gamma GOF Test

A-D Test Statistic	0.968	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.745	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.157	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.162	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	11.59	k star (bias corrected MLE)	10.41
Theta hat (MLE)	893.4	Theta star (bias corrected MLE)	994.3
nu hat (MLE)	672	nu star (bias corrected)	603.8
MLE Mean (bias corrected)	10350	MLE Sd (bias corrected)	3208
		Approximate Chi Square Value (0.05)	547.8
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	544.6

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	11408	95% Adjusted Gamma UCL (use when n<50)	11475

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.916	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.175	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Lognormal at 5% Significance Level

Data Not Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	8.556	Mean of logged Data	9.201
Maximum of Logged Data	10.02	SD of logged Data	0.302

Assuming Lognormal Distribution

95% H-UCL	11497	90% Chebyshev (MVUE) UCL	12125
95% Chebyshev (MVUE) UCL	12928	97.5% Chebyshev (MVUE) UCL	14042
99% Chebyshev (MVUE) UCL	16230		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	11336	95% Jackknife UCL	11370
95% Standard Bootstrap UCL	11285	95% Bootstrap-t UCL	11616
95% Hall's Bootstrap UCL	12141	95% Percentile Bootstrap UCL	11359
95% BCA Bootstrap UCL	11479		
90% Chebyshev(Mean, Sd) UCL	12148	95% Chebyshev(Mean, Sd) UCL	12962
97.5% Chebyshev(Mean, Sd) UCL	14093	99% Chebyshev(Mean, Sd) UCL	16313

Suggested UCL to Use

95% Adjusted Gamma UCL	11475

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Aroclor 1248

General Statistics

Total Number of Observations	29	Number of Distinct Observations	11
Number of Detects	3	Number of Non-Detects	26
Number of Distinct Detects	3	Number of Distinct Non-Detects	9
Minimum Detect	40	Minimum Non-Detect	34
Maximum Detect	420	Maximum Non-Detect	46
Variance Detects	36633	Percent Non-Detects	89.66%
Mean Detects	216.7	SD Detects	191.4
Median Detects	190	CV Detects	0.883
Skewness Detects	0.615	Kurtosis Detects	N/A
Mean of Logged Detects	4.992	SD of Logged Detects	1.196

Warning: Data set has only 3 Detected Values.
This is not enough to compute meaningful or reliable statistics and estimates.

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.985	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Normal at 5% Significance Level

Lilliefors Test Statistic	0.222	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.512	Detected Data appear Normal at 5% Significance Level	

Detected Data appear Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	52.92	Standard Error of Mean	17.05
SD	74.97	95% KM (BCA) UCL	N/A
95% KM (t) UCL	81.93	95% KM (Percentile Bootstrap) UCL	N/A
95% KM (z) UCL	80.97	95% KM Bootstrap t UCL	N/A
90% KM Chebyshev UCL	104.1	95% KM Chebyshev UCL	127.2
97.5% KM Chebyshev UCL	159.4	99% KM Chebyshev UCL	222.6

Gamma GOF Tests on Detected Observations Only

Not Enough Data to Perform GOF Test

Gamma Statistics on Detected Data Only

k hat (MLE)	1.438	k star (bias corrected MLE)	N/A
Theta hat (MLE)	150.6	Theta star (bias corrected MLE)	N/A
nu hat (MLE)	8.629	nu star (bias corrected)	N/A
MLE Mean (bias corrected)	N/A	MLE Sd (bias corrected)	N/A

Gamma Kaplan-Meier (KM) Statistics

k hat (KM)	0.498	nu hat (KM)	28.9
		Adjusted Level of Significance (β)	0.0407
Approximate Chi Square Value (28.90, α)	17.63	Adjusted Chi Square Value (28.90, β)	17.11
95% Gamma Approximate KM-UCL (use when n>=50)	86.75	95% Gamma Adjusted KM-UCL (use when n<50)	89.42

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.966	**Shapiro Wilk GOF Test**	
5% Shapiro Wilk Critical Value	0.767	Detected Data appear Lognormal at 5% Significance Level	
Lilliefors Test Statistic	0.251	**Lilliefors GOF Test**	
5% Lilliefors Critical Value	0.512	Detected Data appear Lognormal at 5% Significance Level	

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	23.19	Mean in Log Scale	-1.02
SD in Original Scale	84.22	SD in Log Scale	2.864
95% t UCL (assumes normality of ROS data)	49.79	95% Percentile Bootstrap UCL	52.3
95% BCA Bootstrap UCL	71.62	95% Bootstrap t UCL	262.7
95% H-UCL (Log ROS)	386.9		

UCLs using Lognormal Distribution and KM Estimates when Detected data are Lognormally Distributed

KM Mean (logged)	3.679	95% H-UCL (KM -Log)	56.39
KM SD (logged)	0.546	95% Critical H Value (KM-Log)	1.985
KM Standard Error of Mean (logged)	0.124		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	39.66	Mean in Log Scale	3.165
SD in Original Scale	79.77	SD in Log Scale	0.711
95% t UCL (Assumes normality)	64.85	95% H-Stat UCL	40.65

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	81.93	95% KM (Percentile Bootstrap) UCL	N/A

Warning: One or more Recommended UCL(s) not available!

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Arsenic

General Statistics

Total Number of Observations	29	Number of Distinct Observations	27
		Number of Missing Observations	0
Minimum	7.7	Mean	24.42
Maximum	75.6	Median	16.4
SD	19.51	Std. Error of Mean	3.623
Coefficient of Variation	0.799	Skewness	1.647

Normal GOF Test

Shapiro Wilk Test Statistic	0.755	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.235	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	30.58	95% Adjusted-CLT UCL (Chen-1995)	31.56
		95% Modified-t UCL (Johnson-1978)	30.77

Gamma GOF Test

A-D Test Statistic	1.385	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.756	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.177	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.165	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.26	k star (bias corrected MLE)	2.049
Theta hat (MLE)	10.8	Theta star (bias corrected MLE)	11.92
nu hat (MLE)	131.1	nu star (bias corrected)	118.8
MLE Mean (bias corrected)	24.42	MLE Sd (bias corrected)	17.06
		Approximate Chi Square Value (0.05)	94.67
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	93.39

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	30.65	95% Adjusted Gamma UCL (use when n<50)	31.07

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.914	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.14	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.041	Mean of logged Data	2.958
Maximum of Logged Data	4.325	SD of logged Data	0.662

Assuming Lognormal Distribution

95% H-UCL	31.16	90% Chebyshev (MVUE) UCL	33.17
95% Chebyshev (MVUE) UCL	37.44	97.5% Chebyshev (MVUE) UCL	43.35
99% Chebyshev (MVUE) UCL	54.97		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	30.38	95% Jackknife UCL	30.58
95% Standard Bootstrap UCL	30.29	95% Bootstrap-t UCL	32.93
95% Hall's Bootstrap UCL	31.2	95% Percentile Bootstrap UCL	30.6
95% BCA Bootstrap UCL	31.94		
90% Chebyshev(Mean, Sd) UCL	35.29	95% Chebyshev(Mean, Sd) UCL	40.21
97.5% Chebyshev(Mean, Sd) UCL	47.05	99% Chebyshev(Mean, Sd) UCL	60.47

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	40.21

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)

and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Benzo(a)anthracene

General Statistics

Total Number of Observations	29	Number of Distinct Observations	28
		Number of Missing Observations	0
Minimum	36	Mean	2398
Maximum	30000	Median	610
SD	5674	Std. Error of Mean	1054
Coefficient of Variation	2.366	Skewness	4.443

Normal GOF Test

Shapiro Wilk Test Statistic	0.426	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.339	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	4190	95% Adjusted-CLT UCL (Chen-1995)	5060
		95% Modified-t UCL (Johnson-1978)	4335

Gamma GOF Test

A-D Test Statistic	1.386	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.811	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.184	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.172	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.505	k star (bias corrected MLE)	0.475
Theta hat (MLE)	4752	Theta star (bias corrected MLE)	5044
nu hat (MLE)	29.27	nu star (bias corrected)	27.58
MLE Mean (bias corrected)	2398	MLE Sd (bias corrected)	3478
		Approximate Chi Square Value (0.05)	16.6
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	16.09

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	3984	95% Adjusted Gamma UCL (use when n<50)	4110

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.986	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0769	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.584	Mean of logged Data	6.526
Maximum of Logged Data	10.31	SD of logged Data	1.558

Assuming Lognormal Distribution

95% H-UCL	5946	90% Chebyshev (MVUE) UCL	4435
95% Chebyshev (MVUE) UCL	5488	97.5% Chebyshev (MVUE) UCL	6949
99% Chebyshev (MVUE) UCL	9819		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	4131	95% Jackknife UCL	4190
95% Standard Bootstrap UCL	4095	95% Bootstrap-t UCL	8158
95% Hall's Bootstrap UCL	9912	95% Percentile Bootstrap UCL	4299
95% BCA Bootstrap UCL	5454		
90% Chebyshev(Mean, Sd) UCL	5559	95% Chebyshev(Mean, Sd) UCL	6991

97.5% Chebyshev(Mean, Sd) UCL	8978	99% Chebyshev(Mean, Sd) UCL	12882

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL	6991

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Benzo(a)pyrene

General Statistics

Total Number of Observations	29	Number of Distinct Observations	27
		Number of Missing Observations	0
Minimum	43	Mean	1876
Maximum	18000	Median	460
SD	3673	Std. Error of Mean	682.1
Coefficient of Variation	1.958	Skewness	3.465

Normal GOF Test

Shapiro Wilk Test Statistic	0.537	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.309	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	3037	95% Adjusted-CLT UCL (Chen-1995)	3467
		95% Modified-t UCL (Johnson-1978)	3110

Gamma GOF Test

A-D Test Statistic	1.139	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.81	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.166	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.172	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.51	k star (bias corrected MLE)	0.481
Theta hat (MLE)	3676	Theta star (bias corrected MLE)	3904
nu hat (MLE)	29.61	nu star (bias corrected)	27.88
MLE Mean (bias corrected)	1876	MLE Sd (bias corrected)	2707
		Approximate Chi Square Value (0.05)	16.83
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	16.32

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	3108	95% Adjusted Gamma UCL (use when n<50)	3205

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.97	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0815	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.761	Mean of logged Data	6.297
Maximum of Logged Data	9.798	SD of logged Data	1.611

Assuming Lognormal Distribution

95% H-UCL	5444	90% Chebyshev (MVUE) UCL	3889
95% Chebyshev (MVUE) UCL	4830	97.5% Chebyshev (MVUE) UCL	6136
99% Chebyshev (MVUE) UCL	8701		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	2998	95% Jackknife UCL	3037
95% Standard Bootstrap UCL	2979	95% Bootstrap-t UCL	4288
95% Hall's Bootstrap UCL	6682	95% Percentile Bootstrap UCL	3062
95% BCA Bootstrap UCL	3705		
90% Chebyshev(Mean, Sd) UCL	3923	95% Chebyshev(Mean, Sd) UCL	4850
97.5% Chebyshev(Mean, Sd) UCL	6136	99% Chebyshev(Mean, Sd) UCL	8664

Suggested UCL to Use

95% Adjusted Gamma UCL	3205

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Benzo(b)fluoranthene

General Statistics

Total Number of Observations	29	Number of Distinct Observations	26
		Number of Missing Observations	0
Minimum	65	Mean	3075
Maximum	37000	Median	850
SD	7177	Std. Error of Mean	1333
Coefficient of Variation	2.334	Skewness	4.163

Normal GOF Test

Shapiro Wilk Test Statistic	0.435	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.367	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	5342	95% Adjusted-CLT UCL (Chen-1995)	6368
		95% Modified-t UCL (Johnson-1978)	5514

Gamma GOF Test

A-D Test Statistic	1.642	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.811	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.192	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.172	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.507	k star (bias corrected MLE)	0.478
Theta hat (MLE)	6059	Theta star (bias corrected MLE)	6433
nu hat (MLE)	29.43	nu star (bias corrected)	27.72
MLE Mean (bias corrected)	3075	MLE Sd (bias corrected)	4448
		Approximate Chi Square Value (0.05)	16.71
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	16.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	5101	95% Adjusted Gamma UCL (use when n<50)	5262

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.974	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0876	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.174	Mean of logged Data	6.782
Maximum of Logged Data	10.52	SD of logged Data	1.513

Assuming Lognormal Distribution

95% H-UCL	6843	90% Chebyshev (MVUE) UCL	5285
95% Chebyshev (MVUE) UCL	6517	97.5% Chebyshev (MVUE) UCL	8228
99% Chebyshev (MVUE) UCL	11588		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	5267	95% Jackknife UCL	5342
95% Standard Bootstrap UCL	5260	95% Bootstrap-t UCL	8959
95% Hall's Bootstrap UCL	14212	95% Percentile Bootstrap UCL	5451
95% BCA Bootstrap UCL	7132		
90% Chebyshev(Mean, Sd) UCL	7073	95% Chebyshev(Mean, Sd) UCL	8884
97.5% Chebyshev(Mean, Sd) UCL	11398	99% Chebyshev(Mean, Sd) UCL	16335

Suggested UCL to Use

95% Chebyshev (Mean, Sd) UCL 8884

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Benzo(k)fluoranthene

General Statistics

Total Number of Observations	29	Number of Distinct Observations	23
		Number of Missing Observations	0
Minimum	45	Mean	1226
Maximum	14000	Median	340
SD	2640	Std. Error of Mean	490.3
Coefficient of Variation	2.154	Skewness	4.342

Normal GOF Test

Shapiro Wilk Test Statistic	0.45	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.327	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	2060	95% Adjusted-CLT UCL (Chen-1995)	2455
		95% Modified-t UCL (Johnson-1978)	2126

Gamma GOF Test

A-D Test Statistic	1.734	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.803	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.237	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.171	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.576	k star (bias corrected MLE)	0.54
Theta hat (MLE)	2127	Theta star (bias corrected MLE)	2272
nu hat (MLE)	33.41	nu star (bias corrected)	31.29
MLE Mean (bias corrected)	1226	MLE Sd (bias corrected)	1669
		Approximate Chi Square Value (0.05)	19.51
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	18.95

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	1966	95% Adjusted Gamma UCL (use when n<50)	2023

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.952	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.14	**Lilliefors Lognormal GOF Test**

5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	3.807	Mean of logged Data	6.032
Maximum of Logged Data	9.547	SD of logged Data	1.398

Assuming Lognormal Distribution

95% H-UCL	2444	90% Chebyshev (MVUE) UCL	2043
95% Chebyshev (MVUE) UCL	2496	97.5% Chebyshev (MVUE) UCL	3126
99% Chebyshev (MVUE) UCL	4363		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	2032	95% Jackknife UCL	2060
95% Standard Bootstrap UCL	2039	95% Bootstrap-t UCL	3388
95% Hall's Bootstrap UCL	4856	95% Percentile Bootstrap UCL	2116
95% BCA Bootstrap UCL	2648		
90% Chebyshev(Mean, Sd) UCL	2697	95% Chebyshev(Mean, Sd) UCL	3363
97.5% Chebyshev(Mean, Sd) UCL	4288	99% Chebyshev(Mean, Sd) UCL	6104

Suggested UCL to Use

95% H-UCL	2444

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Chromium-Hexavalent

General Statistics

Total Number of Observations	10	Number of Distinct Observations	10
		Number of Missing Observations	19
Minimum	1	Mean	5.79
Maximum	26	Median	2.8
SD	7.587	Std. Error of Mean	2.399
Coefficient of Variation	1.31	Skewness	2.537

Normal GOF Test

Shapiro Wilk Test Statistic	0.635	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.334	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.28	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	10.19	95% Adjusted-CLT UCL (Chen-1995)	11.79
		95% Modified-t UCL (Johnson-1978)	10.51

Gamma GOF Test

A-D Test Statistic	0.765	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.746	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.299	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.273	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	1.145	k star (bias corrected MLE)	0.868
Theta hat (MLE)	5.055	Theta star (bias corrected MLE)	6.667

nu hat (MLE)	22.91	nu star (bias corrected)	17.37
MLE Mean (bias corrected)	5.79	MLE Sd (bias corrected)	6.213
		Approximate Chi Square Value (0.05)	8.937
Adjusted Level of Significance	0.0267	Adjusted Chi Square Value	7.907

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	11.25	95% Adjusted Gamma UCL (use when n<50)	12.72

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.925	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.842	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.24	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.28	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	0	Mean of logged Data	1.26
Maximum of Logged Data	3.258	SD of logged Data	0.957

Assuming Lognormal Distribution

95% H-UCL	14.58	90% Chebyshev (MVUE) UCL	10.23
95% Chebyshev (MVUE) UCL	12.49	97.5% Chebyshev (MVUE) UCL	15.62
99% Chebyshev (MVUE) UCL	21.78		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	9.736	95% Jackknife UCL	10.19
95% Standard Bootstrap UCL	9.532	95% Bootstrap-t UCL	22.39
95% Hall's Bootstrap UCL	24.2	95% Percentile Bootstrap UCL	9.99
95% BCA Bootstrap UCL	12.12		
90% Chebyshev(Mean, Sd) UCL	12.99	95% Chebyshev(Mean, Sd) UCL	16.25
97.5% Chebyshev(Mean, Sd) UCL	20.77	99% Chebyshev(Mean, Sd) UCL	29.66

Suggested UCL to Use

95% H-UCL	14.58

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Chrysene

General Statistics

Total Number of Observations	29	Number of Distinct Observations	27
		Number of Missing Observations	0
Minimum	62	Mean	2531
Maximum	34000	Median	670
SD	6333	Std. Error of Mean	1176
Coefficient of Variation	2.502	Skewness	4.706

Normal GOF Test

Shapiro Wilk Test Statistic	0.392	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.348	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	4531	95% Adjusted-CLT UCL (Chen-1995)	5563

95% Modified-t UCL (Johnson-1978)	4702

Gamma GOF Test

A-D Test Statistic	1.574	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.81	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.191	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.172	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	0.516	k star (bias corrected MLE)	0.486
Theta hat (MLE)	4903	Theta star (bias corrected MLE)	5210
nu hat (MLE)	29.94	nu star (bias corrected)	28.17
MLE Mean (bias corrected)	2531	MLE Sd (bias corrected)	3631
		Approximate Chi Square Value (0.05)	17.06
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	16.54

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	4179	95% Adjusted Gamma UCL (use when n<50)	4309

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.976	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0886	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.127	Mean of logged Data	6.612
Maximum of Logged Data	10.43	SD of logged Data	1.479

Assuming Lognormal Distribution

95% H-UCL	5308	90% Chebyshev (MVUE) UCL	4200
95% Chebyshev (MVUE) UCL	5166	97.5% Chebyshev (MVUE) UCL	6507
99% Chebyshev (MVUE) UCL	9142		

Nonparametric Distribution Free UCL Statistics
Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	4465	95% Jackknife UCL	4531
95% Standard Bootstrap UCL	4400	95% Bootstrap-t UCL	9367
95% Hall's Bootstrap UCL	10864	95% Percentile Bootstrap UCL	4714
95% BCA Bootstrap UCL	6092		
90% Chebyshev(Mean, Sd) UCL	6058	95% Chebyshev(Mean, Sd) UCL	7656
97.5% Chebyshev(Mean, Sd) UCL	9874	99% Chebyshev(Mean, Sd) UCL	14231

Suggested UCL to Use

95% H-UCL	5308

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

ProUCL computes and outputs H-statistic based UCLs for historical reasons only.
H-statistic often results in unstable (both high and low) values of UCL95 as shown in examples in the Technical Guide.
It is therefore recommended to avoid the use of H-statistic based 95% UCLs.
Use of nonparametric methods are preferred to compute UCL95 for skewed data sets which do not follow a gamma distribution.

Cobalt

General Statistics

Total Number of Observations	29	Number of Distinct Observations	24
		Number of Missing Observations	0
Minimum	3	Mean	7.452
Maximum	14.6	Median	7.2
SD	2.234	Std. Error of Mean	0.415

Coefficient of Variation	0.3	Skewness	1.279

Normal GOF Test

Shapiro Wilk Test Statistic	0.899	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.198	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	8.157	95% Adjusted-CLT UCL (Chen-1995)	8.239
		95% Modified-t UCL (Johnson-1978)	8.174

Gamma GOF Test

A-D Test Statistic	0.741	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.745	Detected data appear Gamma Distributed at 5% Significance Leve
K-S Test Statistic	0.159	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.162	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	12.43	k star (bias corrected MLE)	11.16
Theta hat (MLE)	0.6	Theta star (bias corrected MLE)	0.668
nu hat (MLE)	720.7	nu star (bias corrected)	647.5
MLE Mean (bias corrected)	7.452	MLE Sd (bias corrected)	2.23
		Approximate Chi Square Value (0.05)	589.5
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	586.2

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	8.185	95% Adjusted Gamma UCL (use when n<50)	8.231

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.944	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.142	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	1.099	Mean of logged Data	1.968
Maximum of Logged Data	2.681	SD of logged Data	0.292

Assuming Lognormal Distribution

95% H-UCL	8.245	90% Chebyshev (MVUE) UCL	8.685
95% Chebyshev (MVUE) UCL	9.242	97.5% Chebyshev (MVUE) UCL	10.02
99% Chebyshev (MVUE) UCL	11.54		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	8.134	95% Jackknife UCL	8.157
95% Standard Bootstrap UCL	8.122	95% Bootstrap-t UCL	8.312
95% Hall's Bootstrap UCL	8.457	95% Percentile Bootstrap UCL	8.124
95% BCA Bootstrap UCL	8.193		
90% Chebyshev(Mean, Sd) UCL	8.696	95% Chebyshev(Mean, Sd) UCL	9.26
97.5% Chebyshev(Mean, Sd) UCL	10.04	99% Chebyshev(Mean, Sd) UCL	11.58

Suggested UCL to Use

95% Adjusted Gamma UCL	8.231

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Dibenz(a,h)anthracene

General Statistics

Total Number of Observations	29	Number of Distinct Observations	25
Number of Detects	24	Number of Non-Detects	5
Number of Distinct Detects	23	Number of Distinct Non-Detects	3
Minimum Detect	14	Minimum Non-Detect	180
Maximum Detect	3700	Maximum Non-Detect	210
Variance Detects	703270	Percent Non-Detects	17.24%
Mean Detects	472.8	SD Detects	838.6
Median Detects	145	CV Detects	1.774
Skewness Detects	2.972	Kurtosis Detects	9.603
Mean of Logged Detects	5.168	SD of Logged Detects	1.385

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.567	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.916	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.331	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.181	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	405.5	Standard Error of Mean	144.5
SD	761.5	95% KM (BCA) UCL	672.2
95% KM (t) UCL	651.3	95% KM (Percentile Bootstrap) UCL	655.6
95% KM (z) UCL	643.2	95% KM Bootstrap t UCL	957.3
90% KM Chebyshev UCL	839	95% KM Chebyshev UCL	1035
97.5% KM Chebyshev UCL	1308	99% KM Chebyshev UCL	1843

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.245	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.795	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.199	**Kolmogrov-Smirnoff GOF**
5% K-S Critical Value	0.187	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.62	k star (bias corrected MLE)	0.571
Theta hat (MLE)	762.1	Theta star (bias corrected MLE)	828.6
nu hat (MLE)	29.78	nu star (bias corrected)	27.39
MLE Mean (bias corrected)	472.8	MLE Sd (bias corrected)	625.9

Gamma Kaplan-Meier (KM) Statistics

k hat (KM)	0.284	nu hat (KM)	16.44
Approximate Chi Square Value (16.44, α)	8.276	Adjusted Chi Square Value (16.44, β)	7.93
95% Gamma Approximate KM-UCL (use when n>=50)	805.6	95% Gamma Adjusted KM-UCL (use when n<50)	840.8

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detected data is small such as < 0.1

For such situations, GROS method tends to yield inflated values of UCLs and BTVs

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	392.3
Maximum	3700	Median	110
SD	781	CV	1.991
k hat (MLE)	0.31	k star (bias corrected MLE)	0.301
Theta hat (MLE)	1266	Theta star (bias corrected MLE)	1304
nu hat (MLE)	17.97	nu star (bias corrected)	17.45
MLE Mean (bias corrected)	392.3	MLE Sd (bias corrected)	715.3
		Adjusted Level of Significance (β)	0.0407
Approximate Chi Square Value (17.45, α)	8.993	Adjusted Chi Square Value (17.45, β)	8.631
95% Gamma Approximate UCL (use when n>=50)	761.2	95% Gamma Adjusted UCL (use when n<50)	793.2

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.973	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.916	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0907	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.181	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	404.8	Mean in Log Scale	5.016
SD in Original Scale	775.1	SD in Log Scale	1.311
95% t UCL (assumes normality of ROS data)	649.7	95% Percentile Bootstrap UCL	672.1
95% BCA Bootstrap UCL	766.3	95% Bootstrap t UCL	897
95% H-UCL (Log ROS)	726.5		

UCLs using Lognormal Distribution and KM Estimates when Detected data are Lognormally Distributed

KM Mean (logged)	5.003	95% H-UCL (KM -Log)	725.8
KM SD (logged)	1.317	95% Critical H Value (KM-Log)	2.885
KM Standard Error of Mean (logged)	0.257		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	408	Mean in Log Scale	5.065
SD in Original Scale	773.7	SD in Log Scale	1.277
95% t UCL (Assumes normality)	652.4	95% H-Stat UCL	708

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics
Detected Data appear Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

97.5% KM (Chebyshev) UCL	1308

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Hexachlorodibenzo-p-dioxin (total)

General Statistics

Total Number of Observations	4	Number of Distinct Observations	4
		Number of Missing Observations	25
Minimum	808	Mean	2065
Maximum	3880	Median	1785
SD	1411	Std. Error of Mean	705.3
Coefficient of Variation	0.683	Skewness	0.753

Note: Sample size is small (e.g., <10), if data are collected using ISM approach, you should use guidance provided in ITRC Tech Reg Guide on ISM (ITRC, 2012) to compute statistics of interest. For example, you may want to use Chebyshev UCL to estimate EPC (ITRC, 2012). Chebyshev UCL can be computed using the Nonparametric and All UCL Options of ProUCL 5.0

Normal GOF Test

Shapiro Wilk Test Statistic	0.918	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.748	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.253	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.443	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	3724	95% Adjusted-CLT UCL (Chen-1995)	3508
		95% Modified-t UCL (Johnson-1978)	3769

Gamma GOF Test

A-D Test Statistic	0.301	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.66	Detected data appear Gamma Distributed at 5% Significance Leve
K-S Test Statistic	0.271	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.397	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	2.796	k star (bias corrected MLE)	0.866
Theta hat (MLE)	738.3	Theta star (bias corrected MLE)	2385
nu hat (MLE)	22.37	nu star (bias corrected)	6.926
MLE Mean (bias corrected)	2065	MLE Sd (bias corrected)	2219

		Approximate Chi Square Value (0.05)	2.13
Adjusted Level of Significance	N/A	Adjusted Chi Square Value	N/A

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	6713	95% Adjusted Gamma UCL (use when n<50)	N/A

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.943	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.748	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.229	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.443	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	6.695	Mean of logged Data	7.443
Maximum of Logged Data	8.264	SD of logged Data	0.722

Assuming Lognormal Distribution

95% H-UCL	17323	90% Chebyshev (MVUE) UCL	4210
95% Chebyshev (MVUE) UCL	5183	97.5% Chebyshev (MVUE) UCL	6533
99% Chebyshev (MVUE) UCL	9186		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	3225	95% Jackknife UCL	3724
95% Standard Bootstrap UCL	N/A	95% Bootstrap-t UCL	N/A
95% Hall's Bootstrap UCL	N/A	95% Percentile Bootstrap UCL	N/A
95% BCA Bootstrap UCL	N/A		
90% Chebyshev(Mean, Sd) UCL	4180	95% Chebyshev(Mean, Sd) UCL	5139
97.5% Chebyshev(Mean, Sd) UCL	6469	99% Chebyshev(Mean, Sd) UCL	9082

Suggested UCL to Use

95% Student's-t UCL	3724

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Indeno(1,2,3-cd)pyrene

General Statistics

Total Number of Observations	29	Number of Distinct Observations	26
Number of Detects	28	Number of Non-Detects	1
Number of Distinct Detects	26	Number of Distinct Non-Detects	1
Minimum Detect	38	Minimum Non-Detect	200
Maximum Detect	13000	Maximum Non-Detect	200
Variance Detects	7194084	Percent Non-Detects	3.448%
Mean Detects	1342	SD Detects	2682
Median Detects	360	CV Detects	1.998
Skewness Detects	3.482	Kurtosis Detects	13.62
Mean of Logged Detects	5.995	SD of Logged Detects	1.543

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.524	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.924	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.318	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.167	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	1299	Standard Error of Mean	491.3
SD	2598	95% KM (BCA) UCL	2269
95% KM (t) UCL	2135	95% KM (Percentile Bootstrap) UCL	2136
95% KM (z) UCL	2108	95% KM Bootstrap t UCL	3050
90% KM Chebyshev UCL	2773	95% KM Chebyshev UCL	3441
97.5% KM Chebyshev UCL	4368	99% KM Chebyshev UCL	6188

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	1.337	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.808	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.175	**Kolmogrov-Smirnoff GOF**
5% K-S Critical Value	0.175	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data follow Appr. Gamma Distribution at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.523	k star (bias corrected MLE)	0.49
Theta hat (MLE)	2569	Theta star (bias corrected MLE)	2738
nu hat (MLE)	29.26	nu star (bias corrected)	27.46
MLE Mean (bias corrected)	1342	MLE Sd (bias corrected)	1917

Gamma Kaplan-Meier (KM) Statistics

k hat (KM)	0.25	nu hat (KM)	14.51
Approximate Chi Square Value (14.51, α)	6.922	Adjusted Chi Square Value (14.51, β)	6.609
95% Gamma Approximate KM-UCL (use when n>=50)	2724	95% Gamma Adjusted KM-UCL (use when n<50)	2853

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detected data is small such as < 0.1

For such situations, GROS method tends to yield inflated values of UCLs and BTVs

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	1296
Maximum	13000	Median	340
SD	2646	CV	2.041
k hat (MLE)	0.424	k star (bias corrected MLE)	0.403
Theta hat (MLE)	3057	Theta star (bias corrected MLE)	3216
nu hat (MLE)	24.59	nu star (bias corrected)	23.38
MLE Mean (bias corrected)	1296	MLE Sd (bias corrected)	2042
		Adjusted Level of Significance (β)	0.0407
Approximate Chi Square Value (23.38, α)	13.38	Adjusted Chi Square Value (23.38, β)	12.92
95% Gamma Approximate UCL (use when n>=50)	2265	95% Gamma Adjusted UCL (use when n<50)	2345

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.965	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.924	Detected Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.0953	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.167	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	1299	Mean in Log Scale	5.943
SD in Original Scale	2644	SD in Log Scale	1.541
95% t UCL (assumes normality of ROS data)	2134	95% Percentile Bootstrap UCL	2118
95% BCA Bootstrap UCL	2618	95% Bootstrap t UCL	3304
95% H-UCL (Log ROS)	3179		

UCLs using Lognormal Distribution and KM Estimates when Detected data are Lognormally Distributed

KM Mean (logged)	5.941	95% H-UCL (KM -Log)	2998
KM SD (logged)	1.519	95% Critical H Value (KM-Log)	3.175
KM Standard Error of Mean (logged)	0.288		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	1300	Mean in Log Scale	5.947
SD in Original Scale	2644	SD in Log Scale	1.537
95% t UCL (Assumes normality)	2135	95% H-Stat UCL	3162

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Gamma Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	3441	95% GROS Adjusted Gamma UCL	2345
95% Adjusted Gamma KM-UCL	2853		

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.

Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

Iron

General Statistics

Total Number of Observations	29	Number of Distinct Observations	23
		Number of Missing Observations	0
Minimum	9560	Mean	17233
Maximum	27700	Median	16400
SD	4081	Std. Error of Mean	757.8
Coefficient of Variation	0.237	Skewness	1.008

Normal GOF Test

Shapiro Wilk Test Statistic	0.899	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.242	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	18522	95% Adjusted-CLT UCL (Chen-1995)	18631
		95% Modified-t UCL (Johnson-1978)	18546

Gamma GOF Test

A-D Test Statistic	0.955	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.744	Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.212	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.162	Data Not Gamma Distributed at 5% Significance Level

Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	19.96	k star (bias corrected MLE)	17.92
Theta hat (MLE)	863.2	Theta star (bias corrected MLE)	961.6
nu hat (MLE)	1158	nu star (bias corrected)	1039
MLE Mean (bias corrected)	17233	MLE Sd (bias corrected)	4071
		Approximate Chi Square Value (0.05)	965.6
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	961.4

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	18551	95% Adjusted Gamma UCL (use when n<50)	18633

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.942	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.197	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Lognormal at 5% Significance Level

Data appear Approximate Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	9.165	Mean of logged Data	9.729
Maximum of Logged Data	10.23	SD of logged Data	0.226

Assuming Lognormal Distribution

95% H-UCL	18590	90% Chebyshev (MVUE) UCL	19415
95% Chebyshev (MVUE) UCL	20407	97.5% Chebyshev (MVUE) UCL	21785
99% Chebyshev (MVUE) UCL	24491		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	18480	95% Jackknife UCL	18522
95% Standard Bootstrap UCL	18418	95% Bootstrap-t UCL	18714
95% Hall's Bootstrap UCL	18706	95% Percentile Bootstrap UCL	18497
95% BCA Bootstrap UCL	18571		

90% Chebyshev(Mean, Sd) UCL	19507	95% Chebyshev(Mean, Sd) UCL	20536
97.5% Chebyshev(Mean, Sd) UCL	21966	99% Chebyshev(Mean, Sd) UCL	24773

Suggested UCL to Use

95% Student's-t UCL	18522	or 95% Modified-t UCL	18546

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Manganese

General Statistics

Total Number of Observations	29	Number of Distinct Observations	28
		Number of Missing Observations	0
Minimum	106	Mean	305.2
Maximum	754	Median	304
SD	121.4	Std. Error of Mean	22.55
Coefficient of Variation	0.398	Skewness	1.789

Normal GOF Test

Shapiro Wilk Test Statistic	0.864	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.171	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data Not Normal at 5% Significance Level

Data Not Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	343.6	95% Adjusted-CLT UCL (Chen-1995)	350.3
		95% Modified-t UCL (Johnson-1978)	344.8

Gamma GOF Test

A-D Test Statistic	0.503	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.747	Detected data appear Gamma Distributed at 5% Significance Leve
K-S Test Statistic	0.128	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.163	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	7.481	k star (bias corrected MLE)	6.73
Theta hat (MLE)	40.8	Theta star (bias corrected MLE)	45.35
nu hat (MLE)	433.9	nu star (bias corrected)	390.3
MLE Mean (bias corrected)	305.2	MLE Sd (bias corrected)	117.7
		Approximate Chi Square Value (0.05)	345.5
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	343

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50)	344.8	95% Adjusted Gamma UCL (use when n<50)	347.3

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.964	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.122	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	4.663	Mean of logged Data	5.653
Maximum of Logged Data	6.625	SD of logged Data	0.377

Assuming Lognormal Distribution

95% H-UCL	349.4	90% Chebyshev (MVUE) UCL	371.1
95% Chebyshev (MVUE) UCL	400.9	97.5% Chebyshev (MVUE) UCL	442.3
99% Chebyshev (MVUE) UCL	523.6		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	342.3	95% Jackknife UCL	343.6
95% Standard Bootstrap UCL	341.2	95% Bootstrap-t UCL	356.3
95% Hall's Bootstrap UCL	380.6	95% Percentile Bootstrap UCL	344.7
95% BCA Bootstrap UCL	351.6		
90% Chebyshev(Mean, Sd) UCL	372.9	95% Chebyshev(Mean, Sd) UCL	403.5
97.5% Chebyshev(Mean, Sd) UCL	446	99% Chebyshev(Mean, Sd) UCL	529.6

Suggested UCL to Use

95% Adjusted Gamma UCL	347.3

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.

Mercury

General Statistics

Total Number of Observations	29	Number of Distinct Observations	19
Number of Detects	28	Number of Non-Detects	1
Number of Distinct Detects	19	Number of Distinct Non-Detects	1
Minimum Detect	0.039	Minimum Non-Detect	0.1
Maximum Detect	7.2	Maximum Non-Detect	0.1
Variance Detects	1.743	Percent Non-Detects	3.448%
Mean Detects	0.508	SD Detects	1.32
Median Detects	0.235	CV Detects	2.6
Skewness Detects	5.18	Kurtosis Detects	27.17
Mean of Logged Detects	-1.389	SD of Logged Detects	0.891

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.283	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.924	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.413	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.167	Detected Data Not Normal at 5% Significance Level

Detected Data Not Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	0.493	Standard Error of Mean	0.241
SD	1.277	95% KM (BCA) UCL	0.983
95% KM (t) UCL	0.903	95% KM (Percentile Bootstrap) UCL	0.961
95% KM (z) UCL	0.89	95% KM Bootstrap t UCL	3.321
90% KM Chebyshev UCL	1.217	95% KM Chebyshev UCL	1.545
97.5% KM Chebyshev UCL	2	99% KM Chebyshev UCL	2.895

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	3.75	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.781	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.296	**Kolmogrov-Smirnoff GOF**
5% K-S Critical Value	0.171	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	0.83	k star (bias corrected MLE)	0.765
Theta hat (MLE)	0.612	Theta star (bias corrected MLE)	0.664
nu hat (MLE)	46.49	nu star (bias corrected)	42.84
MLE Mean (bias corrected)	0.508	MLE Sd (bias corrected)	0.581

Gamma Kaplan-Meier (KM) Statistics

k hat (KM)	0.149	nu hat (KM)	8.638
Approximate Chi Square Value (8.64, α)	3.11	Adjusted Chi Square Value (8.64, β)	2.915
95% Gamma Approximate KM-UCL (use when n>=50)	1.368	95% Gamma Adjusted KM-UCL (use when n<50)	1.46

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs
GROS may not be used when kstar of detected data is small such as < 0.1
For such situations, GROS method tends to yield inflated values of UCLs and BTVs

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.01	Mean	0.491
Maximum	7.2	Median	0.23
SD	1.3	CV	2.649
k hat (MLE)	0.759	k star (bias corrected MLE)	0.703
Theta hat (MLE)	0.647	Theta star (bias corrected MLE)	0.698
nu hat (MLE)	44	nu star (bias corrected)	40.78
MLE Mean (bias corrected)	0.491	MLE Sd (bias corrected)	0.585
		Adjusted Level of Significance (β)	0.0407
Approximate Chi Square Value (40.78, α)	27.15	Adjusted Chi Square Value (40.78, β)	26.48
95% Gamma Approximate UCL (use when n>=50)	0.737	95% Gamma Adjusted UCL (use when n<50)	0.756

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.848	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.924	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.16	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.167	Detected Data appear Lognormal at 5% Significance Level

Detected Data appear Approximate Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.492	Mean in Log Scale	-1.441
SD in Original Scale	1.299	SD in Log Scale	0.919
95% t UCL (assumes normality of ROS data)	0.903	95% Percentile Bootstrap UCL	0.957
95% BCA Bootstrap UCL	1.244	95% Bootstrap t UCL	3.247
95% H-UCL (Log ROS)	0.544		

UCLs using Lognormal Distribution and KM Estimates when Detected data are Lognormally Distributed

KM Mean (logged)	-1.437	95% H-UCL (KM -Log)	0.532
KM SD (logged)	0.901	95% Critical H Value (KM-Log)	2.347
KM Standard Error of Mean (logged)	0.172		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.492	Mean in Log Scale	-1.445
SD in Original Scale	1.299	SD in Log Scale	0.925
95% t UCL (Assumes normality)	0.902	95% H-Stat UCL	0.548

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Lognormal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (Chebyshev) UCL	1.545

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

User Selected Options	
Date/Time of Computation	1/20/2015 3:36:13 PM
From File	creeseFeedProUcl20150120.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Thallium

General Statistics

Total Number of Observations	16	Number of Distinct Observations	9
Number of Detects	14	Number of Non-Detects	2
Number of Distinct Detects	7	Number of Distinct Non-Detects	2
Minimum Detect	0.068	Minimum Non-Detect	0.39
Maximum Detect	0.12	Maximum Non-Detect	0.44
Variance Detects	3.5550E-4	Percent Non-Detects	12.5%
Mean Detects	0.103	SD Detects	0.0189
Median Detects	0.11	CV Detects	0.184
Skewness Detects	-0.753	Kurtosis Detects	-0.927
Mean of Logged Detects	-2.295	SD of Logged Detects	0.2

Normal GOF Test on Detects Only

Shapiro Wilk Test Statistic	0.843	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.874	Detected Data Not Normal at 5% Significance Level
Lilliefors Test Statistic	0.226	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.237	Detected Data appear Normal at 5% Significance Level

Detected Data appear Approximate Normal at 5% Significance Level

Kaplan-Meier (KM) Statistics using Normal Critical Values and other Nonparametric UCLs

Mean	0.103	Standard Error of Mean	0.00504
SD	0.0182	95% KM (BCA) UCL	0.11
95% KM (t) UCL	0.111	95% KM (Percentile Bootstrap) UCL	0.11
95% KM (z) UCL	0.111	95% KM Bootstrap t UCL	0.11
90% KM Chebyshev UCL	0.118	95% KM Chebyshev UCL	0.124
97.5% KM Chebyshev UCL	0.134	99% KM Chebyshev UCL	0.153

Gamma GOF Tests on Detected Observations Only

A-D Test Statistic	0.99	**Anderson-Darling GOF Test**
5% A-D Critical Value	0.734	Detected Data Not Gamma Distributed at 5% Significance Level
K-S Test Statistic	0.243	**Kolmogrov-Smirnoff GOF**
5% K-S Critical Value	0.228	Detected Data Not Gamma Distributed at 5% Significance Level

Detected Data Not Gamma Distributed at 5% Significance Level

Gamma Statistics on Detected Data Only

k hat (MLE)	28.63	k star (bias corrected MLE)	22.54
Theta hat (MLE)	0.00358	Theta star (bias corrected MLE)	0.00455
nu hat (MLE)	801.7	nu star (bias corrected)	631.2
MLE Mean (bias corrected)	0.103	MLE Sd (bias corrected)	0.0216

Gamma Kaplan-Meier (KM) Statistics

k hat (KM)	31.83	nu hat (KM)	1018
Approximate Chi Square Value (N/A, α)	945.4	Adjusted Chi Square Value (N/A, β)	937.4
95% Gamma Approximate KM-UCL (use when n>=50)	0.11	95% Gamma Adjusted KM-UCL (use when n<50)	0.111

Gamma ROS Statistics using Imputed Non-Detects

GROS may not be used when data set has > 50% NDs with many tied observations at multiple DLs

GROS may not be used when kstar of detected data is small such as < 0.1

For such situations, GROS method tends to yield inflated values of UCLs and BTVs

For gamma distributed detected data, BTVs and UCLs may be computed using gamma distribution on KM estimates

Minimum	0.068	Mean	0.102
Maximum	0.12	Median	0.106
SD	0.0176	CV	0.171
k hat (MLE)	32.69	k star (bias corrected MLE)	26.6
Theta hat (MLE)	0.00313	Theta star (bias corrected MLE)	0.00385
nu hat (MLE)	1046	nu star (bias corrected)	851.3
MLE Mean (bias corrected)	0.102	MLE Sd (bias corrected)	0.0199
		Adjusted Level of Significance (β)	0.0335
Approximate Chi Square Value (851.28, α)	784.6	Adjusted Chi Square Value (851.28, β)	777.3
95% Gamma Approximate UCL (use when n>=50)	0.111	95% Gamma Adjusted UCL (use when n<50)	0.112

Lognormal GOF Test on Detected Observations Only

Shapiro Wilk Test Statistic	0.828	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.874	Detected Data Not Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.242	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.237	Detected Data Not Lognormal at 5% Significance Level

Detected Data Not Lognormal at 5% Significance Level

Lognormal ROS Statistics Using Imputed Non-Detects

Mean in Original Scale	0.102	Mean in Log Scale	-2.295
SD in Original Scale	0.0176	SD in Log Scale	0.186
95% t UCL (assumes normality of ROS data)	0.11	95% Percentile Bootstrap UCL	0.109
95% BCA Bootstrap UCL	0.109	95% Bootstrap t UCL	0.109
95% H-UCL (Log ROS)	0.112		

DL/2 Statistics

DL/2 Normal		**DL/2 Log-Transformed**	
Mean in Original Scale	0.116	Mean in Log Scale	-2.205
SD in Original Scale	0.0402	SD in Log Scale	0.31
95% t UCL (Assumes normality)	0.133	95% H-Stat UCL	0.134

DL/2 is not a recommended method, provided for comparisons and historical reasons

Nonparametric Distribution Free UCL Statistics

Detected Data appear Approximate Normal Distributed at 5% Significance Level

Suggested UCL to Use

95% KM (t) UCL	0.111	95% KM (Percentile Bootstrap) UCL	0.11

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
Recommendations are based upon data size, data distribution, and skewness.
These recommendations are based upon the results of the simulation studies summarized in Singh, Maichle, and Lee (2006).
However, simulations results will not cover all Real World data sets; for additional insight the user may want to consult a statistician.

User Selected Options	
Date/Time of Computation	10/10/2014 11:19:14 AM
From File	creeseFeedProUcl20141010.xls
Full Precision	OFF
Confidence Coefficient	95%
Number of Bootstrap Operations	2000

Vanadium

General Statistics

Total Number of Observations	29	Number of Distinct Observations	27
		Number of Missing Observations	0
Minimum	12.7	Mean	30.49
Maximum	52.8	Median	29.4
SD	8.097	Std. Error of Mean	1.503
Coefficient of Variation	0.266	Skewness	0.881

Normal GOF Test

Shapiro Wilk Test Statistic	0.926	**Shapiro Wilk GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Normal at 5% Significance Level
Lilliefors Test Statistic	0.148	**Lilliefors GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Normal at 5% Significance Level

Data appear Normal at 5% Significance Level

Assuming Normal Distribution

95% Normal UCL		**95% UCLs (Adjusted for Skewness)**	
95% Student's-t UCL	33.04	95% Adjusted-CLT UCL (Chen-1995)	33.22
		95% Modified-t UCL (Johnson-1978)	33.08

Gamma GOF Test

A-D Test Statistic	0.53	**Anderson-Darling Gamma GOF Test**
5% A-D Critical Value	0.745	Detected data appear Gamma Distributed at 5% Significance Leve
K-S Test Statistic	0.128	**Kolmogrov-Smirnoff Gamma GOF Test**
5% K-S Critical Value	0.162	Detected data appear Gamma Distributed at 5% Significance Leve

Detected data appear Gamma Distributed at 5% Significance Level

Gamma Statistics

k hat (MLE)	14.89	k star (bias corrected MLE)	13.37
Theta hat (MLE)	2.048	Theta star (bias corrected MLE)	2.28
nu hat (MLE)	863.4	nu star (bias corrected)	775.4
MLE Mean (bias corrected)	30.49	MLE Sd (bias corrected)	8.338
		Approximate Chi Square Value (0.05)	711.8
Adjusted Level of Significance	0.0407	Adjusted Chi Square Value	708.1

Assuming Gamma Distribution

95% Approximate Gamma UCL (use when n>=50))	33.21	95% Adjusted Gamma UCL (use when n<50)	33.38

Lognormal GOF Test

Shapiro Wilk Test Statistic	0.94	**Shapiro Wilk Lognormal GOF Test**
5% Shapiro Wilk Critical Value	0.926	Data appear Lognormal at 5% Significance Level
Lilliefors Test Statistic	0.129	**Lilliefors Lognormal GOF Test**
5% Lilliefors Critical Value	0.165	Data appear Lognormal at 5% Significance Level

Data appear Lognormal at 5% Significance Level

Lognormal Statistics

Minimum of Logged Data	2.542	Mean of logged Data	3.383
Maximum of Logged Data	3.967	SD of logged Data	0.27

Assuming Lognormal Distribution

95% H-UCL	33.48	90% Chebyshev (MVUE) UCL	35.17
95% Chebyshev (MVUE) UCL	37.27	97.5% Chebyshev (MVUE) UCL	40.19
99% Chebyshev (MVUE) UCL	45.93		

Nonparametric Distribution Free UCL Statistics

Data appear to follow a Discernible Distribution at 5% Significance Level

Nonparametric Distribution Free UCLs

95% CLT UCL	32.96	95% Jackknife UCL	33.04
95% Standard Bootstrap UCL	33.03	95% Bootstrap-t UCL	33.34

95% Hall's Bootstrap UCL	33.77	95% Percentile Bootstrap UCL	33.04
95% BCA Bootstrap UCL	33.32		
90% Chebyshev(Mean, Sd) UCL	35	95% Chebyshev(Mean, Sd) UCL	37.04
97.5% Chebyshev(Mean, Sd) UCL	39.88	99% Chebyshev(Mean, Sd) UCL	45.45

Suggested UCL to Use

95% Student's-t UCL	33.04

Note: Suggestions regarding the selection of a 95% UCL are provided to help the user to select the most appropriate 95% UCL.
These recommendations are based upon the results of the simulation studies summarized in Singh, Singh, and Iaci (2002)
and Singh and Singh (2003). However, simulations results will not cover all Real World data sets.
For additional insight the user may want to consult a statistician.