HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS

April 6, 2011

Mr. Dana Bayuk
Oregon Department of Environmental Quality
Northwest Region, Portland Office
Portland Harbor Section
2020 SW Fourth Avenue, Suite 400
Portland Oregon 97201-4987

HAI Project No. 5237

SUBJECT: Remedial Investigation Data Summary Report, Historical Manufactured Gas Plant Activities, Siltronic Corporation Property, 7200 NW Front Avenue, Portland, Oregon

Dear Mr. Bayuk:

Enclosed please find three copies (bound and DVD) of the *Remedial Investigation Data Summary Report,* dated March 31, 2011. This report documents remedial investigation activities completed by NW Natural on the Siltronic property to date and includes recommendations for remaining activities.

Should you have any questions, please contact the undersigned.

Sincerely,

Rob Ede, R.G.
Principal

robe@hahnenv.com

c: Mr. Bob Wyatt, NW Natural (1 DVD)
Ms. Sandra Hart, NW Natural (1 DVD)
Ms. Patty Dost, Pearl Legal Group, PC (1 DVD)
Ms. Sarah Riddle, Pearl Legal Group, PC (1 DVD)
Mr. Carl Stivers, Anchor QEA, LLC (1 DVD)
Mr. Ben Hung, Anchor QEA, LLC (1 DVD)
Mr. John Edwards, Anchor QEA, LLC (1 DVD)
Mr. Taku Fuji, Anchor QEA, LLC (1 DVD)
Mr. Tom McCue, Siltronic Corporation (1 DVD)
Mr. James Peale, Maul, Foster & Alongi, Inc. (1 DVD)
Mr. Henning Larson, DEQ (1 bound + 1 DVD)

434 NW 6th AVENUE, SUITE 203 • PORTLAND, OREGON 97209-3651
503-796-0717 Telephone • 503-227-2209 Facsimile

REMEDIAL INVESTIGATION DATA SUMMARY REPORT

Historical Manufactured Gas Plant Activities
Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

March 31, 2011

HAI Project No. 5237
DEQ ECSI No. 84

HAI **HAHN AND ASSOCIATES, INC.**
434 NW 6TH AVENUE, SUITE 203
PORTLAND, OREGON 97209-3651
Tel 503.769.0717 • Fax 503.227.2209
www.hahnenv.com

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March 2011

Prepared for:

NW Natural
Portland, Oregon

Prepared by:

Hahn and Associates, Inc.
Portland, Oregon

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EXECUTIVE SUMMARY

Remedial investigations conducted between 2007 and 2010 were designed to define the nature and extent of manufactured gas plant-related contamination at the upland portion of the Siltronic Corporation property. Additional investigations to define the extent of contamination in and beneath the adjacent Willamette River have been performed by NW Natural, Siltronic and the Lower Willamette Group under separate orders with EPA.

Sources of Contamination

- *Manufactured gas plant residuals*: A portion of the Siltronic property, known as the Allen Tract, was previously owned by NW Natural's predecessor, Portland Gas & Coke. Between 1941 and 1956, solid material removed from effluent ponds at the adjacent NW Natural property was placed in a low area extending approximately 400 feet to the south of the current property line between NW Natural and Siltronic. Between 1951 and 1956, potential overflows from the effluent ponds were also directed to this low area. Manufactured gas plant (MGP) residuals are also present in an excavated area near the center of the Siltronic property. Spent oxide materials were stored near the western corner of the Siltronic property.

- *Olympic Pipeline*: Leaks in the Olympic Pipeline have resulted in petroleum contamination in the north-central portion of the Siltronic property.

- *Standard Oil, Union Oil and Western Transportation*: Oil storage and tug fueling from the early 1900s to the 1940s has resulted in petroleum contamination near the eastern corner of the Siltronic property.

- *Siltronic solvent release*: Siltronic is separately investigating releases of trichloroethylene (TCE) and its degradation products in the northern portion of the Siltronic property.

- *Filling and Development Activities*: NW Natural sold the Allen Tract to Victor Rosenfeld, H.A. Anderson and Gilbert Schnitzer in 1960, who in turn sold the property to the City of Portland in 1972. Between 1966 and 1975, approximately 1.5 million cubic yards of imported fill, including dredged sediments of unknown origin and automotive waste, was placed on the Siltronic property. MGP residuals may have been redistributed across the property during filling and development activities.

- *Rhone-Poulenc, Doane Lake Site*: Chloro- and methyl-benzenes, benzene, TCE, vinyl chloride, and silvex in deep groundwater beneath the Siltronic property appear to be associated with the nearby Rhone-Poulenc, Doane Lake site.

- *Santa Fe Pacific Pipelines/Kinder Morgan:* Methyl tert-butyl ether (MTBE) and benzene in deep groundwater at the Siltronic property may be related to petroleum releases at the Kinder Morgan pump station south of the property.

Nature and Extent of Contamination

- *Constituents of Interest (COIs)*: The key COIs related to MGP materials at the Siltronic property are polynuclear aromatic hydrocarbons (PAHs), benzene and cyanide. Other COIs associated with MGP operations include the volatile aromatics toluene, ethylbenzene, and xylene; petroleum hydrocarbons; certain semi-volatile organic compounds (SVOCs); and the metals arsenic, cadmium, chromium, copper, lead, nickel, zinc and vanadium. A number of other COIs present at the property, including chlorinated solvents, insecticides and herbicides, are under investigation by other parties.

- *Dense Non-Aqueous Phase Liquid (DNAPL), tar and gas purification residuals*: Oil and tar are present within the surficial fill at former MGP residuals management areas and sporadically within the fill across other portions of the Siltronic property, typically at residual, non-mobile levels. The specific source of oil and tar in much of the surficial fill is unknown. MGP-related DNAPL penetration through a semi-confining unit into the alluvial water bearing zone is restricted to the northern corner of the Siltronic property. Potential gas purification residuals were identified in the western corner of the Siltronic property in a former spent oxide storage area.

- *Soils*: Approximately 120 surface and subsurface soil samples were analyzed from depths representing potential ecological or human exposure intervals and these results were compiled with existing soil data from the site. Several metals and PAHs have been detected above screening levels in surface soils. Dibenzofuran and naphthalene were also present above screening levels in surface soils. Lead, arsenic, several PAHs, naphthalene, diesel-range total petroleum hydrocarbons (TPH), and oil-range TPH were detected above screening levels in subsurface soils. Total cyanide was not present above screening levels in any soil sample.

- *Doane creek embankment soil, sediment and surface water*: Doane Creek embankment soil and sediments exceeded screening levels for several PAHs and metals and in one sediment sample, for bis(2-ethylehexyl)phthalate. Low levels of oil-range TPH were also detected in soil and sediment samples, and diesel-range TPH was detected in one sediment sample at a low concentration. Total cyanide was detected in 3 sediment samples but not detected in embankment soils. Metals, PAHs, SVOCs and total cyanide were detected above screening levels in at least one of two surface water sampling events.

- *Surficial fill groundwater:* Several PAHs, SVOCs, volatile organic compounds (VOCs), metals and total and free cyanide were detected in the surficial fill water bearing zone at concentrations exceeding screening level values. Generally, PAH and VOC concentrations were highest in the northern half of the Siltronic

property but were also detected in the vicinity of Doane Creek and at sporadic locations across the property. Total cyanide concentrations were highest in the western corner of the property, in the vicinity of the former spent oxide storage area. Free cyanide was also detected at low levels in this area.

- *Alluvial groundwater*: Several PAHs, SVOCs, VOCs and cyanide were detected in alluvial groundwater at concentrations exceeding screening level values. Again, PAH and VOC concentrations were highest in the northern half of the Siltronic property. Total cyanide concentrations were also greatest in this area of the property, and low levels of free cyanide were detected there as well. Isolated detections of benzene in the lower alluvial correspond with detections of chlorobenzene, tetrachloroethene and vinyl chloride being investigated at that location by the current owner of the Rhone-Poulenc site. Chlorinated solvents, the subject of a separate ongoing investigation by Siltronic Corporation, were also detected in alluvial groundwater.

Next Steps

- *Additional Data needs*: The remedial investigation has adequately defined the vast majority of the nature and extent of MGP-related contamination at the Siltronic property. The following work is recommended to complete the remedial investigation:

  - Additional groundwater data is needed from the surficial fill water-bearing zone to complete delineation of impacts associated with localized MGP residuals at a former excavation area near the center of the property and to further define cyanide concentrations in this area.

  - Additional alluvial groundwater data from the western corner of the Siltronic property is needed to better define the extent of cyanide at this location.

  - DNAPL identified in the southern corner of the property and near the central excavation area should be evaluated for mobility potential.

  - Additional soil and sediment samples are necessary to complete characterization of Doane Creek and the Northwest Drainage Pond. Two additional surface water sampling events are also planned.

- *Segment 3 Source Control Evaluation*: DEQ is reviewing the *Source Control Evaluation Report, "Segment 3" Siltronic Property* (Anchor QEA February 19, 2009).

- *Remedial Investigation Report and Risk Assessment*: Once remaining upland data gaps have been filled, NW Natural will prepare a comprehensive remedial investigation report and uplands risk assessment.

1.0 INTRODUCTION

1.1 Basis

NW Natural retained Hahn and Associates, Inc. (HAI) to complete Remedial Investigation (RI) activities to describe the nature and extent of manufactured gas plant (MGP) related impacts at the Siltronic Corporation (Siltronic) property, 7200 NW Front Avenue, Portland, Oregon (Figures 1 and 2). RI activities are being completed by NW Natural in accordance with NW Natural's Voluntary Agreement with DEQ (No. WMCVC-NWR-94-13) dated August 8, 1994 as amended by Addendum No. 1 dated July 19, 2006.

The Voluntary Agreement designates both the Siltronic property and the adjacent NW Natural property to the north (7900 NW St. Helens Road) as the "Gasco Site". The Voluntary Agreement requires NW Natural to conduct an RI of releases of MGP residuals and associated contamination on the Gasco Site. NW Natural completed RI activities on the NW Natural portion of the Gasco Site as documented in an April 30, 2007 RI Report (HAI 2007a). DEQ accepted the RI Report and subsequent supporting documents as satisfying the requirements of the Voluntary Agreement with regard to the NW Natural property in correspondence dated March 10, 2010 (DEQ 2010).

NW Natural's investigations of potential MGP-related constituents on the Siltronic property (the Site), as described herein, have been completed in accordance with an October 19, 2007 RI Workplan (HAI 2007b) and a January 16, 2009 workplan addendum (HAI 2009a), as approved by DEQ.

Previous investigations conducted by NW Natural on the Siltronic property focused on the evaluation of potential contaminant pathways to the Willamette River, and were completed pursuant to an Order Requiring RI and Source Control Measures (DEQ No. ECVC-NWR-00-27), issued jointly to Siltronic and NW Natural. These previous activities also included a detailed review of available chemical and lithological data, as well as known potential sources of contamination at the Siltronic property.

Other RI activities at the Siltronic property have been conducted by Siltronic under a separate order from DEQ and relate to chlorinated solvent contamination, with the findings presented in an April 16, 2007 Remedial Investigation Report as prepared by Maul Foster & Alongi, Inc. (MFA 2007). Additional investigations to evaluate pesticide and other impacts extending

onto the Siltronic property from the south are being conducted by AMEC Earth and Environmental, Inc. (AMEC) on behalf of Rhone-Poulenc / Starlink Logistics, Inc.

1.2 Purpose

The overall purpose of the RI as being conducted by NW Natural on the Siltronic Site is to provide sufficient information to support well informed risk management decisions related to MGP-related impacted media. The scope of work for the Siltronic RI includes assessment of the nature and extent of MGP constituents and evaluation of potentially complete or significant human health and ecological exposure pathways in the uplands of the Site and to offsite areas, including the Willamette River and Doane Creek.

Specific objectives of the RI are identified below:

- Determine the magnitude, nature, and extent of potential MGP - related constituents at the Siltronic property (7200 NW Front Avenue), to the extent that impacts attributable to MGP operations may be present on the Site,
- Identify MGP-related hazardous substances that have been released to the environment,
- Determine the nature and extent of MGP-related hazardous substances in affected media on and off-site,
- Determine the distribution of MGP-related hazardous substance concentrations,
- Determine the direction and rate of migration of MGP-related hazardous substances,
- Identify migration pathways,
- Identify the environmental impact and risk to human health and/or the environment,
- Develop the information necessary to select a remedial action, if necessary, for MGP-related contamination,
- Identify hot spots of contamination, if any, at the facility.

1.3 Report Organization

This document is a Data Summary Report presenting background information, sampling methods, and analytical testing results for Phase I RI activities as completed by NW Natural between 2008 and 2010. These RI sampling activities included the characterization of soils and groundwater on the Site, as well as soils, sediments, and surface water in the off-site adjacent Doane Creek stream channel.

The Data Summary Report summarizes results of the investigation to date, including updates to the hydrogeological framework and the human health and ecological exposure model. Recommendations regarding additional investigatory activities for completion of risk assessment activities, or as related to the characterization of constituent distribution at the Site, are also provided herein.

This Data Summary Report was prepared in accordance with the DEQ-approved RI Work Plan (HAI 2007b), and includes the following sections:

Section 1.0 Introduction
Section 2.0 Site Background
Section 3.0 Previous Investigations
Section 4.0 Phase I RI Field Investigations
Section 5.0 Analytical Tests
Section 6.0 Local Geology and Hydrogeology
Section 7.0 RI Sampling Results
Section 8.0 Data Needs Assessment
Section 9.0 Limitations
Section 10. References
Section 11. Glossary and Abbreviations

Appendices to the report include:

A RI Data-Set
B Boring Logs and Well Construction Diagrams
C Laboratory Reports and Data Validation Documentation
D Geophysical Pilot Study Reporting

E Temporary Well Point Sampling Logs
F Hydrogeological Cross-Sections
G Geological Surface Elevation and Thickness Maps
H Constituent Distribution Maps – Fill and Alluvial Zones

2.0 SITE BACKGROUND

Siltronic operates a silicon wafer fabricating facility on an 83-acre site along the western bank of the Willamette River in a section of northwest Portland zoned by the City as "Heavy Industrial". A general description of the property, including an overview of former MGP operations that occurred on the adjacent NW Natural property as well as MGP-related and other activities that occurred on the Siltronic property, is provided below. Aerial photographs referenced herein are included in the *Updated Phase I Site Characterization Summary Report, Siltronic Corporation Property* (HAI 2005a), or in certain instances are included in other cited documents and are not reproduced herein.

2.1 Site Location and Description

The property, situated immediately northwest of the Burlington Northern / Santa Fe (BNSF) railroad bridge, is generally rectangular in shape. Property boundaries include the Willamette River to the northeast; BNSF railroad berms to the southwest and southeast; and a property line shared with NW Natural and its tenant, Koppers Industries, Inc. (Koppers), to the northwest (i.e., the former Gasco-facility property). US Highway 30 (NW St. Helens Road), an automobile storage facility, a former rock quarry, and the Tualatin Mountains lie beyond the BNSF right-of-way to the southwest (Figure 1). Beyond the southeastern BNSF right-of-way lie the Rhone-Poulenc/StarLink Logistics, ESCO Corp., Kinder Morgan, Arkema, and the Air Liquide America properties, all of which are undergoing environmental investigation and/or cleanup (Figure 3).

Presently, the Site is approximately 50% to 60% developed with two silicon wafer fabrication plants (Fab 1 and Fab 2) and associated wastewater treatment plants and structures, as well as an administration building, storage buildings, parking facilities, and a Portland General Electric (PGE) electrical substation (Figure 2).

Additional Site features include a narrow greenway that has been created along the full riverfront portion of the property, as well as an approximate 100-foot wide utility easement that divides the property from the northwest to the southeast (Figure 2). Underground utilities that exist within the easement include gasoline, diesel fuel, aviation jet fuel (all fuels transported within the Olympic Pipeline), natural gas, water, and sewer pipelines, as well

as electric and telephone cables. The easement correlates with the right-of-way for Front Avenue which was never constructed and was vacated on July 27, 1978.

2.2 Pre-Development Conditions

According to a Site History report prepared by the Portland Development Commission (PDC 1985), with the exception of the adjacent railroad construction to the west, the Site remained primarily undisturbed prior to 1900. The southern portion of the undeveloped property contained part of a small, shallow lake (reportedly less than 5 feet deep) known as Doane Lake, which was bisected by the present BNSF railroad bridge at the time of its construction in 1908 by Northern Pacific Railroad (see Figure 1 and 1936 aerial photo), creating North Doane Lake on the north side of the tracks. The remainder of the property consisted primarily of low lying wooded wetlands, prone to seasonal (winter and spring) flooding. The PDC report indicates that a small creek traversed the property, with its source being the Tualatin Mountains immediately across NW St. Helens Road in what is now Forest Park. As depicted in aerial photographs of the site taken in 1936 and 1940, North Doane Lake was an additional headwater for this creek.

A 1906 elevation survey map (pre-development) of the adjacent Portland Gas & Coke Company (PG&C) property to the northwest of the present-day Siltronic property, depicts a small northwest-southeast trending creek situated approximately midway between the Tualatin Mountains and the Willamette River. Although the map does not extend its coverage to the present day Siltronic property, this creek was likely a drainage associated with the Doane Lake/North Doane Lake located at the southern corner of the Siltronic property. As evidenced by 1936 and 1940 aerial photographs, with the development and partial filling of the adjacent PG&C property in 1912, this creek was diverted to the northeast, flowing into the Willamette River near the present day NW Natural / Siltronic property line until 1951, at which time the creek was diverted approximately 400 feet further upstream (Figure 4).

2.3 Overview of Ownership, Filling and Site Development Activities

PG&C purchased the portion of the “Gasco Site” currently owned by NW Natural (then undeveloped) in 1910. The current NW Natural-owned

property is known as the Elliot Tract (44.65 acres). PG&C built and operated an oil gasification facility on the Elliot Tract between 1912 and 1956.

PG&C owned two parcels consisting of approximately the northern half of the current Siltronic property for a portion of the time that oil gasification operations were occurring on the Elliot Tract (adjacent NW Natural property). Specifically, and based on a review of NW Natural deed information, PG&C purchased two parcels identified as “The Allen Tract” from Ms. Alice B. Allen in September 1939. Ms. Allen acquired the land via a public auction in April 1937, after Porter Industrial Company defaulted on its loan and taxes. The location of the Allen Tract (two parcels of approximately 29 acres and 9.5 acres, respectively) is depicted on Figure 4. PG&C Corporate notes indicate that the land was acquired for possible future expansion of the Gasco operations beyond the Elliot Tract, although the expansion never occurred.

Based on Title Company records, the approximate southern half of the Siltronic property, beyond the Allen Tract, was owned by the Spokane, Portland & Seattle Railroad (PDC 1985). A Portland Port Dock Map (circa 1938 or 1939) indicates that Union Oil Company and Standard Oil Company of California owned property along the upriver portion of shoreline at the current Siltronic property, where tug fueling operations reportedly occurred during that timeframe. NW Natural records indicate that Union Oil purchased a 4.64 acre parcel on November 26, 1912 and added to its property on January 29, 1915. Union Oil Company had two 25,000 barrel oil tanks on its property. Standard Oil Company of California purchased 5.5 acres adjacent (immediately downstream) of the Union Oil property and had a single10,300 barrel oil tank with numerous smaller oil storage facilities. Standard Oil Company of California and Union Oil purchased their parcels from Spokane, Portland & Seattle Railroad. Both of these parcels were in turn sold to Western Transportation Company in the early 1940s.

PG&C established an easement for a 16-inch natural gas line in the late 1950’s on what is now the Siltronic property. This natural gas line was abandoned and replaced with a 20-inch natural gas line easement (within the vacated Front Avenue right-of-way) in 1978.

PG&C sold the Allen Tract parcels to Mr. Victor Rosenfeld, Mr. H.A. Anderson, and Mr. Gilbert Schnitzer (RA&S) on August 31, 1960. RA&S in turn sold all the parcels to the City of Portland, Portland Development Commission in 1972, with the City subsequently selling the parcels to

Siltronic in 1978. NW Natural deed information indicates that PG&C owned only the Allen Tract portion of the current Siltronic property.

As provided within a Bridgewater Group report entitled *Supplement to DEQ's Strategy Recommendation for the Wacker Siltronic Facility* (Bridgewater Group 2000), filling activities associated with the Siltronic property were initiated by RA&S in May 1966 and were completed by December 1975. RA&S had an agreement to fill the property to a minimum elevation of 30 feet mean sea level (msl) by the end of 1973 and to construct industrial buildings on the property by the end of 1978 (PDC 1985).

Approximately 1.5 million cubic yards of imported material were placed on the Siltronic property as part of filling activities (Bridgewater Group 2000). The fill consisted of rock from a quarry located across Highway 30 immediately west of the site, as well as more than 700,000 cubic yards of material dredged from the river (from an unspecified location) by the Port of Portland (PDC 1985). In approximately 1966, as part of filling and site development activities, a new channelized ditch (Doane Creek) was created between the western property boundary and NW St. Helens Road that discharged surface water into North Doane Lake. Surface water discharges from North Doane Lake were re-channelized at this time to route water through a ditch and culverts around the southern edge of the Siltronic property, where it currently discharges to the Willamette River at an off-site location through City of Portland Outfall 22C, located between the property's southern boundary and the BNSF Willamette River rail crossing.

Construction of Siltronic's new plant began immediately after the property was purchased in 1978 with plant operations commencing in March 1980.

The facility infrastructure presently includes manufacturing, administrative, and storage structures, wastewater treatment facilities, parking, and an electrical substation. Facility-related underground utilities include water, natural gas, sewer, and electric. As depicted on Figure 2, existing site utilities that intercept, or nearly intercept, the river embankment are (from down-stream to up-stream) as follows:

- Combined effluent outfall (Fab 1 area stormwater and treated process effluent);
- Fab 2 area stormwater outfall;

- Administration Building downspout outfall;

The timeline summary developed to date of key historical occurrences at or in vicinity of the Siltronic site, based on review of aerial photographs, and from property ownership and aerial photograph information, are described below. Historical features discussed below are depicted on Figures 4 and 5. Discussion related to key features as identified below is provided in Sections 2.4 through 2.6.

- **1912:** Preparations for filling operations begin at the PG&C Gasco property (Elliot Tract), immediately north of the existing Siltronic property.

- **1913**: MGP operations begin at the PG&C Gasco property(Elliot Tract) immediately north of the existing Siltronic property. The Spokane Portland & Seattle Railroad sells 5.5 acres of land near the upstream portion of the current Siltronic property to Standard Oil Company of California.

- **1915**: The Spokane Portland & Seattle Railroad sells 4.64 acres of land near the upstream portion of the current Siltronic property (immediately upstream of the Standard Oil Company property) to Union Oil.

- **1936:** An aerial photograph shows an apparent riverward fueling or fuel transfer operation (dock, buildings, and above ground storage tank) near the eastern corner of the current Siltronic property. Records indicate the property where the oil storage and fuel transfer occurred was owned by Union Oil and Standard Oil Company of California. The property is otherwise undeveloped.

- **1939:** PG&C acquires the Allen Tract portion of the current Siltronic property. The Allen Tract is the northern 38.5 acres of the Siltronic property, adjacent to the current NW Natural property (e.g., the Elliot Tract). The entire Siltronic property remains undeveloped except for the apparent fuel storage and possible tug fueling operation – which in 1939 appears to be in derelict condition and not in use.

- **1940:** The entire property remains undeveloped except for the apparent tug fueling operation. Union Oil of California (Union Oil) sells its interest in the property in 1940 to Western Transportation.

- **1941:** MGP effluent ponds at the eastern corner of the Gasco MGP property are constructed immediately north of the current Siltronic property boundary and are brought on-line. Under certain conditions, pond effluent discharged to the Willamette River through a historical channel feature near the current NW Natural / Siltronic property boundary. The land comprising the current Siltronic property remains undeveloped except for apparent tug fueling operation structures near the eastern corner of the property.

- **1943:** Standard Oil of California (Standard Oil) sells its interest in the property to Western Transportation.

- **1949:** A small MGP effluent settling pond, a possible component of the overall MGP effluent system, is present at a location straddling the property line currently shared by Siltronic and NW Natural. Land comprising the current Siltronic property remains undeveloped except for the apparent tug fueling operation (owned at this time by Western Transportation). The former Western Transportation site is shown on Figure 5.

- **1951:** Discharge from the MGP effluent ponds into the lowland area on the north end of the Allen Tract portion of the Siltronic property is initiated. Gas purification materials (i.e., spent oxide) may be stockpiled on western corner of the active MGP property, extending onto the western corner of Allen Tract (current wastewater treatment plant vicinity of the Siltronic property),as observed in aerial photographs and based on NW Natural historical records.

- **1955:** Buildings and dock structures near the eastern corner of property (apparent former tug fueling operation) appear in very poor condition. A berm is present on the southern end of the effluent pond / lowland area, with a channelized stream (North Doane Lake headwaters) immediately south of the berm, with discharge to the Willamette River at this location. An excavation is noted in the central portion of the Siltronic property (eastern portion of the Allen Tract) with a possible road or channel leading to it from near the point where the former channelized creek discharged to the Willamette River south of the effluent pond overflow area (Figure 5).

- **1956:** The Gasco MGP ceases gas production, and converts to natural gas storage and transmission. Features on the 1956 aerial

photo are similar to those as noted for 1955 except there is a linear scar noted on the ground surface extending from near the western corner of the active MGP property to the location of the Western Transportation fueling area (derelict). The scar correlates with the location of a now abandoned 16-inch natural gas pipeline that was reportedly installed in the late 1950s.

- **1960:** PG&C sells the Allen Tract to private investors (Rosenfeld, Anderson, and Schnitzer).

- **1961:**A dark colored stockpile, potentially spent oxide material, located on the Allen Tract in the western corner of the Siltronic property (near the current wastewater treatment plant area) is still present in 1961, as are the central excavation and the northern lowland area. Logging/clearing is occurring in central portion of the area that now comprises the Siltronic property.

- **1964:** The logging and clearing in the central portion of the current Siltronic property continues.

- **1966:** Filling activities are observed to be occurring at the northern and central portion of the current Siltronic property. Bulldozers are noted in the area of the spent oxide pile (current wastewater treatment plant area), with an apparent road extending to central portion of property where dark soils are being placed/spread. The effluent pond overflow/discharge area on the Siltronic property is being filled. Light colored piles of apparently imported fill (Quarry rock?) are present on the Allen Tract near the former spent oxide storage pile area. The current Doane Creek channel is created between 1964 and 1966, with discharge into North Doane Lake. A ditch is present leading from North Doane Lake to the Willamette River at an area near the upstream (eastern) corner of the Siltronic property.

- **1967:** Filling activities, including apparent placement of dark colored fill materials within the central portion of the Site continue. A new approach to the BNSF Willamette River railroad bridge is constructed during the 1967 to 1968 timeframe based on review of aerial photographs during this timeframe. The berm for the approach was constructed along the southern edge of the Site such that it

transected North Doane Lake before connecting with the single berm that connects both approaches to the bridge crossing.

- **1968:** The spent oxide storage pile, previously noted in the area of the current wastewater treatment plant area, is no longer present. The disposition of this storage pile is unknown, but aerial photographs suggest it was removed or redistributed between 1966 and 1968.

- **1971**: Filling activities continue with light colored apparent dredge material being placed across entire property. Buildings and tanks from the former tug fueling operation are still present.

- **1972**: Filling continues. Buildings and tanks from former tug fueling operation are no longer present. The City of Portland purchases a portion of the current Siltronic property from numerous private investors. A 96-inch diameter pipe replaces the ditch leading from North Doane Lake to the Willamette River.

- **1973**: Active filling of the effluent pond area on the NW Natural property, immediately north of the Siltronic property, is occurring.

- **1973:** Filling is actively occurring in the southern and eastern corners of Siltronic property near the BNSF railroad bridge approach berm; including the area formerly occupied by North Doane Lake. The material appears to be a light colored soil or similar material. Similar filling appears to be occurring on property immediately south of railroad bridge approach.

- **1978:** Installation of utilities within the current utility easement extending across the central portion of the current Siltronic property is occurring. Final earthwork activities are occurring on the property to the east (riverward) of the utility easement. The City of Portland purchases all remaining portions of the Siltronic property from Western Transportation and other private investors. The City of Portland, in turn, sells the property to Wacker Siltronic.

- **1980:** Siltronic structures and infrastructure are present and operations begin in March.

- **1994:** Siltronic Fab 2 earthwork activities are occurring.

- **1994 to present:** Siltronic property undergoes minimal change.

2.4 Background - PG&C Operations and Residuals

Although all MGP production activities occurred on the adjacent Elliot Tract property owned by NW Natural, certain residuals management activities occurred on portions of the Allen Tract – part of the property now owned by Siltronic. A general description of PG&C historical operations is provided in the Remedial Investigation Report for the Gasco site (HAI 2007a).

In general, feedstock oils were thermally cracked, producing gas, lampblack, and tar. The lampblack and tar were subsequently removed from the gas, after which the gas passed through purifiers where sulfur and other impurities were removed. Further, absorption towers were used with light oil to absorb benzol vapors, with the oil subsequently distilled to recover the benzol. Lampblack would be recovered in wash boxes, dried, and then fed to a rotary press, producing cylindrical or pillow shaped briquettes.

In 1941 a coke oven was installed at the plant to generate electrode grade coke and high oil gas. The coke ovens produced oil gas, coke, tar, light oil, and creosote oil.

Spent oxide (also called purifier box materials) was generated from the use of iron oxide (iron-impregnated wood shavings) as solid reactants for the removal of sulfur from the oil gas. Spent oxide is primarily a blend of iron sulfides, sulfur, iron oxides and wood substrate, however spent oxide material may also contain hydrocarbons that passed through the upstream gas processing equipment, as well as cyanides that would be removed from the gas along with the sulfur. In addition to the preceding, spent oxide has been found to contain varying amounts arsenic, chromium, copper, lead, nickel, and zinc.

Due to the large scale of the operations at the Gasco plant and to the company's investment in research and development, Gasco developed a large number of byproducts for the purpose of reducing the cost of the gas. Gasification byproducts were refined to produce the following products at the Gasco site at various times:

- lampblack briquettes

- soft pitch
- specification tars and tar distillates
- specification creosote
- hard pitch
- electrode grade pitch
- crude naphthalene
- crude benzene
- motor fuel
- toluene
- xylene
- solvent naphtha

From the beginning of operations, the plant produced pressed lampblack briquettes that were sold in the area as fuel. In 1917, the plant produced approximately 20,000 tons of briquettes. In 1923, the gasification process was modified to optimize aromatic generation and light oil recovery for use as motor fuel. "Benzol" was sold to the Shell Oil Company, where it was used to blend with gasoline, trade-named "Gasco Motor Fuel" (Ebasco and PG&C 1939).

Tar was recovered and either sold or burned for fuel. After 1925, tar was also refined for use as road binder. Prior to 1925, tar was recovered and either sold or burned for fuel. By 1927, the sale of tar for road binder exceeded 1,000,000 gallons.

Once natural gas became available in the 1950s, much of the plant was shut down, with the last full year of manufactured gas production and distribution occurring in 1955. With the arrival of natural gas, PG&C changed its name to the Northwest Natural Gas Company, and is now known as NW Natural.

2.5 MGP Residual Management Areas

As described in Section 2.3, PG&C owned approximately 38.5 acres on the northern portion of the Siltronic property (known as the Allen Tract) from September 1939 until August 1960 (approximately 21 years), during which time company records and aerial photographs indicate residual management activities were conducted at three locations within the Allen Tract. Each of the areas of historical MGP residual management are described below, and are depicted on Figure 4. Further, Table 1 summarizes residuals generated

by the Gasco MGP, including a description of the material and the associated chemicals of interest.

2.5.1 Former 400-Foot Wide Lowland Area

The area of primary interest on the Siltronic property with regard to PG&C historical operations is an approximate 400-foot wide strip of former low-lying property located immediately south of the present day NW Natural / Siltronic property boundary (Figure 4 and the 1952 aerial photo). The low area was bounded by a berm and apparent natural rise in ground surface in the up-river direction (e.g., approximately 400 feet from the present property line with NW Natural), as well as a rise in ground surface between the lowland area and the Willamette River. This comprised an area of approximately 10 acres.

Based upon historic company records, as well as interpretations of aerial photographs, MGP residual management-related activities are known to have occurred within the former 400-foot wide lowland area, including overflow from the Gasco property settling ponds and placement of tar/lampblack derived from cleanout of the effluent ponds onto the ground surface in that area.

The Gasco effluent ponds, materials from which may, under certain conditions, have overflowed to or been placed upon the lowland area, were constructed at the eastern portion of the current Gasco site in the late 1930s and came on-line in 1941 (Camp Dresser & McKee 1987). Aerial photographs taken between 1952 and 1961 show one large and one small effluent pond (Gasco property) and the adjacent lowland area (Siltronic property). The settling ponds on the Gasco property received effluent from oil gasification and by product manufacturing operations. As shown on the aerial photographs from this timeframe, the smaller effluent pond straddled the border of the property currently owned by Siltronic (Figure 5).

The larger effluent pond overflowed via a weir into the western end of the small effluent pond. This pond may have overflowed via a weir on the eastern end into a channel that discharged to the Willamette River at a point near the current NW Natural / Siltronic property line (Figure 5). Records indicate the top of the berms surrounding the effluent ponds ranged in elevation from approximately 21 to 26 feet (datum unknown).

PG&C records further indicate that to maintain capacity within the effluent ponds, they were periodically cleaned-out. Effluent pond clean-out reportedly involved use of drag lines and trucks to place the "soft/tarry substance" on the ground surface immediately south of the ponds (i.e., the former adjacent low area at Siltronic). In 1951 a creek channel located immediately south of these ponds (at the current common property line between NW Natural and the Siltronic property) was relocated 400 feet further south, with a berm constructed between the ponds and low area and the new channel. The southern effluent pond weir was blocked at that time, and potential effluent pond overflows were directed to the lowland area until the MGP closed in 1956. Under certain conditions, effluent may have overflowed from this low area at the northern portion of the Siltronic site into the relocated creek channel. Figures 4, 5 and aerial photographs from 1952 through 1964 depict the effluent pond overflow / lowland area.

Facility records indicate that soundings taken by CH2MHILL with a 1.5-inch diameter probe in January 1960 identified between 0.6 feet to 14 feet of soft tar within the 400-foot wide lowland area, with the thickest accumulation in proximity to the small effluent pond located on the property line (CH2MHILL 1960). Using these data, it is estimated that approximately 40,000 cubic yards of tar may have been present within the lowland area at that time.

As shown in aerial photographs, grading and filling of the lowland area on the Siltronic property began in 1966, approximately 6 years after being sold to others by PG&C. Filling this portion of the Siltronic property appears to have taken place through 1973 (May and August 1973 aerial photographs). Fill material in the 400-foot lowland area included dredge material (1971 and May 1973 aerial photographs), and light-colored material that appears to have been imported by dump trucks (October 1966 and May 1973 aerial photographs).

2.5.2 Former Depression or Excavation

A 1955 aerial photograph depicts an approximate 150 foot diameter excavated area or depression surrounded by a dirt road in the east/central portion of the Siltronic property, near the eastern portion of the Allen Tract (the "central excavation") (Figure 4 and March 1955 aerial photograph). The dirt road appears to extend from the 400-foot wide lowland area to this depression (1955 and 1956 aerial photographs). The southern one-quarter of the depression is dark-colored (1956, 1961, and 1964 aerial photographs).

Company records indicate that soundings within this depression taken by CH2MHILL in January 1960 show between 2 and 3 feet of tar on the ground surface, indicating that tarry residuals accumulated at this location (CH2MHILL 1960). Based on the soundings data, it is estimated that approximately 2,000 cubic yards of tar may have been present within the depression subsequent to the cessation of all manufactured gas production-related activities at the Gasco site. The depression is not observed in photographs after 1964.

2.5.3 Spent Oxide/Purifier Box Storage Pile

A stockpile of spent oxide/purifier box material was identified in aerial photographs of the site from the 1950s and 1960s, with the pile located near the southwestern end of the common property line currently shared between Siltronic and NW Natural. Company records indicate this pile contained an estimated 34,000 cubic yards of spent oxide material. The stockpile of dark-colored spent oxide material is first observed in 1952 (April and July 1952 aerial photographs), with most of the pile situated on the present-day Siltronic property (near the western corner of the Allen Tract, current wastewater treatment plant area). Aerial photographs indicate the stockpile was present at this location between 1952 and 1966 – its presence post-dating the sale of the Allen Tract to others in 1960. The final disposition of this pile is not known.

2.6 Other Historical Site Uses / Contaminant Source Areas

2.6.1 Olympic Pipeline Petroleum Release(s)

The Olympic Pipeline uses two product lines within an approximate 100 foot wide utility corridor that traverses the central portion of the Siltronic property within the vacated extension of NW Front Avenue (Figure 2). Of these two pipelines, one is used to transport diesel and kerosene (i.e., aviation jet fuel), while the other is used to transport gasoline. Based on previous activities associated with the pipeline as described herein, the Olympic Pipeline is known to have leaked and acted as a source of petroleum hydrocarbons to soil and groundwater in the west-central portion of the Siltronic facility (Figure 5). Diesel and gasoline contain BTEX and other monoaromatics. Diesel and kerosene contain PAHs, the bulk of which are of lower molecular weight, and PAH-related compounds such as methylnaphthalenes. Diesel oil may also contain trace amounts of metals.

In February 1979, Siltronic discovered the presence of petroleum while excavating the foundation for a clarifier in the Fab 1 wastewater treatment plant area. An initial sample of impacted soil from the excavation was found to contain hydrocarbons that matched a sample of diesel fuel obtained from one of the pipelines, although a second sample apparently did not match the Olympic Pipeline product (DEQ 1999).

Olympic Pipeline subsequently exposed its pipelines. Holes in the pipeline were found and floating oil product was identified within the utility corridor to the northwest and southeast of the Siltronic clarifier excavation. Olympic Pipeline replaced the leaking section of pipe, removed floating product from the excavation, and removed residual oil stained soils in the bottom of the clarifier excavation (Bridgewater Group, 2000). The approximate location of the Olympic Pipeline release is depicted on Figure 5.

During pre-construction activities in 1990, Siltronic discovered petroleum hydrocarbons in proximity to Olympic Pipeline's pipelines (MFA 2002). In October 1990 on behalf of Siltronic, CH2MHILL conducted a groundwater and soil gas investigation in the vicinity of the pipelines. CH2MHILL concluded that the concentrations of BTEX detected in the groundwater samples are typical of those associated with a gasoline spill or leak. The highest detected concentrations of BTEX and TPH were located adjacent to the utility corridor, indicating that the source of BTEX contamination may be located in that area(CH2MHILL 1990).

Data from the 1990 investigation was provided to DEQ and Olympic Pipeline. In 1991, Olympic Pipeline pressure-tested the pipelines. One of the pipelines ruptured during the test. Both pipelines were replaced and the old pipelines were abandoned in-place (Bridgewater Group 2000).

In summary, there is a confirmed release from the Olympic pipeline at the Siltronic property. The location of the release is proximate to the 400-foot former lowland area, thereby resulting in the likely commingling of contaminants, with benzene both from the pipeline release and potentially from MGP-residue placement, being co-located at this area.

2.6.2 Former Oil Storage and Tug Fueling Area Petroleum Release(s)

Western Transportation and its predecessors (Standard Oil and Union Oil), operated an apparent fueling or oil transfer dock at the eastern corner of the Siltronic Facility between approximately 1913 and the early 1940s (Figure 5).

According to information within NW Natural records, the combined operations had three large above ground fuel tanks (two 25,000 barrel tanks and one 10,300 barrel tank) and numerous smaller oil storage facilities. The combined property ownership of the two oil companies was approximately 10 acres, all of which was subsequently sold to Western Transportation. The occurrence or manner of leaks, spills or waste disposal activities associated with the former facility are unknown; however, according to DEQ (1999), a U.S. Environmental Protection Agency (EPA) analysis of a 1970 air photo concluded that soils in this area appeared stained.

The specific types of fuel oil stored and dispensed at the oil storage and transfer or fueling facility are not known, but diesel oil or fuel oil would be typical for this type of operation. Diesel oil contains petroleum hydrocarbons, including benzene, toluene, ethylbenzene, xylene (BTEX) compounds, polynuclear aromatic hydrocarbons (PAHs), the bulk of which are of lower molecular weight, and PAH-related compounds such as methylnaphthalenes. Diesel oil may also contain trace amounts of metals.

Site plans also indicate an abandoned pipeline in the vicinity of the former oil storage, transfer, or tug fueling facility. Siltronic plans (Drawing P11054.A1, December 1978) depict a 16-inch diameter abandoned line labeled “G” that runs from the NW Natural property, across the Siltronic site, and to the embankment in the vicinity of the former Western Transportation facility. According to NW Natural maps, the abandoned line labeled “G” is a 16-inch natural gas line that was installed in the late 1950s and was abandoned in 1978 or 1979 as part of the development of the Siltronic facility. This line was replaced with a 10¾-inch and a 20-inch diameter natural gas line within the vacated NW Front Avenue utility corridor in 1978. The location of this abandoned 16-inch natural gas line is depicted on Figure 5.

2.6.3 Siltronic-Related Releases:

Siltronic used trichloroethene (TCE) in the silicon wafer manufacturing process from 1980 to 1989, at which time alternative processes were implemented. TCE and TCE-wastewater mixtures were stored in underground storage tanks from 1980 to 1983, after which they were managed in aboveground storage tanks. TCE was recycled using a stripper system connected to the storage tanks. Investigation by MFA has concluded that TCE or TCE-containing wastewater releases from the TCE system to the ground and the subsurface occurred between 1980 and 1984. Impacts

attributable to the release are present in the northern portion of the property with the source area determined to be the former waste solvent UST located immediately west of the Fab 1 structure (Figure 5). Related COIs include: TCE and degradation products (specifically cis-1,2-dichloroethene (DCE), trans-1-2,DCE, 1,1-DCE, and vinyl chloride). MFA, on behalf of Siltronic, has completed RI activities as related to the TCE release as documented within a 2007 RI Report (MFA 2007).

Other releases associated with Siltronic operations (1980-1997), also on the northern portion of the property, include chromium solution, acids, caustics, and organic wastewater releases or spills (HAI 2005a).

2.6.4 Filling Activities:

Filling activities associated with the Siltronic property were initiated in May 1966 (approximately 6 years after PG&C sold its interest in the Allen Tract) and were completed by December 1975. Approximately 1.5 million cubic yards of imported material were placed on the property as part of filling activities (Bridgewater Group 2000). The fill consisted of rock from a quarry located across Highway 30 immediately west of the site, as well as more than 700,000 cubic yards of material dredged from the river (from an unspecified location) by the Port of Portland (PDC 1985). The dredged sediments and potentially materials from other offsite sources may have contained hazardous constituents that have impacted the Siltronic property.

As observed on the 1967 and 1968 aerial photographs, coincident with on-going filling activities, dark-colored areas are shown extending across the western and central portions of the Siltronic property (Figure 5). Although the nature of the dark-colored material is not documented, it may be indicative of the placement or re-distribution of impacted soils or dredge materials as fill at the site. As described above, approximately 1.5 million cubic yards of imported fill of unknown quality were placed at the site. Depending upon origin, dredged sediments may have included various constituents from different operations, including wood treating, shipyard, pesticide, or petroleum terminal-related materials. During the time of filling activities, a majority of the property was owned by Mr. Victor Rosenfeld and Mr. H.A. Anderson and Mr. Gilbert Schnitzer (Section 2.3). No documentation regarding any filling activities at the Siltronic property was identified within NW Natural company records, likely because filling was conducted after PG&C sold its interest in the property.

In addition to possible sources of impact from the dredged sediments used as fill, observations of tar or oil during various investigations or construction activities at the Siltronic site also suggest the possibility that MGP-related residuals from the 400-foot wide lowland area or other oily or tarry materials of differing origin may have been redistributed or placed and combined with fill placed at various portions of the Siltronic property during filling activities (1966-1975) after PG&C's property holdings had been sold (to RAS in 1960). Similarly, the spent oxide stockpile, formerly located near the western corner of the current Siltronic property (near the wastewater treatment plant and electrical substation area) between approximately 1952 and 1968, may have been redistributed within fill at other portions of the property during the post 1966 time-frame, including the area of dark-colored fill placement described above (Figure 5).

Evidence of petroleum-impacted fill at the site was first described within geo-technical borings installed at the Siltronic property in 1977 (CH2MHILL borings B-1 through B-3), prior to the purchase of the property by Siltronic. Further, impacted soils have been observed during construction activities conducted at the site.

According to Mr. Tom McCue, Environmental Manager for the Siltronic site, during construction of the Fab 2 building and related structures (e.g., wastewater sump) in 1995, Siltronic encountered soil impacted by petroleum hydrocarbons, tar residue, and high-carbon solids. Visually-impacted soils were reportedly encountered in the Fab 2 areas as shallow as 6 feet below ground surface (bgs), with soils appearing black with apparent black patches of oil. Mr. McCue further indicated that visually-impacted soils were similarly identified during construction of the site's wastewater treatment sump (near monitoring well WS-10), with black soils extending across a depth interval of 12 feet to 24 feet bgs (McCue 2004, pers. comm.).

As described in a document entitled *Petroleum Contaminated Soils Treatment Report* (Deaver Environmental Group, Inc. 1995), during construction of the Fab 2 structure, approximately 5,490 tons of contaminated soil were segregated and thermally treated on-site consistent with Petroleum Contaminated Soil Treatment Permit No. PCSLA-NWR-95-004 (the PCST Permit) obtained from the DEQ. Data from the report indicate the impacted soils contained benzene (prior to treatment) ranging in concentration from non-detect to 8.2 parts per million (ppm) and diesel-range petroleum hydrocarbons ranging in concentration from 60 to 30,000 ppm.

In addition to the preceding, excavation activities were conducted by NW Natural on the Siltronic property at numerous locations within the vacated NW Front Avenue utility easement in 2007. The excavation activities were undertaken to expose the 20-inch natural gas transmission line within the easement so that a visual inspection and upgrades to this line could be made. Excavations, which were approximately 8 feet deep, were conducted at locations depicted on Figure 7 as P-A through P-G, as well as P-Y and P-Z. Observations of fill materials at excavations Y and Z, located above the NW Natural gas line within the utility easement northeast of the wastewater treatment plant area (boring locations P-Y and P-Z), identified the presence of many automobile window seal gaskets, as well as several tire fragments and engine gaskets. These materials were mixed in with soils and appeared to have been placed in lifts. The identification of automobile parts within shallow fill at the Site suggests that fill was potentially imported from numerous off-site and apparently undocumented sources in order to bring the Site to its final grade.

Finally, on July 29, 2000, an oil sheen appeared on the Willamette River at a location immediately adjacent to the Siltronic property as silt was being dredged as part of bank repair work being conducted by Siltronic. Analysis of sediment samples identified gasoline (7.5 to 69 ppm), diesel (399 to 5,810 ppm), and heavy oil (293 to 2,970 ppm) petroleum hydrocarbons. In total, approximately 115 tons of sediments were disposed as petroleum-contaminated waste (Bridgewater Group 2000). The location of the dredging-induced sheen, located upstream of the former channelized creek discharge (1951-1967), is depicted on Figure 5.

As discussed in the previous sections, primary potential sources for petroleum-contaminated soils encountered during site development activities are impacted fill placement (multiple sources), Olympic Pipeline petroleum release(s), historical Union Oil, Standard Oil of California, and Western Transportation operations, and the relocation and use of MGP materials from the Allen Tract for fill within the Allen Tract and other portions of the Siltronic property after NW Natural sold the Allen Tract parcel in 1960.

2.7 Nearby Properties of Environmental Significance

There are numerous properties with known environmental impairments that are situated between the Willamette River and the Tualatin Mountains immediately to the north and to the south-southwest of the Siltronic property

(Figure 3). Brief summaries of the nearest such properties, including a summary of the media impacts and status of environmental investigations based on summary information available in the DEQ Environmental Cleanup Site Characterization Database (ECSI), are provided below.

2.7.1 Rhone-Poulenc, Doane Lake Site (ECSI No. 155)

The Rhone Poulenc Agricultural Company (RPAC) "Doane Lake Site" property, now owned by Starlink Logistics, Inc. (SLLI), is located to the southeast of the Siltronic property at 6200 NW St. Helens Road (Figure 3). Historical operations at this approximate 16.4 acre property included formulation of chlorophenoxyl insecticides and herbicides, which occurred from the 1940s through the 1980s. Products and byproducts were released to the environment through spills, leaks, and direct discharges. Soil and groundwater at the property are impacted by 2,4-D, 2,4,5-T (silvex), dioxins, furans, isomers of dichlorobenzene, phenolic compounds, cresols, TCE, BTEX, arsenic, and lead.

Process wastewaters were discharged to the Willamette River from operations at the SLLI property between approximately 1950 and 1975. These discharges occurred either directly to the river via an RPAC outfall, or indirectly through discharges from Doane Lake. Prior to 1966, wastewater was discharged directly to West Doane Lake, which was hydraulically connected to North Doane Lake (NDL) through the railroad berm. Water from NDL discharged to the Willamette River via a channelized and bermed ditch that extended across the Siltronic property to a point immediately upriver of the Gasco effluent pond overflow area between 1951 and 1966, and at a point near the Siltronic/NW Natural property line prior to 1951 (Figure 5). From 1966 through 1971, NDL drained to the Willamette River through a ditch that extended to the river at a point near the BNSF railroad bridge. In 1972 this ditch was replaced with a 96-inch pipe, which discharged to the river near the same location.

Deep groundwater in the alluvium flows from the RPAC/SLLI property across the Siltronic property to the Willamette River. Evidence of impacts to the Siltronic property from RPAC/SLLI include anecdotal reports of vegetation kills as well as the presence of dichlorobenzene and silvex in deep groundwater beneath Siltronic (MFA 2007).

An RI and an Ecological Risk Assessment are being completed by SLLI for North Doane Lake. SLLI continues to monitor groundwater using wells completed at the Siltronic property (typically identified as RP-series wells),

and is in the process of evaluating and implementing source controls for West Doane Lake and City of Portland Outfall 22B.

2.7.2 Arkema/Atofina Chemicals (ECSI No. 398)

The Arkema Corporation property is located at 6400 NW Front Avenue on approximately 74.8 acres (Figure 3). Arkema was formerly known as Atofina, Elf Atochem, and Pennwalt Chemical Corporation. Arkema formerly manufactured DDT at the property during the 1940s and 1950s and chlorine compounds were manufactured from approximately 1940 until 2001. Soil, groundwater, and Willamette River sediments are contaminated by DDT, hexavalent chromium, and chlorobenzene. Chlorobenzene, a DDT manufacturing component, is present as a NAPL at the Arkema property, and has been detected in deep groundwater at the Siltronic property.

The remedial investigation of DDT and chlorobenzene impact has been completed by Arkema and removal actions to prevent migration of these constituents to Willamette River sediments are ongoing.

2.7.3 Esco Landfill (ECSI No. 397)

The privately-owned landfill, located on approximately 10.5 acres at 6900 NW Front Avenue (Figure 3), received non-recyclable wastes from ESCO's foundry operations between 1953 and landfill closure in 1983. Groundwater at the property is contaminated with lead. No environmental actions are currently in progress at this site.

2.7.4 Santa Fe Pacific Pipelines/Kinder Morgan (ECSI No. 2104)

The Kinder Morgan pump station (identified as Santa Fe Pacific Pipelines, a subsidiary of Kinder Morgan) is located south of Siltronic at 6565 NW St. Helens Road (Figure 3). The facility is part of a petroleum pipeline and has confirmed releases of gasoline and diesel, with resulting impacts to soil and groundwater. Groundwater generally flows north toward the Siltronic property, and the flow direction may be influenced by the north sloping contact between the alluvium and the top of the Columbia River Basalt. The gasoline additive MTBE, which is also a contaminant in diesel fuel, has been detected in deep groundwater at the Siltronic property.

2.7.5 Schnitzer Investment, Air Liquide America Corp. (ECSI No. 395)

The Schnitzer property is located on approximately 6.3 acres at 6529 NW Front Avenue (Figure 3). The entire site is located on what historically was Doane Lake, which is now only a remnant lake. Therefore, this site is located on fill, which was placed between the 1940s and 1970s. The site consists of two parcels. The southern portion has been leased from Schnitzer by Air Liquide since 1969. Air Liquide owns and operates an acetylene production facility on the property. The northern portion of the site is vacant.

In the past, calcium hydroxide, a by product of the acetylene production process, was discharged into East Doane Lake. East Doane Lake was filled with a mixture of soil and demolition debris that included auto shredder fluff material.

Schnitzer built an acetylene manufacturing plant on the site in 1949. The process generates calcium hydroxide wastes, which Schnitzer discharged into East Doane Lake. Liquid Air Corporation (now called Air Liquide America Corp.) leased the plant beginning in 1969 and continued Doane Lake discharges of calcium hydroxide until 1981, when it began to sell it as product. In 1987, calcium hydroxide was detected in surface/subsurface soils, and in surface and groundwater around the lake, with many pH values over 12. Non-magnetic auto shredder wastes (similar to those discovered during NW Natural pipeline work at Siltronic in 2007) are known to have been deposited on the site by Schnitzer. Auto shredder fluff is a potential source of contamination, including polychlorinated biphenyls (PCBs), metals and volatile organic compounds (VOCs). Soil contamination containing PCBs, acetone, methyl ethyl ketone (MEK), and three chlorinated solvents: trichloroethene (TCA), tetrachloroethene (PCE), and 1,1-dichloroethane (1,1-DCA) have been identified at the site. Low levels of acetone and MEK have been sporadically detected in groundwater beneath the Siltronic property.

2.7.6 NW Natural Gasco Property (ECSI 84)

As previously described, a portion of the Siltronic property (i.e., the Allen Tract) represents the southern end of the “Gasco Site” as defined in the Voluntary Agreement between NW Natural and DEQ. As such, the NW Natural RI related to MGP impacts at the Siltronic property is a component of overall investigations related to the Gasco Site. Descriptions of historical

MGP operations on the NW Natural portion of the Gasco Site (e.g., the Elliot Tract) are provided elsewhere in this report.

Remedial investigations were conducted between 1994 and 2006 at the NW Natural-owned property have defined the nature and extent of manufactured gas plant-related contamination at the upland portion of the former Gasco facility currently owned by NW Natural. DEQ accepted the 2007 RI Report for Gasco, with clarifying comments, in correspondence dated March 10, 2010. Additional investigations to define the extent of contamination in and beneath the adjacent Willamette River have been performed by NW Natural and by the Lower Willamette Group and are addressed as part of the Portland Harbor Superfund Site cleanup.

DEQ has completed review and commented on the Revised Baseline Level III Ecological and Human Health Risk Assessment Report (Anchor Environmental LLC 2004) in correspondence dated March 10, 2010. Following DEQ approval of the risk assessment, NW Natural will prepare a feasibility study for the upland portion of the Gasco site. NW Natural is presently developing design documents for implementation of groundwater source control along the Gasco shoreline and extending onto the northern portion (e.g., former lowland/effluent pond overflow area) of the Siltronic shoreline

2.7.7 Koppers Industries, Inc. (ECSI 2348)

Koppers Industries operates a coal tar pitch storage and transfer facility on approximately 8 acres of the NW Natural Gasco property at 7540 NW St. Helens Road. The Koppers operations are immediately north of the western corner of Siltronic on property leased from NW Natural. Investigation activities related to the Koppers Lease area (which formerly contained PG&C MGP operations, including the light oil plant, tar loading area, pitch plant, coke oven, and oil purification still), were completed by NW Natural between 1994 and 2006 as part of the overall Gasco property RI, with results documented in the 2007 NW Natural RI Report (HAI 2007a).

As described within a 1994 *Site Inspection Prioritization Report* prepared for the EPA by URS Consultants, Inc., Koppers Incorporated's predecessor, Koppers Company, Inc. (Koppers), operated a coal tar distillation facility at the southern portion of the Gasco property from 1966 to 1973. During the 1966 to 1973 timeframe Koppers produced chemical oil, creosote, and pitch from coal tar distillates. From 1974 through 1977 Koppers manufactured

electrode grade pitch, a product derived from both coal tar and petroleum residuals. From 1977 through the present, Koppers, and now Koppers Incorporated (KI), has used the facility as a terminal for the bulk transfer and distribution of liquid creosote coal tar and solid coal tar pitch.

Koppers reportedly generated approximately 1,500 gallons of wastewater per day during the time that the plant was used as a coal tar distillation facility (Camp Dresser & McKee 1987). Koppers land disposed these wastewaters at the eastern portion of the leased property, a location immediately southwest of the former tar settling ponds, coinciding with the location of the current pencil pitch storage structure. The Koppers land disposal area is depicted in 1966, 1968, and 1972 aerial photographs of the site, as suggested by the presence of apparent above-ground piping and staining. Surface staining is apparent across the Koppers Lease area as depicted in a 1972 aerial photograph.

As documented in the 2007 RI (HAI 2007a), the Koppers lease area is a source area for DNAPL, with shallow oil present within the fill beneath much of the Koppers facility. The Koppers lease area is also a source area for elevated BTEX concentrations in shallow groundwater beneath the Gasco site.

2.8 Constituents of Interest

Table 1 provides a summary of MGP process residuals, a brief description of their generation, and the associated constituents of interest (COIs).

Polycyclic aromatic hydrocarbons (PAHs) and to lesser extent, other semi-volatile organic compounds (SVOCs) are present in the raw materials, byproducts, and residues of the oil gasification process, including heavy oils, oil tars, and lampblack. PAHs and certain other SVOCs have been identified as COIs for the Siltronic RI.

Monocyclic aromatic hydrocarbons (e.g., benzene, toluene, ethylbenzene, xylene) are present in the light oils that were produced at the Gasco facility, and are COIs for the Siltronic RI. For the same reason, total petroleum hydrocarbons, either as diesel-range, oil-range, gasoline-range or as extractable or volatile fractions, have been identified as COIs for the RI.

Metals, particularly arsenic, chromium, copper, iron, lead, nickel, vanadium, and zinc may be related to spent oxide / purifier box materials at MGP sites, and therefore these metals have been identified as COIs for the Siltronic RI.

Cyanide is present at the site due to the use of oxide reactors (for purifying the manufactured gas) and the storage of spent oxide materials at the site. In solid matrices, such as soil, only total cyanide is present. In water, cyanide exists in multiple forms (Occhialini, 2004), including the cyanide ion itself (CN^-) and hydrogen cyanide (HCN), which are inclusively referred to as free cyanide; weak acid dissociable metal-cyanide complexes (e.g., cyanide complexes with copper, zinc, and nickel); and strong acid dissociable metal-cyanide complexes (e.g., cyanide complexes with iron and cobalt). In water, the bio-available form of cyanide that may result in toxicity is free cyanide (CN^- or HCN). The most common forms of cyanide at MGP sites are complexed with iron – most prominently Prussian Blue or ferric-ferrocyanide (Gosh, 2004) and therefore do not compare adequately with toxicity-based screening levels. Cyanide has been identified as a COI for the Siltronic RI, with free cyanide being of primary interest with regard to human and ecological risk assessment purposes.

Based on the preceding, COIs for the RI as related to historical MGP process residuals at the Siltronic site have been identified as follows:

Table 2.8-1 Constituents of Interest

PAHs	Other SVOCs	Volatile Aromatics and Petroleum Hydrocarbons	Inorganics	Metals
Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,I,)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Naphthalene Indeno(1,2,3-cd)pyrene Phenanthrene Pyrene	Carbazole Dibenzofuran 2,4-Dimethylphenol 3-Methylphenol 1-Methylnaphthalene 2-Methylnaphthalene 2-Methylphenol 4-Methylphenol Phenol	Benzene Toluene Ethylbenzene Xylene TPH • Gasoline • Diesel • Oil • Extractable • Volatile	Cyanide • Total • Amenable • Free	Arsenic Cadmium Chromium Copper Lead Nickel Zinc Vanadium

3.0 PREVIOUS INVESTIGATIONS

This section identifies previous environmental and geotechnical investigations completed at the site and summarizes the results. The locations of borings and monitoring wells related to the previous investigations are shown on Figure 6.

3.1 Geotechnical or Non-Siltronic Managed Investigations

1977-1978 CH2MHill completed a geotechnical investigation of the Siltronic property in 1977 prior to construction of the Fab 1 Process Building that included installation of three test borings (B-1 through B-3). The boring logs from the investigations identified material as black sand and/or "bitumen" or with a "bituminous odor". Bitumen, as defined by the Merriam-Webster dictionary, is "any of various mixtures of hydrocarbons (as tar) often together with their nonmetallic derivatives that occur naturally or are obtained as residues after heat-refining natural substances (as petroleum)". Follow-up borings installed by CH2MHill in 1978 (B-xx-8 series) identified "oily" or "oil saturated" soil extending through apparent fill to maximum depths of up to approximately 50 to 55 feet bgs. These earliest boring locations are depicted on Figure 6.

1982 CH2MHill reported the results of a geotechnical investigation in their report *Preliminary Geotechnical Exploration for the Proposed Wacker Poly Plant* (CH2MHill 1982). Nine borings (B-100 through B-108) were completed southwest of the Olympic pipeline easement (Figure 6). The boring logs from the investigation identified hydrocarbon odors and oil-stained or oil-saturated soil in several of the borings.

1985 CH2MHill conducted a soil investigation at the southwestern portion of the Siltronic property in April 1985 (CH2MHill 1985). This investigation included the installation of seven soil borings in the vicinity of a proposed polysilicon plant (never constructed). Borings were installed to depths ranging from 31.5 to 41.5 feet and were completed as monitoring wells MW-1 through MW-7 (subsequently renamed WS-1 through WS-7). Soil descriptions from 4 of the 7 well borings (WS-1, -2, -5, and -7) indicated the presence of oily product within the surficial fill zone. Locations of these wells are shown on Figure 6.

Analysis of the soil samples detected the presence of VOCs, phenols, and PAHs. EP-Tox analysis detected low concentrations of barium and levels of 2,4-dichlorophenoxy acetic acid (2,4-D).

Groundwater samples collected from monitoring wells WS-1 through WS-7 in 1985 detected the presence of aromatic VOCs (benzene, ethylbenzene and xylene); acetone and methylene chloride (which may represent laboratory contaminants); PAHs; cyanide, and low levels of metals.

The identified 2,4-D, an agricultural herbicide, in soil at the Siltronic property has been attributed to Rhone-Poulenc Ag. Co. (DEQ 1999), located south of the site.

1988 The USEPA completed a Preliminary Assessment of the Siltronic facility in 1988 and determined that no further action related to the MGP impacts was required (USEPA 1988) since the Doane Lake area investigation was in process.

1990 Geraghty and Miller, Inc. conducted a Hydrogeological Investigation of the Doane Lake Area in northwest Portland (Geraghty & Miller 1991). The primary purpose of the study was to evaluate the hydrogeologic conditions in the vicinity of the Gould Superfund site, calculate the zone of influence of potential Gould remedies and assess the impact that groundwater quality in the Doane Lake area could have on potential Gould site remedies.

As part of the Geraghty & Miller investigation, two monitoring wells on the Siltronic property were sampled. These included the existing WS-7, installed by CH2MHILL in 1985, and a newly installed intermediate-depth monitoring well (MW-3I), installed at the MW-3 well cluster. MW-3I is screened from 55 to 60 feet while MW-3 is screened from 12 to 27 feet. No BTEX compounds, and only low levels of phenol and PAHs were detected in groundwater samples collected from well MW-3I, screened below the surficial fill, within the alluvial unit.

1990 The report entitled *Findings Report: Groundwater and Soil Gas Investigation* was completed for Siltronic by CH2MHILL in 1990 (CH2MHILL 1990). The report identified impacts to soil and groundwater characteristic of petroleum hydrocarbons, and suggested that the impacts were related to a release or releases of petroleum from the Olympic Pipeline (CH2MHILL 1990).

In June 1990, elevated levels of VOCs and PAHs were identified within soil samples collected from two geotechnical borings that were placed in the footprint of the then proposed Fab 2 manufacturing plant. Total PAH concentrations detected in the two samples were 10,000 ppm and 6,100 ppm respectively (DEQ 1999). As a result, Siltronic retained CH2MHILL to conduct an assessment of the nearby utility corridor that contains the aforementioned Olympic Pipeline, among other lines. Assessment activities involved the installation of approximately 25 well points and 3 soil gas sampling points (GW-1 through GW-29) placed on a grid pattern using approximate 75-foot centers (Figure 6). The study area, located in the vicinity of the 1979 Olympic Pipeline release (see Section 2.6.1), occupied approximately 250 feet on either side of the utility corridor, and extended along approximately 600 feet of the corridor. Groundwater samples were collected just below the water table at a depth of approximately 25 feet. All samples were field analyzed for BTEX and total petroleum hydrocarbons (TPH).

The results of the investigation indicated elevated levels of BTEX and TPH in groundwater. Benzene concentrations ranged from non-detect to 23,300 µg/L, while TPH concentrations ranged from 12 to 89,100 µg/L. The highest concentrations of TPH and benzene were detected at a point west of, and immediately adjacent to, the pipeline utility corridor. The location of maximum BTEX concentrations were found to coincide with the area surrounding three adjacent borings where a “black viscous substance” (i.e., likely tar), was identified within the fill. Analytical results from groundwater samples indicated decreasing BTEX concentrations to the northwest and southeast along the utility corridor, with the long axis of the apparent contaminant plume extending northeast away from the corridor and towards the river.

CH2MHILL concluded that the source of the petroleum contamination could not be conclusively identified, but that it appeared to be gasoline-related. Based on the preceding, Olympic Pipeline subsequently uncovered the pipelines within the area of concern. No holes or leaks from the pipeline were apparent and pressure testing of the lines was inconclusive. Upon further pressure testing, one of the lines was ruptured. In March 1991 Olympic Pipeline capped both of the old lines in-place and connected approximately 2000 feet of new pipeline in March 1991.

1995 As part of construction activities associated with the Fab 2 foundation, approximately 5,500 tons of petroleum-contaminated soil were excavated and thermally treated with a mobile soil remediation unit. Soils were treated under a solid waste letter of authorization issued by DEQ on April 17, 1995. Treated soils were disposed of at the St. Johns Landfill in Portland, Oregon.

1995 URS Consultants completed a Site Investigation Prioritization (SIP) for the USEPA in 1995. The purpose of the SIP was to determine the potential threat to public health and the environment presented at the Siltronic property. The site was evaluated based on historical and current data. Based on their review of the URS report, the USEPA did "not anticipate further investigation under the Federal Superfund program."

1997 The report entitled *Portland Harbor Sediment Investigation Report, Multnomah County, Oregon* (prepared for USEPA Region X by Roy F. Weston) identified contamination throughout the reach of the Willamette River known as the Portland Harbor, and was the basis for the USEPA placing the Harbor on the NPL (Weston 1997).

1999-2003 SLLI/RPAC completed test borings and installed monitoring wells along the southern perimeter of the Siltronic property as part of their Focused RI work. Groundwater samples collected from wells near the Siltronic administrative building, and along the southern perimeter of the property contained concentrations of TCE, monochlorobenzene and dichlorobenzene isomers, all COIs with regard to investigations on the SLI/RPAC or Arkema properties (Sections 2.7.1 and 2.7.2) (AMEC 2006).

2005-2006 SLLI/RPAC completed test borings and installed monitoring wells along the riverbank (2005) and in the uplands (2006) at Siltronic as part of their phased source control evaluation (RP-series wells RP-11 and RP-20 through RP-25). Groundwater samples contained concentrations of metals, TCE, VC, dichlorobenzene isomers, and dioxins in excess of Joint Source Control Strategy (JSCS) screening level values (SLVs). These well locations are depicted on Figure 6.

3.2 NW Natural MGP-Related Investigation Activities at Siltronic

2001-2003 As required by the Order Requiring Remedial Investigation and Source Control Measures (October 4, 2000), NW Natural performed a focused soil and groundwater investigation of the Siltronic property shoreline in 2001 to evaluate the potential for MGP-related contaminant migration from

the Siltronic property to the Willamette River. Eleven direct-push borings (P-1 through P-11) were advanced to refusal along the shoreline portion of the site, and three monitoring wells (WS-8 and WS-9 series) were installed (Figure 6). Additionally, surface soil samples were collected at select locations along the unarmored upper portion of the river embankment and a geophysical study was completed along the shoreline to pinpoint the location of utility lines that extend to the river embankment. Finally, stormwater outfall sampling from each of Siltronic's three facility outfalls and from select catch basin sediments was also conducted during this investigation.

Results of these investigation activities were reported to DEQ in the HAI report entitled *Updated Phase I Site Characterization Summary Report, Siltronic Corporation Property* (HAI 2005a). Results of these investigation activities were used by NW Natural to extend the Segment 1 (highest priority) shoreline segment onto the northernmost 400 feet of shoreline at Siltronic for source control planning and implementation (See Section 3.4.2 below). Data from the 2001 investigation activities were also used to designate the remaining portion of Siltronic shoreline (all south of Segment 1) as Shoreline Segment 3 (lowest priority) with regard to potential migration of MGP-related impacts to the river from these portions of the Site. These data were used for screening as summarized in the February 2009 report entitled *Source Control Evaluation Report, "Segment 3" Siltronic Property Related to NW Natural "Gasco" Site* (Anchor QEA 2009a).

In general, the results of the soil and groundwater sampling identified potential MGP impacts in the northern borings, correlating with the former effluent pond overflow area that occupied the northern portion of the Siltronic property prior to filling activities. Petroleum hydrocarbon impacts near the southeast shoreline appeared to be of lesser magnitude and may be attributable to the former fuel storage and transfer operations located in that area (Union Oil, Standard Oil of California, Western Transportation operations), or were related to other sources, potentially including the quality of fill materials placed in that area.

The 2001 investigation activities identified the presence of TCE and its degradation products at significantly elevated concentrations in deep groundwater at one shoreline location (boring P-2) down-gradient from Siltronic's former TCE management / spill area in the northern shoreline area. This discovery resulted in follow-up investigation and source control

work directed by Siltronic in the northern portion of the Site (see Sections 3.3 and 3.4.1).

2005NW Natural completed two indoor air studies at the Siltronic property in 2005. The indoor air evaluation focused on buildings located over those portions of the site with the greatest known soil and groundwater impacts as may be attributable to MGP residuals (e.g., the northern portion of the property). The first study included collection of air samples at 15 indoor and outdoor locations across the property, with locations in the Fab 1, Fab 2, Central Facilities, and Wastewater Treatment Plant Buildings. Sampling stations were also established on building roofs and at the northern and southern end of the property to act as control stations. The second study included 7 sampling stations and was meant to supplement and confirm the results of the first study. The second study included sampling at stations established within the Central Facilities Building and the Wastewater Treatment Plant Building. Results of the air sampling activities (HAI 2005b, c), did not indicate the presence of potential MGP-related VOCs (e.g., aromatic hydrocarbons) at levels that would suggest contribution from on-site soil or groundwater. No further evaluation of the indoor air pathway was deemed necessary.

NW Natural completed investigations related to discharges from City Outfall 22C as well as individual stormwater sources that discharge to this outfall via Doane Creek or North Doane Lake as part of Siltronic-related investigations in 2005. Surface water sampling stations included Outfall 22C, Northwest Drainage Pond (NDP), North Doane Lake, Koppers area culvert to Doane Creek; and the Tualatin Hills Drainage to Doane Creek. Sediment samples were collected at the NDP and central Doane Creek locations. The sampling identified the presence of certain COIs at concentrations greater than screening level values, with the greatest concentrations during the early Fall non-storm related event, when a majority of the flow was suspected of being groundwater recharge. The methods and findings from the 2006 Outfall 22C sampling activities were reported in the report entitled *City of Portland Outfall 22C Drainage Sampling Activities, Siltronic Corporation Property*, dated June 2, 2006 (HAI 2006).

3.3 Siltronic TCE-Related Investigations

The following investigations were conducted by Siltronic following the results of the 2001 HAI work which identified the presence of TCE and its

degradation products in the subsurface. The boring locations are shown on Figure 6.

2002 Limno-Tech, Inc. (LTI) performed a groundwater investigation for Siltronic in 2002. Three direct-push borings (GP02-01 through GP02-03) were advanced to refusal. One boring was located near the former UST area, another was near the former TCE stripper equipment, and the third was located down-gradient on the north side of Fab 1. Concentrations of TCE and its degradation products in groundwater samples collected near the former UST area suggested that a release had occurred in this area. TCE and its degradation products were not detected in the groundwater samples collected near the former stripper equipment. Soil and groundwater samples from all three borings also contained concentrations of aromatic hydrocarbons and PAHs.

2002 MFA collected soil and groundwater samples from four direct-push borings (GP4 through GP7 completed near the Fab 1 structure (MFA 2002) Soil and groundwater samples also contained concentrations of COI's as related to the MGP-related RI.

2003-2006 MFA performed a soil and groundwater investigation on behalf of Siltronic in various phases between 2003 and 2006, the results of which are described in the RI Report prepared for Siltronic (MFA 2007). Initial work involved advancement of three direct push borings (GP8 through GP10) in the former spent TCE UST area. Soil and groundwater samples from these borings confirmed that a release had occurred from the former USTs or associated piping. Subsequent investigations between 2004 and 2006 involved installation of numerous upland (GP-11 through GP-24; GP-33 through GP-37) and in-water temporary well points (GP-25 through GP-32; GP-38 through GP-84) and upland monitoring wells (WS-14 through WS-22 clusters) at the northern portion of the Siltronic property within and down-gradient of the TCE source area (MFA 2005, 2007).

As part of RI activities completed in 2004, Siltronic also completed an indoor air evaluation of the building located directly above the TCE plume (e.g., Fab 1 Building). The investigation included the collection of one outdoor and five indoor air samples for VOC testing. The report concluded that neither TCE nor its degradation products were migrating from soil or groundwater into indoor air at concentrations above risk-based screening values. Further, no aromatic hydrocarbons (e.g., BTEX), as might be attributable to MGP or

other petroleum-related impacts, were identified in indoor air at concentrations above risk-based screening levels (MFA 2004b).

The results of the groundwater assessment indicated that the Siltronic plume of TCE and its degradation products is present in the upper and intermediate Alluvial water-bearing zone (WBZ) between about 80 feet and 140 feet bgs near the Willamette River shoreline (MFA 2004a). The RI further concluded that TCE and degradation products are present in porewater and are discharging directly into the Willamette River.

The MFA investigations described above identified a plume containing MTBE, mono- and dichlorobenzene isomers, and silvex, in the lower and basal Alluvial WBZ, and in the CRB. Since these COIs are considered to have originated off-site, this plume is referred to as the off-site COI plume. The offsite COI plume also includes low concentrations of TCE. MFA concluded the off-site TCE plume to be separate from the Siltronic UST-sourced TCE plume based on the absence of TCE and its degradation products in samples collected at elevations between the two plumes. The vertical extent of the off-site TCE plume appears to be from 166 feet bgs to at least 207 feet bgs. Delineation of the lateral extent of the RPAC portion of the off-site COI plume is ongoing. Delineation of the MTBE plume (likely to be related to confirmed releases of petroleum products from the KM pumping station) is incomplete and has not been addressed.

3.4 Source Control Related Activities

3.4.1 Siltronic

To evaluate source control measures with regard to the TCE plume discharging into the Willamette River, Siltronic conducted pilot study work involving enhanced in-situ bioremediation (EIB) of the TCE plume as documented in the August 2007 *Pilot Study Report* (MFA 2007). Siltronic subsequently submitted a *Focused Feasibility Study* recommending EIB in the TCE groundwater source area (MFA 2007). EIB injections were completed in the TCE source area by Siltronic in 2009 and plume conditions are presently being monitored to evaluate EIB performance.

3.4.2 NW Natural

As directed by DEQ, NW Natural completed interim design of a groundwater and DNAPL source control measure for Shoreline Segments 1 and 2, which cover the entire length of the Gasco shoreline and the northern approximate 400 feet of the Siltronic shoreline. The evaluation and interim design are included within the Anchor QEA report entitled *Groundwater Source Control Interim Design Report (IDR), NW Natural Gasco Site* (Anchor QEA 2009b).

DEQ determined the shoreline of the NW Natural Property and the northern portion of the Siltronic-owned property are high priorities for source control. The portion of the shoreline identified as the highest priority for source control (Segment 1) extends from downstream of the "Tar Body Removal Area" on the NW Natural Property, to upstream of the former Gasco MGP effluent overflow ponds on the Siltronic property. This segment coincides with the heaviest MGP-related impacts identified near the river, including DNAPLs, contaminated groundwater, and impacted riverbank soils. It also includes the portion of the Siltronic property where TCE in groundwater has commingled with MGP-related DNAPL and dissolved constituents.

The source control removal action goals for shoreline Segments 1 and 2, in their most basic form, are to prevent discharge of upland groundwater and DNAPL to the Willamette River.

As provided in the 2009 Source Control IDR, NW Natural recommended source control involving hydraulic containment through operation of groundwater extraction wells to be installed along the entire Gasco property shoreline and extending onto the northern portion of the Siltronic shoreline. In addition to the implementation of hydraulic containment as an immediate source control, NW Natural recommended the evaluation of a vertical barrier and DNAPL removal technologies within the context of the actual hydraulic containment performance and in conjunction with site-wide upland remedies to be evaluated as part of the upland FS. NW Natural is currently completing design documents for these source control measures.

4.0 PHASE I RI FIELD INVESTIGATION

This Section describes the RI field activities conducted at the Site as associated with the following areas of investigation:

- Soil Investigation
- Geophysical Pilot Investigation
- Doane Creek Investigation
- Groundwater Investigation
- DNAPL Investigation

The following subsections summarize the DQOs and methodologies used to collect the samples, provide final sampling locations, and describe deviations from the RI Workplan.

4.1 Data Quality Objectives

The overall data quality objective for the RI is to provide valid data of known and documented quality to characterize sources, determine migration of contaminants at levels equal to or above the detectable levels, and screen for potential threats the site may pose to human health or the environment. Data gathered during the RI is meant to provide the basis for decisions relating to future investigation requirements, human health and ecological risk assessment, and remedial measures. Specifically, data collected during the RI will be used for a number of purposes:

1) To determine the nature and extent of MGP-related constituents of interest
2) To further the understanding of the geology/hydrogeology of the Site
3) To support human health and ecological risk assessments
4) To enhance the understanding of DNAPL distribution and mobility potential at the site

The data quality assurance objectives for the investigation involved development and implementation of procedures for the collection of representative samples and development of a chemical and physical dataset

of known quality. To meet these objectives, all field activities were conducted, with a few minor deviations, in accordance with the methods described in the Sampling and Analysis Plan (SAP) as provided in the DEQ-approved RI Workplan (HAI 2007b) and the DEQ-approved Plan for Supplemental RI Activities for DNAPL Characterization (HAI 2009a).

4.2 Scope of Work

The overall scope of work for RI activities completed by NW Natural at the Siltronic property through implementation of the 2007 RI Workplan is summarized below and described in more detail in Sections 4.3 through 4.7.

Soil Investigation Activities

- Installation of 55 soil borings between May 2007 and March 2009 with the collection, analysis, and lithologic logging of surface and subsurface soil samples for identification of subsurface lithological conditions and COI presence and distribution.
- Laboratory COI analyses of more than 100 soil samples collected at multiple depths within the borings targeting COI data collection for evaluation of potential surface and subsurface exposures and potential MGP residuals characterization.
- Collection of undisturbed soil core for characterization of physical properties of the upper native silt unit (4 locations) and testing of soil grab samples for grain size distribution (4 locations at 20 foot depth intervals to bedrock) in Rotosonic borings installed in March 2009.
- Field screening of all soil cores for presence of potential manufactured gas plant residuals, including tar, oil, carbon pitch, and gas purifier materials.

Geophysical Pilot Investigation Activities

- Completion of a pilot geophysical survey to test the applicability of ground penetrating radar (GPR) and Electrical Resistivity Imaging (ERI) techniques for determination of native alluvial silt surface expression at the southern corner of the Siltronic property in July and August 2008.

Doane Creek Investigation Activities

- Collection of 50 surface soil samples along the east and west embankments of Doane Creek, with compositing into 10 five-part composite samples (5 from each embankment) for laboratory COI analyses.

- Collection of 25 shallow sediment samples along the full reach of Doane Creek adjacent to the Siltronic property, with compositing into 5 five-part composite samples for laboratory COI analyses.

- Installation and periodic water level monitoring of staff gauges within the upper, middle, and lower reaches of Doane Creek adjacent to the Siltronic property.

- Sampling of surface water at 5 to 6 locations within Doane Creek during the dry season (Fall 2010) coincident with both a both precipitation event, and a non-precipitation event.

Groundwater Investigation Activities

- Installation of 10 groundwater monitoring wells (NWN-series) ranging in depth from 17 to 33 feet bgs within the surficial fill WBZ in June 2008, with subsequent incorporation into routine monitoring (6 sampling events between August 2008 and March 2010) for COI data collection and groundwater elevation/flow direction determination.

- Two routine groundwater monitoring events were expanded to include select SLLI monitoring wells installed across the southern portion of the Siltronic property and the adjacent BNSF Railroad property. The expanded monitoring included laboratory COI analyses of groundwater samples collected from 10 SLLI well locations in August 2007 and from 25 SLLI well locations in March/April 2010. The March 2007 expanded sampling focused on the SLLI shoreline wells, while the 2010 sampling included a majority of SLLI wells at the Siltronic property and directly adjacent on BNSF Railroad property.

- Collection and laboratory COI analyses of depth-discrete exploratory groundwater samples in March 2009 from temporary well points installed within rotosonic boreholes at approximate 10 to 40 foot

depth intervals through the surficial fill and alluvial WBZs to bedrock (depths ranging from 108 feet to 161 feet bgs).

DNAPL-Related Investigation Activities

- Completion of two rounds of Tar-specific Green Optical Screening Tool (TarGOST) boring activities at the Siltronic and adjacent NW Natural properties in August/September 2007 (Round 1) and March 2008 (Round 2). Seventeen TarGOST borings were drilled at the Gasco property and 12 TarGOST borings were drilled at the Siltronic property, with borings advanced to depths up to 150 feet bgs.

- Preservation and shipment of undisturbed soil core collected from 8 direct push borings installed in January and February 2009 at the Site targeting zones within the surficial fill identified or suspected to have DNAPL presence. The core were submitted to the laboratory for photographic evaluation and completion of analyses related to potential DNAPL mobility.

- Sampling of DNAPL from surficial fill well WS-10-27 and alluvial well WS-15-85 in February 2009, with physical and chemical testing of the oil.

4.3 Soil Investigation

Upland soil investigation activities were conducted as described in the 2007 RI Workplan to complete additional site characterization as related to COI and hydrogeological site conditions at the Site. Field activities involved collection and analysis of soil samples from 42 direct push and 4 rotosonic soil borings installed across all sectors of the Site. Additionally 9 direct push borings were installed within the vacated NW Front Avenue utility corridor at the Site with COI data collection from soils in the upper 10 feet bgs. Sampling locations are depicted on Figure 7. A description of soil investigation strategy and sampling activities is provided below.

4.3.1 Sampling Strategy and Definition of Depth Intervals

For the purpose of the RI, and as described in the RI Workplan (HAI 2007b), unique soil horizons were defined and targeted for sampling during the investigation to fully support risk evaluations and nature and extent determinations, as follows:

Surface soils were defined as soils within the upper approximate three feet of the ground surface to support evaluation of potential occupational and ecological exposure scenarios within the RA.

Subsurface Soils were defined as soils within the 3 to 20 foot depth interval that are present above the water table. These soils were sampled to support evaluation of potential excavation and construction worker exposure scenarios within the RA.

In addition to sample collection within the defined surface and subsurface soil depth horizons across the Site, visual characterization, field screening, and collection of chemical data within soils below 20 feet bgs were also conducted as part of the RI to characterize the vertical extent of soil impacts above the water table, or where screening suggested the presence of impacts that may have significantly different COI concentrations than those identified in the upper 20 feet bgs. These soil samples were classified for purposes of the RI as “deep soils”.

The specific soil sampling approach included collection of one surface soil sample (homogenized from the 0 to 3 feet interval) and a minimum of one subsurface soil grab sample between 3 and 20 feet bgs. The homogenized sample avoided incorporation of shallow coarse construction fill, with the sampling initiated directly beneath these materials, where present. For volatile analyses, a discrete non-homogenized sample was collected of the finest grained material within the upper 3-foot interval using collection procedures consistent the RI Workplan.

Subsurface soil sampling depths were selected based on direct observation and field screening results, with biased sampling towards areas with field screening evidence of impact. At locations where field screening evidence of impact was identified, additional sampling depths were typically targeted for additional characterization or delineation purposes.

4.3.2 Soil Sampling Locations

Due to the heterogeneous nature of the soils being evaluated (fill), soil borings were installed across the Site on a pre-selected grid pattern established at the site with locations added to fill in areas where: 1) MGP residuals were known to have been placed or stored (Figure 4); 2) where MGP residuals are suspected to have been mixed into fill (Figure 5); 3) where additional characterization or confirmation of previously identified

areas of impact were recommended; and 4) to provide overall baseline coverage of conditions across the Site.

42 direct push and 4 Rotosonic soil borings were installed in 2008 and 2009 as part of NW Natural's RI activities on the Siltronic property. Additionally, although not conducted as part of RI activities, NW Natural installed and sampled 9 shallow direct push borings within the vacated NW Front Avenue utility right-of-way in 2007 as part of inspection and upgrading of its 20-inch "Front Avenue" natural gas pipeline. Soil samples were collected from certain of these borings for soil characterization and pre-excavation disposal profiling purposes, with the analytical results validated and included in the RI dataset.

Figure 7 shows the 46 locations where soil samples were collected from direct push and rotosonic borings installed during the 2008 and 2009 RI activities, as well as the 9 locations where samples were collected during the 2007 pipeline assessment. Location information (Oregon State Plane coordinates) for all soil sampling locations are included within the dataset provided in Appendix A and are included on Table 2 (Monitoring Well and Boring Construction Summary).

4.3.3 Soil Boring Installation

4.3.3.1 Direct Push Borings

Direct push borings P-5A, P-8A, P-12 through P-20; P-22 through P-26; P-28 through P-32; P-34; P-36 through P-52, and P-54 were installed at the Site between April 14, 2008 and May 1, 2008. Direct push borings P-33 and P-45A (groundwater only) were installed during a separate mobilization on August 10, 2009 due to access constraints surrounding the P-33 area associated with Siltronic enhanced in-situ bioremediation (EIB) injection equipment. These borings were installed to depths ranging from 5 feet to 45 feet in depth, with a majority of the borings installed to depths equal to or greater than 30 feet bgs.

Direct push borings P-A through P-G and PY, P-Z were installed to a depth of 10 feet bgs within the vacated NW Front Avenue utility easement at the Site on May 4, 2007 to characterize soils near the location of the 20-inch natural gas pipeline for pre-disposal characterization.

All direct push borings were installed under the direction of HAI by Boart Longyear E & I Division (Boart Longyear) using a truck- or track-mounted hydraulically-driven direct push unit. Continuous soil cores were collected at all direct push locations using a 1.5-inch ID, 5-foot long, stainless-steel, Macrocore sampler fitted with a single use PVC sleeve. Upon removal of the PVC sleeve from the Macrocore, the sleeve was sliced length-wise so that the soils could be directly observed and samples collected. Upon completion, each boring was backfilled with granular bentonite from the bottom of the hole to within approximately 6-inches of the ground surface and was completed to match the surrounding land surface.

4.3.3.2 Rotosonic Borings

Four Rotosonic borings (SB-21, SB-27, SB-35, and SB-53) were installed at the Site between March 9, 2009 and March 19, 2009 to depths ranging from 105 to 161 feet bgs.

All Rotosonic borings were installed under the direction of HAI by Boart Longyear using a Rotosonic 600t drill rig. Rotosonic drilling provided for collection of continuous large diameter core samples from a 4- or 6-inch OD core barrel within a larger diameter (6- or 9-inch OD) casing that was advanced by high frequency vibrational and optional low speed rotational movement, coupled with down-pressure to advance the cutting edge of a drill bit.

At all locations, a 9-inch diameter steel outer casing was advanced to a depth below the base of observed oil and tar, at which point the 9-inch diameter casing was pulled back slightly and approximately 2 feet of bentonite pellets was placed at the base of the hole and allowed to hydrate. After hydration, drilling resumed by advancing a 6-inch diameter steel casing within the 9-inch diameter casing and through the hydrated bentonite plug.

Upon completion, all Rotosonic boreholes were grouted from bottom to within approximately 20 feet of the ground surface with a bentonite / organoclay blend, consisting of approximately 9 parts Wyoming sodium bentonite and 1 part organoclay by volume and mixed to a minimum 20% solids content. The resulting mud weight of the 20% solids mud is approximately 9.5 to 9.7 pounds per gallon, which was weighed and recorded to verify appropriate solids content was achieved. The upper portion of the borehole was filled with bentonite chips, hydrated in

approximate 2 foot lifts, with the upper 6- to 12-inches filled with asphalt or concrete to match the surrounding surface.

4.3.4 Soil Sample Collection from Borings

4.3.4.1 Direct Push

In direct push borings, continuous soil cores were collected using a 1.5-inch ID, 5-foot long, stainless-steel, Macrocore sampler that is fitted with a single use PVC sleeve. To collect a soil core, the sampler was advanced to the desired depth, the piston tip was loosened, and the sampler was advanced, thereby coring the soil into the PVC Macro tube sleeve.

Upon removal of the PVC sleeve from the Macrocore, the sleeve was sliced length-wise so that the soils can be directly observed and samples collected. Samples were collected from the core by hand using new disposable nitrile gloves for each sample.

In cases where a soil interval (e.g., 0 to 3 feet bgs) was homogenized, the sample for volatiles analysis was first collected in accordance with EPA Method 5035 from the desired depth interval as quickly as possible after opening the core to minimize volatilization. After logging the core was complete, the remaining sample portion was then homogenized in a stainless steel bowl and the remaining sample containers were filled.

In cases where undisturbed core was collected for physical testing (described below), the core was cut into sections, capped, and labeled as to depth and orientation.

Samples of undisturbed core were collected from within the fill unit at select direct push boring locations installed at the Site on January 27, 28, and February 5, 2009, primarily for DNAPL characterization purposes, but physical characteristic data were also collected from these locations. These sections of undisturbed core were collected from new direct push borings installed solely for the purpose of soil core collection. Depths for core collection were targeted based on review of logs from direct push borings previously installed as per the RI Workplan. The new borings were installed within 2 feet of the original boring and were labeled with the suffix “A”. For example, undisturbed core collected to represent conditions as described within the boring log for P-12 were collected within new boring P-12A, installed within 2 feet of the original boring. Soils were not logged during

these targeted core retrieval runs and therefore unique boring logs were not generated.

These activities were completed in accordance with a January 16, 2009 Supplemental Work Plan (HAI 2009a) as approved by DEQ in correspondence dated February 4, 2009. The specific locations and depth intervals for undisturbed core collection from direct push borings were collected are summarized below. Full recovery was not obtained within each interval. The specific zones of recovery are identified on the chain-of-custody documentation as included within the PTS Laboratory Report entitled Core Photography and Physical Properties Data (PTS January 2009), provided within Appendix C.

Table 4.3-1 Undisturbed Core Collection From Direct Push Borings

Soil Boring Location	Core Depth Interval (feet bgs)
P-7A	19 to 28.45
P-12A	5 to 24.9
P-15A	15 to 29.65
P-16A	5 to 24.3
P-36A	10 to 33.8
P-38A	25 to 44.3
P-42A	25 to 34.5
P-44A	10 to 32

4.3.4.2 Rotosonic

In Rotosonic borings, continuous soil cores were collected using a 10-foot long, 4-inch inside diameter (ID) core sampler that was advanced into undisturbed soil beneath the outer casing. Upon being brought to the

surface, the soil core was extruded from the core barrel into labeled plastic bags which were subsequently sliced open for field screening, description, and sample collection. Samples were collected from the core by hand using new disposable nitrile gloves for each sample, with volatiles sampling and interval homogenization completed as described for the direct push methodology.

Certain depth intervals were pre-selected for collection of relatively undisturbed soil core for physical testing. In such cases, 4-inch OD polycarbonate resin (Lexan®) tubes were used to facilitate recovery of relatively undisturbed soil. Upon being brought to the surface, the Lexan® tubes were cut, capped, and labeled as to orientation.

Samples of undisturbed core were collected within the upper alluvial silt unit at each SB boring location for testing of the vertical hydraulic conductivity of the upper alluvial silt unit, as well as particle size testing of this semi-confining unit. Specifically, undisturbed core targeting the upper alluvial native silt unit were collected at the following locations across the indicated depths:

Table 4.3-2 Undisturbed Core Collection From Rotosonic Borings

Soil Boring Location	Core Depth Interval (feet bgs)
SB-21	33 to 34.65
SB-27	37 to 39.5
SB-35	36 to 37.55
SB-53	38 to 40.5

4.3.5 Soil Description and Field Screening

Soils encountered within each boring were described in the field using the Unified Soil Classification System (USCS). All soil cores were screened in the field for the presence of contaminants by visual (color), olfactory, sheen, headspace vapor, and ultraviolet fluorescence methods in accordance with the RI Workplan, and as summarized below.

The presence of sheen was assessed by placing clean tap water in a black pan and introducing approximately 5 grams of disaggregated soil to the water. The observation for the presence or lack of sheen is a relative indicator of contamination.

Organic vapor levels in the soil samples were measured by the headspace vapor method utilizing a photoionization detector (PID) with a 10.6 electron volt (eV) lamp. Immediately following the collection of the sample, approximately 4 ounces of soil were placed in a clear zippable plastic bag and sealed. The sample was then set aside for a stabilization period where the sample was allowed to reach ambient temperature. The detector probe was then inserted through the seal into the bag to collect the headspace sample. The results of the headspace screening were recorded on the boring log in ppm and are appropriate qualitative screening purposes only.

The presence of NAPLs were screened in soil samples using direct observational and ultraviolet (UV) methods. Direct observation included evaluating the presence of visual brown or black oil on or between the soil particles; oil staining of the PVC macrocore sample sleeve; or staining of the plastic bag used to contain the headspace sample.

For UV fluorescence screening, a Raytech view box and light equipped to provide shortwave (2,500 to 3,000 angstrom units) and longwave (3,000 to 4,000 angstrom units) UV light was used. Following the collection of each soil sample, approximately 2 ounces of soil was placed in the view box. The shortwave UV light was then activated and the sample was observed for fluorescence. Subsequently, the shortwave UV light was deactivated, and the long wave UV light was activated, and again the sample was observed.

Geologic logs describing lithologic and field screening results at each 2007, 2008 and 2009 direct push and Rotosonic boring are included within Appendix B.

4.3.6 Deviations from Workplan

Exceptions to procedures, targeted sampling intervals, or locations, as specified within the RI Workplan (HAI 2007b), are as follows:

- The surface soil sampling interval was less than the 3 foot target sampling interval at 4 push probe boring locations. The affected borings were P-15, P-23, and P-24, all with a 2.5 foot surface sample

interval, and P-17, with a 2 foot surface sample interval. The sampling interval for these locations was less than the 3 foot target interval due to limited core recovery across this zone.

- No soil sample collection within the upper 10 feet of the boring at the P-36 or P-38 push probe locations or the SB-21, SB-27, SB-35, and SB-53 locations was possible due to the need to use vacuum excavation methods across these depths to clear for possible subsurface utilities. Vacuum excavation was also required at the P-29 push probe location, but because the surface in this area is not paved, a surface sample across a depth interval of 0 to 1 foot was obtained with a hand auger prior to vacuum excavation.

- Push probe borings P-16, P-25, and P-52 were all moved slightly from the locations described in the RI Workplan. Boring P-16 was relocated approximately 75 feet east so that it would be installed on the Siltronic side of a fence located in that area; P-25 was relocated approximately 30 feet northeast as a precaution due to known utilities in the area; and boring P-52 was relocated approximately 25 feet northwest to accommodate access constraints.

- Two push probe borings were advanced on different days at the P-19, P-20, and P-22 locations. Borings P-19, P-20, and P-22 were all advanced on April 15, 2008 to depths of 20 feet (P-20) and 25 feet (P-19 and P-22). After reviewing the boring logs for these locations it was concluded that total depth may not have been sufficient to tag to top of the alluvial unit. As such, on April 25, 2008 new borings were installed within approximately 2 feet of the earlier borings to retrieve soil core at greater depth, with new borings advanced to depths of 35 feet (P-20) and 40 feet (P-19 and P-22). No soil core was retrieved across the shallower depth intervals already sampled at each of these locations. The soil descriptions as obtained from the adjacent borings on April 25 were placed on the boring log for each respective boring.

- Collection intervals for soil samples obtained from direct push borings installed for pre-disposal characterization related to NW Natural's 2007 pipeline repair work (e.g., borings P-A, P-B etc.) were different than the interval as specified within the RI Workplan. Specifically, shallow samples were collected as grabs over an approximate 6-inch depth interval within the upper 3 feet as part of

this characterization work, as opposed to the homogenization of soils across the full upper 3 feet of soils as specified within the RI Workplan. Samples within the surface interval were collected at the P-A, P-D, and P-E locations. Samples collected from the other pre-disposal boring locations were obtained from the subsurface interval, with most of these samples collected between the 7 and 10 foot depths, to correspond with anticipated trenching depths through this area.

- Hydraulic conductivity testing on sample depths originally identified at the SB-27 and SB-53 locations were determined (based on grain size testing results and laboratory provided photographs) to be unrepresentative material from higher portions of the soil column that was incorporated at the extreme end of these core sections. Samples obtained from the center of these sample cores were selected for follow-up testing and were deemed representative of the target native alluvial silt unit based on corresponding grain size test results.

4.4 Geophysical Pilot Evaluation

Two surface geophysical methodologies were pilot tested at the southern corner of the Siltronic property as a component of the RI. The soil horizon of interest with regard to the geophysical work was the native alluvial silt layer which is overlain by at least 15 to 30 feet of dredge spoils or fill of varying type, depending on location within the pilot test area. The native silt horizon influences groundwater and contaminant transport within the fill materials beneath the site.

The geophysical pilot evaluation was conducted by Northwest Geophysical Associates, Inc. (NGA) of Corvallis, Oregon and consisted of both low frequency ground penetrating radar (GPR) and Electrical Resistivity Imaging (ERI) techniques.

GPR data were collected along Lines A South and B South by NGA on July 16, 2008 while ERI profiling was performed along Line A South on August 27, 2008. Line A South, located between the NWN-4 and the RP-20 well cluster, measured 580 feet in length. GPR data was collected along the entire alignment. ERI profiling was conducted between 20 feet and 570 feet along the profile alignment. A Figure depicting the geophysical profile alignments is included within the 2008 NGA Report (Appendix D). A

summary of the procedures and findings of the GPR and ERI pilot evaluation are provided below.

4.4.1 Ground Penetrating Radar (GPR)

Ground penetrating radar was run by NGA using a Geophysical Survey Systems, Inc. (GSSI) SIR-2000 control unit with two different antennas: 1) a 40 MHz RadarTeam Model SE40antenna, and 2) a 100 MHz GSSI Model 3207 antenna. With the 100 MHz antenna, data were acquired continuously as the antenna was pulled across the surface. Paint marks or pin flags were placed along the line at 10 or 20 foot intervals and fiducials were placed on the record at interval marks using a hand switch. Data collected using the 40 MHz antenna were acquired in “point” collection mode. Using a fiberglass measure tape as reference along the line, data points were collected at one foot intervals with each measurement representing the average of 32 GPR scans at each station.

GPR data were processed by NGA to remove horizontal banding from spurious reflections in the cabling and system noise. Radan GPR processing software, from GSSI, was used to remove much of that banding. The approximate depth scale shown on the GPR figures (Appendix D) assumes a two-way slowness of 7 nanoseconds/foot (ns/ft). A two-way slowness of 7 ns/ft corresponds to a dielectric constant of 5-8 or an approximate velocity of 0.3 ft/ns (0.10 m/ns). According to NGA, that slowness is typical of silty soils in Portland and Willamette Valley, but can vary up to +/- 30% according to the presence and amount of moisture and clay in the subsurface.

As documented in their summary report (Appendix D), NGA estimates the maximum depth of GPR data signal penetration at the Siltronic study area ranged between 15 and 20 feet bgs, with the upper 15 to 20 feet of soil being one of homogenous electrical permittivity, likely representing homogenous soil. The GPR data along the test alignments were not interpreted by NGA as exhibiting reflective patterns indicative of a contact between a sandy fill and native silt horizon. The known depth of the upper alluvial unit beneath the pilot test area, based direct observation in soil borings, ranges from 15 to 30 feet, depending on location – which, at its shallowest, is near or below the maximum depth of the GPR signal penetration.

NGA concluded that the interpretation of the GPR data for the presence of geologic and subsurface soil horizons at depths greater than 15-18 feet is

not feasible. Because the area selected for the pilot testing has the shallowest expression of the surficial fill / alluvial silt contact of anywhere on the Site, it does not appear that GPR methodology will be feasible for identifying alluvial soils at any portion of the Siltronic property.

4.4.2 Electrical Resistivity Imaging

Electrical Resistivity Imaging (ERI), or direct current (D.C.) resistivity profiling, is a method for determining the two-dimensional structure of the electrical resistivity of the earth (the geoelectric section) beneath the selected profile line. The data are acquired by driving an electrical current through the earth using a pair of current electrodes implanted in the ground, and measuring the resulting potential developed across a second pair of potential electrodes. Depth of exploration is varied by changing the distance between the current electrodes and the potential electrodes.

NGA used a Sting R1 resistivity system, manufactured by Advanced Geosciences, Inc. (AGI) with a dipole-dipole configuration to conduct the ERI portion of the pilot geophysical investigation. The Sting R1 system utilizes a multi-takeout cable with a series of 28 or 56 electrodes which were deployed along the line of the profile at set intervals. The dipole-dipole electrode configuration provides somewhat better lateral resolution than alternative configurations. For the electrode spacing and configurations used in the D.C. resistivity profiling, the depth of exploration was approximately 35 feet. Exploration depth varies according to the electrode separation and the conductivity structure of the ground.

Line A South was run with 56 electrodes at 10 foot spacing, yielding a 550 foot profile line. The built-in software of the Sting R1 unit cycles through various separations of current and potential electrode pairs to develop a two-dimensional “pseudo-section” of resistivity values.

Two-dimensional computer modeling was carried out by NGA using EarthImager software developed and distributed by AGI. Using that program, the pseudo-sections were inverted into a two-dimensional geoelectric model of true earth resistivity. This two dimensional model produced by the software inversion has been annotated by NGA and is presented as Figure 4 within the NGA Geophysical Pilot Investigation Report (Appendix D).

Soil resistivity values, as conveyed in the geoelectric sections (Figures 6-7, Appendix D), are indicative of soil types, with fine-grained soil with higher clay content being less resistive (<10 ohm-meters) and coarse-grained soil, with little or no clay content being move resistive (>100 ohm-meters). According to NGA, other factors, such as pore water salinity, or total dissolved solvents, will also affect the soil resistivity.

Figure 4 (Appendix D) shows the interpreted geoelectric section for Line A South. The southwestern portion of the profile exhibits a transition from lower resistivity values (5-15 ohm-meters) to somewhat higher resistivity values (30 ohm-meters) below 10 to 15 feet. This horizontal linear zone of high resistivity values (between profile distances 50 and 280 feet) is interpreted by NGA as a change in soil type in that area.

The eastern portion of the profile exhibits a linear horizontal zone of lower resistivity (less than 10 ohm-meters) at depth (15-20 feet) between profile distances 380 and the end of the line. NGA interprets this lower resistivity zone as a change in fill material, possibly to a higher clay content.

NGA interprets the change in resistivity values between stations 50 and 280, from lower resistivity to higher resistivity, as likely representing minor soil resistivity variation. The variations seem to be gradational and not continuous horizontally. For those reasons it is not likely that the resistivity change represents the transition from the dredge fill and the native silts.

Based on the preceding, NGA finds that the transition from the dredge soils to the native soils may have a small or negligible resistivity contrast, with the fine grained soils in the fill having similar resistivities to the fine grained native silts, which makes recognition of a subsurface contact difficult or not possible to recognize, even though it may be within the depth of investigation.

4.4.3 Deviations from Workplan

Exceptions to procedures or locations, as specified within the RI Workplan (HAI 2007b), are as follows:

- The RI Workplan described the use of a RadarTeam GPR control unit using both a 40 MHz and a 100 MHz antenna for the GPR pilot survey work. A GSSI SR-2000 control unit was instead used for the

GPR pilot work. The change in the manufacturer of the controller was not material and did not alter the functionality of the antennae.

- Based on terrain, vegetation, and the presence and location of reference borings in the pilot area, two profile alignments, each approximately 600 feet in length, were completed for the GPR pilot survey instead of the 5 to 6 100 foot lines as proposed in the RI Workplan. This workplan deviation resulted in a doubling of the overall proposed GPR footage and allowed comparison with the full length of a corresponding electrical resistivity alignment.

- The RI Workplan described the placement of 2 profile alignments, each approximately 270 feet in length, for completion of the electrical resistivity profiling pilot survey. For the same reasons as cited above for the GPR pilot survey, a single longer profile alignment was completed for the electrical resistivity pilot. The single alignment measured approximately 600 feet in length, which is not materially different than conducting two separate alignments, each of 270 feet.

4.5 Doane Creek Sampling

Characterization of embankment soils, stream sediments, and surface water along or within Doane Creek with regard to potential COI impacts was identified as a data need for the RI. Doane Creek, a manmade drainage feature, trends across BNSF and P&W-owned properties southwest of the Siltronic property (Figures 2 and 8). Except as noted, all sampling completed to date was conducted consistent with procedures described in the RI Workplan, as summarized below.

4.5.1 Soil and Sediment Sampling

To accomplish the sampling, Doane Creek was subdivided into five areas of similar size between the upstream end (Koppers and Forest Park drainage culverts) and the downstream end (Northwest Drainage Pond). Each area was further divided into sub-areas representing 1) western bank soil, 2) eastern bank soil, and 3) stream channel sediment. Within each of the five areas (DC-1 through DC-5), five approximately even-spaced samples of eastern bank soil; western bank soil; and Doane Creek sediment were collected (15 samples total per area, 75 soil and sediment samples in total).

Each embankment sample was a homogenization of soil (vegetative matter removed) across the upper two feet bgs collected with a decontaminated hand auger or shovel and hand trowel. Homogenization of bank soils consisted of thoroughly mixing an equal volume of soil across the 2-foot sampling interval within a stainless steel bowl.

Each sediment sample was collected at the water line from the upper 6-inches of material with the use of a decontaminated stainless steel hand trowel.

A sub-sample from each of the 5 homogenized bank soil samples (east and west) and the 5 stream sediment samples from within each of the 5 areas were homogenized into one composite sample (one eastern bank composite; one western bank composite; and one sediment composite) to undergo laboratory analysis for characterization of COI presence and magnitude. Thus, a total of 75 discreet samples were collected and then composited such that a total of 15 samples were submitted for laboratory analysis.

All sampling activities as related to Doane Creek embankment soils and sediments were completed by HAI field personnel between June 14 and June 16, 2010 (embankment sampling), and on July 1, 2010 (sediment sampling). All Doane Creek sub-areas (DC-1 through DC-5) as well as the individual embankment and stream sediment sampling locations, are depicted on Figure 8.

4.5.2 Surface Water Sampling

All surface water samples were collected by directly immersing the sample container within the upper two to four inches of the water column at each of the marked and surveyed surface water sampling stations (SW-1 through SW-6). Two surface water sampling events have been completed to date. The first sampling event was completed on September 15, 2010 and represented a dry period during the late dry season. There was no measurable rainfall for 6 days prior to this sampling event. The second sampling event was completed on October 24, 2010, and represented a precipitation event during the late dry season. Approximately 1.2-inches of rainfall was recorded in the Site vicinity beginning approximately 7 hours prior to completion of the October 24 sampling event.

Rainfall data were obtained from the City of Portland Hydra Network using the City of Portland Water Pollution Control Laboratory (WPCL) rain gage located near the east side of the St. Johns Bridge at 6543 N. Burlington Avenue, which is less than 1 mile north of the Doane Creek sampling area. Hourly and daily total rain data for the WPCL rain gage are found at the following web address: http://or.water.usgs.gov/non-usgs/bes/wpcl.rain.

Surface water stations SW-1 through SW-5 were included during the September non-rainfall sampling event. A new sampling station (SW-6) was added to the October 24 sampling event to address previous comments by the DEQ. SW-6 was placed within the Northwest Drainage Pond (NDP) area immediately in front of the discharge to the upper end of the Outfall 22C culvert. All surface water sampling stations (SW-1 through SW-6) are depicted on Figure 8. Surveyed staff gauges are located at the SW-1, SW-2, and SW-3 sampling locations and surface water elevation data were collected at each of these stations at the time of sampling.

Sampling proceeded from down-stream locations toward upstream locations to avoid disturbance of sediment that could cause increased solids content downstream of sampling locations.

All samples were carefully transferred to appropriate containers, which were completely filled such that no headspace was present that would allow the loss of volatiles. The sample bottles were then transferred to a chilled container for shipment to the analytical laboratory.

4.5.3 Deviations from Workplan

Exceptions to procedures, targeted sampling intervals, or locations, as specified within the RI Workplan (HAI 2007b), are as follows:

- The RI Work Plan identified collection of surface water samples from stations SW-1 through SW-5. The September 2010 sampling event included collection of samples from only stations SW-1 through SW-3 because stations SW-4 and SW-5 were dry (no standing or flowing water).

- An additional sample station (SW-6), not described in the RI Workplan, was included in the October 2010 sampling event in order to address a DEQ request that the Northwest Drainage Pond be included in a rainfall-triggered sampling event.

- The Northwest Drainage Pond was not included in the initial RI sediment sampling program. Although sampling of this area was not a component of the RI Workplan, in the DEQ approval of the RI Workplan, sampling of sediments in this area (between Reach 5 and the concrete culvert leading to the sewer pipe to the City of Portland Outfall 22C) was required. This sampling was not completed as part of the original sediment sampling due to an oversight in getting the requested additional work incorporated into the sampling plan at that time. This sampling will be conducted in conjunction with remaining sampling activities associated with Doane Creek.

4.6 Groundwater Investigation

Groundwater-related investigatory activities, including installation and sampling of temporary well points and permanently-constructed monitoring wells have been conducted by NW Natural as part of RI activities at the Siltronic property. A description of groundwater-related investigation activities conducted by NW Natural as part of the Phase I RI activities at the Siltronic property is provided below.

4.6.1 Groundwater Sampling From Rotosonic Boreholes

Groundwater samples were collected from the open borehole beneath the water table within the surficial fill WBZ and from temporary well points constructed within Rotosonic borings installed through the entire thickness of the alluvial WBZ at boring locations SB-21, SB-27, SB-35, and SB-53 (Figure 7). Locations for these deep borings were selected to further delineate the vertical or lateral extent of COI impacts within the alluvial WBZ at the site, considering the availability of the extensive pre-existing site monitoring well network.

Groundwater samples from the surficial fill WBZ were collected at Rotosonic borehole locations after purging each borehole with a disposable polyethylene bailer or a peristaltic or submersible pump and disposable polyethylene tubing. A minimum of one borehole volume of water was purged from each location prior to sampling, with the boreholes for SB-27, SB-35, and SB-53 being purged to dryness. Groundwater samples were collected at each location once purging (and recharge) was completed with use of the same pump or bailer that was used for purging.

Groundwater samples within the alluvial WBZ were collected from Rotosonic boreholes by advancing a 4-foot long, stainless steel, slotted well point to the desired depth using 2.25-inch ID drill rods. For each sample, the sheathed well screen was advanced through approximately 10 feet of undisturbed soils below the outer drive casing to the targeted sample interval. Once the desired depth was reached, the outer protective sheath was pulled back to expose the screen. After the well point was set and the screen exposed, a water level measurement was made with an electric meter. Subsequently, groundwater was purged from the well point with the use of a new disposable polyethylene bailer to remove at least one rod volume of water prior to collecting the groundwater sample. Well points that purged to dryness were sampled as soon as possible after sufficient recharge volume to the well point to fill the necessary sample containers.

Table 4.6-1 (below) summarizes the targeted sample interval for each groundwater sample collected at the Rotosonic boring locations as specified in the RI Workplan, as well as the actual completed sample interval. The targeted depths as provided within the RI Workplan were only estimates. The table provides comments to describe rationale for those instances where there is a notable difference between the targeted sample interval and the actual sample interval, or if there were other observations of note with regard to a particular sample. All temporary well point sampling field logs are included within Appendix E. Boring logs for SB-21, -27, -35, and -53 are included in Appendix B. Locational and construction information for these boring locations are included on Table 2.

Table 4.6-1 Groundwater Sampling Intervals-2009 Sonic Drilling

Location	Proposed Interval (feet bgs)	Actual Interval (feet bgs)	Notes:
SB-21	16-20	10-13	Open hole below drive casing in the surficial fill WBZ.
	46-50	76-80	The interval was shifted deeper because the silt unit extended across the targeted interval to a depth of 60 feet bgs.
	66-70	97-101	Sweet odor noted in groundwater sample collected at this depth. The screen was placed immediately above weathered bedrock. Soil sample also collected.
SB-27	21-25	20-26	Open hole below drive casing in the surficial fill WBZ.
	56-60	61-65	--
	76-80	76-80	--
	96-100	96-100	--

SB-35	26-30	20-24	Open hole below drive casing in the surficial fill WBZ. Sample contains oil.
	46-50	-	Silt unit extends across proposed interval, extending to a depth of to 50 feet.
	66-70	62-66	--
	86-90	82-86	--
	96-100	91-95	The base of the well point is on bedrock.

Location	**Proposed Interval (feet bgs)**	**Actual Interval (feet bgs)**	**Notes:**
SB-53	31-35	26	Groundwater rises to 22 feet in drive casing, the base of which is at 26 feet (surficial fill WBZ). Oil is present in the sample.
	61-65	61-65	Oil present in sample
	91-95	102-106	--
	121-125	132-136	--
	151-155	152-156	--
	191-195	-	Bedrock encountered at 161 feet. Set well point 162 to 166 feet –dry so no sample.

4.6.2 Groundwater Sampling from Push Probe Borings

One groundwater sample was collected from within the surficial fill WBZ from a temporary well point constructed in push probe boring P-45A to evaluate shallow groundwater quality down-gradient from the central excavation, a localized area of tar beneath the fill near the southern end of the Fab 1 Building. This sampling was completed on August 10, 2009.

The groundwater sample was collected from boring P-45A by advancing a 4-foot long, stainless steel, slotted well point to a depth interval of 21 to 25 feet with a direct push rig. Once this depth was reached, the outer protective sheath was pulled back to expose the screen. The selected depth was such that the transition between the fill and the alluvial silt was within the screened interval. Immediately following well screen placement, a water level measurement was made with an electric water level meter, followed by purging and sampling by inserting a disposable polyethylene tube equipped with a check valve down the interior of the probe and bailing by hand to remove at least one borehole volume of water. A description of construction details for the temporary well point installation is included with RI push probe boring logs in Appendix B. Locational and construction information is also summarized in Table 2.

4.6.3 Monitoring Well Installation Activities

Ten surficial fill WBZ monitoring wells were installed under the direction of HAI in 2008 using hollow stem auger drilling techniques, with all wells being co-located with previous push probe boring locations. Drilling activities commenced at the site on June 12, 2008 and ended June 17, 2008. The monitoring well installations were performed by Boart Longyear of Tualatin, Oregon with a hollow stem auger drill rig (Mobile B-59) under the supervision of an HAI geologist.

In total, ten monitoring wells were installed on the Siltronic Property (NWN-1-20 through NWN-10-26) to depths ranging from 17 to 33 feet bgs. The well locations are shown on Figure 9. Monitoring wells NWN-1-20, NWN-2-20, NWN-3-17, NWN-4-15, NWN-5-20, and NWN-6-31 were installed near the western boundary of the Siltronic property adjacent to Doane Creek, while NWN-7-30, and NWN-8-30 were installed at the central portion of the Siltronic property proximate to a large northwest-southeast trending utility easement. Wells NWN-9-31 and NWN-10-26 were installed on the northern

(NWN-9-31) and southern (NWN-10-26) portions of the Willamette River shoreline.

Boring logs that document monitoring well construction details are provided in Appendix B. All ten wells were installed with a 2-foot stainless steel sump at the base of the well. A rubber "DNAPL funnel" was attached immediately above the sump within the borehole annulus to promote DNAPL incorporation into the sump, should DNAPL, if present, enter the sandpack and migrate vertically. Above the sump and DNAPL funnel on each well is a stainless steel wire wrap screen with a 0.02-inch slot size and a 10-20 Colorado silica sand pack extending 1 to 3 feet above the top of the screen. A 2 to 3 foot thick bentonite plug is immediately above the sand pack, above which are a cement-bentonite grout and schedule 40 blank casing extending to the ground surface. All wells, with exception of NWN-8-30, NWN-9-31, and NWN-10-26 were constructed with a 10-foot section of screen. For wells NWN-8 through NWN-10, 15-foot well screens were used as determined appropriate based on subsurface conditions identified at these locations. Table 2 provides well construction details for these and all other wells and borings as available to HAI for the Siltronic and adjacent BNSF properties. Screen depths and locations for the NWN-series wells were proposed in a June 3, 2008 plan (HAI 2008), which was subsequently approved by DEQ in correspondence dated June 12, 2008.

All wells were developed and surveyed subsequent to completion as previously documented in the *Environmental Monitoring Report, Third and Fourth Quarter 2008*(HAI 2009b).

4.6.4 Groundwater Monitoring Activities

As proposed in the RI Workplan, samples from existing permanent groundwater monitoring wells at the Siltronic property were collected to be analyzed for COIs as needed to supplement the existing understanding of COI distribution in groundwater. Monitoring well locations are shown on Figure 9. Since installation by NW Natural in 2008, the NWN-series monitoring wells have been sampled 6 times on a seasonal basis. Additionally, as proposed in the RI Workplan, numerous RP-series monitoring wells owned by SLLI on the Siltronic and adjacent BNSF properties were included in a comprehensive sampling event conducted on behalf of NW Natural in March and April 2010 (First Quarter 2010). The comprehensive monitoring event included the NWN-series and WS-series

wells on the Siltronic property, as well as wells on the adjacent NW Natural property – all sampled as part of the first and second quarter routine groundwater monitoring event.

Routine monitoring has been completed in accordance with the groundwater monitoring plan dated July 29, 2010 and approved by DEQ in e-mail correspondence dated October 5, 2010 (Dana Bayuk to Bob Wyatt). In addition to groundwater sample collection, routine groundwater monitoring includes collection of groundwater elevation data at all well locations, as well as determination of the presence and thickness of DNAPL within monitoring wells, where access to the base of the well is achievable.

Groundwater sampling procedures, as well as all available COI and elevation data for groundwater at the Siltronic and adjacent NW Natural Gasco properties for the comprehensive First Quarter 2010 sampling event was previously described in the First and Second Quarter 2010 Environmental Monitoring Report (HAI 2011), and is therefore not repeated herein.

4.6.5 Deviations from Workplan

Exceptions to procedures, targeted sampling intervals, or locations, as specified within the RI Workplan (HAI 2007b), are as follows:

- Seven monitoring wells identified for sampling in the RI workplan were mistakenly omitted from monitoring by HAI. The specific wells omitted were: WS-10-27, WS-13-69, WS-13-105, WS-15-85, WS-15-140, WS-16-125, and WS-16-161. Data for all COIs as specified for sampling in the RI Workplan, with the exception of amenable cyanide, are available at all of the indicated locations – much of it collected during the first quarter of 2010 by MFA as part of a Siltronic monitoring event.

4.7 Non-Aqueous Phase Liquid Investigation Activities

The presence and nature of DNAPL at the Site was assessed using direct observational and screening methods; focused collection and analysis of DNAPL from select wells and core containing visual NAPL; and with the use of down-hole laser-induced fluorescence.

4.7.1 NAPL Sampling in Existing Monitoring Wells

The January 2009 Supplemental RI Field Sampling Plan (HAI 2009a) proposed the collection of DNAPL samples from Siltronic wells WS-10-27 (surficial fill WBZ) and WS-14-125 (alluvial WBZ) for chemical and physical testing during the Phase I RI activities. MFA informed HAI that well WS-14-125 did not have measurable quantities of DNAPL and so an alternate collection point for DNAPL from the alluvial WBZ (well WS-15-85) was selected for sampling.

DNAPL collection was conducted by lowering a weighted bottom-filling disposable bailer to the base of each well and retrieving sufficient DNAPL volume for laboratory testing. The DNAPL sample from well WS-15-85 was collected on February 3, 2009 by pouring from the disposable bailer directly into glass sample containers. Because an insufficient volume of DNAPL for testing was obtained at the WS-10-27 location on February 3, it was necessary to return on February 4 and February 6, 2009 to get sufficient sample volume for testing.

4.7.2 Undisturbed Core Collection

Samples of undisturbed core were collected from within the surficial fill unit at 8 select direct push boring locations installed at the Site on January 27, 28, and February 5, 2009 for DNAPL characterization purposes. The specific locations and target depth intervals for the core collection were based on review of boring logs P-12 through P-54 with the objective being the collection of core samples from different portions of the Site where field screening suggested the possible presence of DNAPL. Field screening results for all borings at the Site, including P-12 through P-54, are summarized on Table 3. Based on the preceding, and as proposed in a January 16, 2009 Supplemental Workplan (HAI 2009a), undisturbed core samples were collected from new push probe borings installed immediately adjacent to borings P-7, P-12, P-15, P-16, P-36, P-38, P-42, and P-44 (Figure 7). A description of the sampling procedures and the specific depth intervals targeted, is described in Section 4.3.4.1.

All core samples were immediately frozen and shipped to a testing laboratory, where photographic logs (ultraviolet light and white light), as well as physical and non-aqueous phase liquid (NAPL) saturation levels, mobility screening (centrifuge), and wettability testing occurred.

4.7.3 Downhole Laser-Induced Fluorescence

Screening for the presence or absence of DNAPL within the alluvial unit was conducted using a laser-induced fluorescence (LIF) methodology identified as Tar-specific Green Optical Screening Tool (TarGOST). TarGOST is a direct push-delivered LIF instrument that logs the fluorescence of PAHs at depth. The technology was developed with the objective being the identification of NAPL found at former MGP and wood treating sites by sensing the fluorescence of PAHs found in NAPL.

In the presence of PAH-containing oil or tar within the soil matrix, the PAHs will absorb light and are delivered into an electronically excited state. As the PAHs return to ground state they will fluoresce (they emit red-shifted light). The red-shifted light is collected by a mirror and delivered to the surface by a return fiber optic cable. These measurements occur very rapidly – on the order of one every 10 nanoseconds.

The intensity and waveform shape of the returned red-shifted light may be used to qualitatively ascertain the magnitude of PAH presence across the depths being evaluated. High resolution depth-encoded data are presented on vertical logs are produced in real time that may be viewed as the TarGOST is pushed through the subsurface.

The intensity and quality of the red-shifted light is meant to provide an indication of the type and magnitude of the PAH containing materials present. The greatest intensity red-shifts are delivered across those zones containing DNAPL. As reported by the technology developer, Dakota Technologies of Fargo, North Dakota, the TarGOST can be used to identify zones containing DNAPL versus zones containing no DNAPL, and may also provide a qualitative indication of the magnitude of DNAPL present.

4.7.3.1 Bench Scale Testing

Due to uncertainties with regard to the type of TarGOST response that might be achieved in soils from the Site (either false positives or false negatives), bench scale testing was conducted so that the applicability of the TarGOST technology to site-specific residuals and soils could be evaluated.

For bench-scale testing, selected samples from available core maintained in storage on-site at NW Natural Gasco property, or from drilling activities occurring at the time of the study (well MW-13-61R at Gasco) were shipped

to Dakota on June 8, 2007. The samples provided to Dakota, as described in the following Table, included soil samples with no evidence of impact; soil samples with a petroleum-like or other odor; soil samples containing possible tar and lampblack (solid residuals); soil samples containing DNAPL; as well as straight DNAPL with no soil matrix.

The primary objective of the bench testing was to confirm that an appropriate TarGOST response is gained from samples known to contain DNAPL, while samples with no visual impact or with non-DNAPL related impact (e.g., solid tar, pencil pitch, or odor), would not result in a response similar to that caused by DNAPL presence.

The bench testing conducted by Dakota included placement of the provided samples on the TarGOST window with the fluorescence response (as % of a standardized reference emitter) posted on an output log. The reference emitter (RE) is a known and stable material that is applied to the window before each sounding to serve as a calibration tool prior to data collection such that all measurements are normalized to a known standard. In essence, this procedure allows a consistent reading between soundings regardless of laser energy drift or other changes that would cause a difference in raw signal over time. The fluorescence of the downhole data, relative to the RE, is plotted as a function of depth. Prior to use, the response from the empty TarGOST unit window (no sample) provides an indication of the “background” light scatter that will be anticipated during a run.

A description of the samples (boring location and depth; physical description; and resulting TarGOST response (relative to the RE), are summarized below on the Table 4.7-1. For reference, in addition to TarGOST response to each provided sample, Dakota also provides the TarGOST response to a clean window to represent typical background light scatter.

Table 4.7-1 TarGOST Bench Testing Summary

Sample	Description	TarGOST Response (% Reference Emitter)
Clean Window	No sample	8%
MW-13R@16.5'	Sand, no odor, no sheen	5.6%
MW-13R@21.5'	Sand, grey, petroleum odor	4.0%
MW-13-R@23.5'	Sand, brown oil saturated	415.9%
MW-13R@57'	Sand, grey, no odor, no sheen	4.8%
Clean Window	No sample	5.9%
MW-11-31 Oil	DNAPL-no soil matrix	187.1%
MW-20@16.5-17'	Carbon pitch-black, granular (lampblack?),	2.4%
MW-19@20-21'	Carbon pitch (lampblack?)	4.3%
MW-19@21.3-22'	tar and carbon pitch (lampblack?)	4.8%
Clean Window	No sample	9.0%
PW-01 Oil	DNAPL-no soil matrix	461.2%
MW-6 Oil	DNAPL-no soil matrix	2,297.4%
MW-16-45 Oil	DNAPL-no soil matrix	569.8%
B-55	Solid carbon pitch (lampblack?)	5.1%
GS-00@16-19.5'	sand, black and brown, with carbon pitch (lampblack?)_	3.4%
GS-04@109-111.5	Sand, grey, "sweet" odor	3.0%
GS-07@183-185'	Sandy silt, grey, no odor, no sheen	2.1%
GS-08@5-6'	Tar (solid), strong odor	12.3%
GS-10@5-8'	Silt, strong odor, oily blebs	24.7%

As summarized above, based on the bench scale testing of individual soils it was generally possible to discern samples of DNAPL, or soil containing DNAPL, from those that did not. Samples containing no evidence of impact, or samples containing black granular carbon pitch material, typically had a response similar to the clean window (e.g., no increased response).

The sample of soil collected from the known zone of DNAPL presence at a depth of 23.5 feet bgs at MW-13R had a signal response of 415.9%. Straight DNAPL (no soil matrix) from the Gasco site had signal responses from a low of 187.1% (MW-11-31) to a high of 2,298% (MW-6-31).

The solid tar as present in sample GS-8 provided a subdued response (12.3%) – greater than the clean window (9%), and slightly less than sample GS-10 that contained DNAPL blebs (24.7%). Although a slightly stronger signal resulted from the soil containing DNAPL blebs, the relative similarity in signal strength (same order of magnitude) suggests that there could be uncertainty with regard to the discernment of tar (solid) zones from certain zones containing minor amounts of DNAPL.

Based on the preceding, it was concluded that the TarGOST technology appeared suitable for use in the alluvial unit at the Site, where solid tar (limited to the fill and upper native silt) would not be misinterpreted as DNAPL.

4.7.3.2 TarGOST Activities

Round 1 TarGOST activities were conducted simultaneously at both the Siltronic property and on the adjacent NW Natural Gasco property between the dates of August 23 and September 9, 2007. Round 2 TarGOST activities were conducted on the Gasco and Siltronic properties between March 26 and March 30, 2008. Round 1 included the installation of 7 direct push borings (TG-1S through TG-6S and TG-8S) at the Siltronic property and 8 direct push borings (TG-1 through TG-8) at the Gasco property. Round 2 included the installation of 5 direct push borings at Siltronic (TG-7S and TG-8S through TG-12S) and 8 direct push borings at the Gasco property (TG-9 through TG-16). TarGOST boring locations are depicted on Figures 11 and 12. All work was completed with cone penetrometer testing (CPT) direct push equipment modified by Dakota Technologies to incorporate the TarGOST apparatus into the cone tip. The CPT equipment was operated by Vandahay Explorations, Inc. of Banks, Oregon during the Round 1 work and by Gregg Drilling & Testing, Inc. of Martinez, California during the Round 2 work.

Real-time TarGOST data (as a % emitter) were collected and observed on a laptop computer display during the push, with a new data point collected approximately every tenth of a foot of depth. All boreholes were advanced to a depth of approximately 150 feet bgs, or to refusal in dense substrate. It was not possible to advance the CPT through the fill at a majority of locations, so a pre-drilled hole was typically prepared with the use of a hollow-stem auger or direct push equipment and cased with PVC.

Meaningful TarGOST data was not obtained until the equipment was pushed through the surface casing and into the underlying soils.

CPT rods were decontaminated as they were being removed from the ground with the use of steam and an alconox solution wash. After removal of the CPT rod from the borehole, a second direct push rig advanced the casing to the base of each borehole, subsequently grouting the borehole from bottom to top with a cement grout containing no more than 2% bentonite.

All TarGOST and CPT logs were previously provided to DEQ in a July 14, 2008 submittal. TarGOST results are summarized on Figures 11 and 12.

4.7.4 Deviations from Workplan

Exceptions to procedures, targeted sampling intervals, or locations, as specified within the RI Workplan (HAI 2007b) or Supplemental DNAPL Sampling Workplan (HAI 2008), are as follows:

- A sample of DNAPL from deep alluvial WBZ well WS-14-125 was identified in the workplan for collection and testing. Due to a lack of measurable DNAPL at this location, an alternate alluvial WBZ well (WS-15-85) was selected for DNAPL sample collection.

- Six TarGOST borings, beyond those scoped as Round 1 and Round 2 borings in the RI Workplan were installed at the Siltronic property. Of these, two (TG-4S and TG-12S) were installed near the shoreline at the northern corner of the property; one (TG-3S) was installed near the Siltronic/Gasco property line west of the Fab 1 Building; and three (TG-9S, TG-10S, and TG-11S) were installed on the north central portion of the property surrounding the PGE electrical substation.

- One TarGOST boring (originally scoped as TG-7) was not installed during the RI. This boring was proposed for placement near the shoreline at the upstream end of the Fab 1 Building. This boring was omitted from the program in consultation with DEQ in order to provide time for installation of higher priority additional locations as described above.

5.0 ANALYTICAL TESTS

This section summarizes the analytical methods and procedures followed during the RI activities, as discussed in detail in the RI Workplan (HAI 2007b).

5.1 Summary of Analytical Methods

All upland soil samples were analyzed for polynuclear aromatic hydrocarbons (PAHs), VOCs, metals, total cyanide, and total petroleum hydrocarbons (diesel-, oil-, and gasoline-range). Sediment and embankment soil samples collected from Doane Creek were analyzed for the same suite of constituents, with the exception of VOCs. Selected soil and sediment samples, totaling approximately 25% of the total samples analyzed, were also analyzed for total extractable petroleum hydrocarbons (EPH), volatile petroleum hydrocarbons (VPH), and semi-volatile organic compounds (SVOCs). All PAH analyses were expanded to report carbazole, dibenzofuran, and 2-methylnaphthalene in addition to the standard method reporting list. The metals tested include: arsenic, barium, beryllium, cadmium, calcium, chromium, copper, iron, lead, magnesium, manganese, mercury, nickel, potassium, selenium, silver, sodium, thallium, vanadium, and zinc.

All groundwater samples (collected from monitoring wells or from temporary well points) and surface water samples (Doane Creek) were analyzed for PAHs (extended to include carbazole, dibenzofuran, and 2-methylnaphthalene), VOCs, cyanide (total, amenable, and free), metals, chloride, sulfate, and nitrate. In addition, all surface water samples were analyzed for SVOCs, amenable cyanide, and weak acid dissociable (WAD) cyanide. Samples collected from monitoring wells and from Doane Creek were tested for total metals. Groundwater samples collected from temporary well points were tested for dissolved (field filtered) metals content, with approximately 25% of these samples also being tested for total metals.

Samples of DNAPL, collected from the WS-10-27 (fill) and WS-15-85 (alluvial) well locations, were tested for diesel- and oil-range TPH, SVOCs, VOCs, total cyanide, total metals (list identified above), pH, flashpoint, and heating value. The DNAPL samples were also tested for physical properties including dynamic viscosity and density at 3 temperatures, and interfacial tension.

Samples of undisturbed core collected from select push probe boring locations (P-7, P-12, P-15, P-16, P-36, P-38, P-42, and P-44) underwent laboratory photo documentation (white light and ultraviolet light), with select samples tested for particle size, pore fluid saturation (water and DNAPL), and free product mobility (centrifuge) testing. One core sample was selected for follow-up testing of Amott wettability using water obtained from well WS-10-27 and DNAPL obtained from well MW-16-45 (at Gasco). DNAPL from MW-16-45 was used in lieu of DNAPL from WS-10-27 (as was planned) due to a lack of recoverable DNAPL at the WS-10-27 location at the time of sampling.

All samples to undergo chemical testing were shipped with chain-of-custody documentation in sealed and chilled containers to either Columbia Analytical Services, Inc. (CAS) in Kelso, Washington, or to Apex Laboratories, Inc. (Apex), in Tigard, Oregon, for analysis using the methods outlined in the RI Workplan and summarized below. In addition to chemical testing of samples of various media, samples of DNAPL and of undisturbed soil core were shipped to PTS Laboratories, Inc. (PTS) in Santa Fe Springs, California for testing. A summary of the laboratory methods used for the tests described above are summarized on the following Table.

Table 5.1-1 Laboratory Analytical Methods

Parameter	Method	Reference
PAHs	GC/MS	EPA 8270-SIM
SVOCs (including PAHs, phthalates, phenols, and other SVOCs)	GC/MS	EPA 8270C
VOCs	GC/MS	EPA 8260B
TPHs (diesel and oil fractions)	GC/FID	NWTPH-D and NWTPH-Dx
TPHs (gasoline fraction)	GC/FID	NWTPH-G
VPH (volatile petroleum hydrocarbons)	GC/FID	WA-VPH
EPH (extractable petroleum hydrocarbons)	GC/FID	GC-EPH
Total Cyanide	Colorimetry	EPA 335.4
Free Cyanide	Microdiffusion	EPA 4282D
Available Cyanide	amperometric detection	OIA-1677
Amenable Cyanide	Colorimetry	SM 4500-CN
WAD Cyanide	Colorimetry	SM 4500-CN(I/E)
Mercury	CVAA	EPA 7471A

Table 5.1-1 Laboratory Analytical Methods

Parameter	Method	Reference
Other metals	ICP-AES and ICP-MS	EPA 6010B and 6020
Chloride, Nitrate, Sulfate	Ion chromatography	EPA 300.0/9056A
Grain size	sieve/ hydrometer	ASTM D422
Hydraulic Conductivity	flexible wall permeameter	ASTM D5084
Porosity and Grain Density	Dean-Stark	API-RP40
Total solids	oven-dried	EPA 160.3
pH	electrometric	EPA 150.1
Dynamic Viscosity (multiple temps)	capillary tube	ASTM D-445
Ignitability	closed cup	EPA 1020A
Specific Gravity	Lipkin Bicapillary Pycnometer	ASTM D1481
Heating Value	adiabatic bomb calorimeter	D2015
Pore Fluid Saturation	Dean-Stark	API RP-40
Free Product Mobility	Centrifuge; Dean-Stark	ASTM D425M, Dean-Stark
Wettability	Imbibition/displacement	Amott-Harvey, Centrifugal
Interfacial Surface Tension	Ring method	ASTM D971

ASTM – American Society for Testing and Materials
CVAA – cold vapor atomic absorption
EPA – US Environmental Protection Agency
GC/ECD – gas chromatography/electron capture detection
GC/MS – gas chromatography/mass spectrometry
GC/FID – gas chromatography/flame ionization detection
ICP-AES – inductively coupled plasma-atomic emission spectrometry
ICP-MS – inductively coupled plasma-mass spectrometry
NWTPH-D – Northwest total petroleum hydrocarbons – diesel
NWTPH-Dx – Northwest total petroleum hydrocarbons – diesel extractable
NWTPH-G – Northwest total petroleum hydrocarbons – gasoline
PAH – polycyclic aromatic hydrocarbon
SIM – selected ion monitoring
SM – standard method
SVOC – semi volatile organic compound
TPH – total petroleum hydrocarbons
VOC – volatile organic compounds

5.2 Data Validation

All soil data collected during the 2008 push probe investigatory activities (P-5A, P-8A, and P-12 through P-54) underwent an independent review and validation by Environmental Standards, Inc. of Valley Forge, Pennsylvania.

All soil and groundwater data collected during the 2009 deep sonic borehole / temporary well point investigatory activities, as well as the 2007 pre-excavation pipeline repair borings (P-A through P-G, and P-Y, P-Z) and the 2009 DNAPL chemical testing (WS-10-27 and WS-15-85) underwent an independent review and validation by Validata Chemical Services, Inc. of Duluth, Georgia.

All soil, sediment, and surface water data collected during the 2010 Doane Creek investigatory activities underwent an independent review and validation by Analytical Quality Associates, Inc., of Albuquerque, New Mexico.

All routine groundwater monitoring data as collected on behalf of NW Natural at Siltronic property wells are also individually validated by one of the above-identified data validation firms, with the results of the validation reported in the Environmental Monitoring Report for that time-frame. The results of the validation of the expanded groundwater monitoring data-set for Siltronic, which included many of the SLLI-owned RP-series monitoring wells on the Siltronic and adjacent BNSF properties, were included in the Environmental Monitoring Report, First and Second Quarter 2010, NW Natural Gasco Facility (HAI 2011).

For all validation activities as referenced above, data were examined to determine usability of the analytical results and compliance relative to the general requirements specified in the published analytical methods. The validation was performed in accordance with the requirements detailed in the Siltronic RI Workplan (HAI 2007b) and with guidance from the U.S. EPA Contracts Laboratory Program National Functional Guidelines for Organic Data Review (EPA-540-R-99-008), October 2008 and Inorganic Data Review (EPA-540-R-94-013), February 1994.

All data were validated as Sample Delivery Group (SDG) packages that included the review of complete laboratory data packages provided by the laboratory. Laboratory data packages included the following components:

- Chain-of-Custody documentation
- Analytical results
- Method blank results

- Case Narrative
- Site-Specific QC-Summary
- Instrument calibration summaries
- Data forms
- Sample chromatograms
- QC sample chromatograms
- Instrument printouts
- Initial/continuing calibration chromatograms
- Laboratory bench sheets

All laboratory analytical data reports and associated validation reports are included electronically on the CD for this report.

Qualifier codes as assigned during the validation, have been placed in the electronic data-set and on the data summary tables included in this report to enable the user to assess the qualitative and quantitative reliability of any result.

The tests conducted and the results of analytical testing for soil samples collected from soil borings as well as the Fab 2 outfall area are summarized in Tables 4 through 11, Doane Creek area samples (soil, sediment, and surface water) are summarized in Tables 12 through 22. A summary of the physical and chemical testing of DNAPL samples is included within Tables 23 and 24. The results of groundwater sample analyses collected from temporary well points and monitoring wells (routine monitoring through the first half of 2010) are summarized in Tables 25 through 30. Results of particle size testing of soil samples collected from deep sonic borings SB-21, SB-27, SB-35, and SB-53, are summarized in Table 31.

6.0 SITE GEOLOGY AND HYDROGEOLOGY

Upland geology and hydrogeology for the Site and surrounding area was previously described in the Siltronic RI Report for the TCE investigation (MFA 2007), in the RI Report for the adjacent Gasco Site (HAI 2007a), and in the Gasco Groundwater Source Control Interim Design Report (Anchor QEA 2009b). Information is summarized here to provide the hydrogeological CSM as well as to present data (grain size and hydraulic conductivity testing results) as obtained during the RI activities.

The general geology of the Site consists of highly variable anthropogenic fill material overlying alluvium consisting of an upper fine-grained silt unit; underlain by mixtures of silty sand, fine sand, and medium sand, intermixed with silt and sandy silt; grading downward into a predominantly medium sand with silt and sandy silt. A basal gravel occurs in the deepest portions of the alluvium in some areas. The weathered surface of the Columbia River Basalt (CRB) underlies the alluvium at all locations.

The preceding geologic units (fill, alluvium, bedrock) correspond with the hydrogeologic units underlying the Site, with groundwater occurring in three principal hydrologic zones: the unconfined surficial fill water-bearing zone (WBZ), the semi-confined alluvial WBZ, and the bedrock aquifers of the CRB.

Five hydrogeologic cross sections, two trending roughly north-south across the property parallel with the river (A-A' and B-B') and three trending roughly east west, extending from the Doane Creek area toward the main channel of the Willamette River (C-C' through E-E') are presented in Appendix F.

Appendix G includes maps of the Siltronic and adjacent Gasco properties depicting measured and interpreted: 1) fill thickness; 2) upper alluvium silt layer elevation; 3) upper alluvium silt layer thickness; and 4) basalt surface elevation.

Groundwater elevation data and groundwater elevation maps for fill and alluvial WBZs have previously been presented in the First and Second Quarter 2010 Environmental Monitoring Report (HAI 2011). Groundwater elevation data as presented within the Environmental Monitoring Report (EMR) are described and referenced, but have not been replicated herein.

6.1 Surficial Fill WBZ

At the Siltronic property, fill consists of dredged materials as well as imported quarry rock and other materials placed on the property during the 1966 to 1975 timeframe to ready the site for development. Prior to filling, during the 1941 to 1956 timeframe, the former northern lowland portion of the Siltronic property received MGP materials as described in Section 2.5. Further, in places the fill has been found to contain impacts potentially attributable to re-distribution of MGP residues at the site, and/or as a function of multiple unknown sources that may have impacted dredged sediments prior to placement on the site. Also, as described in Section 2.6.4, an area of apparent car part placement within the fill was identified during 2007 pipeline repair activities, suggesting the import of fill from an off-site source. All fill-related activities at the Siltronic property were conducted by others after NW Natural sold the portion of the Siltronic property it owned (The Allen Tract) in 1960.

An isopach map depicting the thickness of the surficial fill unit across the Gasco and Siltronic properties, updated to include soil borings constructed through the most recent RI activities at Siltronic, is included as Figure G1 (Appendix G). The thickness of the surficial fill unit across the Siltronic property ranges from approximately 15 to 20 feet near the western property boundary near Doane Creek, to between 25 and 30 feet in the central portion of the property. Along the bank of the Willamette River, the surficial fill unit ranges in thickness from approximately 22 to 39 feet. The greatest thickness of fill is present near the northern corner of the Siltronic property (e.g., WS-15 and WS-16 area), likely correlating with the deepest portions of the former effluent pond overflow area.

Depth to uppermost groundwater within the fill (unconfined water table) varies across the Site. Groundwater occurrence is generally the shallowest near the western corner of the Site in the wastewater treatment plant area, where depths between 7 and 13 feet bgs are typical (NWN-1-20, NWN-2-20). Depth to groundwater along the remainder of the western property line (near Doane Creek) typically range from 13 to 17 feet bgs (NWN-3-17, NWN-4-15, and NWN-5-20). Depth to groundwater in the central portion of the Site is generally similar to depths to the west near Doane Creek, with typical depths ranging from approximately 10 to 17 feet bgs (NWN-7-30, NWN-8-30, and WS-10-27). Uppermost groundwater beneath the Site is the deepest near the Willamette River shoreline, where depths ranging from 20 to 26 feet bgs are typical (NWN-9-31, NWN-10-26, WS-9-34).

Cross-Sections C-C' and D'D' in Appendix F depict the topographic profile across Doane Creek west of the Siltronic property relative to fill thickness and water table elevations based on adjacent monitoring wells. Groundwater elevations near the western property line relative to elevations of the base of Doane Creek are summarized below:

TABLE 6.1-1 SURFICIAL FILL GROUNDWATER ELEVATIONS AND ADJACENT DOANE CREEK BASE ELEVATIONS

Doane Creek Location	Elevation of Creek Channel (CoP datum)	Adjacent Well Location	Range in Groundwater (CoP datum)	Range in Saturated Thickness
SW-1	28.2'	NWN-2-20	27.78'-30.74'	5'-10'
SW-3	27.6'	NWN-3-17	24.54'-28.45'	dry-4'
SW-5	24.5'	NWN-4-15	27.89'-29.04'	dry-2'

Based on the data summarized above, groundwater within the fill near the upper and mid-sections of Doane Creek (NWN-1 and NWN-2 areas) is seasonally present 1 to 2 feet above the base of the creek, suggesting potential ongoing localized seasonal groundwater recharge to the creek in these areas. Groundwater elevations near the lower section of the creek (NWN-4 area) remain 3 to 5 feet above the base of the creek year round, suggesting potential ongoing localized groundwater recharge. However, because the lower sections of the creek (SW-4 and SW-5) and the adjacent monitoring wells (NWN-3 and NWN-4) have been found to be dry during portions of the year, and based on overall groundwater gradients away from the creek (described below), the amount of localized recharge to the creek across the lower sections appears minimal, if any.

As depicted on groundwater elevation maps presented in the most recent EMR (HAI 2011), the overall groundwater flow direction within the fill WBZ across a majority of the site is to the north-northeast, towards the Willamette River, where this zone becomes very thin to seasonally absent in places (NWN-9-31 and NWN-10-26). A groundwater divide, with flow back toward Doane Creek has not been identified at the Site anywhere with exception of the vicinity of the uppermost section of the creek (SW-1), with apparent mounding of the water table in the vicinity of the Siltronic wastewater treatment plant. The greater year-round saturated thickness of the fill WBZ in this area (5 to 10 feet), in conjunction with apparent flow toward creek, is suggestive of groundwater recharge to the creek in this area.

6.2 Upper Alluvium Silt Unit

Beneath the surficial fill WBZ across most of the Site is a fine-grained low conductivity silt unit, the properties of which preclude it from being characterized as a water-bearing zone.

Figure G2 (Appendix G) provides elevation contours for the surface of the silt unit using available data from both the Siltronic and the adjacent Gasco properties. As depicted on Figure G2, the surface of the silt unit is variable but generally slopes from all directions to the central portion of these properties, with the overall low being identified on the Siltronic property in the central portion of the former 400 foot-wide lowland area at the north end of the Siltronic property, where the top of silt was identified at an elevation of approximately -4 feet (WS-16) to -8 feet (boring WS-15). The silt surface rises from the WS-15 / WS-16 area in a riverward direction, reaching a crest beneath the Siltronic Fab 1 building (at 6 to 11 feet), beyond which the surface slopes back down towards the river, with an elevation of between -2 and 6 feet identified adjacent to the riverbank at the northern portion of the property.

A map depicting the thickness of the silt unit across the Gasco and adjacent Siltronic properties is included as Figure G3 (Appendix G). As depicted on Figure G3, the thickness of the silt unit is greatest throughout the central portion of the Siltronic property, where thicknesses of 67 feet (WS-10), 69 feet (B-104), and 56 feet (WS-3-81) were identified; extending to the southeast toward North Doane Lake where thicknesses greater than 30 feet are typical; and to the northwest where thicknesses of up to 43 feet (MW-14) have been identified on the Gasco site. The thickness of the silt unit at both the Siltronic and Gasco sites decreases in the direction of the Willamette River, where thicknesses of between 1 and 3 feet are common at the northern and central portions of the Siltronic riverbank, becoming thicker (7 to 10 feet) near the southern end of the Siltronic shoreline.

The silt unit, consisting predominantly of silt and clay, is typically found to exhibit coloration ranging from olive gray to green, with some areas of orange-brown mottling, with small sand lenses and vertical rootlet zones present within portions of the silt unit. Vertical migration of DNAPL to the underlying alluvial WBZ through the silt unit has occurred at the northern portion of the Siltronic property (Section 7.1.2) and southern portion of the adjacent Gasco property.

Hydraulic conductivity testing of several undisturbed samples of core were collected from each of the four sonic borings installed at the site in 2009 (SB-21, SB-27, SB-35, and SB-53) within the upper silt unit and tested in the laboratory for hydraulic conductivity. Results of the tests are as follows:

TABLE 6.2-1 GRAIN SIZE AND HYDRAULIC CONDUCTIVITY TESTING OF UPPER SILT UNIT

Sample Location	Sample Depth (feet bgs)	Grain Size Testing			Hydraulic Conductivity (cm/sec)
		Fine Sand (% by weight)	Silt(% by weight)	Clay(% by weight)	
SB-21	33.8	5.97	76.57	17.46	8.75 E-07
SB-27	38.8	16.68	65.83	17.48	7.29 E-07
SB-35	36.8	3.92	65.49	30.59	1.27 E-06
SB-53	39.8	8.35	67.68	23.97	6.31 E-07

6.3 Alluvial WBZ

At Siltronic, the depth of the Alluvial WBZ varies from 36 feet bgs to greater than 170 feet bgs. The alluvium is thinnest along the southern shoreline near the upstream property line and the southwestern portions of the property (near North Doane Lake and NW St. Helens Road), and forms a thickening wedge of sediments toward the northern corner of the property where its reaches maximum depth within approximately 200 to 400 feet of the shoreline (subsurface profiles A through E, Appendix F). In areas where the upper alluvium silt unit is very thick and bedrock is shallow (e.g., central portion of the Site), the alluvial WBZ becomes very thin (less than 10 feet thick at WS-20) to non-existent (WS-10).

The alluvial WBZ consists of mixtures of silty sand, fine sand, and medium sand, intermixed with silt and sandy silt; grading downward into a predominantly medium sand with silt and sandy silt. The upper portions of the alluvial WBZ tend to be predominated by fine sand and numerous silt layers and lenses while the lower portions (e.g., below approximately 100 feet bgs) tend to be predominated by medium sands with fewer silt beds. Aquifer tests and model calibration work conducted at the adjacent Gasco property indicate that the hydraulic conductivity of the upper fine sands is between 1 and 30 feet/day (based on pumping tests at the PW-1-80, PW-3-85, and PW-8-39 locations); and the hydraulic conductivity of the lower medium sands is on the order of 200 to 300 feet/day (based on a pumping test at PW-3-118 and model calibration). Siltronic performed laboratory hydraulic conductivity tests on 17 samples of alluvium collected from the northern portion of the property between depths of 51 and 153 feet bgs as

reported in the TCE investigation-related RI Report (MFA 2007). Results of the testing identified a range in vertical conductivities between 0.004 feet/day (sample of the upper alluvium silt) to 144 feet/day (118 feet bgs near the shoreline) – with an average conductivity of approximately 20 feet/day as calculated from all samples.

Results of grain size testing on soil samples collected within the alluvial unit (approximate 20 foot depth intervals) from RI borings SB-21, SB-27, SB-35, and SB-53) are summarized on Table 31 and show much variability within the alluvium, as expected due to the fluvial depositional environment.

As depicted on subsurface profile A-A (Appendix F), a lower alluvium aquitard has been identified in areas where the alluvium extends to depths greater than approximately 140 to 160 feet bgs (approximately -100 to -120 feet elevation). These depths correspond to an area that is limited to within approximately 400 feet of the shoreline in the northern corner of the property, extending upstream along the shoreline to the sharp rise in bedrock between the RP-11 and SIL-03 boring locations Figure G4). The aquitard as observed at Siltronic and the adjacent Gasco property consists of either a single bed or closely spaced silt interbeds with an overall thickness typically ranging from 5 to 10 feet, becoming somewhat thicker on the northern portion of the adjacent Gasco shoreline. The aquitard silt is likely a geomorphic overbank deposit that was placed during historic river flood events when the floodplain was at a lower elevation.

Based on work conducted by MFA on behalf of Siltronic at the northern portion of the Site, overall groundwater flow direction in the alluvial WBZ is to the northeast toward the Willamette River with horizontal gradients ranging from 0.001 to 0.003 (MFA 2007). Vertical gradients within the alluvial WBZ are of the same order of magnitude as horizontal gradients (0.002 to 0.008) and generally fluctuate between upward and downward (MFA 2007).

6.4 Columbia River Basalt

The CRB, composed of a series of individual lava flows, generally forms the base (bedrock) of the Portland Basin and outcrops immediately to the southwest of the site in the Tualatin Mountains. The confined to semi-confined bedrock aquifers in the Columbia River Basalts have historically been of significance regionally.

Figure G4 (Appendix G) provides elevation contours for the surface of the bedrock using current data from both the Siltronic and Gasco properties. These data indicate the basalt surface dips steeply to the northeast across the Gasco and Siltronic properties, with the top of the basalt, which is often heavily weathered and broken, occurring at a depth of approximately 60 feet bgs near the southern corner of the Siltronic property (RP-03), to depths of between 180 feet bgs to 194 feet bgs near the northern corner of the Siltronic property (wells WS-15 and MW-19, respectively) extending to a depth near the central shoreline at Siltronic (RP-11) of 205 feet bgs.

Investigatory activities completed by AMEC (2006) along the upland shoreline indicate that the bedrock surface elevation rises vertically approximately 105 feet along the shoreline over a lateral distance of 400 feet between borings RP-11-216 (205 feet bgs) and SIL-03 (100 feet bgs). Further work conducted offshore by MFA (2005a) found that the inferred bedrock surface (based on push probe refusal) rises to a depth of approximately 90 feet bgs (relative to the Siltronic ground surface) within approximately 400 feet of the northern Siltronic shoreline (Figure G4). This sharp change in the inferred bedrock elevation results in an apparent trough-like morphology to the bedrock surface, with the long axis of this depression being sub-parallel the shoreline. Cross-Section A-A' in Appendix F depicts the sharp change in bedrock surface elevation (and resulting thinning of the Alluvial unit) that occurs near the south central portion of the shoreline.

7.0 RI SAMPLING RESULTS

7.1 Oil, Tar, and Gas Purification Residuals

Tar and oil have been identified in subsurface soils at Siltronic as noted during drilling activities conducted during the RI, including tar ranging from a black viscous sticky liquid to a ductile solid; and brown to black liquid oil (DNAPL). Possible gas purification residuals, typically wood chips mixed with tar, oil, or carbon pitch and with a tendency to turn a prussian blue coloration when exposed to the air, have also been described in soils from certain portions of the Siltronic property. As described in Section 2.3, fill at the Siltronic property is derived from various origins and there are multiple known or possible sources of impact to soils and groundwater beneath the Site.

MGP residuals, including oily and tarry materials, and spent oxides, were known to have been placed on portions of the Allen Tract (Section 2.5) prior to PG&C's sale of the property in 1960, with possible redistribution of these materials to other portions of the Siltronic property by others as part of Site development activities between approximately 1968 and 1971.

One objective of the RI is the delineation of MGP-by-products in the subsurface at the Site. With regard to DNAPL, in addition to a description of distribution in the subsurface via direct observation, core photography, and TarGOST methods, the RI has collected data regarding the relative magnitude of DNAPL present in fill at various portions of the Site by saturation testing. Further, with regard to mobility potential, testing of select core with centrifuge methods has been conducted to evaluate the potential presence of NAPL at levels greater than residual saturation. Finally, samples of DNAPL have been collected from several well locations at the Site for chemical and physical testing and characterization. Solid tar and potential gas purification materials (oily wood chips; prussian blue coloration), limited to portions of the fill zone, are adequately evaluated through direct visual means and through chemical testing of samples collected from soil borings.

The following Sections describe the results of the observational, physical, and chemical testing as related to DNAPL, tar, and possible gas purification materials at the Site.

7.1.1 Field Identification and Description

Field observations as identified in soil boring logs (Appendix B), indicate that tar, oil, carbon pitch, and gas purification/spent oxide materials are present in soils beneath portions of the Siltronic property. Table 3 provides a boring log summary describing the observed field screening evidence of impact within soils at the Siltronic property. The table includes the information from borings completed as part of the RI and for historic site borings. As provided on this Table, field screening evidence of impact, including the presence of product or NAPL, has been differentiated as follows:

- **Odor:** Indicates that soil across the indicated depth interval, as described on the soil boring log, exhibits the presence of a petroleum, creosote, or naphthalene-like odor. The identification of soil horizons containing an odor should be considered incomplete, as no odor would be noted in cases where field personnel were wearing respirators with organic vapor cartridges.

- **Sheen:** Sheen has been subdivided on Table 3 into a light sheen and a heavy sheen designation. Soil horizons where a light sheen is indicated would exhibit a faint sheen, often discernable only by completion of a field sheen test (addition of water and agitation of the sample). Soil horizons where a heavy sheen is noted would exhibit a very obvious rainbow-colored petroleum sheen, often obvious in wet soils without addition of additional water to the sample.

- **Oil Blebs or Patchy Oil:** Soil horizons where patchy oil or oil blebs are noted correspond to soils where oil is observed, either by direct observation or by other field screening techniques (e.g., ultraviolet fluorescence). The oil, when described as blebs or patchy, is not present throughout the soil, and does not appear to visibly coat or "saturate" the soil. This designation is observational only, provides relative insight into the degree of oil present, and does not imply mobility potential for the oil.

- **Oil Saturation**; Soil horizons identified in the field as containing the observational condition of "oil saturation", exhibit the presence of oil

visually coating all of the soil grains and/or filling pore space, with the oil typically coating the soil core being examined. This designation is observational only, provides insight into the relative degree of oil presence, and does not imply mobility potential for the oil.

- **Patchy/Soil-Mixed Tar:** Soil horizons identified as containing patches of tar or soil mixed with tar exhibit solid tar that has been obviously mixed into soil used as fill (e.g., it is not present as a discernable horizon), or it is a zone where black, sticky, viscous tar (liquid to semi-liquid) has been observed within a secondary porosity feature (e.g., a rootlet) within a soil horizon otherwise containing no observational presence of tar.

- **Tar:** This designation is used for soil horizons where obvious horizons of tar (sticky solid to semi-solid) are present that have not otherwise been fragmented or otherwise noted to be incorporated into, or mixed with, soil. Tar described as being a black, sticky, viscous liquid is considered to have characteristics that place it as some intermediary between solid tar and liquid oil, which act as descriptive end-members to the range of observed characteristics.

- **Carbon Pitch / Soil Mixture:** Soil horizons noted to contain black hydrophobic powdery or granular material mixed with soil. Carbon pitch may imply either lampblack (MGP by-product), pencil pitch (KI product), or any other granular black or coal-like presence.

- **Carbon Pitch:** Identical to the preceding, but not mixed with soil (present as a large solid piece or layer (appearance of coal or glassy obsidian), or as a defined layer or granular/powdery material.

Figure 10 depicts all Phase I RI boring locations with an indication of the presence of tar or DNAPL observed within soil at any depth within the fill. Figures 11 and 12 depict the interpreted extent of DNAPL across different subsurface horizons at the Gasco and Siltronic properties based on TarGOST investigation results, boring log descriptions, and interpretation between boring locations. Specifically, Figure 11 depicts locations where DNAPL has been identified in borings or wells within the alluvial WBZ (beneath the alluvial silt unit) at any depth shallower than 100 feet bgs; and Figure 12 depicts locations where DNAPL has been identified at any depth within the alluvial WBZ greater than 100 feet bgs.

7.1.2 Dense Non-Aqueous Phase Liquid

DNAPL will occur in the subsurface as either a free-phase or residual liquid. Residual DNAPL is immobile (trapped by capillary forces within the pores) and will not move into a well open to the atmosphere. Free-phase DNAPL is present under pressures greater than atmospheric pressure, and may accumulate in wells that are open to the atmosphere. Free-phase DNAPL will either have the ability to migrate, or its migration will be prevented or significantly inhibited due to the presence of down-dip (underlying or adjacent) impermeable barriers (e.g., be stratigraphically trapped), where it may pool. Residual saturation levels for an MGP or creosote site may range from 5 to 50% of the total pore volume (EPA, 1992 and Jackson, et.al., 2004).

7.1.2.1 Surficial Fill Unit

Visual field screening evidence of oil (of any apparent magnitude, blebs through apparent saturation) within the surficial fill zone were identified at 22 of the 55 boring locations installed as part of NW Natural's investigation activities at the Siltronic property between 2007 and 2009, as summarized below on Table 7.1-1 below. Table 7.1-1 also identifies those borings for which laboratory core photographs are available, as well as results of NAPL saturation testing and NAPL mobility (residual saturation) testing, which was conducted on a representative subset of cores from borings where evidence of NAPL was identified.

TABLE 7.1-1 RI BORING LOCATIONS WITH NAPL OBSERVATION IN FILL AND SATURATION TESTING RESULTS

Boring Location	Depth of Field NAPL Observation (feet)	Other Observation	Core Photo?	NAPL Saturation		Mobility Testing		
				Sample Depth (ft)	% NAPL in Pore Fluid	Sample Depth (ft)	% NAPL Saturation (Initial)	% NAPL Saturation (Residual)
P-7A	22.5-24	--	Yes	25.8	2.7%	--	--	--
P-12 (NWN-2-20)	5.5-7	--	Yes	7.1	5.8%	--	--	--
	16.8-20.2	--	Yes	17.4	15.2%	17.6	15.7%	14.8%
		--		20.6	3.7%	--	--	--
P-15 (NWN-5-20)	--	19-23 (tarry)	Yes	21.6	7.1%	21.5	4.3%	4.3%
		--		28.8	0.3%	--	--	--
P-16 (NWN-1-20)	10-12.5	--	Yes	11.6	20.9%			
	15-16	--	Yes	15.2	26.6%	15.4	21%	20.4%
	19-21	--	Yes	--	--	--	--	--
P-19	24-28.5	--	No	--	--	--	--	--
P-20 (NWN-6-31)	20-25		No	--	--	--	--	--
P-22	24-25	--	No	--	--	--	--	--

TABLE 7.1-1 RI BORING LOCATIONS WITH NAPL OBSERVATION IN FILL AND SATURATION TESTING RESULTS								
				NAPL Saturation		Mobility Testing		
Boring Location	Depth of Field NAPL Observation (feet)	Other Observation	Core Photo?	Sample Depth (ft)	% NAPL in Pore Fluid	Sample Depth (ft)	% NAPL Saturation (Initial)	% NAPL Saturation (Residual)
P-25	10-14	--	No	--	--	--	--	--
P-33	15-21	--	No	--	--	--	--	--
	23-23.2	--	No	--	--	--	--	--
P-34	11-11.3	--	No	--	--	--	--	--
	22	--	No	--	--	--	--	--
P-36	18.5-19.5	--	Yes	--	--	--	--	--
	20-20.5	--	Yes	--	--	--	--	--
	22.5-25	Based on photo	Yes	23.7	51.9%	23.9	**30.3%**	**15.1%**
	27.5-30	Based on photo	Yes	29.2	2.7%	--	--	--
P-38	25-28.2	--	Yes	27.1	11.5%	--	--	--
	35-35.2	30'-45' (tarry)	Yes	33.8	5.6%	--	--	--
			Yes	40.3	35.6%	40.5	**20.2%**	**11.8%**
			Yes	42.5	19.8%	--	--	--
P-42	31-32		No	--	--	30.3	1.5%	1.5%
P-43	37-38		No	--	--	--	--	--
P-44 (NWN-9-31)		10-23.5 (tarry)	Yes	12.9	15.1%	13.1	14.2%	14.2%
			Yes	23.1	4.5%	23.3	2.2%	2.2%
			Yes	28.3	3.0%	--	--	--
P-52	30.5	--	No	--	--	--	--	--
P-54	19-22	--	No	--	--	--	--	--
SB-21	20-22	--	No	--	--	--	--	--
SB-35	16-26	--	No	--	--	--	--	--
SB-53	16-28	--	No	--	--	--	--	--
P-B	7?	--	No	--	--	--	--	--
P-Y	7-8?	--	No	--	--	--	--	--
P-Z	2-10	--	No	--	--	--	--	--

All core photography and physical properties analyses including pore fluid saturation testing and mobility testing as summarized above, are included within the PTS Laboratories Report included within Appendix C. The mobility testing values summarized on Table 7.1-1 include "initial" and "residual" NAPL values. The "initial" value represents the NAPL saturation level in the core as received by the laboratory. The "residual" value is the residual NAPL saturation level after centrifuging the core at 1,000-times the force of gravity. Based on the extreme nature of this centrifuge mobility test, the difference between the initial and residual (post centrifuge) NAPL

saturation levels would represent a worst case indication of the magnitude of the NAPL that may have potential for long-term mobility.

A summary of findings of the NAPL saturation and mobility testing results provided in Table 7.1-1 are as follows:

- DNAPL saturation levels, as tested within select cores collected during the RI containing visual evidence of oil or tar presence, were found to range from less than 5% to a high of 51.9%. The high DNAPL saturation level was identified at a depth of 23.7 feet bgs at the P-36 boring location. Boring P-36 was installed in the area of the central excavation.

- DNAPL Mobility testing was conducted on samples from 8 core sections from various locations at the Site where visual evidence of oil was noted in surficial fill boring logs. This testing identified initial (pre-testing) DNAPL saturation levels ranging from a low of 1.5% to a high of 30.3%. The mobility testing identified only 2 locations (bolded on Table 7.1-1) where centrifugal forces (1,000-times that of gravity) were able to mobilize appreciable DNAPL from the core sample. At all other locations, the difference in the initial and final (post testing) DNAPL saturation levels were either identical to the original level, or declined by less than 1%.

- An appreciable decline in DNAPL saturation levels as a result of the centrifugal testing occurred only within the samples collected from P-36 (30.3% initial to 15.1% final) and P-38 (20.2% initial to 11.8% final). These soil cores were collected from surficial fill borings installed in areas of historical MGP residual management activities, with P-36 located in the area of the central excavation (southern end of Fab 1 building), and P-38 located within the former effluent pond overflow area (northern end of Fab 1 building).

- Mobility testing of core samples collected from surficial fill borings installed at the western corner of the Siltronic property near the Koppers Lease area (P-16) and along the southern property line near Doane Creek (P-12 and P-15) indicate that NAPL saturation levels in the core after centrifuging were equivalent or nearly equivalent to levels measured in the core before centrifuging. As such, the DNAPL as represented by these samples is present at residual saturation levels and is therefore not mobile, even under long-term worst case

conditions as represented by the mobility test methodology. The preceding is further supported by a lack of DNAPL entry into any of the wells screened across the NAPL zones as were installed at the P-12 (NWN-2-20), P-15 (NWN-5-20), and P-16 (NWN-1-20) boring locations.

- Mobility testing of core samples collected from surficial fill borings installed near the Willamette River shoreline at the northern corner of the Siltronic property (P-42 and P-44) indicate that NAPL saturation levels in the core after centrifuging were equivalent to levels measured in the core before centrifuging. As such, the DNAPL as represented by these samples is present at residual saturation levels and is not mobile. The preceding is further supported by a lack of DNAPL entry into well NWN-9-31, screened across the oily tar zone as was identified at P-44.

With regard to the presence or accumulation of DNAPL within surficial fill zone monitoring wells at the Site, NAPL entry has been identified at one Siltronic-owned well (WS-10-27), where up to approximately 1 foot of DNAPL has historically been identified. No NAPL entry has been identified to date at any of the NW Natural-owned wells (NWN-series or the WS-8 and WS-9 locations) at the Siltronic property, including those NWN-series wells described above in relation to Table 7.1-1, or at well NWN-6-31 (P-20), which was screened across a zone of soils containing blebs of NAPL and tar.

7.1.2.2 Alluvial Unit

RI activities completed by HAI in 2009 included installation of four deep rotosonic borings (SB-21, SB-27, SB-35, and SB-53) through the entirety of the alluvial unit across the northern portion of the Siltronic property (Figure 7). Of these four locations, NAPL occurrence was identified within the alluvial unit only at the SB-53 location – with indications of NAPL extending to a depth of 70.5 feet bgs. Boring SB-53 was installed thorough an area of known NAPL occurrence in the alluvial unit near the current property boundary with Gasco. The SB-53 area correlates with the former Gasco tar effluent ponds and the Siltronic effluent pond overflow area. DNAPL occurrence and distribution at this portion of the Site has been described in previous reports (HAI 2005a,d).

In addition to the evaluation of DNAPL presence and distribution in the alluvial unit through direct visual observation of soil core, downhole laser-induced fluorescence using the TarGOST technology was completed in 2007 (Round 1) and 2008 (Round 2) as described in Section 4.7.3 as part of RI activities at the Siltronic property (and simultaneously at the adjacent NW Natural Gasco property). The TarGOST investigation activities provide a direct and precise (to the fraction of an inch) indication of DNAPL presence in the subsurface as per methodologies described in Section 4.7.3. Results of the TarGOST investigation activities have previously been provided in a data report dated July 14, 2008 (HAI 2008b).

All Round 1 and Round 2 TarGOST boring location and results for the alluvial unit are depicted on Figures 11 (above 100 feet bgs) and 12 (below 100 feet bgs). The depiction of DNAPL occurrence within the alluvial unit at depths greater than 100 feet bgs clearly represents DNAPL at depths greater than the base of the Willamette River, which exists at a depth of approximately 75 to 80 feet bgs relative to the Siltronic ground surface.

With regard to DNAPL penetration through the upper alluvial silt unit and into the Alluvial WBZ (Figure 11), DNAPL has been observed at the Siltronic Site within soils collected from beneath the silt unit at borings B-1-8, B-2-8, WS-11, WS-14, WS-15, WS-16, WS-23, WS-33, and recent RI boring SB-53. Alluvial wells at Siltronic with NAPL occurrence, the amount of accumulation in the well, and whether it is a current or historical condition, are summarized as follows:

- Well WS-11-125 (up to 3 feet historically, none currently)
- Well WS-14-125 (up to 3 feet historically, none currently)
- Well WS-15-85 (up to 7 feet, currently)
- WS-23-116 (up to 1 foot, currently)
- WS-33-81 (up to 1 foot, currently)

All of the preceding locations are in the extreme northern portion of the former 400 foot wide effluent overflow area, below and proximate to the northern end of the Fab 1 building. As depicted on Figure 12, this area is contiguous with presence of deep DNAPL penetration to the north beneath the former effluent ponds at the adjacent Gasco property. DNAPL migration through the silt unit is likely a function of the large volume of oily effluent placed in / discharged to the northwestern portion of the Siltronic property

and eastern portion of the Gasco property (effluent pond area) where sufficient volume and entry pressure for DNAPL penetration of the silt unit occurred. The TarGOST data as tabulated on Figures 11 and 12 indicate that the depth of DNAPL penetration into the alluvial unit has been greater beneath the Siltronic property than has been identified at the Gasco property. Further, the depth of DNAPL occurrence increases in a stepwise fashion toward the river, likely as a function of gravity flow along discontinuous zones of lower permeability, with depth increasing in a downdip direction as the DNAPL slowly migrated through the heterogeneous soils of the alluvial unit.

As depicted on Figures 11 and 12, the lateral and vertical extent of DNAPL presence within the Alluvial WBZ has been well delineated at the Siltronic property using direct observation of core, entry into monitoring wells, and through the extensive use of the TarGOST technology.

7.1.2.3 Physical and Chemical Characteristics

DNAPL may be characterized by density, viscosity, interfacial tension with water, wettability, and chemical composition. These properties will impact DNAPL behavior in the subsurface. The RI included the collection and chemical/physical testing of DNAPL from the WS-10-27 well location (surficial fill unit) and from the WS-15-85 location (alluvial unit). Data from these tests are summarized on Tables 23 and 24. These Tables also provide a summary of other testing results (pre-RI) of DNAPL samples collected from wells at the Siltronic and adjacent Gasco property.

Specific descriptions of the DNAPL identified at the WS-10-27 and WS-15-85 locations, based on RI physical/chemical analyses, are provided below.

Density

As summarized on Table 23, the fill and alluvial oil samples collected during the RI have a similar specific gravity (1.134 at well WS-10-27 and 1.118 at well WS-15-85, as measured at 55°F). This range of specific gravity (e.g., density) is consistent with that typically identified for a creosote/tar oil (1.04 to 1.1). A specific gravity greater than 1.0 indicates the oil will tend to move vertically downward in the subsurface in response to gravitational forces (i.e., it is a DNAPL).

Viscosity

Viscosity is a measurement of the ability for a fluid to flow, with higher viscosity fluids requiring greater energy to initiate flow. Viscosity is highly temperature dependent, with fluids typically becoming less viscous (easier flowing) at higher temperatures. With regard to DNAPL samples collected from wells WS-10-27 and WS-15-85, viscosity tests were conducted at four temperatures (55°F, 70°F, 100°F, and 130°F). The 55°F temperature would be closest to the ambient temperatures typical of groundwater beneath the Site (typically between 51°F and 61°F).

As summarized in Table 23, viscosity testing results indicate the DNAPL as present at the WS-10-27 fill location to be to more viscous (4 times the viscosity at ambient temperature) than the DNAPL as present at the WS-15-85 alluvial location (at all temperatures), with both samples being more viscous than DNAPL as tested at the adjacent Gasco property. The lower viscosity of the DNAPL within the WS-15-85 well location (283 centistokes at 55°F; 44.7 centistokes at 100°F; 19.8 centistokes at 130°F) suggests a greater mobility potential than the DNAPL remaining in the fill at the WS-10-27 location (1,148 centistokes at 55°F; 115 centistokes at 100°F, 36 centistokes at 130°F). The relative greater distance of movement of the DNAPL as identified in the alluvial unit (versus the fill unit) is likely a function this lower viscosity.

For comparison with the above-viscosities, water has a viscosity of 0.55 centistoke (at 130°F), diesel fuel has a viscosity of 4 centistokes (at 130°F); and honey has a viscosity of 73 centistokes (at 100°F).

Wettability and Interfacial Tension

Wettability is a measure of a liquid's relative affinity for a solid. For example, a "wetting" fluid will preferentially spread over a solid surface (e.g., soil particle) at the expense of a "non-wetting" fluid. Thus, a strongly "water-wet" system would tend to result in lower residual NAPL saturation levels (e.g., greater mobility potential) than a strongly "NAPL-wet" system. Wettability testing results (Appendix C) using core from the NAPL zone within P-36 and "site-specific" fluids (groundwater from WS-10-27; DNAPL from MW-16-45 at Gasco) indicate the system to be borderline between slightly oil-wet and oil-wet. These results suggest that there would be a moderate preference for DNAPL (as opposed to water) to spread over the soil particles within this zone, which would tend to support higher residual saturation levels for DNAPL. DNAPL mobility testing of core from the same depth interval at the P-36 location (see Table 7.1-1, Section 7.1.2.1) indicates a possible maximum long-term residual saturation level of 15.1%.

Interfacial tension (IFT) refers to the tensile force that exists at the interface of two immiscible liquids. IFT is a measurement of a liquid's affinity for being trapped by capillary pressures in the subsurface. IFT for contaminants typically encountered in the subsurface generally range from 5 to 50 dynes/cm (Kong 2004). Creosote or tar oil, as a complex mixture, will generally have a lower IFT (20 to 30 dynes/cm) than a pure chemical product, such as TCE (40 to 50 dynes/cm). IFT determined for the DNAPL at the WS-10-27 and WS-15-85 locations, as measured with site groundwater, was 23 dynes/centimeter (WS-10-27) and 22 dynes/centimeter (WS-15-85), which are within the range that may be expected for a creosote-type oil. As with wettability, IFT provides an indication of anticipated NAPL entrapment in a porous media, with lower IFT resulting in less entrapment (i.e., lower residual saturation levels) (Kong 2004).

7.1.2.4 Chemical Characteristics

As summarized on Tables 23 and 24, the overall PAH content of the DNAPL samples from wells WS-10-27 and WS-15-85 was 8.2% and 21%, respectively. The primary distinction among the DNAPL samples with regard to PAH content was a higher naphthalene content in the sample from alluvial well WS-15-85 (82,000 ppm) versus fill well WS-10-27 [48,000 parts per billion (ppb)].

VOC concentrations were relatively similar between the sample from the fill well (WS-10-27) and the alluvial well (WS-15-85), although slightly higher concentrations were identified at the WS-15-85 location. For example, 1,700 ppm benzene was identified in the DNAPL sample from WS-15-85 and 1,300 ppm was identified at the WS-10-27 location. The higher proportion of lighter end components within the DNAPL at the WS-15-85 location (e.g., naphthalene, benzene) is expressed in a lower flashpoint for DNAPL at this location (198°F) versus the DNAPL at the WS-10-27 location where no flashpoint below 230°F was identified.

7.1.3 Tar

As described previously, in addition to oil, a highly viscous semi-solid to solid tar was identified during the investigation in a number of soil borings at the site. Tar or soil mixed with tar has been identified in soil borings installed at portions of the site corresponding to the location of the former MGP residual management areas at the Site, as well as a presence in surficial fill across other portions of the Site (Figure 10).

Table 3 provides a summary, culled from all site boring logs, identifying and describing the depths from which tar and other forms of petroleum have been identified at the Siltronic property.

7.1.4 Potential Gas Purification Materials

Spent oxide (also called purifier box materials) was generated from the use of iron oxide (iron-impregnated wood shavings) as a solid reactant for the removal of sulfur from the oil gas at MGP operations at the Gasco property north of Siltronic. As previously described, spent oxide is primarily a blend of iron sulfides, sulfur, iron oxides and wood substrate, however spent oxide material may also contain hydrocarbons that passed through the upstream gas processing equipment, as well as cyanides that would be removed from the gas along with the sulfur.

A stockpile of spent oxide/purifier box material was identified in aerial photographs of the Site from the 1950s and 1960s, with the pile located near the southwestern end of the common property line currently shared between Siltronic and NW Natural. Company records indicate this pile contained an estimated 34,000 cubic yards of spent oxide material. The stockpile of dark-colored spent oxide material is first observed in 1952 (April and July 1952 aerial photographs), with most of the pile situated on the present-day

Siltronic property (near the western corner of the Allen Tract, current wastewater treatment plant area). Aerial photographs indicate the stockpile was present at this location between at least 1952 and 1966 and was gone by 1968 – its presence post-dating the sale of the Allen Tract to others in 1960. The final disposition of this pile is not known. Soil borings advanced through the fill as part of RI activities in 2008 and 2009 identified the presence of wood fragments in thin zones at numerous locations (Table 3). Many of these occurrences were thin zones containing wood fragments without any other indication of spent oxide materials such as a prussian blue coloration or a mixture with oil or tar.

Zones of wood chips mixed with tar or oil and with a characteristic prussian blue coloration typical of gas purification materials were identified at boring locations P-12 (NWN-2-20), P-16 (NWN-1-20), and SB-21. These three locations are clustered together near the western corner of the Siltronic property and correspond with the former location of the spent oxide pile as described above. These zones and locations are considered likely to be representative of spent oxide material incorporation into the fill.

Although no prussian blue coloration was noted, zones with wood chips mixed with tar or oil were identified mixed into fill at the P-17, P-29, P-30, P-31, P-46, and the SB-27 boring locations. With exception of the P-46 location, all of these borings were located either proximate to the former spent oxide pile near the location of the Siltronic wastewater treatment plant, or were located in the central portion of the Site where photographic indications of dark fill placement in the mid-1960s was noted. Boring P-46 is located at the central portion of the Siltronic shoreline. These occurrences are considered to represent areas of possible spent oxide material incorporation into the fill.

7.2 Site Soil

This section presents the laboratory analytical data for upland soil samples collected at the Site during the Phase I RI activities.

Surface soil samples were collected and analyzed during the 2008 and 2009 NW Natural RI activities at 48 locations, and subsurface soil samples were collected and analyzed at 53 locations with a total of 74 subsurface samples collected. Sampling locations are depicted on Figure 7. Surface soil sample depths were typically a homogenization of soils from the upper 3 feet bgs and subsurface soil sample depths ranged from 3 to a maximum of 20 ft bgs, but did not include samples collected from below the water table. Samples below the water table or at depths greater than 20 feet bgs were classified as deep samples. As described in the RI Workplan, deep samples were collected to characterize areas of potential MGP residual presence and are not within depth horizons identified for screening (HAI 2007b). 51 deep soil samples were collected and analyzed at 30 locations during the 2008 and 2009 RI activities.

Soil data as collected during the 2008 and 2009 RI activities have been tabulated and are summarized on Tables 4 through 11. In addition to the recent RI data as collected by NW Natural as part of the RI activities, Tables 4 through 11 also summarize historically available data as previously collected by HAI or others at the Site.

7.2.1 Soil Screening Level Values

DEQ Risk-Based Concentrations (RBCs) from the Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites (DEQ 2003, updated September 2009) were used to screen soil to the maximum depth of potential human exposure.

Surface soils (upper 3 feet bgs) were screened using DEQ RBCs for direct contact and ingestion by a potential occupational worker. Subsurface soils (3 to 20 feet, but above the water table) were screened using DEQ RBCs for direct contact, soil ingestion, and inhalation by a potential construction or excavation worker.

Surface soils (upper 3 feet bgs) were also screened against DEQ Level II Screening Level Values (SLVs) as provided within the DEQ Guidance for Ecological Risk Assessment (DEQ 1998), as updated in December 2001.

7.2.2 Site Surface and Subsurface Soil

Table 7.2-1, embedded below, summarizes laboratory analytical results for soil samples, presented separately for each sample depth group (surface, subsurface, and deep). Laboratory results included in this summary include soil data collected as described within the NW Natural RI Workplan (HAI 2007b), in addition to soil data as collected within the utility corridor as part of pipeline repair work in 2007. Table 7.2-1 identifies all constituents detected in any of the three sample depth groups, and provides a detection frequency as well as the minimum, maximum, mean, and median concentration for each constituent as detected within each sample depth group. The laboratory method reporting limit or range of limits are also provided for those constituents that had one or more non-detects in the data-set.

Table 7.2-2, embedded below, provides a summary of the lowest screening level values relevant to each sample depth interval, as well as the detection frequency and screening level value exceedance frequency for the RI and pipeline repair-related soil samples for each depth group.

All soil sample results are individually tabulated and screened on Tables 4 through 11. Overall screening results, organized by major analyte grouping, are summarized as follows:

- **Metals**: Of the 16 metals tested in surface and subsurface soils, 14 were detected in 1 or more sample. With regard to surface soils, 1 metal (arsenic) at 1 location exceeded both naturally-occurring background and human health-based screening levels, and one or more of the following metals (aluminum, barium, cadmium, copper, iron, lead, manganese, mercury, nickel, vanadium, and zinc) exceeded both naturally-occurring background and DEQ Level II Ecological Risk Assessment screening levels in at least 1 sample. Only arsenic (1 sample) and lead (2 samples) were detected in subsurface soils at concentrations greater than both naturally-occurring background and screening levels.
- **PAHs**: One or more of the 16 PAHs tested were detected in all of the surface and subsurface samples, with a detection frequency of individual PAHs ranging from 91% to 100%. Six PAHs were detected in at least 1 surface sample at concentrations greater than screening levels, with the frequency of exceedance ranging from a low of naphthalene in 2 samples, to a high of benzo(a)pyrene in 21 samples (out of population of 40). With

regard to subsurface soils, 7 PAHs were detected in at least 1 sample at concentrations greater than screening levels, with a frequency of exceedance ranging from a low of benzo(k)fluoranthene (1 sample) to a high of benzo(a)pyrene in 28 samples (out of a population of 54 samples).

- **Other SVOCs**: Thirteen SVOCs (non-PAHs) were detected in 1 or more surface or subsurface samples. Of the 13 SVOCs detected, only 1 SVOC (dibenzofuran) was detected in surface soils at a concentration greater than screening levels, with the exceedence occurring in 25 of 39 samples. No SVOCs were detected in subsurface soils at concentrations greater than screening levels.
- **VOCs**: 33 VOCs were detected in 1 or more surface or subsurface samples. Of the 33 VOCs detected, only naphthalene was detected in surface or subsurface soils at a concentration greater than screening levels, with the exceedance occurring in 1 of 41 surface samples and 5 of 49 subsurface samples (based on the EPA 8260 analysis). Naphthalene is also reported by the EPA 8270 SIM test (PAHs), which had a similar number of screening level exceedances.
- **Cyanide**: Total cyanide was detected in 33 of 42 surface soil samples and in 58 of 64 subsurface soil samples. Total cyanide was not detected at any soil sample location (surface or subsurface) at a concentration greater than screening levels.
- **TPH**: Gasoline-range TPH was detected in 13 of 41 surface soil samples and in 46 of 61 subsurface soil samples. Gasoline-range TPH was not detected in any sample at a concentration greater than established RBC screening levels. Diesel-range TPH was detected in 38 of 41 surface samples and in 61 of 66 subsurface samples. No surface samples and only 2 subsurface samples (P-16 and SB-35 locations) detected diesel-range TPH at concentrations greater than established RBC screening levels.
- Oil-range TPH was detected in 38 of 41 surface samples and in 60 of 66 subsurface soil samples. There are no established DEQ RBC screening levels for oil-range TPH and therefore TPH fractionization data were evaluated in accordance with the DEQ RBDM Guidance (DEQ 2003), using the DEQ TPH spreadsheet "Calculating RBCs for Total Petroleum Hydrocarbons". The DEQ spreadsheet is used to calculate TPH RBCs for site-specific petroleum impacts. Table 10 summarizes the data inputs and calculated RBCs for each sample with the necessary EPH and VPH fractionization data. Calculated RBCs for oil-range TPH that were used to screen the Site data were the lowest calculated values for surface soils and for subsurface soils. Similar to the

diesel-range described above, no surface samples and only 2 subsurface samples (P-16 and SB-35 locations) detected oil-range TPH at concentrations greater than calculated RBC screening levels.

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Metals									
Aluminum	Surface	mg/Kg	38/38	100%	7,900	32,400	18,571.	17950	NA
	Subsurface	mg/Kg	51/51	100%	1,950	40,700	17,525.	14700	NA
	Deep	mg/Kg	11/11	100%	3,140	24,600	13,535.	13700	NA
Antimony	Surface	mg/Kg	33/38	87%	0.07	1.41	0.228	0.185	0.02
	Subsurface	mg/Kg	47/51	92%	0.07	11.8	0.606	0.22	0.02
	Deep	mg/Kg	9/11	82%	0.05	0.84	0.272	0.11	0.02 - 1.2
Arsenic	Surface	mg/Kg	44/44	100%	1.45	8.33	3.	2.69	NA
	Subsurface	mg/Kg	57/57	100%	0.93	14.7	3.54	3.29	NA
	Deep	mg/Kg	11/11	100%	0.57	103	11.82	2.38	NA
Barium	Surface	mg/Kg	7/7	100%	87	297	169.7	170	NA
	Subsurface	mg/Kg	7/7	100%	120	312	182.7	145	NA
	Deep	mg/Kg	1/1	100%	122	122	122.	122	NA
Cadmium	Surface	mg/Kg	37/44	84%	0.039	10.7	0.755	0.177	0.004 - 1.13
	Subsurface	mg/Kg	47/57	82%	0.042	28.7	1.23	0.226	0.004 - 1.26
	Deep	mg/Kg	8/11	73%	0.032	0.439	0.168	0.125	0.004 - 1.2
Chromium	Surface	mg/Kg	44/44	100%	7.92	31	17.51	16.4	NA
	Subsurface	mg/Kg	57/57	100%	6.39	73.3	19.11	15.5	NA
	Deep	mg/Kg	11/11	100%	3.64	71.2	20.55	16.7	NA
Copper	Surface	mg/Kg	44/44	100%	10.8	163	26.02	21	NA
	Subsurface	mg/Kg	57/57	100%	7.06	3770	94.84	20.5	NA
	Deep	mg/Kg	11/11	100%	1.17	31.8	13.83	15.3	NA
Iron	Surface	mg/Kg	38/38	100%	22,100	40,900	32,826.	32650	NA
	Subsurface	mg/Kg	51/51	100%	6,150	61,400	33,525.	30700	NA
	Deep	mg/Kg	11/11	100%	9,160	53,600	27,041.	25800	NA
Lead	Surface	mg/Kg	44/44	100%	2.85	348	36.99	15.1	NA
	Subsurface	mg/Kg	57/57	100%	2.98	2,420	113.5	18.8	NA
	Deep	mg/Kg	11/11	100%	4.52	50.6	20.57	13.7	NA

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Manganese	Surface	mg/Kg	38/38	100%	316	862	497.3	488	NA
	Subsurface	mg/Kg	51/51	100%	56.1	1550	482.2	394	NA
	Deep	mg/Kg	11/11	100%	102	585	298.3	289	NA
Mercury	Surface	mg/Kg	36/41	88%	0.015	0.152	0.0657	0.06	0.006 - 0.127
	Subsurface	mg/Kg	55/57	96%	0.008	1.72	0.137	0.056	0.111 - 0.134
	Deep	mg/Kg	10/11	91%	0.005	0.129	0.044	0.036	0.0961
Nickel	Surface	mg/Kg	44/44	100%	9.58	66.4	19.92	16.5	NA
	Subsurface	mg/Kg	57/57	100%	7.5	1,520	60.75	18.7	NA
	Deep	mg/Kg	11/11	100%	8.6	338	48.81	19.6	NA
Selenium	Surface	mg/Kg	0/7	0%	NA	NA	NA	NA	0.484 - 1.13
	Subsurface	mg/Kg	1/7	14%	0.716	0.716	0.716	0.716	0.542 - 1.26
	Deep	mg/Kg	0/1	0%	NA	NA	NA	NA	1.2
Silver	Surface	mg/Kg	0/7	0%	NA	NA	NA	NA	0.124 - 1.13
	Subsurface	mg/Kg	0/7	0%	NA	NA	NA	NA	0.139 - 1.26
	Deep	mg/Kg	0/1	0%	NA	NA	NA	NA	1.2
Vanadium	Surface	mg/Kg	44/44	100%	47.5	154	85.6	82.25	NA
	Subsurface	mg/Kg	57/57	100%	45.3	1,890	116.9	79.6	NA
	Deep	mg/Kg	11/11	100%	18.4	1,130	168.4	71.3	NA
Zinc	Surface	mg/Kg	44/44	100%	57.2	5,050	405.4	115	NA
	Subsurface	mg/Kg	57/57	100%	16.2	21,300	619.1	92.4	NA
	Deep	mg/kg	11/11	100%	20.2	175	70.14	65.2	NA

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
PAHs									
Acenaphthene	Surface	mg/kg	39/40	98%	0.00054	19	0.685	0.023	0.0161
	Subsurface	mg/kg	54/54	100%	0.00039	300	35.69	0.4425	NA
	Deep	mg/kg	13/13	100%	0.29	2,300	596.5	130	NA
Acenaphthylene	Surface	mg/kg	40/40	100%	0.0012	7.9	0.529	0.092	NA
	Subsurface	mg/kg	50/54	93%	0.00033	650	26.61	0.33	4.17 - 7.02
	Deep	mg/kg	13/13	100%	0.032	2,900	270.8	13	NA
Anthracene	Surface	mg/kg	40/40	100%	0.0012	25	1.06	0.047	NA
	Subsurface	mg/kg	54/54	100%	0.00085	980	44.77	0.825	NA
	Deep	mg/kg	13/13	100%	0.089	2,000	529.4	100	NA
Benz(a)anthracene	Surface	mg/kg	40/40	100%	0.0037	42	1.98	0.23	NA
	Subsurface	mg/kg	54/54	100%	0.0019	1200	41.59	2.7	NA
	Deep	mg/kg	13/13	100%	0.15	1300	309.9	65	NA
Benzo(a)pyrene	Surface	mg/kg	40/40	100%	0.0055	58	2.75	0.445	NA
	Subsurface	mg/kg	54/54	100%	0.0017	1,300	44.08	3.15	NA
	Deep	mg/kg	13/13	100%	0.16	1,500	310.4	67	NA
Benzo(b)fluoranthene	Surface	mg/kg	40/40	100%	0.0068	58	2.91	0.535	NA
	Subsurface	mg/kg	54/54	100%	0.0022	1,300	43.1	3.9	NA
	Deep	mg/kg	13/13	100%	0.19	1,400	284.6	43	NA
Benzo(g,h,i)perylene	Surface	mg/kg	40/40	100%	0.0067	51	2.84	0.65	NA
	Subsurface	mg/kg	54/54	100%	0.0018	1,100	35.84	3.7	NA
	Deep	mg/kg	13/13	100%	0.2	1,100	210.3	28	NA
Benzo(k)fluoranthene	Surface	mg/kg	40/40	100%	0.0024	17	1.09	0.17	NA
	Subsurface	mg/kg	54/54	100%	0.00078	510	16.69	1.32	NA
	Deep	mg/kg	13/13	100%	0.065	490	95.84	38	NA

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Chrysene	Surface	mg/kg	40/40	100%	0.0047	58	2.78	0.3	NA
	Subsurface	mg/kg	54/54	100%	0.0024	1,300	47.64	3.7	NA
	Deep	mg/kg	13/13	100%	0.0047	58	2.78	0.3	NA
Dibenz(a,h)anthracene	Surface	mg/kg	39/40	98%	0.00085	6	0.331	0.067	3.5
	Subsurface	mg/kg	49/54	91%	0.0044	160	5.48	0.34	0.00028 - 7.02
	Deep	mg/kg	13/13	100%	0.02	150	32.36	8.8	NA
Fluoranthene	Surface	mg/kg	40/40	100%	0.0079	110	4.83	0.39	NA
	Subsurface	mg/kg	54/54	100%	0.0048	3,600	130.2	5.4	NA
	Deep	mg/kg	13/13	100%	0.56	4,400	1,151.	230	NA
Fluorene	Surface	mg/kg	36/40	90%	0.00074	11	0.526	0.0156	0.0025 - 0.0161
	Subsurface	mg/kg	54/54	100%	0.00061	490	33.05	0.177	NA
	Deep	mg/kg	13/13	100%	0.15	1,900	397.8	90	NA
Indeno(1,2,3-cd)pyrene	Surface	mg/kg	40/40	100%	0.0066	45	2.57	0.625	NA
	Subsurface	mg/kg	53/54	98%	0.0017	1,100	35.82	4.1	0.00016
	Deep	mg/kg	13/13	100%	0.19	1,100	212.8	39	NA
Naphthalene	Surface	mg/kg	38/40	95%	0.009	39	1.7	0.087	0.00037 - 0.00049
	Subsurface	mg/kg	52/54	96%	0.0024	3,300	189.8	0.35	0.879 - 2.16
	Deep	mg/kg	13/13	100%	0.037	27,000	4,957.	710	NA
Phenanthrene	Surface	mg/kg	40/40	100%	0.0074	120	5.03	0.125	NA
	Subsurface	mg/kg	54/54	100%	0.0061	3,700	205.1	1.3	NA
	Deep	mg/kg	13/13	100%	0.47	9,800	2,536.	590	NA
Pyrene	Surface	mg/kg	40/40	100%	0.0076	140	6.2	0.542	NA
	Subsurface	mg/kg	54/54	100%	0.01	4,600	162.5	8.05	NA
	Deep	mg/kg	13/13	100%	0.69	5,100	1,375.	300	NA

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples									
Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Other SVOCs									
1-Methylnaphthalene	Surface	mg/kg	33/35	94%	0.00034	6.8	0.458	0.016	0.00031 - 0.0016
	Subsurface	mg/kg	47/48	98%	0.0016	520	44.15	0.04	0.00031
	Deep	mg/kg	11/11	100%	0.04	2,900	550.2	97	NA
2-Chloronaphthalene	Surface	mg/kg	1/5	20%	0.58	0.58	0.58	0.58	0.0016 - 0.032
	Subsurface	mg/kg	0/16	0%	NA	NA	NA	NA	0.0016 - 0.8
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.032 - 1.6
2-Methylnaphthalene	Surface	mg/kg	38/39	97%	0.00052	8.7	0.375	0.024	0.00039
	Subsurface	mg/kg	51/53	96%	0.00062	830	62.42	0.08	0.879 - 2.16
	Deep	mg/kg	13/13	100%	0.013	4,700	906.8	220	NA
2,4-Dimethylphenol	Surface	mg/kg	0/5	0%	NA	NA	NA	NA	0.0055 - 0.54
	Subsurface	mg/kg	0/16	0%	NA	NA	NA	NA	0.0055 - 2.8
	Deep	mg/kg	1/8	13%	0.47	0.47	0.47	0.47	0.11 - 5.5
4-Methylphenol	Surface	mg/kg	1/5	20%	0.018	0.018	0.018	0.018	0.003 - 0.15
	Subsurface	mg/kg	1/16	6%	0.0075	0.0075	0.0075	0.0075	0.0015 - 0.75
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.03 - 2.1
Benzoic acid	Surface	mg/kg	2/5	40%	0.13	0.21	0.17	0.17	0.96 - 9.4
	Subsurface	mg/kg	2/16	13%	0.099	0.4	0.25	0.2495	0.096 - 48
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	2 - 96
Bis(2-ethylhexyl)phthalate	Surface	mg/kg	2/5	40%	0.029	0.045	0.037	0.037	0.07 - 0.69
	Subsurface	mg/kg	6/16	38%	0.033	43	8.85	0.0605	0.035 - 0.7
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.14 - 7
Butyl Benzyl Phthalate	Surface	mg/kg	0/5	0%	NA	NA	NA	NA	0.0032 - 0.32
	Subsurface	mg/kg	1/16	6%	13	13	13.	13	0.0032 - 1.6
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.064 - 3.2

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Carbazole	Surface	mg/kg	28/39	72%	0.0033	4.7	0.351	0.02555	0.0023 - 0.012
	Subsurface	mg/kg	38/53	72%	0.0027	140	13.66	0.595	0.0023 - 4.63
	Deep	mg/kg	12/12	100%	0.019	680	174.7	29	NA
Di-n-butylphthalate	Surface	mg/kg	0/5	0%	NA	NA	NA	NA	0.0079 - 0.78
	Subsurface	mg/kg	2/16	13%	0.016	1.9	0.958	0.958	0.032 - 4
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.16 - 33
Dibenzofuran	Surface	mg/kg	29/39	74%	0.0008	1.4	0.106	0.0077	0.00059 - 0.035
	Subsurface	mg/kg	45/54	83%	0.002	92	7.41	0.1	0.00059 - 7.02
	Deep	mg/kg	13/13	100%	0.021	300	58.35	13	NA
Diethylphthalate	Surface	mg/kg	1/5	20%	0.0035	0.0035	0.0035	0.0035	0.0013 - 0.13
	Subsurface	mg/kg	0/16	0%	NA	NA	NA	NA	0.0013 - 0.65
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.026 - 1.3
N-Nitrosodiphenylamine	Surface	mg/kg	2/5	40%	0.0092	1.1	0.555	0.5546	0.0016 - 0.032
	Subsurface	mg/kg	2/16	13%	1.4	1.7	1.55	1.55	0.0016 - 9.8
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.032 - 37
Phenol	Surface	mg/kg	1/5	20%	0.13	0.13	0.13	0.13	0.002 - 0.2
	Subsurface	mg/kg	0/16	0%	NA	NA	NA	NA	0.002 - 1
	Deep	mg/kg	0/8	0%	NA	NA	NA	NA	0.04 - 2
VOCs									
1,1,1-Trichloroethane	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.000066 - 0.035
	Subsurface	mg/kg	1/49	2%	0.00024	0.00024	0.00024	0.00024	0.000066 - 1.4
1,2-Dichlorobenzene	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.000065 - 0.13
	Subsurface	mg/kg	1/49	2%	0.0004	0.0004	0.0004	0.0004	0.000065 - 1.18
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.0081 - 3.26
1,2-Dichloroethane (EDC)	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.000057 - 0.13
	Subsurface	mg/kg	1/49	2%	2.1	2.1	2.1	2.1	0.000057 - 1.5
	Deep	mg/kg	1/6	17%	0.35	0.35	0.35	0.35	0.0083 - 4.2

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
1,2,4-Trichlorobenzene	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.00019 - 0.13
	Subsurface	mg/kg	1/49	2%	0.057	0.057	0.057	0.057	0.00019 - 2.8
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.0074 - 13.1
1,2,4-Trimethylbenzene	Surface	mg/kg	20/41	49%	0.00009	0.83	0.0418	0.00015	0.00007 - 0.13
	Subsurface	mg/kg	32/49	65%	0.000082	160	15.57	0.0017	0.000074 - 0.134
	Deep	mg/kg	5/6	83%	3	290	120.4	36	0.31
1,3,5-Trimethylbenzene	Surface	mg/kg	3/41	7%	0.00021	0.32	0.108	0.0025	0.000069 - 0.13
	Subsurface	mg/kg	19/49	39%	0.00013	50	7.92	1.3	0.000069 - 0.134
	Deep	mg/kg	4/6	67%	0.94	110	52.24	49	0.013 - 6.53
1,4-Dichlorobenzene	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.0001 - 0.13
	Subsurface	mg/kg	1/49	2%	0.027	0.027	0.027	0.027	0.0001 - 1.18
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.012 - 6.53
2-Butanone (MEK)	Surface	mg/kg	22/41	54%	0.003	0.012	0.0055	0.0049	0.0011 - 1.3
	Subsurface	mg/kg	14/29	48%	0.003	0.014	0.0058	0.00525	0.0011 - 41
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.33 - 120
2-Chlorotoluene	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.000051 - 0.13
	Subsurface	mg/kg	1/49	2%	0.00015	0.00015	0.00015	0.00015	0.000051 - 1.4
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.0095 - 4.1
4-Isopropyltoluene	Surface	mg/kg	3/41	7%	0.00015	0.062	0.0209	0.00045	0.000066 - 0.261
	Subsurface	mg/kg	16/49	33%	0.0004	12	2.64	1.135	0.000066 - 0.267
	Deep	mg/kg	4/6	67%	0.22	8.8	10.66	5.7	0.011 - 6.53
Acetone	Surface	mg/kg	33/41	80%	0.0023	0.097	0.0352	0.025	0.0018 - 3.26
	Subsurface	mg/kg	24/49	49%	0.004	0.079	0.0173	0.0135	0.0019 - 30
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	1.7 - 131
Benzene	Surface	mg/kg	16/46	35%	0.00092	0.38	0.0399	0.0018	0.000079 - 0.0261
	Subsurface	mg/kg	25/53	47%	0.00076	71	6.46	0.092	0.000079 - 0.028
	Deep	mg/kg	6/6	100%	1.6	910	281.7	48.75	NA

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Bromoform	Surface	mg/kg	9/41	22%	0.0005	0.0015	0.00095	0.00083	0.00019 - 0.13
	Subsurface	mg/kg	7/49	14%	0.0005	0.0019	0.0011	0.001	0.00019 - 3.5
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.015 - 6.53
Carbon Disulfide	Surface	mg/kg	20/40	50%	0.00011	0.014	0.0011	0.000325	0.000057 - 1.3
	Subsurface	mg/kg	20/48	42%	0.000077	0.5	0.0334	0.00094	0.00006 - 11.8
	Deep	mg/kg	0/5	0%	NA	NA	NA	NA	0.023 - 5.9
Chlorobenzene	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.000051 - 0.13
	Subsurface	mg/kg	5/49	10%	0.00016	0.027	0.0062	0.00021	0.000051 - 1.2
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.0097 - 3.5
Chloroform	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.000063 - 0.147
	Subsurface	mg/kg	1/49	2%	0.00035	0.00035	0.00035	0.00035	0.000054 - 1.2
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.014 - 32.6
cis-1,2-Dichloroethene	Surface	mg/kg	1/41	2%	0.00024	0.00024	0.00024	0.00024	0.0001 - 0.13
	Subsurface	mg/kg	0/49	0%	NA	NA	NA	NA	0.000091 - 1.5
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.017 - 4.3
Dichlorodifluoromethane	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.000066 - 0.652
	Subsurface	mg/kg	3/49	6%	0.00029	0.0023	0.001	0.00051	0.000066 - 5.88
	Deep	mg/kg	1/6	17%	0.038	0.038	0.038	0.038	0.12 - 13.1
Ethylbenzene	Surface	mg/kg	32/46	70%	0.00021	1.47	0.0629	0.00037	0.000065 - 0.13
	Subsurface	mg/kg	42/53	79%	0.00022	88	7.01	0.00082	0.000073 - 0.13
	Deep	mg/kg	6/6	100%	0.14	570	180.	38.8	NA
Isopropylbenzene	Surface	mg/kg	2/41	5%	0.00059	0.097	0.0488	0.048795	0.00005 - 0.261
	Subsurface	mg/kg	21/49	43%	0.00023	9.4	1.94	0.44	0.00005 - 2.35
	Deep	mg/kg	4/6	67%	0.3	33	11.9	7.15	0.015 - 6.53
m,p-Xylenes	Surface	mg/kg	30/41	73%	0.00039	0.27	0.0103	0.000965	0.00015 - 0.261
	Subsurface	mg/kg	37/49	76%	0.00022	110	9.78	0.0013	0.00017 - 2.35
	Deep	mg/kg	6/6	100%	0.14	620	186.	36.6	NA

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples

Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Methylene Chloride	Surface	mg/kg	1/41	2%	0.087	0.087	0.087	0.087	0.00014 - 0.652
	Subsurface	mg/kg	13/49	27%	0.039	6.8	1.16	0.2	0.00014 - 5.88
	Deep	mg/kg	4/6	67%	0.13	7.7	2.7575	1.6	0.14 - 32.6
n-Butylbenzene	Surface	mg/kg	1/41	2%	0.094	0.094	0.094	0.094	0.000096 - 0.652
	Subsurface	mg/kg	13/49	27%	0.074	29	4.25	1.8	0.000096 - 12
	Deep	mg/kg	4/6	67%	0.21	24	10.8	9.5	0.31 - 6.53
n-Propylbenzene	Surface	mg/kg	2/41	5%	0.00055	0.05	0.0253	0.025275	0.000054 - 0.13
	Subsurface	mg/kg	19/49	39%	0.00024	18	1.84	0.32	0.000054 - 1.18
	Deep	mg/kg	4/6	67%	0.13	27	10.31	7.05	0.015 - 3.26
Naphthalene	Surface	mg/kg	4/41	10%	0.00094	97	24.28	0.05865	0.00014 - 0.261
	Subsurface	mg/kg	25/49	51%	0.0015	5,800	998.9	11	0.00014 - 0.259
	Deep	mg/kg	5/6	83%	280	30,000	12,266.	4000	0.31
o-Xylene	Surface	mg/kg	27/41	66%	0.00016	0.34	0.0131	0.00031	0.000057 - 0.13
	Subsurface	mg/kg	25/49	51%	0.00018	50	5.61	0.000645	0.000064 - 1.18
	Deep	mg/kg	6/6	100%	0.067	280	84.4	17.47	NA
sec-Butylbenzene	Surface	mg/kg	1/41	2%	0.00026	0.00026	0.00026	0.00026	0.000072 - 0.13
	Subsurface	mg/kg	14/49	29%	0.00015	11	0.934	0.075	0.000072 - 1.6
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.012 - 6.53
Styrene	Surface	mg/kg	9/41	22%	0.0001	0.05	0.0057	0.00016	0.000067 - 0.13
	Subsurface	mg/kg	16/49	33%	0.00013	1	0.15	0.00049	0.000069 - 6.4
	Deep	mg/kg	3/6	50%	0.0092	22	12.67	16	0.065 - 13.1
tert-Butylbenzene	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.00007 - 0.13
	Subsurface	mg/kg	6/49	12%	0.00022	0.61	0.108	0.00077	0.00007 - 1.6
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.016 - 6.53
Tetrachloroethene (PCE)	Surface	mg/kg	25/41	61%	0.00034	0.0014	0.00073	0.00063	0.000076 - 0.13
	Subsurface	mg/kg	19/49	39%	0.00036	0.0012	0.00067	0.0006	0.00008 - 1.8
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.023 - 5.2

Table 7.2-1 Constituent Concentrations Detected in RI Soil Samples									
Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Toluene	Surface	mg/kg	36/46	78%	0.00024	0.11	0.0071	0.00265	0.00013 - 0.13
	Subsurface	mg/kg	41/53	77%	0.00042	91	3.02	0.0025	0.00016 - 1.18
	Deep	mg/kg	6/6	100%	0.22	560	163.6	15.45	NA
Trichloroethene (TCE)	Surface	mg/kg	8/41	20%	0.0003	0.00047	0.00036	0.000365	0.00007 - 0.13
	Subsurface	mg/kg	4/49	8%	0.00026	0.0613	0.0156	0.000385	0.000072 - 2.4
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.02 - 3.26
Trichlorofluoromethane	Surface	mg/kg	0/41	0%	NA	NA	NA	NA	0.00011 - 0.13
	Subsurface	mg/kg	1/49	2%	0.001	0.001	0.001	0.001	0.000061 - 2.6
	Deep	mg/kg	0/6	0%	NA	NA	NA	NA	0.036 - 13.1
Cyanide									
Total Cyanide	Surface	mg/kg	33/42	79%	0.07	19.6	4.75	1.98	0.05 - 0.136
	Subsurface	mg/kg	58/64	91%	0.08	694	37.48	1.595	0.05 - 0.324
	Deep	mg/kg	26/27	96%	0.085	445	36.84	0.97	0.04
Petroleum									
TPH – Gasoline Range	Surface	mg/kg	13/41	32%	1.9	270	25.28	2.9	1.34 - 5.4
	Subsurface	mg/kg	46/61	75%	1.7	9,400	647.9	17.75	1.6 - 2.6
	Deep	mg/kg	32/47	68%	2.5	46,000	5,439.	260	1.9 - 3.4
TPH – Diesel Range	Surface	mg/kg	38/41	93%	2.3	1,700	103.3	24.5	1.3 - 31.6
	Subsurface	mg/kg	61/66	92%	2.1	44,000	2,310.	178	1.3 - 1.6
	Deep	mg/kg	36/49	73%	3	120,000	15,764.	255	1.5 - 1.9
TPH – Oil Range	Surface	mg/kg	38/41	93%	3.4	1,700	134.4	70.5	3.2 - 3.6
	Subsurface	mg/kg	60/66	91%	15	13,000	957.2	246.5	3.1 - 3.7
	Deep	mg/kg	40/49	82%	4	35,000	3,681.	75.5	3.7 - 4.3

mg/kg – milligram per kilogram
NA – no applicable
PAH – polynuclear aromatic hydrocarbon
TPH – total petroleum hydrocarbon
SVOC – semi-volatile organic compound
VOC – volatile organic compound

TABLE 7.2-2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN RI SOIL SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Type/ Depth	Detection Frequency		Human Health SL[a]			Ecological SL[b]		
			Ratio	%	Screening Level	No. Detects >SL	% Samples >SL	Screening Level	No. Detects >SL	% Samples >SL
Metals										
Aluminum	mg/kg	surface	38/38	100%	nc	nc	nc	50	38	100%
	mg/kg	subsurface	51/51	100%	nc	nc	nc	nc	nc	nc
Antimony	mg/kg	surface	33/38	87%	nc	nc	nc	5	0	0%
	mg/kg	subsurface	47/51	92%	nc	nc	nc	nc	nc	nc
Arsenic	mg/kg	surface	44/44	100%	7	1	2.2%	10	0	0%
	mg/kg	subsurface	57/57	100%	13	1	nc	nc	nc	nc
Barium	mg/kg	surface	7/7	100%	nc	nc	nc	85	7	100%
	mg/kg	subsurface	7/7	100%	60,000	0	nc	nc	nc	nc
Cadmium	mg/kg	surface	37/44	82%	9,000	0	0%	4	2	4.4%
	mg/kg	subsurface	47/57	82%	>Max	0	0%	nc	nc	nc
Chromium	mg/kg	surface	44/44	100%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	57/57	100%	nc	nc	nc	nc	nc	nc
Copper	mg/kg	surface	44/44	100%	41,000	0	0%	50	2	4.4%
	mg/kg	subsurface	57/57	100%	12,000	0	0%	nc	nc	nc
Iron	mg/kg	surface	38/38	100%	nc	nc	nc	10	39	100%
	mg/kg	subsurface	57/57	100%	nc	nc	nc	nc	nc	nc
Lead	mg/kg	surface	44/44	100%	800	0	0%	17	18	40%
	mg/kg	subsurface	53/53	100%	800	2	3.8%	nc	nc	nc
Manganese	mg/kg	surface	38/38	100%	23,000	0	0%	500	17	44%
	mg/kg	subsurface	51/51	100%	7,200	0	0%	nc	nc	nc
Mercury	mg/kg	surface	36/41	88%	310	0	0%	0.07	14	34%
	mg/kg	subsurface	55/57	96%	93	0	0%	nc	nc	nc

TABLE 7.2-2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN RI SOIL SAMPLES TO SCREENING LEVELS										
			Detection Frequency		Human Health SL[a]			Ecological SL[b]		
Constituent	Unit	Sample Type/ Depth	Ratio	%	Screening Level	No. Detects >SL	% Samples >SL	Screening Level	No. Detects >SL	% Samples >SL
Nickel	mg/kg	surface	44/44	100%	62,000	0	0%	38	1	2.2%
	mg/kg	subsurface	57/57	100%	>Max	0	0%	nc	nc	nc
Selenium	mg/kg	surface	0/7	0%	nc	nc	nc	2	0	0%
	mg/kg	subsurface	1/7	14%	nc	nc	nc	nc	nc	nc
Silver	mg/kg	surface	0/7	0%	5,100	0	0%	2	0	0%
	mg/kg	subsurface	0/7	0%	43,000	0	0%	nc	nc	nc
Vanadium	mg/kg	surface	44/44	100%	nc	nc	nc	2	45	100%
	mg/kg	subsurface	57/57	100%	nc	nc	nc	nc	nc	nc
Zinc	mg/kg	surface	44/44	100%	nc	nc	nc	86	31	69%
	mg/kg	subsurface	57/57	100%	nc	nc	nc	nc	nc	nc
PAHs										
Acenaphthene	mg/kg	surface	39/40	98%	61,000	0	0%	20	0	0%
	mg/kg	subsurface	54/54	100%	19,000	0	0%	nc	nc	nc
Acenaphthylene	mg/kg	surface	40/40	100%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	50/54	93%	nc	nc	nc	nc	nc	nc
Anthracene	mg/kg	surface	40/40	100%	>Max	0	0%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	93,000	0	0%	nc	nc	nc
Benzo(a)anthracene	mg/kg	surface	40/40	100%	2.7	4	10%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	21	12	23.5%	nc	nc	nc
Benzo(a)pyrene	mg/kg	surface	40/40	100%	0.27	21	53%	125	0	0%
	mg/kg	subsurface	54/54	100%	2.1	28	55%	nc	nc	nc
Benzo(b)fluoranthene	mg/kg	surface	40/40	100%	2.7	5	12.5%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	21	11	21.6%	nc	nc	nc
Benzo(g,h,i)perylene	mg/kg	surface	40/40	100%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	54/54	100%	nc	nc	nc	nc	nc	nc

TABLE 7.2-2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN RI SOIL SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Type/ Depth	Detection Frequency		Human Health SL[a]			Ecological SL[b]		
			Ratio	%	Screening Level	No. Detects >SL	% Samples >SL	Screening Level	No. Detects >SL	% Samples >SL
Benzo(k)fluoranthene	mg/kg	surface	40/40	100%	27	0	0%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	210	1	2%	nc	nc	nc
Chrysene	mg/kg	surface	40/40	100%	270	0	0%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	2,100	0	0%	nc	nc	nc
Dibenzo(a,h)anthracene	mg/kg	surface	39/40	98%	0.27	7	17.5%	nc	nc	nc
	mg/kg	subsurface	49/54	91%	2.1	12	23.5%	nc	nc	nc
Fluoranthene	mg/kg	surface	40/40	100%	27,000	0	0%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	8,900	0	0%	nc	nc	nc
Fluorene	mg/kg	surface	36/40	90%	41,000	0	0%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	12,000	0	0%	nc	nc	nc
Indeno(1,2,3-cd)pyrene	mg/kg	surface	40/40	100%	2.7	4	10%	nc	nc	nc
	mg/kg	subsurface	53/54	98%	21	9	17.6%	nc	nc	nc
Naphthalene (by 8270)	mg/kg	surface	38/40	95%	23	2	5.3%	10	2	5.3%
	mg/kg	subsurface	52/54	96%	580	6	12%	nc	nc	nc
Phenanthrene	mg/kg	surface	40/40	100%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	54/54	100%	nc	nc		nc	nc	nc
Pyrene	mg/kg	surface	40/40	100%	21,000	0	0%	nc	nc	nc
	mg/kg	subsurface	54/54	100%	6,700	0	0%	nc	nc	nc
Other SVOCs										
Benzoic Acid	mg/kg	surface	2/5	40%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	2/16	13%	nc	nc	nc	nc	nc	nc
Bis(2-ethylhexyl)phthalate	mg/kg	surface	2/5	40%	150	0	0%	4.5	0	nc
	mg/kg	subsurface	6/16	38%	1,200	0	0%	nc	nc	nc
Carbazole	mg/kg	surface	28/39	72%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	38/53	72%	nc	nc	nc	nc	nc	nc

TABLE 7.2-2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN RI SOIL SAMPLES TO SCREENING LEVELS										
			Detection Frequency		Human Health SL[a]			Ecological SL[b]		
Constituent	Unit	Sample Type/ Depth	Ratio	%	Screening Level	No. Detects >SL	% Samples >SL	Screening Level	No. Detects >SL	% Samples >SL
Dibenzofuran	mg/kg	surface	29/39	74%	nc	nc	nc	0.002	25	62.5%
	mg/kg	subsurface	45/54	83%	nc	nc	nc	nc	nc	nc
Diethyl phthalate	mg/kg	surface	1/5	20%	nc	nc	nc	100	0	0%
	mg/kg	subsurface	0/16	0%	nc	nc	nc	nc	nc	nc
2,4-Dimethylphenol	mg/kg	surface	0/5	0%	nc	nc	nc	20	0	0%
	mg/kg	subsurface	0/16	0%	nc	nc	nc	nc	nc	nc
Di-n-butyl phthalate	mg/kg	surface	0/5	0%	nc	nc	nc	0.45	0	0%
	mg/kg	subsurface	2/16	13%	nc	nc	nc	nc	nc	nc
1-methylnaphthalene	mg/kg	surface	33/35	94%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	47/48	98%	nc	nc	nc	nc	nc	nc
2-methylnaphthalene	mg/kg	surface	38/39	97%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	51/53	96%	nc	nc	nc	nc	nc	nc
2-chloronaphthalene	mg/kg	surface	1/5	20%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	0/16	0%	nc	nc	nc	nc	nc	nc
4-methylphenol	mg/kg	surface	1/5	20%	nc	nc	nc	50	0	0%
	mg/kg	subsurface	1/16	6%	nc	nc	nc	nc	nc	nc
Phenol	mg/kg	surface	1/5	20%	nc	nc	nc	30	0	0%
	mg/kg	subsurface	0/16	0&	nc	nc	nc	nc	nc	nc
N-Nitrosodiphenylamine	mg/kg	surface	2/5	40%	nc	nc	nc	20	0	0%
	mg/kg	subsurface	2/16	13%	nc	nc	nc	nc	nc	nc

TABLE 7.2-2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN RI SOIL SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Type/ Depth	Detection Frequency		Human Health SL[a]			Ecological SL[b]		
			Ratio	%	Screening Level	No. Detects >SL	% Samples >SL	Screening Level	No. Detects >SL	% Samples >SL
Cyanide										
Total Cyanide	mg/kg	surface	33/42	79%	20,000	0	0%	nc	nc	nc
	mg/kg	subsurface	58/64	91%	6,200	0	0%	nc	nc	nc
VOCs										
1,2,4-Trimethylbenzene	mg/kg	surface	20/41	49%	2,000	0	0%	nc	nc	nc
	mg/kg	subsurface	32/49	65%	19,000	0	0%	nc	nc	nc
1,3,5-Trimethylbenzene	mg/kg	surface	3/41	7%	1,600	0	0%	nc	nc	nc
	mg/kg	subsurface	19/49	39%	1,500	0	0%	nc	nc	nc
2-Butanone (MEK)	mg/kg	surface	22/41	54%	nc	nc	nc	20,000	0	0%
	mg/kg	subsurface	14/29	48%	nc	nc	nc	nc	nc	nc
4-isopropyltoluene	mg/kg	surface	3/41	7%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	16/49	33%	nc	nc	nc	nc	nc	nc
Acetone	mg/kg	surface	33/41	80%	nc	nc	nc	1,250	0	0%
	mg/kg	subsurface	24/49	49%	nc	nc	nc	nc	nc	nc
Benzene	mg/kg	surface	16/46	35%	34	0	0%	3,300	0	0%
	mg/kg	subsurface	25/53	47%	340	0	0%	nc	nc	nc
Bromoform	mg/kg	surface	9/41	22%	360	0	0%	nc	nc	nc
	mg/kg	subsurface	7/49	14%	270	0	0%	nc	nc	nc
Carbon Disulfide	mg/kg	surface	20/40	50%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	20/48	42%	nc	nc	nc	nc	nc	nc
Cis 1,2-dichlorethene	mg/kg	surface	1/41	2%	10,000	0	0%	2,500	0	0%
	mg/kg	subsurface	0/49	0%	3,100	0	0%	nc	nc	nc
Ethylbenzene	mg/kg	surface	32/46	70%	140	0	0%	nc	nc	nc
	mg/kg	subsurface	42/53	79%	1,600	0	0%	nc	nc	nc
Iso-propylbenzene	mg/kg	surface	2/41	5%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	21/49	43%	nc	nc	nc	nc	nc	nc

TABLE 7.2-2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN RI SOIL SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Type/ Depth	Detection Frequency		Human Health SL[a]			Ecological SL[b]		
			Ratio	%	Screening Level	No. Detects >SL	% Samples >SL	Screening Level	No. Detects >SL	% Samples >SL
m,p-Xylene	mg/kg	surface	30/41	73%	25,000	0	0%	nc	nc	nc
	mg/kg	subsurface	37/49	76%	19,000	0	0%	nc	nc	nc
o-Xylene	mg/kg	surface	27/41	66%	25,000	0	0%	1.0	0	0%
	mg/kg	subsurface	25/49	51%	19,000	0	0%	nc	nc	nc
Methylene Chloride	mg/kg	surface	1/41	2%	310	0	0%	730	0	0%
	mg/kg	subsurface	13/49	27%	2,700	0	0%	nc	nc	nc
n-butylbenzene	mg/kg	surface	1/41	2%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	13/49	27%	nc	nc	nc	nc	nc	nc
n-propylbenzene	mg/kg	surface	2/41	5%	53,000	0		nc	nc	nc
	mg/kg	subsurface	19/49	39%	24,000	0		nc	nc	nc
Sec-butylbenzene	mg/kg	surface	1/41	2%	nc	nc	nc	nc	nc	nc
	mg/kg	subsurface	14/49	29%	nc	nc	nc	nc	nc	nc
Styrene	mg/kg	surface	9/41	22%	>Max	0	0%	300	0	0%
	mg/kg	subsurface	16/49	33%	51,000	0	0%			
Naphthalene (by 8260)	mg/kg	surface	4/41	10%	23	1	2%	10	1	2%
	mg/kg	subsurface	25/49	51%	580	5	10%	nc		
Tetrachloroethene	mg/kg	surface	25/41	61%	5.1	0	0%	10	0	0%
	mg/kg	subsurface	19/49	39%	40	0	0%	-		
Toluene	mg/kg	surface	36/46	78%	77,000	0	0%	200	0	0%
	mg/kg	subsurface	41/53	77%	24,000	0	0%	-		
Trichloroethene	mg/kg	surface	8/41	20%	3.9	0	0%	40	0	0%
	mg/kg	subsurface	4/49	8%	43	0	0%	-		

TABLE 7.2-2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN RI SOIL SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Type/ Depth	Detection Frequency		Human Health SL[a]			Ecological SL[b]		
			Ratio	%	Screening Level	No. Detects >SL	% Samples >SL	Screening Level	No. Detects >SL	% Samples >SL
Petroleum										
TPH – gasoline range	mg/kg	surface	13/41	32%	22,000	0	0%	nc	nc	nc
	mg/kg	subsurface	46/61	75%	13,000	0	0%	nc	nc	nc
TPH – diesel range	mg/kg	surface	38/41	93%	70,000	0	0%	nc	nc	nc
	mg/kg	subsurface	61/66	92%	23,000	2	3%	nc	nc	nc
TPH – motor oil range	mg/kg	surface	38/41	91%	28,000	0	0%	nc	nc	nc
	mg/kg	subsurface	60/66	82%	9,600	2	3%	nc	nc	nc

[a] The human health screening levels are DEQ RBCs (soil ingestion, dermal contact, inhalation - occupational exposure for surface soils, and trench worker or construction worker exposure for subsurface soils(DEQ 2007)

[b] The ecological screening level are based on relevant ecological thresholds protective of plants, invertebrates, birds, and mammals presented in DEQ SLVs (DEQ 2001).

mg/kg – milligram per kilogram
nc – no criteria
PAHs – polynuclear aromatic hydrocarbons
SL – screening level
TPH – total petroleum hydrocarbon
SVOC – semi-volatile organic compound
VOC – volatile organic compound

7.3 Doane Creek Embankment Soil, Sediment, and Surface Water

This section presents the laboratory analytical data for Doane Creek embankment soil, sediment, and surface water samples collected on behalf of NW Natural during the Phase I RI activities.

The portion of Doane Creek adjacent to the Siltronic property was subdivided into five areas of similar size for sampling purposes (Figure 8). Each of the five areas was further divided into sub-areas representing 1) western bank soil, 2) eastern bank soil, and 3) stream channel sediment. Within each of the five areas, five approximately even-spaced samples of eastern bank soil; western bank soil; and Doane Creek sediment were collected (15 samples total per area, 75 soil and sediment samples in total).

Each embankment sample was a homogenization of soil (vegetative matter removed) across the upper two feet bgs. Each sediment sample was collected at the water line from the upper 6-inches of material with the use of a decontaminated stainless steel hand trowel.

Surface water samples were collected from the approximate mid-point of each of the five Doane Creek segments during two dry season sampling events. The first sampling event was during a time of no rainfall when much or all of the flow within the stream would likely be attributable to groundwater recharge. This sampling event, conducted on September 15, 2010, included collection of samples from sampling stations SW-1 through SW-3 only because the streambed was dry through the downstream SW-4 and SW-5 segments. The second sampling event was conducted on October 24, 2010 during a time of recorded rainfall, and as such, a component of the stream flow was attributable to stormwater runoff within the drainage basin. Stream flow was occurring and samples were collected at all five stream segments (SW-1 through SW-5) during the October sampling event. An additional sampling location (SW-6) was established in the northwest drainage pond (NDP) during the October sampling event. The NDP is located at the head of the 84-inch concrete culvert that leads to City Outfall 22C on the Willamette River. Surface water enters the NDP from Doane Creek (to the north) and from North Doane Lake (from the south) (See Figure 2).

7.3.1 Screening Level Values

Constituent concentrations in embankment soil, streambed sediment, and Doane Creek surface water were compared with screening level values as provided in Table 3-1 (July 16, 2007 Revision) of the Portland Harbor Joint Source Control Strategy document, dated December 2005 (DEQ 2005). Where multiple screening level values exist for a particular constituent and pathway, the lowest value was used for the screening evaluation.

In addition, embankment soils (upper 2 feet bgs) were screened with regard to potential ecological impacts using DEQ Level II Screening Level Values (SLVs) as provided within the DEQ Guidance for Ecological Risk Assessment (DEQ 1998), as updated in December 2001.

7.3.2 Embankment Soil and Sediment

Tables 7.3-1 and 7.3-2 embedded below, summarize laboratory analytical results for soil and sediment samples, respectively. Laboratory results in this summary include embankment soil and sediment data collected as described within the NW Natural RI Workplan (HAI 2007b). Tables 7.3-1 and 7.3-2 identify all constituents detected in either media and provide a detection frequency as well as the minimum, maximum, mean, and median concentration for each constituent as detected within each media. The laboratory method reporting limit or range of reporting limits are also provided for those constituents that had one or more non-detects in the data-set.

Table 7.3-3, embedded below, provides a summary of the lowest screening level values relevant to embankment soils and sediments, as well as the detection frequency and screening level value exceedance frequency for detected constituents within the soil and sediments.

All Doane Creek embankment soil and sediment sample results are individually tabulated and screened on Tables 12 through 16. Overall screening results, organized by major analyte grouping, are summarized as follows:

- **Metals**: Of the 13 metals tested in Doane Creek embankment soils and sediments, 10 were detected at least once in both media. Of these, only 7 metals (aluminum, arsenic, iron, lead, manganese, vanadium, and zinc) were detected at least once in embankment soils at a concentration greater than screening

levels. No metals were detected in Doane Creek sediments at concentrations greater than screening levels.

- **PAHs**: One or more of the 16 PAHs tested were detected in all 10 Doane Creek embankment soil and all 5 sediment samples. Of the PAHs detected, only 7 were detected in at least one sample of embankment soils at a concentration greater than screening levels, while 10 were detected in at least one sediment sample at a concentration greater than screening levels.
- **Other SVOCs**: Five SVOCs (in addition to PAHs) were detected in at least 1 embankment soil or streambed sediment sample. Of the detected SVOCs, none were detected in any embankment sample at a concentration greater than screening levels. One SVOC [bis(2-ethylhexyl)phthalate] was detected in one sediment sample (Reach 1) at a concentration greater than screening levels.
- **Cyanide**: Total cyanide was detected at low levels in 3 of the 5 sediment samples. No concentrations of total cyanide were detected in any of the 10 embankment soil samples at concentrations greater than laboratory reporting levels. There are no Portland Harbor JSCS level values established for cyanide in soil or sediment.
- **TPH**: No gasoline-range TPH was detected in any Doane Creek embankment soil or streambed sediment sample. A low-level detection of diesel-range TPH was detected in 1 sediment sample, but was not detected in any embankment soil samples. Oil-range TPH was detected at low levels in 2 of 10 embankment soil samples, and in 4 of the 5 sediment samples. There are no Portland Harbor JSCS level values or DEQ Level II Ecological Risk Assessment screening levels established for TPH in soil or sediment.

Table 7.3-1 Constituent Concentrations Detected in RI Doane Creek Embankment Soils									
Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Metals									
Aluminum	Surface	mg/kg	10/10	100	12,300	20,300	16,680	16,700	NA
Antimony	Surface	mg/kg	0/10	0	NA	NA	NA	NA	1.27 - 1.45
Arsenic	Surface	mg/kg	9/10	90	2.55	13.5	9.85	11.3	2.64 - 2.64
Cadmium	Surface	mg/kg	0/10	0	NA	NA	NA	NA	1.27 - 1.45
Chromium	Surface	mg/kg	10/10	100	12.1	24.6	19.74	21.2	NA
Copper	Surface	mg/kg	10/10	100	17.6	29.4	24.65	24.2	NA
Iron	Surface	mg/kg	10/10	100	31,900	45,500	37,410	36,950	NA
Lead	Surface	mg/kg	10/10	100	12.1	23.4	17.21	17.6	NA
Manganese	Surface	mg/kg	10/10	100	685	1440	978.4	899.5	NA
Mercury	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.102 - 0.116
Nickel	Surface	mg/kg	10/10	100	9.62	21.2	17.412	19	NA
Vanadium	Surface	mg/kg	10/10	100	87.6	135	103.8	101.5	NA
Zinc	Surface	mg/kg	10/10	100	70.9	86.6	79.89	83.1	NA
PAHs									
Acenaphthene	Surface	mg/kg	10/10	100	0.00875	0.121	0.0447	0.03005	NA
Acenaphthylene	Surface	mg/kg	4/10	40	0.00547	0.0419	0.0214	0.0191	0.00455 - 0.00877
Anthracene	Surface	mg/kg	10/10	100	0.0108	0.237	0.0642	0.0344	NA
Benz(a)anthracene	Surface	mg/kg	10/10	100	0.0935	1.33	0.438	0.2895	NA
Benzo(a)pyrene	Surface	mg/kg	10/10	100	0.116	1.31	0.451	0.3095	NA
Benzo(b)fluoranthene	Surface	mg/kg	10/10	100	0.14	1.67	0.581	0.3985	NA
Benzo(g,h,i)perylene	Surface	mg/kg	10/10	100	0.0893	1.02	0.334	0.223	NA
Benzo(k)fluoranthene	Surface	mg/kg	10/10	100	0.0466	0.546	0.196	0.1355	NA
Chrysene	Surface	mg/kg	10/10	100	0.103	1.51	0.485	0.315	NA

Table 7.3-1 Constituent Concentrations Detected in RI Doane Creek Embankment Soils									
Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Dibenz(a,h)anthracene	Surface	mg/kg	10/10	100	0.0159	0.212	0.072	0.04815	NA
Fluoranthene	Surface	mg/kg	10/10	100	0.151	2.05	0.683	0.436	NA
Fluorene	Surface	mg/kg	9/10	90	0.00523	0.0793	0.026	0.0132	5.22
Indeno(1,2,3-cd)pyrene	Surface	mg/kg	10/10	100	0.0828	1.06	0.346	0.227	NA
Naphthalene	Surface	mg/kg	9/10	90	0.00609	0.0639	0.0175	0.00841	5.22
Phenanthrene	Surface	mg/kg	10/10	100	0.0545	1.26	0.324	0.1695	NA
Pyrene	Surface	mg/kg	10/10	100	0.152	2.23	0.68	0.414	NA
Other SVOCs									
1-Methylnaphthalene	Surface	mg/kg	3/10	30	0.0045	0.0186	0.00945	0.00537	0.00448 - 0.00877
2-Methylnaphthalene	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.00404 - 0.00877
Benzyl alcohol	Surface	mg/kg	1/10	10	0.0245	0.0245	0.0245	0.0245	0.0101 - 0.0219
Bis(2-ethylhexyl)phthalate	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.0808 - 0.175
Butyl Benzyl Phthalate	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.0808 - 0.175
Carbazole	Surface	mg/kg	10/10	100	0.0112	0.142	0.0486	0.0357	NA
Di-n-butylphthalate	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.0303 - 0.0658
Di-n-octyl phthalate	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.0808 - 0.175
Dibenzofuran	Surface	mg/kg	6/10	60	0.00496	0.0332	0.0167	0.0151	0.00494 - 0.00539
Diethylphthalate	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.0202 - 0.0438
Dimethylphthalate	Surface	mg/kg	0/10	0	NA	NA	NA	NA	0.0202 - 0.0438
Cyanide									
Total Cyanide	Surface	mg/kg	0/10	0	NA	NA	NA	NA	6.63 - 64.1

Table 7.3-1 Constituent Concentrations Detected in RI Doane Creek Embankment Soils									
Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Petroleum									
TPH–Gasoline-Range	Surface	mg/kg	0/10	0	NA	NA	NA	NA	7.3 - 8.29
TPH–Diesel-Range	Surface	mg/kg	0/10	0	NA	NA	NA	NA	31 - 36
TPH– Oil-Range	Surface	mg/kg	2/10	20	65.7	72.7	69.2	69.2	61.9 - 72

mg/kg – milligram per kilogram
NA – no applicable
PAH – polynuclear aromatic hydrocarbon
TPH – total petroleum hydrocarbon
SVOC – semi-volatile organic compound
VOC – volatile organic compound

Table 7.3-2 Constituent Concentrations Detected in RI Doane Creek Sediments									
Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Metals									
Aluminum	Surface	mg/Kg	5/5	100	8,450	11,400	10,208	10,600	NA
Antimony	Surface	mg/Kg	0/5	0	NA	NA	NA	NA	1.35 - 1.41
Arsenic	Surface	mg/Kg	2/5	40	2.94	4.16	3.55	3.55	2.7 - 2.82
Cadmium	Surface	mg/Kg	0/5	0	NA	NA	NA	NA	1.35 - 1.41
Chromium	Surface	mg/Kg	1/5	20	32.3	32.3	32.3	32.3	13.5 - 14.1
Copper	Surface	mg/Kg	5/5	100	11.5	17.3	14.32	14.7	NA
Iron	Surface	mg/Kg	5/5	100	20,200	27,000	25,300	26,600	NA
Lead	Surface	mg/Kg	5/5	100	10.3	15.1	12.4	12	NA
Manganese	Surface	mg/Kg	5/5	100	741	1690	979.6	761.5	NA
Mercury	Surface	mg/Kg	0/5	0	NA	NA	NA	NA	0.108 - 0.113
Nickel	Surface	mg/Kg	5/5	100	7.23	11.6	9.52	9.72	NA
Vanadium	Surface	mg/Kg	5/5	100	58.2	74.4	68.64	70.4	NA
Zinc	Surface	mg/Kg	5/5	100	52.1	79.7	66.2	74.1	NA
PAHs									
Acenaphthene	Surface	mg/Kg	3/5	60	0.0174	0.279	0.118	0.0574	0.0743 - 0.594
Acenaphthylene	Surface	mg/Kg	1/5	20	1.04	1.04	1.04	1.04	0.016 - 0.0755
Anthracene	Surface	mg/Kg	5/5	100	0.0715	1.09	0.338	0.205	NA
Benz(a)anthracene	Surface	mg/Kg	5/5	100	0.236	5.5	1.52	0.482	NA
Benzo(a)pyrene	Surface	mg/Kg	5/5	100	0.393	5.14	1.64	0.547	NA
Benzo(b)fluoranthene	Surface	mg/Kg	5/5	100	0.452	7.38	2.28	0.91	NA
Benzo(g,h,i)perylene	Surface	mg/Kg	5/5	100	0.297	4.45	1.25	0.403	NA
Benzo(k)fluoranthene	Surface	mg/Kg	5/5	100	0.151	7.38	1.86	0.649	NA

Table 7.3-2 Constituent Concentrations Detected in RI Doane Creek Sediments									
Constituent	Sample Type (Depth)	Units	Detection Frequency		Detected Concentration				RL or Range of RLs if Not Detected
			Ratio	%	Minimum	Maximum	Mean	Median	
Chrysene	Surface	mg/Kg	5/5	100	0.277	6.72	1.83	0.666	NA
Dibenz(a,h)anthracene	Surface	mg/Kg	4/5	80	0.0551	0.608	0.24	0.15025	74.3
Fluoranthene	Surface	mg/Kg	5/5	100	0.613	9.92	2.82	1.03	NA
Fluorene	Surface	mg/Kg	3/5	60	0.0409	0.12	0.073	0.0569	0.0743 - 0.594
Indeno(1,2,3-cd)pyrene	Surface	mg/Kg	5/5	100	0.289	4.02	1.201	0.405	NA
Naphthalene	Surface	mg/Kg	1/5	20	1.94	1.94	1.94	1.94	0.016 - 0.114
Phenanthrene	Surface	mg/Kg	5/5	100	0.282	4.26	1.241	0.534	NA
Pyrene	Surface	mg/Kg	5/5	100	0.616	12.7	3.28	0.881	NA
Other SVOCs									
1-Methylnaphthalene	Surface	mg/Kg	0/5	0	NA	NA	NA	NA	0.016 - 0.297
2-Methylnaphthalene	Surface	mg/Kg	0/5	0	NA	NA	NA	NA	0.016 - 0.594
Bis(2-ethylhexyl)phthalate	Surface	mg/Kg	1/3	33	5.71	5.71	5.71	5.71	0.32 - 1.49
Butyl Benzyl Phthalate	Surface	mg/Kg	0/3	0	NA	NA	NA	NA	0.32 - 1.51
Carbazole	Surface	mg/Kg	3/5	60	0.0325	0.153	0.093	0.0932	0.0569 - 0.594
Di-n-butylphthalate	Surface	mg/Kg	0/3	0	NA	NA	NA	NA	0.12 - 0.566
Di-n-octyl phthalate	Surface	mg/Kg	0/3	0	NA	NA	NA	NA	0.16 - 0.755
Dibenzofuran	Surface	mg/Kg	0/5	0	NA	NA	NA	NA	0.016 - 0.594
Diethylphthalate	Surface	mg/Kg	0/3	0	NA	NA	NA	NA	0.0801 - 0.377
Dimethylphthalate	Surface	mg/Kg	0/3	0	NA	NA	NA	NA	0.0801 - 0.377
Cyanide									
Total	Surface	mg/Kg	3/5	60	0.374	0.711	0.55	0.571	0.312 - 0.332
Petroleum									
TPH–Gasoline-Range	Surface	mg/Kg	0/5	0	NA	NA	NA	NA	6.82 - 7.6
TPH–Diesel-Range	Surface	mg/Kg	1/5	20	37.1	37.1	37.1	37.1	35.1 - 40.6
TPH– Oil-Range	Surface	mg/Kg	4/5	80	147	468	246.5	185.5	70.1

TABLE 7.3.2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN DOANE CREEK RI SOIL AND SEDIMENT SAMPLES TO SCREENING LEVELS										
			Detection Frequency		Portland Harbor JSC SL[a]			Ecological SL[b]		
Constituent	Unit	Sample Type/ Depth	Ratio	%	Screening Level	No. Detects > SL	% Samples > SL	Screening Level	No. Detects > SL	% Samples >SL
Metals										
Aluminum	mg/kg	embankment	10/10	100%	nc	nc	nc	50	10	100%
	mg/kg	sediment	5/5	100%	nc	nc	nc	nc	nc	nc
Antimony	mg/kg	embankment	0/10	0%	64	0	0%	5	0	0%
	mg/kg	sediment	0/5	0%	64	0	0%	nc	nc	nc
Arsenic	mg/kg	embankment	9/10	90%	7	8	80%	10	5	50%
	mg/kg	sediment	2/5	40%	7	0	0%	nc	nc	nc
Cadmium	mg/kg	embankment	0/10	0%	1	0	0%	4	0	0%
	mg/kg	sediment	0/5	0%	1	0	0%	nc	nc	nc
Chromium	mg/kg	embankment	10/10	100%	111	0	0%	nc	nc	nc
	mg/kg	sediment	1/5	20%	111	0	0%	nc	nc	nc
Copper	mg/kg	embankment	10/10	100%	149	0	0%	50	0	0%
	mg/kg	sediment	5/5	100%	149	0	0%	nc	nc	nc
Iron	mg/kg	embankment	10/10	100%	nc	nc	nc	10	10	100%
	mg/kg	sediment	5/5	100%	nc	nc	nc	nc	nc	nc
Lead	mg/kg	embankment	10/10	100%	17	6	60%	17	5	50%
	mg/kg	sediment	5/5	100%	17	0	0%	nc	nc	nc
Manganese	mg/kg	embankment	10/10	100%	1,100	3	30%	500	10	100%
	mg/kg	sediment	5/5	100%	1,100	1	20%	nc	nc	nc
Mercury	mg/kg	embankment	0/10	0%	0.07	0	0%	0.07	0	0%
	mg/kg	sediment	0/5	0%	0.07	0	0%	nc	nc	nc

TABLE 7.3.2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN DOANE CREEK RI SOIL AND SEDIMENT SAMPLES TO SCREENING LEVELS										
			Detection Frequency		Portland Harbor JSC SL[a]			Ecological SL[b]		
Constituent	Unit	Sample Type/ Depth	Ratio	%	Screening Level	No. Detects > SL	% Samples > SL	Screening Level	No. Detects > SL	% Samples >SL
Nickel	mg/kg	embankment	10/10	100%	48.6	0	0%	38	0	0%
	mg/kg	sediment	5/5	100%	48.6	0	0%	nc	nc	nc
Vanadium	mg/kg	embankment	10/10	100%	nc	nc	nc	2	10	100%
	mg/kg	sediment	5/5	100%	nc	nc	nc	nc	nc	nc
Zinc	mg/kg	embankment	10/10	100%	489	0	0%	86	1	10%
	mg/kg	sediment	5/5	100%	489	0	0%	nc	nc	nc
PAHs										
Acenaphthene	mg/kg	embankment	10/10	100%	0.3	0	0%	20	0	0%
	mg/kg	sediment	3/5	60%	0.3	0	0%	nc	nc	nc
Acenaphthylene	mg/kg	embankment	4/10	40%	0.2	0	0%	nc	nc	nc
	mg/kg	sediment	1/5	20%	0.2	1	20%	nc	nc	nc
Anthracene	mg/kg	embankment	10/10	100%	0.845	0	0%	>Max	0	0%
	mg/kg	sediment	5/5	100%	0.845	1	20%	nc	nc	nc
Benzo(a)anthracene	mg/kg	embankment	10/10	100%	1.05	1	10%	2.7	0	0%
	mg/kg	sediment	5/5	100%	1.05	2	40%	nc	nc	nc
Benzo(a)pyrene	mg/kg	embankment	10/10	100%	1.45	0	0%	0.27	6	60%
	mg/kg	sediment	5/5	100%	1.45	2	40%	nc	nc	nc
Benzo(b)fluoranthene	mg/kg	embankment	10/10	100%	nc	nc	nc	2.7	0	0%
	mg/kg	sediment	5/5	100%	nc	nc	nc	nc	nc	nc
Benzo(g,h,i)perylene	mg/kg	embankment	10/10	100%	0.3	3	30%	nc	nc	nc
	mg/kg	sediment	5/5	100%	0.3	2	40%	nc	nc	nc
Benzo(k)fluoranthene	mg/kg	embankment	10/10	100%	13	0	0%	27	0	0%
	mg/kg	sediment	5/5	100%	13	0	0%	nc	nc	nc
Chrysene	mg/kg	embankment	10/10	100%	1.29	1	10%	270	0	0%
	mg/kg	sediment	5/5	100%	1.29	1	20%	nc	nc	nc

TABLE 7.3.2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN DOANE CREEK RI SOIL AND SEDIMENT SAMPLES TO SCREENING LEVELS										
			Detection Frequency		Portland Harbor JSC SL[a]			Ecological SL[b]		
Constituent	Unit	Sample Type/ Depth	Ratio	%	Screening Level	No. Detects > SL	% Samples > SL	Screening Level	No. Detects > SL	% Samples >SL
Dibenzo(a,h)anthracene	mg/kg	embankment	10/10	100%	1.3	0	0%	0.27	0	0%
	mg/kg	sediment	4/5	100%	1.3	0	0%	nc	nc	nc
Fluoranthene	mg/kg	embankment	10/10	100%	2.23	0	0%	29,000	0	0%
	mg/kg	sediment	5/5	100%	2.23	1	20%	nc	nc	nc
Fluorene	mg/kg	embankment	9/10	90%	0.536	0	0%	41,000	0	0%
	mg/kg	sediment	3/5	60%	0.536	0	0%	nc	nc	nc
Indeno(1,2,3-cd)pyrene	mg/kg	embankment	10/10	100%	0.1	9	90%	2.7	0	0%
	mg/kg	sediment	5/5	100%	0.1	5	100%	nc	nc	nc
Naphthalene	mg/kg	embankment	9/10	90%	0.561	0	0%	23	0	0%
	mg/kg	sediment	1/5	20%	0.561	1	20%	nc	nc	nc
Phenanthrene	mg/kg	embankment	10/10	100%	1.17	1	10%	nc	nc	nc
	mg/kg	sediment	5/5	100%	1.17	1	20%	nc	nc	nc
Pyrene	mg/kg	embankment	10/10	100%	1.52	1	10%	21,000	0	0%
	mg/kg	sediment	5/5	100%	1.52	2	40%	nc	nc	nc
Other SVOCs										
Bis(2-ethylhexyl)phthalate	mg/kg	embankment	0/10	0%	0.33	0	0%	4.5	0	0%
	mg/kg	sediment	1/3	33%	0.33	1	33%	nc	nc	nc
Carbazole	mg/kg	embankment	10/10	100%	1.6	0	0%	nc	nc	nc
	mg/kg	sediment	3/5	60%	1.6	0	0%	nc	nc	nc
Dibenzofuran	mg/kg	embankment	6/10	60%	nc	nc	nc	0.002	6	60%
	mg/kg	sediment	0/5	0%	nc	nc	nc	nc	nc	nc
1-methylnaphthalene	mg/kg	embankment	3/10	30%	nc	nc	nc	nc	nc	nc
	mg/kg	sediment	0/5	0%	nc	nc	nc	nc	nc	nc
2-methylnaphthalene	mg/kg	embankment	3/10	30%	0.2	0	0%	nc	nc	nc
	mg/kg	sediment	0/5	0%	0.2	0	0%	nc	nc	nc

TABLE 7.3.2 COMPARISON OF CONSTITUENT CONCENTRATIONS IN DOANE CREEK RI SOIL AND SEDIMENT SAMPLES TO SCREENING LEVELS										
			Detection Frequency		Portland Harbor JSC SL[a]			Ecological SL[b]		
Constituent	Unit	Sample Type/ Depth	Ratio	%	Screening Level	No. Detects > SL	% Samples > SL	Screening Level	No. Detects > SL	% Samples >SL
Cyanide										
Total Cyanide	mg/kg	embankment	0/10	0%	nc	nc	nc	nc	nc	nc
	mg/kg	sediment	3/5	60%	nc	nc	nc	nc	nc	nc
Petroleum										
TPH – gasoline range	mg/kg	embankment	0/10	0%	nc	nc	nc	nc	nc	nc
	mg/kg	sediment	0/5	0%	nc	nc	nc	nc	nc	nc
TPH – diesel range	mg/kg	embankment	0/10	0%	nc	nc	nc	nc	nc	nc
	mg/kg	sediment	1/5	20%	nc	nc	nc	nc	nc	nc
TPH – motor oil range	mg/kg	embankment	2/10	20%	nc	nc	nc	nc	nc	nc
	mg/kg	sediment	4/5	60%	nc	nc	nc	nc	nc	nc

[a] Portland Harbor JSCS screening levels are the lowest as provided in Table 3-1 (July 16, 2007 Revision) of the JSCS document as related to erodible soils or sediments for each constituent (DEQ 2005).

[b] The ecological screening level are based on relevant ecological thresholds protective of plants, invertebrates, birds, and mammals presented in DEQ SLVs (DEQ 2001).

mg/kg – milligram per kilogram
nc – no criteria
PAH – polynuclear aromatic hydrocarbon
SL – screening level
TPH – total petroleum hydrocarbon
SVOC – semi-volatile organic compound
VOC – volatile organic compound

7.3.3 Surface Water

Table 7.3-3, embedded below, summarizes the laboratory analytical detections and screening results for surface water samples collected within Doane Creek as described within the NW Natural RI Workplan (HAI 2007b). The Table provides a summary of the lowest screening level values for each type of sample, as well as the detection frequency and screening level value exceedance frequency for the samples. Results, organized by major analyte grouping, are summarized below. All sample results are individually tabulated and screened on Tables 17 through 22 with sampling locations depicted on Figure 8. Overall results, organized by major analyte group, are summarized below.

- **Metals**: Of the 22 metals tested in Doane Creek surface water (total metals content, not dissolved), 16 were detected at least once during at least one of the two sampling events. Of these, only 2 metals (arsenic and manganese) were detected in a sample from at least 1 sample station during the first event (dry season; no precipitation) at a concentration greater than screening levels. Only 4 metals (aluminum, copper, lead, and manganese) were detected in a sample from at least 1 sample station during the second sampling event (dry season, precipitation event) at a concentration greater than screening levels.
- **PAHs**: One or more of the 16 PAHs tested were detected in all Doane Creek surface water samples as collected either during the first or second sampling events. Of the PAHs detected, none were detected in any sample at a concentration greater than screening levels during the first sampling event. Ten PAHs were detected in at least 1 surface water sample at concentrations greater than screening levels during the second event.
- **Other SVOCs**: Three SVOCs (in addition to PAHs) were detected in at least 1 Doane Creek surface water sample during either the first or second sampling event. None of the SVOCs were detected in any sample at a concentration greater than screening levels.
- **VOCs**: No VOCs were detected in any Doane Creek surface water sample during either the first or the second sampling event.
- **Cyanide**: Total cyanide was detected in all surface water samples collected from Doane Creek during the first and second sampling events at concentrations greater than screening levels. Also tested were WAD cyanide, amenable cyanide, and free

cyanide. The form of cyanide that is the basis for toxicity screening levels is free cyanide. Free cyanide was not detected in any surface water sample during either the first or second sampling events. Low levels of amenable and WAD cyanide were detected in at least one sample during both sampling events. There are no screening levels established for these forms of cyanide.

TABLE 7.3-3 COMPARISON OF CONSTITUENT CONCENTRATIONS IN DOANE CREEK RI SURFACE WATER SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Event	Detection Frequency		Portland Harbor JSC SL[b]		
			Ratio	%	Screening Level	No. Detects > SL	% Samples > SL
Metals							
Aluminum	mg/l	1	1/3	33%	0.2	0	0%
	mg/l	2	6/6	100%	0.2	5	83%
Arsenic	mg/l	1	3/3	100%	0.000045	3	100%
	mg/l	2	0/6	0%	0.000045	0	0%
Barium	mg/l	1	3/3	100%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc
Calcium	mg/l	1	3/3	100%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc
Chromium	mg/l	1	3/3	100%	0.1	0	0%
	mg/l	2	3/6	50%	0.1	0	0%
Copper	mg/l	1	3/3	100%	0.0027	0	0%
	mg/l	2	2/6	33%	0.0027	2	33%
Iron	mg/l	1	3/3	100%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc
Lead	mg/l	1	3/3	100%	0.00054	0	0%
	mg/l	2	4/6	67%	0.00054	4	67%
Magnesium	mg/l	1	3/3	100%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc
Manganese	mg/l	1	3/3	100%	0.05	2	67%
	mg/l	2	6/6	100%	0.05	4	67%

TABLE 7.3-3 COMPARISON OF CONSTITUENT CONCENTRATIONS IN DOANE CREEK RI SURFACE WATER SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Event	Detection Frequency		Portland Harbor JSC SL[b]		
			Ratio	%	Screening Level	No. Detects > SL	% Samples > SL
Nickel	mg/l	1	3/3	100%	0.016	0	0%
	mg/l	2	1/6	17%	0.016	0	0%
Potassium	mg/l	1	3/3	100%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc
Selenium	mg/l	1	3/3	100%	0.005	0	0%
	mg/l	2	0/6	0%	0.005	0	0%
Sodium	mg/l	1	3/3	100%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc
Vanadium	mg/l	1	3/3	100%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc
Zinc	mg/l	1	3/3	100%	0.036	0	0%
	mg/l	2	6/6	100%	0.036	0	0%
PAHs							
Acenaphthene	µg/l	1	1/3	33%	0.2	1	33%
	µg/l	2	0/6	0%	0.2	0	0%
Acenaphthylene	µg/l	1	0/3	0%	0.2	0	0%
	µg/l	2	1/6	17%	0.2	0	0%
Anthracene	µg/l	1	0/3	0%	0.2	0	0%
	µg/l	2	2/6	33%	0.2	0	0%
Benzo(a)anthracene	µg/l	1	3/3	100%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	1	17%
Benzo(a)pyrene	µg/l	1	3/3	100%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	2	33%
Benzo(b)fluoranthene	µg/l	1	3/3	100%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	3	50%
Benzo(k)fluoranthene	µg/l	1	3/3	100%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	1	17%
Benzo(g,h,i)perylene	µg/l	1	2/3	67%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	2	33%
Chrysene	µg/l	1	2/3	67%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	1	17%
Dibenzo(a,h)anthracene	µg/l	1	0/3	0%	0.2	0	0%
	µg/l	2	3/6	50%	0.2	0	0%
Fluoranthene	µg/l	1	3/3	100%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	2	33%
Fluorene	µg/l	1	2/3	67%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	0	0%

TABLE 7.3-3 COMPARISON OF CONSTITUENT CONCENTRATIONS IN DOANE CREEK RI SURFACE WATER SAMPLES TO SCREENING LEVELS

Constituent	Unit	Sample Event	Detection Frequency		Portland Harbor JSC SL[b]		
			Ratio	%	Screening Level	No. Detects > SL	% Samples > SL
Indeno(1,2,3-cd)pyrene	µg/l	1	2/3	67%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	2	33%
Naphthalene	µg/l	1	0/3	0%	0.2	0	0%
	µg/l	2	0/6	0%	0.2	0	0%
Phenanthrene	µg/l	1	3/3	100%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	1	17%
Pyrene	µg/l	1	3/3	100%	0.2	0	0%
	µg/l	2	6/6	100%	0.2	2	33%
Other SVOCs							
Bis(2-ethylhexyl)phthalate	µg/l	1	3/3	100%	2.2	0	0
	µg/l	2	2/6	33%	2.2	0	0
Carbazole	µg/l	1	3/3	100%	nc	nc	nc
	µg/l	2	2/5	40%	nc	nc	nc
Dibenzofuran	µg/l	1	1/3	33%	3.7	0	0
	µg/l	2	1/6	17%	3.7	0	0
VOCs							
All VOCs	µg/l	1	0/3	0%	varies	0	0%
	µg/l	2	0/6	0%	varies	0	0%
Cyanide							
Total Cyanide	mg/l	1	3/3	100%	0.00052	3/3	100%
	mg/l	2	6/6	100%	0.00052	6/6	100%
Free Cyanide	mg/l	1	0/3	0%	0.00052	0/3	0%
	mg/l	2	0/6	0%	0.00052	0/6	0%
Amenable Cyanide	mg/l	1	2/3	67%	nc	nc	nc
	mg/l	2	1/6	17%	nc	nc	nc
WAD Cyanide	mg/l	1	1/3	33%	nc	nc	nc
	mg/l	2	6/6	100%	nc	nc	nc

[a] Portland Harbor JSCS screening levels are the lowest as provided in Table 3-1 (July 16, 2007 Revision) of the JSCS document as related to water (groundwater/surface water/stormwater) (DEQ 2005)

mg/l – milligram per liter
nc – no criteria
PAH – polynuclear aromatic hydrocarbon
SL – screening level
TPH – total petroleum hydrocarbon
SVOC – semi-volatile organic compound
µg/l - microgram per liter
VOC – volatile organic compound
WAD – weak acid dissociable

7.4 Groundwater

Results of laboratory analyses of groundwater samples collected from monitoring wells and temporary well points at the Siltronic property are summarized on Tables 25 through 30. These data summary tables include the vertical profile samples collected during the 2009 sonic drilling work (SB-21, SB-27, SB-35, and SB-53), as well as shallow temporary well point sample collection (P-45) and the site-wide expanded sampling of RP-series monitoring wells as were incorporated into the first quarter 2010 monitoring event.

Data as summarized on Tables 25 through 30 were used to prepare maps depicting distribution of select COIs (benzene, naphthalene, benzo(a)pyrene, total cyanide, and free cyanide) within both the surficial fill and alluvial WBZs (Appendix H). These COIs were selected for mapping since they tend to be key risk-drivers at MGP sites or they represent varying fate and transport properties with regard to adsorption and solubility. Although mapping of select COIs has been conducted to illustrate constituent distribution within groundwater, all chemicals that exceed screening levels for both the Fill WBZ and the Alluvial WBZ are identified on Tables 25 through 30 and in the following sections. All groundwater monitoring well locations are depicted on Figure 9.

7.4.1 Screening Level Values

Constituent concentrations in groundwater were compared with screening level values as provided in Table 3-1 (July 16, 2007 Revision) of the Portland Harbor Joint Source Control Strategy document, dated December 2005 (DEQ 2005). These screening levels are protective of potential human receptors (fish consumption and drinking water) and ecological receptors. Where multiple screening level values exist for a particular constituent and pathway, the lowest value was used for the screening evaluation.

7.4.2 Surficial Fill Water-Bearing Zone

The following constituents (Table 7.4-1) were detected in at least one groundwater sample collected from the Surficial Fill WBZ at a concentration greater than screening levels (Tables 25 through 30) during the last four seasonal monitoring events.

Table 7.4-1 Detected Constituents Exceeding Screening Level Values-Fill WBZ

PAHs	SVOCs	VOCs	Inorganics	Metals
Acenaphthene Acenaphthylene Anthracene Benzo(a)anthracene Benzo(a)pyrene Benzo(b)fluoranthene Benzo(g,h,I,)perylene Benzo(k)fluoranthene Chrysene Dibenzo(a,h)anthracene Fluoranthene Naphthalene Indeno(1,2,3-cd)pyrene Phenanthrene Pyrene	Dibenzofuran 1-Methylnaphthalene 2-Methylnaphthalene	Benzene Toluene Ethylbenzene Xylene 1,2,4-TMB TCE PCE Vinyl Chloride	Total Cyanide Free Cyanide	Arsenic Barium Cadmium Chromium Copper Iron Lead Manganese Mercury Nickel Silver Titanium Vanadium Zinc

Maps depicting the distribution of benzene, naphthalene, benzo(a) pyrene, total cyanide, and free cyanide in Surficial Fill WBZ groundwater samples are included as Figures H1 through H5 (Appendix H). The basis (e.g., sample date, location, sample depth, reporting levels) for all depicted groundwater concentrations are tabulated and attached to each figure for reference. Key findings regarding distribution of these constituents within the Surficial Fill WBZ follows:

- The greatest concentrations of benzene, naphthalene, and benzo(a)pyrene are detected in the north-central portion of the Site between the area of the electrical substation/central facilities building and the up-gradient (west) side of the Fab 1 building (well WS-10-27; temporary well points GP-24 and SB-53). These locations correspond to the former effluent pond overflow area, areas of NAPL presence, and the general location of the Olympic pipeline fuel release.

- Other areas of elevated benzene, naphthalene, and benzo(a)pyrene in the Fill WBZ, although at a lesser magnitude than described above, include the wastewater treatment plant area (NWN-1-20 and NWN-2-20; corresponding to the former spent oxide material storage area), and the east end of the Fab 1 building (SB-35; corresponding to the central excavation area).

- Screening level exceedances for benzene within the Fill WBZ (Figure H1) near the Willamette River shoreline are limited to approximately the northern 800 to 900 feet of shoreline, with concentrations significantly attenuated (ND to 106 µg/L) relative to the north-central portion of the Site (up-gradient of the Fab 1 Building) where a majority of detections fall in the 1,000 µg/L to 10,000 µg/L concentration range. Except down-gradient of the wastewater treatment plant area (NWN-2-20), concentrations of benzene greater than screening levels have not been detected in the Surficial Fill WBZ at locations adjacent to Doane Creek. The NWN-2-20 well location is hydraulically down-gradient of the wastewater treatment plant, with concentrations about one order of magnitude less (27.20 µg/L) than detected at the wastewater treatment plant area (363 µg/L at NWN-1-20). Benzene concentrations greater than screening levels (0.75 µg/L to 614 µg/L) were also detected in the former North Doane Lake area near the southern corner of the Site.

- Screening level exceedances for naphthalene (Figure H2) and benzo(a)pyrene (Figure H3) generally follow a similar pattern as that described above for benzene, although low level exceedances for both of these constituents extend across a larger extent of the Willamette River shoreline and in groundwater samples collected adjacent to Doane Creek. Detected concentrations in shoreline and Doane Creek areas are between 2 to 3 orders of magnitude (benzo(a)pyrene) and 4 to 5 orders of magnitude (naphthalene) less than concentrations as detected in samples from the north-central (Fab 1 Building) portion of the Site.

- The primary ecological and human health risks associated with cyanide are attributable to the free cyanide ion. For descriptive purposes, both total cyanide and free cyanide concentrations in groundwater have been compared to the same screening levels. Total cyanide concentrations would include all forms present, which

at MGP sites typically consist largely of cyanide complexed with iron (ferrocyanide). As depicted on Figure H4, the greatest concentrations of total cyanide in the Fill WBZ are detected in the wastewater treatment plant area where 10.2 mg/L and 63.2 mg/L were detected in samples collected from the SB-21 and NWN-1-20 locations, respectively. This area correlates with the former spent oxide storage area and locations where indications of spent oxide materials (wood chip layers with prussian blue discoloration) were noted in the subsurface (Table 3). Concentrations of total cyanide greater than 1 mg/L were detected in surficial fill groundwater beneath the central portion of the Site (SB-27, SB-35, RP-22-29, RP-23-30), an area that correlates with the area of dark-colored fill placement that occurred in the late 1960s (Figure 5). Total cyanide detections in groundwater at most other surficial fill well locations, although exceeding screening levels, were generally one to two orders of magnitude less than concentrations detected near the central portions of the Site.

- As depicted on Figure H5, free cyanide detections in the Fill WBZ were much more limited than detections of total cyanide described above. Specifically, free cyanide detections were generally limited to those portions of the Fill WBZ where the greatest total cyanide concentrations were detected. The greatest free cyanide concentration (0.0912 mg/L) was detected at well NWN-1-20, an area where spent oxide materials were formerly stored and where evidence of spent oxide materials (wood chips, prussian blue coloration) are present in the subsurface. Free cyanide was detected down-gradient of this area near the upper reach of Doane Creek (NWN-2-20), but at a concentration (0.0082 mg/L) only slightly greater than the 0.0052 mg/L screening level, and an order of magnitude less than detected at NWN-1-20. Free cyanide was not detected in the Fill WBZ at any other sample locations along the western property boundary (adjacent to Doane Creek), or in the Fill WBZ at any locations adjacent to the Willamette River. These results, in conjunction with the total cyanide data, suggest that the distribution of free cyanide within the surficial fill WBZ is very limited, with its presence correlating with only the very highest total cyanide concentrations at the site.

- As summarized in Table 7.4-1 above, several chlorinated VOCs (PCE, TCE, and vinyl chloride) have been detected in at least one Fill WBZ groundwater sample, at least one time during the last four seasonal sampling events, at concentrations greater than screening levels (see VOC data screening results, Table 28). TCE has been detected one time at a low level (2.19 µg/L) in a groundwater sample collected from the NWN-2-20 (near the upper reach of Doane Creek) and sporadically at the WS-10-27 location (north-central portion of the Site). PCE has been detected at one location (WS-8-33, near the northern shoreline) at a concentration of 0.6 µg/L; and vinyl chloride has been detected at WS-10-27 (north-central Site) and at two adjacent Willamette River shoreline locations (WS-8-33 and NWN-9-31).

7.4.3 Alluvial Water-Bearing Zone

The constituents that were detected in at least one groundwater sample collected from the Alluvial WBZ at a concentration greater than screening levels (Tables 25 through 30) were identical to those as described in the Surficial Fill WBZ (Table 7.4-1), with the following exceptions:

The metals barium, chromium, and vanadium were not detected in any Alluvial WBZ groundwater sample at concentrations greater than screening levels. Volatile organic compounds chlorobenzene, 1,2-dichlorobenzene, 1,4-dichlorobenzene, trans-1,2dichloroethene, and cis-1,2 dichloroethene were all detected in the alluvial WBZ in at least one sample at concentrations greater than screening levels. None of these VOCs were detected in the surficial fill WBZ at concentrations greater than screening levels. Chlorobenzene, 1,2-dichlorobenzene, and 1,4-dichlorobenzene are known COIs in the investigation work being conducted on the Site as related to the Rhone-Poulenc / SLLI property. Trans-1,2-dichloroethene and cis-1,2 dichloroethene (as well as TCE, PCE, and vinyl chloride-detected in both the Fill and in Alluvial WBZs) are COIs as related to the chlorinated VOC investigation completed by Siltronic (MFA 2007).

Maps depicting the distribution of benzene, naphthalene, benzo(a) pyrene, total cyanide, and free cyanide in alluvial WBZ groundwater samples are included in Appendix H as Figures H6 through H10 (Alluvial WBZ, shallower than -45 feet elevation) and H11 through H15 (Alluvial WBZ, deeper than -45 feet elevation). The basis (e.g., sample date, location, sample depth,

reporting levels) for all depicted groundwater concentrations are tabulated and attached to each figure for reference. Key findings regarding distribution of these constituents follows:

- As depicted on Figures H6, H7, and H8, the greatest concentrations of benzene, naphthalene, and benzo(a)pyrene in the upper portion of the alluvial WBZ were all detected in the north-central portion of the Site, generally correlating to the location of the greatest concentrations detected in the overlying Fill WBZ. As described in Section 7.1.2.2, and as depicted on Figure 11, DNAPL has migrated from the Fill WBZ through the upper alluvial silt unit beneath this portion of the Site (e.g., area of borings WS-15, WS-33, and SB-53), with the DNAPL presence resulting in a localized area of elevated dissolved concentrations for related COIs. Concentrations of these constituents attenuate by two orders of magnitude in the upper portions of the alluvial WBZ down-gradient of this area near the Willamette River shoreline, with screening level exceedances predominantly limited to the northern 600 feet of shoreline.

- As depicted on Figures H11, H12, and H13, with one exception, the greatest concentrations of benzene, naphthalene, and benzo(a)pyrene in the lower portions of the Alluvial WBZ (elevation greater than -45 feet; approximately 80 feet bgs) are at down-gradient locations adjacent to the northern Willamette River shoreline. The deeper occurrence of dissolved phase COIs in the northern corner of the Site (e.g., WS-11-125 and WS-14-125) corresponds with the deeper DNAPL presence at this portion of the Site (greater than 100 feet bgs-see Figure 12). The Alluvial WBZ is thickest at this portion of the Site, and these COIs all attenuate to near or below screening levels at greater depth (WS-11-161, WS-12-161, WS-14-161).

- Low level detections of benzene, but at concentrations greater than screening levels, were identified in lower portions of the Alluvial WBZ near the southern (up-stream) Willamette River shoreline and south-central portions of the Site (e.g., RP-06-87, RP-24-73, and RP-23-100) as depicted on Figure H11. These locations do not correlate with impacts in the upper portions of the Alluvial WBZ. Further, groundwater samples from these locations have detected concentrations of chlorobenzenes, tetrachloroethene, and vinyl

chloride, which are COIs with regard to the SLLI/Rhone-Poulenc investigation on the Site. Benzene is also a COI with regard to the SLLI investigation. The preceding suggests that the identified low level benzene detections in the lower portions of the Alluvial WBZ at these portions of the Site are likely attributable to the up-gradient off-site source being investigated by SLLI.

- The greatest concentration of benzene as detected in groundwater beneath the Site (either Fill WBZ or Alluvial WBZ) was a sample collected from a temporary well point installed across a depth of 97 to 101 feet bgs at the SB-21 sonic boring location, where 84,000 µg/L benzene was detected. SB-21 was installed west of the electrical substation near the utility easement in the northern portion of the Site (Figure H11). As summarized on Tables 25 and 28, the shallower Alluvial WBZ depth horizon at this location (76 to 80 feet bgs) had a detection of 0.56 µg/L benzene. The lower sampled zone (97 to 101 feet bgs) was at the base of the Alluvial WBZ in a zone of sand with rounded cobbles. The weathered bedrock surface was encountered at a depth of 101 feet bgs. Patchy fluorescence was noted during field screening soil core at this boring location below a depth of 71 feet bgs, although no sheen or visual indications of NAPL were observed. Nearby TarGOST borings TG-10S (refusal at 90.5 feet bgs) and TG-11S (refusal at 80 feet bgs) indicated no NAPL presence in the Alluvial WBZ to total depth. The groundwater sample collected from the lower portion of the Alluvial WBZ had a noticeable sweet odor as referenced on the temporary well point sampling log (Appendix E). For this reason, a soil sample from across this depth was collected and analyzed for VOCs (Table 8). Several aromatic VOCs, including benzene at 11 mg/kg, were detected in this soil sample. The concentrations of detected constituents in the soil sample do not suggest the presence of NAPL within this zone. The presence of elevated benzene at depth at this location does not fit the existing conceptual site model or surrounding concentration patterns. The relatively low-level detection of naphthalene detected in groundwater at this depth (560 ppb) is not commensurate with the elevated benzene concentration as would be expected if this detection was the result of a nearby MGP DNAPL source. The source for this deep benzene detection is not known.

- Total cyanide was detected in a majority of groundwater samples from the upper and lower portions of the Alluvial WBZ at concentrations greater than screening levels (Figures H9 and H14). The greatest concentrations of total cyanide (e.g., greater than 1 mg/L) detected in the upper portions of the Alluvial WBZ were from wells or well points installed beneath the north-central and south-central portions of the Site (e.g., wells RP-22-75, WS-37-51, and SB-53). The greatest concentrations of total cyanide as detected in the lower portions of the Alluvial WBZ were from wells or well points installed near the northern shoreline, correlating with zones of deep DNAPL (e.g., wells WS-21-112, WS-22-112, WS-14-125), with maximum concentrations in this area all less than 1 mg/L.

- As depicted on Figures H10 and H15, and similar to the occurrence described for the Fill WBZ, free cyanide detections in the alluvial WBZ were much more limited than detections of total cyanide. Specifically, free cyanide detections in the Alluvial WBZ were generally limited to north-central and south-central portions of the Site and extending to the northern Willamette River shoreline area within zones where the greatest total cyanide detections were observed (approximate northernmost 400 feet of shoreline).

8.0 DATA NEEDS ASSESSMENT

A review of the results of the Phase I RI sampling results in relationship to data gaps as identified in the RI Workplan (HAI 2007b) is presented in this section to assess whether there are remaining data gaps that should be addressed as part of a Phase 2 sampling effort. Data needs as identified within the RI Workplan are restated below by media, followed by an assessment of whether the data needs have been satisfied or if additional data collection is recommended. A summary of remaining data needs as described below is provided at the end of this Section.

8.1 Soil

1. RI Workplan: Based on potential ecological and site worker exposure pathways to site soils, there was a need for additional surface and subsurface soil data at the site. The RI workplan proposed installation of soil borings through the entirety of the fill unit on a grid pattern across all accessible portions of the property to gain these data.

   RI Data Assessment: The RI included the collection of COI data across the site with collection and analysis of 41 surface samples (0 to 3 feet) and 66 subsurface samples (3 to 20 feet; above the water table). Sampling locations were selected to allow a sufficient density for calculating exposure point concentration estimates for activities that might range over the different portions of this Site. The RI dataset was collected as proposed in the RI Workplan; it is robust and will support human health and ecological risk assessments for the Site.

   Recommendation: No additional COI data in Site soils are necessary to support human health and ecological risk assessments.

2. RI Workplan**:** In addition to COI data to be collected for potential inclusion within the human (0 to 20 feet bgs) and ecological (0 to 3 feet bgs) exposure scenarios, visual characterization, field screening, and collection of data below 20 feet bgs was needed to allow characterization of the full thickness of surficial fill, and improve understanding of the morphology of the top of the silt unit across the site. The RI field program included collection of soil samples from below a depth of 20 feet bgs to be selected for analysis as needed to

define the vertical extent of soil impacts above the water table or where screening suggests the presence of impacts that may have significantly different COI concentrations than those identified in the upper 20 feet bgs.

Assessment: 55 borings were installed across the Site as part of the RI, 47 of which intercepted the top of the native upper alluvial silt unit. Data from these borings supported refinement of the understanding of the surface morphology of the upper alluvial silt unit and included description and field screening of the full thickness of the fill zone. The RI included the collection and analysis of 49 samples within the "deep" sample interval (deeper than 20 feet bgs or below the water table) for the purpose of characterizing zones potentially impacted by MGP-type residuals. These targeted samples included zones containing suspected spent oxide material where encountered (prussian blue; wood chip horizons), as well as zones containing tar, oil, or other field screening indications of impact (e.g., discolorations, sheen).

Recommendation: No additional COI data collection for characterization of deep zone soils or for additional refinement of the surface elevation of the upper alluvial silt unit is necessary.

3. RI Workplan: The RI workplan proposed that one or more soil sampling locations would be selected to confirm previous data collected for total cyanide analyses as part of 2001 nearshore investigation activities conducted by NW Natural. The 2001 data identified concentrations (e.g., up to 15,000 mg/kg) that were orders of magnitude greater than other samples – either collected at Siltronic or as part of the completed RI activities at the adjacent Gasco property. The RI workplan included collection of additional cyanide data across the site, including locations proximate to the Fab 2 outfall and the P-5 / P-8 locations.

   Assessment: To confirm these anomalously high concentrations, the RI targeted re-sampling efforts at three locations where the highest concentrations were previously identified: P-5 (8,780 mg/kg), P-8 (15,000 mg/kg), and Fab 2 outfall soils (13,900 mg/kg). Resampling as part of the RI identified 3.38 mg/kg at P-5A, 4.7 mg/kg at P-8A, and 493 mg/kg in the Fab 2 outfall soil sample. Also, 133 soil samples from multiple depth intervals across the site were tested for

total cyanide during the RI with detections ranging from a minimum of 0.07 mg/kg to a maximum of 694 mg/kg. No samples, either from the resampled locations or at any other location on the Site (including targeted worst-case samples of prussian blue wood chip/soil material) resulted in total cyanide concentrations that support the anomalous 2001 data.

Recommendation: Based on the above analysis, all total cyanide data for soil that were collected during the 2001 field investigation have been rejected as unusable. A sufficient dataset for total cyanide in soils exists for the Site without these data. No additional data collection for total cyanide in soil is warranted.

4. RI Workplan: Insufficient soil data was previously available at the shore face due to the heavy rip-rap armoring. The RI workplan proposed collection of additional subsurface soil data within borings to be installed near the top of the bank with the Willamette River.

   Assessment: Characterization of the surficial fill near the Willamette River embankment along the entirety of the Siltronic shoreline was completed during the RI. Characterization included field screening and COI data collection at 10 boring locations (P-42, -43, -44, -46, -5A, -8A, -47, -49, -51, and -52). Residual DNAPL saturation testing (P-42 and P-44) and monitoring well installation (NWN-9-31 and NWN-10-36) was also conducted in areas of interest along the embankment area. These testing results, in conjunction with the many previous borings installed adjacent to the shoreline on behalf of NW Natural, Siltronic, and Rhone-Poulenc/SLLI, provide ample observational and COI data for these soils.

   Recommendation: No additional COI data collection or other characterization activities are necessary for soils behind the armored rip-rap embankment.

5. RI Workplan: The former Western Transportation operations (tug refueling and barge tie-ups) were located on the pre-fill ground surface near the present location of the Administration Building. DEQ identified this as a data gap for the RI due to the nature of the activities reportedly conducted in this area (fueling and petroleum storage), as well as the identification of petroleum-based impacts at this area. Additional soil and groundwater investigation at this

portion of the site was necessary to more completely evaluate the presence and magnitude of potential impacts related to those former operations. The RI field program included installation of borings and a monitoring well at the location of the former operations to more fully evaluate the extent of impacts attributable to operations at this portion of the site.

Assessment: RI borings P-7A, and P-47 through P-51 were installed in the former Western Transportation operations area (e.g., former Standard Oil Company of California and Union Oil parcels). Sixteen soil samples were collected from various depth horizons to characterize soils in this area. Surficial Fill WBZ monitoring well NWN-10-26 was installed down-gradient of this area near the Willamette River shoreline. No evidence of oil presence on the former ground surface (i.e., base of fill or near base of fill) was observed in the RI borings, although a slight sheen was noted in several of the borings at or near the base of the fill. A sample of undisturbed core from boring P-7A (an area where oil blebs were observed in previous boring P-7 installed during the 2001 shoreline investigation) identified pore fluids containing 2.7% oil at a depth of approximately 26 feet bgs. This percentage of oil, regardless of source, is considered residual and is not mobile. Groundwater samples collected from monitoring well NWN-10-26, installed within the Fill WBZ immediately down-gradient of this area have not had detectable concentrations of BTEX constituents, and have had only low level detections (slightly greater than screening levels) of PAHs.

Recommendation: No additional data collection activities are necessary to support characterization or risk evaluation for this portion of the Site.

8.2 Groundwater

1. RI Workplan: Additional groundwater quality data within the surficial fill WBZ adjacent to the western and southern property boundaries of Siltronic was collected to evaluate potential groundwater discharge to Doane Creek and/or to the buried culvert leading to Outfall 22C. The RI workplan proposed installation and sampling of piezometers / monitoring wells at these locations.

Assessment: The RI included installation and sampling of 7 new monitoring wells within the Surficial Fill WBZ along the western (Doane Creek) and southern (buried culvert to Outfall 22C) property boundaries. Groundwater samples from these wells, in addition to Surficial Fill WBZ wells owned by SLLI but sampled as part of the RI, provide very good data coverage along these borders. As depicted on COI plume maps presented in this report, these data are of sufficient density and quality to support evaluation of COIs in groundwater that may either be recharging Doane Creek or infiltrating the buried culvert to Outfall 22C.

COIs within the Surficial Fill WBZ near the western and southern boundaries of the Site are generally detected only at low levels, although concentrations of one or more COI will typically exceed screening level values at a majority of sampling locations. As depicted on plume maps, the greatest COI concentrations along the western and southern Site boundaries are detected near the wastewater treatment plant area (upper reach of Doane Creek; well NWN-2-20) and near the southern corner of the site (former North Doane Lake remnant; well NWN-6-31).

Groundwater elevation data, in conjunction with creek elevation data collected during the RI is sufficient to conclude that groundwater within the Fill WBZ near the upper reach of Doane Creek (NWN-2-20) does likely recharge the creek, while little to no recharge appears to be occurring along lower reaches of the creek.

Recommendation: Sufficient groundwater quality data are available in the Fill WBZ near the western and southern property boundaries to provide adequate groundwater characterization of these areas. No additional groundwater sampling points are necessary in these areas.

2. RI Workplan: Additional groundwater quality data for COIs within the surficial fill WBZ and the alluvial water-bearing zone (WBZ) within the eastern and southern portions of the property (parking lot and undeveloped areas), and proximate to the western corner of the property (wastewater treatment plant area) was collected to supplement the current understanding of COI distribution in these areas of the site. The RI workplan proposed sampling of select

existing surficial fill and alluvial WBZ wells in addition to installation of new monitoring wells within the surficial fill WBZ at these areas.

Assessment: The RI included installation and sampling of 10 new Surficial Fill WBZ wells, temporary well point sampling in the Fill WBZ at 5 locations and in the Alluvial WBZ across multiple depths at 4 locations. The RI also included collection of data for the full suite of COIs from 25 pre-existing SLLI-owned wells (Fill and Alluvial WBZs) across the southern portion of the Site, and 8 pre-existing Siltronic or NW Natural wells located near the northern portion of the Site. Additionally, data for a subset of COIs (primarily cyanide and VOCs) were collected during the same timeframe by Siltronic from 43 Siltronic-owned wells located at the northern portion of the Site. These data were used to evaluate COI concentrations and distribution within the Surficial Fill and Alluvial WBZs across the Site.

The greatest COI concentrations in the Fill WBZ were detected in the northern portion of the Site (former effluent pond overflow area), extending south beneath the central portion of the Site (central excavation area) – with these elevated detections correlating with areas of DNAPL occurrence. Similarly, with one exception, the greatest COI detections in the Alluvial WBZ correlate with those locations and depth horizons where DNAPL migration into the Alluvial WBZ has occurred (former effluent pond overflow area), with the highest concentrations in the shallow alluvial WBZ near the north central Site (e.g., WS-15-85), becoming deeper near the river shoreline (WS-14-125), with significant attenuation at greater depth (e.g., WS-14-161).

The greatest total and free cyanide concentrations in groundwater (63.2 mg/L and 0.0912 mg/L, respectively)were detected in the Fill WBZ near the wastewater treatment plant (former spent oxide storage) at the well NWN-1-20 location and correlate with an area where suspected spent oxide materials were identified in the subsurface. Relatively elevated concentrations of total cyanide also extend across the central portion of the Site in the Fill WBZ, correlating with an area where discolored fill materials were placed in the late 1960s.

The highest benzene concentration detected at any sampling location during the RI (84,000 ug/L at SB-21) was in the basal

Alluvial WBZ near the western corner of the Site, located between the wastewater treatment plant and the PGE electrical substation. This detection does not correlate with the presence of DNAPL, nor does it correlate with concentrations of benzene at shallower depths of the Alluvial WBZ or within the Fill WBZ at this portion of the Site.

Recommendation: Based on the COI distribution in groundwater beneath the Site, four new monitoring wells are recommended to support complete characterization and delineation, as follows:

- Two Surficial Fill WBZ wells are recommended for installation within the south central portion of the Site to support delineation of petroleum-impacts as detected at the central excavation area; and to provide additional monitoring points with regard to cyanide in the central portion of the Site. One well should be installed at the SB-35 location and the other well should be installed approximately 500 feet to the east of this location within the Siltronic parking lot approximately mid-way between P-39 and P-40.

- Two Alluvial WBZ wells are recommended for installation as a clustered pair near the western corner of the Site (wastewater treatment plant/electrical substation area). These wells should be installed near the location of SB-21, with one well screened in the upper alluvial (60 to 70 feet bgs), and the second well screened at the base of the alluvial zone (90 to 100 feet bgs). These wells will provide data in the Alluvial WBZ in the area of the former spent oxide storage area (elevated total cyanide), and will also provide a monitoring point in the area of the anomalously elevated benzene detection at the base of SB-21.

3. RI Workplan: Speciated cyanide data (e.g., synoptic total, free and amenable) were a data gap for understanding the potential risks from cyanide at the site. The RI workplan proposed the sampling of select existing permanent groundwater monitoring wells and proposed new monitoring wells at the Siltronic property to supplement the existing understanding of nature and extent for cyanide species and other COIs.

Assessment: Speciated cyanide data have been collected in groundwater across most portions of the Site. Unlike total cyanide (all forms, regardless of toxicity), which is widespread across the Site, free cyanide is seldom detected. Detections of free cyanide in groundwater are typically limited to those portions of the Site where the greatest total cyanide concentrations are detected (western and central Fill WBZ; Alluvial WBZ in the north-central and northern corner of the Site). The distribution of total and free cyanide within groundwater is reasonably well understood, with several additional monitoring points recommended as described above.

Recommendation: Additional groundwater monitoring points to support COI characterization and delineation (including cyanide) beneath the Site are described above (four new monitoring wells).

4. RI Workplan: The groundwater elevation and flow direction, and potential influences of the utility easement on flow direction within the surficial fill WBZ at the southern portion of the site required further understanding. The RI workplan proposed the installation of monitoring wells at the southern portion of the property to be used in conjunction with the existing monitoring wells to refine the understanding of flow at this area of the site.

   Assessment: The RI included installation and sampling of 8 new monitoring wells within the Surficial Fill WBZ across the western and southern portion of the site, in part to evaluate if shallow groundwater flow direction is influenced by the utility easement or by the presence of Doane Creek. Evidence of significant localized flow deviations were not observed in areas of the utility easement (no mounding or depression in the water table) or with regard to the buried culvert leading to outfall 22C (no apparent flow preferentially directed toward this feature). As described above, a possible groundwater divide with flow back toward Doane Creek appears limited to the upper reach of the creek, near the wastewater treatment area.

   Recommendation: Two additional rounds of surface water sample collection from Doane Creek are to be conducted as per the RI Workplan (HAI 2007b) to complete the RI scope of work. These additional sampling activities will be during the wet season (high water table) during both a storm event and a dry period. These data, in conjunction with the data already collected from Doane Creek

during the dry season, will support evaluation of the influence of COI concentrations in shallow groundwater in the wastewater treatment plant area on surface water quality in Doane Creek. No additional data collection activities, beyond those already planned, are necessary to support this evaluation.

8.3 Dense Non-Aqueous Phase Liquid

1. RI Workplan: The RI included additional soil characterization to describe the nature and presence of DNAPL within the surficial fill at the site, including the perimeter of the property adjacent to Doane Creek and the Doane Creek/Outfall 22C buried culvert. Further, select cores with visible NAPL were subjected to ultraviolet photography, saturation and mobility testing. In addition, the RI included physical observation and screening in conjunction with laser-induced fluorescence (LIF), as appropriate, to evaluate the nature and distribution of DNAPL within the alluvial unit at the northern portion of the property.

   Assessment: The RI included the installation of 12 TarGOST borings to depths up to 150 feet bgs during two phases of investigation at the Site to identify and delineate the presence of DNAPL in the alluvial unit. Visual characterization and field screening was conducted across the full thickness of the fill unit at 47 RI boring locations, with follow-up collection of undisturbed core from 8 boring locations for laboratory photo documentation and DNAPL saturation testing (18 select soil samples) with subsequent DNAPL mobilization testing (8 samples). DNAPL saturation and mobility testing indicate the presence of DNAPL with potential mobility at P-36 (north end of Fab 1) and P-38 (south end of Fab 1). DNAPL presence in soils at other portions of the Site, including adjacent to Doane Creek (P-12, P-15, and P-16) and adjacent to the Willamette River (P-42 and P-44), were at residual (not mobile) levels. The depth and overall location of DNAPL within the alluvial unit, as presented herein, is well understood.

   Recommendation: Several borings near the southern corner of the Site (former NDL remnant) had visual or field screening indications of DNAPL. Review of pre-RI boring logs for the area suggests DNAPL observations fairly wide-spread in this area. DNAPL mobility testing

at one boring in this area (P-15) indicated DNAPL to be present only at residual levels. Additional characterization of the nature of the DNAPL presence at this portion of the Site is needed to more reliably conclude whether DNAPL in this area is present at residual saturation levels, as follows:

- Undisturbed core should be collected from near the P-19, P-20, and P-22 boring locations for DNAPL saturation and mobility testing.

No additional investigation regarding the location or nature of DNAPL within the alluvial unit is necessary.

2. RI Workplan: The presence or absence of DNAPL at the central excavation area below the eastern end of the Fab 1 structure was not well understood. The RI workplan included installation of several borings at the location of this former feature.

   Assessment: The RI included installation of 5 borings in the area of (P-34, P-36, SB-35, P-54), or down-gradient of (P-45), the central excavation. Borings installed in the area of the feature indicated the presence of tar and oily tar in the fill, with the greatest magnitude of visual impacts in borings proximate to the former feature. Residual DNAPL saturation and mobility potential testing of the zone of greatest impact at P-36 (at the location of the central excavation feature) indicated 30% to 50% DNAPL presence in the pore fluids. Mobility testing of this sample determined that the DNAPL at this location is present at levels greater than potential residual saturation, determined through mobility testing to be approximately 15%. No evidence of DNAPL or tar was observed across the fill zone at down-gradient boring location P-45. A groundwater sample collected from a well point installed in the fill at this location (P-45A) did not detect concentrations of BTEX, and detected only relatively low levels of PAHs.

   Recommendation: Undisturbed cores should be collected from several additional locations in the area of the central excavation to more completely characterize DNAPL presence in the fill unit at this area, as follows:

- Undisturbed core should be collected at the P-34 location and at a location within the parking lot south of the Fab 1 Building midway between SB-35 and SB-45. These data will better characterize the DNAPL saturation levels and potential mobility as identified at the nearby P-36 location.

3. RI Workplan: A "dredging-induced sheen" adjacent to GP-33, P-4, SIL-01 location was observed by Siltronic personnel during bank repair activities. DEQ requested evaluation of the presence and nature of NAPL near this part of the shoreline within the surficial fill to help to determine the source of this sheen. NAPL was also identified in soils at the former Western Transportation operation (e.g., P-7). Borings and monitoring wells to be completed within the surficial fill at these locations were proposed within the RI to evaluate the presence and potential mobility of NAPL.

   Assessment: The RI involved the installation of boring P-44 and Fill WBZ well NWN-9-31 near the shoreline at the location of the "dredging-induced sheen". Tarry soils were observed within the fill at P-44, with DNAPL saturation testing conducted on soils from 3 different depth horizons of these soils. This testing identified DNAPL content of 14.2% (13.1 feet bgs), 2.2% (23.3 feet bgs), and 3% (28.3 feet bgs) within pore fluids. Mobility testing (centrifugal spinning at 1,000-times gravity) on the two samples with the greatest DNAPL saturations did not yield a reduction in DNAPL content of the pore fluids - indicating that DNAPL in this area is at residual levels (not mobile). No DNAPL has been observed in well NWN-9-31, which is screened across the zone of soil impact at this location.

   Boring P-7A and monitoring well NWN-10-26 were installed in the area of the former Western Transportation operation. A sample of undisturbed core from boring P-7A identified pore fluids containing 2.7% oil at a depth of approximately 26 feet bgs. Based on Site testing data, this low percentage of oil presence in pore fluid is considered residual and is not mobile. Groundwater samples collected from monitoring well NWN-10-26, installed within the Fill WBZ immediately down-gradient of this area has not identified DNAPL, has not had detectable concentrations of BTEX constituents, and has had only low level detections (slightly greater than screening levels) of PAHs.

Recommendation: No additional investigation regarding the NAPL presence at either the location of the former "dredging induced sheen" or the former Western Transportation operations area, is necessary.

8.4 Doane Creek-Soil, Sediment, Surface Water

1. RI Workplan: COI data were not available with regard to surface soils along Doane Creek. As such, the RI workplan included collection of samples of surface soils along the Doane Creek embankment for characterization of COI presence and concentration.

   Assessment: Doane Creek was divided into 5 reaches (DC-1 through DC-5) for sampling and characterization purposes. The RI included the collection of 5 surface soil samples on both the east and west embankments within each of the 5 reaches (50 samples in total). The 5 samples from each embankment within each reach were composited for testing to provide overall COI data for each embankment within each reach (10 composite samples in total). Samples were tested for the full suite of non-volatile COIs. Results indicate low level detections of PAHs and certain metals exceeding screening levels in embankment soils. No SVOCs were detected in any sample at concentrations exceeding screening levels, and total cyanide was not detected in any sample at concentrations greater than laboratory reporting levels.

   Recommendation: The RI collected sufficient COI data for characterization of Doane Creek embankment soils, with these data sufficient to support ecological risk assessment. However, to support an evaluation of potential bioavailability of certain COIs in sediments, the following supplemental data collection with regard to embankment soils is recommended:

   - Composite soil samples from both the east and west embankments of Doane Creek should be collected and analyzed for total organic carbon (TOC) content to support an evaluation of equilibrium partitioning for bioavailability studies.

2. RI Workplan: COIs within water discharged from city Outfall 22C (Doane Creek discharge) show seasonal variation in concentration. Potential COI pathways to Doane Creek requiring additional

evaluation included: 1) evaluation of shallow groundwater quality adjacent to Doane Creek and the buried culvert leading to Outfall 22C; 2) quality of erodible bank soils; 3) evaluation of sediment and surface water quality within Doane Creek; and 4) evaluation of effluent discharges to Doane Creek from the Koppers, Inc. lease portion of the adjacent Gasco site.

Assessment: Items 1 (groundwater) and 2 (embankment soils) are discussed above. Item 4 (Koppers stormwater discharge) is no longer relevant because Koppers has permanently discontinued all effluent discharge to Doane Creek. Item 3 (sediment and surface water) has been partially addressed through RI data collection activities completed to date.

Five sediment samples have been collected within each of the 5 reaches of Doane Creek, with compositing and testing similar to that described for embankment soils. Surface water samples have been collected to date as single grabs within each of the five designated reaches of the creek and in the Northwest Drainage Pond. As specified in the RI Workplan (HAI 2007b), surface water samples are to be collected seasonally over the course of a year, with two dry season events and 2 wet season events. The two dry season events have been completed to date.

Recommendation: The generally low-level detections of PAHs in Doane Creek sediments indicates that there would be a benefit for supplemental data collection within the creek, as follows:

- Composite sediment samples within all 5 reaches of Doane Creek and within the Northwest Drainage Pond should be collected and analyzed for TOC content and for the full list of 34 alkylated PAHs as presented in the EPA document *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks (ESBs) for the Protection of Benthic Organisms: PAH Mixtures* (EPA 2003). These data, in conjunction with data analysis methods as specified in the referenced EPA document will support derivation of site-specific concentrations for PAH mixtures in sediments which are protective of benthic organisms.

- Two additional surface water sampling events are necessary to satisfy the data collection efforts as specified in the RI Workplan (HAI 2007b). These sampling events will occur during the March/April time-frame (wet season).

- The Northwest Drainage Pond was not included in the initial RI sediment sampling program. In the DEQ approval of the RI Workplan, sampling of sediments in this area (between Reach 5 and the concrete culvert leading to the sewer pipe to the City of Portland Outfall 22C) was required. To satisfy this DEQ requirement, sampling of sediments within this area should be conducted. The sampling will be of the same scope as conducted in Doane Creek segments 1 through 5 (e.g., 5 part composite).

8.5 Air

1. RI Workplan: Air data available to date suggest this potential exposure pathway is not significant. Soil and groundwater data as obtained during the proposed RI activities were to be evaluated to ensure that areas of air investigation as previously completed were located in areas that continue to be representative of greatest contaminant conditions within soil and groundwater at the site and that results of previous air sampling may be extrapolated to other, presently undeveloped, areas of the site.

   Assessment: Soil and groundwater quality data as collected from across the Site during the RI and as described herein confirm that the greatest volatile organic compound impacts in soil and shallow groundwater are in the northern portion of the property coincident with the location of the previous two air sampling events (Fab 1 building, Fab 2 Building, Central Facilities Building, and the Wastewater Treatment Plant Building). The human health risk assessment will use RI soil and shallow (Fill WBZ) groundwater data to further evaluate potential indoor and outdoor air exposure routes.

   Recommendation: No additional COI data collection or other characterization activities are necessary with regard to air quality in order to support the human health risk assessment.

8.6 Summary of Data Needs

Soil: There are no additional data needs for this media.

Groundwater: Four new monitoring wells are recommended to support complete characterization and delineation, as follows:

1. Two Surficial Fill WBZ wells are recommended for installation within the south central portion of the Site to support delineation of petroleum-impacts as detected at the central excavation area; and to provide additional monitoring points with regard to cyanide in the central portion of the Site. One well should be installed at the SB-35 location (central excavation) and the other well should be installed approximately 500 feet to the east of this location within the Siltronic parking lot approximately mid-way between P-39 and P-40.

2. Two Alluvial WBZ wells are recommended for installation as a clustered pair near the western corner of the Site (wastewater treatment plant/electrical substation area). These wells should be installed near the location of SB-21, with one well screened in the upper alluvial (60 to 70 feet bgs), and the second well screened at the base of the alluvial zone (90 to 100 feet bgs). These wells will provide data in the Alluvial WBZ in the area of the former spent oxide storage area (elevated total cyanide), and will also provide a monitoring point in the area of the anomalously elevated benzene detection at the base of SB-21.

DNAPL: Additional characterization of the nature of the DNAPL presence at the western corner of the Site (former NDL remnant) and the central portion of the Site (former tar disposal excavation) is needed, as follows:

1. Undisturbed core should be collected from near the P-19, P-20, and P-22 boring locations for DNAPL saturation and mobility testing to more reliably conclude whether DNAPL in this area is present at residual saturation levels,

2. Undisturbed core should be collected at the P-34 location and at a location within the parking lot south of the Fab 1 Building

midway between SB-35 and SB-45. These data will better characterize the DNAPL saturation levels and potential mobility as identified at the nearby P-36 location (central excavation).

Doane Creek: Additional characterization with regard to Doane Creek embankment soil, sediment, and surface water is necessary, as follows:

1. Composite soil samples from both the east and west embankments of Doane Creek should be collected and analyzed for total organic carbon (TOC) content to support an evaluation of equilibrium partitioning for bioavailability studies.

2. Composite sediment samples within all 5 reaches of Doane Creek and within the Northwest Drainage Pond should be collected and analyzed for TOC content and for the full list of 34 alkylated PAHs as provided in the EPA document *Procedures for the Derivation of Equilibrium Partitioning Sediment Benchmarks for the Protection of Benthic Organisms: PAH Mixtures* (EPA 2003). These data, in conjunction with data analysis methods as specified in the referenced EPA document will support derivation of site-specific concentrations for PAH mixtures in sediments which are protective of benthic organisms.

3. Two additional surface water sampling events are necessary to satisfy the data collection efforts as specified in the RI Workplan (HAI 2007b). These sampling events will occur during the March/April time-frame (wet season).

4. The Northwest Drainage Pond was not included in the initial RI sediment sampling program. In the DEQ approval of the RI Workplan, sampling of sediments in this area (between Reach 5 and the concrete culvert leading to the sewer pipe to the City of Portland Outfall 22C) was required. To satisfy this DEQ requirement, sampling of sediments within this area should be conducted. The sampling will be of the same scope as conducted in Doane Creek segments 1 through 5 (e.g., 5 part composite).

Air: There are no additional data needs for this media.

9.0 LIMITATIONS AND SIGNATURES

The information presented in this report was collected, analyzed, and interpreted following the standards of care, skill, and diligence ordinarily provided by a professional in the performance of similar services as of the time the services were performed. This report and the conclusions and/or recommendations contained in it are based solely upon research and/or observations, and physical sampling and analytical activities, if any, that were conducted at the Client's request.

The information presented in this report is based only upon activities witnessed by HAI or its contractors, and/or upon information provided to HAI by the Client and/or its contractors. The analytical data presented in this report, if any, document only the concentrations of the target analytes in the particular sample, and not the property as a whole.

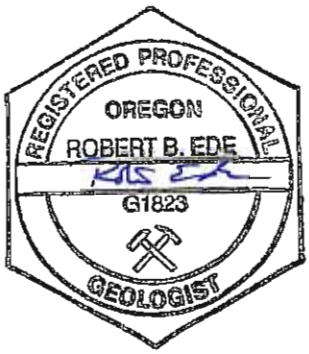
Unless otherwise specified in writing, this report has been prepared solely for the use by the Client and for use only in connection with the evaluation of the subject property. Any other use by the Client or any use by any other person shall be at the user's sole risk, and HAI shall have neither liability nor responsibility with respect to such use.

Hahn and Associates, Inc.

Prepared by:

Robert B. Ede, R.G.
Principal

Date March 31, 2011



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11.0 GLOSSARY OF ABBREVIATIONS

AGI	Advanced Geosciences, Inc.
AMEC	AMEC Earth & Environment, Inc.
Anchor QEA	Anchor QEA, LLC
Apex	Apex Laboratories, Inc.
bgs	below existing ground surface
BNSF	Burlington Northern Santa Fe Railroad Company
BTEX	benzene, toluene, ethylbenzene, and xylenes
CAS	Columbia Analytical Services, Inc.
CDM	Camp Dresser & McKee, Inc.
cm/sec	centimeters per second
CoP	City of Portland
CPT	cone penetrometer testing
COIs	contaminants of interest
CRB	Columbia River Basalt
D.C.	direct current
DCA	dichloroethane
DCE	dichloroethene
DEQ	Oregon Department of Environmental Quality
DNAPL	dense non-aqueous phase liquid
ECSI	Environmental Cleanup Site Characterization Database
EDC	ethylene dichloride
EIB	enhanced in-situ bioremediation
EMR	environmental monitoring report
EPA	U.S. Environmental Protection Agency
EPH	extractable petroleum hydrocarbons
ERI	electrical resistivity imaging
eV	electron volt
FS	feasibility study
ft/day	feet per day
GPR	ground penetrating radar

GSSI	Geophysical Survey Systems, Inc.
HAI	Hahn and Associates, Inc.
ID	inner diameter
IDR	Interim Design Report
IFT	interfacial tension
JSCS	Joint Source Control Strategy
KI	Koppers, Inc.
Koppers	Koppers Company, Inc.
LIF	Laser-induced fluorescence
LTI	Limno-Tech, Inc.
mg/Kg	milligrams per kilogram
mg/L	milligrams per liter
MEK	methyl ethyl ketone
MFA	Maul Foster & Alongi, Inc.
MGP	manufactured gas plant
msl	mean sea level
MTBE	methyl tert-butyl ether
NAPL	non-aqueous phase liquid
NDL	North Doane Lake
NDP	Northwest Drainage Pond
NGA	Northwest Geophysical Associates, Inc.
PAHs	polynuclear aromatic hydrocarbons
PCE	tetrachloroethene
PDC	Portland Development Commission
PG&C	Portland Gas & Coke
PGE	Portland General Electric
PID	photoionization detector
PTS	PTS Laboratories, Inc.
ppb	parts per billion
ppm	parts per million
RA&S	Rosenfeld, Anderson & Schnitzer
RBC	risk-based concentration

RE	reference emitter
RI	Remedial Investigation
RPAC	Rhone-Poulenc Agricultural Company
SAP	sampling and analysis plan
SDG	sample delivery group
Siltronic	Siltronic Corporation
SIP	Site Investigation Prioritization
SLLI	Starlink Logistics, Inc.
SLVs	screening level values
SVOCs	semi volatile organic compounds
TarGOST	Tar-specific Green Optical Screening Tool
TCA	trichloroethane
TCE	trichloroethene
TOC	total organic carbon
TPH	total petroleum hydrocarbons
µg/kg	micrograms per kilogram
µg/L	micrograms per liter
USCS	Unified Soil Classification System
UV	ultraviolet
VOCs	volatile organic constituents
VPH	volatile petroleum hydrocarbons
WAD	weak acid dissociable
WBZ	water-bearing zone
WPCL	Water Pollution Control Laboratory

TABLES

FIGURES

APPENDICES

(on CD only)

TABLE 1 - Summary of Primary MGP Residuals (Oil Gas)

Residual	Description	Primary Constituents of Interest
Tar Sludge	Decanter sludge generated from tar/oil/water separation	Semi-volatile organics (predominantly PAHs), Volatile Aromatic Hydrocarbons (BTEX Compounds)
Lampblack	Solid residue resulting from gasification of heavy oil	Semi-volatile organics (predominantly PAHs)
Tar/Oil/Water Emulsions	Residual generated during gas production and heat recovery	Semi-volatile organics (predominantly PAHs), (BTEX Compounds)
Purifier Box Materials (Spent Oxide)	Resulting from use of metal oxides for removal of sulfur (primarily hydrogen sulfide), and cyanide from product gas	Metals (As, Cr, Cu, Pb, Ni,Vd, Zn), Cyanide (predominantly as ferrocyanates); PAHs and BTEX due to incorporation of tar or lampblack during gas purification;
Light Oil	Resulting from product gas clean-up and tar/hydrocarbon processing	PAHs, Volatile Aromatic Hydrocarbons (BTEX Compounds)
Tar / Oil	Resulting from gas production/heat recovery, through tar/oil/water separation and subsequent processing for light, medium, and heavy oils	PAHs, Volatile Aromatic Hydrocarbons (BTEX Compounds)
Naphthalene	Resulting from gas clean up and light oil processing	Naphthalene

Note: BTEX = benzene, toluene, ethylbenzene, and xylenes
MGP = manufactured gas plant
PAHs = polynuclear aromatic hydrocarbons

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Monitoring Wells	MW-03-81	AMEC	16-Feb-00	Active	7625335.5	703198.3	0.010	10-20	2	33.35	35.5	91.6	-58.2	75.1 to 80.1	-41.7 to -46.7
	MW-03-137	AMEC	4-Oct-06	Active	7625354.389	703195.974	0.010	10-20	2	32.90	35.4	137.0	-104.1	131.5 to 136.5	-98.6 to -103.6
	MW-03-141	AMEC	3-Oct-06	Active	7625348.052	703192.854	0.010	10-20	2	32.86	35.3	141.0	-108.1	136.0 to 141.0	-103.1 to -108.1
	RP-01-31	URS	10-Feb-00	Active	7626192.5	703665.7	0.010	10-20	2	33.40	-	31.5	1.9	25.0 to 30.0	8.4 to 3.4
	RP-01-51	URS	9-Feb-00	Active	7626189.7	703662.3	0.010	10-20	2	33.34	-	51.0	-17.7	45.0 to 50.0	-11.7 to -16.7
	RP-01-65	URS	8-Feb-00	Active	7626185.1	703657.9	0.010	10-20	2	33.07	-	66.0	-	59.0 to 64.0	-25.9 to -30.9
	RP-03-26	URS	17-Feb-00	Abandoned	7624849.4	702891.2	0.010	10-20	2	37.30	-	26.5	10.8	20.0 to 25.0	17.3 to 12.3
	RP-03-61	URS	17-Feb-00	Abandoned	7624670.42	702848.63	0.010	10-20	2	-	-	64.0	-	57.4 to 62.4	- to -
	RP-03-30R	URS	9-Oct-00	Active	7624856.4	702724.3	0.010	10-20	2	34.61	36.61	30.0	4.6	23.0 to 28.0	11.6 to 6.6
	RP-03-52R	URS	9-Oct-00	Active	7624840.7	702723.1	0.010	10-20	2	34.47	36.60	52.0	-17.5	46.0 to 51.0	-11.5 to -16.5
	RP-06-30	URS	8-Feb-00	Active	7625738.7	703482	0.010	10-20	2	35.11	37.10	31.5	3.6	24.5 to 29.5	10.6 to 5.6
	RP-06-87	URS	7-Feb-00	Active	7625734.6	703476.9	0.010	10-20	2	35.30	37.20	88.0	-52.7	81.0 to 86.0	-45.7 to -50.7
	RP-06-95	URS	30-Oct-06	Active	7625762.449	703510.6	0.010	10-21	2	34.84	37.26	94.7	-59.9	89.5 to 94.5	-54.7 to -59.7
	RP-07-30	AMEC	22-Apr-02	Active	7625918.18	704297.69	0.010	10-20	2	35.26	35.3	30.0	5.3	25.0 to 30.0	10.3 to 5.3
	RP-07-55	AMEC	22-Apr-02	Active	7625909.99	704303.7	0.010	10-20	2	35.20	35.2	55.0	-19.8	50.0 to 55.0	-14.8 to -19.8
	RP-07-84	AMEC	22-Apr-02	Active	7625901	704310.16	0.010	10-20	2	35.22	35.2	85.0	-49.8	79.0 to 84.0	-43.8 to -48.8
	RP-07-119	AMEC	30-Apr-02	Active	7625927.47	704291.53	0.010	10-20	2	35.13	35.1	119.0	-83.9	114.0 to 119.0	-78.9 to -83.9
	RP-11-30	AMEC	2-Dec-05	Active	7625335.01	704680.59	0.010	10-20	2	34.04	34.3	30.2	3.8	15.0 to 30.0	19.0 to 4.0
	RP-11-160	AMEC	1-Dec-05	Active	7625327.26	704686.24	0.010	10-20	2	34.04	34.3	160.2	-126.2	150.0 to 160.0	-116.0 to -126.0
	RP-11-216	AMEC	29-Nov-05	Active	7625318.75	704691.98	0.010	10-20	2	34.04	34.3	215.7	-181.7	210.5 to 215.5	-176.5 to -181.5
	RP-20-25	AMEC	10-Oct-06	Active	7624756.338	703599.825	0.010	10-20	2	37.11	39.7	25.0	12.1	10.0 to 25.0	27.1 to 12.1
	RP-20-97	AMEC	9-Oct-06	Active	7624750.331	703595.623	0.010	10-20	2	37.25	39.3	97.1	-59.8	87.1 to 97.1	-49.8 to -59.8
	RP-20-120	AMEC	6-Oct-06	Active	7624744.057	703591.53	0.010	10-20	2	37.42	39.9	110.0	-72.6	105.0 to 110.0	-67.6 to -72.6
	RP-21-28	AMEC	25-Oct-06	Active	7625222.391	703554.181	0.010	10-20	2	34.47	37.1	28.0	6.5	13.0 to 28.0	21.5 to 6.5
	RP-21-125	AMEC	24-Oct-06	Active	7625227.803	703549.58	0.010	10-20	2	34.31	37.0	125.0	-90.7	115.0 to 125.0	-80.7 to -90.7
	RP-21-150	AMEC	23-Oct-06	Active	7625233.143	703544.933	0.010	10-20	2	34.30	36.8	150.0	-115.7	145.0 to 150.0	-110.7 to -115.7
	RP-22-29	AMEC	12-Oct-06	Active	7625221.828	703940.564	0.010	10-20	2	35.37	35.1	29.0	6.4	14.0 to 29.0	21.4 to 6.4
	RP-22-75	AMEC	12-Oct-06	Active	7625217.532	703934.3	0.010	10-20	2	35.29	35.2	75.0	-39.7	65.0 to 75.0	-29.7 to -39.7
	RP-22-151	AMEC	11-Oct-06	Active	7625213.755	703928.445	0.010	10-20	2	35.45	35.3	151.0	-115.6	146.0 to 151.0	-110.6 to -115.6

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Monitoring	RP-23-30	AMEC	18-Oct-06	Active	7625425.831	703798.722	0.010	10-20	2	35.05	34.7	29.6	5.1	15.0 to 30.0	20.1 to 5.1
Wells	RP-23-85	AMEC	18-Oct-06	Active	7625429.882	703804.612	0.010	10-20	2	35.10	34.5	85.0	-49.9	80.0 to 85.0	-44.9 to -49.9
	RP-23-100	AMEC	17-Oct-06	Active	7625433.987	703810.968	0.010	10-20	2	35.14	34.8	99.7	-64.9	95.0 to 100.0	-59.9 to -64.9
	RP-23-125	AMEC	16-Oct-06	Active	7625437.862	703817.058	0.010	10-20	2	35.10	34.6	125.0	-89.9	120.0 to 125.0	-84.9 to -89.9
	RP-24-30	AMEC	15-Nov-06	Active	7626128.216	704095.392	0.010	10-20	2	35.85	35.6	30.0	5.6	15.0 to 30.0	20.9 to 5.9
	RP-24-60	AMEC	13-Nov-06	Active	7626126.53	704084.38	0.010	10-20	2	36.04	35.8	59.8	-24.0	55.0 to 60.0	-19.0 to -24.0
	RP-24-73	AMEC	8-Nov-06	Active	7626123.65	704064.37	0.010	10-20	2	35.99	35.7	73.3	-37.3	68.0 to 73.0	-32.0 to -37.0
	RP-24-85	AMEC	31-Oct-06	Active	7626124.84	704073.66	0.010	10-20	2	36.00	35.8	84.8	-48.8	79.5 to 84.5	-43.5 to -48.5
	RP-25-30	AMEC	15-Jun-09	Active	7625271.34	703031.30	0.010	-	2	32.53	35.1	30.0	2.5	10.0 to 30.0	22.5 to 2.5
	RP-25-86	AMEC	12-Jun-09	Active	7625259.49	703017.10	0.010	-	2	32.67	35.0	87.8	-52.8	75.5 to 85.5	-42.8 to -52.8
	NWN-1-20	HAI	16-Jun-08	Active	7623946.70	704240.40	0.020	10-20	2	37.90	37.270	24.0	13.9	10.0 to 20.0	27.9 to 17.9
	NWN-2-20	HAI	13-Jun-08	Active	7623940.10	703958.00	0.020	10-20	2	41.80	41.390	22.0	19.8	10.0 to 20.0	31.8 to 21.8
	NWN-3-17	HAI	13-Jun-08	Active	7624165.60	703613.00	0.020	10-20	2	41.70	41.470	19.0	22.7	7.0 to 17.0	34.7 to 24.7
	NWN-4-15	HAI	12-Jun-08	Active	7624417.00	703176.50	0.020	10-20	2	42.80	42.690	25.0	17.8	5.0 to 15.0	37.8 to 27.8
	NWN-5-20	HAI	12-Jun-08	Active	7624797.30	702900.20	0.020	10-20	2	37.00	36.870	29.0	8.0	10.0 to 20.0	27.0 to 17.0
	NWN-6-31	HAI	12-Jun-08	Active	7625094.4	702865.2	0.020	10-20	2	33.40	33.180	33.0	0.4	21.0 to 31.0	12.4 to 2.4
	NWN-7-30	HAI	16-Jun-08	Active	7624543.00	703893.50	0.020	10-20	2	36.80	36.100	32.0	4.8	20.0 to 30.0	16.8 to 6.8
	NWN-8-30	HAI	17-Jun-08	Active	7625491.70	703329.40	0.020	10-20	2	34.20	33.870	32.0	2.2	15.0 to 30.0	19.2 to 4.2
	NWN-9-31	HAI	17-Jun-08	Active	7625000.80	704896.30	0.020	10-20	2	34.20	33.790	33.0	1.2	16.0 to 31.0	18.2 to 3.2
	NWN-10-26	HAI	17-Jun-08	Active	7625813.70	704369.30	0.020	10-20	2	34.70	34.370	28.0	6.7	11.0 to 26.0	23.7 to 8.7
	MW-03-S(27)	CH2M Hill	Apr-85	Active	7625301.2	703236.6	0.010	-	2	34	37.02	41.5	-7.5	12.0 to 27.0	22.0 to 7.0
	MW-03-I(60)	G&M	25-Jun-90	Active	7625304.40	703241.60	0.010	10-20	4	34.77	-	61.5	-26.7	55.0 to 60.0	-20.2 to -25.2
	WS-4-22 (MW-4)	CH2M Hill	Apr-85	Abandoned	7624235.00	703698.04	0.010	-	2	32.4	-	41.5	-9.1	6.5 to 21.5	25.9 to 10.9
	WS-5-20 (MW-5)	CH2M Hill	Apr-85	Active	7624544.56	703273.34	0.010	-	2	32.4	37.83	31.5	0.9	5.0 to 20.0	27.4 to 12.4
	WS-6-24 (MW-6)	CH2M Hill	Apr-85	Active	7624983.37	703086.46	0.010	-	2	32.4	36.37	31.5	0.9	9.0 to 24.0	23.4 to 8.4
	WS-7-25 (MW-7)	CH2M Hill	Apr-85	Abandoned	7624697.63	702977.74	0.010	-	2	32.4	-	41.5	-9.1	10.0 to 25.0	22.4 to 7.4
	WS-1-22 (MW-1)	CH2M Hill	Apr-85	Active	7624445.99	703695.19	0.010	-	2	32	35.18	31.5	0.5	7.0 to 22.0	25.0 to 10.0
	WS-2-22 (MW-2)	CH2M Hill	Apr-85	Active	7624822.96	703447.14	0.010	-	2	32.58	33.67	31.5	1.1	7.5 to 22.0	25.1 to 10.6

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Monitoring Wells	WS-8-33	HAI	12-Sep-01	Active	7624854.14	704987.86	0.010	10-20	2	34.54	34.33	33.0	1.5	22.5 to 32.5	12.0 to 2.0
	WS-8-59	HAI	12-Sep-01	Active	7624858.34	704990.17	0.010	10-20	2	34.54	34.21	59.0	-24.5	48.5 to 58.5	-14.0 to -24.0
	WS-9-34	HAI	13-Sep-01	Active	7625261.76	704714.06	0.010	10-20	2	34.84	33.65	34.0	0.8	22.5 to 33.5	12.3 to 1.3
	WS-10-27	MFA	6-Sep-03	Active	7624393.65	704307.09	0.010	10-20	2	35.12	34.820	106.0	-70.9	11.0 to 26.0	24.1 to 9.1
	WS-11-125	MFA	3-Oct-03	Active	7624628.25	705147.35	0.010	10-20	2	33.32	33.350	207.0	-173.7	109.0 to 124.0	-75.7 to -90.7
	WS-11-161	MFA		Active	7624628.25	705147.35	0.010	10-20	2	33.32	33.370	207.0	-173.7	145.0 to 160.0	-111.7 to -126.7
	WS-12-125	MFA	21-Sep-03	Active	7624836.72	704998.62	0.010	10-20	2	34.51	34.280	207.0	-172.5	109.0 to 124.0	-74.5 to -89.5
	WS-12-161	MFA		Active	7624836.72	704998.62	0.010	10-20	2	34.51	34.290	207.0	-172.5	145.0 to 160.0	-110.5 to -125.5
	WS-13-69	MFA	11-Oct-03	Active	7624574.86	704633.03	0.010	10-20	2	34.80	34.540	207.0	-172.2	52.0 to 67.0	-17.2 to -32.2
	WS-13-105	MFA		Active	7624574.86	704633.03	0.010	10-20	2	34.80	34.460	207.0	-172.2	89.0 to 104.0	-54.2 to -69.2
	WS-14-125	MFA	9-Jul-04	Active	7624485.67	705182.51	0.010	10-20	2	33.82	33.580	210.0	-176.2	109.0 to 124.0	-75.2 to -90.2
	WS-14-161	MFA		Active	7624485.67	705182.51	0.010	10-20	2	33.82	33.640	210.0	-176.2	145.0 to 160.0	-111.2 to -126.2
	WS-15-85	MFA	23-Jul-04	Active	7624438.41	704727.55	0.010	10-20	2	34.66	34.350	196.0	-161.3	70.0 to 85.0	-35.3 to -50.3
	WS-15-140	MFA		Active	7624438.41	704727.55	0.010	10-20	2	34.66	34.390	196.0	-161.3	125.0 to 140.0	-90.3 to -105.3
	WS-16-125	MFA	5-Aug-04	Active	7624326.35	704964.30	0.010	10-20	2	34.61	34.300	236.0	-201.4	109.0 to 124.0	-74.4 to -89.4
	WS-16-161	MFA	5-Aug-04	Active	7624326.35	704964.30	0.010	10-20	2	34.61	34.400	236.0	-201.4	145.0 to 160.0	-110.4 to -125.4
	WS-17-52	MFA	13-Aug-04	Active	7624607.06	704483.06	0.010	10-20	2	35.48	35.050	122.0	-86.5	41.0 to 51.0	-5.5 to -15.5
	WS-17-94	MFA	NA	Active	7624607.06	704483.06	0.010	10-20	2	35.48	35.150	122.0	-86.5	78.0 to 93.0	-42.5 to -57.5
	WS-18-71	MFA	NA	Active	7624578.00	704689.90	0.010	10-20	2	35.55	35.30	71.0	-35.5	30.0 to 70.0	5.6 to -34.5
	WS-18-101	MFA	NA	Active	7624581.00	704692.30	0.010	10-20	2	35.51	35.35	101.0	-65.5	90.0 to 100.0	-54.5 to -64.5
	WS-19-71	MFA	NA	Active	7624579.00	704675.80	0.010	10-20	2	35.24	35.11	71.0	-35.8	60.0 to 70.0	-24.8 to -34.8
	WS-19-101	MFA	NA	Active	7624576.00	704678.60	0.010	10-20	2	35.35	35.16	101.0	-65.7	90.0 to 100.0	-54.7 to -64.7
	WS-20-112	MFA	NA	Active	7624630.42	705155.69	0.010	10-20	2	33.16	33.46	112.0	-78.8	97.0 to 112.0	-63.8 to -78.8
	WS-21-112	MFA	NA	Active	7624617.93	705091.10	0.010	10-20	2	35.42	35.84	112.0	-76.6	101.0 to 111.0	-65.6 to -75.6
	WS-21-131	MFA	4-Nov-08	Active	7624622.49	705088.14	0.010	10-20	2	35.41	35.11	131.0	-95.6	115.0 to 130.0	-79.6 to -94.6
	WS-22-112	MFA	NA	Active	7624625.18	705134.20	0.010	10-20	2	34.38	34.88	-	-	97.0 to 112.0	-62.6 to -77.6
	WS-23-116	MFA	18-Nov-08	Active	7624452.61	705097.31	0.010	10-20	2	34.03	33.86	116.0	-82.0	100.0 to 115.0	-66.0 to -81.0

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Monitoring Wells	WS-24-111	MFA	13-Nov-09	Active	7624532.07	705032.92	0.010	10-20	2	35.41	35.10	111.0	-75.6	100.0 to 110.0	-64.6 to -74.6
	WS-24-126	MFA	11-Nov-09	Active	7624534.54	705030.93	0.010	10-20	2	35.48	35.13	126.0	-90.5	115.0 to 125.0	-79.5 to -89.5
	WS-24-155	MFA	NA	Active	7624538.26	705037.35	0.010	10-20	2	35.25	35.12	111.0	-75.8	99.0 to 110.0	-63.8 to -74.8
	WS-25-96	MFA	4-Nov-08	Active	7624670.18	705040.55	0.010	10-20	2	35.42	35.50	96.0	-60.6	85.0 to 95.0	-49.6 to -59.6
	WS-25-111	MFA	31-Oct-08	Active	7624667.29	705042.83	0.010	10-20	2	35.48	35.38	111.0	-75.5	100.0 to 110.0	-64.5 to -74.5
	WS-26-86	MFA	29-Oct-08	Active	7624747.77	704984.72	0.010	10-20	2	34.91	34.69	86.0	-51.1	75.0 to 85.0	-40.1 to -50.1
	WS-26-116	MFA	24-Oct-08	Active	7624750.44	704982.42	0.010	10-20	2	34.9	34.93	116.0	-81.1	105.0 to 115.0	-70.1 to -80.1
	WS-27-86	MFA	22-Oct-08	Active	7624754.54	704902.08	0.010	10-20	2	35.51	35.30	87.0	-51.5	70.0 to 85.0	-34.5 to -49.5
	WS-30-96	MFA	NA	Active	7624472.52	704758.67	0.010	10-20	2	35.01	34.77	96.0	-61.0	85.0 to 95.0	-50.0 to -60.0
	WS-31-106	MFA	NA	Active	7624519.78	704716.01	0.010	10-20	2	34.83	34.48	106.0	-71.2	95.0 to 105.0	-60.2 to -70.2
	WS-32-76	MFA	NA	Active	7624524.75	704718.48	0.010	10-20	2	34.9	34.45	76.0	-41.1	65.0 to 75.0	-30.1 to -40.1
	WS-32-106	MFA	NA	Active	7624528.88	704721.41	0.010	10-20	2	35	34.54	101.0	-66.0	90.0 to 100.0	-55.0 to -65.0
	WS-33-81	MFA	NA	Active	7624536.65	704736.68	0.010	10-20	2	35.44	35.11	81.0	-45.6	70.0 to 80.0	-34.6 to -44.6
	WS-33-106	MFA	NA	Active	7624535.46	704733.12	0.010	10-20	2	35.35	34.66	106.0	-70.7	95.0 to 105.0	-59.7 to -69.7
	WS-34-71	MFA	NA	Active	7624559.12	704675.81	0.010	10-20	2	34.78	34.73	71.0	-36.2	60.0 to 70.0	-25.2 to -35.2
	WS-34-106	MFA	NA	Active	7624563.45	704679.83	0.010	10-20	2	34.77	34.66	106.0	-71.2	95.0 to 105.0	-60.2 to -70.2
	WS-35-76	MFA	NA	Active	7624562.00	704701.28	0.010	10-20	2	35.23	35.05	76.0	-40.8	65.0 to 75.0	-29.8 to -39.8
	WS-35-106	MFA	NA	Active	7624560.99	704702.86	0.010	10-20	2	35.22	34.96	106.0	-70.8	95.0 to 105.0	-59.8 to -69.8
	WS-36-81	MFA	NA	Active	7624561.66	704714.66	0.010	10-20	2	36.02	35.84	81.0	-45.0	70.0 to 80.0	-34.0 to -44.0
	WS-36-106	MFA	NA	Active	7624564.67	704715.29	0.010	10-20	2	36.02	35.86	106.0	-70.0	95.0 to 105.0	-59.0 to -69.0
	WS-37-51	MFA	NA	Active	7624606.46	704653.46	0.010	10-20	2	34.88	34.95	51.0	-16.1	40.0 to 50.0	-5.1 to -15.1
	WS-38-61	MFA	NA	Active	7624598.89	704670.05	0.010	10-20	2	35.12	35.09	61.0	-25.9	50.0 to 60.0	-14.9 to -24.9
	WS-39-101	MFA	NA	Active	7624485.10	704777.61	0.010	10-20	2	35.64	35.41	101.0	-65.4	90.0 to 100.0	-54.4 to -64.4

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Soil Borings (Upland)	GP-02-01	LTI	19-Mar-02	Abandoned	7624687.49	704599.81	-	-	-	35.53	-	100.0	-64.5	32.0 to 36.0	3.5 to -0.5
	GP-02-02	LTI	20-Mar-02	Abandoned	7624588.13	704660.22	-	-	-	35.21	-	100.0	-64.8	23.0 to 27.0	12.2 to 8.2
														56.0 to 60.0	-20.8 to -24.8
														96.0 to 100.0	-60.8 to -64.8
	GP-02-03	LTI	21-Mar-02	Abandoned	7624740.78	704884.96	-	-	-	34.38	-	99.5	-65.1	31.0 to 35.0	3.4 to -0.6
														56.0 to 60.0	-21.6 to -25.6
	GP-4	MFA	30-Sep-02	Abandoned	7624558.77	705179.30	-	-	-	33.99	-	100.0	-66.0	66.0 to 70.0	-32.0 to -36.0
														96.0 to 100.0	-62.0 to -66.0
	GP-5	MFA	8-Oct-02	Abandoned	7624557.68	705064.91	-	-	-	33.25	-	100.0	-66.8	66.0 to 70.0	-32.8 to -36.8
	GP-5	MFA	8-Oct-02	Abandoned	7624557.68	705064.91	-	-	-	33.25	-	100.0	-66.8	96.0 to 100.0	-62.8 to -66.8
	GP-6	MFA	2-Oct-02	Abandoned	7624666.54	705048.39	-	-	-	35.56	-	100.0	-64.4	72.0 to 76.0	-36.4 to -40.4
														96.0 to 100.0	-60.4 to -64.4
	GP-7	MFA	4-Oct-02	Abandoned	7624748.87	705058.83	-	-	-	34.12	-	100.0	-65.9	76.0 to 80.0	-41.9 to -45.9
														96.0 to 100.0	-61.9 to -65.9
	GP-8	MFA	16-Jul-03	Abandoned	7624560.53	704640.03	-	-	-	34.80	-	25.0	9.8	20.0 to 24.0	13.1 to 9.1
	GP-9	MFA	17-Jul-03	Abandoned	7624569.40	704636.01	-	-	-	34.84	-	25.0	9.8	20.0 to 24.0	13.5 to 9.5
	GP-10	MFA	16-Jul-03	Abandoned	7624580.14	704632.00	-	-	-	34.82	-	25.0	9.8	20.0 to 24.0	13.4 to 9.4
	GP-11	MFA	16-Jul-03	Abandoned	7624813.17	703447.44	-	-	-	33.04	-	96.5	-63.5	36.0 to 40.0	-4.3 to -8.3
														66.0 to 70.0	-34.3 to -38.3
														92.0 to 96.0	-60.3 to -64.3
	GP-12	MFA	29-Jun-04	Abandoned	7624568.04	704604.71	-	-	-	34.46	-	20.0	14.5	15.0 to 19.0	19.5 to 15.5
	GP-13	MFA	29-Jun-04	Abandoned	7624531.94	704629.48	-	-	-	34.39	-	20.0	14.4	15.0 to 19.0	19.4 to 15.4
	GP-14	MFA	30-Jun-04	Abandoned	7624482.46	704665.33	-	-	-	34.40	-	20.0	14.4	15.0 to 19.0	19.4 to 15.4
	GP-15	MFA	29-Jun-04	Abandoned	7624555.80	704565.42	-	-	-	34.65	-	20.0	14.7	15.0 to 19.0	19.7 to 15.7
	GP-16	MFA	29-Jun-04	Abandoned	7624588.25	704539.90	-	-	-	34.70	-	25.0	9.7	20.0 to 24.0	14.7 to 10.7
	GP-17	MFA	29-Jun-04	Abandoned	7624595.79	704475.22	-	-	-	35.20	-	20.0	15.2	15.0 to 19.0	20.2 to 16.2
	GP-18	MFA	30-Jun-04	Abandoned	7624553.93	704410.97	-	-	-	35.14	-	24.0	11.1	20.0 to 24.0	15.1 to 11.1
	GP-19	MFA	30-Jun-04	Abandoned	7624625.04	704514.43	-	-	-	34.93	-	20.0	14.9	15.0 to 19.0	19.9 to 15.9

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (Upland)	GP-20	MFA	19-Jul-04	Abandoned	7624537.69	704449.27	-	-	-	35.29	-	30.0	5.3	15.0 to 19.0	20.3 to 16.3
														26.0 to 30.0	9.3 to 5.3
	GP-21	MFA	19-Jul-04	Abandoned	7624487.18	704372.80	-	-	-	34.10	-	30.0	4.1	16.0 to 20.0	18.1 to 14.1
														26.0 to 30.0	8.1 to 4.1
	GP-22	MFA	19-Jul-04	Abandoned	7624408.22	704656.88	-	-	-	34.37	-	30.0	4.4	26.0 to 30.0	8.4 to 4.4
	GP-23	MFA	19-Jul-04	Abandoned	7624296.23	704562.10	-	-	-	34.90	-	30.0	4.9	26.0 to 30.0	8.9 to 4.9
	GP-24	MFA	19-Jul-04	Abandoned	7624232.82	704410.78	-	-	-	35.65	-	30.0	5.7	26.0 to 30.0	9.7 to 5.7
	GP-33	MFA	28-Apr-05	Abandoned	7624993.00	704911.00	-	-	-	32.88	-	205.0	-172.1	36.0 to 40.0	-3.1 to -7.1
														58.0 to 62.0	-25.1 to -29.1
														90.0 to 94.0	-57.1 to -61.1
														110.0 to 114.0	-77.1 to -81.1
														150.0 to 154.0	-117.1 to -121.1
														201.0 to 205.0	-168.1 to -172.1
	GP-34	MFA	28-Apr-05	Abandoned	7624739.05	705065.551	-	-	-	34.00	-	30.0	4.0	26.0 to 30.0	8.0 to 4.0
	GP-35	MFA	28-Apr-05	Abandoned	7624788.58	705031.222	-	-	-	34.00	-	30.0	4.0	26.0 to 30.0	8.0 to 4.0
	GP-36	MFA	4-May-05	Abandoned	7625091.00	704836.00	-	-	-	32.88	-	210.0	-177.1	36.0 to 40.0	-3.1 to -7.1
														58.0 to 62.0	-25.1 to -29.1
														90.0 to 94.0	-57.1 to -61.1
														108.0 to 112.0	-75.1 to -79.1
														148.0 to 152.0	-115.1 to -119.1
														205.0 to 209.0	-172.1 to -176.1
	GP-37	MFA	5-May-05	Abandoned	7625206.00	704748.00	-	-	-	33.38	-	205.0	-171.6	36.0 to 40.0	-2.6 to -6.6
														60.0 to 64.0	-26.6 to -30.6
														90.0 to 94.0	-56.6 to -60.6
														110.0 to 114.0	-76.6 to -80.6
														154.0 to 158.0	-120.6 to -124.6
														201.0 to 205.0	-167.6 to -171.6
	P-1	HAI	17-Aug-01	Abandoned	7624483.22	705182.82	-	-	-	33.64	-	64.0	-30.4	24.0 to 28.0	9.6 to 5.6
														54.0 to 58.0	-20.4 to -24.4
	P-2	HAI	14-Aug-01	Abandoned	7624655.87	705124.69	-	-	-	33.86	-	100.0	-66.1	28.0 to 32.0	5.9 to 1.9

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (Upland)	P-2	HAI	14-Aug-01	Abandoned	7624655.87	705124.69	-	-	-	33.86	-	100.0	-66.1	54.0 to 58.0	-20.1 to -24.1
														96.0 to 100.0	-62.1 to -66.1
	P-3	HAI	20-Aug-01	Abandoned	7624847.27	704992.94	-	-	-	34.74	-	90.0	-55.3	28.5 to 32.5	6.2 to 2.2
														55.0 to 59.0	-20.3 to -24.3
														96.0 to 100.0	-61.3 to -65.3
	P-4	HAI	10-Aug-01	Abandoned	7624979.86	704917.86	-	-	-	34.29	-	64.0	-29.7	28.0 to 32.0	6.3 to 2.3
														50.0 to 54.0	-15.7 to -19.7
	P-5	HAI	13-Aug-01	Abandoned	7625279.04	704727.81	-	-	-	34.22	-	100.0	-65.8	29.0 to 33.0	5.2 to 1.2
														52.0 to 56.0	-17.8 to -21.8
														96.0 to 100.0	-61.8 to -65.8
	P-5A	HAI	29-Apr-08	Abandoned	7625279.04	704727.81	-	-	-	34.20	-	10.0	24.2	- to -	- to -
	P-6	HAI	2-Aug-01	Abandoned	7625477.29	704597.28	-	-	-	35.38	-	64.0	-28.6	20.0 to 24.0	15.4 to 11.4
														32.0 to 36.0	3.4 to -0.6
														46.0 to 50.0	-10.6 to -14.6
	P-7	HAI	8-Aug-01	Abandoned	7625644.20	704402.60	-	-	-	34.98	-	64.0	-29.0	21.0 to 25.0	14.0 to 10.0
														58.0 to 62.0	-23.0 to -27.0
	P-8	HAI	6-Aug-01	Abandoned	7625900.45	704363.69	-	-	-	34.50	-	86.0	-51.5	28.0 to 32.0	6.5 to 2.5
														50.0 to 64.0	-15.5 to -29.5
														80.0 to 84.0	-45.5 to -49.5
	P-8A	HAI	29-Apr-08	Abandoned	7625900.45	704363.69	-	-	-	34.50	-	5.0	29.5	- to -	- to -
	P-9	HAI	7-Aug-01	Abandoned	7626117.35	704154.03	-	-	-	34.84	-	64.0	-29.2	31.0 to 35.0	3.8 to -0.2
	P-10	HAI	3-Aug-01	Abandoned	7625759.00	704349.36	-	-	-	34.92	-	64.0	-29.1	- to -	- to -
	P-11	HAI	17-Aug-01	Abandoned	7625394.03	704639.90	-	-	-	35.05	-	20.0	15.1	- to -	- to -
	P-12	HAI	14-Apr-08	Abandoned	7623940.07	703957.97	-	-	-	41.77	-	25.0	16.8	- to -	- to -
	P-13	HAI	14-Apr-08	Abandoned	7624164.56	703612.56	-	-	-	41.71	-	20.0	21.7	- to -	- to -
	P-14	HAI	14-Apr-08	Abandoned	7624418.29	703176.73	-	-	-	42.80	-	20.0	22.8	- to -	- to -
	P-15	HAI	14-Apr-08	Abandoned	7624792.98	702897.65	-	-	-	36.76	-	25.0	11.8	- to -	- to -

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (Upland)	P-16	HAI	30-Apr-08	Abandoned	7623947.30	704243.18	-	-	-	37.89	-	25.0	12.9	- to -	- to -
	P-17	HAI	25-Apr-08	Abandoned	7624287.71	703842.03	-	-	-	35.61	-	35.0	0.6	- to -	- to -
	P-18	HAI	15-Apr-08	Abandoned	7624523.99	703328.20	-	-	-	41.62	-	25.0	16.6	- to -	- to -
	P-19	HAI	23-Apr-08	Abandoned	7624778.23	703133.58	-	-	-	42.48	-	40.0	2.5	- to -	- to -
	P-20	HAI	23-Apr-08	Abandoned	7625096.87	702865.17	-	-	-	33.36	-	35.0	-1.6	- to -	- to -
	P-22	HAI	23-Apr-08	Abandoned	7624604.86	703479.47	-	-	-	39.99	-	40.0	0.0	- to -	- to -
	P-23	HAI	15-Apr-08	Abandoned	7625260.15	703023.09	-	-	-	32.35	-	20.0	12.3	- to -	- to -
	P-24	HAI	25-Apr-08	Abandoned	7624548.50	703891.10	-	-	-	36.70	-	35.0	1.7	- to -	- to -
	P-25	HAI	25-Apr-08	Abandoned	7624935.70	703697.50	-	-	-	34.00	-	35.0	-1.0	- to -	- to -
	P-26	HAI	25-Apr-08	Abandoned	7625137.05	703462.25	-	-	-	33.25	-	35.0	-1.8	- to -	- to -
	P-28	HAI	28-Apr-08	Abandoned	7625491.40	703329.60	-	-	-	34.00	-	35.0	-1.0	- to -	- to -
	P-29	HAI	1-May-08	Abandoned	7624301.50	704450.20	-	-	-	34.90	-	15.0	19.9	- to -	- to -
	P-30	HAI	28-Apr-08	Abandoned	7625115.50	703886.00	-	-	-	36.63	-	40.0	-3.4	- to -	- to -
	P-31	HAI	28-Apr-08	Abandoned	7625366.50	703701.50	-	-	-	36.63	-	35.0	1.6	- to -	- to -
	P-32	HAI	24-Apr-08	Abandoned	7625665.20	703471.20	-	-	-	35.40	-	45.0	-9.6	- to -	- to -
	P-33	HAI	10-Aug-09	Abandoned	7624598.16	704580.01	-	-	-	34.80	-	35.0	-0.2	- to -	- to -
	P-34	HAI	30-Apr-08	Abandoned	7624822.90	704256.90	-	-	-	35.40	-	40.0	-4.6	- to -	- to -
	P-36	HAI	1-May-08	Abandoned	7624966.30	704327.40	-	-	-	35.60	-	40.0	-4.4	- to -	- to -
	P-37	HAI	30-Apr-08	Abandoned	7625240.00	704141.60	-	-	-	35.00	-	40.0	-5.0	- to -	- to -
	P-38	HAI	1-May-08	Abandoned	7624389.20	705004.40	-	-	-	34.70	-	45.0	-10.3	- to -	- to -
	P-39	HAI	29-Apr-08	Abandoned	7625371.60	704247.90	-	-	-	34.40	-	30.0	4.4	- to -	- to -
	P-40	HAI	28-Apr-08	Abandoned	7625676.55	704004.95	-	-	-	35.68	-	35.0	0.7	- to -	- to -
	P-41	HAI	24-Apr-08	Abandoned	7625936.80	703787.90	-	-	-	36.60	-	30.0	6.6	- to -	- to -
	P-42	HAI	16-Apr-08	Abandoned	7624541.35	705191.01	-	-	-	34.07	-	35.0	-0.9	- to -	- to -
	P-43	HAI	16-Apr-08	Abandoned	7624849.95	705001.01	-	-	-	34.82	-	40.0	-5.2	- to -	- to -
	P-44	HAI	16-Apr-08	Abandoned	7625005.80	704893.79	-	-	-	33.90	-	35.0	-1.1	- to -	- to -
	P-45	HAI	21-Apr-08	Abandoned	7625135.03	704597.60	-	-	-	36.12	-	30.0	6.1	- to -	- to -

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (Upland)	P-45A	HAI	10-Aug-09	Abandoned	7625135.03	704597.60	-	-	-	36.12	-	35.0	1.1	21.0 to 25.0	15.1 to 11.1
	P-46	HAI	21-Apr-08	Abandoned	7625237.15	704761.88	-	-	-	33.76	-	40.0	-6.2	- to -	- to -
	P-47	HAI	21-Apr-08	Abandoned	7625520.79	704542.23	-	-	-	34.57	-	25.0	9.6	- to -	- to -
	P-48	HAI	22-Apr-08	Abandoned	7625579.84	704407.21	-	-	-	34.99	-	25.0	10.0	- to -	- to -
	P-49	HAI	22-Apr-08	Abandoned	7625718.48	704396.92	-	-	-	34.73	-	35.0	-0.3	- to -	- to -
	P-50	HAI	22-Apr-08	Abandoned	7625745.38	704270.59	-	-	-	35.23	-	40.0	-4.8	- to -	- to -
	P-51	HAI	22-Apr-08	Abandoned	7625811.15	704373.39	-	-	-	34.75	-	35.0	-0.2	- to -	- to -
	P-52	HAI	24-Apr-08	Abandoned	7626110.77	704109.69	-	-	-	36.00	-	31.0	5.0	- to -	- to -
	P-54	HAI	29-Apr-08	Abandoned	7625028.22	704150.24	-	-	-	37.20	-	40.0	-2.8	- to -	- to -
	P-A	HAI	4-May-07	Abandoned	7624062.14	704282.32	-	-	-	-	-	10.0	-	- to -	- to -
	P-B	HAI	4-May-07	Abandoned	7624229.95	704161.85	-	-	-	-	-	10.0	-	- to -	- to -
	P-C	HAI	4-May-07	Abandoned	7624609.54	703887.54	-	-	-	-	-	10.0	-	- to -	- to -
	P-D	HAI	4-May-07	Abandoned	7624720.33	703816.51	-	-	-	-	-	10.0	-	- to -	- to -
	P-E	HAI	4-May-07	Abandoned	7624816.78	703748.09	-	-	-	-	-	10.0	-	- to -	- to -
	P-F	HAI	4-May-07	Abandoned	7624997.50	703612.35	-	-	-	-	-	10.0	-	- to -	- to -
	P-G	HAI	4-May-07	Abandoned	7625140.13	703516.21	-	-	-	-	-	10.0	-	- to -	- to -
	P-Y	HAI	4-May-07	Abandoned	7624186.38	704195.27	-	-	-	-	-	10.0	-	- to -	- to -
	P-Z	HAI	4-May-07	Abandoned	7624287.11	704122.74	-	-	-	-	-	10.0	-	- to -	- to -
	SB-21	HAI	11-Mar-09	Abandoned	7624037.67	704368.68	-	-	-	37.67	-	108.0	-70.3	10.0 to 13.0	27.7 to 24.7
														76.0 to 80.0	-38.3 to -42.3
														97.0 to 101.0	-59.3 to -63.3
	SB-27	HAI	23-Mar-09	Abandoned	7624890.59	703906.47	-	-	-	34.20	-	110.0	-75.8	20.0 to 22.0	14.2 to 12.2
														61.0 to 65.0	-26.8 to -30.8
														76.0 to 80.0	-41.8 to -45.8
														96.0 to 100.0	-61.8 to -65.8
	SB-35	HAI	19-Mar-09	Abandoned	7625086.62	704332.11	-	-	-	35.16	-	116.0	-80.8	20.0 to 24.0	15.2 to 11.2
														62.0 to 66.0	-26.8 to -30.8
														82.0 to 86.0	-46.8 to -50.8
														91.0 to 95.0	-55.8 to -59.8
	SB-53	HAI	16-Mar-09	Abandoned	7624228.44	704821.34	-	-	-	35.09	-	166.0	-130.9	20.0 to 24.0	15.1 to 11.1
														61.0 to 65.0	-25.9 to -29.9
														102.0 to 106.0	-66.9 to -70.9
														132.0 to 136.0	-96.9 to -100.9

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Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (Upland)	SB-53	HAI	16-Mar-09	Abandoned	7624228.44	704821.34	-	-	-	35.09	-	166.0	-130.9	152.0 to 156.0	-116.9 to -120.9
	SIL-01	AMEC	31-Oct-05	Abandoned	7624876.00	704978.00	-	-	-	33.10	-	218.0	-184.9	26.5 to 30.5	6.6 to 2.6
														96.0 to 100.0	-62.9 to -66.9
														126.0 to 130.0	-92.9 to -96.9
														156.0 to 160.0	-122.9 to -126.9
														184.0 to 188.0	-150.9 to -154.9
														207.0 to 208.0	-173.9 to -174.9
														212.0 to 217.0	-178.9 to -183.9
	SIL-02	AMEC	15-Nov-05	Abandoned	7625203.00	704773.00	-	-	-	33.10	-	235.0	-201.9	28.0 to 32.0	5.1 to 1.1
														96.0 to 100.0	-62.9 to -66.9
														126.0 to 130.0	-92.9 to -96.9
														156.0 to 160.0	-122.9 to -126.9
														186.0 to 190.0	-152.9 to -156.9
														214.0 to 216.0	-180.9 to -182.9
	SIL-03	AMEC	6-Dec-05	Abandoned	7625593.00	704518.00	-	-	-	33.10	-	130.0	-96.9	31.0 to 35.0	2.1 to -1.9
														95.0 to 99.0	-61.9 to -65.9
														110.0 to 130.0	-76.9 to -96.9
	SIL-04	AMEC	9-Dec-05	Abandoned	7626123.00	704095.00	-	-	-	36.00	-	120.0	-84.0	26.0 to 30.0	7.1 to 3.1
														70.0 to 74.0	-36.9 to -40.9
														80.0 to 89.0	-46.9 to -55.9
Soil Borings (In-water)	GP-25	MFA	1-Oct-04	Abandoned	7624669.00	705245.00	-	-	-	1.38	-	151.0	-149.6	0.0 to 2.0	1.4 to -0.6
														34.0 to 36.0	-32.6 to -34.6
														72.0 to 74.0	-70.6 to -72.6
														87.0 to 89.0	-85.6 to -87.6
														114.0 to 116.0	-112.6 to -114.6
														149.0 to 151.0	-147.6 to -149.6
	GP-26	MFA	6-Oct-04	Abandoned	7624615.00	705319.00	-	-	-	-8.13	-	128.0	-136.1	0.0 to 2.0	-8.1 to -10.1
														28.0 to 30.0	-36.1 to -38.1
														58.0 to 60.0	-66.1 to -68.1
														81.0 to 83.0	-89.1 to -91.1
														108.0 to 110.0	-116.1 to -118.1

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (In-water)	GP-26	MFA	6-Oct-04	Abandoned	7624615.00	705319.00	-	-	-	-8.13	-	128.0	-136.1	126.0 to 128.0	-134.1 to -136.1
	GP-27	MFA	11-Oct-04	Abandoned	7624726.00	705330.00	-	-	-	-32.13	-	110.0	-142.1	0.0 to 2.0	-32.1 to -34.1
														13.0 to 15.0	-45.1 to -47.1
														32.0 to 34.0	-64.1 to -66.1
														57.0 to 59.0	-89.1 to -91.1
														82.0 to 84.0	-114.1 to -116.1
														108.0 to 110.0	-140.1 to -142.1
	GP-28	MFA	15-Oct-04	Abandoned	7624791.00	705173.00	-	-	-	3.38	-	160.0	-156.6	0.0 to 2.0	3.4 to 1.4
														34.0 to 36.0	-30.6 to -32.6
														72.0 to 74.0	-68.6 to -70.6
														87.0 to 89.0	-83.6 to -85.6
														114.0 to 116.0	-110.6 to -112.6
														158.0 to 160.0	-154.6 to -156.6
	GP-29	MFA	21-Oct-04	Abandoned	7624790.00	705389.00	-	-	-	-36.63	-	117.0	-153.6	0.0 to 2.0	-36.6 to -38.6
														20.0 to 22.0	-56.6 to -58.6
														44.0 to 46.0	-80.6 to -82.6
														66.0 to 68.0	-102.6 to -104.6
														86.0 to 88.0	-122.6 to -124.6
														115.0 to 117.0	-151.6 to -153.6
	GP-30	MFA	25-Oct-04	Abandoned	7624837.00	705251.00	-	-	-	-31.63	-	118.0	-149.6	0.0 to 2.0	-31.6 to -33.6
														23.0 to 25.0	-54.6 to -56.6
														48.0 to 50.0	-79.6 to -81.6
														73.0 to 75.0	-104.6 to -106.6
														93.0 to 95.0	-124.6 to -126.6
														116.0 to 118.0	-147.6 to -149.6
	GP-31	MFA	27-Oct-04	Abandoned	7624692.00	705456.00	-	-	-	-36.63	-	113.0	-149.6	0.0 to 2.0	-36.6 to -38.6
														20.0 to 22.0	-56.6 to -58.6

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (In-water)	GP-31	MFA	27-Oct-04	Abandoned	7624692.00	705456.00	-	-	-	-36.63	-	113.0	-149.6	44.0 to 46.0	-80.6 to -82.6
														67.0 to 69.0	-103.6 to -105.6
														87.0 to 89.0	-123.6 to -125.6
														11.0 to 113.0	-47.6 to -149.6
	GP-32	MFA	29-Oct-04	Abandoned	7624970.00	705256.00	-	-	-	-36.13	-	121.0	-157.1	0.0 to 2.0	-36.1 to -38.1
														22.0 to 24.0	-58.1 to -60.1
														44.0 to 46.0	-80.1 to -82.1
														68.0 to 70.0	-104.1 to -106.1
														88.0 to 90.0	-124.1 to -126.1
														119.0 to 121.0	-155.1 to -157.1
	GP-38	MFA	9-May-05	Abandoned	7624960.00	705313.00	-	-	-	-38.63	-	1.0	-39.6	0.0 to 1.0	-38.6 to -39.6
	GP-39	MFA	10-May-05	Abandoned	7625014.00	705346.00	-	-	-	-40.63	-	1.0	-41.6	0.0 to 1.0	-40.6 to -41.6
	GP-40	MFA	10-May-05	Abandoned	7624720.00	705492.00	-	-	-	-38.13	-	1.0	-39.1	0.0 to 1.0	-38.1 to -39.1
	GP-41	MFA	10-May-05	Abandoned	7624640.00	705546.00	-	-	-	-39.13	-	3.0	-42.1	0.0 to 1.0	-39.1 to -40.1
														2.0 to 3.0	-41.1 to -42.1
	GP-42	MFA	10-May-05	Abandoned	7625103.00	705291.00	-	-	-	-40.63	-	3.0	-43.6	0.0 to 1.0	-40.6 to -41.6
														2.0 to 3.0	-42.6 to -43.6
	GP-43	MFA	11-May-05	Abandoned	7625116.00	705181.00	-	-	-	-38.13	-	1.0	-39.1	0.0 to 1.0	-38.1 to -39.1
	GP-44	MFA	11-May-05	Abandoned	7625062.00	705114.00	-	-	-	-28.63	-	1.0	-29.6	0.0 to 1.0	-28.6 to -29.6
	GP-45	MFA	11-May-05	Abandoned	7624981.00	705159.00	-	-	-	-28.63	-	1.0	-29.6	0.0 to 1.0	-28.6 to -29.6
	GP-46	MFA	11-May-05	Abandoned	7624902.00	705087.00	-	-	-	6.38	-	1.0	5.4	0.0 to 1.0	6.4 to 5.4
	GP-47	MFA	11-May-05	Abandoned	7624849.00	705131.00	-	-	-	4.88	-	3.0	1.9	0.0 to 1.0	4.9 to 3.9
														2.0 to 3.0	2.9 to 1.9
	GP-48	MFA	11-May-05	Abandoned	7625075.00	705237.00	-	-	-	-38.63	-	1.0	-39.6	0.0 to 1.0	-38.6 to -39.6
	GP-49	MFA	12-May-05	Abandoned	7624515.00	705707.00	-	-	-	-40.63	-	89.0	-129.6	0.0 to 1.0	-40.6 to -41.6
														18.0 to 22.0	-58.6 to -62.6

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (In-water)	GP-49	MFA	12-May-05	Abandoned	7624515.00	705707.00	-	-	-	-40.63	-	89.0	-129.6	35.0 to 39.0	-75.6 to -79.6
														50.0 to 54.0	-90.6 to -94.6
														65.0 to 69.0	-105.6 to -109.6
														85.0 to 89.0	-125.6 to -129.6
	GP-50	MFA	12-May-05	Abandoned	7624888.00	705370.00	-	-	-	-38.63	-	1.0	-39.6	0.0 to 1.0	-38.6 to -39.6
	GP-51	MFA	13-May-05	Abandoned	7624875.00	705270.00	-	-	-	-34.63	-	3.0	-37.6	0.0 to 1.0	-34.6 to -35.6
														2.0 to 3.0	-36.6 to -37.6
	GP-52	MFA	13-May-05	Abandoned	7624850.00	705315.00	-	-	-	-35.63	-	3.0	-38.6	0.0 to 1.0	-35.6 to -36.6
														2.0 to 3.0	-37.6 to -38.6
	GP-53	MFA	13-May-05	Abandoned	7624827.00	705419.00	-	-	-	-38.63	-	3.0	-41.6	0.0 to 1.0	-38.6 to -39.6
														2.0 to 3.0	-40.6 to -41.6
	GP-54	MFA	13-May-05	Abandoned	7624571.00	705434.00	-	-	-	-33.63	-	1.0	-34.6	0.0 to 1.0	-33.6 to -34.6
	GP-55	MFA	16-May-05	Abandoned	7624924.00	705271.00	-	-	-	-35.63	-	5.0	-40.6	+1 to +1	-34.6 to -34.6
														0.0 to 1.0	-35.6 to -36.6
														2.0 to 3.0	-37.6 to -38.6
														4.0 to 5.0	-39.6 to -40.6
	GP-56	MFA	16-May-05	Abandoned	7625047.00	705201.00	-	-	-	-36.13	-	3.0	-39.1	0.0 to 1.0	-36.1 to -37.1
														2.0 to 3.0	-38.1 to -39.1
	GP-57	MFA	16-May-05	Abandoned	7624945.00	705232.00	-	-	-	-34.63	-	1.0	-35.6	0.0 to 1.0	-34.6 to -35.6
	GP-58	MFA	16-May-05	Abandoned	7625049.00	705318.00	-	-	-	-40.63	-	1.0	-41.6	0.0 to 1.0	-40.6 to -41.6
	GP-59	MFA	17-May-05	Abandoned	7625261.00	705083.00	-	-	-	-38.13	-	0.0	-38.1	+1 to +1	-37.1 to -37.1
	GP-60	MFA	17-May-05	Abandoned	7625361.00	704922.00	-	-	-	-24.63	-	0.0	-24.6	+1 to +1	-23.6 to -23.6
	GP-61	MFA	18-May-05	Abandoned	7624906.00	705385.00	-	-	-	-39.13	-	5.0	-44.1	+1 to +1	-38.1 to -38.1
														0.0 to 1.0	-39.1 to -40.1
														2.0 to 3.0	-41.1 to -42.1
														4.0 to 5.0	-43.1 to -44.1
	GP-62	MFA	18-May-05	Abandoned	7624918.00	705193.00	-	-	-	-28.63	-	5.0	-33.6	+1 to +1	-27.6 to -27.6
														0.0 to 1.0	-28.6 to -29.6

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (In-water)	GP-62	MFA	18-May-05	Abandoned	7624918.00	705193.00	-	-	-	-28.63	-	5.0	-33.6	2.0 to 3.0	-30.6 to -31.6
														4.0 to 5.0	-32.6 to -33.6
	GP-63	MFA	19-May-05	Abandoned	7625022.00	705316.00	-	-	-	-39.63	-	5.0	-44.6	+1 to +1	-38.6 to -38.6
														0.0 to 1.0	-39.6 to -40.6
														2.0 to 3.0	-41.6 to -42.6
														4.0 to 5.0	-43.6 to -44.6
	GP-64	MFA	19-May-05	Abandoned	7624664.00	705412.00	-	-	-	-34.63	-	5.0	-39.6	+1 to +1	-33.6 to -33.6
														0.0 to 1.0	-34.6 to -35.6
														2.0 to 3.0	-36.6 to -37.6
														4.0 to 5.0	-38.6 to -39.6
	GP-65	MFA	19-May-05	Abandoned	7624918.00	705431.00	-	-	-	-40.63	-	3.0	-43.6	0.0 to 1.0	-40.6 to -41.6
														2.0 to 3.0	-42.6 to -43.6
	GP-66	MFA	20-May-05	Abandoned	7625030.00	705335.00	-	-	-	-40.63	-	115.0	-155.6	0.0 to 1.0	-40.6 to -41.6
														10.0 to 14.0	-50.6 to -54.6
														25.0 to 29.0	-65.6 to -69.6
														50.0 to 54.0	-90.6 to -94.6
														75.0 to 79.0	-115.6 to -119.6
														111.0 to 115.0	-151.6 to -155.6
	GP-67	MFA	23-May-05	Abandoned	7624654.00	705371.00	-	-	-	-30.63	-	3.0	-33.6	0.0 to 1.0	-30.6 to -31.6
														2.0 to 3.0	-32.6 to -33.6
	GP-68	MFA	23-May-05	Abandoned	7624637.00	705428.00	-	-	-	-34.63	-	5.0	-39.6	+1 to +1	-33.6 to -33.6
														0.0 to 1.0	-34.6 to -35.6
														2.0 to 3.0	-36.6 to -37.6
														4.0 to 5.0	-38.6 to -39.6
	GP-69	MFA	24-May-05	Abandoned	7624681.00	705434.00	-	-	-	-35.63	-	5.0	-40.6	+1 to +1	-34.6 to -34.6
														0.0 to 1.0	-35.6 to -36.6
														2.0 to 3.0	-37.6 to -38.6

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (In-water)	GP-69	MFA	24-May-05	Abandoned	7624681.00	705434.00	-	-	-	-35.63	-	5.0	-40.6	4.0 to 5.0	-39.6 to -40.6
	GP-70	MFA	24-May-05	Abandoned	7624704.00	705385.00	-	-	-	-34.63	-	5.0	-39.6	+1 to +1	-33.63 to -33.63
														0.0 to 1.0	-34.6 to -35.6
														2.0 to 3.0	-36.6 to -37.6
														4.0 to 5.0	-38.6 to -39.6
	GP-71	MFA	24-May-05	Abandoned	7624768.00	705459.00	-	-	-	-38.63	-	3.0	-41.6	0.0 to 1.0	-38.6 to -39.6
														2.0 to 3.0	-40.6 to -41.6
	GP-72	MFA	25-May-05	Abandoned	7624760.00	705691.00	-	-	-	-43.63	-	46.0	-89.6	+1 to +1	-42.63 to -42.63
														0.0 to 1.0	-43.6 to -44.6
														23.0 to 27.0	-66.6 to -70.6
														42.0 to 46.0	-85.6 to -89.6
	GP-73	MFA	25-May-05	Abandoned	7624635.00	705482.00	-	-	-	-36.63	-	5.0	-41.6	+1 to +1	-35.63 to -35.63
														0.0 to 1.0	-36.6 to -37.6
														2.0 to 3.0	-38.6 to -39.6
														4.0 to 5.0	-40.6 to -41.6
	GP-74	MFA	26-May-05	Abandoned	7624993.00	705550.00	-	-	-	-39.63	-	25.0	-64.6	+1 to +1	-38.63 to -38.63
														0.0 to 1.0	-39.6 to -40.6
														4.0 to 5.0	-43.6 to -44.6
														21.0 to 25.0	-60.6 to -64.6
	GP-75	MFA	26-May-05	Abandoned	7624789.00	705286.00	-	-	-	-32.63	-	5.0	-37.6	+1 to +1	-31.63 to -31.63
														0.0 to 1.0	-32.6 to -33.6
														2.0 to 3.0	-34.6 to -35.6
														4.0 to 5.0	-36.6 to -37.6
	GP-76	MFA	27-May-05	Abandoned	7624639.00	705350.00	-	-	-	-25.63	-	5.0	-30.6	+1 to +1	-24.63 to -24.63
														0.0 to 1.0	-25.6 to -26.6
														2.0 to 3.0	-27.6 to -28.6
														4.0 to 5.0	-29.6 to -30.6

TABLE 2 – Monitoring Well and Boring Construction Summary

Type	Designation	Installed By	Date Completed	Status	X-Insertion Point [1]	Y-Insertion Point [1]	Slot Size (inches)	Sand Pack (Colorado)	Well Diameter (inches)	Ground Surface (feet COP)	Top of Casing (feet COP)	Boring Depth (feet bgs)	Boring Depth (feet COP)	Screen Interval (feet bgs)	Screen Interval (feet COP)
Soil Borings (In-water)	GP-77	MFA	27-May-05	Abandoned	7624589.00	705442.00	-	-	-	-34.63	-	0.0	-34.6	+1 to +1	-33.63 to -33.63
	GP-78	MFA	27-May-05	Abandoned	7624617.00	705478.00	-	-	-	-36.13	-	0.0	-36.1	+1 to +1	-35.13 to -35.13
	GP-79	MFA	31-May-05	Abandoned	7624575.00	705439.00	-	-	-	-34.13	-	0.0	-34.1	+1 to +1	-33.13 to -33.13
	GP-80	MFA	27-May-05	Abandoned	7624670.00	705301.00	-	-	-	-15.63	-	34.0	-49.6	0.0 to 1.0	-15.6 to -16.6
														10.0 to 14.0	-25.6 to -29.6
														20.0 to 24.0	-35.6 to -39.6
														30.0 to 34.0	-45.6 to -49.6
	GP-81	MFA	31-May-05	Abandoned	7624623.00	705411.00	-	-	-	-33.63	-	5.0	-38.6	+1 to +1	-32.63 to -32.63
														0.0 to 1.0	-33.6 to -34.6
														2.0 to 3.0	-35.6 to -36.6
														4.0 to 5.0	-37.6 to -38.6
	GP-82	MFA	1-Jun-05	Abandoned	7624599.00	705365.00	-	-	-	-23.63	-	5.0	-28.6	+1 to +1	-22.63 to -22.63
														0.0 to 1.0	-23.6 to -24.6
														2.0 to 3.0	-25.6 to -26.6
														4.0 to 5.0	-27.6 to -28.6
	GP-83	MFA	1-Jun-05	Abandoned	7624655.00	705375.00	-	-	-	-31.13	-	14.0	-45.1	+1 to +1	-30.13 to -30.13
														4.0 to 5.0	-35.1 to -36.1
														10.0 to 14.0	-41.1 to -45.1
	GP-84	MFA	1-Jun-05	Abandoned	7624696.00	705349.00	-	-	-	-31.63	-	3.0	-34.6	+1 to +1	-30.63 to -30.63
														0.0 to 1.0	-31.6 to -32.6
														2.0 to 3.0	-33.6 to -34.6

Note:
AMEC = AMEC Earth & Environmental, Inc.
bgs = below ground surface
bml = below mud line
G&M = Geraghty & Miller, Inc.
HAI = Hahn and Associates, Inc.
LTI = Limno-Tech, Inc.
MFA = Maul Foster & Alongi, Inc.
msl = mean sea level, City of Portland datum
NA = Not Available
URS = URS Corporation

1 = Coordinates in North American Datum of 1983 - 91 (NAD83/91), State Plane Coordinate System (SPCS)

TABLE 3 – Field Screen and Boring Log Description Summary: Observations of Interest and Related Depth Intervals - Siltronic Property

Boring Number	Installation Date	Installed By	Installation Method	Total Boring Depth (feet bgs)	Base of Fill WBZ (feet bgs)	Top of Alluvial WBZ (feet bgs)	Soil Boring Log Summary (observations in feet bgs)									
							Odor	Light Sheen	Heavy Sheen	Oil Blebs or Patchy Oil	Oil Saturation	Patchy/Soil-Mixed Tar	Tar	Carbon Pitch / Soil Mixture	Carbon Pitch	Wood Fragments or Chips (in Fill)
Upland Borings																
P-1	17-Aug-01	HAI	Push Probe	64	31	32	16-20.5	31-32					30-30.8			8-9; 17.5
P-1A	18-Mar-02	HAI	Push Probe	58	31	32							28-30.5			13-20
P-2	14-Aug-01	HAI	Push Probe	100	32.5	34	20-22.5 30.5-32.5	3-4.25				3-4.25				
P-3/WS-8-59	20-Aug-01	HAI	Push Probe	90	32.5	36	13-13.5 16.5-30.5 59-64 solvent?	13-13.5 16.5-18								
P-4	10-Aug-01	HAI	Push Probe	64	32	33	18-28 29.5-32	18-24		20-22.5						
P-5/WS-9-34	13-Aug-01	HAI	Push Probe	100	33	36	9.5-14 20-22	9.5-13		9.5-10		9.5-10				
P-5A	29-Apr-08	HAI	Push Probe	10	-	-	7-10	7-10				7 -10				
P-6	2-Aug-01	HAI	Push Probe	64	24	26	10-12	16-16.5 20-23.5						6.5-8		9' 16.5-20
P-7	8-Aug-01	HAI	Push Probe	64	25	49	24-25	24-25		22.5-24						13
P-8	7-Aug-01	HAI	Push Probe	86.5	17	23.5		31.5-36								24-31.5
P-8A	29-Apr-08	HAI	Push Probe	5.0	-	-						1.8-2				
P-9	7-Aug-01	HAI	Push Probe	64	24	24.5		8-12 21-22.5								
P-10	3-Aug-01	HAI	Push Probe	64	26.5	35.5										14.5; 20-24
P-11	17-Aug-01	HAI	Push Probe	20			7-13.5	7-13.5								
P-12 (NWN-2-20)	14-Apr-08	HAI	Push Probe	24	20.2	-	0-24	0-5 7-16.8 20.2-24	5-5.5	5.5-7 16.8-20.2						10-12 **(prussian blue)** 16-20.2
P-13 (NWN-3-17)	14-Apr-08	HAI	Push Probe	20	17.0	-	1.5-6	1.5-10								7.8-10
P-14 (NWN-4-15)	14-Apr-08	HAI	Push Probe	20	15.0			6-9								
P-15 (NWN-5-20)	14-Apr-08	HAI	Push Probe	25	20.0	-		19-24				19-23				
P-16 (NWN-1-20)	30-Apr-08	HAI	Push Probe	25	21.0	-	1-1.4 2.4-20	1-1.4	5-12.5 15-20	10-12.5 15-16 19-21		1-1.4 16.4	12.5-13 19-20		15-16	10-17 **(prussian blue)**
P-17	25-Apr-08	HAI	Push Probe	35	20.0	-	10-17.5		10-17.5			10-17.5				10-17.5
P-18	15-Apr-08	HAI	Push Probe	25	23.0	-			23-24.5			23-24.5				
P-19	23-Apr-08	HAI	Push Probe	40	32.0	-	20-32		20-32	24.5-28.5		20-24.5 28.5-32				22.5-24.5
P-20 (NWN-6-31)	23-Apr-08	HAI	Push Probe	35	28.0	-	18-28	25-28	18-25	20-25		20-25	18-20			18-20
P-22	23-Apr-08	HAI	Push Probe	40	24.0	-	20-35		20-35	24-25		20-35				11.5 and 24
P-23	15-Apr-08	HAI	Push Probe	20	18.0	-										12-12.4; 18-18.1
P-24 (NWN-7-30)	25-Apr-08	HAI	Push Probe	35	28.0	-	10-28	1.5-2.5	10-13 20-24.5			10-13 20.1-21	20-20.1			21-21.4
P-25	25-Apr-08	HAI	Push Probe	35	30.0	-	10-30	20-30	10-14	10-14		10-14				10.3-10.8; 13.8; 16-20
P-26	25-Apr-08	HAI	Push Probe	35	30.0	-	5.5-30	10-30	5.5-10			5.5-10				14.5-15
P-28 (NWN-8-30)	28-Apr-08	HAI	Push Probe	35	30.0	-	15-17	15-17				15-17				3-3.5; 15-17; 24.7-30

TABLE 3 – Field Screen and Boring Log Description Summary: Observations of Interest and Related Depth Intervals - Siltronic Property

Boring Number	Installation Date	Installed By	Installation Method	Total Boring Depth (feet bgs)	Base of Fill WBZ (feet bgs)	Top of Alluvial WBZ (feet bgs)	Soil Boring Log Summary (observations in feet bgs)									
							Odor	Light Sheen	Heavy Sheen	Oil Blebs or Patchy Oil	Oil Saturation	Patchy/Soil-Mixed Tar	Tar	Carbon Pitch / Soil Mixture	Carbon Pitch	Wood Fragments or Chips (in Fill)
P-29	1-May-08	HAI	Push Probe	15			10-14	10-13	13-14			13-14				10-13
P-30	28-Apr-08	HAI	Push Probe	40	34.5	-		28.5-29.5								28.5-29.5
P-31	28-Apr-08	HAI	Push Probe	35	30.0	-	19-20	22-24				20				19.5-20; 22-24
P-32	28-Apr-08	HAI	Push Probe	45	39.5	-		8-9								15.5; 17; 25-29
P-33	10-Aug-09	HAI	Push Probe	35	30.0	-	15-30	23-30	15-23	15-21 23-23.2						8
P-34	30-Apr-08	HAI	Push Probe	40	35.0	-	11-13.5		11-13.5 20-30	11-11.3	22	20-22.5 25-30	22.5-23.5			
P-36	1-May-08	HAI	Push Probe	40	30.2	-	10-30.2	10-11 14-30.2	11-14	18.5-19.5 20-20.5		10-11.8 13.5-14 20.5-26.5 30-30.2	18.5-19.5 20-20.5			
P-37	30-Apr-08	HAI	Push Probe	40	30.0	-	15-20	0-5 15-18	18-20			18-20				
P-38	1-May-08	HAI	Push Probe	45	35.0	-	20-45	10-15	20-45	25-28.5 35-35.2		25-28.5 30-45	28.5-30			15.3
P-39	29-Apr-08	HAI	Push Probe	30	21.5	-		10-11.5								3.3
P-40	28-Apr-08	HAI	Push Probe	35	23.0	-										17
P-41	24-Apr-08	HAI	Push Probe	30	25.0	-	10-13		10-13							11; 23-25
P-42	16-Apr-08	HAI	Push Probe	35	30.0	-	31-35	32-35	31-32	31-32			31-32			
P-43	16-Apr-08	HAI	Push Probe	40	37.0	-	25-37		25-37	37-38		37-38				
P-44 (NWN-9-31)	16-Apr-08	HAI	Push Probe	35	30.0	-	10-35	10-13	15-23.5			10-23.5				
P-45	21-Apr-08	HAI	Push Probe	30	23.0	-		7.5-9								
P-45A	10-Aug-09	HAI	Push Probe	35	23.0	-										
P-46	21-Apr-08	HAI	Push Probe	40	33.0	-	15.8-16.8 32.5-33	5-15.8 16.8-25	15.8-16.8 32.5-33			15.8-16.8 32.5-33		8.3-8.4		8.3-8.4;22.5-22.6 25-25.2;32.5-33
P-47	21-Apr-08	HAI	Push Probe	25	22.0	-	7.5-8.5 10-14	2.5-3.5 10-14	7.5-8.5			7.5-8.5				24
P-48	22-Apr-08	HAI	Push Probe	25	20.0	-		15-20								
P-49	22-Apr-08	HAI	Push Probe	35	25.0	-		20.1-23								16.5;17.8
P-50	22-Apr-08	HAI	Push Probe	40	20.0											
P-51 (NWN-10-26)	22-Apr-08	HAI	Push Probe	35	30.0	-										2; 11.5; 26; 27
P-52	24-Apr-08	HAI	Push Probe	31	-	-		1-3 20-23.5		30.5						11; 12
P-54	29-Apr-08	HAI	Push Probe	40	30.0	-	19-30	1.5-9	19-22	19-22		19-22				16.5
P-B	4-May-07	HAI	Push Probe	10	-	-	0-10			7?				2.5 6-10		
P-C	4-May-07	HAI	Push Probe	10	-	-	6-10									8.0
P-D	4-May-07	HAI	Push Probe	10	-	-	4-10									
P-E	4-May-07	HAI	Push Probe	10	-	-	3-10			9-10					3	
P-F	4-May-07	HAI	Push Probe	10	-	-	5.5-10								5.5-8	
P-G	4-May-07	HAI	Push Probe	10	-	-	5.5-10	5.5-8								
P-Y	4-May-07	HAI	Push Probe	10	-	-	2-10	5-10		7-8?				2-10		2-5
P-Z	4-May-07	HAI	Push Probe	10	-	-	2-10	7-10		2-10						
SB-21	11-Mar-09	HAI	Rotosonic	108	22.0	60.0	11.5-22	13-22		20-22		19-20 21.5-22				11.5-20 **(prussian blue)**
SB-27	23-Mar-09	HAI	Rotosonic	110	23.0	49.0	10-13	11-13								11-13
SB-35	19-Mar-09	HAI	Rotosonic	116	22.0	51.0	15-26	15-16		24-26	16-24					
SB-53	16-Mar-09	HAI	Rotosonic	166	31.0	45.0	10-14 16-72	31-36 40-72	16-31 36-40	28-45.5 46-70.5	16-28 45.5-46					

TABLE 3 – Field Screen and Boring Log Description Summary: Observations of Interest and Related Depth Intervals - Siltronic Property

Boring Number	Installation Date	Installed By	Installation Method	Total Boring Depth (feet bgs)	Base of Fill WBZ (feet bgs)	Top of Alluvial WBZ (feet bgs)	Soil Boring Log Summary (observations in feet bgs)									
							Odor	Light Sheen	Heavy Sheen	Oil Blebs or Patchy Oil	Oil Saturation	Patchy/Soil-Mixed Tar	Tar	Carbon Pitch / Soil Mixture	Carbon Pitch	Wood Fragments or Chips (in Fill)
B-1	1977	CH2M HILL	?	45	33.7	-						22-30?				
B-2	1977	CH2M HILL	?	65		-						5-26?				
B-3	1977	CH2M HILL	?	50	22	30	30-35					16?				
B-1-8	1978	CH2M HILL	?	217	-	-					20-50					
B-2-8	1978	CH2M HILL	Cone Probe	30	25	-				25-30?						
B-3-8	1978	CH2M HILL	Cone Probe	50	30	34				20-25?						
B-4-8	1978	CH2M HILL	?	50	30	41				24						
B-5-8	1978	CH2M HILL	?	50	35	55.0				15-30?						
B-HQ-8	1978	CH2M HILL	?	50		-				10						
B-SU-8	1978	CH2M HILL	?	40	28	-				13						
B-101-8	1978	CH2M HILL	?	58	21	55.0										
B-102-8	1978	CH2M HILL	?	65	27	53.0				15-20						
B-100	1982	CH2M HILL	Mud Rotary	90	21	60.0	5-10 20-21									
B-101	1982	CH2M HILL	Mud Rotary	87.5	21.5	46.0	15-20 25-30									
B-102	1982	CH2M HILL	Mud Rotary	80	20	49.5	10-25				19-20					
B-103	1982	CH2M HILL	Mud Rotary	77	19	35.0										
B-104	1982	CH2M HILL	Revert Rotary	96.1	25	94.0	15-20			15-20						10-25; 25-35
B-105	1982	CH2M HILL	Mud Rotary	76.7	20	61.0	10-20 30-35			16-17						
B-106	1982	CH2M HILL	Mud Rotary	100	30	80.0	15-20			18-20						
B-107	1982	CH2M HILL	Mud Rotary	71.5	20	70.0	10-15 20-25			12-23						
B-108	1982	CH2M HILL	Revert Rotary	69.5	20	50.0										
MW-1/WS-1-22	1985	CH2M HILL	HSA	31.5	26.5	-	10-25				11.5-21.5					
MW-2/WS-2-22	1985	CH2M HILL	HSA	31.5	26.5	-	10-25			10-20						
MW-3/WS-3-27	1985	CH2M HILL	HSA	41.5	36.5	-	15-36									
MW-4/WS-4-22	1985	CH2M HILL	HSA	41.5	20	-	15-20									
MW-5/WS-5-20	1985	CH2M HILL	HSA	31.5	25	-	5-25	5-10 15-20			10-15					
MW-6/WS-6-24	1985	CH2M HILL	HSA	31.5	21	-	10-21.5			16-16.5						
MW-7/WS-7-25	1985	CH2M HILL	HSA	41.5	21	28.0	20-21 26-26.5			26-26.5						

TABLE 3 – Field Screen and Boring Log Description Summary: Observations of Interest and Related Depth Intervals - Siltronic Property

Boring Number	Installation Date	Installed By	Installation Method	Total Boring Depth (feet bgs)	Base of Fill WBZ (feet bgs)	Top of Alluvial WBZ (feet bgs)	Soil Boring Log Summary (observations in feet bgs)									
							Odor	Light Sheen	Heavy Sheen	Oil Blebs or Patchy Oil	Oil Saturation	Patchy/Soil-Mixed Tar	Tar	Carbon Pitch / Soil Mixture	Carbon Pitch	Wood Fragments or Chips (in Fill)
WS-10-27	3-Sep-03	MFA	Rotosonic	106	26	93.0	8-8.7 21-27				21-27					
WS-11-161	21-Sep-03	MFA	Rotosonic	207	31.5	41.0	12-18 31.5 41-47 118-119.5	109-110 118-118.5								
WS-12-161	21-Sep-03	MFA	Rotosonic	207	37	40.0	13-13.5 15.5-17 18-27 31.5-33 34.5-37									
WS-13-105	11-Oct-03	MFA	Rotosonic	207	26	45.0	83-84		83-84							
WS-14-161	9-Jul-04	MFA	Rotosonic	210	29	33.0	11-14 26-67 75-84.5 85-89.5 90.5-99 102-107 108-114 138-141.5		26-38.5 90.5-96 102-105 108-110.5 124 130			11-14 29-33				
WS-15-140	23-Jul-04	MFA	Rotosonic	196	42.5	45.5	16-56	45.5-46	34.5-42.5 46-56							
WS-16-161	5-Aug-04	MFA	Rotosonic	236	38.5	52.0	23-26 32.5-36 38.5-44	23-26 38.5-52 56-58.5	52-56 58-74	66-74		22-26? 34.5-42.5?				
WS-17-94	13-Aug-04	MFA	Rotosonic	122	35	61.0	10-35 41.5-44.5 45-51		11-23 27.5-30							
WS-21-131	4-Nov-08	MFA	Rotosonic	131	34	43.0	21.2-23.5 43-46	21.2-23.5								21.2-23.5
WS-23-116	18-Nov-08	MFA	Rotosonic	116	24	50.0	30-32 40-81.7 88.6-116	30-32 60-65.5 70-72	32-37.5 65.5-70 75-79.5 90-97							
WS-24-126	9-Nov-09	MFA	Rotosonic	126	22	40.0	60-63									
WS-25-111	31-Oct-08	MFA	Rotosonic	111	30	40.0							25-25.5			25-25.5
WS-26-116	24-Nov-08	MFA	Rotosonic	116	26	40.0	20-26.4									
WS-27-86	22-Oct-08	MFA	Rotosonic	87	-	-										

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Boring Number	Installation Date	Installed By	Installation Method	Total Boring Depth (feet bgs)	Base of Fill WBZ (feet bgs)	Top of Alluvial WBZ (feet bgs)	Soil Boring Log Summary (observations in feet bgs)									
							Odor	Light Sheen	Heavy Sheen	Oil Blebs or Patchy Oil	Oil Saturation	Patchy/Soil-Mixed Tar	Tar	Carbon Pitch / Soil Mixture	Carbon Pitch	Wood Fragments or Chips (in Fill)
GP-011	29-Sep-99	URS	Geo-Probe	60	32	57.0	15-18									
GP02-01	19-Mar-02	LTI	Push Probe	100	26	36.0	25-27		41-44.5				23-24.5			
GP02-02	20-Mar-02	LTI	Push Probe	100	21	27.0	20-20.1	20-20.1					20.5-21			
GP02-03	21-Mar-02	LTI	Geo-Probe	100	26	26.5										11-13;17.5-18
GP-025	11-Oct-99	URS	Push Probe	50	27	32.5	12.5-16 22-22.5									
GP-026	11-Oct-99	URS	Push Probe	50	32	40.0										
GP-027	12-Oct-99	URS	Push Probe	75	25	56.0										
GP-4	30-Sep-02	MFA	Geo-Probe	100	28	36.0										
GP-5	8-Oct-02	MFA	Geo-Probe	100	24	28.0										
GP-6	2-Oct-02	MFA	Geo-Probe	100	29	32.0										
GP-7	4-Oct-02	MFA	Geo-Probe	100	29	30.5										
GP-8	16-Jul-03	MFA	Geo-Probe	25	23	-										
GP-9	2-Jan-04	MFA	Geo-Probe	25	24	-										
GP-10	16-Jul-03	MFA	Geo-Probe	25	25	-	19-25			19-24.5						
GP-11		MFA	Geo-Probe	97	28	50.0	9.5-18.5 19-20									
GP-12	29-Jun-04	MFA	Geo-Probe	20		-	11-12.5 17.5-18					17.5-18				
GP-13	29-Jun-04	MFA	Geo-Probe	20	-	-	15-19					18.5-19				
GP-14	30-Jun-04	MFA	Geo-Probe	20	-	-	18.5-20	18.5-20								
GP-15	29-Jun-04	MFA	Geo-Probe	20	-	-	10-19									
GP-16	29-Jun-04	MFA	Geo-Probe	25	-	-	23	23				18.75-19				
GP-17	29-Jun-04	MFA	Geo-Probe	20	-	-	10-13	10-13				10-12				
GP-18	30-Jun-04	MFA	Geo-Probe	24	-	-	12.5-18		12.5-18							
GP-19	30-Jun-04	MFA	Geo-Probe	20	-	-	10-18									
GP-20	19-Jul-04	MFA	Geo-Probe	30	-	-	11-29.7	11-12 20-21.5								
GP-21	19-Jul-04	MFA	Geo-Probe	30	-	-	10-30	15-29.8				15-17.5				
GP-22	19-Jul-04	MFA	Geo-Probe	30	-	-	22-25		25-30			22-30				
GP-23	19-Jul-04	MFA	Geo-Probe	30	-	-	20-21 23-28	20-21 23-28								
GP-24	19-Jul-04	MFA	Geo-Probe	30	25.5	-	15-16 22.5-25.5									22.5-25.5
GP-33	28-Apr-05	MFA	Geo-Probe	205	30.4	37.5	0.5-15.3 16.5-30.4 34-36.5									
GP-36	3-May-05	MFA	Geo-Probe	210	30.5	36.5	14.5-36.5									

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Boring Number	Installation Date	Installed By	Installation Method	Total Boring Depth (feet bgs)	Base of Fill WBZ (feet bgs)	Top of Alluvial WBZ (feet bgs)	Soil Boring Log Summary (observations in feet bgs)									
							Odor	Light Sheen	Heavy Sheen	Oil Blebs or Patchy Oil	Oil Saturation	Patchy/Soil-Mixed Tar	Tar	Carbon Pitch / Soil Mixture	Carbon Pitch	Wood Fragments or Chips (in Fill)
GP-86	4-May-06	MFA	Geo-Probe	105	30.0	38.0	18 20-25 40-43 48-50	19.7-21								
GP-87	9-May-06	MFA	Geo-Probe	115	25.0	?	18-25 40-44.5 82-83.5 90.5-91	22.5-25								
GP-97	11-Jun-07	MFA	Geo-Probe	40	25.0	35.0	25-38.3	25-38.3								
GP-98	11-Jun-07	MFA	Geo-Probe	40	27.4	35.0	27.4-27.8 28.8-40									
GP-99	7-Jun-07	MFA	Geo-Probe	40	27.3	31.0	15-18.5 27.3-33.3	27.3-33.3								
GP-111	19-May-08	MFA	Geo-Probe	110	21.5	30.0	17.9-21.5 45.4-47 48-51.6 53-55	17.9-21.5		28 33.4						
GP-112	20-May-08	MFA	Geo-Probe	125	25.0	37.5	17.8-55	20-25 27-30 38.5-40 43-45	25-27 30-33.7 37.5-38.5 40-43 46-49	32.5 33.6						21
GP-113	22-May-08	MFA	Geo-Probe	115	26.0	38.2	18-25 35-45	18-20 38-40	20-26	30-33						11-11.3 25
MW-03-141	3-Oct-06	URS	Air Rotary	141	39.5	45										
RP-01-65	2000	URS	Air Rotary	66.0	30	38.0										
RP-3-26	17-Feb-00	URS	Air Rotary	26.5	25	55.0					22-25					
RP-03-30R	13-Sep-00	URS	Air Rotary	30.0	15	33.0	17-27.5				26-27.5					
RP-3-52R	12-Sep-00	URS	Air Rotary	52.5	25	43.0	15-32 35.5-40									
RP-03-63	17-Feb-00	URS	Air Rotary	64.0	25	55.0	25-30									
RP-06-87	7-Feb-00	URS	Air Rotary	88.0	25	68.0										
RP-07-119	1-May-02	AMEC	HAS/Air Rotary	119.4	34.5	39.5										
RP-11-216	29-Nov-05	AMEC	Sonic	216	28.0	41.0	7.5-26		7.5-16							17-18; 25-30
MW-03-137	4-Oct-06	AMEC	Sonic	137	28.5	53.0										
RP-20-110	6-Oct-06	AMEC	Sonic	110	28.0	78.0	18-23	18-23								18-28
RP-21-150	23-Oct-06	AMEC	Sonic	150	28.5	35.0	15.5-25	15-25								7-25
RP-22-151	11-Oct-06	AMEC	Sonic	151	29.5	62.0	13-15									5
RP-23-125	16-Oct-06	AMEC	Sonic	125	31.5	50.0	8-22.5									8
RP-24-85	31-Oct-06	AMEC	Sonic	85	29.0	35.0	30-32.5	30-32.5								8;13;22;26-29
SIL-01	31-Oct-05	AMEC	Sonic	218	40.0	47.0	9.5-33.5 72-74		17-23							
SIL-02	15-Nov-05	AMEC	Sonic	235	34.5	47.0	10-34.5	10-15	28-4.5							4-7
SIL-03	6-Dec-05	AMEC	Sonic	130	18.0	36.0										14
SIL-04	9-Dec-05	AMEC	Sonic	120	35.5	52.0	6-8									16-27

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							Odor	Light Sheen	Heavy Sheen	Oil Blebs or Patchy Oil	Oil Saturation	Patchy/Soil-Mixed Tar	Tar	Carbon Pitch / Soil Mixture	Carbon Pitch	Wood Fragments or Chips (in Fill)
In-Water Borings																
GP-25	1-Oct-04	MFA	Geo-Probe	151	-	-	16-28	27.5-28 31-35.5	16-18	6.0						
GP-26	6-Oct-04	MFA	Geo-Probe	128	-	-	3-18 21-21.5	30-32.5	3-18				11-11.25			
GP-27	11-Oct-04	MFA	Geo-Probe	110	-	-	20-33 35-41.5 45-55.5 57-60	35-40 45-47			10-13.5					
GP-28	15-Oct-04	MFA	Geo-Probe	160	-	-	5-34.5 50.5-51		5-10		5-10	20-25				
GP-29	21-Oct-04	MFA	Geo-Probe	117	-	-	7-67	62-67		12						
GP-30	25-Oct-04	MFA	Geo-Probe	118	-	-	3-18	3-12								
GP-31	27-Oct-04	MFA	Geo-Probe	113	-	-	6-37	6-22		6-7						
GP-32	29-Oct-04	MFA	Geo-Probe	121	-	-	5.5-16		5.5-6	5.5-6						

NOTE: bgs = below ground surface
bml = below mud line
HAI = Hahn and Associates, Inc.
HSA = hollow stem auger
LTI = Limno-Tech, Inc.
MFA = Maul Foster & Alongi, Inc.

Carbon pitch refers to any black solid/granular material - either coal-like; lampblack; or pencil pitch

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
Stormwater Catch Basin Sample - 2001																			
CDA/Chrome Shed Catch Basin	Wacker	CLI Composite 1-2	19-Jun-01	-	NA		2,200. UJ	9,000. J	2.6	1.74 U	10.	1.74 U	1.74 U	0.4 J					
Surface Samples (Above Top of Willamette River Embankment) - 2001																			
S-1	HAI	5237-010821-167	21-Aug-01	0.2	Surface	20.8 U	20.8 U	52.1 U	2.14 J					0.02 U					
S-2	HAI	5237-010821-168	21-Aug-01	0.2	Surface	20.2 U			0.71					0.02 U					
S-3	HAI	5237-010821-169	21-Aug-01	0.2	Surface	20.8 U			1.8					0.02 U					
S-4	HAI	5237-010821-170	21-Aug-01	0.2	Surface	20.4 U			ND					0.02 U					
(duplicate)		5237-010821-171	21-Aug-01	0.2	Surface				ND					0.02 U					
S-5	HAI	5237-010821-172	21-Aug-01	0.2	Surface	20.4 U			ND					0.02 U					
Outfall / Embankment Sample																			
Fab 2 OF	HAI	5237-010919-173	19-Sep-01	0.2	Surface	51.9 U	3,720.	4,700.	91.2	0.005 U	0.005 U	0.005 U	0.01 U	13,900.					
		5237-080502-214	2-May-08	@ Pipe	Surface	13. J	1,500. J	5,100. J	78.	0.00038 UJ	0.026 J	0.014 J	0.05	493. J					
		5237-080502-215	2-May-08	Discharge Pathway	Surface	3.3 J	230. J	1,100. J	4.6	0.00011 UJ	0.0021 J	0.00071 J	0.00253	72.					
Soil Boring Samples - Pre 2008 (HAI and Others)																			
P-1	HAI	5237-010817-139	17-Aug-01	17.0	Subsurface		47.8	149.							X				
		5237-010817-142		30.0	Deep	24,100. U	12,000.	13,300.	35,432.	8.63	2.04	15.7	23.88	- R	X	X			X
		5237-010817-144		39.0			27.8 U	101.											
P-2	HAI	5237-010814-113	14-Aug-01	14.5	Subsurface	22.7 U	77.3	56.8 U											
		5237-010814-115		22.5	Deep	23.3 U	365.	805.	29.1	0.005 U	0.005 U	0.005 U	0.01 U	- R	X				
		5237-010814-118		32.0		24.7 U	414.	309. U							X	X			
P-3	HAI	5237-010820-152	20-Aug-01	6.5	Subsurface		22. U	100.						- R					
		5237-010820-155		17.0		2,150. U	1,120.	613.	7,308.1	0.5 U	0.5 U	3.36	6.68	- R	X	X			
		5237-010820-159		35.5	Deep		29. U	106.											
P-4	HAI	5237-010810-79	10-Aug-01	10.0	Subsurface		37.4	210.											
		5237-010810-80		17.5		217. U	178.	135.	431.3 J	0.02 U	0.02 U	0.2	0.4	- R	X	X			
		5237-010810-84		35.0	Deep		27.8 U	69.4 U											
P-5	HAI	5237-010813-91	13-Aug-01	6.5	Subsurface		21.7 U	54.3 U											
		5237-010813-92		9.5		2,220. U	14,000.	**6,000.**	5,699.4	0.1 U	0.15	1.38	3.67	- R	X	X		X	
		5237-010813-93		15.0			21.7 U	54.3 U											
		5237-010813-98		32.5	Deep		26. U	64.9 U											
P-6	HAI	5237-010802-04	2-Aug-01	10.0	Subsurface	22.5 U	108.	157.	50.					- R	X				
		5237-010802-07		23.0	Deep		24.1 U	60.2 U											
P-7	HAI	5237-010808-64	8-Aug-01	22.5	Deep	30.3 UJ	5,950. J	5,470. J	16.4 J	0.005 U	0.005 U	0.005 U	0.01 U	- R	X	X		X	
(duplicate)		5237-010808-65		22.5			1,960. J	1,770. J	3.4 J	0.005 U	0.005 U	0.005 U	0.01 U	- R	X	X		X	
P-8	HAI	5237-010806-31	6-Aug-01	2.0	Surface	22. UJ								- R	X				
		5237-010806-37		30.0	Deep	27. U									X				
P-9	HAI	5237-010807-50	7-Aug-01	21.5	Deep	27. U								- R		X			
P-10	HAI	5237-010803-23	3-Aug-01	26.0	Deep	27. U	27. U	67.6 U	0.1	0.005 U	0.005 U	0.005 U	0.01 U	- R					
		5237-010803-24		29.5			25. U	62.5 U											

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
Soil Boring Samples - Pre 2008 (HAI and Others)																			
GP02-01	LTI	GP02-01	19-Mar-02	4.0	Subsurface					0.005 U	0.005 U	0.005							
				12.5					41.42	0.1 U	0.1 U	0.1 U		0.34					
				23.5	Deep				1,198.	43.	54.	62.		16.4					X
GP02-02	LTI	GP-2-02	20-Mar-02	3.0	Surface				1.02	0.01 U	0.01 U	0.01 U		0.1					
				19.0	Subsurface				4.04	0.02 U	0.02 U	0.02 U		0.34					
				22.0	Deep				3.95	0.005 U	0.005	0.005 U			X	X			
				24.0					109.41	1.4	4.5	4.3		1.84					
GP02-03	LTI	GP02-03	21-Mar-02	4.0	Subsurface				4.05										
				23.0	Deep				8.94	0.005 U	0.005	0.005 U		7.03					?
				25.0					38.25	0.005 U	0.005	0.005 U		5.62					?
GP4	MFA	GP4-S-7.5	26-Sep-02	7.5	Subsurface				1,838.7	15. U	15. U	15. U	15. U				X		
		GP4-S-19.0		19.0					1.93	0.005 U	0.005	0.005 U	0.005						
		GP4-S-26.0		26.0	Deep				0.2										
GP5	MFA	GP5-S-26.0	7-Oct-02	13.0	Subsurface				18.16										
		GP5-S-21.0		21.0	Deep				119.92										
		GP5-S-26.0		26.0					0.31	0.007 U	0.007	0.007 U	0.007						
GP6	MFA	GP6-S-23.0	30-Sep-02	15.0	Subsurface				3.2										
		GP6-S-23.0		23.0	Deep				1,650.5	0.071 U	0.071 U	0.15	0.071						
		GP6-S-30.0		30.0					0.12	0.007 U	0.007	0.007 U	0.007						
GP7	MFA	GP7-S-30.0	2-Oct-02	9.0	Subsurface				18.51										
		GP7-S-15.5		15.5					350.26										
		GP7-S-30.0		30.0	Deep				319.4	0.027 U	0.027 U	0.027 U	0.027						
GP8	MFA	GP8-S-22.0	16-Jul-03	22.0	Deep					0.01 U	0.01 U	0.01 U	0.02 U						
		GP8-S-25.0		25.0						0.443	0.01 U	0.051	0.02 U						
GP9	MFA	GP9-S-20.0	17-Jul-03	20.0	Subsurface					0.038	0.01 U	0.03	0.015						
		GP9-S-25.0		25.0	Deep					0.7	0.026	0.289	0.621						
		GP9-S-25.0 (dup)		25.0						0.736	0.017	0.331	0.401						
GP10	MFA	GP10-S-20.0	16-Jul-03	20.0	Subsurface				49.1	218.	223.	162.	358.		X			X	
GP11	MFA	GP11-S-15.0	14-Jul-03	15.0	Subsurface				722.9						X				
		GP11-S-17.0		17.0						7.2	0.155	32.8	19.77		X				
		GP11-S-27.0		27.0	Deep					0.01 U	0.01 U	0.01 U	0.02 U						
GP12	MFA	GP12-S-12.5	29-Jun-04	12.0	Subsurface					0.01 U	0.01 U	0.01 U	0.02 U		X				
		GP12-S-15.5		15.5						0.01 U	0.01 U	0.01 U	0.02 U						
		GP12-S-18.0		18.0						28.	26.7	21.	22.3		X				X
GP13	MFA	GP13-S-12.5	29-Jun-04	12.5	Subsurface					0.01 U	0.01 U	0.01 U	0.02 U		X				
		GP13-S-17.0		17.0						0.01 U	0.01 U	0.01 U	0.02 U		X	X			
		GP13-S-19.0		19.0						0.721	0.454	0.291	0.157		X	X			X
GP14	MFA	GP14-S-15.0	30-Jun-04	15.0	Subsurface					0.01 U	0.01 U	0.01 U	0.02 U						
		GP14-S-17.0		17.0						0.054	0.049	0.156	0.158						
GP15	MFA	GP15-S-13.0	29-Jun-04	13.0	Subsurface					0.01 U	0.01 U	0.01 U	0.02 U		X				
		GP15-S-16.0		16.0						0.01 U	0.01 U	0.01 U	0.02 U		X				
GP16	MFA	GP16-S-16.0	29-Jun-04	16.0	Subsurface					0.01 U	0.01 U	0.01 U	0.02 U			X			X
		GP16-S-20.0		20.0	Deep					0.01 U	0.01 U	0.01 U	0.02 U						
		GP16-S-23.0		23.0						34.6	44.6	38.4	42.2		X	X			
GP17	MFA	GP17-S-11.0	29-Jun-04	11.0	Subsurface					19.	3.46	65.3	60.7			X			X
		GP17-S-13.0		13.0						0.393	0.2	7.66	71.9		X	X			
GP18	MFA	GP18-S-12.5	30-Jun-04	12.5	Subsurface					72.8	61.3	124.	151.						
		GP18-S-16.0		16.0						0.014	0.01 U	0.103	0.091		X	X			

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
Soil Boring Samples - Pre 2008 (HAI and Others)																			
GP19	MFA	GP19-S-12.0	30-Jun-04	12.0	Subsurface					0.24	0.134	1.15	1.149		X				
		GP19-S-16.0		16.0						0.146	0.032	0.099	0.105		X				
GP20	MFA	GP20-S-18.0	19-Jul-04	18.0	Subsurface					0.01 U	0.01 U	0.01 U	0.02 U		X				
		GP20-S-30.0		30.0	Deep				0.2	0.01 U	0.01 U	0.01 U	0.02 U		X				
GP21	MFA	GP21-S-18.0	19-Jul-04	18.0	Subsurface					32.	3.51	28.7	33.1		X	X			?
		GP21-S-30.0		30.0	Deep				171.	0.175	0.011	0.047	0.024		X	X			
GP22 (duplicate)	MFA	GP22-S-19.0	19-Jul-04	19.0	Subsurface					0.01 U	0.01 U	0.063	0.021						
		GP22-S-DUP								0.1 U	0.01 U	0.083	0.026						
		GP22-S-30.0		30.0	Deep				7,920.1	53.6	1.56	49.8	37.2		X	X			?
GP23	MFA	GP23-S-18.0	19-Jul-04	18.0	Subsurface					1.8	0.01 U	0.166	0.046						
		GP23-S-28.5		28.5	Deep				1,605.7	0.01 U	0.01 U	0.01 U	0.02 U						
GP24	MFA	GP24-S-18.0	19-Jul-04	18.0	Subsurface					0.01 U	0.01 U	0.01 U	0.02 U						
		GP24-S-26.0		26.0	Deep				1.7	1.28	0.01 U	0.01 U	0.02 U						
WS-10	MFA	WS10-S-26.0	3-Sep-03	26.0	Deep					137.	7.62	161.	225.2			X		X	
		WS10-S-30.0		30.0						0.01 U	0.01 U	0.01 U	0.02 U						
WS-11	MFA	WS11-S-118.0	23-Sep-03	118.0	Deep					0.01 U	0.01 U	0.013 J	0.02 U			X		X	
		WS11-S-165.0		165.0						0.01 U	0.01 U	0.01 U	0.02 U						
WS-12	MFA	WS12-S-80.0	8-Sep-03	80.0	Deep					0.01 U	0.01 U	0.01 U	0.02 U						
		WS12-S-120.0	9-Sep-03	120.0						0.01 U	0.01 U	0.01 U	0.02 U						
		WS12-S-150.0		150.0						0.01 U	0.01 U	0.01 U	0.02 U						
WS-13	MFA	WS13-S-50.0	4-Oct-03	50.0	Deep					0.01 U	0.01 U	0.01 U	0.02 U						
		WS13-S-85.0		85.0						0.025	0.021	0.032	0.045						
		WS13-S-105.0		105.0						0.01 U	0.01 U	0.01 U	0.02 U						
WS-14	MFA	WS14-S-41.0	22-Jun-04	41.0	Deep					0.548	0.105	0.91	0.556		X				
		WS14-S-124.0	26-Jun-04	124.0						0.01 U	0.01 U	0.01 U	0.02 U		X	X			
		WS14-S-158.0	28-Jun-04	158.0						0.01 U	0.01 U	0.01 U	0.02 U						
WS-15	MFA	WS15-S-55.0	10-Jul-04	55.0	Deep					10.6	1.13	22.4	19.12		X	X			
		WS15-S-80.0		80.0						0.01 U	0.01 U	0.01 U	0.02 U						
		WS15-S-129.0	12-Jul-04	129.0						0.01 U	0.01 U	0.01 U	0.02 U						
WS-16	MFA	WS16-S-112.0	26-Jul-04	112.0	Deep					0.01 U	0.01 U	0.01 U	0.02 U						
WS-17	MFA	WS17-S-21.0	5-Aug-04	21.0	Deep					0.012	0.01 U	0.015	0.011		X	X			
		WS17-S-30.0		30.0						0.129	0.017	0.101	0.368		X	X			
		WS17-S-42.0	6-Aug-04	42.0						1.19	1.03	4.54	4.41		X	X			
		WS17-S-79.0		79.0						0.229	0.103	0.599	0.584						
		WS17-S-106.0	9-Aug-04	106.0						0.01 U	0.01 U	0.01 U	0.02 U						
RP-11	AMEC	128-01	17-Nov-05	7.5-8	Subsurface		**23,000.**			2.18 U	2.18 U	4. J	9.8 J		X	X			
		141-01	1-Dec-05	28-29	Deep														
		140-01		154-155															
		138-01	28-Nov-05	208-210															
SIL-02	AMEC	121-01	15-Nov-05	216-218	Deep														
Soil Boring Samples - 2007 Pre-Utility Excavation for Pipeline (HAI)																			
P-A	HAI	2708-070504-17	4-May-07	2.5 - 3.0	Surface	4.3 U	22.3	51.5	14.9862	0.0217 U	0.109 U	0.109 U	0.217 U	5.22 J					
		2708-070504-18		8.0 - 8.5	Subsurface	-	-	-	-	0.0217 U	0.0543 U	0.0543 U	0.217 U						
P-B	HAI	2708-070504-13	4-May-07	2.5 - 3.0	Surface	-	-	-	-	0.0232 U	0.0581 U	0.0581 U	0.232 U		X				
		2708-070504-14		7.0 - 7.5	Subsurface	13.6	954.	1,670.	279.32	0.0243 U	0.121 U	0.121 U	0.243 U	23.3 J	X				
P-C	HAI	2708-070504-09	4-May-07	3.0 - 3.5	Subsurface	-	-	-	-	0.0246 U	0.0616 U	0.0616 U	0.246 U						
		2708-070504-10		8.5 - 9.0	Subsurface	5.9	178.	260.	246.28	0.0259 U	0.13 U	0.13 U	0.259 U	5.37 J	X				

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
Soil Boring Samples - 2007 Pre-Utility Excavation for Pipeline (HAI)																			
P-D	HAI	2708-070504-07	4-May-07	2.5 - 3.0	Surface	5.4 U	26.5	67.5	11.523	0.0247 U	0.124 U	0.124 U	0.247 U	5.69 J					
		2708-070504-08		7.0 - 7.5	Subsurface	-	-	-	-	0.0255 U	0.0638 U	0.0638 U	0.255 U		X				
P-E	HAI	2708-070504-05	4-May-07	2.5 - 3.0	Surface	5.1 U	76.5	159.	94.157	0.0261 U	0.13 U	0.13 U	0.261 U	18. J	X				
		2708-070504-06		7.5 - 8.0	Subsurface	-	-	-	-	0.0268 U	0.067 U	0.067 U	0.268 U		X				
P-F	HAI	2708-070504-03	4-May-07	2.5 - 3.0	Surface	-	-	-	-	0.0252 U	0.063 U	0.063 U	0.252 U						
		2708-070504-04		7.0 - 7.5	Subsurface	17.5	216.	224.	322.22	0.0267 U	0.134 U	0.17	0.267 U	59.6 J	X				
P-G	HAI	2708-070504-01	4-May-07	2.5 - 3.0	Surface	-	-	-	-	0.0246 U	0.0615 U	0.0615 U	0.246 U						
		2708-070504-02		8.5 - 9.0	Subsurface	5.8	84.1	99.	140.006	0.0258 U	0.129 U	0.129 U	0.258 U	6.28 J	X	X			
P-Y	HAI	2708-070504-15	4-May-07	2.5 - 3.0	Surface	-	-	-	-	0.101	0.0623 U	1.47	0.409		X				
		2708-070504-16		7.0 - 7.5	Subsurface	307.	491.	284.	883.8	1.74	1.18 U	4.7	2.35 U	31.1 J	X	X			
P-Z	HAI	2708-070504-11	4-May-07	2.0 - 2.5	Surface	-	-	-	-	0.0777	0.0607 U	0.12	0.243 U		X				
		2708-070504-12		7.0 - 7.5	Subsurface	99.3	1,880.	1,640.	1,083.8	0.783	0.131 U	0.879	0.458	101. J	X	X		X	
Soil Boring Samples - 2008 Push Probe																			
P-5A	HAI	5237-080429-159	29-Apr-08	7 - 10	Subsurface	1.7 U	81.	150.	-	-	-	-	-	0.56 J	X	X			X
		5237-080429-159G		9.5	Subsurface	-	-	-	-	0.000089 U	0.00051 J	0.000073 U	U	3.38 J	X	X			X
P-8A	HAI	5237-080429-161	29-Apr-08	0 - 3	Surface	5.5 J	46.	100. J	-	-	-	-	-	0.07 U					X
		5237-080429-161G		2	Surface	-	-	-	-	0.0019 J	0.00048 J	0.000068 U	U	4.7 J					X
P-12	HAI	5237-080414-001	14-Apr-08	0 - 3	Surface	270.	1,700.	620.	286.5	-	-	-	-	19.6	X	X			
		5237-080414-001G		2.5	Surface	-	-	-	-	0.055 J	0.0052 J	0.012 J	0.0148	-	X	X			
		5237-080414-002		5 - 7.5	Subsurface	280.	4,000.	920.	601.7	-	-	-	-	26.4	X	X		X	
		5237-080414-002G		6.5	Subsurface	-	-	-	-	0.015 U	0.017 J	0.014 U	U	-	X	X		X	
		5237-080414-003		10 - 11	Subsurface	-	-	-	-	-	-	-	-	694.	X	X			
		5237-080414-004		12.5 - 13.5	Subsurface	-	6.7 J	19. J	-	-	-	-	-	-	X	X			
		5237-080414-005		16.5 - 17.5	Deep	370.	87,000.	35,000.	17,740.	-	-	-	-	193.	X	X		X	
		5237-080414-006		22.5 - 24	Deep	270.	240.	52. J	-	-	-	-	-	-	X	X			
P-13	HAI	5237-080414-007	14-Apr-08	0 - 3	Surface	1.9 U*	25. J	67. J	17,924.	-	-	-	-	6.	X	X			
		5237-080414-007G		2.5	Surface	-	-	-	-	0.000079 U	0.0026 J	0.00064 J	0.00182	-	X	X			
		5237-080414-008		10 - 12	Subsurface	1.6 U*	1.3 U*	3.1 U*	10.989	-	-	-	-	0.08 U					
		5237-080414-008G		11.5	Subsurface	-	-	-	-	0.000081 U	0.0017 J	0.00031 J	0.00117	-					
P-14	HAI	5237-080414-010	14-Apr-08	0 - 3	Surface	2. U	44.	120. J	37.065	-	-	-	-	3.6					
		5237-080414-010G		2.5	Surface	-	-	-	-	0.000079 U	0.0031 J	0.00029 J	0.00127	-					
		5237-080414-011		12 - 13.5	Subsurface	1.8 U*	83.	130.	84.869	-	-	-	-	0.42					
		5237-080414-011G		13	Subsurface	-	-	-	-	0.000085 U	0.0018 J	0.00029 J	0.00121	-					
P-15	HAI	5237-080414-012	14-Apr-08	0 - 2.5	Surface	1.9 U	55.	110. J	4.8417	-	-	-	-	0.08 U					
		5237-080414-012G		2	Surface	-	-	-	-	0.00012 U	0.0034 J	0.00075 J	0.0029	-					
		5237-080414-013		17 - 19	Subsurface	2.1 U	1.6 U*	3.7 U*	0.1544	-	-	-	-	0.08 U					
		5237-080414-013G		18.5	Subsurface	-	-	-	-	0.000091 U	0.0025 J	0.00056 J	0.00216	-					

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
P-16	HAI	5237-080430-176	30-Apr-08	0 - 3	Surface	24. J	1,300.	1,700.	783.9	-	-	-	-	15.3	X	X			X
		5237-080430-176G		2	Surface	-	-	-	-	0.38 J	0.11 J	0.4 J	0.61	-					
		5237-080430-177		7.5 - 9.5	Subsurface	6,500. J	**44,000.** J	**13,000.** J	23,390.	-	-	-	-	225.	X	X			X
		5237-080430-177G		9.5	Subsurface	-	-	-	-	12. J	2.9 J	21. J	117.	-	X	X			X
		5237-080430-178		10 - 12	Deep	4,500. J	30,000. J	9,300. J	-	-	-	-	-	147.	X	X		X	X
		5237-080430-180		21 - 23	Deep	13. J	4.2 J	3.8 U	-	-	-	-	-	-					
P-17	HAI	5237-080425-121	25-Apr-08	0 - 2	Surface	2.1 UJ	30. J	97. J	33.65	-	-	-	-	11.1					
		5237-080425-121G		2	Surface	-	-	-	-	0.0025 J	0.0027 J	0.00034 J	0.00125	-					
		5237-080425-123		11 - 12	Subsurface	16. J	680.	1,500.	-	-	-	-	-	233.	X	X			X
		5237-080425-124		15 - 17	Subsurface	2,500. J	6,200. J	6,800. J	1,412.2	-	-	-	-	110.	X	X			X
		5237-080425-124G		16	Subsurface	-	-	-	-	18. J	0.19 J	9.4 J	6.4	-	X	X			X
		5237-080425-125		20 - 21	Deep	2.6 J	1.7 U	4. J	-	-	-	-	-	16.					
		5237-080425-126		27 - 28	Deep	12. J	5.3 J	14. J	-	-	-	-	-	-					
P-18	HAI	5237-080415-025	15-Apr-08	0 - 3	Surface	4.7 J	52.	200.	10.78	-	-	-	-	1.1					
		5237-080415-025G		3	Surface	-	-	-	-	0.000082 U	0.0014 J	0.0003 J	0.00106	-					
		5237-080415-026		11.5 - 13.5	Subsurface	2.4 J	43.	67. J	83.631	-	-	-	-	1.8					
		5237-080415-026G		13.5	Subsurface	-	-	-	-	0.005 J	0.002 J	0.0008 J	0.00129	-					
		5237-080415-027		21 - 23	Deep	2.1 U	21. J	71. J	-	-	-	-	-	0.085 J					
P-19	HAI	5237-080415-021	15-Apr-08	0 - 3	Surface	1.9 U	27. J	94. J	8.247	-	-	-	-	10.7					
		5237-080415-021G		2	Surface	-	-	-	-	0.000079 U	0.0023 J	0.00032 J	0.00124	-					
		5237-080415-022 (duplicate)		0 - 3	Surface	2. U	24. J	74. J	61.69	-	-	-	-	10.2					
		5237-080415-022G (duplicate)		2	Surface	-	-	-	-	0.00092 J	0.0029 J	0.00026 J	0.00093	-					
		5237-080415-023		10 - 12	Subsurface	5.2 J	150. J	170.	111.98	-	-	-	-	0.7					
		5237-080415-023G		12	Subsurface	-	-	-	-	0.00009 U	0.0012 J	0.00022 J	0.0006	-					
		5237-080415-024		22.5 - 24.5	Deep	850. J	1,500.	370.	622.5	-	-	-	-	0.5	X	X			X
		5237-080423-074	23-Apr-08	30 - 31	Deep	46,000.	110,000.	21,000.	-	-	-	-	-	1. J	X	X			X
		5237-080423-075		39 - 40	Deep	7.2 U	33. U	140. U		-	-	-	-	-					
P-20	HAI	5237-080415-015	15-Apr-08	0 - 3	Surface	1.9 U	16. J	47. J	2.3883	-	-	-	-	0.27					
		5237-080415-015G		2	Surface	-	-	-	-	0.000081 U	0.0023 J	0.00036 J	0.00129	-					
		5237-080415-016		16 - 18	Subsurface	2. U	1.5 U	3.6 U	0.8963	-	-	-	-	0.254 J					
		5237-080415-016G		18	Subsurface	-	-	-	-	0.0024 J	0.0031 J	0.00077 J	0.00246	-					
		5237-080415-017		18 - 20	Subsurface	610.	1,800.	860.	876.4	-	-	-	-	0.8	X	X			X
		5237-080423-079	23-Apr-08	32 - 33	Deep	12. U	16. J	27. J		-	-	-	-	-					
P-22	HAI	5237-080415-028	15-Apr-08	0 - 3	Surface	1.9 U	37.	110. J	7.723	-	-	-	-	1.7					
		5237-080415-028G		3	Surface	-	-	-	-	0.000089 U	0.002 J	0.00029 J	0.00109	-					
		5237-080415-029		10 - 11.5	Subsurface	2.6 U	42.	180.	1.2992	-	-	-	-	0.31					

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
P-22	HAI	5237-080415-029G	15-Apr-08	11	Subsurface	-	-	-	-	0.00011 U	0.0027 J	0.00032 J	0.00102	-					
		5237-080415-030		22 - 24	Deep	9,000.	13,000. J	2,500. J	11,497.	-	-	-	-	0.252 J	X	X			X
		5237-080423-077	23-Apr-08	39 - 40	Deep	6.2 J	39. U	5.9 J		-	-	-	-	-					
P-23	HAI	5237-080415-018	15-Apr-08	0 - 2.5	Surface	2.2 U	22. J	120. J	1.937	-	-	-	-	0.7					
		5237-080415-018G		1	Surface	-	-	-	-	0.000084 U	0.006 J	0.00048 J	0.00143	-					
		5237-080415-019		10 - 12	Subsurface	2.6 U	9. J	17. J	2.8382	-	-	-	-	0.152 J					
		5237-080415-019G		10	Subsurface	-	-	-	-	0.000086 U	0.0014 J	0.00023 J	0.00104	-					
		5237-080415-020		16 - 18	Subsurface	2.3	21.	15.	0.6849	-	-	-	-	0.138					
P-24	HAI	5237-080425-114	25-Apr-08	0 - 2.5	Surface	1.9 J	35.	110. J	13.995	-	-	-	-	3.74		X			
		5237-080425-114G		2.5	Surface	-	-	-	-	0.0012 J	0.0011 J	0.00021 J	0.00098	-		X			
		5237-080425-115		10 - 12	Subsurface	25. J	340.	470.	62.93	-	-	-	-	18.9	X	X			X
		5237-080425-115G		11	Subsurface	-	-	-	-	0.0024 J	0.0024 J	0.045 J	0.0044	-	X	X			X
		5237-080425-117		21 - 21.5	Subsurface	250. J	1,800.	960.	-	-	-	-	-	445.	X	X			X
		5237-080425-118		20 - 22	Deep	16. J	320.	270.	-	-	-	-	-	93.	X	X			X
		5237-080425-120		32 - 33	Deep	2.4 UJ	1.7 U	9.1 J	-	-	-	-	-	-					
P-25	HAI	5237-080425-107	25-Apr-08	0 - 3	Surface	2.7 J	48.	130.	15.034	-	-	-	-	13.5					
		5237-080425-107G		2	Surface	-	-	-	-	0.0017 J	0.0039 J	0.00009 UJ	U	-					
		5237-080425-109		12 - 14	Subsurface	390. J	1,400.	680.	226.53	-	-	-	-	0.68	X	X		X	X
		5237-080425-109G		13.5	Subsurface	-	-	-	-	0.027 J	0.034 J	0.18 J	0.148	-	X	X		X	X
		5237-080425-110		15 - 16	Subsurface	11. J	100.	200.	-	-	-	-	-	-					
		5237-080425-113		33 - 34	Deep	3. UJ	10. J	31. J	-	-	-	-	-	-					
P-26	HAI	5237-080425-101	25-Apr-08	0 - 3	Surface	2.1 UJ	33.	110. J	16.539	-	-	-	-	13.2					
		5237-080425-101G		2	Surface	-	-	-	-	0.000085 UJ	0.00042 J	0.00007 UJ	U	-					
		5237-080425-102		7 - 8	Subsurface	14. J	140.	190.	-	-	-	-	-	7.5	X	X			X
		5237-080425-103		13 - 15	Subsurface	28. J	190.	180.	73.76	-	-	-	-	11.9	X				
		5237-080425-103G		15	Subsurface	-	-	-	-	0.0024 J	0.00051 J	0.019 J	0.00063	-	X				
		5237-080425-106		34 - 35	Deep	5.7 J	16. J	19. J	-	-	-	-	-	-					
P-28	HAI	5237-080428-151	28-Apr-08	0 - 3	Surface	1.8 U	9.1 J	28. J	2.6543	-	-	-	-	0.45					
		5237-080428-151G		3	Surface	-	-	-	-	0.000079 U	0.0025 J	0.00027 J	0.00087	-					
		5237-080428-153		10 - 12	Subsurface	2. U	18. J	29. J	10.857	-	-	-	-	1.77					
		5237-080428-153G		12	Subsurface	-	-	-	-	0.00076 J	0.0012 J	0.00022 J	0.00085	-					
		5237-080428-154		15 - 17	Subsurface	18.	130.	99. J	76.83	-	-	-	-	83.	X	X			X
		5237-080428-154G		17	Subsurface	-	-	-	-	0.0016 J	0.0018 J	0.0034 J	0.00214	-	X	X			X
		5237-080428-155		22 - 24	Deep	2.4 U	3. J	4.6 J	-	-	-	-	-	12.1					
		5237-080428-157		34 - 35	Deep	2.6 U	8.3 J	10. J	-	-	-	-	-	-					

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
P-29	HAI	5237-080501-197	1-May-08	0 - 1	Surface	1.9 J	24. J	547. J	13.075	0.0041 J	0.00073 J	0.0012 J	0.0005 J	7.5 J					
		5237-080501-204		12 - 14	Subsurface	6.5 J	79.	85. J	22.98	-	-	-	-	14.4 J	X	X			X
		5237-080501-204G		13	Subsurface	-	-	-	-	0.16 J	0.12 J	1.4	11.3	-	X	X			X
P-30	HAI	5237-080428-135	28-Apr-08	0 - 3	Surface	2. U	53.	120. J	18.37	-	-	-	-	6.					
		5237-080428-135G		1	Surface	-	-	-	-	0.0015 J	0.014 J	0.000065 U	U	-					
		5237-080428-137		12 - 14	Subsurface	17.	120.	230.	0.5149	-	-	-	-	0.16 J					
		5237-080428-137G		14	Subsurface	-	-	-	-	0.00013 U	0.0025 J	0.00084 J	0.0035	-					
		5237-080428-138 (duplicate)		12 - 14	Subsurface	16.	120.	240.	0.4594	-	-	-	-	0.34					
		5237-080428-138G (duplicate)		14	Subsurface	-	-	-	-	0.028 U	0.065 J	0.026 U	0.024	-					
		5237-080428-141		28.5 - 29.5	Deep	7.1 J	22. J	36. J	-	-	-	-	-	0.86		X			
P-31	HAI	5237-080428-144	28-Apr-08	0 - 3	Surface	2.1 U	11. J	41. J	1.3379	-	-	-	-	0.34					
		5237-080428-144G		2	Surface	-	-	-	-	0.0014 J	0.0097 J	0.00026 J	0.00102	-					
		5237-080428-145		7 - 8	Subsurface	-	9.2 J	47. J	-	-	-	-	-	-					
		5237-080428-146		11 - 13	Subsurface	11.	180.	380.	19.478	-	-	-	-	0.25 J					
		5237-080428-146G		13	Subsurface	-	-	-	-	0.0012 J	0.0026 J	0.00041 J	0.00156	-					
		5237-080428-147		18 - 20	Subsurface	31.	920.	560.	-	-	-	-	-	6.3	X				X
		5237-080428-150		34 - 35	Deep	2.9 U	11. J	20. J	-	-	-	-	-	-					
P-32	HAI	5237-080424-094	24-Apr-08	0 - 3	Surface	1.8 U	7.2 J	30. J	0.5741	-	-	-	-	0.78 J		X			
		5237-080424-094G		2.5	Surface	-	-	-	-	0.000084 U	0.003 J	0.00038 J	0.00129	-					
		5237-080424-095		8 - 9	Subsurface	15.	200.	270.	2.4505	-	-	-	-	1.07 J		X			
		5237-080424-097		27 - 29	Deep	3.8 J	1.7 U	4.1 U	-	-	-	-	-	0.01 UJ					
P-33	HAI	5237-090810-001	10-Aug-09	1 - 2	Surface	4.7 U	31.6 U	68.	8.257	0.0147 U	0.118 U	0.0294 U	0.0589 U	0.272 UJ					
		5237-090810-002		8 - 9	Subsurface	6.2 U	120.	243.	11.722	0.0676	0.191	0.0388 U	0.0777 U	0.324 UJ					
		5237-090810-003		15- 17	Deep	1,840.	23,200.	12,100.	2,767.8	16.5	17.9	13.6	26.14	1.67 J	X	X		X	
P-34	HAI	5237-080430-188	30-Apr-08	0 - 3	Surface	2.9 J	18. J	57. J	2.701	-	-	-	-	0.19 J					
		5237-080430-188G		2.5	Surface	-	-	-	-	0.000087 UJ	0.00099 J	0.00027 J	0.00097	-					
		5237-080430-190		11 - 13	Subsurface	210. J	2,400.	820.	900.	-	-	-	-	0.38	X	X		X	X
		5237-080430-190G		11		-	-	-	-	9.2 J	0.76 J	14. J	33.	-	X	X		X	X
		5237-080430-191 (duplicate)		11 - 13		120. J	590.	260.	277.87	-	-	-	-	0.42	X	X		X	X
		5237-080430-191G (duplicate)		11		-	-	-	-	7.3 J	0.63 J	14. J	30.	-	X	X		X	X
		5237-080430-193		22 - 23.5	Deep	46,000. J	120,000.	30,000.	36,985.	-	-	-	-	10.3	X	X		X	X
		5237-080430-193G		22		-	-	-	-	910. J	560. J	570. J	900.	-	X	X		X	X

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
P-34	HAI	5237-080430-194	30-Apr-08	28 - 29	Deep	1,800. J	1,900.	540.	-	-	-	-	-	-	X	X			X
		5237-080430-195		31 - 32		2.5 J	1.5 U	3.7 U	-	-	-	-	-	-					
		5237-080430-196		39 - 40		5.9 J	17. J	13. J	-	-	-	-	-	-					
P-36	HAI	5237-080501-198	1-May-08	11 - 13	Subsurface	1,600.	7,500. J	2,000. J	2,985.	-	-	-	-	1.92 J	X	X			X
		5237-080501-198G		11		-	-	-	-	28.	12.	65.	95.	-	X	X			X
		5237-080501-199		18 - 20	Deep	20,000.	80,000. J	14,000. J	63,040.	-	-	-	-	17.7 J	X	X		X	X
		5237-080501-199G		18		-	-	-	-	**670.**	390.	430.	610.	-	X	X		X	X
		5237-080501-202		30 - 31		53.	19. J	9.8 J	-	-	-	-	-	-	X	X			X
		5237-080501-203		35 - 36		2.6 U	1.8 U	4.3 U	-	-	-	-	-	-					
P-37	HAI	5237-080430-181	30-Apr-08	0 - 3	Surface	4.3 U*	22. J	82. J	0.5816	-	-	-	-	0.13 J		X			
		5237-080430-181G		2.5		-	-	-	-	0.0015 J	0.0019 J	0.00043 J	0.00155	-		X			
		5237-080430-182		7 - 8	Subsurface	16. J	110.	250.	0.3633	-	-	-	-	0.7					
		5237-080430-184		16 - 18		1,900. J	8,000. J	2,500. J	3,800.	-	-	-	-	3.59	X	X			
		5237-080430-184G		18		-	-	-	-	7.9 J	6.4 J	58. J	93.	-	X	X			
P-38	HAI	5237-080501-206	1-May-08	11.5 - 13.5	Subsurface	1.7 U	1.3 U	3.1 U	0.2471	-	-	-	-	0.14 J		X			
		5237-080501-206G		13.5		-	-	-	-	0.0022 J	0.00042 J	0.00032 J	0.00028	-		X			
		5237-080501-209		25 - 26	Deep	4,300.	12,000. J	3,000. J	-	-	-	-	-	5.2 J	X	X		X	X
		5237-080501-211		34 - 35		1,300.	1,600.	380.	-	-	-	-	-	0.49	X	X			X
		5237-080501-212		38 - 40		2,900.	7,500. J	1,800. J	1,837.4	-	-	-	-	0.94 J	X	X		X	X
		5237-080501-212G		38		-	-	-	-	81.	13.	64.	82.	-	X	X		X	X
		5237-080501-213		44 - 45		27,000.	67,000. J	12,000. J	-	-	-	-	-	0.38 J	X	X			X
P-39	HAI	5237-080429-162	29-Apr-08	0 - 3	Surface	2.3 U	11. J	48. J	0.7373	-	-	-	-	0.07 U					
		5237-080429-162G		3		-	-	-	-	0.00009 U	0.0012 J	0.00029 J	U	-					
		5237-080429-165		15 - 17	Subsurface	2. U	25. J	27. J	2.595	-	-	-	-	0.07 U					
		5237-080429-165G		17		-	-	-	-	0.000093 U	0.0011 U*	0.0003 J	U	-					
P-40	HAI	5237-080428-128	28-Apr-08	0 - 3	Surface	2.1 J	27. J	69. J	0.842	-	-	-	-	0.12 J					
		5237-080428-128G		2		-	-	-	-	0.0012 J	0.0027 J	0.00051 J	0.00194	-					
		5237-080428-130		11 - 12	Subsurface	-	460.	910.	-	-	-	-	-	-					
		5237-080428-131		16 - 18		120.	3,000. J	1,800. J	277.7	-	-	-	-	1.56					
		5237-080428-131G		18		-	-	-	-	0.055 J	0.06 J	2.5	0.43	-					
		5237-080428-132		23 - 24	Deep	2.7 U	1.9 U	4.6 J	-	-	-	-	-	-					
P-41	HAI	5237-080424-089	24-Apr-08	0 - 3	Surface	3.1 J	6.8 J	72. J	0.9011	-	-	-	-	1.98 J					
		5237-080424-089G		3		-	-	-	-	0.000091 U	0.0097 J	0.00049 J	0.00218	-					
		5237-080424-090		11.5 - 12.5	Subsurface	6.6 J	420.	260.	0.695	-	-	-	-	0.11 J	X	X			
		5237-080424-092		23 - 25	Deep	6.3 J	34. J	80. J	-	-	-	-	-	-					

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
P-42	HAI	5237-080416-031	16-Apr-08	0 - 3	Surface	1.9 U	15. J	77. J	3.6458	-	-	-	-	0.7					
		5237-080416-031G		2		-	-	-	-	0.000079 U	0.0037 J	0.000065 U	0.00039	-					
		5237-080416-032		11.5 - 13	Subsurface	1.7 U	43.	54. J	14.062	-	-	-	-	0.18 J					
		5237-080416-032G		11.5		-	-	-	-	0.000088 U	0.0022 J	0.00041 J	0.00169	-					
		5237-080416-033		33 - 35	Deep	-	-	-	4.987	-	-	-	-	0.16 J	X	X			
P-43	HAI	5237-080416-034	16-Apr-08	0 - 3	Surface	1.7 U	11. J	31. J	10.841	-	-	-	-	0.18 J					
		5237-080416-034G		2.5		-	-	-	-	0.000088 U	0.00098 J	0.000072 U	0.00044	-					
		5237-080416-035		16 - 18	Subsurface	1.7 U	10. J	17. J	3.245	-	-	-	-	0.22 J					
		5237-080416-035G		18		-	-	-	-	0.000092 U	0.00076 J	0.000076 U	0.00042	-					
		5237-080416-036		35 - 37	Deep	3,800.	7,600. J	2,400. J	12.464	-	-	-	-	6.4	X	X			
P-44	HAI	5237-080416-037	16-Apr-08	0 - 3	Surface	1.7 U	1.3 U	3.4 J	0.1733	-	-	-	-	0.07 U					
		5237-080416-037G		2.5		-	-	-	-	0.000088 U	0.0025 J	0.00045 J	0.00165	-					
		5237-080416-038		16 - 18	Subsurface	2,300.	5,500. J	1,300. J	3,944.	-	-	-	-	1.9	X	X			X
		5237-080416-038G		16		-	-	-	-	0.13	0.097 J	1.4	1.89	-	X	X			X
		5237-080416-039		26.5 - 28.5	Deep	1.9 U	17. J	12. J	5.118	-	-	-	-	0.4	X				
P-45	HAI	5237-080421-040	21-Apr-08	0 - 3	Surface	2.7 J	28. J	69. J	2.1189	-	-	-	-	0.17 J					
		5237-080421-040G		3		-	-	-	-	0.00011 U	0.00024 J	0.000088 U	U	-					
		5237-080421-042		10 - 12	Subsurface	4.7 J	220.	220.	11.262	-	-	-	-	0.5					
		5237-080421-042G		12		-	-	-	-	0.000095 U	0.0013 J	0.0003 J	0.00123	-					
P-46	HAI	5237-080421-044	21-Apr-08	0 - 3	Surface	1.7 U	2.3 J	3.2 U*	0.6862	-	-	-	-	0.05 U					
		5237-080421-044G		3		-	-	-	-	0.000093 U	0.0011 J	0.00026 J	0.001	-					
		5237-080421-045		6.5 - 8.5	Subsurface	1.8 U	84.	110. J	54.502	-	-	-	-	0.4	X	X	X		
		5237-080421-047		16.8 - 18		1.7 J	53.	40. J	11.82	-	-	-	-	1.3	X	X			
		5237-080421-047G		17.5		-	-	-	-	0.000083 U	0.0012 J	0.00027 J	0.00108	-	X	X			
		5237-080421-049		25 - 25.2	Deep	4.6 J	77. J	31. J	-	-	-	-	-	0.7 J					
		5237-080421-051		32.5 - 33		5.7 J	270.	180.	71.03	-	-	-	-	0.8	X	X			X
		5237-080421-052		38 - 40		2.4 U	1.8 U	4.2 U*	-	-	-	-	-	-					
P-47	HAI	5237-080421-053	21-Apr-08	0 - 3	Surface	1.9 U	4.6 J	3.6 U*	1.6866	-	-	-	-	0.25 J		X			
		5237-080421-053G		3		-	-	-	-	0.0017 J	0.0075 J	0.00033 J	0.0012	-		X			
		5237-080421-054		7.5 - 8.5	Subsurface	2,200.	9,100. J	2,500. J	5,099.	-	-	-	-	2.6	X	X			X
		5237-080421-054G		7.5		-	-	-	-	4.	4.6	12.	33.	-	X	X			X
		5237-080422-055		12 - 14		16.	43.	78. J	-	-	-	-	-	-	X	X			
		5237-080422-056		23 - 25	Deep	-	1.8 U	4.2 U*	-	-	-	-	-	0.16 J					

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method				
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4				
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide				
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.				
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV				
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.				
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max				
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
P-48	HAI	5237-080422-057	22-Apr-08	0 - 3	Surface	1.9 U	2.3 J	8.9 J	2.3803	-	-	-	-	0.31		X			
		5237-080422-057G		3		-	-	-	-	0.000097 U	0.0015 J	0.00028 J	0.00112	-		X			
		5237-080422-058		10 - 12.5	Subsurface	1.7 U	1.3 U	3.2 U	0.03796	-	-	-	-	0.05 U					
		5237-080422-058G		12		-	-	-	-	0.000085 U	0.0017 J	0.00032 J	0.00121	-					
		5237-080422-059		15 - 17		-	66.	130. J	-	-	-	-	-	-		X			
		5237-080422-060		24 - 25	Deep	2.5 U	1.8 U	4.2 U	-	-	-	-	-	-					
P-49	HAI	5237-080422-061	22-Apr-08	0 - 3	Surface	1.8 U	1.4 U	3.3 U	0.06403	-	-	-	-	0.05 U		X			
		5237-080422-061G		2		-	-	-	-	0.000094 U	0.0015 J	0.00027 J	0.00104	-		X			
		5237-080422-062		10.2 - 12.5	Subsurface	67.	670.	820.	1.0072	-	-	-	-	0.5					
		5237-080422-062G		12.5		-	-	-	-	0.00012 U	0.0017 J	0.00043 J	0.00176	-					
		5237-080422-063		16 - 18		-	110.	210.	-	-	-	-	-	0.83					
P-50	HAI	5237-080422-069	22-Apr-08	0 - 3	Surface	2.3 J	3.2 J	15. J	0.1103	-	-	-	-	0.05 UJ		X			
		5237-080422-069G		3		-	-	-	-	0.0055 J	0.035 J	0.00048 J	0.00192	-		X			
		5237-080422-070		11 - 14	Subsurface	86.	1,200.	1,400.	1.1988	-	-	-	-	0.33 J					
		5237-080422-070G		14		-	-	-	-	0.00012 U	0.0023 J	0.00045 J	0.00174	-					
		5237-080422-071 (duplicate)		11 - 14		91.	1,200.	1,400.	1.703	-	-	-	-	0.07 UJ					
		5237-080422-071G (duplicate)		14		-	-	-	-	0.00012 U	0.00068 J	0.000098 U	0.00035	-					
		5237-080422-072		23 - 25	Deep	-	1.6 U	4.8 J	-	-	-	-	-	-					
P-51	HAI	5237-080422-065	22-Apr-08	0 - 3	Surface	4.9 J	16. J	43. J	1.4644	-	-	-	-	0.05 UJ					
		5237-080422-065G		3		-	-	-	-	0.000092 U	0.0027 J	0.00059 J	0.00215	-					
		5237-080422-067		11 - 13	Subsurface	12.	68.	110. J	1.0318	-	-	-	-	0.05 UJ					
		5237-080422-067G		13		-	-	-	-	0.000086 U	0.002 J	0.00041 J	0.00161	-					
P-52	HAI	5237-080424-080	24-Apr-08	0 - 3	Surface	2.3 U	8.2 J	16. J	1.2153	-	-	-	-	0.07 J		X			
		5237-080424-080G		1		-	-	-	-	0.000088 U	0.0032 J	0.00071 J	0.00271	-		X			
		5237-080424-082		11 - 12	Subsurface	-	-	-	-	-	-	-	-	0.46 J					
		5237-080424-083		12 - 13		-	-	-	-	-	-	-	-	0.08 J					
		5237-080424-085		15 - 17		15.	120.	230.	1.75	-	-	-	-	0.1 J					
		5237-080424-085G		15		-	-	-	-	0.000079 U	0.0025 J	0.00051 J	0.00197	-					
		5237-080424-088		30 - 31	Deep	26.	150.	270.	-	-	-	-	-	-				X	
P-54	HAI	5237-080429-168	29-Apr-08	0 - 3	Surface	1.9 U	51.	160.	17.37	-	-	-	- U	3.51 J		X			
		5237-080429-168G		3		-	-	-	-	0.000079 U	0.0006 U*	0.00021 J	U	-		X			
		5237-080429-169		7 - 9	Subsurface	18.	150.	290.	4.54	-	-	-	-	1.63 J		X			
		5237-080429-169G		9		-	-	-	-	0.00013 U	0.0014 U*	0.00034 J	U	-		X			
		5237-080429-171		15 - 17		2.7 J	2.1 J	3.5 U	-	-	-	-	-	0.25 J					

TABLE 4 – Summary of Analytical Results for Soil Samples: TPH, BTEX, Total PAHs, and Cyanide

						Northwest Method			EPA Method	EPA Method 8260				EPA Method					
						TPH - Gx	TPH-Dx		8270 SIM or C	Volatile Aromatics				335.4					
						Gasoline	Diesel	Oil [2]	Total PAHs	Benzene	Toluene	Ethyl-benzene	Xylenes	Total Cyanide					
Screening Level Values [1]				Surface	Occupational	22,000.	70,000.	28,000.	NV	34.	77,000.	140.	25,000.	20,000.					
					Ecological	NV	NV	NV	NV	3,300.	200.	NV	1.	NV					
				Subsurface	Construction	13,000.	23,000.	5,900.	NV	340.	24,000.	1,600.	19,000.	6,200.					
					Excavation	>Max	>Max	>Max	NV	9,500.	>Max	44,000.	>Max	>Max					
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (bgs)	Depth Group	Analytical Results (mg/Kg)									Field Observation				
															Odor	Sheen	Lamp Black	Oil	Tar
P-54	HAI	5237-080429-173	29-Apr-08	20 - 22	Deep	3,700.	2,100.	700.	827.3	-	-	-	-	3.11 J	X	X		X	X
		5237-080429-173G		21		-	-	-	-	1.6	0.22 J	2.3	4.	-	X	X		X	X
		5237-080429-174		27 - 28		2.1 U	1.6 U	3.7 U	-	-	-	-	-	0.6 J	X				
		5237-080429-175		32 - 33		2.6 U	44.	12. J	-	-	-	-	-	-					
Soil Boring Samples - 2009 RotoSonic																			
SB-21	HAI	5237-090309-001	9-Mar-09	11 - 13	Subsurface	-	730.	570.	235.52	-	-	-	-	441. J					
		5237-090309-001G		12		25.	-	-	-	0.092	0.062	6.5	0.065	-					
		5237-090311-002G	11-Mar-10	98	Deep	-	-	-	-	11.	0.42	0.14	0.207	-					
SB-27	HAI	5237-090319-005	19-Mar-09	17 - 18	Subsurface	-	370.	310.	133.37	-	-	-	-	26. J					
		5237-090319-005G		18		7.9	-	-	-	0.0037 J	0.002	0.013 J	0.00155 J	-					
SB-35	HAI	5237-090317-004	17-Mar-09	17 -18	Subsurface	-	**31,000.** J	**7,200.** J	9,891.	-	-	-	-	4.51 J	X	X		X	
		5237-090317-004G		18		9,400.	-	-	-	71.	91.	88.	160.	-	X	X		X	
SB-53	HAI	5237-090311-003	11-Mar-09	18 - 19	Subsurface	-	4,600. J	1,600. J	1,323.4	-	-	-	-	12.8 J	X	X		X	
		5237-090311-003G		19		860.	-	-	-	8.4	5.1	9.4	12.7	-	X	X		X	

Note:

bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
HAI = Hahn and Associates, Inc.
HCID = hydrocarbon identification

J = estimated concentration
LTI = Limno-Tech, Inc.
MFA = Maul Foster and Alongi, Inc.
NV = No screening level value established

R= Data rejected during validation review
TPH = total petroleum hydrocarbons
U = not detected above detection limit indicated
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DEQ Risk Based Concentrations (9/15/2009 rev.) for direct contact with soils (ingestion, dermal contact, inhalation). Screening level values for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update) and consist of lowest established values for plants, invertebrates, birds, or mammals.

2= Screening level values for oil-range petroleum hydrocarbons were calculated with site-specific TPH fractionization data using procedures described in the DEQ TPH03b3 spreadsheet (DEQ 2003).
The TPH values indicated for surface pathway evaluation are the lowest calculated RBCs from all surface sample fractionization data (n=2), and values for subsurface pathway evaluation are the lowest RBCs calculated from all subsurface samples (n=16).
An exceedence is not indicated in the case where the sample specific fractionization data indicate TPH levels are below the calculated RBCs for that sample (applicable to P-17 only).

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

TABLE 5 – Summary of Analytical Results for Soil Samples
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Acenaphthene	Acenaphthylene	Anthracene	Benz (a) anthracene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Benzo (a) pyrene	Chrysene	Dibenzo (ah) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
Screening Level Values [1]				Surface	Occupational	61,000.	NV	>Max	2.7	2.7	NV	27.	0.27	270.	0.27	29,000.	41,000.	2.7	23.	NV	21,000.	NV
					Ecological	20.	NV	NV	NV	NV	NV	NV	125.	NV	NV	NV	30.	NV	10.	NV	NV	NV
				Subsurface	Construction	19,000.	NV	93,000.	21.	21.	NV	210.	2.1	2,100.	2.1	8,900.	12,000.	21.	580.	NV	6,700.	NV
					Excavation	>Max	NV	>Max	590.	590.	NV	5,900.	59.	59,000.	59.	>Max	>Max	590.	16,000.	NV	>Max	NV
						Analytical Results in mg/kg (ppm)																
Stormwater Catch Basin Sample - 2001																						
CDA /Chrome Shed Catch Basin	Wacker	CLI Composite 1-2	19-Jun-01	NA	NA	0.17 U	0.17 U	0.17 U	0.2	0.3	0.2	0.2	0.2	0.3	0.17 U	0.4	0.17 U	0.2	0.17 U	0.2	0.4	2.6
Surface Samples (Above Top of Willamette River Embankment) - 2001																						
S-1	HAI	5237-010821-167	21-Aug-01	0.2	Surface	0.067 U	0.067 U	0.067 U	0.153 J	0.256 J	0.334 J	0.159 J	0.322 J	0.201 J	0.067 U	0.211	0.067 U	0.199 J	0.067 U	0.08	0.228 J	2.143
S-2	HAI	5237-010821-168	21-Aug-01	0.2	Surface	0.067 U	0.067 U	0.067 U	0.067 U	0.081	0.143	0.07	0.11	0.069	0.067 U	0.069	0.067 U	0.077	0.067 U	0.067 U	0.087	0.7069
S-3	HAI	5237-010821-169	21-Aug-01	0.2	Surface	0.067 U	0.067 U	0.067 U	0.119	0.156	0.197	0.109	0.213	0.167	0.067 U	0.259	0.067 U	0.113	0.067 U	0.149	0.315	1.797
S-4	HAI	5237-010821-170	21-Aug-01	0.2	Surface	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	U
(duplicate)		5237-010821-171		0.2		0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	U
S-5	HAI	5237-010821-172	21-Aug-01	0.2	Surface	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	U
RP-11	AMEC	128-01	17-Nov-05	7.5-8.0	Subsurface	240.	10.	160.	91.	58.	81. J	65. J	99.	100.	9.6 J	300.	140. J	29. J	700.	630.	460. J	3,172.6
Outfall / Embankment Sample																						
Fab 2 OF	HAI	5237-010919-173	19-Sep-01	0.2	Surface	6.67 U	6.67 U	6.67 U	7.	6.67 U	6.67 U	6.7	7.1	8.7	6.67 U	21.	6.67 U	6.67 U	6.67 U	17.5	23.2	91.2
		5237-080502-214	2-May-08	Pipe	Surface	0.89 J	1.3 J	1.4 J	5.6 J	10. J	7.6 J	3.2 J	9. J	5.9 J	1.2 J	8.5 J	0.58 J	7.1 J	2.4 J	4.9 J	8.4 J	78.
		5237-080502-215		Discharge Path	Surface	0.24	0.059	0.15	0.18	0.34	0.26	0.1	0.27	0.24	0.051	0.47	0.078	0.25	0.8 J	0.67 J	0.45	4.6
Soil Boring Samples - Pre 2008 (HAI and Others)																						
P-1	HAI	5237-010817-142	17-Aug-01	30.0	Deep	2,770.	151.	997.	817.	638.	1,120.	743.	1,280.	940.	143.	3,020.	1,240.	623.	10,900.	6,650.	3,400.	35,432.
P-2	HAI	5237-010814-115	14-Aug-01	22.5	Deep	5.2	0.335 U	1.7	1.	0.948	1.1	0.833	1.3	1.5	0.335 U	4.	1.9	0.617	0.335 U	4.4	4.6	29.098
P-3	HAI	5237-010820-155	20-Aug-01	17.0	Subsurface	523.	48.7	208.	220.	163.	201.	141.	204.	247.	25.4	713.	282.	115.	1,790.	1,600.	827.	7,308.1
P-4	HAI	5237-010810-80	10-Aug-01	17.5	Subsurface	35.1 J	4. J	25.1 J	18.3 J	10. J	13.1 J	8.2 J	18.1 J	21.3 J	2.3 J	56.5 J	23.9 J	7.6 J	41.1 J	83.5 J	63.2 J	431.3
P-5	HAI	5237-010813-92	13-Aug-01	9.5	Subsurface	463.	36.	322.	207.	103.	149.	103.	205.	245.	24.2	655.	307.	83.2	905.	1,120.	772.	5,699.4
P-6	HAI	5237-010802-04	2-Aug-01	10.0	Subsurface	0.67 U	1.5	0.79	3.	5.	5.2	3.8	8.8	4.2	0.67 U	5.8	0.67 U	3.3	0.67 U	1.5	7.1	49.99
P-7	HAI	5237-010808-64	8-Aug-01	22.5	Deep	1.4	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	1.9	0.67 U	0.687	5.6 J	0.67 U	0.67 U	5.8 J	1.	16.387
(duplicate)		5237-010808-65		22.5		0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	0.67 U	1.6 J	0.67 U	0.67 U	1.8 J	0.67 U	3.4
P-10	HAI	5237-010803-23	3-Aug-01	26.0	Deep	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.076	0.076
GP02-01	LTI	GP02-01	19-Mar-02	12.5	Subsurface	1.	0.92	2.1	2.6	1.8	2.3	1.7	3.	3.5	0.34	5.5	1.4	1.6	0.36	6.2	7.1	41.42
				23.5	Deep	30.	45.	50.	26.	13.	18.	18.	26.	40.	5.	100.	44.	13.	430.	230.	110.	1,198.
GP02-02	LTI	GP-02-02	20-Mar-02	3.0	Surface	0.05 U	0.05 U	0.05 U	0.08	0.055	0.065	0.06	0.075	0.11	0.05 U	0.16	0.05 U	0.055	0.11	0.095	0.15	1.015
				19.0	Subsurface	0.05 U	0.05	0.075	0.28	0.24	0.4	0.27	0.44	0.4	0.07	0.68	0.05 U	0.28	0.05 U	0.16	0.69	4.035
				22.0	Deep	0.05 U	0.075	0.18	0.22	0.14	0.24	0.19	0.28	0.31	0.05 U	0.66	0.065	0.17	0.055	0.74	0.62	3.945
				24.0		3.	3.8	4.4	3.5	1.8	2.4	1.9	3.3	4.4	0.41	8.8	4.	1.7	34.	21.	11.	109.41
GP02-03	LTI	GP02-03	21-Mar-02	4.0	Subsurface	0.05 U	0.065	0.11	0.28	0.26	0.44	0.26	0.44	0.48	0.075	0.64	0.05 U	0.3	0.05 U	0.07	0.63	4.05
				23.0	Deep	0.16	0.12	0.26	0.53	0.5	0.72	0.44	0.75	0.86	0.12	1.3	0.07	0.5	0.07	0.64	1.9	8.94
				25.0		0.38	0.22	0.7	3.1	2.4	3.5	2.4	4.1	4.4	0.65	4.4	0.32	2.6	0.38	3.3	5.4	38.25
GP4	MFA	GP4-S-7.5	26-Sep-02	7.5	Subsurface	120.	12.	110.	72.	45.	47.	45.	78.	79.	5.7	250.	77.	48.	140.	420.	290.	1,838.7
		GP4-S-19.0		19.0		0.006	0.026	0.036	0.12	0.12	0.16	0.099	0.17	0.15	0.016	0.27	0.018	0.14	0.02	0.15	0.43	1.931
		GP4-S-26.0		26.0	Deep	0.005 U	0.005 U	0.005 U	0.007	0.011	0.012	0.011	0.013	0.013	0.005 U	0.007	0.005 U	0.01	0.005 U	0.005 U	0.12	0.204
GP5	MFA	GP5-S-26.0	7-Oct-02	13.0	Subsurface	0.055 U	0.21	0.13	1.3	1.8	2.5	1.5	3.3	1.5	0.23	1.2	0.055 U	2.3	0.085	0.055 U	2.1	18.155
		GP5-S-21.0		21.0	Deep	5.6	0.59	6.7	6.8	4.4	4.3	3.8	8.4	6.9	0.47	19.	3.4	4.4	0.16	24.	21.	119.92
		GP5-S-26.0		26.0		0.008	0.007 U	0.013	0.017	0.014	0.017	0.012	0.02	0.023	0.007 U	0.048	0.007 U	0.014	0.007 U	0.055	0.068	0.309
GP6	MFA	GP6-S-23.0	30-Sep-02	15.0	Subsurface	0.006	0.008	0.052	0.22	0.35	0.48	0.25	0.62	0.25	0.052	0.13	0.005 U	0.49	0.028	0.04	0.22	3.195
		GP6-S-23.0		23.0	Deep	140.	8.7	110.	74.	42.	42.	38.	83.	77.	5.6	210.	87.	45.	8.2	450.	230.	1,650.5
		GP6-S-30.0		30.0		0.074 U	0.007 U	0.007 U	0.01	0.013	0.014	0.01	0.02	0.013	0.007 U	0.012	0.007 U	0.014	0.007 U	0.007 U	0.018	0.124
GP7	MFA	GP7-S-30.0	2-Oct-02	9.0	Subsurface	0.018	0.49	0.38	1.4	1.3	2.5	1.2	2.1	1.7	0.27	2.5	0.003	2.1	0.38	0.37	1.8	18.511
		GP7-S-15.5		15.5		0.73	6.7	5.8	21.	31.	35.	27.	57.	25.	4.4	32.	0.93	34.	5.5	9.2	55.	350.26

TABLE 5 – Summary of Analytical Results for Soil Samples
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Acenaphthene	Acenaphthylene	Anthracene	Benz (a) anthracene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Benzo (a) pyrene	Chrysene	Dibenzo (ah) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
Screening Level Values [1]				Surface	Occupational	61,000.	NV	>Max	2.7	2.7	NV	27.	0.27	270.	0.27	29,000.	41,000.	2.7	23.	NV	21,000.	NV
					Ecological	20.	NV	NV	NV	NV	NV	NV	125.	NV	NV	NV	30.	NV	10.	NV	NV	NV
				Subsurface	Construction	19,000.	NV	93,000.	21.	21.	NV	210.	2.1	2,100.	2.1	8,900.	12,000.	21.	580.	NV	6,700.	NV
					Excavation	>Max	NV	>Max	590.	590.	NV	5,900.	59.	59,000.	59.	>Max	>Max	590.	16,000.	NV	>Max	NV
						Analytical Results in mg/kg (ppm)																
Soil Boring Samples - Pre 2008 (HAI and Others)																						
GP7	MFA	GP7-S-30.0	2-Oct-02	30.0	Deep	15.	1.9	14.	17.	17.	16.	14.	28.	20.	2.	47.	7.4	17.	1.1	45.	57.	319.4
GP10	MFA	GP10-S-20.0	16-Jul-03	20.0	Subsurface	1.6	2.	2.5	2.4	2.	1.3	0.47	1.9	1.8	0.19	5.6	1.7	0.91	10.	7.7	7.	49.07
GP11	MFA	GP11-S-15.0	14-Jul-03	15.0	Subsurface	63.	8.6	37.	44.	45.	29.	11.	44.	31.	4.3	59.	28.	22.	110.	67.	120.	722.9
GP20	MFA	GP20-S-30.0	19-Jul-04	30.0	Deep	0.069	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U		0.067 U	0.067 U	0.067 U	0.113	0.067 U	0.067	0.248
GP21	MFA	GP21-S-30.0	19-Jul-04	30.0	Deep	12.	1.66	6.42	3.56	3.2	2.3	1.22	3.81	3.92		13.	6.27	1.77	60.2	35.1	16.6	171.03
GP22	MFA	GP22-S-30.0	19-Jul-04	30.0	Deep	642.	32.9	281.	174.	179.	112.	53.	186.	185.		657.	266.	56.2	3,190.	1,270.	636.	7,920.1
(duplicate)	MFA	GP22-S-DUP2	19-Jul-04	30.0	Deep	626.	33.3	281.	170.	167.	110.	53.2	189.	182.		660.	260.	57.7	3,360.	1,350.	679.	8,178.2
GP-23	MFA	GP23-S-28.5	19-Jul-04	28.5	Deep	161.	8.14	73.2	48.1	50.4	23.3	16.5	52.9	52.8		163.	72.7	19.7	259.	415.	190.	1,605.74
GP24	MFA	GP24-S-26.0	19-Jul-04	26.0	Deep	0.459	0.067 U	0.07	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U	0.067 U		0.074	0.214	0.067 U	0.227	0.526	0.116	1.686
Soil Boring Samples - 2007 Pre-Utility Excavation for Pipeline (HAI)																						
P-A	HAI	2708-070504-17	4-May-07	2.5 - 3.0	Surface	0.0259	0.167	0.101	1.19	2.07	1.68	2.58	1.56	1.83	0.222	0.601	0.0151 U	1.98	0.0613	0.274	0.644	14.986
P-B	HAI	2708-070504-14	4-May-07	7.0 - 7.5	Subsurface	24.7	2.16 U	12.1	13.6	14.8	9.85	12.5	10.1	17.4	2.23	35.2	16.2	9.24	2.16 U	58.7	42.7	279.32
P-C	HAI	2708-070504-10	4-May-07	8.5 - 9.0	Subsurface	8.65	1.94	2.98	15.8	19.	13.3	17.8	12.6	20.8	2.68	50.2	3.19	12.8	0.72	2.82	61.	246.28
P-D	HAI	2708-070504-07	4-May-07	2.5 - 3.0	Surface	0.0628	0.223	0.159	0.619	1.9	0.717	2.24	0.534	0.839	0.182	0.826	0.0267	0.747	0.0995	0.468	1.88	11.523
P-E	HAI	2708-070504-05	4-May-07	2.5 - 3.0	Surface	0.274	0.868	0.59	5.39	7.82	9.31	13.4	8.83	9.17	3.5 U	9.88	0.124	10.2	0.321	4.78	13.2	94.157
P-F	HAI	2708-070504-04	4-May-07	7.0 - 7.5	Subsurface	19.8	4.63 U	9.82	12.8	14.3	11.5	15.7	11.9	19.	4.63 U	41.4	10.8	11.6	35.	63.5	45.1	322.22
P-G	HAI	2708-070504-02	4-May-07	8.5 - 9.0	Subsurface	10.8	0.926	5.06	7.1	8.74	5.58	7.69	5.79	9.43	1.12	23.4	7.88	5.59	0.879 U	14.1	26.8	140.006
P-Y	HAI	2708-070504-16	4-May-07	7.0 - 7.5	Subsurface	57.9	4.17 U	30.	23.3	23.9	15.8	18.6	14.8	29.5	4.17 U	70.8	37.8	13.8	319.	144.	84.6	883.8
P-Z	HAI	2708-070504-12	4-May-07	7.0 - 7.5	Subsurface	93.6	7.02 U	52.9	39.3	39.3	24.7	30.6	25.2	49.7	7.02 U	117.	65.9	22.6	120.	265.	138.	1,083.8
Soil Boring Samples - 2008 Push Probe (HAI)																						
P-12	HAI	5237-080414-001	14-Apr-08	0 - 3	Surface	5.6	5.	11.	12.	15.	12.	4.6	14.	16.	2.	36.	7.3	13.	39.	50.	44.	286.5
		5237-080414-002		5 - 7.5	Subsurface	18.	7.7	24.	19.	21.	18.	6.8	24.	24.	2.2	66.	18.	17.	140.	110.	86.	601.7
		5237-080414-005		16.5 - 17	Deep	160.	13.	1,400.	640.	290.	88.	65.	260.	870.	24.	3,100.	280.	110.	540.	5,900.	4,000.	17,740.
P-13	HAI	5237-080414-007	14-Apr-08	0 - 3	Surface	0.088	0.18	0.35	1. J	1.5 J	1.4 J	0.5	1.5 J	1.5 J	0.2	3.	0.086	1.4 J	0.22	1.2 J	3.8	17.924
		5237-080414-008		10 - 12	Subsurface	0.015	0.12	0.078	0.82	1.2	1.	0.36	1.2	1.	0.14	1.6	0.017	1.	0.069	0.37	2.	10.989
P-14	HAI	5237-080414-010	14-Apr-08	0 - 3	Surface	0.043	0.69	0.39	2.9	4.1	3.9	1.2	3.7	4.	0.64	4.4	0.042	4.2	0.31	0.35	6.2	37.065
		5237-080414-011		12 - 13.5	Subsurface	0.057	2.7	0.85	4.4	13.	14.	3.7	11.	4.3	1.3	5.2	0.082	15.	0.34	0.24	8.7	84.869
P-15	HAI	5237-080414-012	14-Apr-08	0 - 2.5	Surface	0.011	0.096	0.037	0.29	0.56	0.66	0.17	0.59	0.31	0.067	0.45	0.0097	0.62	0.081	0.13	0.76	4.8417
		5237-080414-013		17 - 19	Deep	0.01	0.0013 J	0.0043 J	0.0062	0.0064	0.0039 J	0.0023 J	0.005	0.0052	0.00028 U*	0.02	0.0088	0.00016 U*	0.024 J	0.035 J	0.022	0.1544
P-16	HAI	5237-080430-176	30-Apr-08	0 - 3	Surface	19.	7.9	25.	42.	58.	51.	17.	58.	58.	6.	110.	11.	45.	16. J	120. J	140.	783.9
		5237-080430-177		7.5 - 9.5	Subsurface	200.	650.	980.	1,200.	1,300.	1,100.	510.	1,300.	1,300.	160.	3,600.	490.	1,100.	1,200. J	3,700. J	4,600.	23,390.
P-17	HAI	5237-080425-121	25-Apr-08	0 - 2	Surface	0.12	0.79	0.73	1.9	3.	2.6	0.91	2.4	2.6	0.35	4.3	0.34	2.7	0.51 J	4.9 J	5.5	33.65
		5237-080425-124		15 - 17	Subsurface	70.	7.2	57.	56.	67.	44.	23.	61.	68.	7.	150.	37.	45.	300. J	250. J	170.	1,412.2
P-18	HAI	5237-080415-025	15-Apr-08	0 - 3	Surface	0.23	0.17	0.17	0.6	1.1	1.1	0.35	0.68	0.93	0.16	1.2	0.13	1.1	0.45	0.91	1.5	10.78
		5237-080415-026		11.5 - 13.5	Subsurface	0.082	1.4	0.7	5.3	11.	11.	3.6	9.9	5.7	1.3	8.4	0.069	12.	0.36	0.55	12.	83.361
P-19	HAI	5237-080415-021	15-Apr-08	0 - 3	Surface	0.045	0.11	0.1	0.53	0.91	0.87	0.28	0.83	0.69	0.11	0.92	0.032	0.88	0.2	0.34	1.4	8.247
(duplicate)		5237-080415-022		0 - 3		0.37	1.8	1.6	3.3	4.7	4.2	1.6	3.9	4.3	0.72	8.1	1.1	4.4	2.5	9.1	10.	61.69
		5237-080415-023		10 - 12	Subsurface	0.32	2.4	1.5	6.3	14.	15.	4.3	8.1	8.8	1.9	14.	0.15	15.	0.61	1.6	18.	111.98
		5237-080415-024		22.5 - 24.5	Deep	46.	4.3	23.	18.	21.	18.	6.9	21.	22.	2.3	68.	21.	19.	120.	130.	82.	622.5

TABLE 5 – Summary of Analytical Results for Soil Samples
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Acenaphthene	Acenaphthylene	Anthracene	Benz (a) anthracene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Benzo (a) pyrene	Chrysene	Dibenzo (ah) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
Screening Level Values [1]				Surface	Occupational	61,000.	NV	>Max	2.7	2.7	NV	27.	0.27	270.	0.27	29,000.	41,000.	2.7	23.	NV	21,000.	NV
					Ecological	20.	NV	NV	NV	NV	NV	NV	125.	NV	NV	NV	30.	NV	10.	NV	NV	NV
				Subsurface	Construction	19,000.	NV	93,000.	21.	21.	NV	210.	2.1	2,100.	2.1	8,900.	12,000.	21.	580.	NV	6,700.	NV
					Excavation	>Max	NV	>Max	590.	590.	NV	5,900.	59.	59,000.	59.	>Max	>Max	590.	16,000.	NV	>Max	NV
						Analytical Results in mg/kg (ppm)																
P-20	HAI	5237-080415-015	15-Apr-08	0 - 3	Surface	0.0098 J	0.039	0.026	0.14 J	0.3 J	0.3 J	0.09	0.26 J	0.2 J	0.035	0.24 J	0.0055	0.3 J	0.057 J	0.066 J	0.32 J	2.3883
		5237-080415-016		16 - 18	Subsurface	0.028	0.0093	0.014	0.054	0.1	0.11	0.046	0.064	0.08	0.027	0.1	0.016	0.086	0.033 J	0.019 J	0.11	0.8963
		5237-080415-017		18 - 20		100.	1.6	24.	25.	18.	4.5	6.7	11.	24.	1.3	120.	76.	6.3	110.	250.	98.	876.4
P-22	HAI	5237-080415-028	15-Apr-08	0 - 3	Surface	0.088	0.16	0.086	0.43	0.94	0.97	0.3	0.91	0.64	0.16	0.61	0.049	1.	0.19	0.24	0.95	7.723
		5237-080415-029		10 - 11.5	Subsurface	0.0064	0.02	0.019	0.09	0.15	0.14	0.048	0.14	0.12	0.017	0.15	0.0048	0.13	0.047 J	0.037 J	0.18	1.2992
		5237-080415-030		22 - 24	Deep	670.	35.	390.	260.	270.	180.	75.	310.	320.	27.	920.	300.	240.	4,600.	1,800.	1,100.	11,497.
P-23	HAI	5237-080415-018	15-Apr-08	0 - 2.5	Surface	0.04	0.026	0.045	0.096	0.18	0.19	0.054	0.16	0.13	0.023	0.19	0.05	0.19	0.093	0.23	0.24	1.937
		5237-080415-019		10 - 12	Subsurface	0.0063	0.018	0.016	0.14	0.33	0.43	0.099	0.31	0.21	0.034	0.3	0.0079	0.38	0.038 J	0.099 J	0.42	2.8382
		5237-080415-020		16 - 18	Deep	0.1	0.0058	0.011	0.032	0.037	0.04	0.012	0.036	0.039	0.0048 J	0.11	0.0093	0.033	0.054 J	0.021 J	0.14	0.6849
Soil Boring Samples - 2008 Push Probe																						
P-24	HAI	5237-080425-114	25-Apr-08	0 - 2.5	Surface	0.091	0.23	0.29	0.91	1.6	1.5	0.43	1.4	1.3	0.28	1.3	0.064	1.5	0.28 J	0.82 J	2.	13.995
		5237-080425-115		10 - 12	Subsurface	3.7	0.85	2.6	2.6	4.2	4.3	1.4	4.	3.6	0.41	9.6	2.2	4.1	0.57 J	7.8 J	11.	62.93
P-25	HAI	5237-080425-107	25-Apr-08	0 - 3	Surface	0.03	0.37	0.17	0.83	2.	2.	0.6	1.5	1.2	0.29	1.4	0.024	2.	0.16 J	0.46 J	2.	15.034
		5237-080425-109		12 - 14	Subsurface	19.	1.4	9.4	7.7	7.5	5.8	2.4	8.3	8.8	0.83	25.	8.5	5.9	30. J	55. J	31.	226.53
P-26	HAI	5237-080425-101	25-Apr-08	0 - 3	Surface	0.096	0.29 J	0.24	0.95	1.8	1.8	0.58	1.4	1.3	0.22	2.	0.053	1.8	0.21 J	1.1 J	2.7	16.539
		5237-080425-103		13 - 15	Subsurface	5.7	0.72	3.2	2.8	3.6	3.1	1.2	3.5	3.8	0.34	10.	2.7	3.	1.1 J	17. J	12.	73.76
P-28	HAI	5237-080428-151	28-Apr-08	0 - 3	Surface	0.012	0.042	0.045	0.15	0.29	0.3	0.084	0.24	0.24	0.037	0.33	0.0083	0.29	0.026 J	0.12 J	0.44	2.6543
		5237-080428-153		10 - 12	Subsurface	0.024	0.26	0.15	0.61	1.4	1.6	0.43	1.3	0.84	0.18	0.82	0.016	1.5	0.087 J	0.14 J	1.5	10.857
		5237-080428-154		15 - 17	Deep	0.6	0.32	4.3	3.4	6.1	5.	1.9	2.8	5.9	0.71	11.	1.5	4.9	4.4 J	13. J	11.	76.83
P-29	HAI	5237-080501-197	1-May-08	0 - 1	Surface	0.11	0.26	0.31	0.62	0.82	0.72	0.25	0.78	0.78	0.095	1.6	0.13	0.7	2.6 J	1.2 J	2.1	13.075
		5237-080501-204		12 - 14	Subsurface	1.3	0.21	1.1	1.	1.1	0.89	0.37	1.1	1.2	0.12	3.1	0.79	0.86	0.84 J	5.5 J	3.5	22.98
P-30	HAI	5237-080428-135	28-Apr-08	0 - 3	Surface	0.1	0.67	0.45	0.93	1.9	2.3	0.58	1.6	1.3	0.28	1.8	0.15	2.3	0.41 J	1.4 J	2.2	18.37
		5237-080428-137		12 - 14	Subsurface	0.013	0.011	0.014	0.023	0.037	0.033	0.0097	0.032	0.03	0.0042	0.067	0.012	0.03	0.05 J	0.07 J	0.079	0.5149
(duplicate)		5237-080428-138		12 - 14		0.011	0.01	0.011	0.023	0.037	0.031	0.012	0.034	0.029	0.0044	0.061	0.008	0.031	0.026 J	0.057 J	0.074	0.4594
P-31	HAI	5237-080428-144	28-Apr-08	0 - 3	Surface	0.0043	0.036	0.02	0.077	0.17	0.16	0.05	0.14	0.11	0.022	0.14	0.0036	0.16	0.031 J	0.044 J	0.17	1.3379
		5237-080428-146		11 - 13	Subsurface	0.093	0.39	0.23	1.2	2.3	2.4	0.72	2.4	1.6	0.27	2.1	0.065	2.2	0.22 J	0.59 J	2.7	19.478
P-32	HAI	5237-080424-094	24-Apr-08	0 - 3	Surface	0.0012	0.011	0.0077	0.036	0.075	0.08	0.022	0.045	0.052	0.011	0.057	0.0012	0.077	0.011 J	0.017 J	0.07	0.5741
		5237-080424-095		8 - 9	Subsurface	0.052	0.034	0.045	0.16	0.24	0.2	0.077	0.18	0.21	0.0075	0.33	0.05	0.2	0.055 J	0.22 J	0.39	2.4505
P-33	HAI	5237-090810-001	10-Aug-09	1 - 2	Surface	0.0161 U	0.249	0.104	0.459	1.52 BK	1.27	BK	1.26 J	0.623	0.13	0.579	0.0161 U	0.996	0.0548	0.0911	0.921	8.2569
		5237-090810-002		8 - 9	Subsurface	0.565	0.21	0.343	0.672	1.24 BK	0.782	BK	1.09 J	0.813	0.0947	1.59	0.204	0.648	0.3	1.24	1.93	11.7217
		5237-090810-003		15 - 17	Deep	86. J	74. J	100. J	65. J	43. J	28. J	38. J	67. J	89. J	8.8 J	230. J	90. J	39. J	920. J	590. J	300. J	2,767.8
P-34	HAI	5237-080430-188	30-Apr-08	0 - 3	Surface	0.013	0.088	0.049	0.14	0.32	0.36	0.1	0.27	0.21	0.045	0.24	0.013	0.34	0.11 J	0.093 J	0.31	2.701
		5237-080430-190		11 - 13	Subsurface	63. J	7.3	51.	26.	23. J	17. J	7.4	24.	31.	2.3 J	95.	36.	17. J	170.	220.	110.	900.
(duplicate)		5237-080430-191		11 - 13		19.	2.7	15.	8.7	8.	5.8	2.7	8.4	10.	0.77	29.	12.	5.8	44. J	68. J	38.	277.87
		5237-080430-193		22 - 23.5	Deep	2,000.	310.	1,500.	730.	630.	530.	250.	710.	840.	75.	2,600.	1,100.	510.	16,000. J	6,200. J	3,000.	36,985.
P-36	HAI	5237-080501-198	1-May-08	11 - 13	Subsurface	180.	24.	120.	63.	58.	40.	19.	61.	75.	5.	260.	110.	40.	1,000. J	600. J	330.	2,985.
		5237-080501-199		18 - 20	Deep	1,400.	2,900.	2,000.	1,300.	1,400.	1,100.	490.	1,500.	1,500.	150.	4,400.	1,900.	1,100.	27,000. J	9,800. J	5,100.	63,040.
P-37	HAI	5237-080430-181	30-Apr-08	0 - 3	Surface	0.011	0.0043	0.014	0.034	0.046	0.035	0.014	0.04	0.044	0.0061	0.086	0.0082	0.034	0.032 J	0.078 J	0.095	0.5816
		5237-080430-182		7 - 8	Subsurface	0.01	0.005	0.0068	0.022	0.036	0.025	0.013	0.028	0.027	0.0046	0.048	0.0059	0.025	0.02 J	0.034 J	0.053	0.3633
		5237-080430-184		16 - 18		130.	130.	180.	120.	120.	87.	37.	120.	150.	11.	460.	130.	85.	700. J	790. J	550.	3,800.
P-38	HAI	5237-080501-206	1-May-08	11.5 - 13.5	Subsurface	0.0013	0.014	0.0061	0.0074	0.026	0.054 J	0.0074	0.026	0.011	0.0045	0.0091	0.0016	0.044 J	0.013 J	0.0067 J	0.015	0.2471
		5237-080501-212		38 - 40	Deep	130.	12.	67.	36.	36.	27.	11.	38.	43.	3.4	140.	58.	26.	710. J	330. J	170.	1,837.4
P-39	HAI	5237-080429-162	29-Apr-08	0 - 3	Surface	0.0013 J	0.021	0.0075	0.041	0.1	0.12	0.029	0.088	0.057	0.012	0.05	0.0025	0.1	0.015 J	0.011 J	0.082	0.7373
		5237-080429-165		15 - 17	Subsurface	0.055	0.02	0.021	0.18	0.21	0.18	0.069	0.19	0.22	0.022	0.48	0.046	0.16	0.022 J	0.13 J	0.59	2.595

TABLE 5 – Summary of Analytical Results for Soil Samples
Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Acenaphthene	Acenaphthylene	Anthracene	Benz (a) anthracene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Benzo (a) pyrene	Chrysene	Dibenzo (ah) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
Screening Level Values [1]				Surface	Occupational	61,000.	NV	>Max	2.7	2.7	NV	27.	0.27	270.	0.27	29,000.	41,000.	2.7	23.	NV	21,000.	NV
					Ecological	20.	NV	NV	NV	NV	NV	NV	125.	NV	NV	NV	30.	NV	10.	NV	NV	NV
				Subsurface	Construction	19,000.	NV	93,000.	21.	21.	NV	210.	2.1	2,100.	2.1	8,900.	12,000.	21.	580.	NV	6,700.	NV
					Excavation	>Max	NV	>Max	590.	590.	NV	5,900.	59.	59,000.	59.	>Max	>Max	590.	16,000.	NV	>Max	NV
						Analytical Results in mg/kg (ppm)																
P-40	HAI	5237-080428-128	28-Apr-08	0 - 3	Surface	0.028	0.038	0.013	0.042	0.081	0.078	0.023	0.074	0.056	0.01	0.087	0.033	0.075	0.03 J	0.074 J	0.1	0.842
		5237-080428-131		16 - 18	Subsurface	21.	1.7	17.	11.	11.	8.8	3.8	**11.**	13.	1.3	38.	9.8	8.9	1.4 J	73. J	47.	277.7
P-41	HAI	5237-080424-089	24-Apr-08	0 - 3	Surface	0.0036	0.027	0.014	0.046	0.097	0.16	0.029	0.076	0.061	0.017	0.082	0.0025	0.13	0.023 J	0.033 J	0.1	0.9011
		5237-080424-090		11.5 - 12.5	Subsurface	0.012	0.0072	0.024	0.053	0.039	0.029	0.012	0.041	0.078	0.0058	0.071	0.02	0.023	0.033 J	0.077 J	0.17	0.695
P-42	HAI	5237-080416-031	16-Apr-08	0 - 3	Surface	0.011	0.076	0.031	0.16	0.51	0.64	0.17	**0.3**	0.29	0.073	0.26	0.0088	0.63	0.062	0.084	0.34	3.6458
		5237-080416-032		11.5 - 13	Subsurface	0.016	0.34	0.14	0.84	1.6	2.2	0.28	1.9	0.91	0.23	1.6	0.026	2.2	0.2	0.12	2.	14.602
		5237-080416-033		33 - 35	Deep	0.32	0.032	0.15	0.15	0.19	0.2	0.065	0.16	0.21	0.02	0.56	0.17	0.19	0.88	1.	0.69	4.987
P-43	HAI	5237-080416-034	16-Apr-08	0 - 3	Surface	0.023	0.23	0.13	0.29	1.3	2.5	0.42	**0.65**	0.58	0.23	0.75	0.018	2.3	0.15	0.17	1.1	10.841
		5237-080416-035		16 - 18	Subsurface	0.0056	0.11	0.047	0.086	0.37	0.92	0.12	0.18	0.17	0.089	0.14	0.0094	0.69	0.073 J	0.055 J	0.18	3.245
		5237-080416-036		35 - 37	Deep	900.	69.	630.	460.	470.	270.	150.	490.	560.	65.	1,400.	510.	290.	1,400. J	3,200. J	1,600.	12,464.
P-44	HAI	5237-080416-037	16-Apr-08	0 - 3	Surface	0.0022	0.0042	0.0024	0.0078	0.023	0.032	0.0074	0.0094	0.012	0.0031	0.0097	0.0017	0.028	0.009 J	0.0074 J	0.014	0.1733
		5237-080416-038		16 - 18	Subsurface	270.	20.	210.	**110.**	**110.**	85.	35.	**110.**	140.	**14.**	390.	160.	**90.**	**830.** J	890. J	480.	3,944.
		5237-080416-039		26.5 - 28.5	Deep	0.29	0.05	0.089	0.38	0.55	0.28	0.2	0.2	0.45	0.052	0.81	0.15	0.3	0.037 J	0.47 J	0.81	5.118
P-45	HAI	5237-080421-040	21-Apr-08	0 - 3	Surface	0.0095	0.043	0.019	0.16	0.28	0.23	0.083	0.23	0.24	0.035	0.21	0.0084	0.24	0.042 J	0.049 J	0.24	2.1189
		5237-080421-042		10 - 12	Subsurface	0.16	0.13	0.072	0.58	1.5	1.4	0.48	0.24	0.96	0.17	1.4	0.12	1.4	0.22 J	0.83 J	1.6	11.262
P-46	HAI	5237-080421-044	21-Apr-08	0 - 3	Surface	0.0014	0.019	0.0084	0.038	0.095	0.12	0.029	0.05	0.055	0.013	0.054	0.0014	0.1	0.014 J	0.014 J	0.074	0.6862
		5237-080421-045		6.5 - 8.5	Subsurface	0.072	1.4	0.8	3.6	6.5	6.9	2.1	**4.8**	5.1	1.2	5.6	0.14	7.	0.79	1.1	7.4	54.502
		5237-080421-047		16.8 - 18		0.044	0.13 J	0.055	0.44 J	1.1	1.	0.49 J	0.012 J	0.98 J	0.16 J	1.9	0.12	1.	0.089 J	1.3 J	3.	11.82
		5237-080421-051		32.5 - 33	Deep	4.5	0.42	2.2	3.8	4.5	3.8	1.5	3.4	5.1	0.61	10.	1.8	4.	0.4	13.	12.	71.03
P-47	HAI	5237-080421-053	21-Apr-08	0 - 3	Surface	0.016	0.018	0.01	0.078	0.2 J	0.21 J	0.068 J	0.095 J	0.14	0.032 J	0.16	0.0066	0.2 J	0.058 J	0.095 J	0.3	1.6866
		5237-080421-054		7.5 - 8.5	Subsurface	300.	59.	180.	**160.**	**150.**	110.	48.	**150.**	190.	**22.**	500.	160.	**120.**	**1,200.** J	1,100. J	650.	5,099.
P-48	HAI	5237-080422-057	22-Apr-08	0 - 3	Surface	0.0073	0.047	0.022	0.17	0.29	0.28	0.082	0.27	0.23	0.037	0.21	0.007	0.32	0.044 J	0.074 J	0.29	2.3803
		5237-080422-058		10 - 12.5	Subsurface	0.00039 J	0.00033 J	0.00085	0.0019	0.0022	0.0018	0.00078	0.0017	0.0024	0.00028 U	0.0048	0.00061	0.0017	0.0024 J	0.0061 J	0.01	0.03796
P-49	HAI	5237-080422-061	22-Apr-08	0 - 3	Surface	0.00054	0.0012	0.0012	0.0037	0.0068	0.0067	0.0024	0.0055	0.0047	0.00085	0.0079	0.00074	0.0066	0.00037 U*	0.0076 J	0.0076	0.06403
		5237-080422-062		10.2 - 12.5	Subsurface	0.031	0.015	0.027	0.047	0.06	0.05	0.02	0.051	0.072	0.0082	0.13	0.043	0.044	0.039 J	0.2 J	0.17	1.0072
P-50	HAI	5237-080422-069	22-Apr-08	0 - 3	Surface	0.0007	0.0017	0.0016	0.0074	0.013	0.011	0.0047	0.011	0.0094	0.0015	0.013	0.0008	0.012	0.00037 U*	0.0085 J	0.014	0.1103
		5237-080422-070		11 - 14	Subsurface	0.039	0.02	0.033	0.054	0.066	0.053	0.022	0.052	0.079	0.0098	0.14	0.062	0.047	0.052 J	0.26 J	0.21	1.1988
(duplicate)		5237-080422-071		11 - 14		0.052	0.026	0.041	0.077	0.097	0.071	0.027	0.07	0.12	0.012	0.21	0.086	0.064	0.08 J	0.37 J	0.3	1.703
P-51	HAI	5237-080422-065	22-Apr-08	0 - 3	Surface	0.0026	0.087	0.028	0.034	0.17	0.37	0.048	0.13	0.061	0.035	0.037	0.0048	0.32	0.053 J	0.027 J	0.057	1.4644
		5237-080422-067		11 - 13	Subsurface	0.022	0.0082	0.023	0.057	0.062	0.045	0.022	0.054	0.071	0.0076	0.21	0.02	0.042	0.038 J	0.14 J	0.21	1.0318
P-52	HAI	5237-080424-080	24-Apr-08	0 - 3	Surface	0.0013 J	0.033	0.013	0.077	0.18	0.2	0.056	0.15	0.11	0.022	0.064	0.0025 U	0.18	0.018 J	0.011 J	0.1	1.2153
		5237-080424-085		15 - 17	Subsurface	0.11	0.013	0.03	0.1	0.13	0.091	0.037	0.096	0.14	0.016	0.27	0.03	0.088	0.049 J	0.27 J	0.28	1.75
P-54	HAI	5237-080429-168	29-Apr-08	0 - 3	Surface	0.16	0.17	0.29	1.	1.6	1.4	0.47	**1.2**	1.7	0.23	1.9	0.19	1.3	0.16 J	2.5 J	3.1	17.37
		5237-080429-169		7 - 9	Subsurface	0.74	0.023	0.096	0.11	0.12	0.081	0.043	0.07	0.14	0.011	0.63	0.46	0.078	0.098 J	1.3 J	0.54	4.54
		5237-080429-173		20 - 22	Deep	58.	6.6	30.	25.	24.	19.	8.2	26.	30.	2.5	90.	30.	18.	150. J	200. J	110.	827.3
Soil Boring Samples - 2009 RotoSonic																						
SB-21	HAI	5237-090309-001	9-Mar-09	11 - 13	Subsurface	4.4	0.62	1.9	10.	7.5	16.	15.	**5.1**	16.	1.8	31.	5.2	14.	10.	66.	31.	235.52
SB-27	HAI	5237-090319-005	19-Mar-09	17 - 18	Subsurface	5.5	1.3	4.7	6.4	8.8	8.2	7.5	**2.7**	7.7	0.78	18.	4.3	6.9	0.59	29.	21.	133.37
SB-35	HAI	5237-090317-004	17-Mar-09	17 -18	Subsurface	260.	360.	370.	**250.**	**270.**	230.	190.	**79.**	290.	**22.**	740.	340.	**170.**	**3,300.**	2,100.	920.	9,891.
SB-53	HAI	5237-090311-003	11-Mar-09	18 - 19	Subsurface	57.	44.	59.	**34.**	**39.**	35.	27.	**12.**	42.	**2.4**	120.	49.	**23.**	390.	240.	150.	1,323.4

Note:
bgs = below ground surface
EPA = U.S. Environmental Protection Agency
HAI = Hahn and Associates, Inc.
J = estimated concentration
ppm = parts per million
U = not detected above detection limit indicated
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
LTI = Limno-Tech, Inc.
MFA = Maul Foster & Alongi, Inc.
mg/kg = milligrams per kilogram
PAHs = polynuclear aromatic hydrocarbons

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DEQ Risk Based Concentrations (9/15/2009 rev.) for direct contact with soils (ingestion, dermal contact, inhalation). Screening level values for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update) and consist of lowest established values for plants, invertebrates, birds, or mammals.

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

TABLE 6 - Summary of Analytical Results for Soil Samples:
Detected Semi-Volatile Organic Compounds by EPA Method 8270 or SIM 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (ft bgs)	Depth Group	1-Methylnaphthalene	2-Methylnaphthalene	Carbazole	Dibenzofuran	bis(2-ethylhexyl)phthalate	Butyl Benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-Octyl Phthalate	Pentachlorophenol	Other SVOCs	PAHs
Screening Level Values [1]				Surface	Occupational	NV	NV	NV	NV	150.	NV	NV	NV	NV	NV	13.		
					Ecological	NV	NV	NV	0.002	4.5	NV	100.	200.	0.45	NV	3.		
				Subsurface	Construction	NV	NV	NV	NV	1,200.	NV	NV	NV	NV	NV	100.		
					Excavation	NV	NV	NV	NV	33,000.	NV	NV	NV	NV	NV	2,900.		
						Analytical Results mg/Kg (ppm)												
Surface Samples (Above Top of Willamette River Embankment) - 2001																		
S-1	HAI	5237-010821-167	21-Aug-01	0.2	Surface	-	0.67 U	0.67 U	0.67 U	-	-	-	-	-	-	-	-	See PAH Table
S-2	HAI	5237-010821-168	21-Aug-01	0.2	Surface	-	0.67 U	0.69 U	0.67 U	-	-	-	-	-	-	-	-	See PAH Table
S-3	HAI	5237-010821-169	21-Aug-01	0.2	Surface	-	0.67 U	0.134 U	0.67 U	-	-	-	-	-	-	-	-	See PAH Table
S-4	HAI	5237-010821-170	21-Aug-01	0.2	Surface	-	0.67 U	0.134 U	0.67 U	-	-	-	-	-	-	-	-	See PAH Table
(duplicate)	HAI	5237-010821-171				-	0.67 U	0.134 U	0.67 U	-	-	-	-	-	-	-	-	See PAH Table
S-5	HAI	5237-010821-172	21-Aug-01	0.2	Surface	-	0.67 U	0.134 U	0.67 U	-	-	-	-	-	-	-	-	See PAH Table
Outfall / Embankment Sample																		
Fab 2 OF	HAI	5237-010919-173	19-Sep-01	0.2	Surface		6.67 U	13.4 U	6.67 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080502-214	2-May-08	@ Pipe	Surface	0.55 J	0.78 J	0.73 J	**0.19** J	-	-	-	-	-	-	-	-	See PAH Table
		5237-080502-215		Discharge Pathway	Surface	0.21	0.25	0.029	**0.031**	-	-	-	-	-	-	-	-	See PAH Table
Soil Boring Samples - Pre 2008 (HAI and Others)																		
P-1	HAI	5237-010817-142	17-Aug-01	30.0	Deep		2,180.	413.	230.								-	See PAH Table
P-2	HAI	5237-010814-115	14-Aug-01	22.5	Deep		0.335 U	0.67 U	0.712	4.3	1.4			0.405				See PAH Table
P-3	HAI	5237-010820-155	20-Aug-01	17.0	Subsurface		683.	44.	49.3								-	See PAH Table
P-4	HAI	5237-010810-80	10-Aug-01	17.5	Subsurface		25.1 J	2.1 J	3.5 J	1.48	0.929							See PAH Table
P-5	HAI	5237-010813-92	13-Aug-01	9.5	Subsurface		553.	68.7	40.								1,2-diphenylhydrazine=3.5	See PAH Table
P-6	HAI	5237-010802-04	2-Aug-01	10.0	Subsurface		0.67 U	0.67 U	0.67 U								-	See PAH Table
P-7	HAI	5237-010808-64	8-Aug-01	22.5	Deep		0.67 U	0.67 U	0.67 U								7,12-dimethylbenz(a) anthracene=1.53	See PAH Table
(duplicate)		5237-010808-65		22.5			0.67 U	0.67 U	0.67 U								-	See PAH Table
P-10	HAI	5237-010803-23	3-Aug-01	26.0	Deep		0.067 U	0.067 U	0.067 U								-	See PAH Table
GP4	MFA	GP4-S-7.5	26-Sep-02	7.5	Subsurface		82.		9.2									See PAH Table
		GP4-S-19.0	26-Sep-02	19.0			0.0067		0.0054 U									See PAH Table
		GP4-S-26.0	26-Sep-02	26.0	Deep		0.053 U		0.0053 U									See PAH Table
GP5	MFA	GP5-S-26.0	7-Oct-02	13.0	Subsurface		0.055 U		0.055 U									See PAH Table
		GP5-S-21.0	7-Oct-02	21.0	Deep		0.054 U		0.3									See PAH Table
		GP5-S-26.0	7-Oct-02	26.0			0.0071 U		0.0071 U									See PAH Table
GP6	MFA	GP6-S-23.0	30-Sep-02	15.0	Subsurface		0.0066		0.0054 U									See PAH Table
		GP6-S-23.0	30-Sep-02	23.0	Deep		11.		11.									See PAH Table
		GP6-S-30.0	30-Sep-02	30.0			0.0074 U		0.0074 U									See PAH Table
GP7	MFA	GP7-S-30.0	2-Oct-02	9.0	Subsurface		0.12		0.014									See PAH Table
		GP7-S-15.5	2-Oct-02	15.5			2.2		0.24									See PAH Table
		GP7-S-30.0	2-Oct-02	30.0	Deep		5.		0.97									See PAH Table
GP10	MFA	GP10-S-20.0	16-Jul-03	20.0	Subsurface	2.	3.2	NA	NA									See PAH Table
GP11	MFA	GP11-S-15.0	14-Jul-03	15.0	Subsurface	31.	56.	NA	NA									See PAH Table
GP20	MFA	GP20-S-30.0	19-Jul-04	30.0	Deep		0.0667 U	0.145	0.0667 U									See PAH Table
GP21	MFA	GP21-S-30.0	19-Jul-04	30.0	Deep		14.	2.39	0.907									See PAH Table

TABLE 6 - Summary of Analytical Results for Soil Samples:
Detected Semi-Volatile Organic Compounds by EPA Method 8270 or SIM 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (ft bgs)	Depth Group	1-Methylnaphthalene	2-Methylnaphthalene	Carbazole	Dibenzofuran	bis(2-ethylhexyl)phthalate	Butyl Benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-Octyl Phthalate	Pentachlorophenol	Other SVOCs	PAHs
Screening Level Values [1]				Surface	Occupational	NV	NV	NV	NV	150.	NV	NV	NV	NV	NV	13.		
					Ecological	NV	NV	NV	0.002	4.5	NV	100.	200.	0.45	NV	3.		
				Subsurface	Construction	NV	NV	NV	NV	1,200.	NV	NV	NV	NV	NV	100.		
					Excavation	NV	NV	NV	NV	33,000.	NV	NV	NV	NV	NV	2,900.		
						Analytical Results mg/Kg (ppm)												
Soil Boring Samples - Pre 2008 (HAI and Others)																		
GP22	MFA	GP22-S-30.0	19-Jul-04	30.0	Deep		627.	99.4	38.7									See PAH Table
(duplicate)		GP22-S-DUP2		30.0			657.	98.2	39.7									See PAH Table
GP23	MFA	GP23-S-28.5	19-Jul-04	28.5	Deep		37.8	22.9	12.4									See PAH Table
GP24	MFA	GP24-S-26.0	19-Jul-04	26.0	Deep		0.0667 U	0.159	0.0667 U									See PAH Table
RP-11	AMEC	128-01	17-Nov-05	7.5-8.0	Subsurface		360.		13.	-	-	-	-	-	-	-	-	See PAH Table
Soil Boring Samples - 2007 Pre-Utility Excavation for Pipeline (HAI)																		
P-A	HAI	2708-070504-17	4-May-07	2.5 - 3.0	Surface	-	0.0209	0.0241	0.0151 U	-	-	-	-	-	-	-	-	See PAH Table
P-B	HAI	2708-070504-14	4-May-07	7.0 - 7.5	Subsurface	-	2.16 U	2.16 U	2.16 U	-	-	-	-	-	-	-	-	See PAH Table
P-C	HAI	2708-070504-10	4-May-07	8.5 - 9.0	Subsurface	-	0.209	0.714	0.498	-	-	-	-	-	-	-	-	See PAH Table
P-D	HAI	2708-070504-07	4-May-07	2.5 - 3.0	Surface	-	0.0357	0.0324	0.0179 U	-	-	-	-	-	-	-	-	See PAH Table
P-E	HAI	2708-070504-05	4-May-07	2.5 - 3.0	Surface	-	0.0992	0.109	0.035 U	-	-	-	-	-	-	-	-	See PAH Table
P-F	HAI	2708-070504-04	4-May-07	7.0 - 7.5	Subsurface	-	11.3	4.63 U	4.63 U	-	-	-	-	-	-	-	-	See PAH Table
P-G	HAI	2708-070504-02	4-May-07	8.5 - 9.0	Subsurface	-	0.879 U	0.967	0.879 U	-	-	-	-	-	-	-	-	See PAH Table
P-Y	HAI	2708-070504-16	4-May-07	7.0 - 7.5	Subsurface	-	22.4	16.2	4.17 U	-	-	-	-	-	-	-	-	See PAH Table
P-Z	HAI	2708-070504-12	4-May-07	7.0 - 7.5	Subsurface	-	16.3	23.9	7.02 U	-	-	-	-	-	-	-	-	See PAH Table
Soil Boring Samples - 2008 Push Probe																		
P-5A	HAI	5237-080429-159	29-Apr-08	7 - 10	Subsurface	-	-	-	-	0.14 U	0.064 U	0.026 U	0.02 U	0.16 U	0.034 U	0.4 UR	U	-
P-8A	HAI	5237-080429-161	29-Apr-08	0 - 3	Surface	-	-	-	-	0.029 J	0.0032 U	0.0035 J	0.001 U	0.0079 U	0.0017 U	0.02 U	4-methylphenol = 0.018	-
P-12	HAI	5237-080414-001	14-Apr-08	0 - 3	Surface	6.8	8.7	3.3	**1.2**	0.69 U	0.32 U	0.13 U	0.098 U	0.78 U	0.17 U	2. U	2-Chloronaphthalene = 0.58 N-Nitrosodiphenylamine = 1.1	See PAH Table
		5237-080414-002		5 - 7.5	Subsurface	21.	24.	6.1	2.6	0.69 U	0.32 U	0.13 U	0.098 U	0.78 U	0.17 U	2. U	N-Nitrosodiphenylamine = 1.7	See PAH Table
		5237-080414-005		16.5 - 17		200.	300.	650.	38.	3.5 U	1.6 U	0.65 U	0.5 U	4. U	0.85 U	10. U	U	See PAH Table
P-13	HAI	5237-080414-007	14-Apr-08	0 - 3	Surface	0.04	0.055	0.085	**0.014**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080414-008		10 - 12	Subsurface	0.0068	0.016	0.052	0.0032 J	-	-	-	-	-	-	-	-	See PAH Table
P-14	HAI	5237-080414-010	14-Apr-08	0 - 3	Surface	0.034	0.055	0.13	**0.013**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080414-011		12 - 13.5	Subsurface	0.026	0.062	0.16	0.013	-	-	-	-	-	-	-	-	See PAH Table
P-15	HAI	5237-080414-012	14-Apr-08	0 - 2.5	Surface	0.01	0.019	0.0097	**0.0039** J	-	-	-	-	-	-	-	-	See PAH Table
		5237-080414-013		17 - 19	Subsurface	0.0034 J	0.0056	0.0038 J	0.0078	-	-	-	-	-	-	-	-	See PAH Table
P-16	HAI	5237-080430-176	30-Apr-08	0 - 3	Surface	6.7	3.1	4.7	**1.4**	0.14 U	0.064 U	0.026 U	0.02 U	0.16 U	0.034 U	0.4 UR	Phenol = 0.13	See PAH Table
		5237-080430-177		7.5 - 9.5	Subsurface	460.	640.	140.	75.	9.9 J	1.6 U	0.65 U	0.5 U	4. U	0.85 U	10. U	U	See PAH Table
P-17	HAI	5237-080425-121	25-Apr-08	0 - 2	Surface	0.19	0.2	0.22	**0.046**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080425-124		15 - 17	Subsurface	47.	75.	22.	8.3	43.	13.	0.11 U	0.08 U	1.9	0.14 U	1.6 UR	U	See PAH Table
P-18	HAI	5237-080415-025	15-Apr-08	0 - 3	Surface	0.088	0.13	0.045	**0.034**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-026		11.5 - 13.5	Subsurface	0.028	0.064	0.064	0.012	-	-	-	-	-	-	-	-	See PAH Table

TABLE 6 - Summary of Analytical Results for Soil Samples:
Detected Semi-Volatile Organic Compounds by EPA Method 8270 or SIM 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (ft bgs)	Depth Group	1-Methylnaphthalene	2-Methylnaphthalene	Carbazole	Dibenzofuran	bis(2-ethylhexyl)phthalate	Butyl Benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-Octyl Phthalate	Pentachlorophenol	Other SVOCs	PAHs
Screening Level Values [1]				Surface	Occupational	NV	NV	NV	NV	150.	NV	NV	NV	NV	NV	13.		
					Ecological	NV	NV	NV	0.002	4.5	NV	100.	200.	0.45	NV	3.		
				Subsurface	Construction	NV	NV	NV	NV	1,200.	NV	NV	NV	NV	NV	100.		
					Excavation	NV	NV	NV	NV	33,000.	NV	NV	NV	NV	NV	2,900.		
						Analytical Results mg/Kg (ppm)												
P-19	HAI	5237-080415-021	15-Apr-08	0 - 3	Surface	0.027	0.039	0.021	**0.011**	-	-	-	-	-	-	-	-	See PAH Table
(duplicate)		5237-080415-022		0 - 3		0.62	0.73	0.64	0.16	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-023		10-12	Subsurface	0.068	0.08	0.15	0.1	0.035 UJ	0.016 UJ	0.0065 UJ	0.005 UJ	0.04 UJ	0.0085 UJ	0.1 UR	U	See PAH Table
		5237-080415-024		22.5 - 24.5	Deep	21.	21.	6.4	3.4	-	-	-	-	-	-	-	-	See PAH Table
		5237-080423-074	23-Apr-08	30 - 31	Deep	-	1,900. J	-	-	4.7 UR	2.2 UR	0.87 UR	0.67 UR	5.3 UR	1.2 UR	14. UR	U	See PAH Table
P-20	HAI	5237-080415-015	15-Apr-08	0 - 3	Surface	0.0057	0.011	0.0046 J	**0.0043** J	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-016		16 - 18	Subsurface	0.01	0.0026 J	0.043	0.0041 J	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-017		18 - 20	Subsurface	32.	51.	17.	92.	0.14 UJ	0.064 UJ	0.026 UJ	0.02 UJ	0.16 UJ	0.034 UJ	0.4 UJ	U	See PAH Table
P-22	HAI	5237-080415-028	15-Apr-08	0 - 3	Surface	0.033	0.061	0.018	**0.019**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-029		10 - 11.5	Subsurface	0.004 J	0.0065	0.0034 J	0.002 J	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-030		22 - 24	Deep	430.	720.	65.	44.	7. UJ	3.2 UJ	1.3 UJ	1. UJ	7.9 UJ	1.7 UJ	20. UJ	U	See PAH Table
P-23	HAI	5237-080415-018	15-Apr-08	0 - 2.5	Surface	0.016	0.026	0.021	**0.035**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-019		10 - 12	Subsurface	0.0038 J	0.0059	0.0087	0.0037 J	-	-	-	-	-	-	-	-	See PAH Table
		5237-080415-020		16 - 18		0.0074	0.007	0.01	0.0036 J	-	-	-	-	-	-	-	-	See PAH Table
P-24	HAI	5237-080425-114	25-Apr-08	0 - 2.5	Surface	0.052	0.074	0.066	**0.012**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080425-115		10 - 12	Subsurface	1.	0.2	0.35	0.43	0.054 J	0.013 U	0.0052 U	0.004 U	0.032 U	0.0068 U	0.08 U	Benzoic Acid = 0.4	See PAH Table
P-25	HAI	5237-080425-107	25-Apr-08	0 - 3	Surface	0.021	0.036	0.027	**0.0077**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080425-109		12 - 14	Subsurface	12.	11.	3.3	1.3	0.07 U	0.032 U	0.013 U	0.01 U	0.079 U	0.017 U	0.2 U	U	See PAH Table
P-26	HAI	5237-080425-101	25-Apr-08	0 - 3	Surface	0.031	0.038	0.023 J	**0.0097**	0.045 J	0.0064 U	0.0026 U	0.002 U	0.016 U	0.0034 U	0.04 UR	Benzoic Acid = 0.21 N-Nitrosodiphenylamine = 0.0092	See PAH Table
		5237-080425-103		13 - 15	Subsurface	2.6	0.24	0.65	0.42	-	-	-	-	-	-	-	-	See PAH Table
P-28	HAI	5237-080428-151	28-Apr-08	0 - 3	Surface	0.0032	0.0064	0.0064	**0.0044**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080428-153		10 - 12	Subsurface	0.0096	0.023	0.015	0.0037	-	-	-	-	-	-	-	-	See PAH Table
		5237-080428-154		15 - 17		0.38	0.33	0.91	0.15	-	-	-	-	-	-	-	-	See PAH Table
P-29	HAI	5237-080501-197	1-May-08	0 - 1	Surface	0.18	0.37	0.058	**0.028**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080501-204		12 - 14	Subsurface	0.91	1.1	0.11	0.12	-	-	-	-	-	-	-	-	See PAH Table
P-30	HAI	5237-080428-135	28-Apr-08	0 - 3	Surface	0.14	0.19	0.069	**0.024**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080428-137		12 - 14	Subsurface	0.011	0.021	0.0027	0.0062	-	-	-	-	-	-	-	-	See PAH Table
(duplicate)		5237-080428-138		12 - 14		0.0081	0.012	0.0027	0.0034	-	-	-	-	-	-	-	-	See PAH Table
P-31	HAI	5237-080428-144	28-Apr-08	0 - 3	Surface	0.0038	0.0083	0.0033	0.0015	-	-	-	-	-	-	-	-	See PAH Table
		5237-080428-146		11 - 13	Subsurface	0.03	0.068	0.046 U	0.014	0.033 J	0.013 U	0.0052 U	0.004 U	0.032 U	0.0068 U	0.08 U	U	See PAH Table
P-32	HAI	5237-080424-094	24-Apr-08	0 - 3	Surface	0.0017	0.0039	0.0023 U	0.0008	-	-	-	-	-	-	-	-	See PAH Table
		5237-080424-095		8 - 9	Subsurface	0.017	0.031	0.017	0.013	-	-	-	-	-	-	-	-	See PAH Table

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Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (ft bgs)	Depth Group	1-Methylnaphthalene	2-Methylnaphthalene	Carbazole	Dibenzofuran	bis(2-ethylhexyl)phthalate	Butyl Benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-Octyl Phthalate	Pentachlorophenol	Other SVOCs	PAHs
Screening Level Values [1]				Surface	Occupational	NV	NV	NV	NV	150.	NV	NV	NV	NV	NV	13.		
					Ecological	NV	NV	NV	0.002	4.5	NV	100.	200.	0.45	NV	3.		
				Subsurface	Construction	NV	NV	NV	NV	1,200.	NV	NV	NV	NV	NV	100.		
					Excavation	NV	NV	NV	NV	33,000.	NV	NV	NV	NV	NV	2,900.		
						Analytical Results mg/Kg (ppm)												
P-33	HAI	5237-090810-001	10-Aug-09	1 - 2	Surface	0.0161 U	0.0161 U	0.0161 U	0.0161 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-090810-002		8 - 9	Subsurface	0.19	0.982	0.0446 U	0.0452	-	-	-	-	-	-	-	-	See PAH Table
		5237-090810-003		15- 17		-	220.	32. J	13.	1. U	1. U	1. U	1. U	1. U	1. U	1. U	2,4-Dimethylphenol = 0.47 J	See PAH Table
P-34	HAI	5237-080430-188	30-Apr-08	0 - 3	Surface	0.014	0.026	0.012 U	**0.0034**	0.07 U	0.032 U	0.013 U	0.01 U	0.079 U	0.017 U	0.2 U	U	See PAH Table
		5237-080430-190		11 - 13	Subsurface	51.	75.	7.3 J	4.9 J	-	-	-	-	-	-	-	-	See PAH Table
(duplicate)		5237-080430-191		11 - 13		15.	22.	2.1	1.7	-	-	-	-	-	-	-	-	See PAH Table
		5237-080430-193		22 - 23.5	Deep	1,900.	3,100.	500.	160.	-	-	-	-	-	-	-	-	See PAH Table
P-36	HAI	5237-080501-198	1-May-08	11 - 13	Subsurface	170.	280.	45.	15.	0.7 UR	0.32 UR	0.13 UR	0.099 UR	0.79 UR	0.17 UR	2. UR	U	See PAH Table
		5237-080501-199		18 - 20		2,900.	4,700.	680.	300.	5.8 U	2.7 U	1.1 U	0.83 U	33. U	1.4 U	83. U	U	See PAH Table
P-37	HAI	5237-080430-181	30-Apr-08	0 - 3	Surface	0.0067	0.01	0.006	**0.0027**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080430-182		7 - 8	Subsurface	0.0053	0.0097	0.0023 U	0.0031	-	-	-	-	-	-	-	-	See PAH Table
		5237-080430-184		16 - 18		180.	250.	37.	17.	-	-	-	-	-	-	-	-	See PAH Table
P-38	HAI	5237-080501-206	1-May-08	11.5 - 13.5	Subsurface	0.0016	0.0036	0.0023 UJ	0.00059 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080501-212		38 - 40	Deep	97.	170.	26.	9.4	-	-	-	-	-	-	-	-	See PAH Table
		5237-080501-213		44 - 45		0.38 U	0.38 U	2. U	0.43 U	0.33 U	0.26 U	0.31 U	0.63 U	7.3 U	0.78 U	83. U	U	See PAH Table
P-39	HAI	5237-080429-162	29-Apr-08	0 - 3	Surface	0.0016	0.003	0.012	**0.003**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080429-165		15 - 17	Subsurface	0.0028	0.0028	0.012	0.003	-	-	-	-	-	-	-	-	See PAH Table
P-40	HAI	5237-080428-128	28-Apr-08	0 - 3	Surface	0.019	0.022	0.017	**0.0061**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080428-131		16 - 18	Subsurface	11.	16.	2.9	1.6	0.07 U	0.032 U	0.013 U	0.01 U	0.079 U	0.017 U	0.2 U	U	See PAH Table
P-41	HAI	5237-080424-089	24-Apr-08	0 - 3	Surface	0.0029	0.0059	0.012 U	0.003 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080424-090		11.5 - 12.5	Subsurface	0.028	0.028	0.012 U	0.0081	-	-	-	-	-	-	-	-	See PAH Table
P-42	HAI	5237-080416-031	16-Apr-08	0 - 3	Surface	0.0072	0.016	0.0074	**0.0036**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080416-032		11.5 - 13	Subsurface	0.027	0.066	0.027	0.007	-	-	-	-	-	-	-	-	See PAH Table
		5237-080416-033		33 - 35	Deep	0.16	0.26	0.073	0.031	-	-	-	-	-	-	-	-	See PAH Table
P-43	HAI	5237-080416-034	16-Apr-08	0 - 3	Surface	0.017	0.044	0.022	**0.0058**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080416-035		16 - 18	Subsurface	0.011	0.026	0.0078	0.0027	-	-	-	-	-	-	-	-	See PAH Table
		5237-080416-036		35 - 37	Deep	470.	600.	130.	56.	-	-	-	-	-	-	-	-	See PAH Table
P-44	HAI	5237-080416-037	16-Apr-08	0 - 3	Surface	0.0017	0.0029	0.0023 U	0.00059 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080416-038		16 - 18	Subsurface	230.	360.	31.	21.	0.7 U	0.32 U	0.13 U	0.1 U	0.79 U	0.17 U	2. U	U	See PAH Table
		5237-080416-039		26.5 - 28.5	Deep	0.04	0.013	0.019	0.021	-	-	-	-	-	-	-	-	See PAH Table
P-45	HAI	5237-080421-040	21-Apr-08	0 - 3	Surface	0.0057	0.011	0.0046	**0.004**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080421-042		10 - 12	Subsurface	0.056	0.073	0.023 U	0.024	-	-	-	-	-	-	-	-	See PAH Table

TABLE 6 - Summary of Analytical Results for Soil Samples:
Detected Semi-Volatile Organic Compounds by EPA Method 8270 or SIM 8270C

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (ft bgs)	Depth Group	1-Methylnaphthalene	2-Methylnaphthalene	Carbazole	Dibenzofuran	bis(2-ethylhexyl)phthalate	Butyl Benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-Octyl Phthalate	Pentachlorophenol	Other SVOCs	PAHs
Screening Level Values [1]				Surface	Occupational	NV	NV	NV	NV	150.	NV	NV	NV	NV	NV	13.		
					Ecological	NV	NV	NV	0.002	4.5	NV	100.	200.	0.45	NV	3.		
				Subsurface	Construction	NV	NV	NV	NV	1,200.	NV	NV	NV	NV	NV	100.		
					Excavation	NV	NV	NV	NV	33,000.	NV	NV	NV	NV	NV	2,900.		
Analytical Results mg/Kg (ppm)																		
P-46	HAI	5237-080421-044	21-Apr-08	0 - 3	Surface	0.002	0.0043	0.0023 U	0.00059 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080421-045		6.5 - 8.5	Subsurface	0.11	0.26	0.23	0.059	-	-	-	-	-	-	-	-	See PAH Table
		5237-080421-047		16.8 - 18		0.04	0.045	0.049 J	0.016	-	-	-	-	-	-	-	-	See PAH Table
		5237-080421-051		32.5 - 33	Deep	1.	0.91	0.28	0.26	0.14 U	0.064 U	0.026 U	0.02 U	0.16 U	0.034 U	0.4 U	U	See PAH Table
P-47	HAI	5237-080421-053	21-Apr-08	0 - 3	Surface	0.0077	0.013	0.0053	0.0014	-	-	-	-	-	-	-	-	See PAH Table
		5237-080421-054		7.5 - 8.5	Subsurface	270.	420.	58.	26.	0.35 U	0.16 U	0.065 U	0.05 U	0.4 U	0.085 U	1. U	N-Nitrosodiphenylamine = 1.4	See PAH Table
P-48	HAI	5237-080422-057	22-Apr-08	0 - 3	Surface	0.0059	0.01	0.0058	0.002	-	-	-	-	-	-	-	-	See PAH Table
		5237-080422-058		10 - 12.5	Subsurface	0.00031 U	0.00062	0.0023 U	0.00059 U	-	-	-	-	-	-	-	-	See PAH Table
P-49	HAI	5237-080422-061	22-Apr-08	0 - 3	Surface	0.00031 U	0.00039 U	0.0023 U	0.00059 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080422-062		10.2 - 12.5	Subsurface	0.02	0.038	0.012 UJ	0.012	0.048 J	0.0032 U	0.0013 U*	0.001 U	0.016 J	0.0017 U	0.02 U	4-methylphenol = 0.0075	See PAH Table
P-50	HAI	5237-080422-069	22-Apr-08	0 - 3	Surface	0.00034 J	0.00052	0.0023 U	0.00059 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080422-070		11 - 14	Subsurface	0.04	0.069	0.012 U	0.018	0.067 J	0.0032 U	0.0013 U	0.001 U	0.079 U	0.0017 U	0.2 UR	Benzoic Acid = 0.099	See PAH Table
		5237-080422-071		11 - 14		0.069	0.13	0.012 U	0.025	-	-	-	-	-	-	-	-	See PAH Table
P-51	HAI	5237-080422-065	22-Apr-08	0 - 3	Surface	0.0056	0.014	0.0046 U	0.0018	-	-	-	-	-	-	-	-	See PAH Table
		5237-080422-067		11 - 13	Subsurface	0.0074	0.015	0.023 U	0.012	-	-	-	-	-	-	-	-	See PAH Table
P-52	HAI	5237-080424-080	24-Apr-08	0 - 3	Surface	0.0016 J	0.0041	0.012 U	0.003 U	-	-	-	-	-	-	-	-	See PAH Table
		5237-080424-085		15 - 17	Subsurface	0.012	0.023	0.012 U	0.014	-	-	-	-	-	-	-	-	See PAH Table
P-54	HAI	5237-080429-168	29-Apr-08	0 - 3	Surface	0.051	0.078	0.16	**0.022**	-	-	-	-	-	-	-	-	See PAH Table
		5237-080429-169		7 - 9	Subsurface	0.032	0.052	0.023	0.24	-	-	-	-	-	-	-	-	See PAH Table
		5237-080429-173		20 - 22	Deep	33.	56.	7.	4.4	0.14 U	0.064 U	0.026 U	0.02 U	0.16 U	0.034 U	0.4 U	U	See PAH Table
Soil Boring Samples - 2009 RotoSonic																		
SB-21	HAI	5237-090309-001	9-Mar-09	11 - 13	Subsurface	3.4	2.1	0.45	0.95	-	-	-	-	-	-	-	-	See PAH Table
SB-27	HAI	5237-090319-005	19-Mar-09	17 - 18	Subsurface	1.2	0.83	0.54	0.57	-	-	-	-	-	-	-	-	See PAH Table
SB-35	HAI	5237-090317-004	17-Mar-09	17 -18	Subsurface	520.	830.	87.	50.	-	-	-	-	-	-	-	-	See PAH Table
SB-53	HAI	5237-090311-003	11-Mar-09	18 - 19	Subsurface	61.	95.	17.	8.	0.7 U	0.32 U	0.13 U	0.1 U	0.79 U	0.17 U	2.00 U	U	See PAH Table

Note:
bgs = below ground surface
EPA = U.S. Environmental Protection Agency
J = estimated concentration
LTI = Limno-Tech, Inc.
MFA = Maul Foster & Alongi, Inc.
mg/kg = milligrams per kilogram
PAHs = polynuclear aromatic hydrocarbons
ppm = parts per million
SVOCs = semi-volatile organic compounds
U = not detected above detection limit indicated
UJ = The compound was not detected, but the detection limit is probably higher due to a low bias identified during the quality assurance review.
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DEQ Risk Based Concentrations (9/15/2009 rev.) for direct contact with soils (ingestion, dermal contact, inhalation). Screening level values for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update) and consist of lowest established values for plants, invertebrates, birds, or mammals.

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

TABLE 7 – Summary of Analytical Results for Soil Samples (Pre-2008 Sample Results)
Detected Volatile Organic Compounds by EPA Method 8260
Pre- 2008 Sample Results, HAI and Others

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Analytical Results - mg/ kg (ppm)													
						Aromatic VOCs (AVOCs)										Halogenated VOCs (HVOCs)			Other VOCs
						Benzene	n-Butyl-benzene	sec-Butyl-benzene	Ethyl-benzene	n-Propyl-benzene	Toluene	1,2,4-TMB	1,3,5-TMB	Naphthalene	Total Xylenes	cis-1,2-DCE	TCE	Vinyl Chloride	
Screening Level Values [1]				Surface	Occupational	34.	NV	NV	140.	53,000.	77,000.	2,000.	1,600.	23.	25,000.	10,000.	3.9	3.9	-
					Ecological	3,300.	NV	NV	NV	NV	200.	NV	NV	10.	1.	2,500.	40.	20.	-
				Subsurface	Construction	340.	NV	NV	1,600.	24,000.	24,000.	19,000.	1,500.	580.	19,000.	3,100.	43.	30.	-
					Excavation	9,500.	NV	NV	44,000.	NV	>Max	>Max	42,000.	16,000.	>Max	86,000.	1,200.	830.	-
Soil Boring Samples - Pre 2008 (HAI and Others)																			
P-1	HAI	5237-010817-142	17-Aug-01	30.0	Deep	8.63	1. U	1.92	15.7	1. U	2.04	16.	5.61	60,900.	23.88	1. U	1. U	2. U	IPB=2.11
P-2	HAI	5237-010814-115	14-Aug-01	22.5	Deep	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.01 U	0.01 U	0.005 U	0.005 U	0.01 U	ND
P-3	HAI	5237-010820-155	20-Aug-01	17.0	Subsurface	0.5 U	0.57	0.5 U	3.36	0.5 U	0.5 U	15.6	4.59	**1,100.**	6.68	0. U	0.5 U	0.6 U	4-IPT=1.69 IPB=1.18
P-4	HAI	5237-010810-80	10-Aug-01	17.5	Subsurface	0.02 U	0.02 U	0.02 U	0.2	0.04	0.02 U	0.664	0.181	64.2	0.4	0.02 U	0.02 U	0.04 U	4-IPT=0.068
P-5	HAI	5237-010813-92	13-Aug-01	9.5	Subsurface	0.1 U	0.243	0.1 U	1.38	0.225	0.15	7.12	2.05	**684.**	3.67	0.1 U	0.1 U	0.12 U	4-IPT=0.919
P-7	HAI	5237-010808-64	8-Aug-01	22.5	Deep	0.005 U	0.011	0.01	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.011	0.005 U	0.005 U	0.005 U	0.01 U	Acetone=0.128
(duplicate)	HAI	5237-010808-65	8-Aug-01	22.5		0.005 U	0.005 U	0.006	0.005 U	0.007	0.005 U	0.005 U	0.005 U	0.01 U	0.01 U	0.005 U	0.005 U	0.01 U	Acetone=0.125
P-10	HAI	5237-010803-23	3-Aug-01	26.0	Deep	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.01 U	0.01 U	0.005 U	0.005 U	0.01 U	ND
GP02-01	LTI	GP02-01	19-Mar-02	4.0	Subsurface	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.01 U		0.008	0.005 U		
			19-Mar-02	12.5		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1.3		0.1 U	0.1 U		
			19-Mar-02	23.5	Deep	43.	1.4	1. U	62.	2.9	54.	43.	14.	3,100.		1. U	1. U		2-CT=2.9 4-IPT=3.5
GP02-02	LTI	GP-02-02	20-Mar-02	3.0	Surface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.064		0.042	0.01 U		
			20-Mar-02	19.0	Subsurface	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.43		0.064	2.		
			20-Mar-02	22.0	Deep	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.099		0.041	0.016		
			20-Mar-02	24.0		1.4	1. U	1. U	4.3	1. U	4.5	6.4	1.8	470.		1. U	1. U		
GP02-03	LTI	GP02-03	21-Mar-02	23.0	Deep	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.017		0.005 U	0.005 U		
			21-Mar-02	25.0		0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005	0.005 U	0.005 U	0.045		0.005 U	0.005 U		
GP4	MFA	GP4-S-7.5	26-Sep-02	7.5	Subsurface	15. U	59. U	59. U	15. U	59. U	15. U	59. U	59. U	**1,500.** J	15. U	15. U	1.2 U		
		GP4-S-19.0	26-Sep-02	19.0		0.005 U	0.022 U	0.022 U	0.005 U	0.022 U	0.005	0.022 U	0.022 U	0.022 U	0.005	0.005 U	0.002 U		Acetone=0.064
GP5	MFA	GP5-S-26.0	7-Oct-02	26.0	Deep	0.007 U	0.029 U	0.029 U	0.007 U	0.029 U	0.007	0.029 U	0.029 U	0.029 U	0.007	0.007 U	0.003 U		Acetone=0.12
GP6	MFA	GP6-S-23.0	30-Sep-02	23.0	Deep	0.071 U	0.87 U	0.4	0.15	0.3	0.071 U	2.4	0.61	3.4	0.071	0.071 U	0.029 U		4-IPT=0.95
		GP6-S-30.0	30-Sep-02	30.0		0.007 U	0.03 U	0.03 U	0.007 U	0.03 U	0.007	0.03 U	0.03 U	0.03 U	0.007	0.007 U	0.003 U		Acetone=0.098
GP7	MFA	GP7-S-30.0	2-Oct-02	30.0	Deep	0.027 U	0.11 U	0.11 U	0.027 U	0.11 U	0.027 U	0.11 U	0.11 U	0.18	0.027	0.027 U	0.011 U		
GP8	MFA	GP8-S-22.0	16-Jul-03	22.0	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	4.58	0.02 U	0.01 U	0.01 U	0.01 U	
		GP8-S-25.0	16-Jul-03	25.0		0.443	0.01 U	0.01 U	0.0511	0.01 U	0.01 U	0.01 U	0.01 U	3.89	0.02 U	0.675	0.01 U	0.105	
GP9	MFA	GP9-S-20.0	17-Jul-03	20.0	Deep	0.0381	0.01 U	0.01 U	0.0295	0.01 U	0.01 U	0.0379	0.016	1.61	0.015	0.0713	0.0375	0.01 U	
		GP9-S-25.0	17-Jul-03	25.0		0.7	0.01 U	0.01 U	0.289	0.0157	0.0259	0.231	0.0642	11.8	0.621	0.855	0.211	0.01 U	
		GP9-S-25.0 (dup)	17-Jul-03	25.0		0.736	0.0012	0.0053	0.331	0.01 U	0.0173	0.15	0.042	7.41	0.401	0.971	0.859	0.01 U	
GP10	MFA	GP10-S-20	16-Jul-03	20.0	Deep	218.	12.3	50. U	162.	14.1	223.	178.	56.7	6,450.	358.	208.	557.	50. U	
GP11	MFA	GP11-S-17	14-Jul-03	17.0	Subsurface	7.2	0.0194	0.104	32.8	0.0376	0.155	11.4	0.18	**3,270.**	19.77	0.01 U	0.01 U	0.01 U	
		GP11-S-27	14-Jul-03	27.0	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0366	0.02 U	0.01 U	0.01 U	0.01 U	

TABLE 7 – Summary of Analytical Results for Soil Samples (Pre-2008 Sample Results)
Detected Volatile Organic Compounds by EPA Method 8260
Pre- 2008 Sample Results, HAI and Others

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Analytical Results - mg/ kg (ppm)													
						Aromatic VOCs (AVOCs)										Halogenated VOCs (HVOCs)			Other VOCs
						Benzene	n-Butyl-benzene	sec-Butyl-benzene	Ethyl-benzene	n-Propyl-benzene	Toluene	1,2,4-TMB	1,3,5-TMB	Naphthalene	Total Xylenes	cis-1,2-DCE	TCE	Vinyl Chloride	
Screening Level Values [1]				Surface	Occupational	34.	NV	NV	140.	53,000.	77,000.	2,000.	1,600.	23.	25,000.	10,000.	3.9	3.9	-
					Ecological	3,300.	NV	NV	NV	NV	200.	NV	NV	10.	1.	2,500.	40.	20.	-
				Subsurface	Construction	340.	NV	NV	1,600.	24,000.	24,000.	19,000.	1,500.	580.	19,000.	3,100.	43.	30.	-
					Excavation	9,500.	NV	NV	44,000.	NV	>Max	>Max	42,000.	16,000.	>Max	86,000.	1,200.	830.	-
GP12	MFA	GP12-S-12.5	29-Jun-04	12.0	Subsurface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	1.01	0.02 U	0.062	0.01 U		
		GP12-S-15.5	29-Jun-04	15.5		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.052	0.02 U	0.01 U	0.01 U		
		GP12-S-18.0	29-Jun-04	18.0		28.	1. U	1. U	21.	1. U	26.7	19.	4.46	**3,090.**	22.3	0.01 U	0.01 U		Acetone=0.492 IPB=0.55 Styrene=2.22
GP13	MFA	GP13-S-12.5	29-Jun-04	12.5	Subsurface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.055	0.02 U	0.01 U	0.024		
		GP13-S-17.0	29-Jun-04	17.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	4.57	0.02 U	0.01 U	0.01 U		
		GP13-S-19.0	29-Jun-04	19.0		0.721	0.1 U	0.1 U	0.291	0.1 U	0.454	0.1 U	0.1 U	2.9	0.157	0.01 U	0.01 U		IPB=0.065 MEK=0.070
GP14	MFA	GP14-S-15.0	30-Jun-04	15.0	Subsurface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U		Acetone=0.296 MEK=0.087
		GP14-S-17.0	30-Jun-04	17.0		0.054	0.02 U	0.02 U	0.156	0.02 U	0.049	0.02 U	0.02 U	0.349	0.158	0.02 U	0.02 U		
GP15	MFA	GP15-S-13.0	29-Jun-04	13.0	Subsurface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	2.92	0.02 U	0.01 U	0.01 U		
		GP15-S-16.0	29-Jun-04	16.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.31	0.02 U	0.01 U	0.01 U		
GP16	MFA	GP16-S-16.0	29-Jun-04	16.0	Subsurface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.255	0.02 U	0.01 U	0.01 U		
		GP16-S-20.0	29-Jun-04	20.0	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.016	0.02 U	0.01 U	0.01 U		
		GP16-S-23.0	29-Jun-04	23.0		34.6	0.595	0.168	38.4	1.4	44.6	30.4	9.54	41,700.	42.2	0.1 U	0.1 U		IPB=0.9 4-IPT=0.897 Styrene=4.64
GP17	MFA	GP17-S-11.0	29-Jun-04	11.0	Subsurface	19.	1.35	1. U	65.3	3.21	3.46	43.3	13.3	**3,180.**	60.7	1. U	1. U		IPB=6.52 4-IPT=4.68
		GP17-S-13.0	29-Jun-04	13.0		0.393	0.299	0.1 U	7.66	0.82	0.2	6.57	1.86	**703.**	71.9	0.01 U	0.01 U		IPB=1.29 4-IPT=1.02
GP18	MFA	GP18-S-12.5	30-Jun-04	12.5	Subsurface	72.8	2.	1. U	124.	4.06	61.3	112.	20.7	**9,180.**	151.	0.1 U	0.1 U		IPB=7.63 4-IPT=6.39 Styrene=1.39
		GP18-S-16.0	30-Jun-04	16.0		0.014	0.01 U	0.01 U	0.103	0.01 U	0.01 U	0.14	0.034	32.	0.091	0.01 U	0.01 U		IPB=0.016 4-IPT=0.012
GP19	MFA	GP19-S-12.0	30-Jun-04	12.0	Subsurface	0.24	0.1 U	0.1 U	1.15	0.113	0.134	1.37	0.385	**996.**	1.149	0.01 U	0.01 U		IPB=0.11 4-IPT=0.11 Styrene=0.14
		GP19-S-16.0	30-Jun-04	16.0		0.146	0.01 U	0.01 U	0.099	0.01 U	0.032	0.079	0.028	11.5	0.105	0.01 U	0.01 U		
GP20	MFA	GP20-S-18.0	19-Jul-04	18.0	Subsurface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.03	0.02 U	0.01 U	0.01 U		
		GP20-S-30.0	19-Jul-04	30.0	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.036	0.02 U	0.01 U	0.01 U		Acetone=0.159
GP21	MFA	GP21-S-18.0	19-Jul-04	18.0	Subsurface	32.	0.441	0.1 U	28.7	1.37	3.51	16.6	6.12	**1,090.**	33.1	0.01 U	0.01 U		IPB=3.1 4-IPT=1.82 Styrene=0.053
		GP21-S-30.0	19-Jul-04	30.0	Deep	0.175	0.01 U	0.01 U	0.047	0.01 U	0.011	0.033	0.01 U	5.36	0.024	0.01 U	0.01 U		Acetone=0.150

TABLE 7 – Summary of Analytical Results for Soil Samples (Pre-2008 Sample Results)
Detected Volatile Organic Compounds by EPA Method 8260
Pre- 2008 Sample Results, HAI and Others

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Analytical Results - mg/ kg (ppm)													
						Aromatic VOCs (AVOCs)										Halogenated VOCs (HVOCs)			Other VOCs
						Benzene	n-Butyl-benzene	sec-Butyl-benzene	Ethyl-benzene	n-Propyl-benzene	Toluene	1,2,4-TMB	1,3,5-TMB	Naphthalene	Total Xylenes	cis-1,2-DCE	TCE	Vinyl Chloride	
Screening Level Values [1]				Surface	Occupational	34.	NV	NV	140.	53,000.	77,000.	2,000.	1,600.	23.	25,000.	10,000.	3.9	3.9	-
					Ecological	3,300.	NV	NV	NV	NV	200.	NV	NV	10.	1.	2,500.	40.	20.	-
				Subsurface	Construction	340.	NV	NV	1,600.	24,000.	24,000.	19,000.	1,500.	580.	19,000.	3,100.	43.	30.	-
					Excavation	9,500.	NV	NV	44,000.	NV	>Max	>Max	42,000.	16,000.	>Max	86,000.	1,200.	830.	-
GP22	MFA	GP22-S-19.0	19-Jul-04	19.0	Subsurface	0.01 U	0.01 U	0.01 U	0.063	0.011	0.01 U	0.062	0.027	3.35	0.021	0.01 U	0.01 U		Acetone=0.213
(duplicate)		GP22-S-DUP	19-Jul-04	19.0		0.01 U	0.01 U	0.01 U	0.083	0.013	0.01 U	0.081	0.032	2.16	0.026	0.01 U	0.01 U		Acetone=0.207
		GP22-S-30.0	19-Jul-04	30.0	Deep	53.6	0.912	0.1 U	49.8	1.7	1.56	26.	8.45	2,260.	37.2	0.01 U	0.01 U		Acetone=0.132 IPB=3.99 4-IPT=3.19
GP23	MFA	GP23-S-18.0	19-Jul-04	18.0	Subsurface	1.8	0.01 U	0.01 U	0.166	0.029	0.01 U	0.064	0.019	3.3	0.046	0.01 U	0.01 U		IPB=0.051
		GP23-S-28.5	19-Jul-04	28.5	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.043	0.02 U	0.01 U	0.01 U		
GP24	MFA	GP24-S-18.0	19-Jul-04	18.0	Subsurface	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.03	0.02 U	0.01 U	0.01 U		
		GP24-S-26.0	19-Jul-04	26.0	Deep	1.28	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.7	0.02 U	0.01 U	0.01 U		
WS10	MFA	WS10-S-26.0	3-Sep-03	26.0	Deep	137.	4.76	1.07	161.	5.54	7.62	93.8	12.7	3,540.	225.2	5. U	5. U	5. U	
		WS10-S-30.0	3-Sep-03	30.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	
WS11	MFA	WS11-S-118	23-Sep-03	118.0	Deep	0.01 U	0.01 U	0.01 U	0.013 J	0.01 U	0.01 U	0.0132 J	0.01 U	3.33 J	0.02 U	0.01 U	0.01 U	0.01 U	
		WS11-S-165	24-Sep-03	165.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	
WS12	MFA	WS12-S-80	8-Sep-03	80.0	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	
		WS12-S-120	9-Sep-03	120.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	
		WS12-S-150	9-Sep-03	150.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	
WS13	MFA	WS13-S-50	4-Oct-03	50.0	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.198	0.02 U	0.108	0.188	0.01 U	
		WS13-S-85	4-Oct-03	85.0		0.0253	0.01 U	0.01 U	0.0316	0.01 U	0.0207	0.01 U	0.01 U	0.221	0.0448	0.105	127.	0.01 U	
		WS13-S-105	5-Oct-03	105.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U	0.01 U	
WS-14	MFA	WS14-S-41.0	22-Jun-04	41.0	Deep	0.548	0.01 U	0.01 U	0.91	0.014	0.105	0.762	0.104	62.8	0.556	0.01 U	0.01 U		IPB=0.027 4-IPT=0.017
		WS14-S-124.0	26-Jun-04	124.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.021	0.013	0.0141	0.02 U	0.01 U	0.01 U		
		WS14-S-158.0	28-Jun-04	158.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0253	0.02 U	0.01 U	0.01 U		
WS-15	MFA	WS15-S-55.0	10-Jul-04	55.0	Deep	10.6	0.447	0.1 U	22.4	1.23	1.13	48.2	5.53	4,410.	19.12	24.6	11.6		1,1,2-TCA=0.617 1,1-DCE=0.124 2-Hexanone=0.05 IPB=1.94 4-IPT=1.91 Styrene=0.015
		WS15-S-80.0	10-Jul-04	80.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.242	0.02 U	0.486	3.83		
		WS15-S-129.0	12-Jul-04	129.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0134	0.02 U	0.01 U	0.01 U		
Soil Boring Samples - Pre 2008 (HAI and Others)																			
WS-16	MFA	WS16-S-112.0	26-Jul-04	112.0	Deep	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.0245	0.02 U	0.01 U	0.01 U		Acetone=0.104
WS-17	MFA	WS17-S-21.0	5-Aug-04	21.0	Deep	0.012	0.01 U	0.01 U	0.015	0.01 U	0.01 U	0.0218	0.01 U	2.37	0.011	0.01 U	0.01 U		IPB=0.012
		WS17-S-30.0	5-Aug-04	30.0		0.129	0.0138	0.01 U	0.101	0.0266	0.017	0.145	0.123	5.14	0.368	0.01 U	0.01 U		IPB=0.047 4-IPT=0.032
		WS17-S-42.0	6-Aug-04	42.0		1.19	0.1 U	0.1 U	4.54	0.184	1.03	3.17	0.835	304.	4.41	0.01 U	0.01 U		Acetone=0.228 IPB=0.36 4-IPT=0.18 Styrene=0.021
		WS17-S-79.0	6-Aug-04	79.0		0.229	0.0126	0.01 U	0.599	0.0404	0.103	0.419	0.121	11.2	0.584	0.01 U	0.01 U		IPB=0.048 4-IPT=0.021
		WS17-S-106.0	9-Aug-04	106.0		0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U	0.02 U	0.01 U	0.01 U		
RP-11	AMEC	128-01	17-Nov-05	7.5-8.0		2.18 U	3.51 U	6.05 U	4. J	2.18 U	2.18 U	25. U	8.2 U	3.87 J	11.9 J	2.06 U	2.66 U	2.18 U	4-IPT=2.9 J

TABLE 7 – Summary of Analytical Results for Soil Samples (Pre-2008 Sample Results)
Detected Volatile Organic Compounds by EPA Method 8260
Pre- 2008 Sample Results, HAI and Others

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Analytical Results - mg/ kg (ppm)													
						Aromatic VOCs (AVOCs)										Halogenated VOCs (HVOCs)			Other VOCs
						Benzene	n-Butyl-benzene	sec-Butyl-benzene	Ethyl-benzene	n-Propyl-benzene	Toluene	1,2,4-TMB	1,3,5-TMB	Naphthalene	Total Xylenes	cis-1,2-DCE	TCE	Vinyl Chloride	
Screening Level Values [1]				Surface	Occupational	34.	NV	NV	140.	53,000.	77,000.	2,000.	1,600.	23.	25,000.	10,000.	3.9	3.9	-
					Ecological	3,300.	NV	NV	NV	NV	200.	NV	NV	10.	1.	2,500.	40.	20.	-
				Subsurface	Construction	340.	NV	NV	1,600.	24,000.	24,000.	19,000.	1,500.	580.	19,000.	3,100.	43.	30.	-
					Excavation	9,500.	NV	NV	44,000.	NV	>Max	>Max	42,000.	16,000.	>Max	86,000.	1,200.	830.	-
Soil Boring Samples - 2007 Pre-Utility Excavation for Pipeline (HAI)																			
P-A	HAI	2708-070504-17	4-May-07	2.5 - 3.0	Surface	0.022 U	0.543 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.109 U	0.217 U	0.217 U	0.109 U	0.109 U	0.109 U	
		2708-070504-18		8.0 - 8.5	Subsurface	0.022 U	-	-	0.054 U	-	0.054 U	-	-	-	0.217 U	-	-	-	
P-B	HAI	2708-070504-13	4-May-07	2.5 - 3.0	Surface	0.023 U	-	-	0.058 U	-	0.058 U	-	-	-	0.232 U	-	-	-	
		2708-070504-14		7.0 - 7.5	Subsurface	0.024 U	0.607 U	0.121 U	0.121 U	0.121 U	0.121 U	0.121 U	0.121 U	0.243 U	0.243 U	0.121 U	0.121 U	0.121 U	
P-C	HAI	2708-070504-09	4-May-07	3.0 - 3.5	Subsurface	0.025 U	-	-	0.062 U	-	0.062 U	-	-	-	0.246 U	-	-	-	
		2708-070504-10		8.5 - 9.0		0.026 U	0.648 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.259 U	0.259 U	0.13 U	0.13 U	0.13 U	
P-D	HAI	2708-070504-07	4-May-07	2.5 - 3.0	Surface	0.025 U	0.618 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.124 U	0.247 U	0.247 U	0.124 U	0.124 U	0.124 U	
		2708-070504-08		7.0 - 7.5	Subsurface	0.026 U	-	-	0.064 U	-	0.064 U	-	-	-	0.255 U	-	-	-	
P-E	HAI	2708-070504-05	4-May-07	2.5 - 3.0	Surface	0.026 U	0.652 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.13 U	0.261 U	0.261 U	0.13 U	0.13 U	0.13 U	
		2708-070504-06		7.5 - 8.0	Subsurface	0.027 U	-	-	0.067 U	-	0.067 U	-	-	-	0.268 U	-	-	-	
P-F	HAI	2708-070504-03	4-May-07	2.5 - 3.0	Surface	0.025 U	-	-	0.063 U	-	0.063 U	-	-	-	0.252 U	-	-	-	
		2708-070504-04		7.0 - 7.5	Subsurface	0.027 U	0.669 U	0.134 U	0.17	0.134 U	0.134 U	0.134 U	0.134 U	4.58	0.267 U	0.134 U	0.134 U	0.134 U	
P-G	HAI	2708-070504-01	4-May-07	2.5 - 3.0	Surface	0.025 U	-	-	0.062 U	-	0.062 U	-	-	-	0.246 U	-	-	-	
		2708-070504-02		8.5 - 9.0	Subsurface	0.026 U	0.646 U	0.129 U	0.129 U	0.129 U	0.129 U	0.129 U	0.129 U	0.258 U	0.258 U	0.129 U	0.129 U	0.129 U	
P-Y	HAI	2708-070504-15	4-May-07	2.5 - 3.0	Surface	0.101	-	-	1.47	-	0.062 U	-	-	-	0.409	-	-	-	
		2708-070504-16		7.0 - 7.5	Subsurface	1.74	5.88 U	1.18 U	4.7	1.18 U	1.18 U	4.31	1.18 U	211.	2.35 U	1.18 U	1.18 U	1.18 U	
P-Z	HAI	2708-070504-11	4-May-07	2.0 - 2.5	Surfaxce	0.078	-	-	0.12	-	0.061 U	-	-	-	0.243 U	-	-	-	
		2708-070504-12		7.0 - 7.5	Subsurface	0.783	0.656 U	0.131 U	0.879	0.571	0.131 U	2.57	0.332	4.02	0.458	0.131 U	0.131 U	0.131 U	IPB = 0.497
Outfall / Embankment Sample																			
Fab 2 OF	HAI	5237-010919-173	19-Sep-01	0.2	Surface	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.005 U	0.029	0.01 U	0.005 U	0.005 U	0.01 U	ND
Stormwater Catch Basin Sample																			
CDA / Chrome Shed Catch Basin	Wacker	CLI Composite 1-2	19-Jun-01	NA		1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	10.	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	1.74 U	ND

Note:
bgs = below ground surface
CT = chlorotoluene
DCE = dichloroethene
EPA = U.S. Environmental Protection Agency
HAI = Hahn and Associates, Inc.
IPB = isopropylbenzene
IPT = isopropyltoluene
J = estimated concentration
LTI = Limno-Tech, Inc.
MFA = Maul Foster & Alongi, Inc.
MEK = methyl ethyl ketone
mg/kg = milligrams per kilogram
ND = not detected
ppm = parts per million
TCA = trichloroethane
TCE = trichloroethene
TMB = trimethylbenzene
U = not detected above detection limit indicated
VOCs = volatile organic compounds

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DEQ Risk Based Concentrations (9/15/2009 rev.) for direct contact with soils (ingestion, dermal contact, inhalation). Screening level values for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update) and consist of lowest established values for plants, invertebrates, birds, or mammals.
Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

TABLE 8 – Summary of Analytical Results for Soil Samples (2008 through 2010):
Detected Volatile Organic Compounds by EPA Method 8260

Sampling Event					Soil Boring Samples - 2008 Push Probe															
Soil Sample Location					P-5A	P-8A	P-12		P-13		P-14		P-15		P-16		P-17		P-18	
Collected by					HAI	HAI	HAI		HAI		HAI		HAI		HAI		HAI		HAI	
Sample Depth (feet bgs)					9.5	2.0	2.5	6.5	2.5	11.5	2.5	13.0	2.0	18.5	2.0	9.5	2.0	16.0	3.0	13.5
Sample Date					4/29/08	4/29/08	4/14/08		4/14/08		4/14/08		4/14/08		4/30/08		4/25/08		4/15/08	
Depth Group					Subsurface	Surface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Deep	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface
Sample Number					5237-080429-159G	5237-080429-161G	5237-080414-001G	5237-080414-002G	5237-080414-007G	5237-080414-008G	5237-080414-010G	5237-080414-011G	5237-080414-012G	5237-080414-013G	5237-080430-176G	5237-080430-177G	5237-080425-121G	5237-080425-124G	5237-080415-025G	5237-080415-026G
Screening Level Values [1]	Surface		Subsurface																	
Determinant	Occupational	Ecological	Construction	Excavation	**Analytical Results (mg/kg)**															
1,1,1-Trichloroethane (TCA)	>Max	55550	>Max	>Max	0.000074 U	0.000069 U	0.000067 U	0.016 U	0.000066 U	0.000068 U	0.000066 U	0.000071 U	0.000098 U	0.000076 U	0.035 UJ	0.06 UJ	0.000098 UJ	0.079 UJ	0.000069 U	0.000077 U
1,2-Dibromoethane (EDB)	0.68	NV	8.1	230	0.00011 U	0.000097 U	0.000094 U	0.011 U	0.000093 U	0.000095 U	0.000093 U	0.0001 U	0.00014 U	0.00011 U	0.023 UJ	0.04 UJ	0.00014 UJ	0.052 UJ	0.000097 U	0.00011 U
1,2-Dichlorobenzene	35,000	NV	19,000	>Max	0.000073 U	0.000068 U	0.000066 U	0.013 U	0.000065 U	0.000067 U	0.000065 U	0.00007 U	0.000096 U	0.000075 U	0.027 UJ	0.046 UJ	0.000096 UJ	0.06 UJ	0.000068 U	0.000076 U
1,2-Dichloroethane (EDC)	15	70	180	5000	0.000064 U	0.00006 U	0.000058 U	0.017 U	0.000057 U	0.000059 U	0.000057 U	0.000061 U	0.000084 U	0.000066 U	0.036 UJ	0.062 UJ	0.000085 UJ	0.081 UJ	0.000059 U	0.000066 U
1,2,4-Trichlorobenzene	NV	20	NV	NV	0.00022 U	0.0002 U	0.0002 U	0.032 U	0.00019 U	0.0002 U	0.00019 U	0.00021 U	0.00028 U	0.00022 U	0.069 UJ	0.12 UJ	0.00029 UJ	0.16 UJ	0.0002 U	0.00022 U
1,2,4-Trimethylbenzene	2,000	NV	19,000	>Max	0.000079 U	0.000073 U	0.0043 J	0.021 U	0.00016 J	0.000082 J	0.00012 J	0.00011 J	0.00025 J	0.00016 J	0.83 J	160. J	0.00011 UJ	3.2 J	0.000073 U	0.00039 J
1,3-Dichlorobenzene	NV	NV	NV	NV	0.000063 U	0.000059 U	0.000057 U	0.015 U	0.000056 U	0.000058 U	0.000056 U	0.00006 U	0.000083 U	0.000065 U	0.032 UJ	0.055 UJ	0.000083 UJ	0.072 UJ	0.000058 U	0.000065 U
1,3,5-Trimethylbenzene	1,600	NV	1,500	42,000	0.000078 U	0.000072 U	0.0025 J	0.018 U	0.000069 U	0.000071 U	0.000069 U	0.000074 U	0.00021 J	0.00008 U	0.32 J	50. J	0.00011 UJ	0.16 J	0.000072 U	0.00015 J
1,4-Dichlorobenzene	63	NV	1,200	34,000	0.00012 U	0.00011 U	0.00011 U	0.013 U	0.0001 U*	0.00011 U	0.0001 U	0.00011 U	0.00015 U*	0.00012 U*	0.028 UJ	0.047 UJ	0.00015 UJ	0.062 UJ	0.00011 U	0.00012 U
2-Butanone (MEK)	NV	20,000	NV	NV	0.0013 UR	0.0012 UR	0.003 J	0.46 UR	0.0082 J	0.0012 UR	0.0032 J	0.0012 U	0.0075 J	0.003 J	1.1 UR	1.8 UR	0.0091 J	2.3 UR	0.0056 J	0.0038 J
2-Chlorotoluene	NV	NV	NV	NV	0.000057 U	0.000053 U	0.000052 U	0.016 U	0.000051 U	0.000053 U	0.000051 U	0.000055 U	0.000076 U	0.000059 U	0.035 UJ	0.06 UJ	0.000076 UJ	0.079 UJ	0.000053 U	0.000059 U
4-Chlorotoluene	NV	NV	NV	NV	0.000092 U	0.000086 U	0.000083 U	0.013 U	0.000082 U	0.000084 U	0.000082 U	0.000088 U	0.00013 U	0.000095 U	0.028 UJ	0.048 UJ	0.00013 UJ	0.063 UJ	0.000085 U	0.000095 U
4-Isopropyltoluene	NV	NV	NV	NV	0.000074 U	0.000069 U	0.00045 J	0.019 U	0.000066 U	0.000068 U	0.000066 U	0.000071 U	0.000098 U	0.000076 U	0.062 J	12. J	0.000098 UJ	0.29 J	0.000069 U	0.000077 U
Acetone	NV	1,250	NV	NV	0.013 J	0.016 J	0.0088 J	0.35 UR	0.049	0.011 J	0.016 J	0.0078 J	0.031	0.0069 J	0.75 UR	1.3 UR	0.084 J	1.7 UR	0.028	0.019 J
Benzene	34	3,300	340	9,500	0.000089 U	0.0019 J	0.055 J	0.015 U	0.000079 U	0.000081 U	0.000079 U	0.000085 U	0.00012 U	0.000091 U	0.38 J	12. J	0.0025 J	18. J	0.000082 U	0.005 J
Bromoform	360	NV	270	76,000	0.0013 J	0.0002 U	0.0002 U	0.04 U	0.00019 U	0.0002 U	0.00019 U	0.00021 U	0.00028 U	0.00022 U	0.088 UJ	0.15 UJ	0.00029 UJ	0.2 UJ	0.0002 U	0.00022 U
Carbon Disulfide	NV	NV	NV	NV	0.000064 U	0.0014 J	0.0013 J	0.023 U	0.00044 J	0.00032 J	0.0011 J	0.000061 U	0.00038 J	0.0014 J	0.05 UJ	0.13 J	0.014 J	0.12 UJ	0.00027 J	0.000066 U
Chlorobenzene	8,300	40	4,300	>Max	0.000057 U	0.000053 U	0.000052 U	0.014 U	0.000051 U	0.000053 U	0.000051 U	0.000055 U	0.000076 U	0.000059 U	0.03 UJ	0.05 UJ	0.000076 UJ	0.066 UJ	0.000053 U	0.000059 U
Chloroform	25	1,875	380	11,000	0.000071 U	0.000066 U	0.000064 U	0.014 U	0.000063 U	0.000065 U	0.000063 U	0.000068 U	0.000093 U	0.000073 U	0.03 UJ	0.052 UJ	0.000093 UJ	0.068 UJ	0.000066 U	0.000073 U
cis-1,2-Dichloroethene	10,000	2500	3,100	86,000	0.00012 U	0.00011 U	0.00011 U	0.017 U	0.0001 U	0.00011 U	0.0001 U	0.00011 U	0.00015 U	0.00012 U	0.037 UJ	0.063 UJ	0.00015 UJ	0.082 UJ	0.00011 U	0.00012 U
Dichlorodifluoromethane	NV	NV	NV	NV	0.000074 UJ	0.000069 UJ	0.000067 U	0.024 U	0.000066 U	0.000068 U	0.000066 U	0.000071 U	0.000098 U	0.000076 U	0.052 UJ	0.089 UJ	0.000098 UJ	0.12 UJ	0.000069 U	0.000077 U
Ethylbenzene	140	NV	1,600	44,000	0.000073 U	0.000068 U	0.012 J	0.014 U	0.00064 J	0.00031 J	0.00029 J	0.00029 J	0.00075 J	0.00056 J	0.4 J	21. J	0.00034 J	9.4 J	0.0003 J	0.0008 J
Isopropylbenzene	NV	NV	NV	NV	0.000056 U	0.000052 U	0.00059 J	0.04 J	0.00005 U	0.000051 U	0.00005 U	0.000054 U	0.000074 U	0.000058 U	0.097 J	9.4 J	0.000074 UJ	0.58 J	0.000052 U	0.00023 J
m,p-Xylenes	25,000	NV	19,000	>Max	0.00017 U	0.00016 U	0.0091 J	0.027 U	0.0014 J	0.00088 J	0.00099 J	0.00092 J	0.0023 J	0.0017 J	0.27 J	79. J	0.00094 J	3.1 J	0.00081 J	0.00095 J
Methylene Chloride	310	730	2,700	75,000	0.00029 U*	0.00027 U*	0.00015 U	0.039 J	0.00014 U*	0.00015 U*	0.00014 U*	0.00015 U	0.00021 U*	0.00017 U*	0.087 J	0.16 J	0.00021 U*	0.15 J	0.00015 U	0.00017 U*
n-Butylbenzene	NV	NV	NV	NV	0.00011 U	0.0001 U	0.000097 U	0.22 J	0.000096 U	0.000098 U	0.000096 U	0.00011 U	0.00015 U	0.00012 U	0.094 J	29. J	0.00015 UJ	0.16 UJ	0.0001 U	0.00012 U
n-Propylbenzene	53,000	NV	24,000	>Max	0.000061 U	0.000057 U	0.00055 J	0.06 J	0.000054 U	0.000056 U	0.000054 U	0.000058 U	0.00008 U	0.000063 U	0.05 J	18. J	0.00008 UJ	0.31 J	0.000056 U	0.000063 U
Naphthalene	23	10	580	16,000	0.0014 U*	0.001 U*	0.11	0.5	0.00014 U*	0.00015 U*	0.00014 U*	0.00015 U*	0.00021 U*	0.00017 U*	**97.** J	**790.** J	0.00021 UJ	160. J	0.00015 U*	0.027
o-Xylene	25,000	1	19,000	>Max	0.000064 U	0.00006 U	0.0057	0.012 U	0.00042 J	0.00029 J	0.00028 J	0.00029 J	0.0006 J	0.00046 J	0.34 J	38. J	0.00031 J	3.3 J	0.00025 J	0.00034 J
sec-Butylbenzene	NV	NV	NV	NV	0.000081 U	0.000075 U	0.00026 J	0.1 J	0.000072 U	0.000074 U	0.000072 U	0.000077 U	0.00011 U	0.000083 U	0.04 UJ	11. J	0.00011 UJ	0.09 UJ	0.000075 U	0.00015 J
Styrene	>Max	300	51,000	>Max	0.000075 U	0.00007 U	0.00042 J	0.014 U	0.00014 J	0.000069 U	0.000067 U	0.000072 U	0.00022 J	0.00016 J	0.05 J	0.32 J	0.000099 UJ	0.067 UJ	0.00007 U	0.00072 J
tert-Butylbenzene	NV	NV	NV	NV	0.000079 U	0.000073 U	0.000071 U	0.018 U	0.00007 U	0.000072 U	0.00007 U	0.000075 U	0.00011 U	0.000081 U	0.039 UJ	0.61 J	0.00011 UJ	0.086 UJ	0.000073 U	0.000081 U
Tetrachloroethene (PCE)	5.1	10	40	1100	0.000085 U	0.000079 U	0.00062 J	0.02 U	0.00089 J	0.00058 J	0.00063 J	0.0006 J	0.0014 J	0.0011 J	0.044 UJ	0.075 UJ	0.00056 J	0.099 UJ	0.00043 J	0.000088 U
Toluene	77,000	200	24,000	>Max	0.00051 J	0.00048 J	0.0052 J	0.017 J	0.0026 J	0.0017 J	0.0031 J	0.0018 J	0.0034 J	0.0025 J	0.11 J	2.9 J	0.0027 J	0.19 J	0.0014 J	0.002 J
Trichloroethene (TCE)	3.9	40	43	1,200	0.000079 U	0.000073 U	0.000071 U	0.027 U	0.00027 J	0.000072 U	0.00007 U	0.000075 U	0.00037 J	0.00026 J	0.059 UJ	0.11 UJ	0.00011 UJ	0.14 UJ	0.000073 U	0.000081 U
Trichlorofluoromethane	>Max	NV	63000	>Max	0.00013 U	0.00012 U	0.00012 U	0.025 U	0.00011 U	0.00012 U	0.00011 U	0.00012 U	0.00017 U	0.00013 U	0.054 UJ	0.092 UJ	0.00017 UJ	0.12 UJ	0.00012 U	0.00013 U
Vinyl Chloride	3.9	20	30	830	0.00011 U	0.000098 U	0.000095 U	0.031 U	0.000094 U	0.000096 U	0.000094 U	0.00011 U	0.00014 U	0.00011 U	0.066 UJ	0.12 UJ	0.00014 UJ	0.15 UJ	0.000098 U	0.00011 U
Other VOCs					U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DEQ Risk Based Concentrations (9/15/2009 rev.) for direct contact with soils (ingestion, dermal contact, inhalation). Screening level values for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update) and consist of lowest established values for plants, invertebrates, birds, or mammals.

TABLE 8 – Summary of Analytical Results for Soil Samples (2008 through 2010):
Detected Volatile Organic Compounds by EPA Method 8260

Sampling Event					Soil Boring Samples - 2008 Push Probe																	
Soil Sample Location					P-19			P-20		P-22		P-23		P-24		P-25		P-26	
Collected by					HAI			HAI		HAI		HAI		HAI		HAI		HAI	
Sample Depth (feet bgs)					2.0		12.0	2.0	18.0	3.0	11.0	1.0	10.0	2.5	11.0	2.0	13.5	2.0	15.0
Sample Date					4/15/08			4/15/08		4/15/08		4/15/08		4/25/08		4/25/08		4/25/08	
Depth Group					Surface		Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface
Sample Number					5237-080415-021G	5237-080415-022G (Duplicate)	5237-080415-023G	5237-080415-015G	5237-080415-016G	5237-080415-028G	5237-080415-029G	5237-080415-018G	5237-080415-019G	5237-080425-114G	5237-080425-115G	5237-080425-107G	5237-080425-109G	5237-080425-101G	5237-080425-103G
Screening Level Values [1]	Surface		Subsurface																
Determinant	Occupational	Ecological	Construction	Excavation	**Analytical Results (mg/kg)**														
1,1,1-Trichloroethane (TCA)	>Max	55550	>Max	>Max	0.000066 U	0.000066 U	0.000075 U	0.000068 U	0.00024 J	0.000074 U	0.000091 U	0.00007 U	0.000072 U	0.000071 UJ	0.000083 UJ	0.000091 UJ	0.022 UJ	0.000071 UJ	0.000069 UJ
1,2-Dibromoethane (EDB)	0.68	NV	8.1	230	0.000093 U	0.000093 U	0.00011 U	0.000096 U	0.00013 U	0.00011 U	0.00013 U	0.000099 U	0.00011 U	0.0001 UJ	0.00012 UJ	0.00013 UJ	0.014 UJ	0.0001 UJ	0.000097 UJ
1,2-Dichlorobenzene	35,000	NV	19,000	>Max	0.000065 U	0.000065 U	0.000074 U	0.000067 U	0.000087 U	0.000073 U	0.00009 U	0.000069 U	0.000071 U	0.00007 UJ	0.000082 UJ	0.00009 UJ	0.017 UJ	0.00007 UJ	0.000068 UJ
1,2-Dichloroethane (EDC)	15	70	180	5000	0.000057 U	0.000057 U	0.000065 U	0.000059 U	0.000076 U	0.000064 U	0.000079 U	0.000061 U	0.000062 U	0.000062 UJ	0.000072 UJ	0.000079 UJ	0.022 UJ	0.000062 UJ	0.00006 UJ
1,2,4-Trichlorobenzene	NV	20	NV	NV	0.00019 U	0.00019 U	0.00022 U	0.0002 U	0.00026 U	0.00022 U	0.00027 U	0.00021 U	0.00021 U	0.00021 UJ	0.00024 UJ	0.00027 UJ	0.042 UJ	0.00021 UJ	0.0002 UJ
1,2,4-Trimethylbenzene	2,000	NV	19,000	>Max	0.00007 U	0.00007 U	0.00008 U	0.0001 J	0.00064 J	0.00015 J	0.000097 U	0.00014 J	0.000076 U	0.00012 J	0.0022 J	0.000097 UJ	0.46 J	0.000076 UJ	0.00057 J
1,3-Dichlorobenzene	NV	NV	NV	NV	0.000056 U	0.000056 U	0.000064 U	0.000058 U	0.000075 U	0.000063 U	0.000078 U	0.00006 U	0.000061 U	0.00006 UJ	0.00007 UJ	0.000077 UJ	0.02 U	0.000061 UJ	0.000059 UJ
1,3,5-Trimethylbenzene	1,600	NV	1,500	42,000	0.000069 U	0.000069 U	0.000079 U	0.000071 U	0.00013 J	0.000078 U	0.000095 U	0.000074 U	0.000075 U	0.000074 UJ	0.00037 J	0.000095 UJ	0.11 J	0.000075 UJ	0.00017 J
1,4-Dichlorobenzene	63	NV	1,200	34,000	0.0001 U	0.0001 U	0.00012 U	0.00011 U	0.00014 U	0.00012 U	0.00014 U	0.00011 U	0.00011 U*	0.00011 UJ	0.00013 UJ	0.00014 UJ	0.017 UJ	0.00011 UJ	0.00011 UJ
2-Butanone (MEK)	NV	20,000	NV	NV	0.0046 J	0.005 J	0.0013 UR	0.0032 J	0.0042 J	0.005 J	0.006 J	0.004 J	0.0037 J	0.0044 J	0.014 J	0.0068 J	0.62 UR	0.0012 UR	0.0012 UR
2-Chlorotoluene	NV	NV	NV	NV	0.000051 U	0.000051 U	0.000058 U	0.000053 U	0.000068 U	0.000058 U	0.000071 U	0.000054 U	0.000056 U	0.000055 UJ	0.000064 UJ	0.00007 UJ	0.022 UJ	0.000055 UJ	0.000054 UJ
4-Chlorotoluene	NV	NV	NV	NV	0.000082 U	0.000082 U	0.000094 U	0.000084 U	0.00011 U	0.000092 U	0.00012 U	0.000087 U	0.000089 U	0.000088 UJ	0.00011 UJ	0.00012 UJ	0.017 UJ	0.000089 UJ	0.000086 UJ
4-Isopropyltoluene	NV	NV	NV	NV	0.000066 U	0.000066 U	0.000075 U	0.000068 U	0.000088 U	0.000074 U	0.000091 U	0.00007 U	0.000072 U	0.000071 UJ	0.0046 J	0.000091 UJ	0.025 UJ	0.000071 UJ	0.00067 J
Acetone	NV	1,250	NV	NV	0.053	0.064	0.0086 J	0.016 J	0.014 J	0.02 J	0.023 J	0.035	0.02 J	0.019 J	0.079 J	0.097 J	0.46 UR	0.042 J	0.012 J
Benzene	34	3,300	340	9,500	0.000079 U	0.00092 J	0.00009 U	0.000081 U	0.0024 J	0.000089 U	0.00011 U	0.000084 U	0.000086 U	0.0012 J	0.0024 J	0.0017 J	0.027 J	0.000085 UJ	0.0024 J
Bromoform	360	NV	270	76,000	0.00019 U	0.00019 U	0.00022 U	0.0002 U	0.00026 U	0.00022 U	0.00027 U	0.00021 U	0.00021 U	0.00021 UJ	0.00024 UJ	0.00027 UJ	0.054 UJ	0.00021 UJ	0.0002 UJ
Carbon Disulfide	NV	NV	NV	NV	0.000057 U	0.00013 J	0.000065 U	0.00011 J	0.00088 J	0.00043 J	0.000079 U	0.000061 U	0.000062 U	0.00017 J	0.013 J	0.000079 UJ	0.031 UJ	0.000062 UJ	0.001 J
Chlorobenzene	8,300	40	4,300	>Max	0.000051 U	0.000051 U	0.000058 U	0.000053 U	0.00021 J	0.000058 U	0.000071 U	0.000054 U	0.000056 U	0.000055 UJ	0.0032 J	0.00007 UJ	0.018 UJ	0.000055 UJ	0.000054 UJ
Chloroform	25	1,875	380	11,000	0.000063 U	0.000063 U	0.000072 U	0.000065 U	0.000084 U	0.000071 U	0.000087 U	0.000067 U	0.000069 U	0.000068 UJ	0.000079 UJ	0.000087 UJ	0.019 UJ	0.000068 UJ	0.000066 UJ
cis-1,2-Dichloroethene	10,000	2500	3,100	86,000	0.0001 U	0.0001 U	0.00012 U	0.00011 U	0.00014 U	0.00024 J	0.00014 U	0.00011 U	0.00011 U	0.00011 UJ	0.00013 UJ	0.00014 UJ	0.023 UJ	0.00011 UJ	0.00011 UJ
Dichlorodifluoromethane	NV	NV	NV	NV	0.000066 U	0.000066 U	0.000075 U	0.000068 U	0.0023 J	0.000074 U	0.00029 J	0.00007 U	0.000072 U	0.000071 UJ	0.000083 UJ	0.000091 UJ	0.032 UJ	0.000071 UJ	0.000069 UJ
Ethylbenzene	140	NV	1,600	44,000	0.00032 J	0.00026 J	0.00022 J	0.00036 J	0.00077 J	0.00029 J	0.00032 J	0.00048 J	0.00023 J	0.00021 J	0.045 J	0.00009 UJ	0.18 J	0.00007 UJ	0.019 J
Isopropylbenzene	NV	NV	NV	NV	0.00005 U	0.00005 U	0.000057 U	0.000052 U	0.003 J	0.000056 U	0.000069 U	0.000053 U	0.000054 U	0.000054 UJ	0.0057 J	0.000069 UJ	0.32 J	0.000054 UJ	0.0026 J
m,p-Xylenes	25,000	NV	19,000	>Max	0.00097 J	0.00073 J	0.0006 J	0.001 J	0.0017 J	0.00079 J	0.00076 J	0.0011 J	0.00077 J	0.0007 J	0.0018 J	0.00021 UJ	0.048 J	0.00017 UJ	0.00022 J
Methylene Chloride	310	730	2,700	75,000	0.00014 U*	0.00014 U	0.00016 U	0.00015 U	0.00019 U*	0.00016 U	0.0002 U*	0.00015 U*	0.00016 U*	0.00015 U*	0.00018 U*	0.0002 UJ	0.037 UJ	0.00016 UJ	0.00015 UJ
n-Butylbenzene	NV	NV	NV	NV	0.000096 U	0.000096 U	0.00011 U	0.000099 U	0.00013 U	0.00011 U	0.00014 U	0.00011 U	0.00011 U	0.00011 UJ	0.00012 UJ	0.00014 UJ	0.074 J	0.00011 UJ	0.0001 UJ
n-Propylbenzene	53,000	NV	24,000	>Max	0.000054 U	0.000054 U	0.000062 U	0.000056 U	0.00082 J	0.000061 U	0.000075 U	0.000058 U	0.000059 U	0.000058 UJ	0.0009 J	0.000075 UJ	0.14 J	0.000059 UJ	0.0013 J
Naphthalene	23	10	580	16,000	0.00014 U*	0.00014 U*	0.00016 U*	0.00015 U*	0.00019 U*	0.00016 U*	0.0002 U*	0.00094 J	0.00016 U*	0.00015 U*	0.019 J	0.0002 UJ	11. J	0.00016 U*	0.021 J
o-Xylene	25,000	1	19,000	>Max	0.00027 J	0.0002 J	0.000065 U	0.00029 J	0.00076 J	0.0003 J	0.00026 J	0.00033 J	0.00027 J	0.00028 J	0.0026 J	0.000079 UJ	0.1 J	0.000062 UJ	0.00041 J
sec-Butylbenzene	NV	NV	NV	NV	0.000072 U	0.000072 U	0.000082 U	0.000074 U	0.0023 J	0.000081 U	0.0001 U	0.000077 U	0.000078 U	0.000078 UJ	0.0066 J	0.000099 UJ	0.025 UJ	0.000078 UJ	0.0021 J
Styrene	>Max	300	51,000	>Max	0.000067 U	0.000067 U	0.000077 U	0.0001 J	0.00013 J	0.000076 U	0.000093 U	0.000071 U	0.000073 U	0.000072 UJ	0.00025 J	0.000092 UJ	0.018 UJ	0.000072 UJ	0.00007 UJ
tert-Butylbenzene	NV	NV	NV	NV	0.00007 U	0.00007 U	0.00008 U	0.000072 U	0.00032 J	0.000079 U	0.000097 U	0.000075 U	0.000076 U	0.000075 UJ	0.0012 J	0.000097 UJ	0.024 UJ	0.000076 UJ	0.00022 J
Tetrachloroethene (PCE)	5.1	10	40	1100	0.00065 J	0.00045 J	0.00036 J	0.0006 J	0.0012 J	0.000086 U	0.00047 J	0.00056 J	0.00053 J	0.00034 J	0.000095 UJ	0.00011 UJ	0.027 UJ	0.000082 UJ	0.00008 UJ
Toluene	77,000	200	24,000	>Max	0.0023 J	0.0029 J	0.0012 J	0.0023 J	0.0031 J	0.002 J	0.0027 J	0.006 J	0.0014 J	0.0011 J	0.0024 J	0.0039 J	0.034 J	0.00042 J	0.00051 J
Trichloroethene (TCE)	3.9	40	43	1,200	0.00022 J	0.00041 J	0.00008 U	0.000072 U	0.00046 J	0.000079 U	0.000097 U	0.000075 U	0.000076 U	0.000075 UJ	0.000088 UJ	0.000097 UJ	0.036 UJ	0.000076 UJ	0.000073 UJ
Trichlorofluoromethane	>Max	NV	63000	>Max	0.00011 U	0.00011 U	0.00013 U	0.00012 U	0.00015 U	0.00013 U	0.00016 U	0.00012 U	0.00012 U	0.00012 UJ	0.001 J	0.00016 UJ	0.033 UJ	0.00012 UJ	0.00012 UJ
Vinyl Chloride	3.9	20	30	830	0.000094 U	0.000094 U	0.00011 U	0.000097 U	0.00013 U	0.00011 U	0.00013 U	0.0001 U	0.00011 U	0.00011 UJ	0.00012 UJ	0.00013 UJ	0.041 UJ	0.00011 UJ	0.000098 UJ
Other VOCs					U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DE
for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update)

TABLE 8 – Summary of Analytical Results for Soil Samples (2008 through 2010):
Detected Volatile Organic Compounds by EPA Method 8260

Sampling Event					Soil Boring Samples - 2008 Push Probe														
Soil Sample Location					P-28			P-29		P-30			P-31		P-32	P-33		
Collected by					HAI			HAI		HAI			HAI		HAI	HAI		
Sample Depth (feet bgs)					3.0	12.0	17.0	0 - 1	13.0	1.0	14.0	14.0	2.0	13.0	2.5	1 - 2	8 - 9	15 - 17
Sample Date					4/28/08			5/1/08		4/28/08			4/28/08		4/24/08	8/10/09		
Depth Group					Surface	Subsurface	Deep	Surface	Subsurface	Surface	Subsurface	Subsurface	Surface	Subsurface	Surface	Surface	Subsurface	Deep
Sample Number					5237-080428-151G	5237-080428-153G	5237-080428-154G	5237-080501-197	5237-080501-204G	5237-080428-135G	5237-080428-137G	5237-080428-138G (Duplicate)	5237-080428-144G	5237-080428-146G	5237-080424-094G	5237-090810-001	5237-090810-002	5237-090810-003
Screening Level Values [1]	Surface		Subsurface															
Determinant	Occupational	Ecological	Construction	Excavation	**Analytical Results (mg/kg)**													
1,1,1-Trichloroethane (TCA)	>Max	55550	>Max	>Max	0.000066 U	0.000072 U	0.000075 U	0.000079 U	0.077 U	0.000066 U	0.00011 U	0.03 U	0.000071 U	0.000093 U	0.00007 U	0.0589 U	0.0777 U	6.53 U
1,2-Dibromoethane (EDB)	0.68	NV	8.1	230	0.000093 U	0.00011 U	0.00011 U	0.00012 U	0.051 U	0.000093 U	0.00016 U	0.02 U	0.0001 U	0.00014 U	0.000099 U	0.0294 U	0.0388 U	3.26 U
1,2-Dichlorobenzene	35,000	NV	19,000	>Max	0.000065 U	0.000071 U	0.0004 J	0.000077 U	0.059 U	0.000065 U	0.00011 U	0.023 U	0.00007 U	0.000092 U	0.000069 U	0.0294 U	0.0388 U	3.26 U
1,2-Dichloroethane (EDC)	15	70	180	5000	0.000057 U	0.000062 U	0.000065 U	0.000068 U	0.08 U	0.000057 U	0.000093 U	0.03 U	0.000061 U	0.00008 U	0.000061 U	0.0294 U	0.0388 U	3.26 U
1,2,4-Trichlorobenzene	NV	20	NV	NV	0.00019 U	0.00021 U	0.00022 U	0.00023 U	0.16 U	0.00019 U	0.00031 U	0.058 U	0.00021 U	0.00027 U	0.00021 U	0.118 U	0.155 U	13.1 U
1,2,4-Trimethylbenzene	2,000	NV	19,000	>Max	0.00007 U	0.000077 U	0.0012 J	0.000083 U	20.	0.00007 U	0.00012 U	0.037 U	0.000075 U	0.00014 J	0.00011 J	0.0589 U	0.0777 U	13.
1,3-Dichlorobenzene	NV	NV	NV	NV	0.000056 U	0.000061 U	0.000064 U	0.000067 U	0.071 U	0.000056 U	0.000091 U	0.027 U	0.00006 U	0.000079 U	0.00006 U	0.0294 U	0.0388 U	3.26 U
1,3,5-Trimethylbenzene	1,600	NV	1,500	42,000	0.000069 U	0.000075 U	0.00088 J	0.000082 U	8.2	0.000069 U	0.00012 U	0.032 U	0.000074 U	0.000097 U	0.000073 U	0.0589 U	0.0777 U	6.53 U
1,4-Dichlorobenzene	63	NV	1,200	34,000	0.0001 U	0.00011 U	0.00012 U*	0.00012 U	0.061 U	0.0001 U	0.00017 U	0.023 U	0.00011 U	0.00015 U	0.00011 U	0.0589 U	0.0777 U	6.53 U
2-Butanone (MEK)	NV	20,000	NV	NV	0.0011 UR	0.0012 UR	0.0058 J	0.011 J	2.3 UR	0.0056 J	0.0068 J	0.85 UR	0.0039 J	0.004 J	0.0012 UR	0.589 U	0.777 U	65.3 U
2-Chlorotoluene	NV	NV	NV	NV	0.000051 U	0.000056 U	0.000058 U	0.000061 U	0.077 U	0.000051 U	0.000083 U	0.03 U	0.000055 U	0.000072 U	0.000054 U	0.0294 U	0.0388 U	3.26 U
4-Chlorotoluene	NV	NV	NV	NV	0.000082 U	0.00009 U	0.000093 U	0.000098 U	0.062 U	0.000082 U	0.00014 U	0.024 U	0.000088 U	0.00012 U	0.000087 U	0.0589 U	0.0777 U	6.53 U
4-Isopropyltoluene	NV	NV	NV	NV	0.000066 U	0.000072 U	0.0004 J	0.00015 J	2.1	0.000066 U	0.00011 U	0.034 U	0.000071 U	0.000093 U	0.00007 U	0.0589 U	0.0777 U	6.53 U
Acetone	NV	1,250	NV	NV	0.013 J	0.0058 J	0.03	0.075	1.7 UR	0.078	0.029 J	0.63 UR	0.055	0.016 J	0.025	1.18 UJ	1.55 UJ	131. UJ
Benzene	34	3,300	340	9,500	0.000079 U	0.00076 J	0.0016 J	0.0041 J	0.16 J	0.0015 J	0.00013 U	0.028 U	0.0014 J	0.0012 J	0.000084 U	0.0147 U	0.0676	16.5
Bromoform	360	NV	270	76,000	0.00019 U	0.00093 J	0.00063 J	0.00083 J	0.2 U	0.0005 J	0.00031 U	0.074 U	0.00021 U	0.00027 U	0.00021 U	0.0589 U	0.0777 U	6.53 U
Carbon Disulfide	NV	NV	NV	NV	0.00011 J	0.000062 U	0.0027 J	0.0013 J	0.12 U	0.000057 U	0.00034 J	0.042 U	0.000061 U	0.00008 U	0.00015 J	-	-	-
Chlorobenzene	8,300	40	4,300	>Max	0.000051 U	0.000056 U	0.00016 J	0.000061 U	0.065 U	0.000051 U	0.00018 J	0.025 U	0.000055 U	0.000072 U	0.000054 U	0.0294 U	0.0388 U	3.26 U
Chloroform	25	1,875	380	11,000	0.000063 U	0.000069 U	0.000072 U	0.000075 U	0.067 U	0.000063 U	0.00011 U	0.026 U	0.000068 U	0.000089 U	0.000067 U	0.294 U	0.388 U	32.6 U
cis-1,2-Dichloroethene	10,000	2500	3,100	86,000	0.0001 U	0.00011 U	0.00012 U	0.00012 U	0.081 U	0.0001 U	0.00017 U	0.031 U	0.00011 U	0.00015 U	0.00011 U	0.0294 U	0.0388 U	3.26 U
Dichlorodifluoromethane	NV	NV	NV	NV	0.000066 UJ	0.000072 UJ	0.000075 UJ	0.000079 UJ	0.12 UJ	0.000066 UJ	0.00011 U	0.044 U	0.000071 UJ	0.000093 UJ	0.00007 U	0.118 U	0.155 U	13.1 U
Ethylbenzene	140	NV	1,600	44,000	0.00027 J	0.00022 J	0.0034 J	0.00073 J	1.4	0.000065 U	0.00084 J	0.026 U	0.00026 J	0.00041 J	0.00038 J	0.0294 U	0.0388 U	13.6
Isopropylbenzene	NV	NV	NV	NV	0.00005 U	0.000055 U	0.0021 J	0.00006 U	1.3 J	0.00005 U	0.000081 U	0.025 U	0.000054 U	0.000071 U	0.000053 U	0.0589 U	0.0777 U	6.53 U
m,p-Xylenes	25,000	NV	19,000	>Max	0.00071 J	0.00067 J	0.0013 J	0.0005 J	5.	0.00015 U	0.0025 J	0.049 U	0.00081 J	0.0012 J	0.00096 J	0.0589 U	0.0777 U	17.2
Methylene Chloride	310	730	2,700	75,000	0.00014 U*	0.00016 U*	0.00016 U*	0.00054 U*	0.2 J	0.00014 U*	0.00023 U*	0.051 U	0.00015 U*	0.0002 U*	0.00015 U*	0.294 U	0.388 U	32.6 U
n-Butylbenzene	NV	NV	NV	NV	0.000096 U	0.00011 U	0.00011 U	0.00012 U	2.	0.000096 U	0.00016 U	0.14 J	0.00011 U	0.00014 U	0.00011 U	0.0589 U	0.0777 U	6.53 U
n-Propylbenzene	53,000	NV	24,000	>Max	0.000054 U	0.000059 U	0.00024 J	0.000064 U	0.34 J	0.000054 U	0.000088 U	0.026 U	0.000058 U	0.000076 U	0.000058 U	0.0294 U	0.0388 U	3.26 U
Naphthalene	23	10	580	16,000	0.00014 U*	0.00016 U*	0.0041	0.0073 J	170.	0.00014 U*	0.00023 U*	0.16 J	0.00015 U*	0.0002 U*	0.00015 U*	0.294 U	0.388 U	1,050.
o-Xylene	25,000	1	19,000	>Max	0.00016 J	0.00018 J	0.00084 J	0.000068 U	6.3	0.000057 U	0.001 J	0.024 J	0.00021 J	0.00036 J	0.00033 J	0.0294 U	0.0388 U	8.94
sec-Butylbenzene	NV	NV	NV	NV	0.000072 U	0.000079 U	0.00045 J	0.000086 U	0.097 J	0.000072 U	0.00012 U	0.081 J	0.000077 U	0.00011 U	0.000077 U	0.0589 U	0.0777 U	6.53 U
Styrene	>Max	300	51,000	>Max	0.000067 U	0.000073 U	0.0002 J	0.00008 U	0.066 U	0.000067 U	0.00026 J	0.025 U	0.000072 U	0.000094 U	0.000071 U	0.118 U	0.155 U	13.1 U
tert-Butylbenzene	NV	NV	NV	NV	0.00007 U	0.000077 U	0.00008 U	0.000083 U	0.085 U	0.00007 U	0.00012 U	0.032 U	0.000075 U	0.000099 U	0.000074 U	0.0589 U	0.0777 U	6.53 U
Tetrachloroethene (PCE)	5.1	10	40	1100	0.00072 J	0.0004 J	0.00051 J	0.00009 U	0.098 U	0.000076 U	0.00091 J	0.037 U	0.00047 J	0.00067 J	0.00056 J	0.0589 U	0.0777 U	6.53 U
Toluene	77,000	200	24,000	>Max	0.0025 J	0.0012 J	0.0018 J	0.0012 J	0.12 J	0.014 J	0.0025 J	0.065 J	0.0097 J	0.0026 J	0.003 J	0.118 U	0.191	17.9
Trichloroethene (TCE)	3.9	40	43	1,200	0.00007 U	0.000077 U	0.00008 U	0.000083 U	0.14 U	0.00007 U	0.00012 U	0.05 U	0.000075 U	0.000099 U	0.000074 U	0.0294 U	0.0613	3.26 U
Trichlorofluoromethane	>Max	NV	63000	>Max	0.00011 U	0.00012 U	0.00013 U	0.00014 U	0.12 U	0.00011 U	0.00018 U	0.045 U	0.00012 U	0.00016 U	0.00012 U	0.118 U	0.155 U	13.1 U
Vinyl Chloride	3.9	20	30	830	0.000094 U	0.00011 U	0.00011 U	0.00012 U	0.15 U	0.000094 U	0.00016 U	0.056 U	0.00011 U	0.00014 U	0.0001 U	0.0294 U	0.0388 U	3.26 U
Other VOCs					U	U	U	U	U	U	U	U	U	U	U	U	U	U

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DE
for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update)

TABLE 8 – Summary of Analytical Results for Soil Samples (2008 through 2010):
Detected Volatile Organic Compounds by EPA Method 8260

Sampling Event					Soil Boring Samples - 2008 Push Probe																			
Soil Sample Location					P-34				P-36		P-37		P-38		P-39		P-40	
Collected by					HAI				HAI		HAI		HAI		HAI		HAI	
Sample Depth (feet bgs)					2.5	11.0	11.0	22.0	11.0	18.0	2.5	18.0	13.5	38.0	3.0	17.0	2.0	18.0
Sample Date					4/30/08				5/1/08		4/30/08		5/1/08		4/29/08		4/28/08	
Depth Group					Surface	Subsurface	Subsurface	Deep	Subsurface	Deep	Surface	Subsurface	Subsurface	Deep	Surface	Subsurface	Surface	Subsurface
Sample Number					5237-080430-188G	5237-080430-190G	5237-080430-191G (Duplicate)	5237-080430-193G	5237-080501-198G	5237-080501-199G	5237-080430-181G	5237-080430-184G	5237-080501-206G	5237-080501-212G	5237-080429-162G	5237-080429-165G	5237-080428-128G	5237-080428-131G
Screening Level Values [1]	Surface		Subsurface															
Determinant	Occupational	Ecological	Construction	Excavation	**Analytical Results (mg/kg)**													
1,1,1-Trichloroethane (TCA)	>Max	55550	>Max	>Max	0.000073 UJ	0.27 UJ	0.26 UJ	0.48 UJ	1.4 U	4.1 U	0.000096 UJ	0.3 UJ	0.000074 U	0.92 U	0.000075 U	0.000078 U	0.000073 U	0.028 U
1,2-Dibromoethane (EDB)	0.68	NV	8.1	230	0.00011 UJ	0.18 UJ	0.17 UJ	0.32 UJ	0.91 U	2.7 U	0.00014 UJ	0.2 UJ	0.00011 U	0.61 U	0.00011 U	0.00011 U	0.00011 U	0.019 U
1,2-Dichlorobenzene	35,000	NV	19,000	>Max	0.000072 UJ	0.21 UJ	0.2 UJ	0.37 UJ	1.1 U	3.2 U	0.000094 UJ	0.23 UJ	0.000073 U	0.7 U	0.000074 U	0.000077 U	0.000072 U	0.022 U
1,2-Dichloroethane (EDC)	15	70	180	5000	0.000063 UJ	0.28 UJ	0.27 UJ	0.49 UJ	1.5 U	4.2 U	0.000083 UJ	0.31 UJ	0.000064 U	0.94 U	0.000065 U	0.000067 U	0.000063 U	0.029 U
1,2,4-Trichlorobenzene	NV	20	NV	NV	0.00021 UJ	0.52 UJ	0.51 UJ	0.94 UJ	2.8 U	8. U	0.00028 UJ	0.58 UJ	0.00022 U	1.8 U	0.00022 U	0.00023 U	0.00021 U	0.057 J
1,2,4-Trimethylbenzene	2,000	NV	19,000	>Max	0.000077 UJ	54. J	47. J	290. J	61.	260.	0.00016 J	80. J	0.000078 U	36.	0.00009 J	0.00011 J	0.00015 J	7.8
1,3-Dichlorobenzene	NV	NV	NV	NV	0.000062 UJ	0.25 UJ	0.24 UJ	0.44 UJ	1.3 U	3.8 U	0.000081 UJ	0.28 UJ	0.000063 U	0.84 U	0.000064 U	0.000066 U	0.000062 U	0.026 U
1,3,5-Trimethylbenzene	1,600	NV	1,500	42,000	0.000076 UJ	14. J	13. J	110. J	18. J	87.	0.0001 UJ	25. J	0.000077 U	11. J	0.000078 U	0.000081 U	0.000076 U	1.6
1,4-Dichlorobenzene	63	NV	1,200	34,000	0.00011 UJ	0.21 UJ	0.21 UJ	0.38 UJ	1.1 U	3.2 U	0.00015 UJ	0.24 UJ	0.00012 U	0.72 U	0.00012 U	0.00012 U	0.00011 U*	0.027 J
2-Butanone (MEK)	NV	20,000	NV	NV	0.0013 UR	7.7 UR	7.5 UR	14. UR	41. UR	120. UR	0.012 J	8.6 UR	0.0013 UR	27. UR	0.0013 UR	0.0013 UR	0.0033 J	0.81 UR
2-Chlorotoluene	NV	NV	NV	NV	0.000056 UJ	0.27 UJ	0.26 UJ	0.48 UJ	1.4 U	4.1 U	0.000074 UJ	0.3 UJ	0.000057 U	0.92 U	0.000058 U	0.00006 U	0.000056 U	0.028 U
4-Chlorotoluene	NV	NV	NV	NV	0.00009 UJ	0.21 UJ	0.21 UJ	0.38 UJ	1.1 U	3.3 U	0.00012 UJ	0.24 UJ	0.000092 U	0.73 U	0.000093 U	0.000097 U	0.00009 U	0.023 U
4-Isopropyltoluene	NV	NV	NV	NV	0.000073 UJ	5.8 J	4.9 J	31. J	5.4 J	8.8 J	0.000096 UJ	7.8 J	0.000074 U	2.6 J	0.000075 U	0.000078 U	0.000073 U	1.5
Acetone	NV	1,250	NV	NV	0.0089 J	5.8 UR	5.6 UR	11. UR	30. UR	89. UR	0.09 J	6.4 UR	0.0044 J	20. UR	0.0047 U*	0.0078 U*	0.012 J	0.6 UR
Benzene	34	3,300	340	9,500	0.000087 UJ	9.2 J	7.3 J	910. J	28.	670.	0.0015 J	7.9 J	0.0022 J	81.	0.00009 U	0.000093 U	0.0012 J	0.055 J
Bromoform	360	NV	270	76,000	0.00021 UJ	0.67 UJ	0.65 UJ	1.2 UJ	3.5 U	11. U	0.0015 J	0.75 UJ	0.001 J	2.3 U	0.00067 J	0.00023 U	0.0011 J	0.07 U
Carbon Disulfide	NV	NV	NV	NV	0.0002 J	0.38 UJ	0.37 UJ	0.69 UJ	2. U	5.9 U	0.00046 J	0.43 UJ	0.000089 J	1.4 U	0.00024 J	0.002 J	0.0004 J	0.04 U
Chlorobenzene	8,300	40	4,300	>Max	0.000056 UJ	0.23 UJ	0.22 UJ	0.41 UJ	1.2 U	3.5 U	0.000074 UJ	0.25 UJ	0.000057 U	0.77 U	0.000058 U	0.00006 U	0.000056 U	0.024 U
Chloroform	25	1,875	380	11,000	0.000069 UJ	0.23 UJ	0.23 UJ	0.42 UJ	1.2 U	3.6 U	0.000091 UJ	0.26 UJ	0.000071 U	0.79 U	0.000072 U	0.000074 U	0.000069 U	0.024 U
cis-1,2-Dichloroethene	10,000	2500	3,100	86,000	0.00011 UJ	0.28 UJ	0.27 UJ	0.5 UJ	1.5 U	4.3 U	0.00015 UJ	0.31 UJ	0.00012 U	0.96 U	0.00012 U	0.00012 U	0.00011 U	0.029 U
Dichlorodifluoromethane	NV	NV	NV	NV	0.000073 UJ	0.4 UJ	0.39 UJ	0.72 UJ	2.1 UJ	6.1 UJ	0.000096 UJ	0.45 UJ	0.000074 UJ	1.4 UJ	0.000075 UJ	0.000078 UJ	0.000073 UJ	0.042 U
Ethylbenzene	140	NV	1,600	44,000	0.00027 J	14. J	14. J	570. J	65.	430.	0.00043 J	58. J	0.00032 J	64.	0.00029 J	0.0003 J	0.00051 J	2.5
Isopropylbenzene	NV	NV	NV	NV	0.000055 UJ	4.2 J	3.4 J	33. J	7.2 J	9.2 J	0.000073 UJ	9.3 J	0.000056 U	5.1 J	0.000057 U	0.000059 U	0.000055 U	1.
m,p-Xylenes	25,000	NV	19,000	>Max	0.00072 J	14. J	13. J	620. J	60.	420.	0.0012 J	61. J	0.00028 J	56.	0.00084 U*	0.00081 U*	0.0015 J	0.12 J
Methylene Chloride	310	730	2,700	75,000	0.00046 U*	0.55 J	0.51 J	1.2 J	2.9 J	7.7 J	0.00082 U*	0.58 J	0.00042 U*	2. J	0.00065 U*	0.001 U*	0.00016 U*	0.057 J
n-Butylbenzene	NV	NV	NV	NV	0.00011 UJ	4.2 J	3.4 J	24. J	5.6 J	16. J	0.00014 UJ	8. J	0.00011 U	3. J	0.00011 U	0.00012 U	0.00011 U	0.95 J
n-Propylbenzene	53,000	NV	24,000	>Max	0.00006 UJ	1.5 J	1.1 J	27. J	3.5 J	12. J	0.000078 UJ	4.8 J	0.000061 U	2.1 J	0.000061 U	0.000064 U	0.00006 U	0.59
Naphthalene	23	10	580	16,000	0.00073 U*	**5,000.** J	3,700. J	26,000. J	**4,900.**	30,000.	0.001 U*	**5,800.** J	0.0015 J	4,000.	0.00027 U*	0.00042 U*	0.00016 U*	2.4
o-Xylene	25,000	1	19,000	>Max	0.00025 J	19. J	17. J	280. J	35.	190.	0.00035 J	32. J	0.000064 U	26.	0.00026 U*	0.00029 U*	0.00044 J	0.31
sec-Butylbenzene	NV	NV	NV	NV	0.000079 UJ	0.36 J	0.3 J	0.55 UJ	1.6 U	4.7 U	0.00011 UJ	0.9 J	0.000081 U	1.1 U	0.000082 U	0.000085 U	0.000079 U	0.46 J
Styrene	>Max	300	51,000	>Max	0.000074 UJ	0.29 J	0.23 J	16. J	1.2 U	22.	0.000097 UJ	0.48 J	0.000075 U	0.78 U	0.000076 U	0.000079 U	0.00012 J	0.024 U
tert-Butylbenzene	NV	NV	NV	NV	0.000077 UJ	0.3 UJ	0.29 UJ	0.53 UJ	1.6 U	4.5 U	0.00011 UJ	0.33 UJ	0.000078 U	1.1 U	0.00008 U	0.000083 U	0.000077 U	0.035 J
Tetrachloroethene (PCE)	5.1	10	40	1100	0.000084 UJ	0.34 UJ	0.33 UJ	0.61 UJ	1.8 U	5.2 U	0.00064 J	0.38 UJ	0.000085 U	1.2 U	0.0004 J	0.00009 U	0.00084 J	0.035 U
Toluene	77,000	200	24,000	>Max	0.00099 J	0.76 J	0.63 J	560. J	12.	390.	0.0019 J	6.4 J	0.00042 J	13.	0.0012 J	0.0011 U*	0.0027 J	0.06 J
Trichloroethene (TCE)	3.9	40	43	1,200	0.000077 UJ	0.45 UJ	0.44 UJ	0.81 UJ	2.4 U	6.9 U	0.00011 UJ	0.5 UJ	0.000078 U	1.6 U	0.00008 U	0.000083 U	0.0003 J	0.047 U
Trichlorofluoromethane	>Max	NV	63000	>Max	0.00013 UJ	0.41 UJ	0.4 UJ	0.74 UJ	2.2 U	6.3 U	0.00016 UJ	0.46 UJ	0.00013 U	1.4 U	0.00013 U	0.00013 U	0.00013 U	0.043 U
Vinyl Chloride	3.9	20	30	830	0.00011 UJ	0.51 UJ	0.5 UJ	0.91 UJ	2.7 U	7.8 U	0.00014 UJ	0.56 UJ	0.00011 U	1.8 U	0.00011 U	0.00012 U	0.00011 U	0.053 U
Other VOCs					U	U	U	U	U	U	U	U	U	U	U	U	U	U

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DE
for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update)

TABLE 8 – Summary of Analytical Results for Soil Samples (2008 through 2010):
Detected Volatile Organic Compounds by EPA Method 8260

Sampling Event					Soil Boring Samples - 2008 Push Probe																			
Soil Sample Location					P-41	P-42		P-43		P-44		P-45		P-46		P-47		P-48	
Collected by					HAI	HAI		HAI		HAI		HAI		HAI		HAI		HAI	
Sample Depth (feet bgs)					3.0	2.0	11.5	2.5	18.0	2.5	16.0	3.0	12.0	3.0	17.5	3.0	7.5	3.0	12.0
Sample Date					4/24/08	4/16/08		4/16/08		4/16/08		4/21/08		4/21/08		4/21/08		4/22/08	
Depth Group					Surface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface
Sample Number					5237-080424-089G	5237-080416-031G	5237-080416-032G	5237-080416-034G	5237-080416-035G	5237-080416-037G	5237-080416-038G	5237-080421-040G	5237-080421-042G	5237-080421-044G	5237-080421-047G	5237-080421-053G	5237-080421-054G	5237-080422-057G	5237-080422-058G
Screening Level Values [1]	Surface		Subsurface																
Determinant	Occupational	Ecological	Construction	Excavation	**Analytical Results (mg/kg)**														
1,1,1-Trichloroethane (TCA)	>Max	55550	>Max	>Max	0.000076 U	0.000066 U	0.000073 U	0.000073 U	0.000077 U	0.000074 U	0.028 U	0.000089 U	0.000079 U	0.000078 U	0.00007 U	0.000079 U	0.58 U	0.000081 U	0.000071 U
1,2-Dibromoethane (EDB)	0.68	NV	8.1	230	0.00011 U	0.000093 U	0.00011 U	0.00011 U	0.00011 U	0.00011 U	0.019 U	0.00013 U	0.00012 U	0.00011 U	0.000098 U	0.00012 U	0.38 U	0.00012 U	0.0001 U
1,2-Dichlorobenzene	35,000	NV	19,000	>Max	0.000075 U	0.000065 U	0.000072 UJ	0.000072 U	0.000076 U	0.000073 U	0.021 U	0.000088 U	0.000078 U	0.000077 U	0.000069 U	0.000078 U	0.44 U	0.00008 U	0.00007 U
1,2-Dichloroethane (EDC)	15	70	180	5000	0.000066 U	0.000057 U	0.000064 U	0.000063 U	0.000066 U	0.000064 U	0.029 U	0.000077 U	0.000069 U	0.000067 U	0.00006 U	0.000069 U	0.59 U	0.00007 U	0.000061 U
1,2,4-Trichlorobenzene	NV	20	NV	NV	0.00022 U	0.00019 U	0.00022 UJ	0.00021 U	0.00022 U	0.00022 U	0.055 U	0.00026 U	0.00023 U	0.00023 U	0.0002 U	0.00023 U	1.2 U	0.00024 U	0.00021 U
1,2,4-Trimethylbenzene	2,000	NV	19,000	>Max	0.00017 J	0.00007 U	0.00021 J	0.000078 U	0.000081 U	0.0001 J	4.2	0.000094 U	0.00013 J	0.000094 J	0.000074 U	0.000084 U	29.	0.000098 J	0.000085 J
1,3-Dichlorobenzene	NV	NV	NV	NV	0.000065 U	0.000056 U	0.000062 UJ	0.000062 U	0.000065 U	0.000063 U	0.026 U	0.000076 U	0.000067 U	0.000066 U	0.000059 U	0.000067 U	0.53 U	0.000069 U	0.00006 U
1,3,5-Trimethylbenzene	1,600	NV	1,500	42,000	0.000079 U	0.000069 U	0.000077 UJ	0.000077 U	0.00008 U	0.000077 U	1.3	0.000093 U	0.000083 U	0.000082 U	0.000073 U	0.000083 U	8.9 J	0.000085 U	0.000074 U
1,4-Dichlorobenzene	63	NV	1,200	34,000	0.00012 U	0.0001 U	0.00012 UJ	0.00012 U	0.00012 U	0.00012 U	0.022 U	0.00014 U	0.00012 U	0.00012 U	0.00011 U	0.00012 U	0.45 U	0.00013 U	0.00011 U
2-Butanone (MEK)	NV	20,000	NV	NV	0.0013 UR	0.0038 J	0.0047 J	0.0013 UR	0.0013 UR	0.0013 UR	0.8 UR	0.0035 J	0.0014 UR	0.0013 UR	0.0012 UR	0.0048 J	17. UR	0.0014 UR	0.0012 UR
2-Chlorotoluene	NV	NV	NV	NV	0.000059 U	0.000051 U	0.000057 UJ	0.000057 U	0.000059 U	0.000057 U	0.028 U	0.000069 U	0.000061 U	0.00006 U	0.000054 U	0.000061 U	0.58 U	0.000063 U	0.000055 U
4-Chlorotoluene	NV	NV	NV	NV	0.000094 U	0.000082 U	0.000091 UJ	0.000091 U	0.000095 U	0.000091 U	0.022 U	0.00012 U	0.000098 U	0.000097 U	0.000087 U	0.000098 U	0.46 U	0.00011 U	0.000088 U
4-Isopropyltoluene	NV	NV	NV	NV	0.000076 U	0.000066 U	0.000073 UJ	0.000073 U	0.000077 U	0.000074 U	0.77	0.000089 U	0.000079 U	0.000078 U	0.00007 U	0.000079 U	2.4 J	0.000081 U	0.000071 U
Acetone	NV	1,250	NV	NV	0.023 J	0.049	0.021 J	0.0037 J	0.0049 J	0.0065 J	0.6 UR	0.013 J	0.013 J	0.0037 J	0.0019 U	0.053	13. UR	0.0023 U	0.004 J
Benzene	34	3,300	340	9,500	0.000091 U	0.000079 U	0.000088 U	0.000088 U	0.000092 U	0.000088 U	0.13	0.00011 U	0.000095 U	0.000093 U	0.000083 U	0.0017 J	4.	0.000097 U	0.000085 U
Bromoform	360	NV	270	76,000	0.00022 U	0.00019 U	0.00022 U	0.00021 U	0.00022 U	0.00022 U	0.07 U	0.00026 U	0.0014 J	0.0014 J	0.0005 J	0.00097 J	1.5 U	0.00083 J	0.0019 J
Carbon Disulfide	NV	NV	NV	NV	0.000066 U	0.000057 U	0.000077 J	0.000063 U	0.000066 U	0.000064 U	0.04 U	0.0002 J	0.00025 J	0.000067 U	0.00006 U	0.00012 J	0.82 U	0.00007 U	0.00014 J
Chlorobenzene	8,300	40	4,300	>Max	0.000059 U	0.000051 U	0.000057 U	0.000057 U	0.000059 U	0.000057 U	0.024 U	0.000069 U	0.000061 U	0.00006 U	0.000054 U	0.000061 U	0.49 U	0.000063 U	0.000055 U
Chloroform	25	1,875	380	11,000	0.000073 U	0.000063 U	0.00035 J	0.00007 U	0.000073 U	0.00007 U	0.024 U	0.000085 U	0.000076 U	0.000074 U	0.000067 U	0.000076 U	0.5 U	0.000078 U	0.000068 U
cis-1,2-Dichloroethene	10,000	2500	3,100	86,000	0.00012 U	0.0001 U	0.00012 U	0.00012 U	0.00012 U	0.00012 U	0.029 U	0.00014 U	0.00012 U	0.00012 U	0.00011 U	0.00012 U	0.6 U	0.00013 U	0.00011 U
Dichlorodifluoromethane	NV	NV	NV	NV	0.000076 U	0.000066 U	0.000073 UJ	0.000073 U	0.000077 U	0.000074 UJ	0.042 U	0.000089 UJ	0.000079 UJ	0.000078 UJ	0.00007 UJ	0.000079 UJ	0.86 U	0.000081 UJ	0.000071 UJ
Ethylbenzene	140	NV	1,600	44,000	0.00049 J	0.000065 U	0.00041 J	0.000072 U	0.000076 U	0.00045 J	1.4	0.000088 U	0.0003 J	0.00026 J	0.00027 J	0.00033 J	12.	0.00028 J	0.00032 J
Isopropylbenzene	NV	NV	NV	NV	0.000058 U	0.00005 U	0.000056 U	0.000056 U	0.000058 U	0.000056 U	0.44 J	0.000068 U	0.00006 U	0.000059 U	0.000053 U	0.00006 U	1.4 J	0.000062 U	0.000054 U
m,p-Xylenes	25,000	NV	19,000	>Max	0.0017 J	0.00039 J	0.0013 J	0.00044 J	0.00042 J	0.0013 J	1.	0.00021 U	0.00096 J	0.00075 J	0.00084 J	0.00093 J	20.	0.0009 J	0.00098 J
Methylene Chloride	310	730	2,700	75,000	0.00017 U*	0.00014 U	0.00016 U*	0.00016 U	0.00017 U	0.00016 U*	0.055 J	0.00019 U*	0.00017 U*	0.00017 U*	0.00015 U*	0.00017 U*	1.1 J	0.00018 U*	0.00015 U*
n-Butylbenzene	NV	NV	NV	NV	0.00011 U	0.000096 U	0.00011 UJ	0.00011 U	0.00012 U	0.00011 U	0.67 J	0.00013 U	0.00012 U	0.00012 U	0.00011 U	0.00012 U	2.5 J	0.00012 U	0.00011 U
n-Propylbenzene	53,000	NV	24,000	>Max	0.000062 U	0.000054 U	0.00006 UJ	0.00006 U	0.000063 U	0.00006 U	0.23 J	0.000073 U	0.000065 U	0.000064 U	0.000057 U	0.000065 U	0.82 J	0.000067 U	0.000058 U
Naphthalene	23	10	580	16,000	0.00017 U*	0.00014 U	0.0045 J	0.00016 U	0.00017 U	0.00016 U*	240.	0.00019 U*	0.00017 U*	0.00017 U*	0.00015 U*	0.00017 U*	**2,000.** J	0.00018 U*	0.00015 U*
o-Xylene	25,000	1	19,000	>Max	0.00048 J	0.000057 U	0.00039 J	0.000063 U	0.000066 U	0.00035 J	0.89	0.000077 U	0.00027 J	0.00025 J	0.00024 J	0.00027 J	13.	0.00022 J	0.00023 J
sec-Butylbenzene	NV	NV	NV	NV	0.000083 U	0.000072 U	0.00008 UJ	0.00008 U	0.000084 U	0.00008 U	0.069 J	0.000097 U	0.000087 U	0.000085 U	0.000076 U	0.000086 U	0.66 U	0.000089 U	0.000077 U
Styrene	>Max	300	51,000	>Max	0.00014 J	0.000067 U	0.00025 J	0.000074 U	0.000078 U	0.000075 U	0.032 J	0.00009 U	0.000081 U	0.000079 U	0.000071 U	0.00008 U	1. J	0.000082 U	0.000072 U
tert-Butylbenzene	NV	NV	NV	NV	0.000081 U	0.00007 U	0.000078 UJ	0.000078 U	0.000081 U	0.000078 U	0.031 U	0.000094 U	0.000084 U	0.000083 U	0.000074 U	0.000084 U	0.63 U	0.000086 U	0.000075 U
Tetrachloroethene (PCE)	5.1	10	40	1100	0.0014 J	0.000076 U	0.00074 J	0.000084 U	0.000088 U	0.00092 J	0.035 U	0.00011 U	0.00059 J	0.00048 J	0.00047 J	0.00064 J	0.73 U	0.00059 J	0.00066 J
Toluene	77,000	200	24,000	>Max	0.0097 J	0.0037 J	0.0022 J	0.00098 J	0.00076 J	0.0025 J	0.097 J	0.00024 J	0.0013 J	0.0011 J	0.0012 J	0.0075 J	4.6	0.0015 J	0.0017 J
Trichloroethene (TCE)	3.9	40	43	1,200	0.00037 J	0.00007 U	0.000078 U	0.000078 U	0.000081 U	0.00035 J	0.047 U	0.000094 U	0.000084 U	0.000083 U	0.000074 U	0.000084 U	0.97 U	0.000086 U	0.000075 U
Trichlorofluoromethane	>Max	NV	63000	>Max	0.00013 U	0.00011 U	0.00013 U	0.00013 U	0.00013 U	0.00013 U	0.043 U	0.00015 U	0.00014 U	0.00013 U	0.00012 U	0.00014 U	0.88 U	0.00014 U	0.00012 U
Vinyl Chloride	3.9	20	30	830	0.00011 U	0.000094 U	0.00011 U	0.00011 U	0.00011 U	0.00011 U	0.053 U	0.00013 U	0.00012 U	0.00012 U	0.000099 U	0.00012 U	1.1 U	0.00012 U	0.00011 U
Other VOCs					U	U	U	U	U	U	U	U	U	U	U	U	U	U	U

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DE
for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update)

TABLE 8 – Summary of Analytical Results for Soil Samples (2008 through 2010):
Detected Volatile Organic Compounds by EPA Method 8260

Sampling Event					Soil Boring Samples - 2008 Push Probe													
Soil Sample Location					P-49		P-50			P-51		P-52		P-54			Fab 2 OF	
Collected by					HAI		HAI			HAI		HAI		HAI			HAI	
Sample Depth (feet bgs)					2.0	12.5	3.0	14.0	14.0	3.0	13.0	1.0	15.0	3.0	9.0	21.0	@ piping	@ discharge path
Sample Date					4/22/08		4/22/08			4/22/08		4/24/08		4/29/08			5/2/08	
Depth Group					Surface	Subsurface	Surface	Subsurface	Subsurface	Surface	Subsurface	Surface	Subsurface	Surface	Subsurface	Deep	Surface	Surface
Sample Number					5237-080422-061G	5237-080422-062G	5237-080422-069G	5237-080422-070G	5237-080422-071G (Duplicate)	5237-080422-065G	5237-080422-067G	5237-080424-080G	5237-080424-085G	5237-080429-168G	5237-080429-169G	5237-080429-173G	5237-080502-214	5237-080502-215
Screening Level Values [1]	Surface		Subsurface															
Determinant	Occupational	Ecological	Construction	Excavation	**Analytical Results (mg/kg)**													
1,1,1-Trichloroethane (TCA)	>Max	55550	>Max	>Max	0.000079 U	0.000097 U	0.000088 U	0.0001 U	0.0001 U	0.000077 U	0.000072 U	0.000074 U	0.000066 U	0.000066 U	0.00011 U	0.077 U	0.00031 UJ	0.000089 UJ
1,2-Dibromoethane (EDB)	0.68	NV	8.1	230	0.00011 U	0.00014 U	0.00013 U	0.00015 U	0.00014 U	0.00011 U	0.00011 U	0.00011 U	0.000093 U	0.000093 U	0.00015 U	0.051 U	0.00044 UJ	0.00013 UJ
1,2-Dichlorobenzene	35,000	NV	19,000	>Max	0.000077 U	0.000096 U	0.000086 U	0.000099 U	0.000098 U	0.000076 U	0.000071 U	0.000073 U	0.000065 U	0.000065 U	0.00011 U	0.059 U	0.00031 UR	0.000087 UJ
1,2-Dichloroethane (EDC)	15	70	180	5000	0.000068 U	0.000084 U	0.000076 U	0.000087 U	0.000086 U	0.000067 U	0.000063 U	0.000064 U	0.000057 U	0.000057 U	0.000089 U	0.079 U	0.00027 UJ	0.000077 UJ
1,2,4-Trichlorobenzene	NV	20	NV	NV	0.00023 U	0.00028 U	0.00026 U	0.00029 U	0.00029 U	0.00023 U	0.00021 U	0.00022 U	0.00019 U	0.00019 U	0.0003 U	0.15 U	0.0009 UR	0.00026 UJ
1,2,4-Trimethylbenzene	2,000	NV	19,000	>Max	0.000083 U	0.00011 U	0.00021 J	0.00014 J	0.00011 U	0.00015 J	0.000077 U	0.0002 J	0.00019 J	0.00007 U	0.00012 J	3.	0.0099 J	0.00025 J
1,3-Dichlorobenzene	NV	NV	NV	NV	0.000067 U	0.000083 U	0.000074 U	0.000085 U	0.000085 U	0.000065 U	0.000061 U	0.000063 U	0.000056 U	0.000056 U	0.000088 U	0.071 U	0.00027 UR	0.000075 UJ
1,3,5-Trimethylbenzene	1,600	NV	1,500	42,000	0.000082 U	0.00011 U	0.000092 U	0.00011 U	0.00011 U	0.000081 U	0.000076 U	0.000077 U	0.000069 U	0.000069 U	0.00011 U	0.94 J	0.0033 J	0.000093 UJ
1,4-Dichlorobenzene	63	NV	1,200	34,000	0.00012 U	0.00015 U	0.00014 U	0.00016 U	0.00016 U	0.00012 U	0.00011 U	0.00012 U	0.0001 U	0.0001 U	0.00016 U	0.06 U	0.0058 J	0.00021 U*
2-Butanone (MEK)	NV	20,000	NV	NV	0.0014 UR	0.0068 J	0.0015 UR	0.0017 UR	0.0017 UR	0.0032 J	0.004 J	0.0057 J	0.0011 UR	0.0011 UR	0.0064 J	2.3 UR	0.093 J	0.0054 J
2-Chlorotoluene	NV	NV	NV	NV	0.000061 U	0.000075 U	0.000068 U	0.000078 U	0.00015 J	0.00006 U	0.000056 U	0.000057 U	0.000051 U	0.000051 U	0.00008 U	0.077 U	0.00024 UR	0.000069 UJ
4-Chlorotoluene	NV	NV	NV	NV	0.000097 U	0.00013 U	0.00011 U	0.00013 U	0.00013 U	0.000096 U	0.00009 U	0.000092 U	0.000082 U	0.000082 U	0.00013 U	0.061 U	0.0033 J	0.00011 UJ
4-Isopropyltoluene	NV	NV	NV	NV	0.000079 U	0.000097 U	0.000088 U	0.0001 U	0.0001 U	0.000077 U	0.000072 U	0.000074 U	0.000066 U	0.000066 U	0.00011 U	0.22 J	0.00031 UR	0.000089 UJ
Acetone	NV	1,250	NV	NV	0.0023 J	0.026 J	0.026 J	0.0072 J	0.0086 J	0.0088 J	0.022 J	0.09	0.015 J	0.0068 U*	0.034 U*	1.7 UR	0.98 J	0.035 J
Benzene	34	3,300	340	9,500	0.000094 U	0.00012 U	0.0055 J	0.00012 U	0.00012 U	0.000092 U	0.000086 U	0.000088 U	0.000079 U	0.000079 U	0.00013 U	1.6	0.00038 UJ	0.00011 UJ
Bromoform	360	NV	270	76,000	0.00076 J	0.00028 U	0.00026 U	0.00029 U	0.00029 U	0.00023 U	0.00021 U	0.00022 U	0.00019 U	0.00019 U	0.0003 U	0.2 U	0.0009 UJ	0.00026 UJ
Carbon Disulfide	NV	NV	NV	NV	0.000068 U	0.00048 J	0.000076 U	0.00021 J	0.00033 J	0.000067 U	0.0011 J	0.000064 U	0.0017 J	0.00015 J	0.00061 J	0.11 U	0.022 J	0.00041 J
Chlorobenzene	8,300	40	4,300	>Max	0.000061 U	0.000075 U	0.000068 U	0.000078 U	0.000077 U	0.00006 U	0.000056 U	0.000057 U	0.000051 U	0.000051 U	0.00008 U	0.065 U	0.00024 UJ	0.000069 UJ
Chloroform	25	1,875	380	11,000	0.000075 U	0.000093 U	0.000084 U	0.000096 U	0.000095 U	0.000074 U	0.000069 U	0.00007 U	0.000063 U	0.000063 U	0.000099 U	0.066 U	0.0003 UJ	0.000085 UJ
cis-1,2-Dichloroethene	10,000	2500	3,100	86,000	0.00012 U	0.00015 U	0.00014 U	0.00016 U	0.00016 U	0.00012 U	0.00011 U	0.00012 U	0.0001 U	0.0001 U	0.00016 U	0.08 U	0.00047 UJ	0.00014 UJ
Dichlorodifluoromethane	NV	NV	NV	NV	0.000079 UJ	0.000097 UJ	0.000088 UJ	0.0001 UJ	0.0001 UJ	0.000077 U	0.000072 UJ	0.000074 U	0.000066 U	0.000066 UJ	0.00011 UJ	0.12 U	0.00031 UJ	0.000089 UJ
Ethylbenzene	140	NV	1,600	44,000	0.00027 J	0.00043 J	0.00048 J	0.00045 J	0.000098 U	0.00059 J	0.00041 J	0.00071 J	0.00051 J	0.00021 J	0.00034 J	2.3	0.014 J	0.00071 J
Isopropylbenzene	NV	NV	NV	NV	0.00006 U	0.000074 U	0.000067 U	0.000076 U	0.000076 U	0.000058 U	0.000055 U	0.000056 U	0.00005 U	0.00005 U	0.000078 U	0.3 J	0.00024 UJ	0.000067 UJ
m,p-Xylenes	25,000	NV	19,000	>Max	0.00082 J	0.0012 J	0.0015 J	0.0013 J	0.00035 J	0.0017 J	0.0012 J	0.0021 J	0.0015 J	0.00035 U*	0.00084 U*	2.6	0.039 J	0.002 J
Methylene Chloride	310	730	2,700	75,000	0.00017 U*	0.00021 U*	0.00019 U*	0.00022 U*	0.00022 U	0.00017 U*	0.00016 U*	0.00016 U*	0.00014 U*	0.00052 U*	0.00079 U*	0.14 U	0.005 U*	0.00061 U*
n-Butylbenzene	NV	NV	NV	NV	0.00012 U	0.00015 U	0.00013 U	0.00015 U	0.00015 U	0.00012 U	0.00011 U	0.00011 U	0.000096 U	0.000096 U	0.00015 U	0.21 J	0.00046 UR	0.00013 UJ
n-Propylbenzene	53,000	NV	24,000	>Max	0.000064 U	0.00008 U	0.000072 U	0.000082 U	0.000082 U	0.000063 U	0.000059 U	0.00006 U	0.000054 U	0.000054 U	0.000085 U	0.13 J	0.00026 UR	0.000073 UJ
Naphthalene	23	10	580	16,000	0.00017 U*	0.00021 U	0.00019 U*	0.00022 U*	0.00022 U*	0.00017 U*	0.00016 U	0.00016 U*	0.00014 U*	0.00081 U*	0.00042 U*	280.	0.082 J	0.0021 U*
o-Xylene	25,000	1	19,000	>Max	0.00022 J	0.00056 J	0.00042 J	0.00044 J	0.000086 U	0.00045 J	0.00041 J	0.00061 J	0.00047 J	0.000057 U	0.0003 U*	1.4	0.011 J	0.00053 J
sec-Butylbenzene	NV	NV	NV	NV	0.000086 U	0.00011 U	0.000096 U	0.00011 U	0.00011 U	0.000084 U	0.000079 U	0.00008 U	0.000072 U	0.000072 U	0.00012 U	0.088 U	0.00034 UR	0.000097 UJ
Styrene	>Max	300	51,000	>Max	0.00008 U	0.000099 U	0.000089 U	0.00011 U	0.00011 U	0.00016 J	0.000073 U	0.00018 J	0.00014 J	0.000067 U	0.00011 U	0.065 U	0.0038 J	0.00019 J
tert-Butylbenzene	NV	NV	NV	NV	0.000083 U	0.00011 U	0.000093 U	0.00011 U	0.00011 U	0.000082 U	0.000077 U	0.000078 U	0.00007 U	0.00007 U	0.00011 U	0.084 U	0.0046 J	0.000094 UJ
Tetrachloroethene (PCE)	5.1	10	40	1100	0.00058 J	0.00063 J	0.00094 J	0.00071 J	0.00012 U	0.0011 J	0.00059 J	0.0013 J	0.00097 J	0.000076 U	0.00012 U	0.097 U	0.016 J	0.00076 J
Toluene	77,000	200	24,000	>Max	0.0015 J	0.0017 J	0.035 J	0.0023 J	0.00068 J	0.0027 J	0.002 J	0.0032 J	0.0025 J	0.0006 U*	0.0014 U*	0.22 J	0.026 J	0.0021 J
Trichloroethene (TCE)	3.9	40	43	1,200	0.000083 U	0.00011 U	0.000093 U	0.00011 U	0.00011 U	0.00036 J	0.000077 U	0.00047 J	0.00031 J	0.00007 U	0.00011 U	0.13 U	0.0027 J	0.000094 UJ
Trichlorofluoromethane	>Max	NV	63000	>Max	0.00014 U	0.00017 U	0.00015 U	0.00017 U	0.00017 U	0.00013 U	0.00012 U	0.00013 U	0.00011 U	0.00011 U	0.00018 U	0.12 U	0.00052 UJ	0.00015 UJ
Vinyl Chloride	3.9	20	30	830	0.00012 U	0.00014 U	0.00013 U	0.00015 U	0.00015 U	0.00011 U	0.00011 U	0.00011 U	0.000094 U	0.000094 U	0.00015 U	0.15 U	0.00045 UJ	0.00013 UJ
Other VOCs					U	U	U	U	U	U	U	U	U	U	U	U	U	U

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DE
for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update)

TABLE 8 – Summary of Analytical Results for Soil Samples (2008 through 2010):
Detected Volatile Organic Compounds by EPA Method 8260

Sampling Event					Soil Boring Samples - 2009 RotoSonic									
Soil Sample Location					SB-21				SB-53		SB-35		SB-27	
Collected by					HAI				HAI		HAI		HAI	
Sample Depth (feet bgs)					12		98		19		18		18	
Sample Date					3/9/09		3/11/09		3/11/09		3/17/09		3/19/09	
Depth Group					Subsurface		Deep		Deep		Deep		Deep	
Sample Number					5237-090309-001G		5237-090311-002G		5237-090311-003G		5237-090317-004G		5237-090319-005G	
Screening Level Values [1]	Surface		Subsurface											
Determinant	Occupational	Ecological	Construction	Excavation	**Analytical Results (mg/kg)**									
1,1,1-Trichloroethane (TCA)	>Max	55550	>Max	>Max	0.0087	U	0.0049	U	0.079	U	0.37	U	0.00017	U
1,2-Dibromoethane (EDB)	0.68	NV	8.1	230	0.02	U	0.012	U	0.18	U	0.83	U	0.00022	U
1,2-Dichlorobenzene	35,000	NV	19,000	>Max	0.015	U	0.0081	U	0.13	U	0.6	U	0.000071	U
1,2-Dichloroethane (EDC)	15	70	180	5000	0.015	U	0.35		0.14	U	2.1	J	0.000061	U
1,2,4-Trichlorobenzene	NV	20	NV	NV	0.54	U	0.0074	U	0.12	U	0.55	U	0.00025	U
1,2,4-Trimethylbenzene	2,000	NV	19,000	>Max	0.065	J	0.31	U	5.6		66.		0.0012	J
1,3-Dichlorobenzene	NV	NV	NV	NV	0.016	U	0.0091	U	0.15	U	0.67	U	0.000079	U
1,3,5-Trimethylbenzene	1,600	NV	1,500	42,000	0.023	U	0.013	U	1.8	J	21.	J	0.00033	J
1,4-Dichlorobenzene	63	NV	1,200	34,000	0.021	U	0.012	U	0.19	U	0.85	U	0.00012	U
2-Butanone (MEK)	NV	20,000	NV	NV	0.57	R	0.33	R	5.2	R	24.	R	0.0074	J
2-Chlorotoluene	NV	NV	NV	NV	0.017	U	0.0095	U	0.16	U	0.7	U	0.000058	U
4-Chlorotoluene	NV	NV	NV	NV	0.023	U	0.013	U	0.21	U	0.93	U	0.00011	U
4-Isopropyltoluene	NV	NV	NV	NV	0.059	J	0.011	U	0.37	J	3.8	J	0.0012	J
Acetone	NV	1,250	NV	NV	0.65	R	0.37	R	5.9	R	28.	R	0.0033	U
Benzene	34	3,300	340	9,500	0.092	J	11.		8.4		71.		0.0037	J
Bromoform	360	NV	270	76,000	0.026	U	0.015	U	0.24	U	1.1	U	0.00029	U
Carbon Disulfide	NV	NV	NV	NV	0.5		0.023	U	0.37	U	1.7	U	0.012	J
Chlorobenzene	8,300	40	4,300	>Max	0.017	U	0.0097	U	0.16	U	0.72	U	0.027	J
Chloroform	25	1,875	380	11,000	0.025	U	0.014	U	0.23	U	1.1	U	0.000054	U
cis-1,2-Dichloroethene	10,000	2500	3,100	86,000	0.03	U	0.017	U	0.27	U	1.3	U	0.000091	U
Dichlorodifluoromethane	NV	NV	NV	NV	0.057	U	0.038	J	0.52	U	2.4	U	0.00051	J
Ethylbenzene	140	NV	1,600	44,000	6.5		0.14		9.4		88.		0.013	J
Isopropylbenzene	NV	NV	NV	NV	0.073	J	0.015	U	0.42	J	4.6	J	0.0021	J
m,p-Xylenes	25,000	NV	19,000	>Max	0.14	U	0.14		8.6		110.		0.00082	J
Methylene Chloride	310	730	2,700	75,000	0.049	J	0.13	J	2.4	J	6.8	J	0.012	U
n-Butylbenzene	NV	NV	NV	NV	0.13	J	0.31	U	1.8	J	12.	U	0.0039	U
n-Propylbenzene	53,000	NV	24,000	>Max	0.54	U	0.015	U	0.32	J	3.8	J	0.00054	J
Naphthalene	23	10	580	16,000	14.		0.31	U	460.		5,200.		0.079	J
o-Xylene	25,000	1	19,000	>Max	0.065	J	0.067	J	4.1		50.		0.00073	J
sec-Butylbenzene	NV	NV	NV	NV	0.54	U	0.012	U	0.2	U	0.89	U	0.0034	J
Styrene	>Max	300	51,000	>Max	0.013	J	0.0092	J	0.27	J	6.4	U	0.00016	J
tert-Butylbenzene	NV	NV	NV	NV	0.027	U	0.016	U	0.25	U	1.2	U	0.00034	J
Tetrachloroethene (PCE)	5.1	10	40	1100	0.041	U	0.023	U	0.37	U	1.7	U	0.00014	U
Toluene	77,000	200	24,000	>Max	0.062	J	0.42		5.1		91.		0.002	J
Trichloroethene (TCE)	3.9	40	43	1,200	0.036	U	0.02	U	0.32	U	1.5	U	0.00015	U
Trichlorofluoromethane	>Max	NV	63000	>Max	0.063	U	0.036	U	0.57	U	2.6	U	0.000061	U
Vinyl Chloride	3.9	20	30	830	0.052	U	0.029	U	0.47	U	2.2	U	0.000064	U
Other VOCs						U		U		U		U		U

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DE
for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update)

TABLE 9 – Summary of Analytical Results for Soil Samples (2008): Total Petroleum Hydrocarbons by NWTPH and EPH/VPH Methods

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Northwest Method TPH			Volatile Petroleum Hydrocarbons (VPH)														Extractable Petroleum Hydrocarbons (EPH)									
						NWTPH-Gx	NWTPH-Dx								Aliphatics				Aromatics				Aliphatics					Aromatics				
						Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethy lbenzene	m,p Xylenes	o-Xylenes	MTBE	C5-6	C6-8	C8-10	C10-12	C8-10	C10-12	C12-13	C8-10	C10-12	C12-16	C16-21	C-21-34	C8-10	C10-12	C12-16	C16-21	C21-34
Screening Level Values [1]				Surface	Occupational	22,000	70,000	28,000 [2]	34	77,000	140	NV	NV	1,000	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
					Ecological	NV	NV	NV [2]	3,300	200	NV	1	1	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
				Subsurface	Construction	13,000	23,000	5,900 [2]	340	24,000	1,600	NV	NV	10,000	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
					Excavation	>Max	>Max	>Max [2]	9,500	>Max	44,000	NV	NV	>Max	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
						Analytical Results mg/Kg (ppm)																										
Stormwater Catch Basin Sample - 2001																																
CDA/Chrome Shed Catch Basin	Wacker	CLI Composite 1-2	19-Jun-01	-	NA		2,200 UJ	9,000 J																								
Surface Samples (Above Top of Willamette River Embankment) - 2001																																
S-1	HAI	5237-010821-167	21-Aug-01	0.2	Surface	20.8 U	20.8 U	52.1 U																								
S-2	HAI	5237-010821-168	21-Aug-01	0.2	Surface	20.2 U																										
S-3	HAI	5237-010821-169	21-Aug-01	0.2	Surface	20.8 U																										
S-4	HAI	5237-010821-170	21-Aug-01	0.2	Surface	20.4 U																										
S-5	HAI	5237-010821-172	21-Aug-01	0.2	Surface	20.4 U																										
Outfall / Embankment Sample																																
Fab 2 Outfall	HAI	5237-010919-173	19-Sep-01	0.2	Surface	51.9 U	3,720	4,700																								
Fab 2 Outfall 2 (pipe)	HAI	5237-080502-214	2-May-08	0 - 0.5	Surface	13 J	1,500 J	5,100 J																								
Fab 2 Outfall 2 (discharge path)	HAI	5237-080502-215	2-May-08	0 - 0.5	Surface	3.3 J	230 J	1,100 J																								
Soil Boring Samples - Pre 2008 (HAI and Others)																																
P-1	HAI	5237-010817-139	17-Aug-01	17	Subsurface		47.8	149																								
		5237-010817-142	17-Aug-01	30	Deep	24,100 U	12,000	13,300																								
		5237-010817-144	17-Aug-01	39			27.8 U	101																								
P-2	HAI	5237-010814-113	14-Aug-01	14.5	Subsurface	22.7 U	77.3	56.8 U																								
		5237-010814-115	14-Aug-01	22.5	Deep	23.3 U	365	805																								
		5237-010814-118	14-Aug-01	32		24.7 U	414	309 U																								
P-3	HAI	5237-010820-152	20-Aug-01	6.5	Subsurface		22 U	100																								
		5237-010820-155	20-Aug-01	17		2,150 U	1,120	613																								
		5237-010820-159	20-Aug-01	35.5	Deep		29 U	106																								
P-4	HAI	5237-010810-79	10-Aug-01	10	Subsurface		37.4	210																								
		5237-010810-80	10-Aug-01	17.5		217 U	178	135																								
		5237-010810-84	10-Aug-01	35	Deep		27.8 U	69.4 U																								
P-5	HAI	5237-010813-91	13-Aug-01	6.5	Subsurface		21.7 U	54.3 U																								
		5237-010813-92	13-Aug-01	9.5		2,220 U	14,000	**6,000**																								
		5237-010813-93	13-Aug-01	15			21.7 U	54.3 U																								
		5237-010813-98	13-Aug-01	32.5	Deep		26 U	64.9 U																								
P-6	HAI	5237-010802-04	2-Aug-01	10.0	Subsurface	22.5 U	108	157																								
		5237-010802-07	2-Aug-01	23	Deep		24.1 U	60.2 U																								
P-7	HAI	5237-010808-64	8-Aug-01	22.5	Deep	30.3 UJ	5,950 J	5,470 J																								
		5237-010808-65 Dup	8-Aug-01	22.5			1,960 J	1,770 J																								
P-8	HAI	5237-010806-31	6-Aug-01	2	Surface	22 UJ																										
		5237-010806-37	6-Aug-01	30	Deep	27 U																										
P-9	HAI	5237-010807-50	7-Aug-01	21.5	Deep	27 U																										
P-10	HAI	5237-010803-23	3-Aug-01	26	Deep	27 U	27 U	67.6 U																								
		5237-010803-24	3-Aug-01	29.5	Deep		25 U	62.5 U																								
RP-11	AMEC	128-01	17-Nov-05	7.5-8	Subsurface		**23,000**																									
Soil Boring Samples - 2007 Pre-Utility Excavation for Pipeline (HAI)																																
P-A	HAI	2708-070504-17	4-May-07	2.5 - 3.0	Surface	4.33 U	22.3	51.5																								
P-B	HAI	2708-070504-14	4-May-07	7.0 - 7.5	Subsurface	13.6	954	1,670																								
P-C	HAI	2708-070504-10	4-May-07	8.5 - 9.0	Subsurface	5.94	178	260																								
P-D	HAI	2708-070504-07	4-May-07	2.5 - 3.0	Surface	5.4 U	26.5	67.5																								
P-E	HAI	2708-070504-05	4-May-07	2.5 - 3.0	Surface	5.08 U	76.5	159																								
P-F	HAI	2708-070504-04	4-May-07	7.0 - 7.5	Subsurface	17.5	216	224																								
P-G	HAI	2708-070504-02	4-May-07	8.5 - 9.0	Subsurface	5.77	84.1	99																								
P-Y	HAI	2708-070504-16	4-May-07	7.0 - 7.5	Subsurface	307	491	284																								
P-Z	HAI	2708-070504-12	4-May-07	7.0 - 7.5	Subsurface	99.3	1,880	1,640																								
Soil Boring Samples - 2008 Push Probe																																
P-5A	HAI	5237-080429-159	29-Apr-08	7 - 10	Subsurface	1.7 U	81	150																								
P-8A	HAI	5237-080429-161	29-Apr-08	0 - 3	Surface	5.5 J	46	100 J																								
P-12	HAI	5237-080414-001	14-Apr-08	0 - 3	Surface	270	1,700	620	0.07 U	0.5 U	0.5 U	0.94	0.76	0.5 U	5 UJ	5 UJ	5 UJ	64 J	25 J	310 J	220 J	3.9	47	170	86	55	2.3 U	100	140	440	300
		5237-080414-002	14-Apr-08	5 - 7.5	Subsurface	280	4,000	920	0.29	0.5 U	1.5	1.8	1.3	0.5 U	5 UJ	5 UJ	5 UJ	150 J	62 J	450 J	420 J	15	140	510	250	94	4.7	130	330	900	620
		5237-080414-004	14-Apr-08	12.5 - 13.5			6.7 J	19 J																								
		5237-080414-005	14-Apr-08	16.5 - 17	Deep	370	87,000	35,000	0.2 U	0.5 U	0.69	0.82	0.71	0.5 U	5 UJ	5 UJ	5 UJ	7.3 J	14 J	66 J	56 J	14 J	88 J	250 J	370 J	5,200 J	10 U	56	230	2,600	5,400
		5237-080414-006	14-Apr-08	22.5 - 24		270	240	52 J																								
P-13	HAI	5237-080414-007	14-Apr-08	0 - 3	Surface	3.6 U*	25 J	67 J																								
		5237-080414-008	14-Apr-08	10 - 12	Subsurface	1.7 U*	5.7 U*	14 U*																								
P-14	HAI	5237-080414-010	14-Apr-08	0 - 3	Surface	2 U	44	120 J																								
		5237-080414-011	14-Apr-08	12 - 13.5	Subsurface	3.2 U*	83	130																								
P-15	HAI	5237-080414-012	14-Apr-08	0 - 2.5	Surface	1.9 U	55	110 J																								
		5237-080414-013	14-Apr-08	17 - 19	Deep	2.1 U	1.6 U*	6.8 U*																								
P-16	HAI	5237-080430-176	30-Apr-08	0 - 3	Surface	24 J	1,300	1,700																								
		5237-080430-177	30-Apr-08	7.5 - 9.5	Subsurface	6,500	**44,000**	**13,000**	4.6	1.9 U	14	44	26	1.9 U	9.7 U	52	9.7 U	750	680	2,200	2,100	200 J	1,100 J	2,100 J	730 J	320 J	32 J	280 J	890 J	2,400 J	3,400 J
		5237-080430-178	30-Apr-08	10 - 12	Deep	4,500 J	30,000 J	9,300 J																								
		5237-080430-180	30-Apr-08	21 - 23		13 J	4.2 J	3.8 U																								
P-17	HAI	5237-080425-121	25-Apr-08	0 - 2	Surface	2.1 UJ	30 J	97 J																								
		5237-080425-123	25-Apr-08	11 - 12	Subsurface	16 J	680	1,500																								
		5237-080425-124	25-Apr-08	15 - 17		2,500 J	6,200 J	6,800 J	7.5	1.6 U	13	7.2	5.4	1.6 U	7.8 UJ	7.8 UJ	7.8 UJ	7.8 UJ	78 J	680 J	310 J	6.6 J	42 J	210 J	530 J	1,900 J	19 J	390 J	520 J	1,600 J	2,200 J
		5237-080425-125	25-Apr-08	20 - 21	Deep	2.6 J	1.7 U	4 J																								
		5237-080425-126	25-Apr-08	27 - 28		12 J	5.3 J	14 J																								
P-18	HAI	5237-080415-025	15-Apr-08	0 - 3	Surface	4.7 J	52	200																								
		5237-080415-026	15-Apr-08	11.5 - 13.5	Subsurface	2.4 J	43	67 J																								
		5237-080415-027	15-Apr-08	21 - 23	Deep	2.1 U	21 J	71 J																								

TABLE 9 – Summary of Analytical Results for Soil Samples (2008): Total Petroleum Hydrocarbons by NWTPH and EPH/VPH Methods

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Northwest Method TPH			Volatile Petroleum Hydrocarbons (VPH)														Extractable Petroleum Hydrocarbons (EPH)									
						NWTPH-Gx	NWTPH-Dx								Aliphatics				Aromatics				Aliphatics					Aromatics				
						Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethy lbenzene	m,p Xylenes	o-Xylenes	MTBE	C5-6	C6-8	C8-10	C10-12	C8-10	C10-12	C12-13	C8-10	C10-12	C12-16	C16-21	C-21-34	C8-10	C10-12	C12-16	C16-21	C21-34
Screening Level Values [1]				Surface	Occupational	22,000	70,000	28,000 [2]	34	77,000	140	NV	NV	1,000	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
					Ecological	NV	NV	NV [2]	3,300	200	NV	1	1	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
				Subsurface	Construction	13,000	23,000	5,900 [2]	340	24,000	1,600	NV	NV	10,000	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
					Excavation	>Max	>Max	>Max [2]	9,500	>Max	44,000	NV	NV	>Max	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
P-19	HAI	5237-080415-021	15-Apr-08	0 - 3	Surface	1.9 U	27 J	94 J																								
		5237-080415-022	15-Apr-08	0 - 3		2 U	24 J	74 J																								
		5237-080415-023	15-Apr-08	10 - 12	Subsurface	5.2 J	150 J	170	0.03 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	6.6 J	2.4 U	2.4 U	13	14	23	2.4 U	2.4 U	5.8	94	220
		5237-080415-024	15-Apr-08	22.5 - 24.5	Deep	850 J	1,500	370																								
		5237-080423-074	23-Apr-08	30 - 31		46,000	110,000	21,000																								
		5237-080423-075	23-Apr-08	39 - 40		2.2 U	1.6 U	3.8 U																								
P-20	HAI	5237-080415-015	15-Apr-08	0 - 3	Surface	1.9 U	16 J	47 J																								
		5237-080415-016	15-Apr-08	16 - 18	Subsurface	2 U	1.5 U	3.6 U																								
		5237-080415-017	15-Apr-08	18 - 20		610	1,800	860	0.18	0.5 U	2.1	2	1	0.5 U	5 UJ	5 UJ	5 UJ	42 J	19 J	270 J	240 J	3.6 U	24	70	140	530	72	680	2,300	6,800	2,100
		5237-080423-079	23-Apr-08	32 - 33	Deep	3.4 U	16 J	27 J																								
P-22	HAI	5237-080415-028	15-Apr-08	0 - 3	Surface	1.9 U	37	110 J																								
		5237-080415-029	15-Apr-08	10 - 11.5	Subsurface	2.6 U	42	180																								
		5237-080415-030	15-Apr-08	22 - 24	Deep	9,000	13,000 J	2,500 J	23	1.8 U	33	31	15	1.8 U	8.9 UJ	8.9 UJ	8.9 UJ	490 J	240 J	3,200 J	1,600 J	26	1,000	540	310	250	54	1,900	2,000	4,800	2,700
		5237-080423-077	23-Apr-08	39 - 40		6.2 J	1.9 U	5.9 J																								
P-23	HAI	5237-080415-018	15-Apr-08	0 - 2.5	Surface	2.2 U	22 J	120 J																								
		5237-080415-019	15-Apr-08	10 - 12	Subsurface	2.6 U	9 J	17 J																								
		5237-080415-020	15-Apr-08	Deep		2.3 J	21 J	15 J																								
P-24	HAI	5237-080425-114	25-Apr-08	0 - 2.5	Surface	1.9 J	35	110 J																								
		5237-080425-115	25-Apr-08	10 - 12	Subsurface	25 J	340	470	0.02 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	7 J	19 J	2.7 UJ	3.2 J	28 J	67 J	160 J	2.7 UJ	2.7 UJ	15 J	110 J	200 J
		5237-080425-117	25-Apr-08	21 - 21.5	Deep	250 J	1,800	960																								
		5237-080425-118	25-Apr-08	20 - 22		16 J	320	270																								
		5237-080425-120	25-Apr-08	32 - 33		2.4 UJ	1.7 U	9.1 J																								
P-25	HAI	5237-080425-107	25-Apr-08	0 - 3	Surface	2.7 J	48	130																								
		5237-080425-109	25-Apr-08	12- 14	Subsurface	390 J	1,400	680	0.043	0.5 U	0.78	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	67 J	11 J	93 J	97 J	3 UJ	4.7 J	46 J	76 J	160 J	3 UJ	34 J	120 J	450 J	460 J
		5237-080425-110	25-Apr-08	15 - 16		11 J	100	200																								
		5237-080425-113	25-Apr-08	33 - 34	Deep	3 UJ	10 J	31 J																								
P-26	HAI	5237-080425-101	25-Apr-08	0 - 3	Surface	2.1 UJ	33	110 J	0.02 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	2.6 UJ	2.6 UJ	2.6 UJ	4 J	32 J	2.6 UJ	2.6 UJ	2.6 UJ	7.1 J	35 J
		5237-080425-102	25-Apr-08	7 - 8	Subsurface	14 J	140	190																								
		5237-080425-103	25-Apr-08	13 - 15		28 J	190	180																								
		5237-080425-106	25-Apr-08	34 - 35	Deep	5.7 J	16 J	19 J																								
P-28	HAI	5237-080428-151	28-Apr-08	0 - 3	Surface	1.8 U	9.1 J	28 J																								
		5237-080428-153	28-Apr-08	10 - 12	Subsurface	2 U	18 J	29 J																								
		5237-080428-154	28-Apr-08	15 - 17	Deep	18	130	99 J																								
		5237-080428-155	28-Apr-08	22 - 24		2.4 U	3 J	4.6 J																								
		5237-080428-157	28-Apr-08	34 - 35		2.6 U	8.3 J	10 J																								
P-29	HAI	5237-080501-197	1-May-08	0 - 1	Surface	1.9 J	24 J	54 J	0.004 J	0.001 J	7E-04 J	5E-04 J	7E-05 U																			
		5237-080501-204	1-May-08	12 - 14	Subsurface	6.5 J	79	85 J																								
P-30	HAI	5237-080428-135	28-Apr-08	0 - 3	Surface	2 U	53	120 J																								
		5237-080428-137	28-Apr-08	12 - 14	Subsurface	17	120	230																								
		5237-080428-138	28-Apr-08	12 - 14		16	120	240																								
		5237-080428-141	28-Apr-08	28.5 - 29.5	Deep	7.1 J	22 J	36 J																								
P-31	HAI	5237-080428-144	28-Apr-08	0 - 3	Surface	2.1 U	11 J	41 J																								
		5237-080428-145	28-Apr-08	7 - 8	Subsurface		9.2 J	47 J																								
		5237-080428-146	28-Apr-08	11 - 13		11	180	380	0.02 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	9.5 J	3 UJ	3 UJ	12 J	34 J	100 J	3 UJ	3 UJ	3 UJ	47 J	190 J
		5237-080428-147	28-Apr-08	18 - 20	Deep	31	920	560																								
		5237-080428-150	28-Apr-08	34 - 35		2.9 U	11 J	20 J																								
P-32	HAI	5237-080424-094	24-Apr-08	0 - 3	Surface	1.8 U	7.2 J	30 J																								
		5237-080424-095	24-Apr-08	8 - 9	Subsurface	15	200	270																								
		5237-080424-097	24-Apr-08	27 - 29	Deep	3.8 J	1.7 U	4.1 U																								
P-33	HAI	5237-090810-001	10-Aug-09	1 - 2	Surface	4.71 U	31.6 U	68																								
		5237-090810-002	10-Aug-09	8 - 9	Subsurface	6.21 U	120	243																								
		5237-090810-003	10-Aug-09	15 - 17	Deep	1840	23,200	12,100																								
P-34	HAI	5237-080430-188	30-Apr-08	0 - 3	Surface	2.9 J	18 J	57 J																								
		5237-080430-190	30-Apr-08	11 - 13	Subsurface	210 J	2400	820																								
		5237-080430-191	30-Apr-08	11 - 13		120 J	590	260																								
		5237-080430-193	30-Apr-08	22 - 23.5	Deep	46,000 J	120,000	30,000	290	240	260	240	110	1.5 U	13	100	7.5 U	5,500	1,700	8,200	7,400	300 J	690 J	9,000 J	1,900 J	1,300 J	2.5 UR	97 J	230 J	940 J	960 J
		5237-080430-194	30-Apr-08	28 - 29		1,800 J	1,900	540																								
		5237-080430-195	30-Apr-08	31 - 32		2.5 J	1.5 U	3.7 U																								
		5237-080430-196	30-Apr-08	39 - 40		5.9 J	17 J	13 J																								
P-36	HAI	5237-080501-198	1-May-08	11 - 13	Subsurface	1,600	7,500 J	2,000 J																								
		5237-080501-199	1-May-08	18 - 20	Deep	20,000	80,000 J	14,000 J	130	100	160	160	83	1.4 U	7.2	32	7 UJ	6,400 J	1,200 J	8,000 J	6,900 J	230 J	580 J	9,700 J	1,100 J	720 J	24 UJ	1,700 J	3,100 J	10,000 J	11,000 J
		5237-080501-202	1-May-08	30 - 31		53	19 J	9.8 J																								
		5237-080501-203	1-May-08	35 - 36		2.6 U	1.8 U	4.3 U																								
P-37	HAI	5237-080430-181	30-Apr-08	0 - 3	Surface	4.3 U*	22 J	82 J																								
		5237-080430-182	30-Apr-08	7 - 8	Subsurface	16 J	110	250																								
		5237-080430-184	30-Apr-08	16 - 18		1900 J	8,000 J	2,500 J																								
P-38	HAI	5237-080501-206	1-May-08	11.5 - 13.5	Subsurface	1.7 U	1.3 U	3.1 U																								
		5237-080501-209	1-May-08	25 - 26	Deep	4,300	12,000 J	3,000 J																								
		5237-080501-211	1-May-08	34 - 35		1,300	1,600	380																								
		5237-080501-212	1-May-08	38 - 40		2,900	7,500 J	1,800 J	47	22	48	43	21	1.8 U	9.1 U	12	9.1 U	380 J	320	3,400 J	2,500 J	2.8 UJ	48 J	130 J	160 J	160 J	24 J	810 J	890 J	2,100 J	2,000 J
		5237-080501-213	1-May-08	44 - 45		27,000	67,000 J	12,000 J																								
P-39	HAI	5237-080429-162	29-Apr-08	0 - 3	Surface	2.3 U	11 J	48 J																								
		5237-080429-165	29-Apr-08	15 - 17	Subsurface	2 U	25 J	27 J																								
P-40	HAI	5237-080428-128	28-Apr-08	0 - 3	Surface	2.1 J	27 J	69 J																								
		5237-080428-130	28-Apr-08	11 - 12	Subsurface		460	910																								
		5237-080428-131	28-Apr-08	16 - 18		120	3,000 J	1,800 J	0.023 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	18 J	12 J	53 J	200 J	4.6 J	17 J	100 J	160 J	340 J	3.5 J	12 J	210 J	910 J	910 J
		5237-080428-132	28-Apr-08	23 - 24	Deep	2.7 U	1.9 U	4.6 J																								

TABLE 9 – Summary of Analytical Results for Soil Samples (2008): Total Petroleum Hydrocarbons by NWTPH and EPH/VPH Methods

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Depth Group	Northwest Method TPH			Volatile Petroleum Hydrocarbons (VPH)														Extractable Petroleum Hydrocarbons (EPH)									
						NWTPH-Gx	NWTPH-Dx								Aliphatics				Aromatics				Aliphatics					Aromatics				
						Gasoline-Range	Diesel-Range	Oil-Range	Benzene	Toluene	Ethy lbenzene	m,p Xylenes	o-Xylenes	MTBE	C5-6	C6-8	C8-10	C10-12	C8-10	C10-12	C12-13	C8-10	C10-12	C12-16	C16-21	C-21-34	C8-10	C10-12	C12-16	C16-21	C21-34
Screening Level Values [1]				Surface	Occupational	22,000	70,000	28,000 [2]	34	77,000	140	NV	NV	1,000	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
					Ecological	NV	NV	NV [2]	3,300	200	NV	1	1	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
				Subsurface	Construction	13,000	23,000	5,900 [2]	340	24,000	1,600	NV	NV	10,000	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
					Excavation	>Max	>Max	>Max [2]	9,500	>Max	44,000	NV	NV	>Max	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
P-41	HAI	5237-080424-089	24-Apr-08	0 - 3	Surface	3.1 J	6.8 J	72 J																								
		5237-080424-090	24-Apr-08	11.5 - 12.5	Subsurface	6.6 J	420	260																								
		5237-080424-092	24-Apr-08	23 - 25	Deep	6.3 J	34 J	80 J																								
P-42	HAI	5237-080416-031	16-Apr-08	0 - 3	Surface	1.9 U	15 J	77 J																								
		5237-080416-032	16-Apr-08	11.5 - 13	Subsurface	1.7 U	43	54 J																								
P-43		5237-080416-034	16-Apr-08	0 - 3	Surface	1.7 U	11 J	31 J																								
		5237-080416-035	16-Apr-08	16 - 18	Subsurface	1.7 U	10 J	17 J																								
		5237-080416-036	16-Apr-08	35 - 37	Deep	3,800	7,600 J	2,400 J																								
P-44	HAI	5237-080416-037	16-Apr-08	0 - 3	Surface	1.7 U	1.3 U	3.4 J																								
		5237-080416-038	16-Apr-08	16 - 18	Subsurface	2,300	5,500 J	1,300 J	0.13	0.5 U	7.1	6.5	6.9	0.5 U	5 UJ	5 UJ	5 UJ	51 J	110 J	1,600 J	1,500 J	12 J	88 J	370 J	430 J	390 J	78 J	1,300 J	2,400 J	6,000 J	4,300 J
		5237-080416-039	16-Apr-08	26.5 - 28.5	Deep	1.9 U	17 J	12 J																								
P-45	HAI	5237-080421-040	21-Apr-08	0 - 3	Surface	2.7 J	28 J	69 J																								
		5237-080421-042	21-Apr-08	10 - 12	Subsurface	4.7 J	220	220																								
P-46	HAI	5237-080421-044	21-Apr-08	0 - 3	Surface	1.7 U	2.3 J	5.1 U*																								
		5237-080421-045	21-Apr-08	6.5 - 8.5	Subsurface	1.8 U	84	110 J																								
		5237-080421-047	21-Apr-08	16.8 - 18		1.7 J	53	40 J																								
		5237-080421-049	21-Apr-08	25 - 25.2	Deep	4.6 J	77 J	31 J																								
		5237-080421-051	21-Apr-08	32.5 - 33		5.7 J	270	180	0.033	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	5 UJ	5 UJ	18 J	77 J	14 UJ	14 UJ	49 J	89 J	140 J	46 J	1,600 J	3,400 J	9,500 J	6,300 J
		5237-080421-052	21-Apr-08	38 - 40		2.4 U	1.8 U	7.3 U*																								
P-47	HAI	5237-080421-053	21-Apr-08	0 - 3	Surface	1.9 U	4.6 J	18 U*																								
		5237-080421-054	21-Apr-08	7.5 - 8.5	Subsurface	2,200	9,100	2,500	3	8.6	31	47	31	1.7 U	8.3 UJ	10 J	8.3 UJ	1,800 J	510 J	5,500 J	7,000 J	50 UJ	970 J	990 J	780 J	660 J	11 U	11 UJ	200 J	1,000 J	840 J
		5237-080421-055	21-Apr-08	12 - 14		16	43	78 J																								
		5237-080421-056	21-Apr-08	23 - 25	Deep		1.8 U	5.9 U*																								
P-48	HAI	5237-080422-057	22-Apr-08	0 - 3	Surface	1.9 U	2.3 J	8.9 J																								
		5237-080422-058	22-Apr-08	10 - 12.5	Subsurface	1.7 U	1.3 U	3.2 U																								
		5237-080422-059	22-Apr-08	15 - 17	Deep		66	130 J																								
		5237-080422-060	22-Apr-08	24 - 25		2.5 U	1.8 U	4.2 U																								
P-49	HAI	5237-080422-061	22-Apr-08	0 - 3	Surface	1.8 U	1.4 U	3.3 U																								
		5237-080422-062	22-Apr-08	10.2 - 12.5	Subsurface	67	670	820	0.022 0	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	13 J	7.2 J	22 J	43 J	3.2 UJ	14 J	160 J	310 J	630 J	3.2 UJ	3.2 UJ	15 J	160 J	270 J
		5237-080422-063	22-Apr-08	16 - 18			110	210																								
P-50	HAI	5237-080422-069	22-Apr-08	0 - 3	Surface	2.3 J	3.2 J	15 J																								
		5237-080422-070	22-Apr-08	11 - 14	Subsurface	86	1,200	1,400	0.021 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	5 UJ	5 UJ	5 UJ	21 J	12 J	32 J	66 J	6.3 J	24 J	200 J	320 J	620 J	3.2 UJ	3.2 UJ	26 J	210 J	270 J
		5237-080422-071	22-Apr-08	11 - 14		91	1,200	1,400																								
		5237-080422-072	22-Apr-08	23 - 25	Deep		1.6 U	4.8 J																								
P-51	HAI	5237-080422-065	22-Apr-08	0 - 3	Surface	4.9 J	16 J	43 J																								
		5237-080422-067	22-Apr-08	11 - 13	Subsurface	12	68	110 J																								
P-52	HAI	5237-080424-080	24-Apr-08	0 - 3	Surface	2.3 U	8.2 J	16 J																								
		5237-080424-085	24-Apr-08	15 - 17	Subsurface	15	120	230																								
		5237-080424-088	24-Apr-08	30 - 31	Deep	26	150	270																								
P-54	HAI	5237-080429-168	29-Apr-08	0 - 3	Surface	1.9 U	51	160																								
		5237-080429-169	29-Apr-08	7 - 9	Subsurface	18	150	290																								
		5237-080429-171	29-Apr-08	15 - 17		2.7 J	2.1 J	3.5 U																								
		5237-080429-173	29-Apr-08	20 - 22	Deep	3,700	2,100	700	1.7	2.4	9.7	13	6.9	1.5 U	7.7 UJ	7.7 UJ	7.7 UJ	7.7 UJ	100 J	1,500 J	1,100 J	2.5 UJ	9.5 J	93 J	130 J	140 J	6.4 J	250 J	490 J	1300 J	1300 J
		5237-080429-174	29-Apr-08	27 - 28		2.1 U	1.6 U	3.7 U																								
		5237-080429-175	29-Apr-08	35 - 36		2.6 U	44	12 J																								
Soil Boring Samples - 2009 RotoSonic																																
SB-21	HAI	5237-090309-001	9-Mar-09	11 - 13	Subsurface		730	570																								
		5237-090309-001G	9-Mar-09	12		25																										
SB-27	HAI	5237-090319-005	19-Mar-09	17 - 18	Subsurface		370	310														2.6 U	2.6 U	8.8	16	26	26 U	26 U	30	240	270
		5237-090319-005G	19-Mar-09	18		7.9									1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U	1.4 U										
SB-35	HAI	5237-090317-004	17-Mar-09	17 - 18	Subsurface		31,000 J	7,200 J														81	300	680	680	670	220	2,400	3,200	7,400	4,500
		5237-090317-004G	17-Mar-09	18		9,400									250 U	250 U	250 U	250 U	620	6,500	5,500										
SB-53	HAI	5237-090311-003	11-Mar-09	18 - 19	Subsurface		4,600 J	1,600 J														2.6 U	4.8	27	31	38	8.4	84	130	410	330
		5237-090311-003G	11-Mar-09	19		860									62 U	62 U	62 U	62 U	850	2,900	1,900										

Notes:

bgs = below ground surface
EPA = Environmental Protection Agency
HAI - Hahn and Associates Inc.
J = estimated concentration
mg/kg = milligrams per killigrams

U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.
VOCs = Volatile Organic Compounds

Red = Surface soil value exceeds RBC for Occuational Worker receptor pathway
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC for Construction Worker receptor pathway
Blue = Subsurface soil value exceeds RBC for Excavation Worker pathway

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DEQ Risk Based Concentrations (9/15/2009 rev.) for direct contact with soils (ingestion, dermal contact, inhalation). Screening level values for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update) and consist of lowest established values for plants, invertebrates, birds, or mammals.

2= Screening level values for oil-range petroleum hydrocarbons were calculated with site-specific TPH fractionization data using procedures described in the DEQ TPH03b3 spreadsheet (DEQ 2003).
The TPH values indicated for surface pathway evaluation are the lowest calculated RBCs from all surface sample fractionization data (n=2), and values for subsurface pathway evaluation are the lowest RBCs calculated from all subsurface samples (n=16).
An exceedence is not indicated in the case where the sample specific fractionization data indicate TPH levels are below the calculated RBCs for that sample (applicable to P-17 only).

Table 10 - VPH and EPH Inputs for Site-Specific TPH Risk-Based Concentration (RBC) Calculations

Area ==>	Siltronic Corporation Property												
Boring Location ==>	P-12			P-16	P-17	P-19	P-20	P-22	P-24	P-25	P-26	P-31	P-34
Sample Number ==>	5237-080414-001	5237-080414-002	5237-080414-005	5237-080430-177	5237-080425-124	5237-080415-023	5237-080415-017	5237-080415-030	5237-080425-115	5237-080425-109	5237-080425-101	5237-080428-146	5237-080430-193
Sample Date ==>	14-Apr-08	14-Apr-08	14-Apr-08	30-Apr-08	25-Apr-08	15-Apr-08	15-Apr-08	15-Apr-08	25-Apr-08	25-Apr-08	25-Apr-08	28-Apr-08	30-Apr-08
Depth (feet bgs) ==>	0.0 - 3.0	5.0 - 7.5	16.5 - 17.0	7.5 - 9.5	15.0 - 17.0	10.0 - 12.0	18.0 - 20.0	22.0 - 24.0	10.0 - 12.0	12.0 - 14.0	0.0 - 3.0	11.0 - 13.0	22.0 - 23.5
Depth Group ==>	Surface	Subsurface	Deep	Subsurface	Subsurface	Subsurface	Subsurface	Deep [2.]	Subsurface	Subsurface	Surface	Subsurface	Deep [2.]
Input Parameters	**Laboratory Testing Results** – mg/kg (ppm)												
Aliphatic Hydrocarbons													
C5 - C6	5. U,J	5. U,J	5. U,J	9.7 U	7.8 U,J	5. U,J	5. U,J	8.9 U,J	5. U,J	5. U,J	5. U,J	5. U,J	13.
>C6 - C8	5. U,J	5. U,J	5. U,J	52.	7.8 U,J	5. U,J	5. U,J	8.9 U,J	5. U,J	5. U,J	5. U,J	5. U,J	100.
>C8 - C10	3.9	15.	14. J	200. J	6.6 J	5. U,J	5. U,J	26.	5. U,J	5. U,J	2.6 U,J	3. U,J	300. J
>C10 - C12	64. J	150. J	88. J	1,100. J	42.	5. U,J	42. J	1,000.	3.2 J	67. J	2.6 U,J	3. U,J	5,500.
>C12 - C16	170.	510.	250. J	2,100. J	210. J	13.	70.	540.	28. J	46. J	2.5 U,J	12. J	9,000. J
>C16 - C21	86.	250.	370. J	730. J	530. J	14.	140.	310.	67. J	76. J	4. J	34. J	1,900. J
>C21 - C34	55.	94.	5,200. J	320. J	1,900. J	23.	530.	250.	160. J	160. J	32. J	100. J	1,300. J
Aromatic Hydrocarbons													
C8 - C10	25. J	62. J	14. J	680.	78. J	5. U,J	72.	240. J	5. U,J	11. J	2.6 U,J	3. U,J	1,700.
>C10 - C12	310. J	450. J	66. J	2,200.	680. J	5. U,J	680.	3,200. J	7. J	93. J	2.6 U,J	3. U,J	8,200.
>C12 - C16	220. J	420. J	230.	2,100.	520. J	6.6 J	2,300.	2,000.	19. J	120. J	2.6 U,J	9.5 J	7,400.
>C16 - C21	440.	900.	2,600.	2,400. J	1,600. J	94.	6,800.	4,800.	110. J	450. J	7.1 J	47. J	940. J
>C21 - C34	300.	620.	5,400.	3,400. J	2,200. J	220.	2,100.	2,700.	200. J	460. J	35. J	190. J	960. J
Benzene	0.07 U	0.29	0.2 U	4.6	7.5	0.03 U	0.18	23.	0.02 U	0.043	0.02 U	0.02 U	290.
Toluene	0.5 U	0.5 U	0.5 U	1.9 U	1.6 U	0.5 U	0.5 U	1.8 U	0.5 U	0.5 U	0.5 U	0.5 U	240.
Ethylbenzene	0.5 U	1.5	0.69	14.	13.	0.5 U	2.1	33.	0.5 U	0.78	0.5 U	0.5 U	260.
Total Xylenes	1.7	3.1	1.53	70.	12.6	0.5 U	3.	46.	0.5 U	0.5 U	0.5 U	0.5 U	350.
1,2,4-Trimethylbenzene	0.0043 J	0.021 U	-	160. J	3.2 J	0.0001 U	0.0006 J	-	0.0022 J	0.46 J	0.0001 U,J	0.0001 J	290. J
1,3,5-Trimethylbenzene	0.0025 J	0.018 U	-	50. J	0.16 J	0.0001 U	0.0001 J	-	0.0004 J	0.11 J	0.0001 U,J	0.0001 U	110. J
Naphthalene	39.	140.	540.	1,200. J	300. J	0.61	110.	4,600.	0.57 J	30. J	0.21 J	0.22 J	16,000. J
Calculated TPH RBCs [1]													
Occupational	28,000.	26,000.	28,000.	16,000.	27,000.	27,000.	29,000.	5,900.	41,000.	28,000.	40,000.	36,000.	4,600.
Construction Worker	9,600.	9,400.	10,000.	7,200.	9,800.	8,300.	9,200.	3,500.	13,000.	9,400.	13,000.	11,000.	3,100.
Excavation Worker	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX

Note:

bgs = below ground surface
DEQ = Department of Environmental Quality
EPH = extractable petroleum hydrocarbons
J = estimated concentration
mg/kg = milligrams per killigrams
ppm = parts per million
RBC = risk based concentration

TPH = total petroleum hydrocarbons
U = non detect
VPH = volatile petroleum hydrocarbons

" - " = not analyzed
1 = The TPH RBCs are based on a Hazard Index = 1 for the sum of all aliphatic fractions, aromatic fractions, and constituents present in the product.
Presented RBC values were generated from the *"Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites"* guidance document, "Calculating RBCsTPH03b3" spreadsheet (DEQ 2003).

Table 10 - VPH and EPH Inputs for Site-Specific Risk-Based Concentration (RBC) Calculations for Total Petroleum Hydrocabons (TPH)

Area ==>	Siltronic Corporation Property											
Boring Location ==>	**P-36**	**P-38**	**P-40**	**P-44**	**P-46**	**P-47**	**P-49**	**P-50**	**P-54**	**SB-27**	**SB-35**	**SB-53**
Sample Number ==>	5237-080501-199	5237-080501-212	5237-080428-131	5237-080416-038	5237-080421-051	5237-080421-054	5237-080422-062	5237-080422-070	5237-080429-173	5237-090319-005	5237-090317-004	5237-090311-003
Sample Date ==>	1-May-08	1-May-08	28-Apr-08	16-Apr-08	21-Apr-08	21-Apr-08	22-Apr-08	22-Apr-08	29-Apr-08	19-Mar-09	17-Mar-09	11-Mar-09
Depth (feet bgs) ==>	18.0 - 20.0	38.0 - 40.0	16.0 - 18.0	16.0 - 18.0	32.5 - 33.0	7.5 - 8.5	10.2 - 12.5	11.0 - 14.0	20.0 - 22.0	17.0 - 18.0	17.0 - 18.0	18.0 - 19.0
Depth Group ==>	Deep [2.]	Deep [2.]	Subsurface	Subsurface	Deep [2.]	Subsurface	Subsurface	Subsurface	Deep [2.]	Subsurface	Subsurface	Subsurface
Input Parameters	**Laboratory Testing Results** – mg/kg (ppm)											
Aliphatic Hydrocarbons												
C5 - C6	7.2	9.1 U	5. U,J	5. U,J	5. U,J	8.3 U,J	5. U,J	5. U,J	7.7 U,J	1.4 U	250. U	62. U
>C6 - C8	32.	12.	5. U,J	5. U,J	5. U,J	10. J	5. U,J	5. U,J	7.7 U,J	1.4 U	250. U	62. U
>C8 - C10	230. J	2.8 U,J	4.6 J	12. J	5. U,J	8.3 U,J	3.2 U,J	6.3 J	2.5 U,J	1.4 U	81.	2.6 U
>C10 - C12	6,400. J	380. J	18. J	88. J	5. U,J	1,800. J	14. J	24. J	9.5 J	1.4 U	300.	4.8
>C12 - C16	9,700. J	130. J	100. J	370. J	49. J	990. J	160. J	200. J	93. J	8.8	680.	27.
>C16 - C21	1,100. J	160. J	160. J	430. J	89. J	780. J	310. J	320. J	130. J	16.	680.	31.
>C21 - C34	720. J	160. J	340. J	390. J	140. J	660. J	630. J	620. J	140. J	26.	670.	38.
Aromatic Hydrocarbons												
C8 - C10	1,200. J	320.	12. J	110. J	46. J	510. J	7.2 J	12. J	100. J	1.4 U	620.	850.
>C10 - C12	8,000. J	3,400. J	53. J	1,600. J	1,600. J	5,500. J	22. J	32. J	1,500. J	1.4 U	6,500.	2,900.
>C12 - C16	6,900. J	2,500. J	210. J	2,400. J	3,400. J	7,000. J	43. J	66. J	1,100. J	30.	5,500.	1,900.
>C16 - C21	10,000. J	2,100. J	910. J	6,000. J	9,500. J	1,000. J	160. J	210. J	1,300. J	240.	7,400.	410.
>C21 - C34	11,000. J	2,000. J	910. J	4,300. J	6,300. J	840. J	270. J	270. J	1,300. J	270.	4,500.	330.
Benzene	130.	47.	0.023 U	0.13	0.033	3.	0.022	0.021 U	1.7	0.0037 J	71.	8.4
Toluene	100.	22.	0.5 U	0.5 U	0.5 U	8.6	0.5 U	0.5 U	2.4	0.002 J	91.	5.1
Ethylbenzene	160.	48.	0.5 U	7.1	0.5 U	31.	0.5 U	0.5 U	9.7	0.013 J	88.	9.4
Total Xylenes	243.	64.	0.5 U	13.4	0.5 U	78.	0.5 U	0.5 U	19.9	0.0016 J	160.	12.7
1,2,4-Trimethylbenzene	260.	36.	7.8	4.2	-	29.	0.0001 U	0.0001 U	3.	0.0012 J	66.	5.6
1,3,5-Trimethylbenzene	87.	11. J	1.6	1.3	-	8.9 J	0.0001 U	0.0001 U	0.94 J	0.0003 J	21. J	1.8 J
Naphthalene	27,000. J	710. J	1.4 J	830. J	0.4	1,200. J	0.039 J	0.08 J	150. J	0.59	3,300.	390.
Calculated TPH RBCs												
Occupational	4,200.	18,000.	31,000.	20,000.	28,000.	23,000.	70,000.	66,000.	24,000.	27,000.	13,000.	20,000.
Construction Worker	2,800.	7,300.	10,000.	7,400.	8,700.	9,300.	22,000.	21,000.	8,500.	8,400.	5,900.	8,000.
Excavation Worker	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX	>MAX

Note:

bgs = below ground surface
DEQ = Department of Environmental Quality
EPH = extractable petroleum hydrocarbons
J = estimated concentration
mg/kg = milligrams per killigrams
ppm = parts per million
RBC = risk based concentration

TPH = total petroleum hydrocarbons
U = non detect
VPH = volatile petroleum hydrocarbons

" - " = not analyzed
1 = The TPH RBCs are based on a Hazard Index = 1 for the sum of all aliphatic fractions, aromatic fractions, and constituents present in the product.
Presented RBC values were generated from the *"Risk-Based Decision Making for the Remediation of Petroleum-Contaminated Sites"* guidance document, "Calculating RBCsTPH03b3" spreadsheet (DEQ 2003).

TABLE 11 – Summary of Analytical Results for Soil Samples: Total Metals

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth	Depth Group	Total Metals by EPA Methods 6010, 6020, 200.7 and/or 7000 Series																						
						Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Magnesium	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Titanium	Vanadium	Zinc
Screening Level Values [1]				Surface	Occupational	NV	NV	1.7	>Max	9,000.	NV	190.	NV	41,000.	NV	800.	23,000.	NV	310.	62,000.	NV	NV	5,100.	NV	NV	NV	NV
					Ecological	50	5.	10.	85.	4.	NV	0.4	20.	50.	10.	16.	500.	NV	0.0002	30.	NV	1.	2.	NV	1,000.	2.	50.
				Subsurface	Construction	NV	NV	13.	60,000.	>Max	NV	4,800.	NV	12,000.	NV	800.	7,200.	NV	93.	>Max	NV	NV	1,500.	NV	NV	NV	NV
					Excavation	NV	NV	370.	>Max	>Max	NV	>Max	NV	>Max	NV	800.	>Max	NV	2,600.	>Max	NV	NV	43,000.	NV	NV	NV	NV
Naturally Occuring Background Levels [2]						NV	4.	7.	NV	1.	NV	42.	NV	36.	NV	17.	NV	NV	0.07	38.	NV	2.	1.	NV	NV	NV	86.
						Analytical Results in mg/kg (ppm)																						
Stormwater Catch Basin Sample 2001																												
CDA/Chrome Shed Catch Basin	Wacker	CLI Composite 1-2	19-Jun-01	NA	NA	-	0.5 U	1.1	-	0.55	-	13.	4.4	32.	10,000.	16.	110.	-	-	8.3	-	0.5 U	1.3	-	430.	25.	360.
Surface Samples (Above Top of Willamette River Embankment) - 2001																												
S-1	HAI	5237-010821-167	21-Aug-01	0.2	Surface	-	1.17	2.54	-	1. U	-	9.67	15.7	13.6	33,500.	1.97	380.	-	-	10.6	-	0.5 U	0.5 U	-	1,920.	89.8	104.
S-2	HAI	5237-010821-168	21-Aug-01	0.2	Surface	-	0.8	2.97	-	1. U	-	15.	14.3	14.6	26,900.	1.61	346.	-	-	15.	-	0.5 U	0.5 U	-	1,650.	74.6	50.
S-3	HAI	5237-010821-169	21-Aug-01	0.2	Surface	-	1.02	3.26	-	1. U	-	16.7	13.6	21.9	25,500.	10.1	366.	-	-	16.3	-	0.5 U	0.5 U	-	1,260.	68.4	70.6
S-4	HAI	5237-010821-170	21-Aug-01	0.2	Surface	-	1.38	4.26	-	1. U	-	17.7	19.1	18.4	37,700.	1.98	758.	-	-	24.	-	0.5 U	0.5 U	-	1,850.	97.2	51.1
(duplicate)		5237-010821-171				-	1.49	4.4	-	1. U	-	19.5	21.3	19.1	38,000.	2.6	756.	-	-	24.8	-	0.5 U	0.5 U	-	1,800.	102.	51.2
S-5	HAI	5237-010821-172	21-Aug-01	0.2	Surface	-	1.19	3.72	-	1. U	-	13.5	15.	25.1	31,600.	3.82	544.	-	-	18.	-	0.5 U	0.5 U	-	1,370.	75.7	53.7
Outfall / Embankment Sample																												
Fab 2 OF	HAI	5237-010919-173	19-Sep-01	0.2	Surface	-	3.31	2.34	-	1. U	-	30.9	7.21	286.	16.7	31.7	351.	-	-	14.1	-	1. U	1. U	-	828.	49.1	846.
Fab 2 OF	HAI	5237-080502-214	2-May-08	@ Pipe	Surface	13,400. J	8.49 J	14.6 J	-	2.11 J	-	92.5 J	-	1,280. J	31,700. J	127. J	276. J	-	0.39 J	33.8 J	-	-	-	-	-	211. J	2,880. J
		5237-080502-215		Discharge Pathway	Surface	10,600.	0.83	2.52	-	0.53	-	23.9	-	332.	32,900.	26.1	653.	-	0.02	15.4	-	-	-	-	-	84.2	612.
Soil Boring Samples - Pre 2008 (HAI and Others)																												
P-1	HAI	5237-010817-142	17-Aug-01	30.0	Deep	-	0.5 U	1.16	-	1. U	-	8.74	7.54	8.01	12,500.	1.58	127.	-	-	9.86	-	0.5 U	0.5 U	-	724.	41.7	26.1
P-2	HAI	5237-010814-115	14-Aug-01	22.5	Deep	-	1.39	4.05	-	1.04	-	16.4	12.6	37.6	24,500.	75.3	246.	-	-	45.3	-	0.5 U	0.5 U	-	1,570.	65.2	244.
P-3	HAI	5237-010820-152	20-Aug-01	6.5	Subsurface	-	0.96	3.12	-	1. U	-	12.3	13.2	12.6	23,400.	1.04	269.	-	-	14.8	-	0.5 U	0.5 U	-	1,520.	65.4	42.6
	HAI	5237-010820-155	20-Aug-01	17.0	Subsurface	-	0.79	3.28	-	1. U	-	10.9	11.8	15.5	21,700.	9.21	190.	-	-	14.7	-	0.5 U	0.5 U	-	1,270.	57.7	44.4
P-4	HAI	5237-010810-80	10-Aug-01	17.5	Subsurface	-	1.45	3.27	-	0.5 U	-	13.4	13.2	15.9	25,200.	21.3	220.	-	-	15.6	-	0.5 U	0.5 U	-	1,510.	65.7	105.
P-5	HAI	5237-010813-92	13-Aug-01	9.5	Subsurface	-	0.97	3.39	-	0.5 U	-	10.9	10.9	11.1	22,200.	8.07	201.	-	-	13.4	-	0.5 U	0.5 U	-	1,140.	54.8	38.7
P-6	HAI	5237-010802-04	2-Aug-01	10.0	Subsurface	-	1.04	3.01	-	0.5 U	-	11.5	11.5	14.3	21,900.	3.57	227.	-	-	13.9	-	0.5 U	0.5 U	-	1,180.	55.8	44.4
P-7	HAI	5237-010808-64	8-Aug-01	22.5	Deep	-	1.15	2.09	-	0.5 U	-	19.	9.62	20.4	21,100.	1.73	210.	-	-	15.3	-	0.5 U	0.5 U	-	1,240.	66.8	40.8
(duplicate)	HAI	5237-010808-65	8-Aug-01	22.5		-	1.1	2.49	-	0.5 U	-	20.4	10.4	21.7	22,700.	1.86	228.	-	-	17.2	-	0.5 U	0.5 U	-	1,180.	67.3	77.
P-8	HAI	5237-010806-31	6-Aug-01	2.0	Surface	-	0.95 J	3.1	-	0.5 U	-	11.7	12.3	10.7	23,700.	11.4	220.	-	-	13.8	-	0.5 U	0.5 U	-	1,310.	63.3 J	46.5 J
P-9	HAI	5237-010807-50	7-Aug-01	21.5	Deep	-	1.85	4.2	-	0.5 U	-	13.9		28.2 J	20,000.	31.5	268.	-	-	14.	-	0.5 U	0.5 U	-	1,040.	50.	126.
P-10	HAI	5237-010803-23	3-Aug-01	26.0	Deep	-	1.3	2.68	-	1. U	-	12.6	10.1	19.3	18,000.	32.6	227.	-	-	12.8	-	0.5 U	0.5 U	-	961.	47.5	66.4
RP-11	AMEC	128-01	17-Nov-05	7.5-8.0	Subsurface	8,780.	-	3. J	-	0.08 U	3,630.	11.	-	14.	20.8	13. J	180. J	2,590. J	0.015 U	15.1	525.	-	-	327. J	-	60.3	45.1 J
Soil Boring Samples - 2007 Pre-Utility Excavation for Pipeline (HAI)																												
P-A	HAI	2708-070504-17	4-May-07	2.5 - 3.0	Surface	-	-	2.75	94.2 J	0.564 U	-	14.1	-	14.2 J	-	9.13	-	-	0.083 U	15.8 J	-	0.564 UJ	0.564 U	-	-	52.7 J	117. J
P-B	HAI	2708-070504-13	4-May-07	2.5 - 3.0	Surface	-	-	8.33	183. J	3.3	-	21.6	-	33.5 J	-	183.	-	-	-	66.4 J	-	0.628 UJ	0.628 U	-	-	83.8 J	4,720. J
		2708-070504-14		7.0 - 7.5	Subsurface	-	-	6.46	312. J	7.48	-	35.	-	176. J	-	432.	-	-	1.43	47.8 J	-	0.716 J	0.663 U	-	-	70.9 J	1,430. J
P-C	HAI	2708-070504-10	4-May-07	8.5 - 9.0	Subsurface	-	-	4.34	129. J	0.655 U	-	22.4	-	26.6 J	-	21.4	-	-	0.136	22.1 J	-	0.655 UJ	0.655 U	-	-	77.9 J	94.6 J
P-D	HAI	2708-070504-07	4-May-07	2.5 - 3.0	Surface	-	-	5.1	170. J	0.665 U	-	26.6	-	33.5 J	-	23.2	-	-	0.152	22.8 J	-	0.665 UJ	0.665 U	-	-	86.9 J	130. J
P-E	HAI	2708-070504-05	4-May-07	2.5 - 3.0	Surface	-	-	3.48	155. J	0.661 U	-	22.2	-	24.9 J	-	22.3	-	-	0.127 U	16.2 J	-	0.661 UJ	0.661 U	-	-	75.8 J	73.2 J
P-F	HAI	2708-070504-04	4-May-07	7.0 - 7.5	Subsurface	-	-	4.85	138. J	0.682 U	-	22.7	-	23.7 J	-	25.8	-	-	0.134 U	20. J	-	0.682 UJ	0.682 U	-	-	85.6 J	89.8 J
P-G	HAI	2708-070504-02	4-May-07	8.5 - 9.0	Subsurface	-	-	3.93	149. J	0.67 U	-	20.8	-	27.2 J	-	16.7	-	-	0.111 U	20.5 J	-	0.67 UJ	0.67 U	-	-	72.9 J	91.1 J
P-Y	HAI	2708-070504-15	4-May-07	2.5 - 3.0	Surface	-	-	5.18	202. J	4.73	-	27.	-	63.8 J	-	348.	-	-	-	36.5 J	-	0.636 UJ	0.636 U	-	-	82.6 J	1,340. J
		2708-070504-16		7.0 - 7.5	Subsurface	-	-	4.5	145. J	2.17	-	23.8	-	33. J	-	138.	-	-	0.097	19.3 J	-	0.639 UJ	0.639 U	-	-	69.5 J	738. J
P-Z	HAI	2708-070504-11	4-May-07	2.0 - 2.5	Surface	-	-	6.04	297. J	10.7	-	30.3	-	163. J	-	335.	-	-	-	60.2 J	-	0.624 UJ	0.624 U	-	-	80.9 J	5,050. J
		2708-070504-12		7.0 - 7.5	Subsurface	-	-	6.45	286. J	4.54	-	32.9	-	129. J	-	1,870.	-	-	0.138	35.6 J	-	0.67 UJ	0.67 U	-	-	79.6 J	1,050. J
Soil Boring Samples - 2008 Push Probe																												
P-5A	HAI	5237-080429-159	29-Apr-08	7 - 10	Subsurface	10,200.	0.11	2.92	-	0.051 J	-	12.1	-	14.5	25,800.	3.99	298.	-	0.013	15.8	-	-	-	-	-	56.9	55.1
P-8A	HAI	5237-080429-161	29-Apr-08	0 - 3	Surface	23,700.	0.2	3.11	-	0.173 J	-	24.6	-	29.8	37,300.	15.2	613.	-	0.074	24.5	-	-	-	-	-	81.9	147.
P-12	HAI	5237-080414-001	14-Apr-08	0 - 3	Surface	14,100.	0.25	1.54 J	-	0.965 J	-	8.82	-	12.3 J	40,900.	59.2	497.	-	0.056	13.1 J	-	-	-	-	-	154.	246.
		5237-080414-002		5 - 7.5	Subsurface	16,600.	0.26	2.24	-	1.25	-	11.7	-	13.8 J	35,300.	29.	467.	-	0.043	21.5 J	-	-	-	-	-	144.	356.
P-13	HAI	5237-080414-007	14-Apr-08	0 - 3	Surface	21,800.	0.22	2.27	-	0.376 J	-	15.9	-	21.2 J	33,800.	27.4	505.	-	0.077	15.3 J	-	-	-	-	-	103.	336.
		5237-080414-008		10 - 12	Subsurface	7,390.	0.08 J	1.1 J	-	0.073 J	-	6.39	-	15.2 J	30,700.	3.23	375.	-	0.008	9.43 J	-	-	-	-	-	103.	57.2
P-14	HAI	5237-080414-010	14-Apr-08	0 - 3	Surface	24,900.	0.17 J	2.63	-	0.298 J	-	15.3	-	19.8 J	39,400.	18.4	697.	-	0.074	15.3 J	-	-	-	-	-	117.	154.
		5237-080414-011		12 - 13.5	Subsurface	11,400.	0.09 J	1.35 J	-	0.242 J	-	8.94	-	10.6 J	25,900.	8.59	331.	-	0.087	12. J	-	-	-	-	-	80.3	93.8
P-15	HAI	5237-080414-012	14-Apr-08	0 - 2.5	Surface	16,900.	0.1 J	2.44	-	0.118 J	-	13.5	-	15.4 J	32,500.	7.25	428.	-	0.029	15.2 J	-	-	-	-	-	92.3	78.4
		5237-080414-013		17 - 19	Deep	11,500.	0.09 J	1.98	-	0.008 U*	-	9.07	-	10.7 J	26,300.	2.98	394.	-	0.01	12. J	-	-	-	-	-	75.8	54.1
P-16	HAI	5237-080430-176	30-Apr-08	0 - 3	Surface	7,900.	0.07	1.67	-	0.11 J	-	7.92	-	12.4	28,600.	8.05	378.	-	0.034	13.7	-	-	-	-	-	73.7	62.2
		5237-080430-177		7.5 - 9.5	Subsurface	1,950.	0.2	0.93	-	0.05 J	-	10.5	-	28.2	6,150.	47.2	56.1	-	0.109	1,520.	-	-	-	-	-	1,890.	16.2
		5237-080430-178		10 - 12	Deep	9,760.	0.83	103.	-	0.144 J	-	14.1	-	13.7	16,400.	50.6	172.	-	0.094	338.	-	-	-	-	-	1,130.	80.8
P-17	HAI	5237-080425-121	25-Apr-08	0 - 2	Surface	20,200.	1.41	3.34	-	2.21	-	24.4	-	30.9	35,200.	152.	862.	-	0.055	20.	-	-	-	-	-	80.	2,010.
		5237-080425-123		11 - 12	Subsurface	16,400.	2.23	5.71	-	4.43	-	31.7	-	164.	60,500.	216.	405.	-	0.296	42.	-	-	-	-	-	109.	5,210.
		5237-080425-124		15 - 17	Subsurface	18,800.	11.8	14.7	-	28.7	-	73.3	-	3,770.	61,400.	2,420.	716.	-	1.72	865.	-	-	-	-	-	81.	21,300.

TABLE 11 – Summary of Analytical Results for Soil Samples: Total Metals

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth	Depth Group	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Magnesium	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Titanium	Vanadium	Zinc
						Total Metals by EPA Methods 6010, 6020, 200.7 and/or 7000 Series																					
Screening Level Values [1]				Surface	Occupational	NV	NV	1.7	>Max	9,000.	NV	190.	NV	41,000.	NV	800.	23,000.	NV	310.	62,000.	NV	NV	5,100.	NV	NV	NV	NV
					Ecological	50	5.	10.	85.	4.	NV	0.4	20.	50.	10.	16.	500.	NV	0.0002	30.	NV	1.	2.	NV	1,000.	2.	50.
				Subsurface	Construction	NV	NV	13.	60,000.	>Max	NV	4,800.	NV	12,000.	NV	800.	7,200.	NV	93.	>Max	NV	NV	1,500.	NV	NV	NV	NV
					Excavation	NV	NV	370.	>Max	>Max	NV	>Max	NV	>Max	NV	800.	>Max	NV	2,600.	>Max	NV	NV	43,000.	NV	NV	NV	NV
Naturally Occuring Background Levels [2]						NV	4.	7.	NV	1.	NV	42.	NV	36.	NV	17.	NV	NV	0.07	38.	NV	2.	1.	NV	NV	NV	86.
						Analytical Results in mg/kg (ppm)																					
Soil Boring Samples - 2008 Push Probe																											
P-18	HAI	5237-080415-025	15-Apr-08	0 - 3	Surface	18,700.	0.18	2.73	-	0.232 J	-	14.6 J	-	19.5 J	33,700.	16.7	539.	-	0.065	14.4 J	-	-	-	-	-	104.	121.
		5237-080415-026		11.5 - 13.5	Subsurface	14,700.	0.07 J	1.91	-	0.044 J	-	12.6 J	-	12.4 J	30,400.	6.77	297.	-	0.015	13.3 J	-	-	-	-	-	82.1	58.2
P-19	HAI	5237-080415-021	15-Apr-08	0 - 3	Surface	23,500.	0.25	2.7	-	0.383 J	-	18.8 J	-	23.8 J	37,000.	30.2	498.	-	0.064	16.4 J	-	-	-	-	-	115.	194.
(duplicate)		5237-080415-022		0 - 3		25,400.	0.21	2.61	-	0.33 J	-	18. J	-	24.3 J	38,300.	27.3	594.	-	0.066	16.7 J	-	-	-	-	-	112.	195.
		5237-080415-023		10 - 12	Subsurface	11,700.	0.1 J	1.92	-	0.051 J	-	10.4 J	-	11. J	28,800.	5.33	298.	-	0.031	13.3 J	-	-	-	-	-	78.9	58.4
P-20	HAI	5237-080415-015	15-Apr-08	0 - 3	Surface	18,200.	0.12 J	2.44	-	0.159 J	-	14.7 J	-	17.5 J	32,300.	12.3	448.	-	0.052	16.2 J	-	-	-	-	-	94.8	99.
		5237-080415-017		18 - 20	Subsurface	30,000.	0.62	3.78	-	0.226 J	-	11.1 J	-	14.8 J	59,500.	47.1	1,320.	-	0.044	13.2 J	-	-	-	-	-	143.	110.
P-22	HAI	5237-080415-028	15-Apr-08	0 - 3	Surface	22,000.	0.16 J	1.89	-	0.351 J	-	14.3 J	-	20.6 J	36,500.	20.2	586.	-	0.107	12.2 J	-	-	-	-	-	118.	168.
		5237-080415-029		10 - 11.5	Subsurface	38,100.	0.22	3.72	-	0.444 J	-	23.7 J	-	31.2 J	49,800.	32.5	1,550.	-	0.078	19.2 J	-	-	-	-	-	134.	241.
P-23	HAI	5237-080415-018	15-Apr-08	0 - 2.5	Surface	27,900.	0.15 J	3.09	-	0.271 J	-	19.9 J	-	24.7 J	40,300.	22.2	652.	-	0.15	16.6 J	-	-	-	-	-	118.	166.
		5237-080415-019		10 - 12	Subsurface	18,000.	0.27	3.97	-	0.176 J	-	14.2 J	-	17.9 J	38,000.	11.	383.	-	0.024	16.5 J	-	-	-	-	-	102.	92.4
		5237-080415-020		16 - 18	Deep	11,400.	0.1 J	2.12	-	0.067 J	-	9.95 J	-	11.2 J	23,800.	3.88	235.	-	0.018	13.7 J	-	-	-	-	-	69.8	55.1
P-24	HAI	5237-080425-114	25-Apr-08	0 - 2.5	Surface	17,700.	0.21	2.79	-	0.328 J	-	17.9	-	29.1	32,700.	21.1	570.	-	0.152	25.3	-	-	-	-	-	79.4	169.
		5237-080425-115		10 - 12	Subsurface	29,700.	0.26	4.39	-	0.317 J	-	28.6	-	35.8	41,900.	22.8	864.	-	0.116	25.1	-	-	-	-	-	104.	181.
		5237-080425-117		21 - 21.5	Deep	12,800.	0.84	4.77	-	0.154 J	-	71.2	-	1.17	53,600.	30.2	585.	-	0.129	12.6	-	-	-	-	-	84.9	175.
P-25	HAI	5237-080425-107	25-Apr-08	0 - 3	Surface	32,400.	0.23	4.67	-	0.194 J	-	31.	-	34.	39,600.	24.9	568.	-	0.097	24.6	-	-	-	-	-	103.	164.
		5237-080425-109		12 - 14	Subsurface	27,700.	0.25	3.4	-	0.255 J	-	26.7	-	36.	37,200.	18.9	545.	-	0.133	24.7	-	-	-	-	-	85.6	157.
P-26	HAI	5237-080425-101	25-Apr-08	0 - 3	Surface	22,200.	0.17	3.92	-	0.177 J	-	23.3	-	26.7	35,100.	18.	599.	-	0.082	23.2	-	-	-	-	-	78.3	128.
		5237-080425-103		13 - 15	Subsurface	21,700.	0.17	3.58	-	0.153 J	-	20.3	-	23.8	32,800.	13.8	406.	-	0.056	22.4	-	-	-	-	-	75.	102.
P-28	HAI	5237-080428-151	28-Apr-08	0 - 3	Surface	10,900.	0.27	2.89	-	0.004 U*	-	18.6	-	44.2	28,400.	7.75	426.	-	0.027	18.1	-	-	-	-	-	57.4	71.2
		5237-080428-153		10 - 12	Subsurface	9,270.	0.11 J	2.86	-	0.005 U*	-	12.4	-	12.7	27,300.	6.74	426.	-	0.014	18.1	-	-	-	-	-	48.4	64.8
		5237-080428-154		15 - 17	Deep	4,790.	0.55	3.94	-	0.005 U*	-	10.2	-	7.06	21,400.	32.8	163.	-	0.016	7.5	-	-	-	-	-	59.2	37.2
		5237-080428-155		22 - 24	Deep	12,800.	0.25	5.81	-	0.439 J	-	20.4	-	18.8	22,200.	8.44	158.	-	0.005	16.3	-	-	-	-	-	69.6	70.7
P-29	HAI	5237-080501-197	1-May-08	0 - 1	Surface	8,290.	0.11 J	1.45	-	0.095 U*	-	9.8	-	14.7	22,100.	6.72	316.	-	0.02	9.58	-	-	-	-	-	47.5	62.8
		5237-080501-204		12 - 14	Subsurface	17,400.	0.52	4.19	-	0.491 J	-	23.	-	29.8	36,000.	61.8	1,070.	-	0.089	24.2	-	-	-	-	-	83.6	157.
P-30	HAI	5237-080428-135	28-Apr-08	0 - 3	Surface	16,300.	0.38	2.58	-	0.309 J	-	16.2	-	27.	33,200.	25.	568.	-	0.045	20.3	-	-	-	-	-	61.2	144.
		5237-080428-137		12 - 14	Subsurface	20,400.	0.22	2.99	-	0.408 J	-	21.5	-	32.5	32,900.	18.8	566.	-	0.108	22.5	-	-	-	-	-	66.7	130.
(duplicate)		5237-080428-138		12 - 14		26,600.	0.22	3.65	-	0.267 J	-	25.6	-	34.5	35,700.	18.3	565.	-	0.15	25.3	-	-	-	-	-	82.4	137.
		5237-080428-141		28.5 - 29.5	Deep	17,700.	0.08 J	2.05	-	0.004 U*	-	17.	-	18.6	25,800.	8.18	208.	-	0.046	30.9	-	-	-	-	-	59.9	79.3
P-31	HAI	5237-080428-144	28-Apr-08	0 - 3	Surface	15,900.	0.17	2.96	-	0.19 J	-	16.5	-	25.1	29,400.	13.8	453.	-	0.061	20.	-	-	-	-	-	54.	104.
		5237-080428-146		11 - 13	Subsurface	25,000.	0.24	3.23	-	0.281 J	-	24.4	-	34.	34,300.	20.1	497.	-	0.181	22.4	-	-	-	-	-	78.	135.
		5237-080428-147		18 - 20	Deep	12,600.	0.33	2.79	-	0.224 J	-	18.1	-	24.4	26,900.	19.5	352.	-	0.041	18.7	-	-	-	-	-	70.5	81.4
P-32	HAI	5237-080424-094	24-Apr-08	0 - 3	Surface	17,400.	0.08	2.26	-	0.117	-	15. J	-	18.3	30,900.	7.31	479.	-	0.006 U*	16.	-	-	-	-	-	77.6 J	87.6
		5237-080424-095		8 - 9	Subsurface	27,000.	0.18	3.65	-	0.229	-	27.7 J	-	31.9	35,400.	17.4	485.	-	0.086	24.4	-	-	-	-	-	93.6 J	129.
P-33	HAI	5237-090810-001	10-Aug-09	1 - 2	Surface	12,800.	1.13 U	2.88	87. J	1.13 U	4,180.	16.3	-	17.	24,500.	8.34	332.	3,400.	0.09 U	15.6	781.	1.13 U	1.13 U	592.	-	63.5	64.2
		5237-090810-002		8 - 9	Subsurface	23,300.	1.26 U	3.89	120. J	1.26 U	4,990.	25.4	-	28.4	30,900.	13.3	482.	4,880.	0.101	20.5	1,270.	1.26 U	1.26 U	781.	-	83.6	109.
		5237-090810-003		15 - 17	Deep	14,600.	1.2 U	2.83	122. J	1.2 U	3,850.	16.4	-	16.3	24,700.	21.3	289.	3,390.	0.096 U	21.9	879.	1.2 U	1.2 U	906.	-	69.7	53.1
P-34	HAI	5237-080430-188	30-Apr-08	0 - 3	Surface	18,800.	0.21	3.31	-	0.182 J	-	21.4	-	25.7	30,800.	13.2	421.	-	0.096	24.3	-	-	-	-	-	72.5	103.
		5237-080430-190		11 - 13	Subsurface	10,800.	0.09	3.29	-	0.066 J	-	14.4	-	16.6	29,900.	5.64	301.	-	0.043	18.2	-	-	-	-	-	58.7	67.
(duplicate)		5237-080430-191		11 - 13		10,800.	0.09	2.84	-	0.056 J	-	12.3	-	14.8	29,100.	5.18	285.	-	0.026	17.1	-	-	-	-	-	55.3	66.5
		5237-080430-193		22 - 23.5	Deep	4,580.	0.07	0.62	-	0.032 J	-	4.09	-	4.77	9,990.	34.2	119.	-	0.015	9.51	-	-	-	-	-	19.5	27.1
P-36	HAI	5237-080501-198	1-May-08	11 - 13	Subsurface	9,740.	0.1 J	2.86	-	0.057 U*	-	11.5	-	13.1	27,500.	206.	322.	-	0.02	15.6	-	-	-	-	-	50.	61.
		5237-080501-199		18 - 20	Subsurface	3,140.	0.05 J	0.57	-	0.023 U*	-	3.64	-	5.07	9,160.	35.5	102.	-	0.009	8.6	-	-	-	-	-	18.4	20.2
P-37	HAI	5237-080430-181	30-Apr-08	0 - 3	Surface	28,500.	0.21	3.25	-	0.353 J	-	24.4	-	35.8	36,700.	21.5	639.	-	0.107	23.1	-	-	-	-	-	74.4	166.
		5237-080430-182		7 - 8	Subsurface	32,500.	0.22	4.49	-	0.299 J	-	34.	-	44.6	42,800.	24.3	938.	-	0.142	28.9	-	-	-	-	-	105.	189.
		5237-080430-184		16 - 18	Subsurface	13,000.	0.14	2.27	-	0.061 J	-	12.4	-	14.2	27,000.	18.	305.	-	0.031	16.3	-	-	-	-	-	52.6	63.3
P-38	HAI	5237-080501-206	1-May-08	11.5 - 13.5	Subsurface	8,600.	0.13 J	2.14	-	0.039 U*	-	9.9	-	11.9	24,200.	3.64	280.	-	0.012	14.3	-	-	-	-	-	45.3	50.2
		5237-080501-212		38 - 40	Deep	21,300.	0.12 J	3.38	-	0.263 J	-	34.7	-	31.8	35,900.	4.52	443.	-	0.021	25.5	-	-	-	-	-	125.	62.6
P-39	HAI	5237-080429-162	29-Apr-08	0 - 3	Surface	12,000.	0.12	2.68	-	0.108 J	-	15.6	-	18.9	32,600.	7.34	386.	-	0.09	17.7	-	-	-	-	-	76.4	76.6
		5237-080429-165		15 - 17	Subsurface	10,900.	0.09	2.63	-	0.044 J	-	13.3	-	13.5	26,800.	3.39	282.	-	0.019	16.2	-	-	-	-	-	64.	57.4
P-40	HAI	5237-080428-128	28-Apr-08	0 - 3	Surface	14,900.	0.19	2.26	-	0.129 J	-	14.8	-	21.1	28,500.	12.	438.	-	0.03	17.	-	-	-	-	-	51.2	98.7
		5237-080428-131		16 - 18	Subsurface	29,900.	0.35	5.28	-	0.515 J	-	32.9	-	54.1	42,600.	36.2	893.	-	0.265	27.4	-	-	-	-	-	101.	182.
P-41	HAI	5237-080424-089	24-Apr-08	0 - 3	Surface	20,600.	0.56	3.78	-	0.13	-	23.2 J	-	24.9	36,400.	16.3	522.	-	0.102	24.5	-	-	-	-	-	87.5 J	102.
		5237-080424-090		11.5 - 12.5	Subsurface	14,100.	0.16	2.47	-	0.102	-	15.5 J	-	16.5	28,600.	16.7	315.	-	0.094	20.	-	-	-	-	-	59.6 J	82.4
P-42	HAI	5237-080416-031	16-Apr-08	0 - 3	Surface	20,700.	0.16	2.48	-	0.176	-	17.5 J	-	24.9 J	34,500.	15. J	545.	-	0.095	16.1 J	-	-	-	-	-	103.	119.
		5237-080416-032		11.5 - 13	Subsurface	11,400.	0.08	2.61	-	0.058	-	10.5 J	-	11.5 J	27,400.	4.9 J	305.	-	0.016 J	12.9 J	-	-	-	-	-	75.9	59.3
P-43	HAI	5237-080416-034	16-Apr-08	0 - 3	Surface	14,800.	0.1	2.35	-	0.097	-	12.5 J	-	13.5 J	30,000.	7.62 J	454.	-	0.025 J	13.6 J	-	-	-	-	-	87.1	74.7
		5237-080416-035		16 - 18	Subsurface	11,200.	0.09	2.3	-	0.058	-	9.94 J	-	11.2 J	26,800.	3.57 J	305.	-	0.019 J	13.2 J	-	-	-	-	-	79.7	58.2
		5237-080416-036		35 - 37	Deep	13,700.	0.1	2.38	-	0.106	-	10.8 J	-	10.7 J	30,300.	12.5 J	306.	-	0.046 J	36.2 J	-	-	-	-	-	99.2	65.2

TABLE 11 – Summary of Analytical Results for Soil Samples: Total Metals

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth	Depth Group	Aluminum	Antimony	Arsenic	Barium	Cadmium	Calcium	Chromium	Cobalt	Copper	Iron	Lead	Manganese	Magnesium	Mercury	Nickel	Potassium	Selenium	Silver	Sodium	Titanium	Vanadium	Zinc
						Total Metals by EPA Methods 6010, 6020, 200.7 and/or 7000 Series																					
Screening Level Values [1]				Surface	Occupational	NV	NV	1.7	>Max	9,000.	NV	190.	NV	41,000.	NV	800.	23,000.	NV	310.	62,000.	NV	NV	5,100.	NV	NV	NV	NV
					Ecological	50	5.	10.	85.	4.	NV	0.4	20.	50.	10.	16.	500.	NV	0.0002	30.	NV	1.	2.	NV	1,000.	2.	50.
				Subsurface	Construction	NV	NV	13.	60,000.	>Max	NV	4,800.	NV	12,000.	NV	800.	7,200.	NV	93.	>Max	NV	NV	1,500.	NV	NV	NV	NV
					Excavation	NV	NV	370.	>Max	>Max	NV	>Max	NV	>Max	NV	800.	>Max	NV	2,600.	>Max	NV	NV	43,000.	NV	NV	NV	NV
Naturally Occuring Background Levels [2]						NV	4.	7.	NV	1.	NV	42.	NV	36.	NV	17.	NV	NV	0.07	38.	NV	2.	1.	NV	NV	NV	86.
						Analytical Results in mg/kg (ppm)																					
Soil Boring Samples - 2008 Push Probe																											
P-44	HAI	5237-080416-037	16-Apr-08	0 - 3	Surface	12,900.	0.12	2.27	-	0.059	-	11.1 J	-	11.8 J	27,200.	3.1 J	325.	-	0.015 J	13.6 J	-	-	-	-	-	77.5	57.2
		5237-080416-038		16 - 18	Subsurface	10,800.	0.09	2.4	-	0.059	-	14.1 J	-	11.1 J	25,400.	13.4 J	239.	-	0.028 J	13.2 J	-	-	-	-	-	72.8	56.6
P-45	HAI	5237-080421-040	21-Apr-08	0 - 3	Surface	24,000.	0.02 U*	2.52	-	0.192 J	-	16.6	-	21.	34,700.	17.5	586.	-	0.059	16.2	-	-	-	-	-	102.	136.
		5237-080421-042		10 - 12	Subsurface	16,600.	0.26	2.97	-	0.154 J	-	13.8	-	16.2	33,400.	13.6	415.	-	0.081	13.9	-	-	-	-	-	95.	86.4
P-46	HAI	5237-080421-044	21-Apr-08	0 - 3	Surface	11,700.	0.02 U*	2.13	-	0.039 J	-	9.53	-	10.8	29,400.	2.92	354.	-	0.02	13.4	-	-	-	-	-	79.6	60.8
		5237-080421-045		6.5 - 8.5	Subsurface	9,390.	0.02 U*	2.06	-	0.051 J	-	9.67	-	10.5	24,400.	4.9	305.	-	0.021	12.5	-	-	-	-	-	70.1	51.9
		5237-080421-051		32.5 - 33	Deep	24,600.	0.02 U*	2.37	-	0.096 J	-	16.7	-	15.3	39,400.	13.7	562.	-	0.026	17.8	-	-	-	-	-	105.	77.1
P-47	HAI	5237-080421-053	21-Apr-08	0 - 3	Surface	21,000.	0.19	2.75	-	0.167 J	-	16.7	-	20.3	33,900.	15.8	540.	-	0.064	17.	-	-	-	-	-	98.9	122.
		5237-080421-054		7.5 - 8.5	Subsurface	9,470.	0.02 U*	2.05	-	0.065 J	-	7.41	-	9.45	24,700.	12.3	272.	-	0.022	11.1	-	-	-	-	-	69.3	57.4
P-48	HAI	5237-080422-057	22-Apr-08	0 - 3	Surface	17,200.	0.02 U*	2.37	-	0.125 J	-	13.5	-	15.9 J	29,800.	9.34	419.	-	0.045	15.2 J	-	-	-	-	-	85.1	90.
		5237-080422-058		10 - 12.5	Subsurface	12,100.	0.02 U*	2.43	-	0.009 U*	-	9.76	-	11.2 J	28,100.	3.29	319.	-	0.033	12.9 J	-	-	-	-	-	76.8	54.7
P-49	HAI	5237-080422-061	22-Apr-08	0 - 3	Surface	14,300.	0.02 U*	2.13	-	0.009 U*	-	10.1	-	11.4 J	28,200.	2.85	337.	-	0.017	13.7 J	-	-	-	-	-	80.3	58.7
		5237-080422-062		10.2 - 12.5	Subsurface	36,600.	0.31	4.06	-	0.533 J	-	24.6	-	31.8 J	43,200.	36.3	646.	-	0.272	19.3 J	-	-	-	-	-	129.	226.
		5237-080422-063		16 - 18	Subsurface	22,400.	0.21	2.03	-	0.174 J	-	16.2	-	21.2 J	32,200.	15.9	448.	-	0.125	15.5 J	-	-	-	-	-	94.8	122.
P-50	HAI	5237-080422-069	22-Apr-08	0 - 3	Surface	25,000.	0.21	2.42	-	0.135 J	-	16.6	-	19.2 J	35,000.	14.3	519.	-	0.047	18.3 J	-	-	-	-	-	103.	113.
		5237-080422-070		11 - 14	Subsurface	40,100.	0.29	3.58	-	0.54 J	-	26.3	-	32.7 J	45,100.	40.4	679.	-	0.325	19.5 J	-	-	-	-	-	137.	250.
(duplicate)		5237-080422-071		11 - 14		40,700.	0.31	3.62	-	0.562 J	-	25.7	-	32.4 J	46,200.	40.5	688.	-	0.349	19.2 J	-	-	-	-	-	140.	251.
P-51	HAI	5237-080422-065	22-Apr-08	0 - 3	Surface	20,600.	0.02 U*	2.12	-	0.108 J	-	14.7	-	15.3 J	32,000.	8.53	404.	-	0.035	15.5 J	-	-	-	-	-	90.5	84.1
		5237-080422-067		11 - 13	Subsurface	20,900.	0.28	2.77	-	0.319 J	-	16.8	-	22.6 J	31,500.	27.3	431.	-	0.091	16.6 J	-	-	-	-	-	91.7	138.
P-52	HAI	5237-080424-080	24-Apr-08	0 - 3	Surface	16,800.	0.14	3.61	-	0.088	-	16.2 J	-	15.8	31,700.	6.4	467.	-	0.006 U*	17.	-	-	-	-	-	72.7 J	69.2
		5237-080424-085		15 - 17	Subsurface	19,900.	4.33	4.82	-	0.459	-	22. J	-	56.	33,900.	67.7	402.	-	0.115	22.1	-	-	-	-	-	78.9 J	190.
P-54	HAI	5237-080429-168	29-Apr-08	0 - 3	Surface	16,300.	0.19	2.5	-	0.16 J	-	16.9	-	21.	31,300.	11.3	431.	-	0.042	16.4	-	-	-	-	-	88.2	97.3
		5237-080429-169		7 - 9	Subsurface	27,400.	0.31	5.87	-	0.395 J	-	33.1	-	45.4	45,700.	25.7	863.	-	0.211	27.4	-	-	-	-	-	116.	182.
		5237-080429-171		15 - 17	Subsurface	12,000.	0.08	3.31	-	0.042 J	-	13.3	-	14.3	29,500.	3.49	335.	-	0.012	15.3	-	-	-	-	-	64.1	62.5
		5237-080429-173		20 - 22	Deep	13,900.	0.11	2.24	-	0.046 J	-	17.	-	15.9	30,000.	7.16	337.	-	0.049	19.6	-	-	-	-	-	71.3	60.4
Soil Boring Samples - 2009 RotoSonic																											
SB-21	HAI	5237-090309-001	9-Mar-09	11 - 13	Subsurface	24,100. J	1.06 J	8. J	-	0.91 J	-	31.8 J	-	20.2 J	50,300. J	236. J	596. J	-	0.15 J	30.7 J	-	-	-	-	-	95.7 J	141. J
SB-27	HAI	5237-090319-005	19-Mar-09	17 - 18	Subsurface	11,400. J	0.23 J	3.34 J	-	0.18 J	-	17. J	-	23.9 J	25,600. J	23.9 J	301. J	-	0.05 J	17.1 J	-	-	-	-	-	78.1 J	56. J
SB-35	HAI	5237-090317-004	17-Mar-09	17 -18	Subsurface	8,890. J	0.18 J	1.71 J	-	0.08 J	-	9.9 J	-	12.4 J	20,900. J	24.2 J	232. J	-	0.03 J	16. J	-	-	-	-	-	65.9 J	48.9 J
SB-53	HAI	5237-090311-003	11-Mar-09	18 - 19	Subsurface	15,800. J	0.32 J	1.33 J	-	0.24 J	-	13.5 J	-	20.5 J	49,000. J	13.8 J	872. J	-	0.03 J	31.4 J	-	-	-	-	-	163. J	152. J

Note:

bgs = below ground surface
EPA = U.S. Environmental Protection Agency
J = estimated concentration
mg/kg = milligrams per kilogram

ppm = parts per million
U = not detected above detection limit indicated
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.

Red = Surface soil value exceeds either RBC Occuational Worker recepetor pathway or Naturally Occuring Background Level for metal
Red = Surface soil value exceeds DEQ Ecological Screening Level Value
Blue = Subsurface soil value exceeds RBC Construction Worker receptor pathway scenario and DEQ Naturually Occurring Background Level
Blue = Subsurface soil value exceeds RBC Excavation Worker pathway scenario and DEQ Naturually Occurring Background Level

1 = Screening level values for occupational, construction, and excavation worker receptors obtained from Oregon DEQ Risk Based Concentrations (9/15/2009 rev.) for direct contact with soils (ingestion, dermal contact, inhalation). Screening level values for ecological receptors obtained from Oregon DEQ Level II Ecological Screening Level Values (12/2001 update) and consist of lowest established values for plants, invertebrates, birds, or mammals.
2 = Oregon Department of Environmental Quality Default Background Concentrations for Metals (October 2002)

TABLE 12 – Summary of Analytical Results for Doane Creek Embankment Soil and Sediment Samples: TPH, Total PAHs, and Cyanide

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Analytical Results in mg/kg (ppm)														
					Field Observation					Northwest Method						EPA Method 8270C SIM or 8270D		EPA Method 335.4	
										TPH - Gx		TPH-Dx							
					Odor	Sheen	Lamp Black	Oil	Tar	Gasoline		Diesel		Oil		Total PAHs		Total Cyanide	
				Screening Level Values						NV		NV		NV		NV		NV	
Doane Creek Composite Embankment Soil Sampling - 2010																			
Reach 1 West Bank	HAI	5237-100616-057	16-Jun-10	0 - 2.0						7.6	U	31.	U	65.7		8.53		6.65	U
Reach 1 East Bank	HAI	5237-100616-058	16-Jun-10	0 - 2.0						7.3	U	33.7	U	72.7		14.741		64.1	U
Reach 2 West Bank	HAI	5237-100616-059	16-Jun-10	0 - 2.0						8.1	U	35.3	U	70.5	U	2.89		7.05	U
Reach 2 East Bank	HAI	5237-100616-060	16-Jun-10	0 - 2.0						7.5	U	36.	U	72.	U	3.854		6.77	U
		5237-100616-061 (Dup)								7.	U	35.9	U	71.7	U	4.622		6.77	U
Reach 3 West Bank	HAI	5237-100615-040	15-Jun-10	0 - 2.0						7.8	U	32.	U	63.9	U	1.561		6.74	U
Reach 3 East Bank	HAI	5237-100615-041	15-Jun-10	0 - 2.0						7.9	U	32.4	U	64.9	U	1.605		6.63	U
Reach 4 West Bank	HAI	5237-100614-023	14-Jun-10	0 - 2.0						7.9	U	33.9	U	67.9	U	1.853		6.86	U
Reach 4 East Bank	HAI	5237-100614-024	14-Jun-10	0 - 2.0						7.7	U	35.	U	69.9	U	1.064		6.76	U
Reach 5 West Bank	HAI	5237-100614-021	14-Jun-10	0 - 2.0						7.9	U	35.	U	70.	U	7.367		6.8	U
Reach 5 East Bank	HAI	5237-100614-022	14-Jun-10	0 - 2.0						8.3	U	35.1	U	70.1	U	3.214		6.89	U
Doane Creek Composite Sediment Sampling - 2010																			
Reach 1 - composite	HAI	5237-100701-093	1-Jul-10	0 - 0.5						7.35	U	37.1		468.		13.367		0.374	
Reach 2 - composite	HAI	5237-100701-092	1-Jul-10	0 - 0.5						7.6	U	40.6	U	200.		72.148		0.571	
Reach 3 - composite	HAI	5237-100701-091	1-Jul-10	0 - 0.5						7.39	U	36.2	U	171.		4.437		0.711	
Reach 4 - composite	HAI	5237-100701-090	1-Jul-10	0 - 0.5						7.18	U	39.7	U	147.		7.024		0.332	U
Reach 5 - composite	HAI	5237-100701-089	1-Jul-10	0 - 0.5						6.82	U	35.1	U	70.1	U	3.897		0.312	U

Note:
bgs = below ground surface
EPA = U.S. Environmental Protection Agency
HAI = Hahn and Associates, Inc.
J = estimated concentration
mg/kg = milligrams per kilogram
NV = Risk Screening Level not established
ppm = parts per million
TPH = total petroleum hydrocarbons
U = not detected above detection limit indicated

TABLE 13 – Summary of Analytical Results for Doane Creek Embankment Soil and Sediment Samples (2010): Polynuclear Aromatic Hydrocarbons (PAHs) by EPA 8270C SIM or 8270D

PAHs by EPA Method 8270C SIM, 8270C, or 8270D					Analytical Results in mg/kg (ppm)																
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benz (a) anthracene	Benzo (b) fluoranthene	Benzo (ghi) perylene	Benzo (k) fluoranthene	Benzo (a) pyrene	Chrysene	Dibenzo (ah) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3-cd) pyrene	Naphthalene	Phenanthrene	Pyrene	Total PAHs
				Screening Level Values [1]	0.3	0.2	0.845	1.05	NV	0.3	13.	1.45	1.29	1.3	2.23	0.536	0.1	0.561	1.17	1.52	NV
Doane Creek Composite Embankment Soil Sampling - 2010																					
Reach 1 West Bank	HAI	5237-100616-057	16-Jun-10	0 - 2.0	0.0914	0.00877 U	0.0946	0.855	1.19	**0.642**	0.385	0.874	0.897	0.151	1.13	0.0346	**0.678**	0.0186	0.449	1.04	8.53
Reach 1 East Bank	HAI	5237-100616-058	16-Jun-10	0 - 2.0	0.121	0.0419	0.237	**1.33**	1.67	**1.02**	0.546	1.31	**1.51**	0.212	2.05	0.0793	**1.06**	0.0639	**1.26**	**2.23**	14.741
Reach 2 West Bank	HAI	5237-100616-059	16-Jun-10	0 - 2.0	0.0281	0.00455 U	0.0329	0.279	0.39	0.196	0.129	0.301	0.304	0.0465	0.407	0.011	**0.21**	0.00658	0.162	0.387	2.89
Reach 2 East Bank	HAI	5237-100616-060	16-Jun-10	0 - 2.0	0.045	0.0185	0.0498	0.338	0.453	0.261	0.154	0.362	0.394	0.0529	0.546	0.0249	**0.268**	0.0199	0.269	0.598	3.854
		5237-100616-061 (Dup)			0.0419	0.0252	0.0666	0.422	0.566	0.291	0.202	0.45	0.488	0.0661	0.665	0.018	**0.319**	0.0213	0.275	0.705	4.622
Reach 3 West Bank	HAI	5237-100615-040	15-Jun-10	0 - 2.0	0.013	0.00494 U	0.0164	0.139	0.198	0.115	0.0667	0.169	0.16	0.0226	0.216	0.00523	**0.116**	0.00841	0.0834	0.232	1.561
Reach 3 East Bank	HAI	5237-100615-041	15-Jun-10	0 - 2.0	0.0155	0.00504 U	0.0176	0.149	0.21	0.109	0.0735	0.174	0.164	0.0236	0.226	0.00639	**0.117**	0.00609	0.0886	0.225	1.605
Reach 4 West Bank	HAI	5237-100614-023	14-Jun-10	0 - 2.0	0.0136	0.00539 U	0.0176	0.16	0.229	0.172	0.077	0.194	0.181	0.0276	0.257	0.00604	**0.151**	0.00707	0.0922	0.268	1.853
Reach 4 East Bank	HAI	5237-100614-024	14-Jun-10	0 - 2.0	0.00875	0.00522 U	0.0108	0.0935	0.14	0.0893	0.0466	0.116	0.103	0.0159	0.151	0.00522 U	0.0828	0.00522 U	0.0545	0.152	1.064
Reach 5 West Bank	HAI	5237-100614-021	14-Jun-10	0 - 2.0	0.0786	0.013	0.113	0.656	0.808	**0.453**	0.288	0.606	0.713	0.105	1.26	0.0515	**0.486**	0.0182	0.598	1.12	7.367
Reach 5 East Bank	HAI	5237-100614-022	14-Jun-10	0 - 2.0	0.032	0.00547	0.0359	0.3	0.407	0.25	0.142	0.318	0.326	0.0498	0.465	0.0132	**0.244**	0.00767	0.177	0.441	3.214
Doane Creek Composite Sediment Sampling - 2010																					
Reach 1 - composite	HAI	5237-100701-093	1-Jul-10	0 - 0.5	0.279 J	0.0755 U	0.205 J	**1.08** J	2.06	**0.779** J	0.649	**1.64**	1.15 J	0.218	1.82 J	0.12 J	**0.974** J	0.0755 UJ	0.803 J	**1.59** J	13.367
Reach 2 - composite	HAI	5237-100701-092	1-Jul-10	0 - 0.5	0.594 U	**1.04**	**1.09**	**5.5**	7.38 BK	**4.45**	7.38 BK	**5.14**	**6.72**	0.608	**9.92**	0.594 U	**4.02**	**1.94**	**4.26**	**12.7**	72.148
Reach 3 - composite	HAI	5237-100701-091	1-Jul-10	0 - 0.5	0.0743 UJ	0.0743 U	0.213 J	0.312 J	0.608	**0.333** J	0.193	0.547	0.358 J	0.0743 U	0.613 J	0.0743 UJ	**0.319** J	0.0743 UJ	0.325 J	0.616 J	4.437
Reach 4 - composite	HAI	5237-100701-090	1-Jul-10	0 - 0.5	0.0574 J	0.0569 U	0.109 J	0.482	0.91 BK	**0.403**	0.91 BK	0.497	0.666	0.0825	1.03 J	0.0569 J	**0.405**	0.114 U	0.534 J	0.881	7.024
Reach 5 - composite	HAI	5237-100701-089	1-Jul-10	0 - 0.5	0.0174 J	0.016 U	0.0715 J	0.236 J	0.452	0.297 J	0.151	0.393	0.277 J	0.0551	0.698 J	0.0409 J	**0.289** J	0.016 UJ	0.282 J	0.637 J	3.897

Note:

bgs = below ground surface
BK = Benzo(b)fluoranthene & Benzo(k)fluoranthene were not distinguisable and reported value is a combined results for both isomers (Benzo(b+k)fluoranthene)
EPA = U.S. Environmental Protection Agency
J = estimated concentration
mg/kg = milligrams per kilogram

NV = Risk Screening Level not established
PAHs = polynuclear aromatic hydrocarbons
ppm = parts per million
U = not detected above detection limit indicated
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.

1 = Risk Screening Level Value Source: Portland Harbor Joint Source Control Strategy (December 2005) - Lower of either "MacDonald PECs and other SQVs" or "DEQ 2007 Bioaccumulative Sediment SLV"
Bold = Bolded concentration exceeds indicated Screening Level Value.

TABLE 14 - Summary of Analytical Results for Doane Creek Embankment Soil and Sediment Samples (2010):
Detected Semi-Volatile Organic Compounds (SVOCs) by EPA Method 8270C SIM or 8270D

Semi-Volatile Organics by EPA Method 8270C					Analytical Results in mg/kg (ppm)												
Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (ft bgs)	1-Methylnaphthalene	2-Methylnaphthalene	Carbazole	Dibenzofuran	Bis(2-ethylhexyl)phthalate	Butyl Benzyl phthalate	Diethyl phthalate	Dimethyl phthalate	Di-n-butyl phthalate	Di-n-octyl phthalate	Pentachlorophenol	Other SVOCs	PAHs
				Screening Level Values [1]	NV	0.2	1.6	NV	0.33	NV	0.6	NV	0.06	NV	0.25		
Doane Creek Composite Embankment Soil Sampling - 2010																	
Reach 1 West Bank	HAI	5237-100616-057	16-Jun-10	0 - 2.0	0.00877 U	0.0088 U	0.0923	0.0174	0.175 U	0.175 U	0.0438 U	0.0438 U	0.0658 U	0.175 U	0.0877 U	U	See PAH Table
Reach 1 East Bank	HAI	5237-100616-058	16-Jun-10	0 - 2.0	0.0186	0.027	0.142	0.025	0.169 U	0.169 U	0.0421 U	0.0421 U	0.0632 U	0.169 U	0.0843 U	U	See PAH Table
Reach 2 West Bank	HAI	5237-100616-059	16-Jun-10	0 - 2.0	0.00455 U	0.0046 U	0.0352	0.005	0.091 U	0.091 U	0.0227 U	0.0227 U	0.0341 U	0.091 U	0.0455 U	U	See PAH Table
Reach 2 East Bank	HAI	5237-100616-060	16-Jun-10	0 - 2.0	0.0045	0.0073	0.0355	0.0128	0.0808 U	0.0808 U	0.0202 U	0.0202 U	0.0303 U	0.0808 U	0.0404 U	U	See PAH Table
		5237-100616-061 (Dup)			0.00441 U	0.007	0.0425	0.0075	0.0883 U	0.0883 U	0.0221 U	0.0221 U	0.0331 U	0.0883 U	0.0441 U	U	See PAH Table
Reach 3 West Bank	HAI	5237-100615-040	15-Jun-10	0 - 2.0	0.00455 U	0.0046 U	0.0352	0.005	0.091 U	0.091 U	0.0227 U	0.0227 U	0.0341 U	0.091 U	0.0455 U	U	See PAH Table
Reach 3 East Bank	HAI	5237-100615-041	15-Jun-10	0 - 2.0	0.00504 U	0.005 U	0.0181	0.005 U	0.101 U	0.101 U	0.0252 U	0.0252 U	0.0378 U	0.101 U	0.0504 U	U	See PAH Table
Reach 4 West Bank	HAI	5237-100614-023	14-Jun-10	0 - 2.0	0.00539 U	0.0054 U	0.0188	0.0054 U	0.108 U	0.108 U	0.0269 U	0.0269 U	0.0404 U	0.108 U	0.0539 U	U	See PAH Table
Reach 4 East Bank	HAI	5237-100614-024	14-Jun-10	0 - 2.0	0.00522 U	0.0052 U	0.0112	0.0052 U	0.104 U	0.104 U	0.0261 U	0.0261 U	0.0392 U	0.104 U	0.0522 U	U	See PAH Table
Reach 5 West Bank	HAI	5237-100614-021	14-Jun-10	0 - 2.0	0.00537	0.0091	0.074	0.0332	0.092 U	0.092 U	0.023 U	0.023 U	0.0345 U	0.092 U	0.046 U	U	See PAH Table
Reach 5 East Bank	HAI	5237-100614-022	14-Jun-10	0 - 2.0	0.00448 U	0.0045 U	0.0362	0.0067	0.0897 U	0.0897 U	0.0224 U	0.0224 U	0.0336 U	0.0897 U	0.0448 U	U	See PAH Table
Doane Creek Composite Sediment Sampling - 2010																	
Reach 1 - composite	HAI	5237-100701-093	1-Jul-10	0 - 0.5	0.0755 U	0.0755 U	0.153	0.0755 U	**5.71**	1.51 U	0.377 U	0.377 U	0.566 U	1.51 U	0.755 UJ	U	See PAH Table
Reach 2 - composite	HAI	5237-100701-092	1-Jul-10	0 - 0.5	0.594 U	0.594 U	0.594 U	0.594 U	-	-	-	-	-	-	-	-	See PAH Table
Reach 3 - composite	HAI	5237-100701-091	1-Jul-10	0 - 0.5	0.0743 U	0.0743 U	0.0932	0.0743 U	1.49 U	1.49 U	0.372 U	0.372 U	0.557 U	1.49 U	0.743 UJ	U	See PAH Table
Reach 4 - composite	HAI	5237-100701-090	1-Jul-10	0 - 0.5	0.0569 U	0.0569 U	0.0569 U	0.0569 U	-	-	-	-	-	-	-	-	See PAH Table
Reach 5 - composite	HAI	5237-100701-089	1-Jul-10	0 - 0.5	0.016 U	0.016 U	0.0325	0.016 U	0.32 U	0.32 U	0.0801 U	0.0801 U	0.12 U	0.32 U	0.16 UJ	U	See PAH Table

Note:
bgs = below ground surface
EPA = U.S. Environmental Protection Agency
J = estimated concentration
mg/kg = milligrams per kilogram
NA = Not analyzed
NV = Risk Screening Level not established

PAH = polynuclear aromatic hydrocarbons
ppm = parts per million
SVOCs = semi-volatile organic compounds
U = analyte not detected above detection limit indicated
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.

"-" = Determinant not analyzed
1 = Risk Screening Level Value Source: Portland Harbor Joint Source Control Strategy (December 2005) - Lower of either "MacDonald PECs and other SQVs" or "DEQ 2007 Bioaccumulative Sediment SLV"

TABLE 15 – Summary of Analytical Results for Doane Creek Embankment Soil & Sediment Samples (2010): Total Petroleum Hydrocarbons by NWTPH and EPH/VPH Methods

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth	Analytical Results - mg/ kg (ppm)																					
					Northwest Method TPH			VPH							EPH										
					NWTPH-Gx	NWTPH-Dx		Aliphatics				Aromatics			Aliphatics					Aromatics				
				(feet bgs)	Gasoline-Range	Diesel-Range	Oil-Range	C5-6	C6-8	C8-10	C10-12	C8-10	C10-12	C12-13	C8-10	C10-12	C12-16	C16-21	C-21-34	C8-10	C10-12	C12-16	C16-21	C21-34
				Screening Level Values	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV	NV
Doane Creek Composite Embankment Soil Sampling - 2010																									
Reach 1 West Bank	HAI	5237-100616-057	16-Jun-10	0 - 2.0	7.55 U	31. U	65.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 1 East Bank	HAI	5237-100616-058	16-Jun-10	0 - 2.0	7.3 U	33.7 U	72.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 2 West Bank	HAI	5237-100616-059	16-Jun-10	0 - 2.0	8.09 U	35.3 U	70.5 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 2 East Bank	HAI	5237-100616-060	16-Jun-10	0 - 2.0	7.54 U	36. U	72. U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-100616-061 (Dup)			6.98 U	35.9 U	71.7 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 3 West Bank	HAI	5237-100615-040	15-Jun-10	0 - 2.0	7.77 U	32. U	63.9 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 3 East Bank	HAI	5237-100615-041	15-Jun-10	0 - 2.0	7.9 U	32.4 U	64.9 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 4 West Bank	HAI	5237-100614-023	14-Jun-10	0 - 2.0	7.94 U	33.9 U	67.9 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 4 East Bank	HAI	5237-100614-024	14-Jun-10	0 - 2.0	7.69 U	35. U	69.9 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 5 West Bank	HAI	5237-100614-021	14-Jun-10	0 - 2.0	7.88 U	35. U	70. U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 5 East Bank	HAI	5237-100614-022	14-Jun-10	0 - 2.0	8.29 U	35.1 U	70.1 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Doane Creek Composite Sediment Sampling - 2010																									
Reach 1 - composite	07/01/2010	5237-100701-093	1-Jul-10	0 - 0.5	7.35 U	37.1	468.	13. U	13. U	13. U	13. U	13. U	13. U	13. U	2.8 U	2.8 U	2.8 U	2.8 U	79.	2.8 U	2.8 U	2.8 U	7.2	79.
Reach 2 - composite	07/01/2010	5237-100701-092	1-Jul-10	0 - 0.5	7.6 U	40.6 U	200.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 3 - composite	07/01/2010	5237-100701-091	1-Jul-10	0 - 0.5	7.39 U	36.2 U	171.	13. U	13. U	13. U	13. U	13. U	13. U	13. U	2.7 U	2.7 U	2.7 U	2.7 U	18.	2.7 U	2.7 U	4.8	2.7 U	23.
Reach 4 - composite	07/01/2010	5237-100701-090	1-Jul-10	0 - 0.5	7.18 U	39.7 U	147.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Reach 5 - composite	07/01/2010	5237-100701-089	1-Jul-10	0 - 0.5	6.82 U	35.1 U	70.1 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Note:

"-" = Determinant not analyzed
bgs = below ground surface
EPA = U.S. Environmental Protection Agency
EPH = Extractable Petroleum Hydrocarbons
HAI = Hahn and Associates, Inc.
J = estimated concentration
mg/kg = milligrams per kilogram
NV = Risk Screening Level not established
ppm = parts per million
TPH = total petroleum hydrocarbons
U = not detected above detection limit indicated
VPH = Volatile Petroleum Hydrocarbons

TABLE 16 – Summary of Analytical Results for Doane Creek Embankment Soil and Sediment Samples: Total Metals by EPA 6020 or 6010B

Soil Sample Location	Collected By	Sample Number	Sample Date	Sample Depth (feet bgs)	Analytical Results - mg/kg (ppm)												
					Total Metals by EPA Methods 6010B or 6020												
					Aluminum	Antimony	Arsenic	Cadmium	Chromium	Copper	Iron	Lead	Manganese	Mercury	Nickel	Vanadium	Zinc
				Screening Level Values [1]	NV	64.	7.	1.	111.	149.	NV	17.	1,100.	0.07	48.6	NV	459.
				Naturally Occuring Background Level [2]	NV	4.	7.	1.	42.	36.	NV	17.	NV	0.07	38.	NV	86.
Doane Creek Composite Embankment Soil Sampling - 2010																	
Reach 1 West Bank	HAI	5237-100616-057	06/16/2010	0 - 2.0	13,600. J	1.32 U	3.1	1.32 U	14.7	17.6	45,500.	12.1	**1,410.**	0.105 U	9.62	135. J	70.9 J
Reach 1 East Bank	HAI	5237-100616-058	06/16/2010	0 - 2.0	12,300. J	1.27 U	2.55 U	1.27 U	12.1	22.	40,200.	**18.9**	**1,440.**	0.102 U	10.	115. J	86.6 J
Reach 2 West Bank	HAI	5237-100616-059	06/16/2010	0 - 2.0	16,400. J	1.38 U	**7.47**	1.38 U	17.3	23.2	37,800.	14.4	**1,180.**	0.111 U	16.1	99. J	71.7 J
Reach 2 East Bank	HAI	5237-100616-060	06/16/2010	0 - 2.0	18,800. J	1.4 U	**10.8**	1.4 U	21.1	25.3	37,800.	17.	685.	0.112 U	17.2	98.3 J	77.9 J
		5237-100616-061 (Dup)			20,300. J	1.43 U	**12.7**	1.43 U	22.3	28.4	41,200.	18.	685.	0.114 U	19.6	102. J	84.4 J
Reach 3 West Bank	HAI	5237-100615-040	06/15/2010	0 - 2.0	19,000. J	1.33 U	**11.3**	1.33 U	21.8	27.3	36,100.	**18.4**	1,060.	0.106 U	21.2	103. J	84.7
Reach 3 East Bank	HAI	5237-100615-041	06/15/2010	0 - 2.0	17,000. J	1.42 U	**13.5**	1.42 U	22.2	28.9	34,300.	**18.5**	763.	0.113 U	20.9	101. J	85.2
Reach 4 West Bank	HAI	5237-100614-023	06/14/2010	0 - 2.0	14,700.	1.43 U	**9.46**	1.43 U	20.	22.	31,900.	**17.2**	708.	0.115 U	18.4	88.7	72.6
Reach 4 East Bank	HAI	5237-100614-024	06/14/2010	0 - 2.0	20,100.	1.45 U	**11.3**	1.45 U	24.6	29.4	40,500.	16.2	739.	0.116 U	21.1	118.	86.
Reach 5 West Bank	HAI	5237-100614-021	06/14/2010	0 - 2.0	17,000.	1.36 U	**9.04**	1.36 U	20.7	22.5	32,600.	15.	811.	0.109 U	17.3	88.7	75.
Reach 5 East Bank	HAI	5237-100614-022	06/14/2010	0 - 2.0	16,400.	1.43 U	**11.3**	1.43 U	21.7	25.2	34,000.	**23.4**	988.	0.115 U	19.9	87.6	81.8
Doane Creek Composite Sediment Sampling - 2010																	
Reach 1 - composite	HAI	5237-100701-093	1-Jul-10	0 - 0.5	9,490.	1.37 U	2.73 U	1.37 U	32.3	14.7	25,800.	11.	944.	0.109 U	10.2	74.4	79.7
Reach 2 - composite	HAI	5237-100701-092	1-Jul-10	0 - 0.5	11,100.	1.37 U	4.16	1.37 U	13.7 U	17.3	26,900.	15.1	776.	0.109 U	11.6	70.5	74.1
Reach 3 - composite	HAI	5237-100701-091	1-Jul-10	0 - 0.5	11,400.	1.37 U	2.94	1.37 U	13.7 U	11.5	26,600.	13.6	747.	0.109 U	9.72	70.4	78.5
Reach 4 - composite	HAI	5237-100701-090	1-Jul-10	0 - 0.5	8,450.	1.41 U	2.82 U	1.41 U	14.1 U	15.8	20,200.	12.	**1,690.**	0.113 U	8.83	58.2	60.1
Reach 5 - composite	HAI	5237-100701-089	1-Jul-10	0 - 0.5	10,600.	1.35 U	2.7 U	1.35 U	13.5 U	12.3	27,000.	10.3	741.	0.108 U	7.23	69.7	52.1

Note:

bgs = below ground surface
EPA = U.S. Environmental Protection Agency
J = estimated concentration
mg/kg = milligrams per kilogram

NV = Risk Screening Level not established
ppm = parts per million
U = not detected above detection limit indicated

1 = Risk Screening Level Value Source: Portland Harbor Joint Source Control Strategy (December 2005) - Lower of either "MacDonald PECs and other SQVs" or "DEQ 2007 Bioaccumulative Sediment SLV"
2 = Oregon Department of Environmental Quality Default Background Concentrations for Metals (October 2002)
Bold = Bolded concentration exceedsboth the indicated Screening Level Value and naturally-occurring background level..

Table 17 - Summary of Analytical Results for Doane Creek Surface Water Samples (2010): BTEX, Total PAHs, and Cyanide

Sampling Station	Sample Collected by	HAI Sample Number	Sample Date	Sampling Event (Season/Conditions)	Analytical Results															
					EPA Method 8260B ug/l (ppb)								EPA Method 335/4 (Total), SM 4500-CN G/C/E/I (Amenable & WAD), ASTM 4282D (Free) mg/l (ppm)								EPA Method 8270C SIM or 8270D ug/l (ppb)	
					Benzene		Toluene		Ethylbenzene		Total Xylenes		Total Cyanide		Amenable Cyanide		Free Cyanide		WAD Cyanide		LPAH	HPAH
				Risk Screening Level[1]	0.41[e]		9.8		1.5[e]		200.		0.00052		NV		0.00052		NV		NV	NV
Reach 1 (SW-1)	HAI	5237-100915-DC-SW-1-101	15-Sep-10	(Dry/No Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0072**		0.0072	J	0.005	U	0.0058		0.2611	0.2478
		5237-100915-DC-SW-1-100 Dup	15-Sep-10		0.25	U	1.	U	0.5	U	1.	U	**0.0103**		0.005	UJ	0.005	U	0.005	U	0.3715	0.1999
		5237-101024-SW1-101	24-Oct-10	(Dry/Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0096**		0.005	UJ	0.005	U	0.005		0.0643	1.2539
		5237-101024-SW1-107	24-Oct-10		0.25	U	1.	U	0.5	U	1.	U	**0.0077**		0.02	UJ	0.005	U	0.0079		0.0553	1.0607
Reach 2 (SW-2)	HAI	5237-100915-DC-SW-2-102	15-Sep-10	(Dry/No Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0073**		0.005	UJ	0.005	U	0.005	U	0.0988	0.1076
		5237-101024-SW2-102	24-Oct-10	(Dry/Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0108**		0.005	UJ	0.005	U	0.0059		0.3812	6.109
Reach 3 (SW-3)	HAI	5237-100915-DC-SW-3-103	15-Sep-10	(Dry/No Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0087**		0.0087	J	0.005	U	0.005	U	0.0367	0.3612
		5237-101024-SW3-103	24-Oct-10	(Dry/Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0065**		0.005	UJ	0.005	U	0.0053		0.184	2.7326
Reach 4 (SW-4)	HAI	NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-		-		-		-		-		-		-		-		-	-
		5237-101024-SW4-104	24-Oct-10	(Dry/Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0062**		0.0062	J	0.005	U	0.0066		0.0628	0.4822
Reach 5 (SW-5)	HAI	NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-		-		-		-		-		-		-		-		-	-
		5237-101024-SW5-105	24-Oct-10	(Dry/Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0072**		0.005	UJ	0.005	U	0.006		0.069	0.7071
Northwest Drainage Pond (SW-6)	HAI	5237-101024-SW6-106	24-Oct-10	(Dry/Rain)	0.25	U	1.	U	0.5	U	1.	U	**0.0084**		0.005	UJ	0.005	U	0.0065		0.0646	0.712
Quality Control Samples (Trip Blanks)																						
	HAI	5237-101024-TB-1	24-Oct-10	(Dry/Rain)	0.25	U	1.	U	0.5	U	1.	U	-		-		-		-		-	-

Note:

DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
HPAH = High Molecular Weight Polynuclear Aromatic Hydrocarbons
J = Estimated Concentration
LPAH = Low Molecular Weight Polynuclear Aromatic Hydrocarbons
MCL = Maximum Contaminant Level
mg/l = milligrams per liter
NS or "-" = No sample obtained - Doane Creek dry at the sampling station
NV = Risk Screening Level not established
ppb = parts per billion
ppm = parts per million
PRG = Preliminary Remediation Goal
SLV = Screening Level Value
ug/l = micrograms per liter
U = Non-detect above method reporting limit
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.

1 = Unless otherwise noted Risk Screening Level Values are from *Portland Harbor Joint Service Control Strategy (JSCS), Final*, December 2005 (7/16/07 revision)
e = Originally referenced EPA MCL or Region 3,6,9 Tapwater PRG in JSCS is no longer current. Most recent (12/09) EPA MCL or Region 3,6,9 Tapwater PRG stated.
BOLD = Detected concentration is greater than indicated Risk Screening Level.

Table 18 - Summary of Analytical Results for Doane Creek Surface Water Samples (2010): Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270C SIM or 8270D

					Analytical Results in ug/L (ppb)																	
Sampling Station	Collected by	Sample Number	Sample Date	Sampling Event (Season/Conditions)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
				Risk Screening Level [1]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]	0.2[a]		
Reach 1 (SW-1)	HAI	5237-100915-DC-SW-1-101	15-Sep-10	(Dry/No Rain)	0.189	0.0187 U	0.0187 U	0.0187	0.0347	0.0382	0.0222	0.0178 J	0.0204	0.0187 U	0.0393	0.0539	0.0207	0.0374 U	0.0182 J	0.0358	0.2611	0.2478
		5237-100915-DC-SW-1-100 (Dup)	15-Sep-10		**0.27**	0.019 U	0.019 U	0.0145 J	0.0269 J	0.0299	0.0158 J	0.0152 J	0.0133 J	0.019 U	0.0358	0.0794	0.0159 J	0.0381 U	0.0221	0.0326	0.3715	0.1999
		5237-101024-SW1-101	24-Oct-10	(Dry/Rain)	0.0681 U	0.0195 U	0.0195 U	0.0849	0.149	**0.21**	0.127	0.0621	0.133	0.0259	0.17	0.0195 U	0.125	0.039 U	0.0643	0.167	0.0643	1.2539
		5237-101024-SW1-107 (Dup)	24-Oct-10		0.0559 U	0.0193 U	0.0193 U	0.0783	0.126	0.187	0.0935	0.0563	0.114	0.0236	0.143	0.0193 U	0.1	0.0386 U	0.0553	0.139	0.0553	1.0607
Reach 2 (SW-2)	HAI	5237-100915-DC-SW-2-102	15-Sep-10	(Dry/No Rain)	0.0577	0.019 U	0.019 U	0.0115 J	0.0185 J	0.0193	0.019 U	0.0127 J	0.019 U	0.019 U	0.0265	0.0255	0.019 U	0.0381 U	0.0156 J	0.0191	0.0988	0.1076
	HAI	5237-101024-SW2-102	24-Oct-10	(Dry/Rain)	0.0863 U	0.0212	0.0535	**0.461**	**0.782**	**1.04**	**0.545**	**0.317**	0.633	0.129	**0.819**	0.0345	**0.567**	0.04 U	**0.272**	**0.816**	0.3812	6.109
Reach 3 (SW-3)	HAI	5237-100915-DC-SW-3-103	15-Sep-10	(Dry/No Rain)	0.0128 J	0.0192 U	0.0192 U	0.0282	0.0522	0.0582	0.0307	0.0257	0.0334	0.0192 U	0.0526	0.0192 U	0.0315	0.0385 U	0.0239	0.0487	0.0367	0.3612
	HAI	5237-101024-SW3-103	24-Oct-10	(Dry/Rain)	0.0495 U	0.0195 U	0.0251	0.197	**0.332**	**0.47**	**0.25**	0.151	**0.289**	0.0566	**0.375**	0.0239	**0.25**	0.039 U	0.135	**0.362**	0.184	2.7326
Reach 4 (SW-4)	HAI	NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-101024-SW4-104	24-Oct-10	(Dry/Rain)	0.0926 U	0.0189 U	0.0189 U	0.0368	0.0527	0.0799	0.0423	0.0306	0.0525	0.0189 U	0.0726	0.0248	0.0468	0.0377 U	0.038	0.068	0.0628	0.4822
Reach 5 (SW-5)		NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	HAI	5237-101024-SW5-105	24-Oct-10	(Dry/Rain)	0.0813 U	0.0194 U	0.0194 U	0.048	0.0829	0.127	0.0671	0.0382	0.0741	0.0194 U	0.101	0.0233	0.0718	0.0388 U	0.0457	0.097	0.069	0.7071
Northwest Drainage Pond (SW-6)	HAI	5237-101024-SW6-106	24-Oct-10	(Dry/Rain)	0.0676 U	0.02 U	0.02 U	0.0497	0.0806	0.132	0.0643	0.0387	0.0772	0.02 U	0.105	0.0216	0.0653	0.04 U	0.043	0.0992	0.0646	0.712
Quality Control Samples (Field Blanks)																						
FB	HAI	5237-100915-DC-SW-FB1	15-Sep-10	(Dry/No Rain)	0.0211 U	0.0211 U	0.0211 U	0.0211 U	0.0316 U	0.0211 U	0.0211 U	0.0211 U	0.0211 U	0.0211 U	0.0211 U	0.0211 U	0.0211 U	0.0336 J	0.0211 U	0.0211 U	0.0336	U
FB	HAI	5237-101024-FB-100	24-Oct-10	(Dry/Rain)	0.0289	0.0191 U	0.0191 U	0.0191 U	0.0287 U	0.0191 U	0.0191 U	0.0191 U	0.0191 U	0.0191 U	0.0191 U	0.0191 U	0.0191 U	0.0387	0.0191 U	0.0191 U	0.0676	U

Note:

DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
HPAH = High Molecular Weight Polynuclear Aromatic Hydrocarbons
J = Estimated Concentration
LPAH = Low Molecular Weight Polynuclear Aromatic Hydrocarbons
MCL = Maximum Contaminant Level
NS or "-" = No sample obtained - Doane Creek dry at the sampling station
NV = Risk Screening Level not established
PAHs = polynuclear aromatic hydrocarbons
ppb = parts per billion
PRG = Preliminary Remediation Goal
SLV = Screening Level Value
ug/l = micrograms per liter
U = Non-detect above method reporting limit
1 = Unless otherwise noted Risk Screening Level Values are from *Portland Harbor Joint Service Control Strategy, Final*, December 2005 (7/16/07 revision)
a = Risk Screening Levels based on EPA MCL for Benzo(a)pyrene
BOLD = Detected concentration is greater than indicated Risk Screening Level.

Table 19 - Summary of Analytical Results for Doane Creek Surface Water Samples (2010): Detected SVOCs by EPA Method 8270C SIM or 8270D

Sampling Station	Collected By	Sample Number	Sample Date	Sampling Event (Season/Conditions)	Analytical Results (ug/L) ppb													
					1-Methylnaphthalene	2-Methylnaphthalene	Benzoic acid	Bis(2-ethylhexyl)phthalate	Butyl benzyl phthalate	Carbazole	Di-n-butylphthalate	Di-n-octyl phthalate	Dibenzofuran	Diethylphthalate	Dimethylphthalate	Pentachlorophenol (PCP)	PAHs	Other SVOCs
				Risk Screening Level [1]	2.3	0.2[a]	42.	2.2	3.	NV [e]	3[h]	3[h]	3.7	3[h]	3[h]	0.56		
Reach 1 (SW-1)	HAI	5237-100915-DC-SW-1-101	15-Sep-10	(Dry/No Rain)	0.0374 U	0.0374 U	1.87 U	0.871 J	0.935 U	0.0121 J	0.935 U	0.935 U	0.011 J	0.935 U	0.935 U	0.467 U	See PAH Table	U
		5237-100915-DC-SW-1-100 Dup			0.0381 U	0.0381 U	1.9 U	0.762 J	0.952 U	- R	0.952 U	0.952 U	0.0157 J	0.952 U	0.952 U	0.476 U	See PAH Table	U
	HAI	5237-101024-SW1-101	24-Oct-10	(Dry/Rain)	0.039 U	0.039 U	1.95 UJ	0.976 U	0.976 U	0.0293 U	0.976 U	0.976 U	0.0195 U	0.976 U	0.976 U	0.488 UJ	See PAH Table	U
		5237-101024-SW1-107			0.0386 U	0.0386 U	1.93 UJ	0.966 U	0.966 U	0.029 U	0.966 U	0.966 U	0.0193 U	0.966 U	0.966 U	0.483 UJ	See PAH Table	U
Reach 2 (SW-2)	HAI	5237-100915-DC-SW-2-102	15-Sep-10	(Dry/No Rain)	0.0381 U	0.0381 U	1.9 U	1.12	0.952 U	0.0103 J	0.952 U	0.952 U	0.019 U	0.952 U	0.952 U	0.476 U	See PAH Table	U
		5237-101024-SW2-102	24-Oct-10	(Dry/Rain)	0.04 U	0.04 U	2. UJ	1.03	1. U	0.0736	1. U	1. U	0.02 U	1. U	1. U	0.5 UJ	See PAH Table	U
Reach 3 (SW-3)	HAI	5237-100915-DC-SW-3-103	15-Sep-10	(Dry/No Rain)	0.0385 U	0.0385 U	1.92 U	1.02	0.962 U	0.0109 J	0.962 U	0.962 U	0.0192 U	0.962 U	0.962 U	0.481 U	See PAH Table	U
		5237-101024-SW3-103	24-Oct-10	(Dry/Rain)	0.039 U	0.039 U	1.95 UJ	1.77	0.976 U	0.0493	0.976 U	0.976 U	0.0195 U	0.976 U	0.976 U	0.488 UJ	See PAH Table	U
Reach 4 (SW-4)	HAI	NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-101024-SW4-104		(Dry/Rain)	0.0377 U	0.0377 U	1.89 UJ	0.943 U	0.943 U	0.0283 U	0.943 U	0.943 U	0.0189 U	0.943 U	0.943 U	0.472 UJ	See PAH Table	U
Reach 5 (SW-5)	HAI	NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-101024-SW5-105	24-Oct-10	(Dry/Rain)	0.0388 U	0.0388 U	1.94 UJ	0.971 U	0.971 U	0.0291 U	0.971 U	0.971 U	0.0194 U	0.971 U	0.971 U	0.485 UJ	See PAH Table	U
Northwest Drainage Pond (SW-6)	HAI	5237-101024-SW6-106	24-Oct-10	(Dry/Rain)	0.04 UJ	0.04 UJ	2. UJ	1. U	1. U	0.03 U	1. U	1. U	0.02 U	1. U	1. U	0.5 UJ	See PAH Table	U
Quality Control Samples (Field Blanks)																		
Field Blanks		5237-100915-DC-SW-FB1	15-Sep-10	(Dry/No Rain)	0.0421 U	0.0421 U	1.22 J	1.05 U	1.05 U	0.0211 U	1.05 U	1.05 U	0.0211 U	1.05 U	1.05 U	0.526 U	See PAH Table	U
		5237-101024-FB-100	24-Oct-10	(Dry/Rain)	0.0383 U	0.0383 U	1.91 UJ	0.957 U	0.957 U	0.0287 U	0.957 U	0.957 U	0.0191 U	0.957 U	0.957 U	0.478 UJ	See PAH Table	U

Note:

DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
J = Estimated Concentration
MCL = Maximum Contaminant Level

NS or "-" = No sample obtained - Doane Creek dry at the sampling station
NV = Risk Screening Level not established
R = Result rejected during validation review
ppb = parts per billion

SLV = Screening Level Value
ug/L = micrograms per liter
U = Not detected above detection limit indicated
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.

1 = Unless otherwise noted Risk Screening Level Values are from *Portland Harbor Joint Service Control Strategy, Final*, December 2005 (7/16/07 revision)
a = MCL is based on benzo(a)pyrene
e = Originally referenced EPA MCL or Region 3,6,9 Tapwater PRG in JSCS is no longer current. Most recent (12/09) EPA MCL or Region 3,6,9 Tapwater PRG stated.
f = Originally stated SLV in JSCS is no longer current. Lowest alternative SLV from JSCS stated.
h = Values taken from Table 33c (OAR 340-41), which are Water Quality Guidance Values, not criteria, that can be used in the application of Oregon's Narrative Toxics Criteria to waters of the state in order to protect aquatic life.
BOLD = Detected concentration is greater than indicated Risk Screening Level.

Table 20 - Summary of Analytical Results for Doane Creek Surface Water Samples (2010): Detected Volatile Organic Compounds (VOCs) by EPA Method 8260

Sampling Station	Collected By	Sample Number	Sample Date	Sampling Event (Season/Conditions)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Other VOCs
				Risk Screening Level[1]	0.41[e]	9.8	1.5[e]	1.8	13.	200.	50.	0.2[a]	100.	680[e]	NV	NV	NV	130[f]	96[f]	0.43[e]	2[e]	0.11[e]	110.	70[e]	
Reach 1 (SW-1)	HAI	5237-100915-DC-SW-1-101	15-Sep-10	(Dry/No Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
		5237-100915-DC-SW-1-100 (Dup)			0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
		5237-101024-SW1-101	24-Oct-10	(Dry/Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
		5237-101024-SW1-107 (Dup)			0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
Reach 2 (SW-2)	HAI	5237-100915-DC-SW-2-102	15-Sep-10	(Dry/No Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
		5237-101024-SW2-102	24-Oct-10	(Dry/Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
Reach 3 (SW-3)	HAI	5237-100915-DC-SW-3-103	15-Sep-10	(Dry/No Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
		5237-101024-SW3-103	24-Oct-10	(Dry/Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
Reach 4 (SW-4)	HAI	NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-101024-SW4-104	24-Oct-10	(Dry/Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
Reach 5 (SW-5)	HAI	NS (Doane Creek Dry)	15-Sep-10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-101024-SW5-105	24-Oct-10	(Dry/Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
Northwest Drainage Pond (SW-6)	HAI	5237-101024-SW6-106	24-Oct-10	(Dry/Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U
QC Samples (Trip Blanks)																									
Trip Blank	HAI	5237-101024-TB-1	24-Oct-10	(Dry/Rain)	0.25 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	1. U	1. U	0.5 U	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	U

Note:

DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
J = Estimated Concentration
MCL = Maximum Contaminant Level

SLV = Screening Level Value
ug/L = micrograms per liter
U = Non-detect above method detection limit
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.

1 = Unless otherwise noted Risk Screening Level Values are from *Portland Harbor Joint Service Control Strategy, Final*, December 2005 (7/16/07 revision)
a = MCL is based on benzo(a)pyrene
e = Originally referenced EPA MCL or Region 3,6,9 Tapwater PRG in JSCS is no longer current. Most recent (12/09) EPA MCL or Region 3,6,9 Tapwater PRG stated.
f = Originally referenced EPA MCL or Region 3,6,9 Tapwater PRG in JSCS is no longer current. Lowest alternative SLV from JSCS stated.
BOLD = Detected concentration is greater than indicated Risk Screening Level.

Table 21 - Summary of Analytical Results for Doane Creek Surface Water Samples (2010): Priority Pollutant Metals by EPA Methods 6010 and 6020

Sampling Station	Collected by	Sample Number	Sample Date	Sampling Event (Season/Conditions)	Analytical Results - mg/l (ppm)																					
					Total Aluminum	Total Antimony	Total Arsenic	Total Barium	Total Beryllium	Total Cadmium [5]	Total Calcium	Total Chromium	Total Copper [5]	Total Iron	Total lead [5]	Total Magnesium	Total Manganese	Total Mercury	Total Nickel [5]	Total Potassium	Total Selenium	Total Silver [5]	Total Sodium	Total Thallium	Total Vanadium	Total Zinc [5]
				Risk Screening Level [1]	0.2[b]	0.006	0.000045	NV	NV	0.000094	NV	0.1	0.0027	NV	0.00054	NV	0.05[b]	0.00077	0.016	NV	0.005[c]	0.00012[d]	NV	NV	NV	0.036
Reach 1 (SW-1)	HAI	5237-100915-DC-SW-1-101	09/15/10	(Dry/No Rain)	0.157 J	0.001 U	**0.00073** J	0.0213	0.001 U	0.001 U	11.7	0.00109 J	0.00177 J	0.675	0.00036 J	3.99	**0.226**	0.00008 U	0.00072 J	1.36	0.00077 J	0.001 U	5.85	0.001 U	0.00261	0.00591
		5237-100915-DC-SW-1-100 (Dup)			0.5 U	0.001 U	**0.00069** J	0.0209	0.001 U	0.001 U	11.6	0.00124 J	0.00186 J	0.676	0.00033 J	3.94	**0.231**	0.00008 U	0.00076 J	1.34	0.0009 J	0.001 U	5.83	0.001 U	0.00278	0.00594
		5237-101024-SW1-101	10/24/10	(Dry/Rain)	**0.806**	0.001 U	0.002 U	0.025	0.001 U	0.001 U	8.26	0.002 U	5.83 U	1.47	**0.001**	2.94	**0.0367**	0.00008 U	0.002 U	1.51	0.002 U	0.001 U	4.3	0.001 U	0.00454	0.013
		5237-101024-SW1-107 (Dup)			**0.911**	0.001 U	0.002 U	0.0251	0.001 U	0.001 U	7.86	0.00201	0.004 U	1.52	**0.00113**	2.96	0.0428	0.00008 U	0.002 U	1.49	0.002 U	0.001 U	4.55	0.001 U	0.00436	0.0158
Reach 2 (SW-2)	HAI	5237-100915-DC-SW-2-102	09/15/10	(Dry/No Rain)	0.5 U	0.001 U	**0.00082** J	0.0192	0.001 U	0.001 U	12.1	0.00118 J	0.00221 J	0.545	0.00027 J	4.16	**0.0671**	0.00008 U	0.00079 J	1.53	0.00076 J	0.001 U	5.96	0.001 U	0.00269	0.00412
		5237-101024-SW2-102	10/24/10	(Dry/Rain)	**3.27**	0.001 U	0.002 U	0.059	0.001 U	0.001 U	7.58	0.00573	**0.0128**	6.4	**0.00802**	3.	**0.288**	0.00008 U	0.00394	1.45	0.002 U	0.001 U	3.73	0.001 U	0.0148	0.0532
Reach 3 (SW-3)	HAI	5237-100915-DC-SW-3-103	09/15/10	(Dry/No Rain)	0.5 U	0.001 U	**0.00086** J	0.0189	0.001 U	0.001 U	11.3	0.00131 J	0.0023 J	0.371	0.00028 J	3.91	0.0465	0.00008 U	0.00082 J	1.7	0.00056 J	0.001 U	6.13	0.001 U	0.00258	0.00429
		5237-101024-SW3-103	10/24/10	(Dry/Rain)	0.851	0.001 U	0.002 U	0.0277	0.001 U	0.001 U	5.26	0.00268	**0.00776**	1.77	**0.00336**	1.88	**0.064**	0.00008 U	0.002 U	1.21	0.002 U	0.001 U	3.67	0.001 U	0.00433	0.0284
Reach 4 (SW-4)	HAI	NS (Doane Creek Dry)	09/15/10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-101024-SW4-104	10/24/10	(Dry/Rain)	**0.743**	0.001 U	0.002 U	0.0234	0.001 U	0.001 U	8.06	0.002 U	0.004 U	1.4	0.001 U	2.89	0.0386	0.00008 U	0.002 U	1.59	0.002 U	0.001 U	4.19	0.001 U	0.00419	0.0105
Reach 5 (SW-5)	HAI	NS (Doane Creek Dry)	09/15/10	(Dry/No Rain)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-101024-SW5-105	10/24/10	(Dry/Rain)	**0.657**	0.001 U	0.002 U	0.0218	0.001 U	0.001 U	7.53	0.002 U	0.004 U	1.25	0.001 U	2.63	0.0341	0.00008 U	0.002 U	1.46	0.002 U	0.001 U	3.77	0.001 U	0.00394	0.0113
Northwest Drainage Pond (SW-6)	HAI	5237-101024-SW6-106	10/24/10	(Dry/Rain)	**0.519**	0.001 U	0.002 U	0.0203	0.001 U	0.001 U	6.53	0.002 U	0.004 U	1.11	**0.00106**	2.44	**0.0547**	0.00008 U	0.002 U	1.49	0.002 U	0.001 U	5.13	0.001 U	0.00351	0.0109

Notes:

DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
J = Estimated Concentration

MCL = Maximum Contaminant Level
mg/l = milligrams/liter
NS or "-" = No sample obtained - Doane Creek dry at the sampling station
NV = Risk Screening Level not established

ppm = parts per million
PRG = Potential Remediation Goal
SLV = Screening Level Value
U = not detected above method reporting limit indicated

1 = Unless otherwise noted Risk Screening Level Values are from *Portland Harbor Joint Service Control Strategy, Final*, December 2005 (7/16/07 revision)
b = EPA National Secondary Drinking Water Standard
c = This metal is listed as the total recoverable metal in the water column.
d = These values were taken from OAR 340-41 Table 20 because they will remain the enforceable values for these particular analytes.

Table 22 - Indicator and General Chemistry Results for Doane Creek Surface Water Samples (2010)

Sampling Station	Collected by	HAI Sample Number	Sample Date	Sampling Event (Season/Conditions)	EPA Method 300.0			Field Measurements			
					Chloride	Nitrate-Nitrogen	Sulfate	pH	Specific Conductivity	Temperature	Water Level
				Units ==>	mg/l	mg/l	mg/l	pH Units	uS/cm	^{0}C	Ft CoP
Reach 1 (SW-1)	HAI	5237-100915-DC-SW-1-101	15-Sep-10	(Dry/No Rain)	4.22	0.25 U	4.39	7.33	140.1	18.9	29.3
		5237-100915-DC-SW-1-100 Dup	15-Sep-10	-	4.23	0.25 U	4.36	-	-	-	-
		NS (Water Level Only)	21-Sep-10	-	-	-	-	-	-	-	29.36
		NS (Water Level Only)	21-Oct-10	-	-	-	-	-	-	-	29.07
		5237-101024-SW1-101	24-Oct-10	(Dry/Rain)	3.88	1.8	4.06	6.7	96	13	29.38
		5237-101024-SW1-107	24-Oct-10		4.02	1.8	4	-	-	-	-
Reach 2 (SW-2)	HAI	5237-100915-DC-SW-2-102	15-Sep-10	(Dry/No Rain)	4.22	0.25 U	4.37	7.56	127.3	19.1	-
		5237-101024-SW2-102	24-Oct-10	(Dry/Rain)	4.04	1.18	3.44	7.19	82.4	13.1	-
Reach 3 (SW-3)	HAI	5237-100915-DC-SW-3-103	15-Sep-10	(Dry/No Rain)	4.22	0.25 U	4.45	7.55	160.3	20.2	27.64
		NS (Water Level Only)	21-Sep-10	-	-	-	-	-	-	-	27.87
		NS (Water Level Only)	21-Oct-10	-	-	-	-	-	-	-	27.6
		5237-101024-SW3-103	24-Oct-10	(Dry/Rain)	5.33	0.8	3.01	6.89	68	13	27.87
Reach 4 (SW-4)	HAI	NS (Creek Dry)	15-Sep-10	(Dry/No Rain)	-	-	-	-	-	-	Dry
		5237-101024-SW4-104	24-Oct-10	(Dry/Rain)	3.4	1.47	3.73	7.96	87	13	-
Reach 5 (SW-5)	HAI	NS (Creek Dry)	15-Sep-10	(Dry/Dry)	-	-	-	-	-	-	Dry
		NS (Water Level Only)	21-Sep-10	-	-	-	-	-	-	-	24.36
		NS (Water Level Only)	21-Oct-10	-	-	-	-	-	-	-	24.09
		5237-101024-SW5-105	24-Oct-10	(Dry/Rain)	3.2	1.25	3.53	8.15	87.3	13.2	24.32
Northwest Drainage Pond (SW-6)	HAI	5237-101024-SW6-106	24-Oct-10	(Dry/Rain)	4.02	0.884	3.76	7.95	83	13	-

Note:

^{0}C = Degrees Celsius
CoP = City of Portland Datum
EPA = Environmental Protection Agency
J - Estimated Concentration
mg/l = milligrams per liter
MSL = Mean Sea Level
NS = No Sample (Doane Creek was dry at that station on that day)
U = Non-detect above method reporting limits
uS/cm = microsiemens per centimeter

TABLE 23
Summary of DNAPL Testing Results: Physical and Chemical

Parameter	Unit of Measure	Gasco Property Wells					Siltronic Property Wells			
		Surficial Fill Unit			Alluvial Unit		Surficial Fill Unit		Alluvial Unit	
		Well MW-6-32	Well MW-10-25	Well MW-11-32	Well MW-16-45	Well PW-01-80	Well WS-10-27		Well WS-15-85	Well WS-11-125
		Sample Date: 14-Dec-98	Sample Date: 14-Dec-98	Sample Date: 14-Dec-98	Sample Date: 11-Oct-04	Sample Date: 21-Feb-07	Sample Date: 4-Jan-07	Sample Date: 3-Feb-09	Sample Date: 3-Feb-09	Sample Date: 27-Apr-04
		Screen: 22-32 feet bgs	Screen: 15-25 feet bgs	Screen: 22-32 feet bgs	Screen: 30-45 feet bgs	Screen: 40-80 feet bgs	Screen: 11-26 feet bgs		Screen: 70-85 feet bgs	Screen: 110-125 feet bgs
		Sample No.2708-981214-MW6-32-01	Sample No. 2708-981214-MW10-25-02	Sample No. 2708-981214-MW11-32-03	Sample No. 2708-041011MW-16-45-0il	Sample No. 2708-070221-PW01-Oil	Sample No. WS10070104	Sample No. 5237-090203-WS10-27	Sample No. 5237-090203-WS15-85	Sample No. WS11-125-N
Total Metals [1]	mg/kg (ppm)									
Aluminum				-	-	-	-	30.	5.	-
Antimony				-	-	-	-	ND>0.9	ND>0.9	-
Arsenic		2.75	3.85	-	-	-	-	4.0 B	3.5 B	-
Barium		ND>0.500	0.7	-	-	-	-	-	-	-
Cadmium		ND>0.500	ND>0.500	-	-	-	-	ND>0.1	ND>0.1	-
Chromium		0.7	0.85	-	-	-	-	ND>0.3	ND>0.3	-
Copper				-	-	-	-	0.5 B	ND>0.4	-
Iron				-	-	-	-	38.8	21.2	-
Lead		ND>10	ND>10	-	-	-	-	ND>1.4	ND>1.3	-
Manganese				-	-	-	-	0.72 B	0.20 B	-
Mercury		0.059	ND>0.0500	-	-	-	-	0.003 B	0.007 B	-
Nickel				-	-	-	-	10.1	8.5	-
Selenium		0.55	ND>0.500	-	-	-	-	-	-	-
Silver		ND>0.500	ND>0.500	-	-	-	-	-	-	-
Vanadium		-	-	-	-	-	-	8.9	6.84	-
Zinc		-	-	-	-	-	-	0.5 B	1.	-
Aromatic Hydrocarbons [2]	mg/kg (ppm)									
Benzene		589.	14,400.	2,740.	ND>10.0	1,000.	874.	1,300.	1,700.	271.
cis-1,2-DCE		-	-	-	ND>10	ND>764	ND>20	ND>130	240.	188.
Ethylbenzene		2,220.	5,320.	1,760.	34.4	2,228.	807.	1,200.	1,600.	925.
Isopropylbenzene		-	-	-	ND>20	ND>1,590	69.4	95 J	120 J	ND>50
n-Propylbenzene		-	-	-	ND>10	ND>794	32.8	48 J	49 J	ND>50
1,2,4-Trimethylbenzene		-	-	-	54.9	976.	394.	570.	850.	434.
1,3,5-Trimethylbenzene		-	-	-	16.2	ND>794	147.	200 J	270 J	121.
Naphthalene		-	-	-	1,720.	75,400.	39,500.	48,000.	82,000.	114,000.
Toluene		ND>5.00	21,900.	2,950.	17.8	ND>794	43.1	58 J	170.	194.
Trichloroethene		-	-	-	ND>10	ND>794	ND>20	ND>130	ND>130	59.6
Xylene		1,240.	19,500.	4,400.	66.1	ND>1,590	664.	1,350.	1,900.	720.
PAHs [3]	mg/kg (ppm)									
Total PAHs		214,900.	189,700.	164,470.	32,787.	46,910.		82,100.	207,500.	133,332.
Petroleum Hydrocarbon ID [4]	None									
Gasoline-Range (mg/kg)		Detected [12]	Detected [12]	Detected [12]	Not Detected	22,900	-	-	-	14.9
Diesel-Range (mg/kg)		Detected [12]	Detected [12]	Detected [12]	Detected [12]	545,000 [12]	-	580,000 [12]	640,000 [12]	347
Heavy Oil-Range (mg/kg)		Detected [12]	Detected [12]	Detected [12]	Detected [12]	175,000 [12]	-	-	-	73.1
Other Physical and Chemical Tests										
Total Cyanide [5, 14]	mg/kg (ppm)	ND>0.200	ND>0.200	-	-	-	-	0.32	0.33	-
Reactive Sulfide [6]	mg/kg (ppm)	434.	ND>50.0	-	-	-	-	-	-	-
Specific Gravity [7]	gm/cc	1.05	1.05	1.09	1.084 @ 70F; 1.079 @100F; 1.080 @130F	1.1006 @ 70F; 1.0955 @100F; 1.0920 @130F	-	1.134 @ 55F;1.134 @ 70F; 1.125 @ 100F; 1.118 @ 130F	1.118 @ 55F; 1.20 @ 70F; 1.108 @ 100F; 1.103 @ 130F	1.09
Viscosity [8]	cSt	7.2 @ 50C (122F)	14.7 @ 50C (122F)	45.7 @ 50C (122F)	105 @ 70F; 40.1@100F; 18.7@130F	65.6 @ 70F; 24.1@100F; 13.3 @130F	-	1,148 @ 55F; 502 @ 70F 115 @ 100F; 36 @ 130F.	283 @ 55F; 142 @ 70F; 44.7 @ 100F; 19.8 @ 130F	-
Ignitability [9]	degrees F	No Flash to 150 degrees F	94.0 degrees F	-	No Flash to 150 degrees F	No Flash to 150 degrees F	-	No Flash to 230 degrees F	197.6 degrees F	-
Heating Value [10]	BTU/lb	9,230.	12,230.	12,280.	-	-	-	16,600.	12,900.	-
pH [11]	pH unit	6.26	4.3	-	8.28	7.1	-	6.37	5.87	7.01
Interfacial / Surface Tension [13]	dynes/centimeter									
Water with Air		-	-	-	66.7 @ 70F	66.9 @ 75F	-	69.8 @ 70F	72.1 @ 70F	-
DNAPL with Air		-	-	-	34.9 @ 70F	36.2 @ 75F	-	36.5 @ 70F	37 @ 70F	-
DNAPL with Water		-	-	-	14.2 @ 70F	15.8 @ 75F	-	23 @ 70F	22 @ 70F	-

NOTE:

1 = EPA Method 6010/6020/7471
2 = EPA Method 8020A or EPA 8260B
3 = EPA Method 8270 SIM
4 = EPA Method 8015M or NW-TPH Methodology or EPA 8015
5 = EPA Method 9010A
6 = EPA Method 9030
7 = SM 2710F or API RP40
8 = ASTM Method D-445
9 = EPA Method 1010 or 1020A
10 = ASTM Method D2015
11 = EPA Method 150.1/9040A
12 = Laboratory reports that detected hydrocarbons have pattern and range consistent with creosotes
13 = DuNuoy Method - ASTM D971
14 = SM 4500-CN E
B = The result is an estimated concentration that is less than the MRL but greater than or equal to the MDL
J = Estimated concentration, results are between the Method

bgs=below ground surface
BTU = british thermal unit
cSt = centistokes
cc=cubic centimeter
DNAPL = dense non-aqueous phase liquids
EPA = U. S. Environmental Protection Agency
gm = gram
lb = pound
mg/kg = milligrams/kilogram
ND = not detected above detection limit indicated
ppm = parts per million

Table 24
Summary of DNAPL Testing Results: PAHs AND SVOCs
EPA 8270-SIM or 8270C

Analytical Parameters	Laboratory Analytical Testing Results in mg/kg (ppm)							
Sample Location ==>	MW-6-32	MW-10-25	MW-11-32	MW-16-45	PW-01	WS-10-27	WS-15-85	WS-11-125
Sample Number ==>	MW-6-32-01	MW-10-25-02	MW-11-32-03	MW-16-45-oil	2708-070221-PW01-Oil	5237-090203-WS-10-27	5237-090203-WS-15-85	WS11-125-N
Sample Date ==>	14-Dec-98	14-Dec-98	14-Dec-98	11-Oct-04	21-Feb-07	3-Feb-09	3-Feb-09	27-Apr-04
Property ==>	Gasco	Gasco	Gasco	Gasco	Gasco	Siltronic	Siltronic	Siltronic
Collected By ==>	HAI	HAI	HAI	HAI	HAI	HAI	HAI	MFA
Non-Carcinogenic PAHs								
Acenaphthene	25,800.	14,500.	9,140.	1,500.	2,700 U	12,000.	13,000. U	7,650.
Acenaphthylene	2,010. U	4,940.	7,480.	165.	2,700 U	1,100.	1,100.	2,220.
Anthracene	16,200.	10,300.	9,810.	1,110.	2,700 U	7,800.	6,700.	3,580.
Benzo (a) anthracene	4,030.	4,890.	4,060.	565.	2,700 U	4,900.	4,500.	1,970.
Benzo (a) pyrene	2,010. U	4,000.	3,920.	508.	2,700 U	4,900.	5,300.	1,970.
Benzo (b) fluoranthene	2,010. U	2,040.	2,010. U	289.	2,700 U	4,300.	4,800.	1,870.
Benzo (ghi) perylene	2,010. U	2,370.	2,630.	385.	2,700 U	3,700.	3,500.	1,320.
Benzo (k) fluoranthene	2,010. U	2,330.	2,790.	277.	2,700 U	1,800.	1,600.	601.
Chrysene	5,270.	6,230.	5,440.	666.	2,700 U	5,900.	5,100.	2,280.
Dibenz (a,h) anthracene	2,010. U	2,010. U	2,010. U	68.2	2,700 U	1,000. U	990. U	243.
Fluoranthene	25,700.	27,200.	25,000.	1,800.	3,810	13,000.	12,000.	8,180.
Fluorene	13,000.	12,100.	10,100.	1,100.	2,700 U	6,700.	7,100.	4,620.
Indeno (1,2,3-cd) pyrene	2,010. U	2,010. U	2,010. U	274.	2,700 U	3,000.	2,800.	998.
Naphthalene	31,300.	13,300.	13,400.	15,600.	29,800	1,000. U	110,000.	68,000.
Phenanthrene	67,100.	58,200.	45,900.	6,200.	8,730	1,000. U	31,000.	18,300.
Pyrene	26,500.	27,300.	24,800.	2,280.	4,570	13,000.	12,000.	9,530.
Total PAHs	214,900.	189,700.	164,470.	32,787.2	46,910	82,100.	207,500.	133,332.
SVOCs								
Bis(2-chloroethyl)ether	-	-	-	980. U	2,700 U	1,000. U	990. U	12.
Carbazole	-	-	-	980. U	NA	NA	NA	1,340.
Dibenzofuran	-	-	-	980. U	2,700 U	1,300.	1,400.	858.
Dimethyl phthalate	-	-	-	980. U	2,700 U	1,000. U	990. U	32.5
2-Methylnaphthalene	-	-	-	5,500.	6,920	10,000.	23,000.	14,900.
Nitrobenzene	-	-	-	980. U	2,700 U	1,000. U	990. U	18.
N-Nitrosodimethylamine	-	-	-	980. U	2,700 U	2,000. U	2,000. U	8.
p-Nitroaniline	-	-	-	980. U	NA	NA	NA	28.
2,4,6-Trichlorophenol	-	-	-	980. U	2,700 U	1,000.	990. U	39.
All Other SVOCs	-	-	-	Not Detected	Not Detected	Not Detected	Not Detected	Not Detected

Note:

DNAPL = dense non-aqueous phase liquid
EPA = U.S. Environmental Protection Agency
HAI = Hahn and Associates, Inc.
MFA = Maul, Foster, Alongi, Inc.
mg/kg = milligrams/kilogram
NA = not analyzed

PAHs = polynuclear aromatic hydrocarbons
ppm = parts per million
SVOCs = semivolatile organic compounds
U = not detected above concentration indicated

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-1	CH2M HILL		Aug-85	7-22	1,100.	U	410.	1,200.	0.18	-	-	-	-	682.	330.
WS-2	CH2M HILL		Aug-85	7.5-22	100.	U	U	32.	0.058	-	-	-	-	4,740.	5,890.
MW-03-S(27)	CH2M HILL		Aug-85	12-27	390.	U	U	U	0.13	-	-	-	-	712.	ND
	URS		6-Apr-00		U	-	-	-	-	-	-	-	-	-	-
			13-Oct-00		U	-	-	-	-	-	-	-	-	-	-
			25-Jun-01		0.3	-	-	-	-	-	-	-	-	-	-
	AMEC		16-Apr-02		4.	-	-	-	-	-	-	-	-	-	-
MW-03-I(60)	G&M		Oct-90	55-60	U	U	U	U	0.107	-	-	-	-	895.	9.
	URS		6-Apr-00		- U	-	-	-	-	-	-	-	-	-	-
			13-Oct-00		- U	-	-	-	-	-	-	-	-	-	-
			25-Jun-01		- U	-	-	-	-	-	-	-	-	-	-
	AMEC		16-Apr-02		0.14	-	-	-	-	-	-	-	-	-	-
			13-Apr-04		U	U	U	U	-	-	-	-	-	-	-
W-03-81	URS		6-Apr-00	75-80	U	-	-	-	-	-	-	-	-	-	-
			13-Oct-00		U	-	-	-	-	-	-	-	-	-	-
			25-Jun-01		0.17	-	-	-	-	-	-	-	-	-	-
	AMEC		16-Apr-02		U	-	-	-	-	-	-	-	-	-	-
			13-Apr-04		U	U	U	U	-	-	-	-	-	-	-
WS-4	CH2M HILL		Aug-85	6.5-21.5	U	U	U	15.	0.93	-	-	-	-	781.	14.
WS-5	CH2M HILL		Aug-85	5-20	-	-	-	-	0.13	-	-	-	-	176.	10.
WS-6	CH2M HILL		Aug-85	9-24	1,200.	-	350.	430.	0.04	-	-	-	-	2,423.	10.
			6-Apr-00		40.4	-	-	-	-	-	-	-	-	-	-
			13-Oct-00		614.	-	-	-	-	-	-	-	-	-	-
WS-7	CH2M HILL		Aug-85	10-25	U	U	U	U	0.033	-	-	-	-	19.	71.
	URS		Oct-90		U	U	U	U	0.031	-	-	-	-	10.	3.
			6-Apr-00		U	-	-	-	-	-	-	-	-	-	-
			13-Oct-00		U	-	-	-	-	-	-	-	-	-	-
WS-8-33	HAI	5237-011009-107	9-Oct-01	23-33	107.	10. U	27.9	20. U	0.02 U,J	0.02 U,J	-	-	-	710.79	17.35
		5237-011213-105	13-Dec-01		68.	5. U	29.6	23.2	0.854	0.02 U	-	-	-	508.65	15.53
		5237-020403-105	3-Apr-02		89.1	2.07	19.5	20.48	0.416	0.064 J	-	-	-	261.54	13.07
		5237-020403-106	3-Apr-02		87.4	2.14	18.	18.5	0.615	0.183 J	-	-	-	246.83	15.34
		5237-020710-104	10-Jul-02		65.9	1.24	31.6	53.1	0.724	0.08 U	-	-	-	322.87	17.41
		5237-020710-105	10-Jul-02		68.1	1.29	30.4	49.8	0.726	0.08 U	-	-	-	336.31	17.82
		5237-080521-WS8-33-105	21-May-08		76.	1.4	12.	30.	0.6	0.02	0.006	-	-	359.4	28.
		5237-080929-WS-8-33-145	29-Sep-08		110.	2.2	23.	51.	0.77	0.05	0.01	-	-	372.3	26.13
		5237-090408-WS8-33-119	8-Apr-09		73.	1.2	11.	32.	0.75	0.03 J	0.003 U	-	-	285.6	17.19
		5327-090819-WS-8-33-159	19-Aug-09		58.8	5. U	7.3	8.5	0.789	0.0539	0.01 U	-	-	268.5	ND
		5237-100301-WS-8-33-107	1-Mar-10		106.	1.5	11.8	41.4	0.471	0.015 U	0.01 U	-	-	167.25	22.28
WS-8-59	HAI	5237-011008-104	8-Oct-01	49-59	14.7	1. U	1. U	2. U	0.468	0.02 U,J	-	-	-	85.48	12.74
		5237-011008-105 (duplicate)	8-Oct-01		21.4	2.02	1. U	2. U	0.456	0.02 U,J	-	-	-	83.59	12.24
		5237-011212-103	12-Dec-01		26.8	1.27	1. U	2.66	0.725 J	0.263	-	-	-	54.18	10.96
		5237-011212-104 (duplicate)	12-Dec-01		27.	1.32	1. U	2.57	0.066 J	0.02 U,J	-	-	-	53.5	9.47
		5237-020403-104	3-Apr-02		13.	1. U	1. U	1.11	1.42	0.4 U	-	-	-	20.31	6.47
		5237-0207103	10-Jul-02		20.8	1.17	1. U	2.29	0.459	0.04 U	-	-	-	11.84	7.04
		5237-070716-WS-8-59-108	16-Jul-07		7.08	0.53	0.06 U	0.26 U	0.538	0.181	0.0061	-	-	0.509	2.39532
		5237-080521-WS8-56-106	21-May-08		13.	0.8	0.04 U	0.96	0.45	0.11	0.004	-	-	1.88	8.07
		5237-080929-WS-8-56-146	29-Sep-08		2.7	0.57	0.04 U	0.14	0.63	0.08	0.003 U	-	-	0.811	4.818
		5237-090408-WS8-59-115	8-Apr-09		8.3	0.68	0.04 U	0.53 J	0.31	0.07 J	0.003 U	-	-	1.37	4.869
		5237-090408-WS8-59-117	8-Apr-09		9.7	4. J	0.12 J	1.28	0.042 U	0.007 J	0.003 U	-	-	1.052	3.129
		5327-090819-WS-8-59-157	19-Aug-09		1.67	0.5 U	0.5 U	1. U	0.754	0.0556	0.01 U	-	-	1.484	11.23
		5237-100301-WS-8-56-109	1-Mar-10		6.36	0.5 U	0.5 U	1. U	0.464	0.0289	0.01 U	-	-	0.989	5.1223

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide**	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-9-34	HAI	5237-011008-102	8-Oct-01	24-34	1. U	1. U	1. U	2. U	**0.14**	0.02 U,J	-	-	-	ND	0.74
		5237-011212-101	12-Dec-01		1. U	1. U	1. U	2. U	**0.074**	0.02 U	-	-	-	27.74	4.57
		5237-020402-101	2-Apr-02		1. U	1. U	1. U	2. U	**0.11**	0.04 U	-	-	-	24.74	1.59
		5237-020710-101	10-Jul-02		1. U	1. U	1. U	2. U	**0.074** J	0.04 U,J	-	-	-	15.77	2.04
		5237-090410-WS9-34-122	10-Apr-09		0.12 J	0.39 J	0.07 J	0.24 J	**0.06**	0.003 U	0.003 UJ	-	-	25.06	4.3767
		5327-090819-WS-9-34-156	19-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.0868 UV	0.01 U	0.01 U	-	-	39.02	1.989
		5237-100302-WS-9-34-113	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	**0.0445**	0.005 U	0.01 U	-	-	33.728	2.7513
WS-10-27	MFA	WS-10-27	27-Oct-03	11-26	**8,060.**	**150.**	**716.**	**1,472.**	-	-	-	-	-	-	-
			29-Jan-04		**5,040.**	**76.3**	**518.**	**265.7**	**1.18**	-	-	-	-	-	-
			29-Apr-04		**7,640.**	**337.**	**570.**	**548.**	**1.46**	-	-	-	-	4,358.	156.76
			16-Nov-04		**7,170.**	**376.**	**617.**	**984.**	-	-	-	-	-	11,097.8	1,621.9
			17-Feb-05		**5,070.**	**380.**	**557.**	**964.**	-	-	-	-	-	-	-
			23-May-05		**5,090.**	**222.**	**288.**	**335.**	-	-	-	-	-	-	-
			9-Aug-05		**5,240.**	**228.**	**230.**	**389.**	-	-	-	-	-	-	-
			15-Nov-05		**10,600.**	**428.**	**468.**	**678.**	-	-	-	-	-	-	-
			16-Feb-06		**572.**	**22.7**	**75.1**	**238.7**	-	-	-	-	-	-	-
			10-May-06		**83.5**	1.66	**23.2**	78.1	-	-	-	-	-	-	-
			22-Aug-06		**7,160.**	**278.**	**266.**	**248.5**	-	-	-	-	-	-	-
			15-Nov-06		**1,510.**	**79.3**	**154.**	**363.**	-	-	-	-	-	-	-
			20-Feb-07		**326.**	5.31	**61.6**	81.3	-	-	-	-	-	-	-
			24-May-07		**12.3**	0.5 U	**2.9**	3.86	-	-	-	-	-	-	-
			16-Aug-07		**7,820.**	**442.**	**296.**	**531.**	-	-	-	-	-	-	-
			20-Nov-07		**6,160.**	**282.**	**281.**	**549.**	**1.1**	-	0.01 U	-	-	-	-
			8-Feb-08		**244.**	5.1	**53.1**	124.7	**0.23**	-	0.01 U	-	-	-	-
			13-May-08		**2,420.**	**29.1**	**118.**	198.7	**0.4**	-	0.01 U	-	-	-	-
			18-Aug-08		**7,760.**	**360.**	**376.**	**400.5**	**0.3**	-	0.01 U	-	-	-	-
WS-11-125	MFA	WS-11-125	28-Oct-03	109-124	**252.**	**56.1**	**87.6**	92.9	-	-	-	-	-	-	-
			30-Jan-04		**328.**	**68.5**	**124.**	125.3	-	-	-	-	-	-	-
			29-Apr-04		**379.**	**84.2**	**155.**	**207.7**	**0.427**	-	-	-	-	6,588.5	1,549.4
			16-Nov-04		**536.**	**120.**	**182.**	**256.**	**0.574**	-	-	-	-	2,880.6	131.77
			16-Feb-05		**5,540.**	**40.8**	**50.1**	43.5	-	-	-	-	-	-	-
			18-May-05		**525.**	**71.2**	**94.9**	78.2	-	-	-	-	-	-	-
			10-Aug-05		**136.**	**13.4**	**22.4**	18.28	-	-	-	-	-	-	-
			15-Nov-05		**447.**	**57.6**	**91.2**	82.8	-	-	-	-	-	-	-
			15-Feb-05		**554.**	**55.2**	**94.4**	91.3	-	-	-	-	-	-	-
			11-May-05		**344.**	**32.2**	**47.**	47.9	-	-	-	-	-	-	-
			28-Jun-05		**1,340.**	**252.**	**358.**	**409.**	**0.48**	-	-	-	-	-	-
			27-Jul-06		**908.**	**173.**	**367.**	**382.**	**0.42**	-	**0.4**	-	-	-	-
			23-Aug-06		**780.**	**154.**	**303.**	**296.**	**0.44**	-	**0.48**	-	-	-	-
			26-Sep-06		**717.**	**175.**	**225.**	**430.**	**0.47**	-	**0.37**	-	-	-	-
			23-Oct-06		**673.**	**135.**	**253.**	**342.**	**0.48**	-	**0.54**	-	-	-	-
			18-Dec-06		**813.**	**202.**	**395.**	**512.**	**0.56**	-	**0.019**	-	-	-	-
			25-Jan-07		**947.**	**167.**	**367.**	**357.**	**0.38**	-	**0.024**	-	-	-	-
			21-Feb-07		**918.**	**250.**	**478.**	**418.**	**0.51**	-	**0.21**	-	-	-	-
			21-Mar-07		**862.**	**219.**	**474.**	**474.**	**0.51**	-	**0.012**	-	-	-	-
			23-Apr-07		**972.**	**246.**	**575.**	**513.**	**0.61**	-	**0.059**	-	-	-	-
			22-May-07		**1,680.**	**365.**	**696.**	**900.**	**0.42**	-	**0.062**	-	-	-	-
			15-Nov-07		**985.**	**229.**	**495.**	**587.**	**0.56**	-	0.01 U	-	-	-	-
			14-Feb-08		**799.**	**135.**	**541.**	**673.**	**0.62**	-	0.01 U	-	-	-	-
			15-May-08		**448.**	**133.**	**392.**	**510.**	**0.47**	-	**0.044**	-	-	-	-
			6-Aug-08		**290.**	**133.**	**225.**	**257.**	**0.46**	-	**0.031**	-	-	-	-
	HAI	5237-080515-WS11-125-102	15-May-08		**560.**	**190.**	**490.**	**620.**	**0.61**	0.1	**0.006** J	-	-	11,490.5	47.36
		5237-080929-WS-11-125-144	29-Sep-08		**350.**	**120.**	**340.**	**440.**	**0.53**	0.002 U	0.003 U	-	-	11,482.7	41.96
		5237-090407-WS11-125-102	7-Apr-09		**610.**	**150.**	**410.**	**520.**	**0.5**	0.08 J	0.003 U	-	-	12,532.6	92.94
		5237-090818-WS-11-125-149	18-Aug-09		**480.**	**104.**	**298.**	**389.**	**0.537**	0.01 U	0.01 R	-	-	9,760.	ND
		5237-100302-WS-11-125-114	2-Mar-10		**686.**	**73.**	**210.**	**288.**	**0.498**	0.015 U	0.01 U	-	-	75.1	25.2

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb) Benzene		Toluene		Ethylbenzene		Xylenes		EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm) Total Cyanide		Amenable Cyanide		Free Cyanide		WAD Cyanide[+]	Available Cyanide[++]	EPA Method 8270 SIM or 8270C ug/l (ppb) LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]																						
Fish Consumption																						
		EPA 2004 NRWQC (organism only)			51.		15,000.		2,100.		#		0.14		#		0.14		#	#	#	#
		Portland Harbor specific fish consumption rate			5.1		1,500.		210.		#		0.014		#		0.014		#	#	#	#
		DEQ 2004 AWQC (organism only)			51.		15,000.		2,100.		#		0.14		#		0.14		#	#	#	#
Drinking Water																						
		MCL			5.		1,000.		700.		10,000.		0.2		#		#		#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41		2,300.		1.5		200.		0.73		#		#		#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]																						
		EPA 2004 NRWQC (chronic)			#		#		#		#		0.0052		#		0.0052		#	#	#	#
		DEQ 2004 AWQC (chronic)			#		#		#		#		0.0052		#		0.0052		#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.		9.8		7.3		#		#		#		#		#	#	#	#
WS-11-161	MFA	WS-11-161	27-Oct-03	145-160	**0.56**		0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			29-Jan-04		0.2	U	0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			27-Apr-04		0.2	U	0.2	U	0.2	U	0.4	U	0.01	U	-		-		-	-	1.6564	1.1505
			16-Nov-04		0.2	U	0.2	U	0.2	U	0.4	U	0.01	U	-		-		-	-	2.0558	ND
			16-Feb-05		0.2	U	0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			18-May-05		0.2	U	0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			10-Aug-05		0.2	U	0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			15-Nov-05		0.3	U	0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			14-Feb-06		0.3	U	0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			11-May-06		0.3	U	0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			21-Aug-06		0.3	U	0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			13-Nov-06		0.3	U	0.5	U	0.5	U	1.	U	-		-		-		-	-	-	-
			21-Feb-07		0.3	U	0.5	U	0.5	U	1.	U	-		-		-		-	-	-	-
			29-May-07		0.3	U	0.5	U	0.5	U	1.	U	-		-		-		-	-	-	-
			15-Aug-07		**3.2**		0.88		0.85		1.	U	-		-		-		-	-	-	-
			15-Nov-07		**2.83**		1.15		**1.56**		0.62		0.01	U	-		0.01	U	-	-	-	-
			11-Feb-08		**7.59**		2.59		**3.71**		3.22		0.01	U	-		0.01	U	-	-	-	-
			15-May-08		**23.**		7.74		**11.**		10.4		0.01	U	-		0.01	U	-	-	-	-
			6-Aug-08		**19.8**		4.7		**8.31**		5.95		0.01	U	-		0.01	U	-	-	-	-
	HAI	5237-070712-WS11-161	12-Jul-07		**8.53**		3.02		**3.91**		4.36		0.005	U	0.005	U	0.003	UR	-	-	50.025	0.07
		5237-080515-WS11-161-103	15-May-08		**25.**		8.6		**12.**		13.7		**0.01**	J	0.002	U	0.004	J	-	-	110.801	0.02
		5237-080929-WS-11-161-142	29-Sep-08		**25.**		9.7		**15.**		16.4		0.002	U	0.002	U	0.003	U	-	-	89.604	0.03
		5237-080929-WS-11-161-143	29-Sep-08		**23.**		9.7		**16.**		17.		0.002	U	0.002	U	0.003	U	-	-	140.993	0.02
		5237-090407-WS11-161-100	7-Apr-09		**18.**		7.7		**13.**		14.8		**0.009**	J	0.003	U	0.003	U	-	-	110.9759	0.023
		5237-090818-WS-11-161-147	18-Aug-09		**11.3**		5.25		**9.69**		6.84		0.0159	UV	0.005	U	0.01	R	-	-	87.7	ND
		5237-100302-WS-11-161-116	2-Mar-10		**3.7**		2.33		**5.52**		6.08		**0.0103**		0.005	U	0.01	U	-	-	ND	ND
WS-12-125	MFA	WS-12-125	28-Oct-03	109-124	**8.53**		0.2	U	0.2	U	1.1		-		-		-		-	-	-	-
			30-Jan-04		**2.91**		0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			26-Apr-04		**9.56**		0.2	U	0.2	U	1.35		-		-		-		-	-	2.535	ND
			17-Nov-04		**4.01**		0.2	U	0.2	U	0.4	U	**0.5**		-		-		-	-	1.0063	ND
			16-Feb-05		**4.63**		0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			18-May-05		**1.46**		0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			16-Aug-05		0.2	U	0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			15-Nov-05		**6.**		0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			14-Feb-06		**4.78**		0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			9-May-06		**5.16**		0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			21-Aug-06		0.3	U	0.3	U	0.3	U	0.4	U	-		-		-		-	-	-	-
			12-Nov-06		**7.9**		0.5	U	0.5	U	1.	U	-		-		-		-	-	-	-
			21-Feb-07		**6.29**		0.5	U	0.5	U	1.	U	-		-		-		-	-	-	-
			29-May-07		**6.25**		0.5	U	0.5	U	1.	U	-		-		-		-	-	-	-
			15-Aug-07		**6.89**		0.5	U	0.5	U	1.	U	-		-		-		-	-	-	-
			13-Nov-07		**6.71**		0.5	U	0.5	U	1.	U	**0.53**		-		0.01	U	-	-	-	-
			11-Feb-08		**4.88**		0.5	U	0.5	U	1.	U	**0.52**		-		0.01	U	-	-	-	-
			21-May-08		**3.28**		0.5	U	0.5	U	1.	U	**0.49**		-		**0.034**		-	-	-	-
			6-Aug-08		**4.58**		0.5	U	0.5	U	1.	U	**0.35**		-		**0.027**		-	-	-	-
	HAI	5237-070712-WS12-125	12-Jul-07		**6.44**		0.11	U	0.06	U	0.26	U	**0.452**		0.258		**0.0078**	J	-	-	0.81	0.0051
		5237-080521-WS12-126-104	21-May-08		**6.6**		0.1	J	0.05	J	0.07		**0.53**		0.04		**0.007**		-	-	0.3096	0.0564
		5237-080925-WS-12-125-140	25-Sep-08		**6.2**		0.45	J	0.08	J	0.04		**0.43**		0.05		**0.149**		-	-	0.4298	0.053
		5237-090407-WS12-125-106	7-Apr-09		**5.5**		0.09	J	0.04	U	0.08	U	**0.42**		0.003	U	0.003	U	-	-	0.4409	0.0945
		5237-090818-WS-12-125-145	18-Aug-09		**5.66**		0.5	U	0.5	U	1.	U	**0.437**		0.01	U	0.01	R	-	-	0.3592	ND
		5237-100302-WS-12-125-118	2-Mar-10		**4.35**		0.5	U	0.5	U	1.	U	**0.473**		0.0322		0.01	U	-	-	0.434	0.0837
WS-12-161	MFA	WS-12-161	27-Oct-03	145-160	**0.55**		0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			29-Jan-04		0.2	U	0.2	U	0.2	U	0.4	U	-		-		-		-	-	-	-
			26-Apr-04		0.2	U	0.2	U	0.2	U	0.4	U	-		-		-		-	-	0.6376	0.1543
			17-Nov-04		**446.**		0.2	U	**79.7**		87.1		0.01	U	-		-		-	-	1.25	ND
			18-Feb-05		**5.88**		1.36		0.2	U	1.01		-		-		-		-	-	-	-
			20-May-05		0.2	U	0.29		0.2	U	0.4	U	-		-		-		-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-12-161	MFA	WS-12-161	27-Oct-03	145-160	0.2 U	0.2 U	0.2 U	0.4 U	-	-	-	-	-	-	-
			15-Nov-05		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			14-Feb-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			9-May-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			21-Aug-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			13-Nov-06		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			21-Feb-07		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			29-May-07		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			15-Aug-07		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			13-Nov-07		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			11-Feb-08		**4.74**	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			21-May-08		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			5-Aug-08		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
	HAI	5237-070712-WS12-161	12-Jul-07		0.09 U	0.11 U	0.06 U	0.26 U	**0.006** J	0.0054 J	0.003 UR	-	-	ND	0.02338
		5237-080521-WS12-161-107	21-May-08		0.07 J	0.05 U	0.04 U	0.08 U	**0.008**	0.002 U	0.005	-	-	0.0374	0.011
		5237-080925-WS-12-161-141	25-Sep-08		0.06 J	0.74	0.04 U	0.08 U	0.002 U	0.002 U	**0.006** J	-	-	0.035	ND
		5237-090407-WS12-161-104	7-Apr-09		0.06 J	0.06 J	0.04 U	0.08 U	**0.006** J	0.003 U	0.003 U	-	-	0.0072	ND
		5237-090818-WS-12-161-143	18-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.0118 UV	0.005 U	0.01 R	-	-	0.0404	ND
		5237-100302-WS-12-161-120	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	**0.0105**	0.005 U	0.01 U	-	-	ND	ND
WS-13-69	MFA	WS-13-69	29-Oct-03	52.6-67.6	**129.**	**46.9**	**60.1**	87.3	-	-	-	-	-	-	-
			30-Jan-04		**680.**	**58.6**	**153.**	196.7	-	-	-	-	-	-	-
			28-Apr-04		**587.**	**57.5**	**123.**	124.4	**0.446**	-	-	-	-	671.31	1.77
			18-Nov-04		**764.**	**57.3**	**732.**	159.4	**0.483**	-	-	-	-	812.66	0.8
			17-Feb-05		**963.**	**63.4**	**198.**	**211.3**	-	-	-	-	-	-	-
			20-May-05		**340.**	**30.7**	**114.**	79.3	-	-	-	-	-	-	-
			10-Aug-05		**271.**	**13.6**	**65.4**	62.5	-	-	-	-	-	-	-
			16-Nov-05		**988.**	**57.9**	**312.**	**221.6**	-	-	-	-	-	-	-
			16-Feb-05		**1,160.**	**51.4**	**388.**	179.9	-	-	-	-	-	-	-
			10-May-06		**1,510.**	**80.7**	**380.**	**279.7**	-	-	-	-	-	-	-
			19-Jul-06		**1,140.**	**53.**	**243.**	183.2	**0.51**	-	**0.52**	-	-	-	-
			24-Aug-06		**1,120.**	**31.2**	**115.**	124.	**0.62**	-	**0.54**	-	-	-	-
			27-Sep-06		**937.**	**39.6**	**194.**	131.	**0.58**	-	**0.57**	-	-	-	-
			25-Oct-06		**1,020.**	**40.3**	**189.**	115.6	**0.53**	-	**0.43**	-	-	-	-
			15-Nov-06		**2,150.**	**172.**	**720.**	**774.**	**0.58**	-	**0.54**	-	-	-	-
			25-Jan-07		**1,120.**	**45.8**	**274.**	183.1	**0.68**	-	**0.44**	-	-	-	-
			21-Feb-07		**1,360.**	**63.2**	**327.**	198.6	**0.67**	-	**0.36**	-	-	-	-
			22-Mar-07		**1,170.**	**44.8**	**276.**	135.4	**0.55**	-	**0.46**	-	-	-	-
			24-Apr-07		**1,140.**	**46.8**	**310.**	37.	**0.67**	-	**0.36**	-	-	-	-
			23-May-07		**1,160.**	**34.4**	**206.**	118.3	**0.53**	-	**0.12**	-	-	-	-
			17-Aug-07		**1,480.**	**47.4**	**309.**	130.6	-	-	-	-	-	-	-
			15-Nov-07		**1,620.**	**50.4**	**352.**	172.2	**0.79**	-	0.01 U	-	-	-	-
			12-Feb-08		**1,610.**	**44.6**	**338.**	161.4	**0.63**	-	0.01 U	-	-	-	-
			14-May-08		**1,000.**	**28.9**	**291.**	103.9	**0.61**	-	**0.045**	-	-	-	-
			8-Aug-08		**1,600.**	**47.9**	**299.**	168.	**0.68**	-	0.01 U	-	-	-	-
			13-Nov-08		**1,830.**	**47.4**	**460.**	177.8	**0.68**	-	**0.012**	-	-	-	-
			13-Apr-09		**2,080.**	**45.8**	**420.**	178.1	-	-	-	-	-	-	-
			22-May-09		**1,620.**	**42.7**	**282.**	148.8	-	-	-	-	-	-	-
			16-Jul-09		**1,840.**	**45.8**	**441.**	**207.6**	-	-	-	-	-	-	-
			3-Sep-09		**1,770.**	**54.2**	**370.**	**210.6**	-	-	-	-	-	-	-
			19-Oct-09		**1,390.**	**38.8**	**304.**	160.2	-	-	-	-	-	-	-
			16-Dec-09		**1,130.**	**53.6**	**246.**	197.7	-	-	-	-	-	-	-
			22-Feb-10		**1,680.**	**49.7**	**358.**	198.1	**0.82**	-	0.01 U	0.0615	-	-	-
WS-13-105	MFA	WS-13-105	29-Oct-03	89-104	**2.14**	1.34	6.14 U	5.09 U	-	-	-	-	-	-	-
		Duplicate	29-Oct-03		**1.09**	0.2 U	1.29	2.2	-	-	-	-	-	-	-
			30-Jan-04		**11.7**	1.18	**3.32**	2.09	-	-	-	-	-	-	-
		Duplicate	30-Jan-04		**3.23**	1.79	**4.14**	3.6	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-13-105	MFA	WS-13-105	28-Apr-04	89-104	U	U	U	U	0.0164	-	-	-	-	33.184	0.8
		Duplicate	28-Apr-04		U	U	U	U	0.01 U	-	-	-	-	17.04	0.26
			18-Nov-04		0.2 U	0.2 U	0.2 U	0.4 U	0.01 U	-	-	-	-	0.494	ND
		Duplicate	18-Nov-04		0.2 U	0.2 U	0.2 U	0.4 U	0.01 U	-	-	-	-	0.237	ND
			17-Feb-05		0.2 U	0.2 U	0.2 U	0.4 U	-	-	-	-	-	-	-
			20-May-05		0.29	0.2 U	0.2 U	0.4 U	-	-	-	-	-	-	-
			9-Aug-05		0.2 U	0.2 U	0.2 U	0.4 U	-	-	-	-	-	-	-
			16-Nov-05		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			16-Feb-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			10-May-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			19-Jul-06		0.3 U	1. U	1. U	2. U	0.01 U	-	0.01 U	-	-	-	-
			24-Aug-06		0.3 U	0.3 U	0.3 U	0.4 U	0.01 U	-	0.01 U	-	-	-	-
			27-Sep-06		0.47	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			25-Oct-06		0.3	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			15-Nov-06		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			25-Jan-07		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			21-Feb-07		0.3 U	0.5 U	0.5 U	1. U	0.01	-	0.01 U	-	-	-	-
			21-Mar-07		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			24-Apr-07		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			23-May-07		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			16-Aug-07		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			19-Nov-07		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			12-Feb-08		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			13-May-08		0.78	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			8-Aug-08		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			13-Nov-08		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			22-May-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			16-Jul-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			3-Sep-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			19-Oct-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			16-Dec-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			19-Feb-10		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	0.0238	-	-	-
WS-14-125	MFA	WS-14-125	16-Nov-04	109-124	3,630.	410.	514.	675.	0.254	-	-	-	-	4,993.5	107.31
			21-Feb-05		4,060.	287.	498.	594.	-	-	-	-	-	-	-
			23-May-05		3,740.	165.	269.	276.	-	-	-	-	-	-	-
			9-Aug-05		2,610.	101.	154.	284.	-	-	-	-	-	-	-
			16-Nov-05		5,240.	306.	539.	745.	-	-	-	-	-	-	-
			15-Feb-06		5,140.	217.	421.	547.	-	-	-	-	-	-	-
			9-May-06		7,300.	284.	456.	573.	-	-	-	-	-	-	-
			22-Aug-06		4,370.	217.	412.	404.	-	-	-	-	-	-	-
			14-Nov-06		10,300.	239.	368.	448.	-	-	-	-	-	-	-
			21-Feb-07		9,820.	288.	608.	700.	-	-	-	-	-	-	-
			24-May-07		5,000.	160.	369.	482.	-	-	-	-	-	-	-
			18-Jul-07		7,440.	350.	525.	718.	-	-	-	-	-	-	-
			19-Jul-07		9,070.	366.	556.	764.	-	-	-	-	-	-	-
			16-Aug-07		7,450.	294.	532.	731.	-	-	-	-	-	-	-
			14-Nov-07		5,780.	292.	636.	809.	0.32	-	0.022	-	-	-	-
			11-Feb-08		5,650.	228.	525.	572.	0.29	-	0.011	-	-	-	-
			15-May-08		4,700.	178.	447.	322.	0.34	-	0.01 U	-	-	-	-
			4-Aug-08		4,000.	205.	395.	444.	0.11	-	0.014	-	-	-	-
	HAI	5237-070712-WS14-125	12-Jul-07		5,430.	202.	505.	631.	0.273	0.266	0.00563 J	-	-	7,861.32	28.2
		5237-080515-WS14-125-100	15-May-08		6,400.	160.	640.	820.	0.33	0.002 U	0.008 J	-	-	8,099.9	17.68
		5237-080925-WS-14-125-138	25-Sep-08		4,500.	190.	480.	590.	0.29	0.002 U	0.032	-	-	7,093.9	17.669
		5237-090408-WS14-125-110	8-Apr-09		5,900.	170.	530.	680.	0.27	0.04 J	0.003 U	-	-	6,854.3	19.392
		5327-090819-WS-14-125-155	19-Aug-09		5,670.	158.	558.	666.	0.31	0.01 U	0.01 U	-	-	5,120.	ND
		5237-100302-WS-14-125-110	2-Mar-10		7,070.	136.	756.	940.	0.293	0.0488	0.01 U	-	-	71.33	19.59

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide**	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-14-161	MFA	WS-14-161	16-Nov-04	145-160	0.43	0.2 U	0.2 U	0.4 U	0.01 U	-	-	-	-	0.7078	ND
			21-Feb-05		2.06	0.46	0.2 U	0.4 U	-	-	-	-	-	-	-
			23-May-05		0.34	0.2 U	0.2 U	0.4 U	-	-	-	-	-	-	-
			9-Aug-05		0.2 U	0.2 U	0.2 U	0.4 U	-	-	-	-	-	-	-
			16-Nov-05		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			15-Feb-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			9-May-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			22-Aug-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			14-Nov-06		0.65	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			21-Feb-07		0.51	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			24-May-07		0.52	0.5 U	1.51	1.93	-	-	-	-	-	-	-
			18-Jul-07		0.63	0.5 U	0.82	1. U	-	-	-	-	-	-	-
			19-Jul-07		0.6	0.5 U	1.12	0.33	-	-	-	-	-	-	-
			16-Aug-07		0.38	0.5 U	0.72	1. U	-	-	-	-	-	-	-
			14-Nov-07		0.39	0.5 U	4.93	5.8	0.01 U	-	0.01 U	-	-	-	-
			11-Feb-08		0.32	0.5 U	4.1	3.43	0.01 U	-	0.01 U	-	-	-	-
			15-May-08		0.88	0.63	4.08	4.92	0.01 U	-	0.01 U	-	-	-	-
			4-Aug-08		0.34	0.8	6.96	5.63	0.01 U	-	0.01 U	-	-	-	-
	HAI	5237-070712-WS14-161	12-Jul-07		0.09 U	0.11 U	0.68	0.26 U	0.005 U	0.005 U	0.003 UR	-	-	15.878	ND
		5237-080515-WS14-161-101	15-May-08		0.44 J	0.94	7.6	10.	0.002 U	0.002 U	0.003 J	-	-	143.605	0.14
		5237-080925-WS-14-161-139	25-Sep-08		0.79	1.5	9.6	12.	0.002 U	0.002 U	0.003 J	-	-	123.316	0.18
		5237-090408-WS14-161-108	8-Apr-09		0.85 J	1.2 J	18.	24.1	0.003 U	0.003 U	0.003 U	-	-	730.23	1.52
		5237-090818-WS-14-161-151	18-Aug-09		0.88	1.05	22.1	23.2	0.005 U	0.005 U	0.01 R	-	-	788.	ND
		5237-100301-WS-14-161-108	1-Mar-10		1.25 U	2.5 U	27.4	35.1	0.0059	0.0059	0.01 U	-	-	63.674	3.25
WS-15-85	MFA	WS-15-85	18-Nov-04	70-85	3,650.	268.	285.	297.	0.0233	-	-	-	-	2,375.04	7.25
			17-Feb-05		17,300.	555.	1,320.	1,478.	-	-	-	-	-	-	-
			19-May-05		13,000.	410.	1,030.	1,133.	-	-	-	-	-	-	-
			10-Aug-05		5,130.	119.	270.	348.	-	-	-	-	-	-	-
			14-Nov-05		10,800.	258.	860.	765.	-	-	-	-	-	-	-
			16-Feb-06		21,600.	578.	1,970.	2,082.	-	-	-	-	-	-	-
			10-May-06		20,300.	314.	1,290.	1,434.	-	-	-	-	-	-	-
			25-Aug-06		21,500.	362.	1,120.	1,460.	-	-	-	-	-	-	-
			14-Nov-06		10,500.	197.	632.	731.	-	-	-	-	-	-	-
			21-Feb-07		12,900.	282.	1,190.	1,394.	-	-	-	-	-	-	-
			24-May-07		9,320.	7.57	32.3	42.4	-	-	-	-	-	-	-
			17-Aug-07		3,540.	125.	502.	1,048.	-	-	-	-	-	-	-
			15-Nov-07		4,840.	236.	1,040.	1,338.	0.49	-	0.01 U	-	-	-	-
			12-Feb-08		8,580.	266.	950.	1,268.	6.4	-	0.013	-	-	-	-
			14-May-08		5,100.	175.	788.	1,029.	0.77	-	0.01 U	-	-	-	-
			8-Aug-08		3,860.	175.	993.	1,210.	0.34	-	0.01 U	-	-	-	-
			11-Nov-08		2,970.	136.	1,060.	1,320.	0.74	-	0.01 U	-	-	-	-
			26-May-09		2,770.	205.	839.	1,102.	-	-	-	-	-	-	-
			23-Jul-09		3,220.	119.	640.	963.	-	-	-	-	-	-	-
			2-Sep-09		1,820.	125.	708.	1,108.	-	-	-	-	-	-	-
			19-Oct-09		2,370.	129.	482.	545.	-	-	-	-	-	-	-
			14-Dec-09		2,960.	164.	669.	831.	-	-	-	-	-	-	-
			18-Feb-10		2,510.	134.	851.	1,107.	0.083	0.01 U	0.01 U	-	-	-	-
WS-15-140	MFA	WS-15-140	18-Nov-04	125-140	7.99	0.32	0.79	0.4 U	0.135	-	-	-	-	18.058	0.124
			17-Feb-05		18.	0.96	0.25	1.49	-	-	-	-	-	-	-
			19-May-05		6.67	0.75	0.52	0.4 U	-	-	-	-	-	-	-
			10-Aug-05		1,010.	16.5	67.2	81.4	-	-	-	-	-	-	-
			14-Nov-05		2,460.	24.4	155.	129.	-	-	-	-	-	-	-
			15-Feb-06		2,220.	21.1	229.	126.9	-	-	-	-	-	-	-
			10-May-06		2,110.	9.71	204.	97.4	-	-	-	-	-	-	-
			25-Aug-06		1,460.	4.7	62.7	37.32	-	-	-	-	-	-	-
			14-Nov-06		1,110.	10.7	120.	42.3	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-15-140	MFA	WS-15-140	21-Feb-07	125-140	815.	4.44	85.2	25.19	-	-	-	-	-	-	-
			24-May-07		26.2	0.5 U	3.97	2.01	-	-	-	-	-	-	-
			17-Aug-07		822.	3.33	93.3	23.6	-	-	-	-	-	-	-
			15-Nov-07		866.	2.75	103.	25.43	0.088	-	0.01 U	-	-	-	-
			12-Feb-08		546.	2.76	97.2	22.96	0.12	-	0.01 U	-	-	-	-
			14-May-08		424.	2.3	94.	21.01	0.12	-	0.022	-	-	-	-
			8-Aug-08		509.	5.3	130.	33.3	0.082	-	0.01 U	-	-	-	-
		MFA - (WS-15-14039764)	12-Nov-08		771.	10.	136.	50.4	0.12	-	0.01 U	-	-	-	-
		MFA - (WS-15-14039959)	26-May-09		578.	2.85	124.	20.35	-	-	-	-	-	-	-
		MFA - (WS-15-14040017)	23-Jul-09		643.	2.01	52.3	17.12	-	-	-	-	-	-	-
		MFA - (WS-15-14040058)	2-Sep-09		470.	2.82	113.	32.87	-	-	-	-	-	-	-
		MFA - (WS-15-14040105)	19-Oct-09		679.	2.18	97.7	16.69	-	-	-	-	-	-	-
		MFA - (WS-15-14040161)	14-Dec-09		337.	1.93	96.4	21.67	-	-	-	-	-	-	-
		MFA - (WS-15-14040228)	19-Feb-10		568.	0.72	132.	40.5	0.11	-	0.01 U	0.0183	-	-	-
WS-16-125	MFA	WS-16-125	17-Nov-04	109-124	0.2 U	0.2 U	0.2 U	0.4 U	0.01 U	-	-	-	-	155.482	0.15
			21-Feb-05		698.	3.02	111.	117.8	-	-	-	-	-	-	-
			23-May-05		224.	1.22	41.9	35.8	-	-	-	-	-	-	-
			9-Aug-05		237.	0.2 U	38.5	38.7	-	-	-	-	-	-	-
			16-Nov-05		449.	1.65	92.	105.7	-	-	-	-	-	-	-
			15-Feb-06		552.	1.17	96.8	101.	-	-	-	-	-	-	-
			11-May-06		474.	0.75	57.5	56.5	-	-	-	-	-	-	-
			22-Aug-06		522.	0.3 U	93.6	95.2	-	-	-	-	-	-	-
			15-Nov-06		534.	1.56	89.5	92.9	-	-	-	-	-	-	-
			21-Feb-07		1,060.	0.9	96.8	98.	-	-	-	-	-	-	-
			24-May-07		16.3	0.5 U	2.73	3.07	-	-	-	-	-	-	-
			16-Aug-07		562.	0.78	80.3	87.7	-	-	-	-	-	-	-
			19-Nov-07		481.	1.91	75.7	79.7	0.01 U	-	0.01 U	-	-	-	-
			12-Feb-08		624.	0.9	91.8	92.	0.01 U	-	0.01 U	-	-	-	-
			14-May-08		398.	0.93	86.7	91.3	0.013	-	0.01 U	-	-	-	-
			5-Aug-08		543.	0.86	78.	74.7	0.01 U	-	0.01 U	-	-	-	-
WS-16-161	MFA	WS-16-161	17-Nov-04	145-160	2.4	0.75	0.77	1.32	0.01 U	-	-	-	-	9.0484	0.2249
			18-Feb-05		1.66	3.84	0.2 U	0.63	-	-	-	-	-	-	-
			20-May-05		0.25	0.77	0.2 U	0.4 U	-	-	-	-	-	-	-
			9-Aug-05		0.2 U	0.2 U	0.2 U	0.4 U	-	-	-	-	-	-	-
			16-Nov-05		0.3 U	1.45	0.3 U	0.4 U	-	-	-	-	-	-	-
			15-Feb-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			10-May-06		0.3 U	0.67	0.3 U	0.4 U	-	-	-	-	-	-	-
			22-Aug-06		0.3 U	0.3 U	0.3 U	0.4 U	-	-	-	-	-	-	-
			15-Nov-06		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			21-Feb-07		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			24-May-07		2.25	0.5 U	0.7	1.43	-	-	-	-	-	-	-
			16-Aug-07		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			15-Nov-07		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			8-Feb-08		1.08	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			16-May-08		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			5-Aug-08		0.3 U	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
WS-17-52	MFA	WS-17-52	16-Nov-04	41-51	105.	0.2 U	90.1	102.4	0.149	-	-	-	-	312.902	9.15
			17-Feb-05		52.7	0.96	54.1	39.4	-	-	-	-	-	-	-
			20-May-05		12.3	0.24	15.8	4.55	-	-	-	-	-	-	-
			9-Aug-05		10.7	0.2 U	6.13	0.4 U	-	-	-	-	-	-	-
			15-Nov-05		18.4	0.3 U	8.75	2.28	-	-	-	-	-	-	-
			16-Feb-06		7.96	0.3 U	7.65	2.39	-	-	-	-	-	-	-
			10-May-06		5.23	0.3 U	6.78	0.49	-	-	-	-	-	-	-
			22-Aug-06		5.93	0.3 U	8.94	0.54	-	-	-	-	-	-	-
			15-Nov-06		5.27	0.5 U	3.68	0.94	-	-	-	-	-	-	-
			20-Feb-07		4.06	0.5 U	3.46	0.58	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-17-52	MFA	WS-17-52	24-May-07	41-51	3.07	0.5 U	3.18	1.96	-	-	-	-	-	-	-
			17-Aug-07		3.59	0.5 U	2.17	0.4	-	-	-	-	-	-	-
			14-Nov-07		2.67	0.5 U	1.45	0.38	0.18	-	0.01 U	-	-	-	-
			8-Feb-08		1.63	0.5 U	1.1	1. U	0.22	-	0.014	-	-	-	-
			13-May-08		1.28	0.5 U	0.77	1. U	0.16	-	0.018	-	-	-	-
			18-Aug-08		0.78	0.5 U	0.8	1. U	0.14	-	0.01 U	-	-	-	-
WS-17-94	MFA	WS-17-94	17-Nov-04	78-93	7.67	4.39	8.94	10.89	0.01 U	-	-	-	-	113.727	0.36
			18-Feb-05		13.6	4.46	13.4	17.36	-	-	-	-	-	-	-
			18-May-05		2.08	1.22	5.77	4.58	-	-	-	-	-	-	-
			8-Aug-05		0.2 U	0.2 U	0.22	0.4 U	-	-	-	-	-	-	-
			15-Nov-05		2.	0.75	6.33	6.13	-	-	-	-	-	-	-
			16-Feb-06		2.99	0.3 U	6.51	7.7	-	-	-	-	-	-	-
			9-May-06		1.35	0.57	5.55	4.16	-	-	-	-	-	-	-
			21-Aug-06		0.3 U	0.3 U	1.16	0.47	-	-	-	-	-	-	-
			14-Nov-06		1.68	0.5 U	0.5 U	1.84	-	-	-	-	-	-	-
			20-Feb-07		1.51	0.5 U	3.12	3.92	-	-	-	-	-	-	-
			24-May-07		0.97	0.5 U	2.75	4.09	-	-	-	-	-	-	-
			17-Aug-07		1.35	0.5 U	2.04	2.3	-	-	-	-	-	-	-
			14-Nov-07		0.85	0.5 U	1.43	2.11	0.01 U	-	0.01 U	-	-	-	-
			8-Feb-08		0.63	0.5 U	0.78	0.34	0.01 U	-	0.01 U	-	-	-	-
			13-May-08		0.41	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
			18-Aug-08		0.51	0.5 U	0.5 U	1. U	0.01 U	-	0.01 U	-	-	-	-
WS-18-71	MFA	WS-18-71	27-Jun-06	61 - 71	558.	24.1	30.2	16.96	-	-	-	-	-	-	-
			19-Jul-06		574.	26.7	32.6	12.81	0.75	-	0.88	-	-	-	-
			29-Aug-06		570.	19.7	23.	8.66	1.1	-	0.81	-	-	-	-
			26-Sep-06		296.	226.	262.	90.2	0.89	-	0.9	-	-	-	-
			24-Oct-06		521.	21.7	25.6	6.61	0.87	-	0.81	-	-	-	-
			16-Nov-06		530.	21.7	27.9	3.82	0.91	-	0.99	-	-	-	-
			26-Jan-07		520.	18.7	24.1	8.3	1.2	-	0.48	-	-	-	-
			22-Feb-07		549.	19.4	23.1	7.78	1.	-	0.49	-	-	-	-
			22-Mar-07		481.	20.2	26.1	7.06	0.85	-	0.036	-	-	-	-
			24-Apr-07		320.	18.5	28.5	2.34	0.7	-	0.026	-	-	-	-
			22-May-07		345.	15.9	19.6	7.07	0.99	-	0.2	-	-	-	-
			16-Nov-07		523.	19.4	26.6	10.05	0.79	-	0.01 U	-	-	-	-
			13-Feb-08		480.	16.9	26.1	10.33	0.77	-	0.02	-	-	-	-
			20-May-08		573.	24.1	33.	7.48	0.87	-	0.01 U	-	-	-	-
			12-Aug-08		606.	18.2	29.1	6.7	0.68	-	0.01 U	-	-	-	-
			14-Nov-08		616.	23.8	42.	15.68	0.78	-	0.01 U	-	-	-	-
			10-Feb-09		614.	23.2	43.1	15.31	0.58	-	0.01 U	-	-	-	-
			6-Apr-09		401.	33.4	62.5	29.6	-	-	-	-	-	-	-
			20-May-09		553.	17.1	35.9	18.42	-	-	-	-	-	-	-
			20-Jul-09		571.	19.8	32.9	16.77	-	-	-	-	-	-	-
			28-Aug-09		465.	13.3	24.7	7.09	-	-	-	-	-	-	-
			20-Oct-09		268.	12.	23.1	7.	-	-	-	-	-	-	-
			15-Dec-09		167.	11.9	16.3	5.59	-	-	-	-	-	-	-
			22-Feb-10		285.	12.5	16.6	5.46	0.85	0.0437	0.01 U	-	-	-	-
WS-18-101	MFA	WS-18-101	28-Jun-06	92 - 102	106.	13.4	19.	20. U	-	-	-	-	-	-	-
			19-Jul-06		125.	14.	24.2	21.93	0.036	-	0.03	-	-	-	-
			28-Aug-06		117.	13.6	27.3	29.	0.053	-	0.051	-	-	-	-
			26-Sep-06		148.	18.5	34.7	27.4	0.033	-	0.026	-	-	-	-
			24-Oct-06		124.	18.2	28.7	20.9	0.026	-	0.027	-	-	-	-
			16-Nov-06		126.	20.8	52.2	46.4	0.034	-	0.031	-	-	-	-
			26-Jan-07		105.	16.9	36.2	33.2	0.051	-	0.022	-	-	-	-
			22-Feb-07		79.6	22.	49.4	41.2	0.036	-	0.014	-	-	-	-
			22-Mar-07		89.6	16.8	49.	21.2	0.028	-	0.023	-	-	-	-
			24-Apr-07		69.6	13.	43.	8.8	0.027	-	0.01 U	-	-	-	-
			22-May-07		72.8	14.7	34.9	34.9	0.02	-	0.01 U	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-18-101	MFA	WS-18-101	16-Nov-07	92 - 102	**60.5**	**13.1**	**44.4**	41.3	**0.02**	-	0.01 U	-	-	-	-
			12-Feb-08		**59.5**	**11.9**	**41.6**	38.4	**0.018**	-	0.01 U	-	-	-	-
			22-May-08		**47.4**	**11.9**	**41.1**	38.9	**0.011**	-	0.01 U	-	-	-	-
			12-Aug-08		**40.4**	**10.7**	**39.9**	31.9	**0.01**	-	0.01 U	-	-	-	-
			14-Nov-08		**57.4**	**16.6**	**54.6**	54.3	0.01 U	-	0.01 U	-	-	-	-
			10-Feb-09		**29.1**	6.89	**29.8**	23.93	0.01 U	-	0.01 U	-	-	-	-
			6-Apr-09		**56.1**	**10.1**	**28.1**	26.48	-	-	-	-	-	-	-
			20-May-09		**64.7**	**16.1**	**28.5**	29.9	-	-	-	-	-	-	-
			20-Jul-09		**107.**	**13.8**	**27.6**	32.4	-	-	-	-	-	-	-
			28-Aug-09		**73.7**	**12.1**	**29.5**	24.98	-	-	-	-	-	-	-
			20-Oct-09		**66.1**	**15.9**	**36.7**	41.	-	-	-	-	-	-	-
			15-Dec-09		**55.4**	**19.3**	**42.**	46.4	-	-	-	-	-	-	-
			22-Feb-10		**70.9**	**19.6**	**44.6**	50.7	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-19-71	MFA	WS-19-71	27-Jun-06	61 - 71	**564.**	**28.1**	**48.3**	20.47	-	-	-	-	-	-	-
			20-Jul-06		**753.**	**48.8**	**79.8**	29.65	**0.64**	-	**0.65**	-	-	-	-
			29-Aug-06		**729.**	**34.3**	**66.3**	26.61	**0.8**	-	**0.75**	-	-	-	-
			27-Sep-06		**554.**	**26.1**	**51.6**	10. U	**0.63**	-	**0.66**	-	-	-	-
			24-Oct-06		**650.**	**29.2**	**62.5**	25.44	**0.59**	-	**0.69**	-	-	-	-
			16-Nov-06		**706.**	**42.1**	**98.1**	29.56	**0.73**	-	**0.64**	-	-	-	-
			26-Jan-07		**694.**	**38.**	**85.2**	27.83	**0.86**	-	**0.035**	-	-	-	-
			23-Feb-07		**659.**	**33.7**	**68.8**	23.28	**0.79**	-	**0.29**	-	-	-	-
			22-Mar-07		**655.**	**37.6**	**84.6**	23.58	**0.76**	-	**0.09**	-	-	-	-
			23-Mar-07		**629.**	**30.9**	**72.1**	22.69	-	-	-	-	-	-	-
			24-Apr-07		**630.**	**38.**	**95.1**	26.5	**0.68**	-	**0.021**	-	-	-	-
			23-May-07		**566.**	**34.2**	**68.9**	26.31	**0.72**	-	**0.041**	-	-	-	-
			19-Nov-07		**812.**	**37.3**	**101.**	35.31	**0.72**	-	0.01 U	-	-	-	-
			13-Feb-08		**998.**	**47.2**	**130.**	50.4	**0.72**	-	**0.019**	-	-	-	-
			22-May-08		**19.5**	7.41	**10.3**	12.56	**0.6**	-	0.01 U	-	-	-	-
			12-Aug-08		**1,130.**	**37.3**	**123.**	32.66	**0.53**	-	0.01 U	-	-	-	-
			14-Nov-08		**608.**	**45.2**	**130.**	47.8	**0.51**	-	0.01 U	-	-	-	-
			29-May-09		**342.**	**34.9**	**75.1**	23.2	-	-	-	-	-	-	-
			16-Jul-09		**773.**	**33.2**	**91.4**	35.31	-	-	-	-	-	-	-
			3-Sep-09		**584.**	**46.6**	**130.**	53.9	-	-	-	-	-	-	-
			20-Oct-09		**391.**	**38.3**	**102.**	33.23	-	-	-	-	-	-	-
			16-Dec-09		**448.**	**49.7**	**137.**	49.8	-	-	-	-	-	-	-
			22-Feb-10		**657.**	**34.6**	**92.**	36.3	**0.7**	0.0374	0.01 U	-	-	-	-
WS-19-101	MFA	WS-19-101	14-Nov-08	92 - 102	**13.9**	7.56	**11.2**	13.55	**0.017**	-	0.01 U	-	-	-	-
			2-Apr-09		**6.7**	3.56	**4.18**	2.81	-	-	-	-	-	-	-
			20-May-09		**6.78**	4.79	**5.91**	4.71	-	-	-	-	-	-	-
			16-Jul-09		**8.2**	4.32	**6.**	6.17	-	-	-	-	-	-	-
			3-Sep-09		**8.6**	4.7	**6.58**	5.98	-	-	-	-	-	-	-
			20-Oct-09		**5.55**	3.79	**5.**	3.08	-	-	-	-	-	-	-
			15-Dec-09		**8.2**	3.58	**5.49**	4.62	-	-	-	-	-	-	-
			22-Feb-10		**7.13**	4.23	**6.13**	5.93	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-20-112	MFA	WS-20-112	28-Jun-06	97 - 112	**132.**	2.05	1. U	2. U	**0.47**	-	-	-	-	-	-
			27-Jul-06		**161.**	**13.8**	**4.39**	20.89	**0.47**	-	**0.44**	-	-	-	-
			28-Aug-06		**143.**	5.47	**1.57**	5.62	**0.61**	-	**0.5**	-	-	-	-
			25-Sep-06		**130.**	3.55	1. U	2.81	**0.49**	-	**0.47**	-	-	-	-
			23-Oct-06		**110.**	2.71	**1.74**	2.64	**0.5**	-	**0.51**	-	-	-	-
			18-Dec-06		**128.**	2.47	0.5 U	0.9	**0.5**	-	**0.083**	-	-	-	-
			25-Jan-07		**145.**	3.52	**4.51**	5.85	**0.58**	-	**0.35**	-	-	-	-
			21-Feb-07		**179.**	2.21	0.89	0.54	**0.48**	-	**0.047**	-	-	-	-
			21-Mar-07		**206.**	1.9	0.91	1. U	**0.49**	-	**0.37**	-	-	-	-
			23-Apr-07		**177.**	1.63	0.69	0.35	**0.48**	-	**0.35**	-	-	-	-
			21-May-07		**252.**	2.18	1.31	0.79	**0.34**	-	**0.19**	-	-	-	-
			15-Nov-07		**241.**	1.31	1.27	0.92	**0.24**	-	0.01 U	-	-	-	-
			14-Feb-08		**175.**	1.63	1.05	0.71	**0.28**	-	0.01 U	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-20-112	MFA	WS-20-112	16-May-08	97 - 112	**151.**	1.57	1.5	0.74	**0.36**	-	**0.088**	-	-	-	-
			6-Aug-08		**150.**	1.53	**1.88**	1.28	**0.14**	-	0.01 U	-	-	-	-
WS-21-112	MFA	WS-21-112	28-Jun-06	97 - 112	**1,120.**	7.71	**31.7**	27.93	**0.76**	-	-	-	-	-	-
			28-Jul-06		**1,410.**	**14.7**	**27.8**	33.6	**0.68**	-	**0.73**	-	-	-	-
			28-Aug-06		**1,670.**	**14.4**	**37.9**	45.	**0.82**	-	**0.76**	-	-	-	-
			25-Sep-06		**1,420.**	**13.5**	**67.6**	58.2	**0.66**	-	**0.73**	-	-	-	-
			24-Oct-06		**1,320.**	8.97	**48.9**	28.3	**0.71**	-	**0.73**	-	-	-	-
			14-Nov-06		**1,300.**	5.19	**31.7**	5.73	-	-	-	-	-	-	-
			19-Dec-06		**1,170.**	8.9	**50.6**	8.99	**0.78**	-	**0.83**	-	-	-	-
			24-Jan-07		**1,170.**	8.3	**31.1**	17.1	**0.97**	-	**0.31**	-	-	-	-
			22-Feb-07		**1,190.**	7.83	**24.3**	14.48	**0.75**	-	**0.28**	-	-	-	-
			21-Mar-07		**1,070.**	6.43	**15.7**	9.88	**0.82**	-	**0.56**	-	-	-	-
			23-Apr-07		**802.**	7.5	**28.8**	14.	**0.78**	-	**0.29**	-	-	-	-
			22-May-07		**846.**	7.37	**27.7**	25.47	**0.48**	-	**0.21**	-	-	-	-
			16-Aug-07		**850.**	7.21	**39.7**	34.82	-	-	-	-	-	-	-
			14-Nov-07		**715.**	7.33	**43.1**	38.93	**0.87**	-	0.01 U	-	-	-	-
			11-Feb-08		**735.**	6.9	**47.1**	35.65	**0.86**	-	0.01 U	-	-	-	-
			21-May-08		**243.**	2.8	**14.6**	13.27	**0.68**	-	**0.018**	-	-	-	-
			13-Aug-08		**530.**	5.7	**36.1**	24.27	**0.69**	-	0.01 U	-	-	-	-
			18-Nov-08		**293.**	5.58	**26.9**	17.84	**0.41**	-	**0.012**	-	-	-	-
			29-Jan-09		**118.**	2.37	**7.18**	6.4	**0.53**	-	**0.021**	-	-	-	-
			21-Apr-09		**168.**	2.01	**2.93**	2.25	-	-	-	-	-	-	-
			29-Jun-09		**207.**	3.5	**6.09**	10.97	-	-	-	-	-	-	-
			28-Jul-09		**95.2**	0.81	**1.72**	0.73	-	-	-	-	-	-	-
			20-Aug-09		**137.**	2.38	**9.44**	2.55	-	-	-	-	-	-	-
			25-Aug-09		**134.**	2.1	**7.**	1.65	-	-	-	-	-	-	-
			23-Sep-09		**155.**	3.26	**5.18**	2.93	-	-	-	-	-	-	-
			27-Oct-09		**232.**	4.68	**17.3**	14.95	-	-	-	-	-	-	-
			18-Nov-09		**241.**	4.83	**20.5**	18.12	-	-	-	-	-	-	-
			22-Dec-09		**196.**	5.54	**21.4**	25.57	-	-	-	-	-	-	-
			20-Jan-10		**393.**	5.15	**19.3**	22.92	-	-	-	-	-	-	-
			1-Mar-10		**178.**	2.91	**22.3**	23.74	**0.87**	0.0742	**0.039**	-	-	-	-
			26-Mar-10		**240.**	3.25	**25.4**	25.79	**0.83**	0.0413	0.01 U	-	-	-	-
	HAI	5237-070712-WS21-112	12-Jul-07		**930.**	9.1	**45.2**	39.3	**0.0755**	0.005 U	**0.0113** J	-	-	5.81	0.00673
		5237-080521-WS21-112-108	21-May-08		**510.**	6.2	**35.**	30.1	**0.84**	0.16	0.005	-	-	10.968	0.02
		5237-080925-WS-21-112-137	25-Sep-08		**380.**	7.3	**48.**	40.2	**0.78**	0.002 U	**0.029**	-	-	9.579	ND
		5237-090407-WS21-112-108	7-Apr-09		**210.**	4. J	**5.** J	8.5 J	**0.61**	0.21 J	0.003 U	-	-	4.764	0.01
		5237-090820-WS-21-112-165	20-Aug-09		**114.**	50. U	50. U	100. U	**0.56**	0.066	0.01 U	-	-	9.81	ND
		5237-090820-WS-21-112-166	20-Aug-09		**115.**	50. U	50. U	100. U	**0.562**	0.0578	0.01 U	-	-	8.51	ND
		5237-100301-WS-21-112-106	1-Mar-10		**209.**	25. U	25. U	50. U	**0.718**	0.0765	0.01 U	-	-	10.9997	ND
WS-21-131	MFA	WS-21-131	29-Jan-09	115 - 130	**248.**	**35.2**	**46.7**	52.	**0.54**	-	0.01 U	-	-	-	-
			21-Apr-09		**312.**	**70.9**	**108.**	122.7	-	-	-	-	-	-	-
			29-Jun-09		**193.**	**34.6**	**30.6**	41.3	-	-	-	-	-	-	-
			28-Jul-09		**53.7**	5.36	**3.37**	1.83	-	-	-	-	-	-	-
			25-Aug-09		**58.8**	**10.8**	**20.3**	14.34	-	-	-	-	-	-	-
			23-Sep-09		**470.**	**49.2**	**55.6**	58.9	-	-	-	-	-	-	-
			27-Oct-09		**254.**	**43.9**	**51.3**	56.7	-	-	-	-	-	-	-
			18-Nov-09		**208.**	**39.**	**48.4**	47.7	-	-	-	-	-	-	-
			22-Dec-09		**204.**	**47.4**	**66.6**	80.1	-	-	-	-	-	-	-
			20-Jan-10		**289.**	**33.7**	**48.**	56.6	-	-	-	-	-	-	-
			1-Mar-10		**140.**	**30.1**	**42.7**	46.9	**0.74**	0.0449	**0.012**	-	-	-	-
			26-Mar-10		**211.**	**43.2**	**59.1**	64.7	**0.72**	0.0294	0.01 U	-	-	-	-
WS-22-112	MFA	WS-22-112	28-Jun-06	97 - 112	**157.**	1. U	1. U	2. U	**0.46**	-	-	-	-	-	-
			27-Jul-06		**722.**	3.7	**18.3**	13.4	**0.39**	-	**0.32**	-	-	-	-
			25-Aug-06		**628.**	2.46	**8.5**	5.08	**0.57**	-	**0.46**	-	-	-	-
			25-Sep-06		**493.**	2.65	**7.05**	3.89	**0.26**	-	**0.5**	-	-	-	-
			24-Oct-06		**424.**	2.5	**7.97**	5.49	**0.54**	-	**0.46**	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide**	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-22-112	MFA	WS-22-112	19-Dec-06	97 - 112	263.	2.92	4.94	4.47	0.6	-	0.071	-	-	-	-
			24-Jan-07		177.	3.67	4.73	4.26	0.72	-	0.096	-	-	-	-
			22-Feb-07		148.	7.47	5.12	4.25	0.64	-	0.18	-	-	-	-
			21-Mar-07		157.	7.85	3.12	1.74	0.64	-	0.46	-	-	-	-
			23-Apr-07		141.	12.3	4.44	2.54	0.73	-	0.38	-	-	-	-
			22-May-07		118.	14.4	3.2	3.94	0.49	-	0.24	-	-	-	-
			16-Nov-07		66.1	15.8	1.57	1.42	0.65	-	0.01 U	-	-	-	-
			14-Feb-08		74.3	13.6	1.02	1.06	0.66	-	0.01 U	-	-	-	-
			16-May-08		89.	11.	1.07	0.83	0.49	-	0.022	-	-	-	-
			13-Aug-08		69.3	10.6	0.97	0.32	0.52	-	0.01 U	-	-	-	-
WS-23-116	MFA	WS-23-116	26-Jan-09	100 - 115	3,820.	231.	376.	398.	0.27	-	0.01 U	-	-	-	-
			22-Apr-09		3,450.	182.	364.	452.	-	-	-	-	-	-	-
			30-Jun-09		2,430.	104.	156.	296.	-	-	-	-	-	-	-
			24-Jul-09		4,460.	243.	485.	661.	-	-	-	-	-	-	-
			25-Aug-09		4,120.	262.	552.	472.	-	-	-	-	-	-	-
			24-Sep-09		5,380.	369.	769.	807.	-	-	-	-	-	-	-
			28-Oct-09		2,060.	240.	468.	581.	-	-	-	-	-	-	-
			18-Nov-09		4,480.	394.	808.	935.	-	-	-	-	-	-	-
			28-Dec-09		3,890.	324.	693.	887.	-	-	-	-	-	-	-
			19-Jan-10		4,590.	548.	985.	1,494.	-	-	-	-	-	-	-
			18-Feb-10		4,470.	381.	810.	1,002.	0.37	0.01 U	0.01 U	-	-	-	-
			24-Mar-10		5,640.	438.	1,010.	1,365.	0.38	0.0246	0.01 U	-	-	-	-
WS-24-111	MFA	WS-24-111	28-Jan-09	100 - 110	57.4	0.5 U	0.65	1. U	0.45	-	0.01 U	-	-	-	-
			21-Apr-09		46.2	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			29-Jun-09		67.2	0.77	0.65	0.42	-	-	-	-	-	-	-
			27-Jul-09		62.5	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			25-Aug-09		85.5	0.5	0.5 U	1. U	-	-	-	-	-	-	-
			24-Sep-09		76.9	0.52	0.5 U	1. U	-	-	-	-	-	-	-
			28-Oct-09		86.3	0.61	0.5 U	1. U	-	-	-	-	-	-	-
			18-Nov-09		79.2	0.7	0.5 U	1. U	-	-	-	-	-	-	-
			22-Dec-09		90.5	0.76	0.5 U	1. U	-	-	-	-	-	-	-
			20-Jan-10		96.6	0.72	0.5 U	1. U	-	-	-	-	-	-	-
			26-Feb-10		75.	0.5 U	0.5 U	1. U	0.68	0.0415	0.01 U	-	-	-	-
			25-Mar-10		82.	0.5 U	0.5 U	1. U	0.67	0.0302	0.01 U	-	-	-	-
WS-24-126	MFA	WS-24-126	28-Jan-09	115 - 125	0.3 U	0.5 U	0.5 U	0.5 U	0.032	-	0.01 U	-	-	-	-
			21-Apr-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			29-Jun-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			27-Jul-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			25-Aug-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			24-Sep-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			28-Oct-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			18-Nov-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			22-Dec-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			20-Jan-10		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			26-Feb-10		0.3 U	0.5 U	0.5 U	1. U	0.058	0.01 U	0.01 U	-	-	-	-
			25-Mar-10		0.3 U	0.5 U	0.5 U	1. U	0.064	0.01 U	0.01 U	-	-	-	-
WS-24-155	MFA	WS-24-155	12-Mar-09	140 - 155	0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			17-Mar-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			27-Mar-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			10-Apr-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			30-Jun-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			28-Jul-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		MFA (Duiplicate)	28-Jul-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		MFA (Triplicate)	28-Jul-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			29-Jul-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		MFA (Duiplicate)	29-Jul-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			12-Aug-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-24-155	MFA	WS-24-155	24-Sep-09	140 - 155	0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			29-Oct-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			20-Nov-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			28-Dec-09		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			21-Jan-10		0.3 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			1-Mar-10		0.3 U	0.5 U	0.5 U	1. U	**0.12**	0.0298	0.01 U	-	-	-	-
			25-Mar-10		0.3 U	0.5 U	0.5 U	1. U	**0.12**	0.0109	0.01 U	-	-	-	-
WS-25-96	MFA	WS-25-96	23-Jan-09	85 - 95	**12.5**	1.05	0.5 U	1. U	**0.37**	-	0.01 U	-	-	-	-
			21-Apr-09		**11.**	0.81	0.5 U	1. U	-	-	-	-	-	-	-
			29-Jun-09		**17.8**	1.23	0.5 U	0.59	-	-	-	-	-	-	-
			28-Jul-09		**9.21**	0.56	0.5 U	1. U	-	-	-	-	-	-	-
			25-Aug-09		**33.2**	1.54	0.5 U	0.31	-	-	-	-	-	-	-
			23-Sep-09		**10.7**	1.48	0.5 U	1. U	-	-	-	-	-	-	-
			27-Oct-09		**13.2**	1.51	0.5 U	1. U	-	-	-	-	-	-	-
			19-Nov-09		**11.6**	1.32	0.5 U	1. U	-	-	-	-	-	-	-
			21-Dec-09		**15.2**	1.67	0.5 U	0.32	-	-	-	-	-	-	-
			19-Jan-10		**12.4**	1.03	0.5 U	1. U	-	-	-	-	-	-	-
			26-Feb-10		**14.9**	0.5 U	0.5 U	1. U	**0.55**	0.0435	0.01 U	-	-	-	-
			26-Mar-10		**15.3**	0.5 U	0.5 U	1. U	**0.51**	0.056	**0.013**	-	-	-	-
WS-25-111	MFA	WS-25-111	26-Jan-09	100 - 110	**31.8**	2.	0.5 U	0.35	**0.45**	-	**0.019**	-	-	-	-
			21-Apr-09		**36.9**	2.32	0.5 U	0.42	-	-	-	-	-	-	-
			29-Jun-09		**21.7**	1.32	0.5 U	0.72	-	-	-	-	-	-	-
			28-Jul-09		**1.34**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			25-Aug-09		**26.8**	1.8	0.5 U	0.39	-	-	-	-	-	-	-
			23-Sep-09		**39.7**	3.08	0.79	0.68	-	-	-	-	-	-	-
			27-Oct-09		**38.7**	3.43	0.5 U	0.66	-	-	-	-	-	-	-
			19-Nov-09		**38.**	2.91	0.5 U	0.57	-	-	-	-	-	-	-
			21-Dec-09		**42.1**	3.35	0.5 U	0.93	-	-	-	-	-	-	-
			19-Jan-10		**30.**	1.7	0.5 U	1. U	-	-	-	-	-	-	-
			25-Feb-10		**37.3**	0.5 U	0.5 U	1. U	**0.62**	0.0625	0.01 U	-	-	-	-
			26-Mar-10		**36.6**	0.5 U	0.5 U	1. U	**0.59**	0.0303	0.01 U	-	-	-	-
WS-26-86	MFA	WS-26-86	23-Jan-09	75 - 85	**13.5**	1.35	0.5 U	1.64	**0.45**	-	0.01 U	-	-	-	-
			20-Apr-09		**13.5**	1.5	0.5 U	1.58	-	-	-	-	-	-	-
			30-Jun-09		**12.2**	0.94	0.5 U	1. U	-	-	-	-	-	-	-
			24-Jul-09		**16.6**	1.33	0.5 U	1.58	-	-	-	-	-	-	-
			26-Aug-09		**11.6**	0.95	0.5 U	0.56	-	-	-	-	-	-	-
			23-Sep-09		**10.5**	0.83	0.5 U	0.56	-	-	-	-	-	-	-
			27-Oct-09		**9.95**	1.	0.5 U	0.55	-	-	-	-	-	-	-
			19-Nov-09		**10.9**	0.98	0.5 U	0.78	-	-	-	-	-	-	-
			21-Dec-09		**14.4**	1.19	0.5 U	1.18	-	-	-	-	-	-	-
			19-Jan-10		**13.2**	0.99	0.5 U	1. U	-	-	-	-	-	-	-
			25-Feb-10		**11.**	0.5 U	0.5 U	1. U	**0.74**	0.0503	0.01 U	-	-	-	-
			24-Mar-10		**12.2**	0.5 U	0.5 U	1. U	**0.7**	0.057	**0.011**	-	-	-	-
WS-26-116	MFA	WS-26-116	23-Jan-09	105 - 115	**6.96**	0.5 U	0.5 U	1. U	**0.34**	-	0.01 U	-	-	-	-
			20-Apr-09		**7.85**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			30-Jun-09		**7.25**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			23-Jul-09		**14.**	0.5 U	0.5 U	0.3	-	-	-	-	-	-	-
			24-Aug-09		**12.4**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			23-Sep-09		**11.5**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			27-Oct-09		**12.1**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			19-Nov-09		**12.9**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			21-Dec-09		**15.9**	0.5 U	0.5 U	0.35	-	-	-	-	-	-	-
			19-Jan-10		**15.8**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			25-Feb-10		**14.3**	0.5 U	0.5 U	1. U	**0.45**	0.0421	0.01 U	-	-	-	-
			24-Mar-10		**14.6**	0.5 U	0.5 U	1. U	**0.43**	0.0565	**0.016**	-	-	-	-
WS-27-86	MFA	WS-27-86	22-Jan-09	70 - 85	**1.97**	0.5 U	0.5 U	1. U	**0.61**	-	0.01 U	-	-	-	-
			20-Apr-09		**2.33**	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-

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Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-27-86	MFA	WS-27-86	30-Jun-09	70 - 85	4.31	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			23-Jul-09		4.76	0.5 U	0.5 U	0.51	-	-	-	-	-	-	-
			24-Aug-09		2.45	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			23-Sep-09		1.77	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			26-Oct-09		2.28	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			19-Nov-09		2.48	0.5 U	0.5 U	0.3	-	-	-	-	-	-	-
			21-Dec-09		3.35	0.5 U	0.5 U	0.46	-	-	-	-	-	-	-
			19-Jan-10		1.77	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
			19-Feb-10		2.98	0.5 U	0.5 U	0.5 U	0.71	0.0392	0.02	-	-	-	-
			24-Mar-10		3.05	0.5 U	0.5 U	1. U	0.68	0.0286	0.012	-	-	-	-
WS-30-96	MFA	WS-30-96	11-Feb-09	85 - 95	628.	30.2	111.	126.5	-	-	-	-	-	-	-
			24-Mar-09		219.	29.8	108.	144.8	-	-	-	-	-	-	-
			26-May-09		167.	28.2	109.	116.5	-	-	-	-	-	-	-
			20-Jul-09		151.	20.2	63.6	83.9	-	-	-	-	-	-	-
			3-Sep-09		152.	23.1	92.3	126.9	-	-	-	-	-	-	-
			21-Oct-09		138.	16.2	59.2	57.9	-	-	-	-	-	-	-
			15-Dec-09		97.	16.3	53.6	56.2	-	-	-	-	-	-	-
			16-Feb-10		114.	19.5	80.8	103.9	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-31-106	MFA	WS-31-106	20-Feb-09	95 - 105	91.8	6.03	58.8	40.6	-	-	-	-	-	-	-
			6-Apr-09		43.2	7.09	14.9	13.23	-	-	-	-	-	-	-
			27-May-09		28.	7.04	11.5	12.4	-	-	-	-	-	-	-
			23-Jul-09		24.1	3.45	6.75	7.69	-	-	-	-	-	-	-
			27-Aug-09		33.8	2.85	7.92	4.49	-	-	-	-	-	-	-
			26-Oct-09		31.5	4.11	7.06	7.74	-	-	-	-	-	-	-
			18-Dec-09		23.8	3.68	7.54	5.56	-	-	-	-	-	-	-
			24-Feb-10		12.8	0.5 U	1.74	1. U	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-32-76	MFA	WS-32-76	23-Feb-09	61 - 71	888.	58.	248.	256.7	-	-	-	-	-	-	-
			26-Mar-09		628.	35.	137.	118.	-	-	-	-	-	-	-
			26-May-09		865.	22.3	125.	130.	-	-	-	-	-	-	-
			22-Jul-09		635.	38.1	148.	127.4	-	-	-	-	-	-	-
			27-Aug-09		674.	38.6	148.	120.8	-	-	-	-	-	-	-
			26-Oct-09		834.	47.8	158.	204.3	-	-	-	-	-	-	-
			18-Dec-09		650.	32.2	141.	136.4	-	-	-	-	-	-	-
			24-Feb-10		1,090.	40.8	156.	173.6	0.57	0.0175	0.01 U	-	-	-	-
WS-32-106	MFA	WS-32-106	23-Feb-09	95 - 105	35.6	26.1	16.6	11.72	-	-	-	-	-	-	-
			26-Mar-09		47.2	2.71	18.9	14.25	-	-	-	-	-	-	-
			26-May-09		48.2	3.14	18.6	15.17	-	-	-	-	-	-	-
			22-Jul-09		50.2	3.55	18.7	15.13	-	-	-	-	-	-	-
			27-Aug-09		45.2	1.7	12.4	7.12	-	-	-	-	-	-	-
			26-Oct-09		58.3	4.38	23.6	19.74	-	-	-	-	-	-	-
			18-Dec-09		45.5	2.64	20.6	13.99	-	-	-	-	-	-	-
			24-Feb-10		43.7	1.91	22.5	17.51	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-33-81	MFA	WS-33-81	2-Feb-09	70 - 80	3,350.	45.3	469.	273.4	0.88	-	0.01 U	-	-	-	-
			26-Mar-09		1,070.	31.4	141.	146.6	-	-	-	-	-	-	-
			22-May-09		694.	22.5	89.6	63.3	-	-	-	-	-	-	-
			21-Jul-09		1,210.	38.1	168.	127.6	-	-	-	-	-	-	-
			27-Aug-09		1,040.	37.2	129.	129.7	-	-	-	-	-	-	-
			23-Oct-09		916.	37.6	233.	211.3	-	-	-	-	-	-	-
			21-Dec-09		628.	29.	144.	134.	-	-	-	-	-	-	-
			18-Feb-10		1,480.	44.6	237.	244.2	0.36	0.01 U	0.01 U	-	-	-	-
WS-33-106	MFA	WS-33-106	30-Jan-09	95 - 105	22.4	1.97	2.68	0.46	0.014	-	0.01 U	-	-	-	-
			26-Mar-09		15.6	1.46	2.25	2.04	-	-	-	-	-	-	-
			21-May-09		19.	1.45	3.43	3.03	-	-	-	-	-	-	-
			21-Jul-09		40.3	1.56	6.11	4.8	-	-	-	-	-	-	-
			27-Aug-09		106.	1.5	14.3	6.85	-	-	-	-	-	-	-
			23-Oct-09		135.	2.76	18.5	15.91	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-33-106	MFA	WS-33-106	18-Dec-09	95 - 105	76.9	1.48	8.21	4.21	-	-	-	-	-	-	-
			24-Feb-10		55.9	0.5 U	9.08	3.8	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-34-71	MFA	WS-34-71	13-Feb-09	60 - 70	1,380.	23.4	50.5	33.8	-	-	-	-	-	-	-
			2-Apr-09		777.	23.7	83.	29.35	-	-	-	-	-	-	-
			27-May-09		1,180.	27.1	79.5	43.1	-	-	-	-	-	-	-
			16-Jul-09		1,180.	24.	78.2	37.61	-	-	-	-	-	-	-
			1-Sep-09		593.	30.5	96.4	51.3	-	-	-	-	-	-	-
			22-Oct-09		638.	11.9	45.5	13.52	-	-	-	-	-	-	-
			17-Dec-09		604.	37.1	128.	64.1	-	-	-	-	-	-	-
			23-Feb-10		968.	30.9	93.4	55.4	0.63	0.0221	0.01 U	-	-	-	-
WS-34-106	MFA	WS-34-106	17-Feb-09	95 - 105	8.67	0.75	6.28	3.02	-	-	-	-	-	-	-
			2-Apr-09		7.59	1.05	4.34	1.96	-	-	-	-	-	-	-
			27-May-09		5.69	1.84	5.38	2.92	-	-	-	-	-	-	-
			16-Jul-09		6.41	1.2	4.59	3.37	-	-	-	-	-	-	-
			1-Sep-09		4.39	0.97	3.82	1.83	-	-	-	-	-	-	-
			21-Oct-09		2.45	1.03	3.74	2.	-	-	-	-	-	-	-
			16-Dec-09		3.79	1.12	4.38	3.31	-	-	-	-	-	-	-
			23-Feb-10		2.11	0.5 U	3.27	1.82	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-35-76	MFA	WS-35-76	17-Feb-09	65 - 75	662.	25.5	11.7	6.13	-	-	-	-	-	-	-
			2-Apr-09		404.	19.6	8.81	5.02	-	-	-	-	-	-	-
			27-May-09		363.	22.1	10.3	8.83	-	-	-	-	-	-	-
			22-Jul-09		404.	24.4	11.3	9.82	-	-	-	-	-	-	-
			1-Sep-09		358.	28.2	14.1	12.62	-	-	-	-	-	-	-
			22-Oct-09		526.	20.9	8.82	7.91	-	-	-	-	-	-	-
			17-Dec-09		355.	26.7	14.5	11.76	-	-	-	-	-	-	-
			23-Feb-10		568.	34.2	15.6	11.6	0.45	0.0115	0.01 U	-	-	-	-
WS-35-106	MFA	WS-35-106	17-Feb-09	95 - 105	77.2	20.4	27.6	34.5	-	-	-	-	-	-	-
			30-Mar-09		68.2	16.1	18.8	22.21	-	-	-	-	-	-	-
			27-May-09		74.4	17.1	18.	12.76	-	-	-	-	-	-	-
			22-Jul-09		71.2	18.7	19.8	23.72	-	-	-	-	-	-	-
			1-Sep-09		85.8	20.7	23.1	28.27	-	-	-	-	-	-	-
			22-Oct-09		80.	22.9	23.9	30.98	-	-	-	-	-	-	-
			17-Dec-09		60.8	20.8	21.	23.12	-	-	-	-	-	-	-
			23-Feb-10		69.5	18.1	24.8	27.08	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-36-81	MFA	WS-36-81	2-Feb-09	70 - 80	620.	32.4	32.1	20.28	0.58	-	0.016	-	-	-	-
			30-Mar-09		818.	45.6	38.4	27.4	-	-	-	-	-	-	-
			21-May-09		384.	36.2	21.2	15.56	-	-	-	-	-	-	-
			21-Jul-09		776.	34.6	24.	20.27	-	-	-	-	-	-	-
			1-Sep-09		614.	40.4	25.4	19.33	-	-	-	-	-	-	-
			22-Oct-09		741.	45.1	25.5	22.35	-	-	-	-	-	-	-
			17-Dec-09		650.	34.4	23.3	15.57	-	-	-	-	-	-	-
			23-Feb-10		834.	37.1	23.4	18.92	0.53	0.0295	0.01 U	-	-	-	-
WS-36-106	MFA	WS-36-106	3-Feb-09	95 - 105	8.45	1.66	1.5	1. U	0.01 U	-	0.01 U	-	-	-	-
			30-Mar-09		11.2	2.28	1.73	1. U	-	-	-	-	-	-	-
			21-May-09		13.2	1.73	1.76	0.46	-	-	-	-	-	-	-
			21-Jul-09		16.4	3.05	2.39	2.53	-	-	-	-	-	-	-
			1-Sep-09		18.5	2.99	4.48	4.39	-	-	-	-	-	-	-
			22-Oct-09		17.7	2.96	2.49	2.41	-	-	-	-	-	-	-
			17-Dec-09		15.1	2.49	2.19	2.29	-	-	-	-	-	-	-
			23-Feb-10		14.8	2.74	2.63	2.37	0.01 U	0.01 U	0.01 U	-	-	-	-
WS-37-51	MFA	WS-37-51	22-Feb-09	40 - 50	1,310.	765.	651.	361.	-	-	-	-	-	-	-
			25-Mar-09		1,550.	165.	331.	338.	-	-	-	-	-	-	-
			27-May-09		2,600.	207.	280.	234.5	-	-	-	-	-	-	-
			22-Jul-09		1,800.	110.	170.	206.9	-	-	-	-	-	-	-
			3-Sep-09		1,760.	112.	218.	224.1	-	-	-	-	-	-	-
			19-Oct-09		1,520.	93.6	201.	177.5	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide**	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
WS-37-51	MFA	WS-37-51	16-Dec-09	40 - 50	**1,490.**	**125.**	**95.4**	**265.1**	-	-	-	-	-	-	-
			25-Feb-10		**2,480.**	**77.1**	**150.**	188.9	**2.1**	0.0388	0.01 U	-	-	-	-
WS-38-61	MFA	WS-38-61	28-Jan-09	50 - 60	**1,620.**	**46.8**	**162.**	35.5	**0.82**	-	0.01 U	-	-	-	-
			25-Mar-09		**879.**	**44.9**	**143.**	52.5	-	-	-	-	-	-	-
			21-May-09		**1,100.**	**37.8**	**162.**	42.7	-	-	-	-	-	-	-
			22-Jul-09		**3,260.**	**45.9**	**151.**	51.9	-	-	-	-	-	-	-
			28-Aug-09		**1,370.**	**36.2**	**161.**	30.5	-	-	-	-	-	-	-
			21-Oct-09		**705.**	**22.4**	**92.8**	15.14	-	-	-	-	-	-	-
			17-Dec-09		**789.**	**27.3**	**81.2**	17.82	-	-	-	-	-	-	-
			24-Feb-10		**1,330.**	**29.7**	**90.8**	21.48	**1.2**	0.0286	0.01 U	-	-	-	-
WS-39-101	MFA	MW-39-101	29-Jan-09	90 - 100	**40.4**	**11.2**	**30.6**	34.	0.01 U	-	0.01 U	-	-	-	-
			24-Mar-09		**42.6**	**13.2**	**41.1**	48.	-	-	-	-	-	-	-
			21-May-09		**42.2**	**12.**	**26.9**	29.6	-	-	-	-	-	-	-
			20-Jul-09		**63.3**	**14.8**	**41.3**	46.6	-	-	-	-	-	-	-
			4-Sep-09		**56.8**	**11.6**	**30.8**	32.5	-	-	-	-	-	-	-
			21-Oct-09		**55.9**	**13.7**	**36.**	43.6	-	-	-	-	-	-	-
			14-Dec-09		**57.9**	**17.**	**45.2**	51.8	-	-	-	-	-	-	-
			16-Feb-10		**84.3**	**14.6**	**41.4**	48.7	**0.011**	0.01 U	0.01 U	-	-	-	-
MW-3-81	HAI	5237-100316-MW-3-81-109	16-Mar-10	76-81	0.25 U	0.5 U	0.5 U	1 U	**0.0063** J	0.005 UJ	0.01 UJ			ND	ND
RP-01-31	URS		17-Apr-00	25-30	0.16	-	-	-	-	-	-	-	-	-	-
			Fall-00		U	-	-	-	-	-	-	-	-	-	-
			26-Jun-01		U	-	-	-	-	-	-	-	-	-	-
	AMEC		5-Apr-02		U	-	-	-	-	-	-	-	-	-	-
			15-Apr-04		U	U	U	U	-	-	-	-	-	-	-
RP-01-51	URS		17-Apr-00	45-50	**1.12**	-	-	-	-	-	-	-	-	-	-
			Fall-00		0.16	-	-	-	-	-	-	-	-	-	-
			26-Jun-01		0.18	-	-	-	-	-	-	-	-	-	-
	AMEC		8-Apr-02		**0.5**	-	-	-	-	-	-	-	-	-	-
			15-Apr-04		**0.64**	U	U	U	-	-	-	-	-	-	-
		(duplicate)	15-Apr-04		**0.6**	U	U	U	-	-	-	-	-	-	-
RP-01-65	URS		17-Apr-00	59-64	**27.4**	-	-	-	-	-	-	-	-	-	-
			Fall-00		**13.7**	-	-	-	-	-	-	-	-	-	-
			26-Jun-01		**41.4**	-	-	-	-	-	-	-	-	-	-
	AMEC		5-Apr-02		**4.75**	-	-	-	-	-	-	-	-	-	-
			15-Apr-04		**7.7**	U	U	U	-	-	-	-	-	-	-
RP-03-26	URS		7-Apr-00	20-25	U	-	-	-	-	-	-	-	-	-	-
RP-03-30R	URS		Fall-00	23-28	U	-	-	-	-	-	-	-	-	-	-
			27-Jun-01		U	-	-	-	-	-	-	-	-	-	-
	AMEC		10-Apr-02		U	-	-	-	-	-	-	-	-	-	-
			19-Apr-04		U	-	**5.1**	8.9	-	-	-	-	-	2,332.04	33.2
	HAI	5237-100413-RP-03-30R-104	13-Apr-10		**0.75**	1.26	**2.45**	5.16	**0.0352** J	0.0352 J	0.01 U	0.0081 J	0.0005 J	328.9	ND
RP-03-52R	URS		Fall-00	46-51	U	-	-	-	-	-	-	-	-	-	-
			27-Jun-01		U	-	-	-	-	-	-	-	-	-	-
	AMEC		10-Apr-02		U	-	-	-	-	-	-	-	-	-	-
			19-Apr-04		U	-	-	-	-	-	-	-	-	0.3897	ND
		(duplicate)	19-Apr-04		U	U	U	U	-	-	-	-	-	0.3976	ND
	HAI	5237-100413-RP-03-52R-105	13-Apr-10		0.5 U	0.5 U	0.5 U	2. U	**0.0064** J	0.005 UJ	0.01 U	-	-	ND	ND
RP-06-31	URS		14-Apr-00	24.5-29.5	**0.45**	-	-	-	-	-	-	-	-	-	-
			Fall-00		0.18	-	-	-	-	-	-	-	-	-	-
			27-Jun-01		U	-	-	-	-	-	-	-	-	-	-
	AMEC		10-Apr-02		U	-	-	-	-	-	-	-	-	-	-
	HAI	5237-100413-RP-06-31-100	13-Apr-10		0.5 U	0.5 U	0.5 U	2. U	**0.0072** J	0.005 UJ	0.01 U	-	-	ND	ND
RP-06-87	URS		14-Apr-00	81-86	**3.1**	-	-	-	-	-	-	-	-	-	-
			Fall-00		**1.85**	-	-	-	-	-	-	-	-	-	-
			27-Jun-01		**1.85**	-	-	-	-	-	-	-	-	-	-
	AMEC		10-Apr-02		**1.65**	-	-	-	-	-	-	-	-	-	-
			15-Apr-04		**1.5**	U	U	U	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
RP-06-87	HAI	5237-100413-RP-06-87-101	13-Apr-10	81-86	5.	5. U	5. U	20. U	0.0052 J	0.005 UJ	0.01 U	-	-	ND	ND
RP-06-95	HAI	5237-100413-RP-06-95-103	13-Apr-10	89.5-94.5	3.77	0.5 U	0.5 U	2. U	0.0093 J	0.005 UJ	0.01 U	-	-	ND	ND
RP-07-30	AMEC		3-May-02	25-30	U	-	-	-	-	-	-	-	-	-	-
	HAI	5237-070828-RP-7-30-106	28-Aug-07		0.09 U	0.11 U	0.06 U	0.26 U	0.0094	0.0094	0.003 U	-	-	11.35	1.17
		5237-100317-RP-7-30-115	17-Mar-10		0.250 U	0.52	0.500 U	1.00 U	0.0271 J	0.0127 J	0.01 U	0.0082 J	0.00044	8.627	1.59
RP-07-55	AMEC		3-May-02	50-55	U	-	-	-	-	-	-	-	-	ND	ND
	HAI	5237-070827-RP-7-55-104	27-Aug-07		0.09 U	0.11 U	0.06 U	0.26 U	0.005 UJ	0.005 U	0.003 J	-	-	ND	ND
		5237-100317-RP-7-55-113	17-Mar-10		0.250 U	0.500 U	0.500 U	1.00 U	0.0158 J	0.0059 J	0.01 U	-	-	ND	ND
RP-07-84	AMEC		3-May-02	79-84	U	-	-	-	-	-	-	-	-	-	-
			13-Apr-04		1.9	U	U	U	-	-	-	-	-	ND	ND
	HAI	5237-070828-RP-7-84-107	28-Aug-07		1.39	0.11 U	0.06 U	0.26 U	0.005 U	0.005 U	0.003 U	-	-	ND	ND
		5237-070828-RP-7-84-108 (DUP)	28-Aug-07		1.31	0.11 U	0.06 U	0.26 U	0.005 U	0.005 U	0.003 U	-	-		0.0424
		5237-100317-RP-7-84-114	17-Mar-10		1.09	0.500 U	0.500 U	1.00 U	0.0151 J	0.0151 J	0.01 U	0.0129 J	0.0004	ND	ND
RP-07-119	AMEC		Spring-02	114-119	U	-	-	-	-	-	-	-	-	-	-
			13-Apr-04		U	U	U	U	-	-	-	-	-	ND	ND
	HAI	5237-100317-RP-7-119-116	17-Mar-10		0.250 U	0.500 U	0.500 U	1.00 U	0.005 UJ	0.005 UJ	0.01 U	-	-	0.0862	ND
RP-11-30	HAI	5237-070827-RP-11-30-101	27-Aug-07	15 - 30	0.09 U	0.75	0.06 U	0.26 U	0.0262 J	0.0217	0.003 UR	-	-	5.703	0.8115
RP-11-160	HAI	5237-070827-RP-11-160-102	27-Aug-07	150 - 160	0.09 U	0.11 U	0.06 U	0.26 U	0.005 UJ	0.005 U	0.003 UR	-	-	ND	ND
		5237-100317-RP-11-160-110	17-Mar-10		0.250 U	0.500 U	0.500 U	1.00 U	0.0056 J	0.005 UJ	0.01 U	0.0071 J	0.002 U	ND	ND
		5237-100317-RP-11-160-111	17-Mar-10		0.250 U	0.500 U	0.500 U	1.00 U	0.007 J	0.005 UJ	0.01 U	0.0088 J	0.002 U	ND	ND
RP-11-216	HAI	5237-070827-RP-11-216-103	27-Aug-07	211 - 216	0.47	0.11 U	0.06 U	0.26 U	0.005 UJ	0.005 U	0.003 UR	-	-	ND	ND
		5237-100317-RP-11-216-112	17-Mar-10		0.390	0.500 U	0.500 U	1.00 U	0.005 UJ	0.005 UJ	0.01 U	-	-	0.0963	ND
RP-20-25	HAI	5237-100315-RP-20-25-102	15-Mar-10	10 - 25	0.250 U	0.500 U	0.500 U	1.00 U	0.215 J	0.005 UJ	0.01 U	0.053 J	0.0026 UJ	2.12	0.1592
RP-20-97	HAI	5237-100315-RP-20-97-103	15-Mar-10	88 - 98	0.250 U	0.500 U	0.500 U	1.00 U	0.0614 J	0.005 UJ	0.01 U	-	-	0.107	0.1007
RP-21-28	HAI	5237-100315-RP-21-28-101	15-Mar-10	13 - 28	0.250 U	0.500 U	0.500 U	1.00 U	0.0895 J	0.005 UJ	0.008 J	-	-	14.293	10.3265
RP-21-125	HAI	5237-100315-RP-21-125-100	15-Mar-10	120 - 125	0.250 U	0.500 U	0.500 U	1.00 U	0.005 UJ	0.005 UJ	0.0069 J	-	-	0.102	ND
RP-22-29	HAI	5237-100318-RP-22-29-120	18-Mar-10	14 - 29	0.250 U	0.500 U	0.500 U	1.00 U	4.07	0.1 UJ	0.01 U	0.31	0.0086 UJ	2.022	3.0516
RP-22-75	HAI	5237-100318-RP-22-75-119	18-Mar-10	65 - 75	0.25 U	0.5 U	0.5 U	2. U	5.2	0.1 UJ	0.0099 J	0.331	0.025 UJ	0.3075	ND
RP-23-30	HAI	5237-100316-RP-23-30-104	16-Mar-10	15-30	0.250 U	0.500 U	0.500 U	1.00 U	1.92 J	0.1 UJ	0.008 J	-	-	12.242	2.8655
RP-23-85	HAI	5237-100316-RP-23-85-105	16-Mar-10	80 - 85	0.250 U	0.500 U	0.500 U	1.00 U	0.0094 J	0.0094 J	0.01 UJ	-	-	ND	ND
RP-23-100	HAI	5237-100316-RP-23-100-106	16-Mar-10	95 - 100	1.80	0.500 U	0.500 U	1.00 U	0.0125 J	0.0125 J	0.01 UJ	-	-	0.095	ND
RP-24-30	HAI	5237-070829-RP-24-30-109	29-Aug-07	25 - 30	0.09 U	0.11 U	0.06 U	0.26 U	0.0269	0.0174	0.003 U	-	-	0.346	0.0622
		5237-100318-RP-24-30-117	18-Mar-10		0.25 U	0.5 U	0.5 U	2. U	0.0286	0.0055 J	0.01 U	0.0111	0.002 UJ	2.2714	1.3405
RP-24-60	HAI	5237-070828-RP-24-60-110	28-Aug-07	55 - 60	0.09 U	0.11 U	0.06 U	0.26 U	0.0582	0.0431	0.003 U	-	-	0.776	0.808
		5237-100318-RP-24-60-118	18-Mar-10		0.25 U	0.5 U	0.5 U	2. U	0.025	0.005 UJ	0.01 U	0.0096	0.002 UJ	0.0599	0.657
RP-24-73	HAI	5237-070829-RP-24-73-113	29-Aug-07	68 - 73	0.09 U	0.11 U	0.06 U	0.26 U	0.0596	0.0592	0.003 U	-	-	ND	ND
RP-24-85	HAI	5237-070828-RP-24-85-111	28-Aug-07	80 - 85	1.86	0.11 U	0.06 U	0.26 U	0.0293	0.0201	0.003 U	-	-	ND	ND
RP-25-30	HAI	5237-100316-RP-25-30-108	16-Mar-10	10 - 30	0.250 U	0.500 U	0.500 U	1.00 U	0.0161 J	0.005 UJ	0.01 UJ	0.0109 J	0.002 UJ	1.303	ND
RP-25-86	HAI	5237-100316-RP-25-86-107	16-Mar-10	81 - 86	0.340	4.04	1.22	1.97 U	0.0065 J	0.0065 J	0.01 UJ	0.0071 J	0.002 UJ	0.187	ND
NWN-1-20	HAI	5237-080807-NWN-1-20-107	7-Aug-08	10 - 20	610.	44.	88.	187.	74.	31.5	0.16 J	-	-	5,605.	240.3
		5237-081211-NWN-1-20-019	11-Dec-08		690.	45.	120.	330.	69.	3.5 J	0.124	-	-	4,902.	177.9
		5237-090407-NWN1-20-105	7-Apr-09		440.	35.	91.	370.	63.7	6.7 J	0.24	-	-	3,364.	360.5
		5237-090604-NWN-1-20-103	4-Jun-09		480.	40.	110.	410.	71.8	4. J	0.07	-	-	4,990.	1,148.
		5237-090818-NWN-1-20-148	18-Aug-09		470.	36.6	105.	330.	9.31	0.5 U	0.0636 J	-	-	3,410.	ND
		5237-100301-NWN-1-20-101	1-Mar-10		363.	30.5	95.	347.	63.2	4. U	0.0912	0.81 J	0.28 J	3,128.9	870.84
NWN-2-20	HAI	5237-080730-NWN2-20-101	30-Jul-08	10 - 20	18.	2.7	7.7	8.2	11.	2.09	0.583	-	-	251.94	93.03
		5237-081211-NWN-2-20-017	11-Dec-08		58.	3.5	8.5	7.2	8.3	0.07 J	0.025	-	-	244.8	82.67
		5237-090407-NWN2-20-107	7-Apr-09		64.	1.3	2.2	3.3	3.93	0.72 J	0.031	-	-	200.8	172.34
		5237-090604-NWN-2-20-101	4-Jun-09		56.	1.4	3.8	3.5	6.16	0.39 J	0.06	-	-	216.3	216.52
		5237-090818-NWN-2-20-142	18-Aug-09		32.3	1.84	5.52	3.5	14.4	0.336	0.0126 J	-	-	341.62	367.95
		5237-100301-NWN-2-20-103	1-Mar-10		27.2	0.64	1.03	1.21	2.9	0.1 U	0.0082 J	0.155	0.024 J	18.28	56.21
NWN-3-17	HAI	5237-080730-NWN3-17-100	30-Jul-08	7 - 17	0.08 J	0.22 J	0.04 U	0.2	1.99	0.002 U	0.011	-	-	1.65	1.43
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-
		5237-090407-NWN3-17-101	7-Apr-09		0.05 U	0.05 U	0.04 U	0.05 J	0.29	0.003 U	0.003 U	-	-	1.98	0.1541
		5237-090604-NWN-3-17-102	4-Jun-09		0.04 U	0.05 U	0.05 U	0.12 J	0.7	0.04 J	0.009 J	-	-	2.477	0.381
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-	-	-	-	-
		5237-100301-NWN-3-17-102	1-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1.39	0.1 U	0.01 U	-	-	3.8823	0.6201

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
NWN-4-15	HAI	NS (Dry)	30-Jul-08	5 - 15	-	-	-	-	-	-	-	-	-	-	-
		5237-081211-NWN-4-15-021[9]	12/11 & 12/12/08		0.98	0.2 U*	0.13 J	0.3	0.08	0.08 J	0.005	-	-	0.983	1.642
		5237-090407-NWN4-15-103	7-Apr-09		0.05 U	0.06 J	0.04 U	0.08 U	0.03	0.01 J	0.003 U	-	-	0.2667	0.897
		5237-090604-NWN-4-15-100	4-Jun-09		0.19 J	0.08 J	0.06 J	0.09 U	0.05	0.02 J	0.008 J	-	-	2.996	11.89
		5327-090818-NWN-4-15-152*	18-Aug-09		2.5 U	5. U	5. U	10. U	-	-	-	-	-	-	-
		5237-100301-NWN-4-15-100	1-Mar-10		0.25 U	0.5 U	0.5 U	1. U	0.0259	0.005 U	0.01 U	-	-	0.687	5.0855
NWN-5-20	HAI	5237-080730-NWN5-20-103	30-Jul-08	10 - 20	8.1	6.4	13.	20.8	0.46	0.11	0.009 J	-	-	700.7	35.226
		5237-081211-NWN-5-20-018	11-Dec-08		0.4 UR	0.46 J	5.2	4.4	0.48	0.002 UJ	0.014	-	-	394.62	16.462
		5237-090408-NWN5-20-111	8-Apr-09		0.38 J	0.35 J	0.38 J	1.04 J	0.09	0.02 J	0.003 U	-	-	55.38	9.147
		5237-090604-NWN-5-20-104	4-Jun-09		0.66	0.51	0.73	1.61	0.09 J	0.003 UJ	0.006 J	-	-	136.22	6.093
		5237-090818-NWN-5-20-150	18-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.209	0.01 U	0.01 R	-	-	42.33	6.7
		5237-100302-NWN-5-20-117	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	0.0279	0.005 U	0.01 U	-	-	0.785	0.797
NWN-6-31	HAI	5237-080730-NWN6-31-104	30-Jul-08	21 - 31	24.	1.2 J	32.	13.4	0.09	0.002 U	0.003 J	-	-	2,068.44	15.177
		5237-081211-NWN-6-31-020	11-Dec-08		29.	1. U*	31.	14.6	0.08	0.01 J	0.006	-	-	1,813.7	17.378
		5237-090408-NWN6-31-109	8-Apr-09		27.	0.9 J	29.	13.6 J	0.09	0.02 J	0.003 U	-	-	1,482.9	14.627
		5237-090604-NWN-6-31-106	4-Jun-09		26.	1.1 J	43.	19.9	0.1	0.03 J	0.004 J	-	-	2,206.8	14.597
		5327-090819-NWN-6-31-154	19-Aug-09		19.4	5. U	35.1	11.4	0.0644	0.01 U	0.01 U	-	-	1,216.	ND
		5237-100303-NWN-6-31-120	3-Mar-10		22.6	10. U	32.4	20. U	0.0676	0.005 U	0.01 UJ	-	-	712.4	14.72
NWN-7-30	HAI	5237-080807-NWN-7-30-106	7-Aug-08	20 - 30	1.2	0.86	1.5	3.7	2.25	0.57	0.007 J	-	-	84.9	3.8923
		5237-081211-NWN-7-30-016	11-Dec-08		0.81	1.1	1.4	4.3	2.28	0.01 J	0.01	-	-	92.65	6.499
		5237-090408-NWN7-30-112	8-Apr-09		37.	1.	1.1	4.9	8.57	0.58 J	0.031	-	-	103.65	2.78
		5237-090604-NWN-7-30-108	4-Jun-09		4.2	0.46 J	0.56	2.3 J	12.7	0.7 J	0.069	-	-	111.3	3.088
		5237-090818-NWN-7-30-144	18-Aug-09		0.72	0.52	0.5 U	1.64	8.16	0.1 U	0.01 R	-	-	63.669	2.44
		5237-100301-NWN-7-30-104	1-Mar-10		0.65	0.51	0.68	1.75	7.12	0.5 U	0.01 U	-	-	90.712	2.6464
NWN-8-30	HAI	5237-080730-NWN8-30-105	30-Jul-08	15 - 30	0.51	0.22 J	5.7	0.36	1.27	0.24	0.008 J	-	-	13.555	2.089
		5237-081211-NWN-8-30-022	11-Dec-08		0.55	0.21 U*	2.3	0.34	1.75	0.07 J	0.009	-	-	16.24	14.29
		5237-090408-NWN8-30-113	8-Apr-09		0.65	0.22 J	3.4	0.22 J	0.94	0.23 J	0.003 U	-	-	7.814	0.8391
		5237-090604-NWN-8-30-105	4-Jun-09		0.61	0.11 J	1.5	0.1 J	0.51	0.06 J	0.008 J	-	-	8.487	2.15
		5237-090818-NWN-8-30-146	18-Aug-09		0.58	0.5 U	0.5 U	1. U	0.553	0.01 U	0.01 R	-	-	7.1836	1.726
		5237-100301-NWN-8-30-105	1-Mar-10		0.98	0.5 U	1.85	1. U	1.41	0.1 U	0.01 U	-	-	9.2023	2.203
NWN-9-31	HAI	5237-080807-NWN-9-31-108	7-Aug-08	16 - 31	4.4	0.3 J	2.8	5.1	0.06	0.002 UJ	0.003 U	-	-	64.45	11.123
		5237-081211-NWN-9-31-023	11-Dec-08		20.	0.55	4.7	5.4	0.14	0.002 UJ	0.005	-	-	32.4	5.7721
		5237-090409-NWN9-31-121	9-Apr-09		16.	0.52	9.4	9.6	0.07	0.003 U	0.003 UJ	-	-	59.79	4.6875
		5237-090604-NWN-9-31-107	4-Jun-09		21.	1.1	20.	22.1	0.08	0.01 J	0.003 U	-	-	253.11	6.3
		5237-090604-NWN-9-31-109	4-Jun-09		21.	1.	19.	21.	0.11	0.04 J	0.003 J	-	-	267.04	6.399
		5327-090819-NWN-9-31-158	19-Aug-09		11.3	2.5 U	6.75	2.55	0.092 UV	0.01 U	0.01 U	-	-	48.76	3.15
		5237-100302-NWN-9-31-111	2-Mar-10		2.67	0.5 U	2.5	3.11	0.0615	0.005 U	0.01 U	0.0126	0.002 U	29.636	7.384
		5237-100302-NWN-9-31-112	2-Mar-10		2.76	0.5 U	2.53	3.21	0.0873	0.0082	0.01 U	0.0119	0.002 U	25.178	4.879
NWN-10-26	HAI	5237-080807-NWN-10-26-109	7-Aug-08	11 - 26	0.05 U	0.05 U	0.04 U	0.08 U	0.07	0.002 U	0.003 U	-	-	2.4294	0.4002
		5237-080807-NWN-10-26-110 (DUP)	7-Aug-08		0.05 U	0.05 U	0.04 U	0.08 U	0.07	0.002 U	0.003 U	-	-	2.335	0.8427
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-
		5237-090410-NWN10-26-123	10-Apr-09		0.05 U	0.12 J	0.05 J	0.15 J	0.05	0.003 U	0.003 UJ	-	-	3.71	2.371
		5237-090604-NWN-10-26-111	4-Jun-09		0.04 U	0.05 U	0.1 J	0.09 J	0.02 J	0.003 UJ	0.004 J	-	-	4.323	0.0622
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-	-	-	-	-
		5237-100302-NWN-10-26-115	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	0.0326	0.005 U	0.01 U	0.015	0.002 U	2.299	0.3014
Temporary Well Point Samples (3/2009 Sonic)															
SB-21	HAI	5237-090309-100	9-Mar-09	13	7.8	1.2	3.2	2.32	10.2	2.08 J	0.017 U	-	-	76.09	75.64
SB-21		5237-090311-101	11-Mar-09	76-80	0.56	1.2	0.31 J	2.08	0.14 J	0.03 J	0.01	-	-	5.005	0.3996
SB-21		5237-090311-102	11-Mar-09	97-101	84,000.	2,300.	510.	710. J	0.03 J	0.003 UJ	0.006 J	-	-	615.37	0.15
SB-27	HAI	5237-090319-112	19-Mar-09	22	0.6	0.48 J	0.45 J	0.19 U	1.87 J	0.003 UJ	0.011	-	-	23.8	92.91
SB-27		5237-090320-113	20-Mar-09	61-65	0.23 J	0.83	0.5	1.48	0.006 J	0.003 UJ	0.005 J	-	-	33.52	8.253
SB-27		5237-090320-114	20-Mar-09	76-80	0.05 U	0.45 J	0.05 U	0.07 U	0.003 UJ	0.003 UJ	0.008 J	-	-	10.025	1.542
SB-27		5237-090320-115	20-Mar-09	76-80	0.05 U	0.18 J	0.13 U	0.28 J	0.042 U	0.005 J	0.003 UJ	-	-	6.093	0.7423
SB-27		5237-090323-116	23-Mar-09	96-100	0.003 UJ	0.5 U	0.86	0.96 U	0.21 U	0.004 U	0.003 UJ	-	-	23.37	ND

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results: EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
Temporary Well Point Samples (3/2009 Sonic)															
SB-35	HAI	5237-090317-108	17-Mar-09	20.5-24	**2,500.**	**130.**	**480.**	**560.**	**2.28** J	0.003 UJ	0.007 UJ	-	-	24,460.	6,802.
SB-35		5237-090318-109	18-Mar-09	62-66	0.05 J	0.1 J	0.04 U	0.08 U	0.003 J	0.003 UJ	0.003 U	-	-	48.57	8.152
SB-35		5237-090318-110	18-Mar-09	82-86	**7.8**	0.42 J	0.16 U	0.09 U	**0.009** J	0.003 UJ	0.003 U	-	-	16.97	2.0639
SB-35		5237-090318-111	18-Mar-09	91-95	**6.7**	0.78	0.48 J	0.29 J	0.003 J	0.003 UJ	0.003 U	-	-	56.47	6.419
SB-53	HAI	5237-090312-103	12-Mar-09	22	**6,200.**	**910.**	**1,200.**	**1,270.**	**1.89** J	0.003 UJ	**0.011** J	-	-	181,200.	48,940.
SB-53		5237-090312-104	12-Mar-09	61-65	**16,000.**	**1,300.**	**1,300.**	**1,430.**	**1.8** J	0.003 UJ	**0.008** J	-	-	508,700.	126,960.
SB-53		5237-090313-105	13-Mar-09	102-106	**1.1**	0.74	1.	1.36 J	**0.02** J	0.003 UJ	0.003 U	-	-	217.6	42.41
SB-53		5237-090313-106	13-Mar-09	132-136	**2.**	0.57	0.9	1.31 J	**0.13** J	0.02 J	**0.006** J	-	-	265.4	42.63
SB-53		5237-090316-107	16-Mar-09	152-156	**2.3**	1.4	**2.4**	3.	**0.13** J	0.02 J	0.005 U	-	-	459.7	19.465
Temporary Well Point Samples (8/2009 Push Probe)															
P-45a	HAI	5237-090810-101	10-Aug-09	21 - 25	0.25 U	0.5 U	0.5 U	1. U	**0.0541**	0.005 U	0.01 U	-	-	29.51	7.21
		5237-090810-102 (dup)	10-Aug-09	21 - 25	-	-	-	-	**0.0538**	-	0.01 U	-	-	34.56	4.07
Quality Control Samples (HAI)															
Trip Blanks	HAI	5237-011008-101	8-Oct-01		1. U	1. U	1. U	2. U	-	-	-			-	-
		5237-011212-100	12-Dec-01		1. U	1. U	1. U	2. U	-	-	-			-	-
		5237-011213-106	13-Dec-01		1. U	1. U	1. U	2. U	-	-	-			-	-
		5237-011009-106	9-Oct-01		1. U	1. U	1. U	2. U	-	-	-			-	-
		5237-020402-100	2-Apr-02		1. U	1. U	1. U	2. U	-	-	-			-	-
		5237-020403-103	3-Apr-02		1. U	1. U	1. U	2. U	-	-	-			-	-
		5237-020710-100	10-Jul-02		1. U	1. U	1. U	2. U	-	-	-			-	-
		5237-070712-MW-7	12-Jul-07		0.09 U	0.11 U	0.06 U	0.26 U	-	-	-			-	-
		2708-080515-TB4-37553	15-May-08		0.045 U	0.09 J	0.042 U	0.078 U			-			-	-
		TB5-37589	21-May-08		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		5237-080730-TB-38071	30-Jul-08		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		TB080807	7-Aug-08		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		5237-080925-TB38515	25-Sep-08		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		5237-080929-TB38875	29-Sep-08		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		5237-081211-TB-39349	11-Dec-08		0.045 U	0.08 J	0.042 U	0.078 U	-	-	-			-	-
		5237-090407-TB39828	7-Apr-09		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		5237-090408-TB39826	8-Apr-09		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		5237-090409-TB40002	9-Apr-09		0.045 U	0.048 U	0.042 U	0.078 U	-	-	-			-	-
		5237-090604-TB-40272	4-Jun-09		0.038 U	0.052 U	0.05 U	0.091 U	-	-	-			-	-
		5237-090801-100	10-Aug-09		0.25 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		5237-090818-TB-141	18-Aug-09		0.25 U	0.5 U	0.5 U	1. U	-	-	-			-	-
		5327-090819-TB-153	19-Aug-09		0.25 U	0.5 U	0.5 U	1. U	-	-	-			-	-
		5237-100301TB5	1-Mar-10		0.25 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		5237-100302-TB6	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		5237-100315-TB1	15-Mar-10		0.25 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		5237-100316-TB2	16-Mar-10		0.25 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		5237-100317-TB3	17-Mar-10		0.25 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		5237-100318-TB4	18-Mar-10		0.25 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-
		5237-100413-TB-12	13-Apr-10		0.5 U	0.5 U	0.5 U	1. U	-	-	-	-	-	-	-

Table 25 - Summary of Historical Analytical Results for Groundwater Samples : BTEX, Total PAHs, and Cyanide
Siltronic Corporation Property Monitoring Wells

Well Number	Sample Collected by	HAI Sample Number[1]	Sample Date	Screen Interval (feet bgs)	Analytical Results										
					EPA Method 8020/8021B/8260 or 8260B ug/l (ppb)				EPA Method 9012A, 9010A, D4282-95M, 335.4, SM-4500-CN+, or OIA-1677++ mg/l (ppm)					EPA Method 8270 SIM or 8270C ug/l (ppb)	
					Benzene	Toluene	Ethylbenzene	Xylenes	Total Cyanide	Amenable Cyanide	Free Cyanide	WAD Cyanide*	Available Cyanide*+	LPAH	HPAH
HUMAN HEALTH SCREENING LEVEL VALUES [3,8]															
Fish Consumption															
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	0.014	#	0.014	#	#	#	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	0.14	#	0.14	#	#	#	#
Drinking Water															
		MCL			5.	1,000.	700.	10,000.	0.2	#	#	#	#	#	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	200.	0.73	#	#	#	#	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [3,8]															
		EPA 2004 NRWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		DEQ 2004 AWQC (chronic)			#	#	#	#	0.0052	#	0.0052	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	#	#	#	#	#	#	#	#
Quality Control Samples (HAI)															
Water EB	HAI	5237-011008-103	8-Oct-01		1. U	1. U	1. U	2. U	0.02 U	0.02 U	-	-	-	ND	ND
		5237-011212-102	12-Dec-01		1. U	1. U	1. U	2. U	0.02 U	0.02 U	-	-	-	ND	ND
		5237-020402-102	2-Apr-02		1. U	1. U	1. U	2. U	0.04 U	-	-	-	-	ND	ND
		5237-020710-102	10-Jul-02		1. U	1. U	1. U	2. U	0.04 U	0.04 U	-	-	-	ND	ND
		5237-090323-EB1	23-Mar-09		0.45 U	4.1	0.06 J	0.27 J	-	-	-	-	-	0.584	4.673

Note:
A = this analysis was performed on a VOA sample containing headspace
AWQC = Ambient Water Quality Criteria
BTEX = benzene, toluene, ethylbenzene, and xylenes
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
HPAH = High Molecular Weight Polynuclear Aromatic Hydrocarbons
J = Estimated Concentration
MCL = Maximum Contaminant Level

LPAH = Low Molecular Weight Polynuclear Aromatic Hydrocarbons
mg/l = milligrams per liter
ND = not detected above detection limit indicated
NRWQC = National Recommended Water Quality Criteria
NS = No Sample
PRG = Potential Remediation Goal
PAHs = polynuclear aromatic hydrocarbons
ppb = parts per billion

ppm = parts per million
SCV = Secondary Chronic Value
ug/l = micrograms per liter
U = Non-detect above method reporting limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.

"-" = Measurement not taken, parameter not analyzed, or data unavailable (samper other than HAI)
* = Partial sample obtained, but sample volume completely used during other analysis (i.e 8260B), insufficient volume to analyze for additional determinants.
# = Reference Level not established

Note: Reference Level is lowest of EPA AWQC for aquatic life protection, AWQC for human consumption of organisms only, or DEQ SLV for aquatic receptors
1 = Sample number prefix: 2708-
2 = Tier II values were taken from Suter II, G.W. and Tasco, C.L., 1996. Toxilogical Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision. ORNL publication ES/ER/TM-96/R2
3 = Unless otherwise noted Screening Level Values are from *Portland Harbor Joint Source Control Strategy*, Final, December 2005 (7/16/07 revision)
4 = Due to mislabeling in the field or due to laboratory misidentification, the laboratory report transposed results for MW4-35 and MW-4-57 in August 1997. Tables attribute data to the correct well.
5 = Sample Numbers (980603-) MW4-57-18 & MW8-56-21 were analyzed for Amenable Cyanide outside of recommended holding time.
6 = PAH results for sample 960620-MW8-56-01 should be considered qualitative due to an apparent error concerning sample identity.
7 = Monitoring well purged & sampled with low-flow protocol as per EPA/540/S-95/504 (April 1996)
8 = EPA, under CERCLA authority, has identified the Safe Drinking Water Acts MCLs and AWQCs (federal and state once approved) as potential ARARs under CERCLA. The final determination will be made in the EPA Portland Harbor Record of Decision (ROD). Decisions to implement source control, prior to The EPA Portland Harbor ROD, due to an exceedance of an SLV in upland stormwater will be evaluated and prioritized on a case by case basis.
9 = Sample collected over the course of 24 hours (BTEX collected on 12/11 and CN samples collected on 12/12/08)

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
WS-1	CH2M HILL		Aug-85	7-22	270.	88.	39.	31.	40.	24.	25.	U	36.	U	73.	95.	20.	U	190.	81.	682.	330.
WS-2	CH2M HILL		Aug-85	7.5-22	940.	200.	630.	480.	760.	400.	370.	120.	650.	U	1,380.	440.	300.	1,900.	630.	1,430.	4,740.	5,890.
WS-3S	CH2M HILL		Aug-85	12-27	86.	U	U	U	U	U	U	U	U	U	U	13.	U	600.	13.	U	712.	ND
WS-3I	G&M		Oct-90	55-60	93.	2.	2.	U	U	U	U	U	U	U	5.	22.	U	770.	6.	4.	895.	9.
WS-4	CH2M HILL		Aug-85	6.5-21.5	350.	U	U	U	U	U	U	U	U	U	U	53.	U	350.	28.	14.	781.	14.
WS-5	CH2M HILL		Aug-85	5-20	54.	31.	U	U	U	U	U	U	U	U	U	12.	U	58.	21.	10.	176.	10.
WS-6	CH2M HILL		Aug-85	9-24	200.	32.	U	U	U	U	U	U	U	U	U	35.	U	2,100.	56.	10.	2,423.	10.
WS-7	CH2M HILL		Aug-85	10-25	19.	U	U	12.	10.	U	U	U	15.		23.	U	U	U	U	11.	19.	71.
			Oct-90		2.	U	U	U	U	U	U	U	U	U	3.	3.	U	5.	U	U	10.	3.
WS-8-33	HAI	011009-107	9-Oct-01	23-33	98.7	1.17	8.42	0.55	0.27	0.19	0.15	0.1 U	0.6	0.1 U	7.83	32.5	0.11	485.	85.	7.65	710.79	17.35
		011213-105	13-Dec-01		105. J	2.35	11.9	0.25	0.27	0.1	0.1 U	0.1 U	0.3	0.1 U	7.35	31.9 J	0.11	287. J	70.5 J	7.15	508.65	15.53
		020403-105	3-Apr-02		91.6	1.01	6.43	0.31	0.1 U	0.1 U	0.1 U	0.1 U	0.42	0.1 U	7.18	18.4	0.1 U	110.	34.1	5.16	261.54	13.07
		020403-106D	3-Apr-02		84.	1.39	7.14	0.32	0.1 U	0.1 U	0.1 U	0.1 U	0.44	0.1 U	8.2	19.5	0.1 U	101.	33.8	6.38	246.83	15.34
		020710-104	10-Jul-02		129.	1.65	8.42	0.53	0.15	0.11	0.11	0.12	0.53	0.1 U	7.7	34.4	0.1 U	77.4	72.	8.16	322.87	17.41
		020710-105D	10-Jul-02		132.	1.48	8.63	0.68	0.26	0.19	0.2	0.17	0.67	0.1 U	8.15	36.2	0.13	77.6	80.4	7.37	336.31	17.82
		5237-080521-WS8-33-105	21-May-08		140.	2.	8.4	1.2	0.91	0.91	0.61	0.28	1.4	0.099	10.	29.	0.59	130. J	50. J	12.	359.4	27.999
		5237-080929-WS-8-33-145	29-Sep-08		110.	1.3	6.	0.92	0.73	0.6	0.52	0.2	1.1	0.071	9.5	31.	0.49	170.	54.	12.	372.3	26.131
		5237-090408-WS8-33-119	8-Apr-09		99.	1.3	5.3	0.66	0.56	0.51	0.32	0.17	0.8	0.048	6.	30.	0.32	100.	50.	7.8	285.6	17.188
		5327-090819-WS-8-33-159	19-Aug-09		140.	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	46.5 U	72.	56.5	46.5 U	268.5	ND
		5237-100301-WS-8-33-107	1-Mar-10		87.6	1.88	7.37	0.919	0.645	0.854	0.49	- BK	0.962	0.388 U	8.66	25.7	0.497	92.1 U	44.7	9.25	167.25	22.277
WS-8-59	HAI	011008-104	8-Oct-01	49-59	18.5	0.38	4.2	0.25	0.1 U	0.1 U	0.1 U	0.1 U	0.29	0.1 U	5.8	7.9	0.1 U	22.7	31.8	6.4	85.48	12.74
		011008-105D	8-Oct-01		18.9	0.39	4.1	0.2	0.1 U	0.1 U	0.1 U	0.1 U	0.24	0.1 U	5.5	7.9	0.1 U	22.5	29.8	6.3	83.59	12.24
		011212-103	12-Dec-01		12.9	0.24	2.97	0.32	0.14	0.1	0.1	0.1	0.41	0.1 U	4.72	4.77	0.1 U	10.5	22.8	5.07	54.18	10.96
		011212-104D	12-Dec-01		12.6	0.23	2.94	0.23	0.1 U	0.1 U	0.1 U	0.1 U	0.29	0.1 U	4.46	5.13	0.1 U	10.8	21.8	4.49	53.5	9.47
		020403-104	3-Apr-02		5.03	0.1 U	1.91	0.16	0.1 U	0.1 U	0.1 U	0.1 U	0.24	0.1 U	3.5	2.34	0.1 U	1.13	9.9	2.57	20.31	6.47
		020710-103	10-Jul-02		4.53	0.1 U	1.31	0.17	0.1 U	0.1 U	0.1 U	0.1 U	0.23	0.1 U	3.15	1.92	0.1 U	0.63	3.45	3.49	11.84	7.04
		5237-070716-WS-8-59-108	16-Jul-07		0.254 J	0.0971 U	0.0971 U	0.147	0.121	0.0863	0.0971 U	0.101	0.206	0.00542	0.634	0.133	0.0246	0.0971 U	0.122	1.07 J	0.509	2.39532
		5237-080521-WS8-56-106	21-May-08		0.4	0.28	0.22	0.74	0.92	0.94	0.7	0.3	1.	0.11	1.1	0.18	0.66	0.37 J	0.43 J	1.6	1.88	8.07
		5237-080929-WS-8-56-146	29-Sep-08		0.18	0.12	0.099	0.42	0.54	0.47	0.48	0.17	0.58	0.058	0.7	0.092	0.43	0.16	0.16	0.97	0.811	4.818
		5237-090408-WS8-59-115	8-Apr-09		0.35	0.13	0.13	0.44	0.53	0.5	0.41	0.17	0.59	0.049	0.78	0.16	0.4	0.28	0.32	1.	1.37	4.869
		5237-090408-WS8-59-117	8-Apr-09		0.29	0.082	0.13	0.28	0.32	0.31	0.25	0.11	0.38	0.029	0.54	0.12	0.23	0.18	0.25	0.68	1.052	3.129
		5327-090819-WS-8-59-157	19-Aug-09		0.339	0.43	0.194	0.952	1.68	1.96	1.28	- BK	1.26	0.158	1.22	0.155	1.05	0.122	0.244	1.67	1.484	11.23
		5237-100301-WS-8-56-109	1-Mar-10		0.346	0.2	0.102	0.405	0.651	0.8	0.664	- BK	0.558	0.0753	0.606	0.136	0.556	0.0784 U	0.205	0.807	0.989	5.1223
WS-9-34	HAI	011008-102	8-Oct-01	24-34	2.07	0.15	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.36	0.18	0.1 U	0.45	0.1 U	0.38	ND	0.74
		011212-101	12-Dec-01		17.8	0.33	0.33	0.11	0.15	0.1	0.17	0.1	0.17	0.1 U	1.91	6.43	0.12	0.4	2.45	1.74	27.74	4.57
		020402-101	2-Apr-02		17.5	0.19	0.44	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	1.59	1.8	0.1 U	0.1 U	4.81	0.1 U	24.74	1.59
		020710-101	10-Jul-02		11.1	0.17	0.22	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.91 J	2.09 J	0.1 U	0.13	2.06 J	1.13	15.77	2.04
		5237-090410-WS9-34-122	10-Apr-09		15.	0.14	0.19	0.14	0.1	0.11	0.094	0.035	0.21	0.0097 J	1.8	4.	0.078	0.73	5.	1.8	25.06	4.3767
		5327-090819-WS-9-34-156	19-Aug-09		24.2	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	1.	6.23	0.755 U	0.755 U	8.59	0.989	39.02	1.989
		5237-100302-WS-9-34-113	2-Mar-10		21.4	0.234	0.304	0.0475	0.0392 U	0.0392 U	0.0392 U	0.0392 U	0.0538	0.0392 U	1.36	5.84	0.0392 U	0.49 U	5.95	1.29	33.728	2.7513
WS-10-27	MFA	WS-10-27	29-Apr-04	11-26	189.	14.6	27.2	11.8	11.9	10.3	8.64	3.41	14.4	1.57	45.	54.1	6.34	3,990.	83.1	43.4	4,358.	156.76
		WS-10-27	16-Nov-04		542.	41.8	221.	137.	148.	131.	92.5	38.4	130.	15.1	438.	263.	70.9	8,960.	1,070.	421.	11,097.8	1,621.9

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
WS-11-125	MFA	WS-11-125	29-Apr-04	109-124	436.	81.5	257.	147.	144.	126.	53.1	29.9	174.	11.7	407.	304.	47.7	4,000.	1,510.	409.	6,588.5	1,549.4
			16-Nov-04		53.	22.1	20.1	10.	9.62	9.27	7.19	2.92	10.7	1.14	35.	24.9	5.13	2,680.	80.5	40.8	2,880.6	131.77
			28-Jun-06		90.6	22.2	30.7	13.4	18.5	16.4	12.2	4.9	17.	1.51	54.1	43.7	8.73	-	148.	54.8	335.2	201.54
			27-Jul-06		57.3	16.5	5.7	0.701	0.631	0.601	0.42	0.17	0.811	0.0701	4.29	21.3	0.28	-	34.8	4.85	135.6	12.8241
			23-Aug-06		58.6	17.6	6.4	0.441	0.323	0.343	0.196	0.0979	0.617	<0.049 U	3.79	21.4	0.147	-	36.4	4.7	140.4	10.6549
			26-Sep-06		28.7	8.82	3.38	0.414	0.337	0.337	0.231	0.135	0.423	<0.0481 U	3.14	11.6	0.144	-	18.4	3.35	70.9	8.511
			23-Oct-06		46.8	13.4	5.73	0.303	0.18	0.152	0.114	0.0569	0.322	<0.0474 U	3.59	16.8	0.114	-	27.9	3.23	110.63	8.0619
			18-Dec-06		78.4	16.6	13.	4.73	7.04	6.06	5.15	1.91	6.05	0.709	18.4	29.7	3.48	-	79.3	23.2	217.	76.729
			25-Jan-07		55.6	14.2	7.33	1.92	2.31	1.97	1.68	0.768	2.05	0.253	7.	20.4	1.17	-	37.1	7.96	134.63	27.081
			21-Feb-07		48.1	9.3	5.75	2.29	2.96	2.71	2.08	0.832	2.41	0.369	6.49	15.5	1.54	-	35.3	7.5	113.95	29.181
			21-Mar-07		99.9	21.	11.	2.45	2.96	2.73	2.42	0.87	2.54	0.38	9.07	37.5	1.67	-	60.9	10.2	230.3	35.29
			23-Apr-07		98.1	21.4	11.5	2.81	2.96	2.65	1.99	0.88	3.12	0.31	10.8	35.6	1.36	-	64.	13.1	230.6	39.98
			22-May-07		105.	22.1	15.2	8.47	8.59	7.24	6.44	2.64	8.69	1.07	22.8	39.9	4.35	-	84.9	29.4	267.1	99.69
	HAI	5237-080515-WS11-125-102	15-May-08		250.	5.5	21.	2.5	2.3	2.2	1.6	0.88	3.1	0.28 J	16.	74.	1.5	11,000.	140.	17.	11,490.5	47.36
		5237-080929-WS-11-125-144	29-Sep-08		250.	3.7	17.	2.1	2.1	1.8	1.8	0.56	2.6	0.3	14.	82.	1.7	11,000.	130.	15.	11,482.7	41.96
		5237-090407-WS11-125-102	7-Apr-09		250.	4.6	21.	6.3	6.	6.5	6.	2.2	7.8	0.74	26.	87.	5.4	12,000.	170.	26.	12,532.6	92.94
		5237-090818-WS-11-125-149	18-Aug-09		465. U	465. U	465. U	465. U	465. U	465. U	465. U	465. U	465. U	465. U	465. U	465. U	465. U	9,760.	465. U	465. U	9,760.	ND
		5237-100302-WS-11-125-114	2-Mar-10		190. U	7.92 U	17.1	7.92 U	7.92 U	7.92 U	7.92 U	7.92 U	7.92 U	7.92 U	12.8	58.	7.92 U	7,760. U	115. U	12.4	75.1	25.2
WS-11-161	MFA	WS-11-161	27-Apr-04	145-160	0.253	0.0707	0.0707	0.0808	0.131	0.111	0.111	U	0.111	U	0.232	0.131	0.0707	0.707	0.424	0.303	1.6564	1.1505
			16-Nov-04		0.049	0.049 U	0.0784	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	1.85	0.0784	0.049 U	2.0558	ND
	HAI	5237-070712-WS11-161	12-Jul-07		0.125 J	0.0952 U	0.0952 U	0.00745	0.00698	0.0171	0.0952 U	0.012	0.0162	0.00476 U	0.0952 U	0.0952 U	0.00776	49.9	0.0952 U	0.0952 U	50.025	0.06749
		5237-080515-WS11-161-103	15-May-08		0.45	0.15	0.01 J	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.013 J	0.091	0.0026 U	110.	0.1	0.01 J	110.801	0.023
		5237-080929-WS-11-161-142	29-Sep-08		0.35	0.089	0.012 J	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.016 J	0.073	0.0026 U	89.	0.08	0.011 J	89.604	0.027
		5237-080929-WS-11-161-143 (DUP)	29-Sep-08		0.62	0.14	0.013 J	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.013 J	0.12	0.0026 U	140.	0.1	0.0097 J	140.993	0.0227
		5237-090407-WS11-161-100	7-Apr-09		0.64	0.086	0.0099 J	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.013 J	0.12	0.0026 U	110.	0.12	0.01 J	110.9759	0.023
		5237-090818-WS-11-161-147	18-Aug-09		0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	0.93 U	87.7	0.93 U	0.93 U	87.7	ND
		5237-100302-WS-11-161-116	2-Mar-10		0.334 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	0.187 U	77.9 U	0.187 U	0.187 U	ND	ND
WS-12-125	MFA	WS-12-125	27-Apr-04	109-124	0.929	U	0.13	U	U	U	U	U	U	U	U	0.4	U	0.519	0.557	U	2.535	ND
			17-Nov-04		0.166	0.0488 U	0.0488 U	0.0488 U	0.0488 U	0.0488 U	0.0488 U	0.0488 U	0.0488 U	0.0488 U	0.0488 U	0.0684	0.0488 U	0.684	0.0879	0.0488 U	1.0063	ND
	HAI	5237-070712-WS12-125	12-Jul-07		0.266 J	0.0952 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.0051	0.00476 U	0.0952 U	0.0952 U	0.00476 U	0.544	0.0952 U	0.0952 U	0.81	0.0051
		5237-080521-WS12-126-104	21-May-08		0.19	0.0087 J	0.034	0.0026 U	0.0043 U	0.0023 U	0.0034 J	0.0025 U	0.0034 U	0.0031 J	0.024	0.068	0.0039 J	0.088 U*	0.0089 J	0.022	0.3096	0.0564
		5237-080925-WS-12-125-140	25-Sep-08		0.25	0.0034 U	0.029	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.029	0.087	0.0026 U	0.056	0.0078 J	0.024	0.4298	0.053
		5237-090407-WS12-125-106	7-Apr-09		0.27	0.0069 J	0.062	0.0035 J	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.047	0.091	0.0026 U	0.003 U	0.011 J	0.044	0.4409	0.0945
		5237-090818-WS-12-125-145	18-Aug-09		0.199	0.0374 U	0.0412	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0662	0.0374 U	0.0528	0.0374 U	0.0374 U	0.3592	ND
		5237-100302-WS-12-125-118	2-Mar-10		0.241	0.0381 U	0.0381 U	0.0381 U	0.0381 U	0.0381 U	0.0381 U	0.0381 U	0.0381 U	0.0381 U	0.0422	0.073	0.0381 U	0.12	0.0381 U	0.0415	0.434	0.0837
WS-12-161	MFA	WS-12-161	27-Apr-04	145-160	0.0926	U	U	U	U	U	U	U	U	U	0.072	0.072	U	0.154	0.319	0.0823	0.6376	0.1543
			17-Nov-04		0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	0.0493 U	1.25	0.0493 U	0.0493 U	1.25	ND
	HAI	5237-070712-WS12-161	12-Jul-07		0.0952 U	0.0952 U	0.0952 U	0.00476 U	0.0107	0.00497	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.0952 U	0.00771	0.0952 U	0.0952 U	0.0952 U	ND	0.02338
		5237-080521-WS12-161-107	21-May-08		0.012 J	0.0034 U	0.0038 J	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.0059 J	0.0056 J	0.0026 U	0.021 U*	0.016 J	0.0051 J	0.0374	0.011
		5237-080925-WS-12-161-141	25-Sep-08		0.0044 U	0.0034 U	0.0036 U	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.0044 U	0.0038 U	0.0026 U	0.025	0.01 J	0.0035 U	0.035	ND
		5237-090407-WS12-161-104	7-Apr-09		0.0044 U	0.0034 U	0.0036 U	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.0044 U	0.0038 U	0.0026 U	0.003 U	0.0072 J	0.0035 U	0.0072	ND

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
WS-12-161	HAI	5237-090818-WS-12-161-143	18-Aug-09	145-160	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0404	0.0374 U	0.0374 U	0.0404	ND
		5237-100302-WS-12-161-120	2-Mar-10		0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0748 U	0.0374 U	0.0374 U	ND	ND
WS-13-69	MFA	WS-13-69	28-Apr-04	52.6-67.6	8.99	4.54	10.6	0.06	0.05	0.05	U	U	0.07	U	0.8	5.38	U	632.	9.8	0.74	671.31	1.77
			18-Nov-04		5.79	2.48	1.02	0.0506 U	0.0506 U	0.0506 U	0.0506 U	0.0506 U	0.0506 U	0.0506 U	0.466	3.04	0.0506 U	793.	7.33	0.334	812.66	0.8
			19-Jul-06		4.72	1.91	0.336	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	0.59	2.94	<0.0509 U	-	5.91	0.58	15.816	1.17
			24-Aug-06		4.08	1.66	0.0772	<0.0551 U	<0.0551 U	<0.0551 U	<0.0551 U	<0.0551 U	<0.0551 U	<0.0551 U	0.441	2.71	<0.0551 U	-	5.3	0.474	13.8272	0.915
			27-Sep-06		5.15	2.2	0.302	<0.0487 U	<0.0487 U	<0.0487 U	<0.0487 U	<0.0487 U	<0.0487 U	<0.0487 U	0.526	3.17	<0.0487 U	-	5.77	0.526	16.592	1.052
			25-Oct-06		2.36	0.9	0.18	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	0.322	1.41	<0.0474 U	-	2.88	0.284	7.73	0.606
			15-Nov-06		3.03	1.13	0.127	<0.049 U	<0.049 U	<0.049 U	<0.049 U	<0.049 U	<0.049 U	<0.049 U	0.324	1.76	<0.049 U	-	3.55	0.314	9.597	0.638
			25-Jan-07		1.72	0.621	0.0776	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	0.223	1.03	<0.0485 U	-	2.04	0.242	5.4886	0.465
			21-Feb-07		2.99	1.16	0.219	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	0.372	1.78	<0.0477 U	-	3.4	0.382	9.549	0.754
			22-Mar-07		2.22	0.779	0.154	<0.0512 U	<0.0512 U	<0.0512 U	<0.0512 U	<0.0512 U	<0.0512 U	<0.0512 U	0.318	1.41	<0.0512 U	-	2.74	0.307	7.303	0.625
			24-Apr-07		1.72	0.627	0.118	<0.049 U	<0.049 U	<0.049 U	<0.049 U	<0.049 U	<0.049 U	<0.049 U	0.206	0.989	<0.049 U	-	2.04	0.235	5.494	0.441
			23-May-07		4.33	1.57	0.391	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	0.508	2.48	<0.0488 U	-	5.19	0.596	13.961	1.104
WS-13-105	MFA	WS-13-105	28-Apr-04	89-104	2.23	0.271	0.15	0.0601	0.0601	0.0501	0.0601	U	0.0701	U	0.251	0.671	U	28.9	0.962	0.251	33.184	0.8025
		Duplicate	28-Apr-04		1.53	0.18	0.08	U	U	U	U	U	U	U	0.13	0.47	U	14.1	0.68	0.13	17.04	0.26
			18-Nov-04		0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.0474 U	0.38	0.114	0.0474 U	0.494	ND
		Duplicate	18-Nov-04		0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.0475 U	0.114	0.123	0.0475 U	0.237	ND
			19-Jul-06		<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	0.0509	<0.0509 U	<0.0509 U	-	0.143	<0.0509 U	0.143	0.0509
			24-Aug-06		0.0777	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	-	0.107	<0.0485 U	0.1847	ND
			27-Sep-06		<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	<0.0478 U	-	0.0764	<0.0478 U	0.0764	ND
			25-Oct-06		1.45	0.232	0.302	0.0806	<0.0504 U	<0.0504 U	<0.0504 U	<0.0504 U	0.0706	<0.0504 U	0.454	0.877	<0.0504 U	-	2.33	0.393	5.191	0.9982
			15-Nov-06		<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	-	0.0668	<0.0477 U	0.0668	ND
			25-Jan-07		<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	<0.053 U	-	<0.053 U	<0.053 U	U	ND
			21-Feb-07		<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	-	<0.0488 U	<0.0488 U	U	ND
			21-Mar-07		<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	-	0.0904	<0.0502 U	0.0904	ND
			24-Apr-07		<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	-	<0.0513 U	<0.0513 U	U	ND
			23-May-07		<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	-	<0.0515 U	<0.0515 U	U	ND
WS-14-125	MFA	WS-14-125	16-Nov-04	109-124	130.	3.2	22.1	8.06	7.89	7.96	5.17	2.27	8.46	0.594	30.	38.1	3.81	4,710.	90.1	33.1	4,993.5	107.314
	HAI	5237-070712-WS14-125	12-Jul-07		143. J	2.22	11.4	1.4	1.38	0.84	1.9 U	0.837	1.77	0.155	10.9	41.	0.718	7,580.	83.7	10.2 J	7,861.32	28.2
		5237-080515-WS14-125-100	15-May-08		150.	1.9	14.	0.66	0.25	0.25	0.14	0.067	0.56	0.023	6.5	46.	0.13	7,800.	88.	9.1	8,099.9	17.68
		5237-080925-WS-14-125-138	25-Sep-08		160.	1.9	11.	0.49	0.23	0.2	0.14	0.066	0.58	0.023	7.1	45.	0.14	6,800.	76.	8.7	7,093.9	17.669
		5237-090408-WS14-125-110	8-Apr-09		130.	1.9	9.4	0.85	0.71	0.6	0.48	0.21	1.	0.072	7.	43.	0.47	6,600.	70.	8.	6,854.3	19.392
		5327-090819-WS-14-125-155	19-Aug-09		186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	5,120.	186. U	186. U	5,120.	ND
		5237-100302-WS-14-125-110	2-Mar-10		174. U	4.03	15.8	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	1.9 U	10.	51.5	1.9 U	9,660. U	91.6 U	9.59	71.33	19.59
WS-14-161	MFA	WS-14-161	16-Nov-04	145-160	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.0478 U	0.66	0.0478	0.0478 U	0.7078	ND
	HAI	5237-070712-WS14-161	12-Jul-07		0.178 J	0.0952 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.0952 U	0.00476 U	15.7	0.0952 U	0.0952 U	15.878	ND
		5237-080515-WS14-161-101	15-May-08		2.	0.045	0.12	0.0047 J	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.064	0.54	0.0026 U	140.	0.9	0.069	143.605	0.1377
		5237-080925-WS-14-161-139	25-Sep-08		1.8	0.036	0.11	0.0095 J	0.0043 U	0.0036 J	0.003 J	0.0025 U	0.0071 J	0.0025 U	0.079	0.51	0.0026 U	120.	0.86	0.077	123.316	0.1792
		5237-090408-WS14-161-108	8-Apr-09		22.	0.43	1.4	0.026	0.0043 U	0.0037 J	0.0029 U	0.0025 U	0.031	0.0025 U	0.75	6.4	0.0026 U	690.	10.	0.71	730.23	1.5207
		5237-090818-WS-14-161-151	18-Aug-09		186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	788.	186. U	186. U	788.	ND
		5237-100301-WS-14-161-108	1-Mar-10		31.5	0.624	3.05	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	1.66	10.1	0.19 U	864. U	18.4	1.59	63.674	3.25

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
WS-15-85	MFA	WS-15-85	18-Nov-04	70-85	39.3	1.79	3.05	0.224	0.224	0.204	0.146	0.0778	0.224	0.0486 U	2.94	11.	0.117	2,300.	19.9	3.09	2,375.04	7.2468
WS-15-140	MFA	WS-15-140	18-Nov-04	125-140	1.05	0.0517 U	0.062	0.0517 U	0.0517 U	0.0517 U	0.0517 U	0.0517	0.0517 U	0.0517 U	0.0723	0.176	0.0517 U	15.7	1.07	0.0517 U	18.058	0.124
WS-16-125	MFA	WS-16-125	17-Nov-04	109-124	1.33	0.0672	0.0768	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.048 U	0.0864	0.365	0.048 U	153.	0.643	0.0672	155.482	0.1536
WS-16-161	MFA	WS-16-161	17-Nov-04	145-160	0.186	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.049 U	0.127	0.0784	0.049 U	8.49	0.294	0.0979	9.0484	0.2249
WS-17-52	MFA	WS-17-52	16-Nov-04	41-51	27.	0.712	4.39	0.135	0.0866	0.0866	0.0674	0.0481 U	0.144	0.0481 U	4.35	12.2	0.0481	241.	27.6	4.23	312.902	9.1477
WS-17-94	MFA	WS-17-94	17-Nov-04	78-93	5.5	0.119	0.258	0.0497 U	0.0497 U	0.0497 U	0.0497 U	0.0497 U	0.0497 U	0.0497 U	0.209	1.79	0.0497 U	102.	4.06	0.149	113.727	0.358
WS-18-71	MFA	WS-18-71	27-Jun-06	61 - 71	6.79	0.892	3.67	2.12	2.29	2.05	1.55	0.725	2.27	0.279	9.12	5.07	1.03	-	20.7	9.6	37.122	31.034
			19-Jul-06		0.794	0.115	0.641	0.306	0.182	0.153	0.115	0.067	0.392	<0.0478 U	2.57	0.612	0.0766	-	4.9	3.06	7.062	6.9216
			29-Aug-06		0.283	<0.0488 U	0.078	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	0.0683	<0.0488 U	0.634	0.185	<0.0488 U	-	0.634	0.907	1.18	1.6093
			26-Sep-06		0.219	<0.0475 U	0.076	0.057	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	0.057	<0.0475 U	0.513	0.133	<0.0475 U	-	0.589	0.57	1.017	1.197
			24-Oct-06		0.163	<0.0479 U	0.0863	0.144	0.0767	0.0767	0.0767	0.0479	0.153	0.0575	0.738	0.105	0.0767	-	0.633	0.844	0.9873	2.2912
			16-Nov-06		0.274	<0.049 U	0.0979	0.0881	<0.049 U	<0.049 U	<0.049 U	<0.049 U	0.127	<0.049 U	0.852	0.157	<0.049 U	-	0.891	1.02	1.4199	2.0871
			26-Jan-07		0.203	<0.0507 U	<0.0507 U	0.101	<0.0507 U	<0.0507 U	<0.0507 U	<0.0507 U	0.101	<0.0507 U	0.619	0.0913	<0.0507 U	-	0.274	0.882	0.5683	1.703
			22-Feb-07		0.355	<0.0494 U	0.079	0.0987	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	0.0987	<0.0494 U	0.74	0.217	<0.0494 U	-	0.918	0.888	1.569	1.8254
			22-Mar-07		0.125	<0.048 U	0.0576	0.048	<0.048 U	<0.048 U	<0.048 U	<0.048 U	<0.048 U	<0.048 U	0.298	0.0576	<0.048 U	-	0.279	0.346	0.5192	0.692
			24-Apr-07		0.116	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	0.223	0.0582	<0.0485 U	-	0.291	0.301	0.4652	0.524
			22-May-07		0.213	<0.0508 U	0.0915	0.0813	0.0508	<0.0508 U	<0.0508 U	<0.0508 U	0.0915	<0.0508 U	0.427	0.102	<0.0508 U	-	0.457	0.661	0.8635	1.3116
WS-18-101	MFA	WS-18-101	28-Jun-06	92 - 102	3.58	0.377	0.439	0.22	0.251	0.241	0.188	0.0837	0.251	<0.0523 U	0.868	1.45	0.136	-	2.98	0.889	8.826	3.1277
			19-Jul-06		5.14	0.421	0.738	0.297	0.192	0.192	0.115	0.0766	0.364	<0.0479 U	1.45	2.	0.0766	-	5.34	1.71	13.639	4.4732
			28-Aug-06		4.15	0.314	0.213	0.142	0.132	0.142	0.071	0.0507	0.162	<0.0507 U	0.659	1.59	0.0507	-	3.58	0.892	9.847	2.3014
			26-Sep-06		2.23	0.193	0.102	0.0916	<0.0509 U	0.061	<0.0509 U	<0.0509 U	0.102	<0.0509 U	0.448	0.793	<0.0509 U	-	1.67	0.468	4.988	1.1706
			24-Oct-06		1.37	0.105	0.084	0.0945	0.063	0.0525	0.0525	<0.0525 U	0.084	<0.0525 U	0.315	0.515	0.0525	-	1.13	0.336	3.204	1.05
			16-Nov-06		5.58	0.436	0.778	0.323	0.294	0.266	0.218	0.0854	0.398	<0.0474 U	1.34	2.13	0.142	-	5.26	1.58	14.184	4.6464
			26-Jan-07		3.08	0.24	0.12	0.12	0.11	0.1	0.0802	<0.0501 U	0.13	<0.0501 U	0.461	1.04	0.0501	-	1.57	0.581	6.05	1.6323
			22-Feb-07		6.42	0.495	0.466	0.233	0.175	0.175	0.097	0.0582	0.242	<0.0485 U	0.951	2.22	0.0679	-	4.3	1.16	13.901	3.1591
			22-Mar-07		4.15	0.284	0.253	0.0737	<0.0526 U	<0.0526 U	<0.0526 U	<0.0526 U	0.0632	<0.0526 U	0.421	1.4	<0.0526 U	-	2.47	0.442	8.557	0.9999
			24-Apr-07		2.18	0.163	0.123	<0.0511 U	<0.0511 U	<0.0511 U	<0.0511 U	<0.0511 U	<0.0511 U	<0.0511 U	0.204	0.684	<0.0511 U	-	1.24	0.235	4.39	0.439
			22-May-07		4.94	0.351	0.261	0.0902	0.0802	0.0701	0.0601	<0.0501 U	0.12	<0.0501 U	0.461	1.49	<0.0501 U	-	2.62	0.561	9.662	1.4426
WS-19-71	MFA	WS-19-71	27-Jun-06	61 - 71	5.19	1.28	0.659	0.335	0.335	0.355	0.243	0.122	0.375	0.0507	1.69	4.52	0.162	-	5.35	2.	16.999	5.6677
			20-Jul-06		0.675	0.139	0.0596	0.0695	<0.0497 U	<0.0497 U	<0.0497 U	<0.0497 U	0.0794	<0.0497 U	0.228	0.427	<0.0497 U	-	0.794	0.258	2.0946	0.6349
			29-Aug-06		0.766	0.191	0.124	0.293	0.327	0.349	0.214	0.124	0.315	<0.0563 U	1.1	0.991	0.146	-	1.19	1.95	3.262	4.818
			27-Sep-06		0.728	0.118	0.0591	0.0492	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	0.0492	<0.0492 U	0.453	0.423	<0.0492 U	-	0.915	0.482	2.2431	1.0334
			24-Oct-06		0.554	0.113	0.0719	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	<0.0513 U	0.349	0.349	<0.0513 U	-	0.883	0.37	1.9709	0.719
			16-Nov-06		0.463	0.142	0.132	0.0756	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	0.0662	<0.0473 U	0.416	0.265	<0.0473 U	-	0.813	0.605	1.815	1.1628
			26-Jan-07		0.404	0.0888	0.069	0.0592	<0.0493 U	<0.0493 U	<0.0493 U	<0.0493 U	0.0493	<0.0493 U	0.325	0.197	<0.0493 U	-	0.493	0.503	1.2518	0.9365
			23-Feb-07		0.442	0.0925	0.0822	<0.0514 U	<0.0514 U	<0.0514 U	<0.0514 U	<0.0514 U	<0.0514 U	<0.0514 U	0.298	0.206	<0.0514 U	-	0.493	0.432	1.3157	0.73
			22-Mar-07		0.271	0.0502	0.0602	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	<0.0502 U	0.201	0.11	<0.0502 U	-	0.291	0.241	0.7824	0.442
			24-Apr-07		0.138	<0.0493 U	<0.0493 U	<0.0493 U	<0.0493 U	<0.0493 U	<0.0493 U	<0.0493 U	<0.0493 U	<0.0493 U	0.0986	0.0592	<0.0493 U	-	0.138	0.158	0.3352	0.2566
			23-May-07		0.385	0.0889	0.0791	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	0.267	0.168	<0.0494 U	-	0.375	0.435	1.096	0.702
WS-19-101	MFA	WS-19-101	27-Jun-06	92 - 102	1.16	0.235	0.182	0.192	0.214	0.235	0.182	0.0855	0.224	<0.0534 U	0.63	0.694	0.128	-	1.06	0.641	3.331	2.5315
			20-Jul-06		0.76	0.109	0.138	0.118	0.079	0.079	0.0691	0.0691	0.118	<0.0494 U	0.296	0.385	0.0592	-	0.701	0.355	2.093	1.2424
			29-Aug-06		0.436	0.0608	0.0608	<0.0507 U	<0.0507 U	<0.0507 U	<0.0507 U	<0.0507 U	<0.0507 U	<0.0507 U	0.0811	0.193	<0.0507 U	-	0.365	0.101	1.1156	0.1821

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
WS-19-101	MFA	WS-19-101	27-Sep-06	92 - 102	**0.402**	<0.0479 U	0.0766	<0.0479 U	<0.0479 U	<0.0479 U	<0.0479 U	<0.0479 U	<0.0479 U	<0.0479 U	0.144	0.192	<0.0479 U	-	**0.45**	0.144	1.1206	0.288
			25-Oct-06		**0.514**	0.0494	0.0593	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	0.119	**0.217**	<0.0494 U	-	**0.356**	0.109	1.1957	0.228
			15-Nov-06		**1.6**	0.145	**0.31**	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	<0.0485 U	**0.398**	**0.727**	<0.0485 U	-	**1.63**	**0.369**	4.412	0.767
			25-Jan-07		**0.561**	0.0529	0.0635	<0.0529 U	<0.0529 U	<0.0529 U	<0.0529 U	<0.0529 U	<0.0529 U	<0.0529 U	0.0741	**0.212**	<0.0529 U	-	**0.392**	0.0741	1.2814	0.1482
			23-Feb-07		**0.844**	0.107	0.165	**0.116**	**0.107**	**0.116**	0.0776	<0.0485 U	**0.107**	<0.0485 U	**0.456**	**0.407**	<0.0485 U	-	**1.02**	**0.504**	2.543	1.4836
			22-Mar-07		**0.742**	0.0618	0.0927	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	0.165	**0.309**	<0.0515 U	-	**0.577**	0.185	1.7825	0.35
			24-Apr-07		**0.448**	<0.0498 U	<0.0498 U	<0.0498 U	<0.0498 U	<0.0498 U	<0.0498 U	<0.0498 U	<0.0498 U	<0.0498 U	<0.0498 U	0.169	<0.0498 U	-	**0.289**	0.0697	0.906	0.0697
			23-May-07		**0.716**	0.0668	0.0859	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	0.0954	**0.277**	<0.0477 U	-	**0.468**	0.124	1.6137	0.2194
WS-20-112	MFA	WS-20-112	28-Jun-06	97 - 112	**0.438**	<0.0476 U	0.0951	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	0.133	**0.238**	<0.0476 U	-	**0.647**	0.124	1.4181	0.257
			27-Jul-06		**0.391**	<0.0477 U	0.0668	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	**0.21**	<0.0477 U	-	**0.506**	<0.0477 U	1.1738	ND
			28-Aug-06		0.197	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	0.118	<0.0492 U	-	**0.324**	<0.0492 U	0.639	ND
			25-Sep-06		0.162	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	0.0951	<0.0475 U	-	**0.304**	<0.0475 U	0.5611	ND
			23-Oct-06		0.18	<0.0475 U	0.057	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	0.104	<0.0475 U	-	**0.37**	<0.0475 U	0.711	ND
			18-Dec-06		0.0569	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	-	0.133	<0.0474 U	0.1899	ND
			25-Jan-07		0.0988	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	<0.0494 U	0.0593	<0.0494 U	-	**0.208**	<0.0494 U	0.3661	ND
			21-Feb-07		0.104	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	0.0662	<0.0473 U	-	**0.208**	<0.0473 U	0.3782	ND
			21-Mar-07		**0.213**	<0.0483 U	0.058	<0.0483 U	<0.0483 U	<0.0483 U	<0.0483 U	<0.0483 U	<0.0483 U	<0.0483 U	0.0773	0.126	<0.0483 U	-	**0.444**	0.0773	0.841	0.1546
			23-Apr-07		0.09	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	-	0.15	<0.05 U	0.24	ND
			21-May-07		0.134	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	<0.0477 U	0.0668	<0.0477 U	-	**0.21**	<0.0477 U	0.4108	ND
WS-21-112	MFA	WS-21-112	28-Jun-06	97 - 112	**2.13**	<0.051 U	<0.051 U	<0.051 U	<0.051 U	<0.051 U	<0.051 U	<0.051 U	<0.051 U	<0.051 U	0.051	0.0714	<0.051 U	-	0.194	0.051	2.3954	0.102
			28-Jul-06		**4.34**	0.0916	0.0713	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	<0.0509 U	0.0509	<0.0509 U	-	0.122	0.0509	4.6758	0.0509
			28-Aug-06		**2.19**	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	<0.0476 U	-	<0.0476 U	<0.0476 U	2.19	ND
			25-Sep-06		**1.96**	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	<0.0503 U	-	<0.0503 U	<0.0503 U	1.96	ND
			24-Oct-06		**1.39**	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	<0.0473 U	-	<0.0473 U	<0.0473 U	1.39	ND
			19-Dec-06		**1.94**	0.0474	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	-	<0.0474 U	<0.0474 U	1.9874	ND
			24-Jan-07		**2.18**	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	<0.0515 U	-	<0.0515 U	<0.0515 U	2.18	ND
			22-Feb-07		**3.66**	0.076	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	<0.0475 U	-	<0.0475 U	<0.0475 U	3.736	ND
			21-Mar-07		**3.17**	0.0586	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	<0.0488 U	-	<0.0488 U	<0.0488 U	3.2286	ND
			23-Apr-07		**3.47**	0.08	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	0.05	<0.05 U	-	0.08	<0.05 U	3.68	ND
			22-May-07		**3.57**	0.0699	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	-	<0.05 U	<0.05 U	3.6399	ND
	HAI	5237-070712-WS21-112	12-Jul-07		**3.36** J	0.0952 U	0.381 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	**0.00673**	0.00476 U	0.381 U	0.0952 U	0.00476 U	**2.45**	0.381 U	0.0952 U	5.81	0.00673
		5237-080521-WS21-112-108	21-May-08		**7.4**	0.18	0.11	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.0082 J	0.047	0.0026 U	**3.2** J	0.031 J	0.0078 J	10.968	0.016
		5237-080925-WS-21-112-137	25-Sep-08		**6.8**	0.081	0.049	0.0026 U	0.0043 U	0.0023 U	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.0044 U	0.026	0.0026 U	**2.6**	0.023	0.0035 U	9.579	ND
		5237-090407-WS21-112-108	7-Apr-09		**3.4**	0.06	0.06	0.0026 U	0.0043 U	**0.0026** J	0.0029 U	0.0025 U	0.0034 U	0.0025 U	0.0053 J	0.023	0.0026 U	**1.2**	0.021	0.0057 J	4.764	0.0136
		5237-090820-WS-21-112-165	20-Aug-09		**2.85**	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	2.04 U	**6.96**	2.04 U	2.04 U	9.81	ND
		5237-090820-WS-21-112-166	20-Aug-09		**2.32**	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	1.96 U	**6.19**	1.96 U	1.96 U	8.51	ND
		5237-100301-WS-21-112-106	1-Mar-10		**6.3**	0.142	0.0477	0.0385 U	0.0385 U	0.0385 U	0.0385 U	0.0385 U	0.0385 U	0.0385 U	0.0385 U	0.0385 U	0.0385 U	**4.51**	0.0385 U	0.0385 U	10.9997	ND
WS-22-112	MFA	WS-22-112	28-Jun-06	97 - 112	**0.402**	0.0721	0.154	**0.124**	**0.227**	**0.196**	0.185	**0.0618**	**0.154**	<0.0515 U	**0.505**	0.165	0.124	-	**0.577**	**0.422**	1.3701	1.9988
			27-Jul-06		**0.629**	0.136	**0.271**	**0.223**	**0.339**	**0.29**	**0.31**	**0.0968**	**0.213**	**0.0484**	**0.755**	**0.252**	0.184	-	**0.852**	**0.929**	2.14	3.3882
			25-Aug-06		**0.631**	0.0584	0.187	**0.105**	**0.164**	**0.14**	0.117	<0.0584 U	**0.14**	<0.0584 U	**0.421**	**0.234**	0.0701	-	**0.678**	**0.549**	1.7884	1.7061
			25-Sep-06		**0.238**	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	0.0694	0.0694	<0.0496 U	-	0.159	0.0694	0.4664	0.1388
			24-Oct-06		**0.277**	<0.0494 U	0.0889	**0.306**	**0.287**	**0.287**	**0.336**	**0.287**	**0.296**	**0.583**	**0.346**	0.109	**0.445**	-	**0.217**	**0.267**	0.6919	3.44

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
WS-22-112	MFA	WS-22-112	19-Dec-06	97 - 112	0.222	<0.0484 U	0.116	<0.0484 U	<0.0484 U	<0.0484 U	<0.0484 U	<0.0484 U	<0.0484 U	<0.0484 U	0.135	0.087	<0.0484 U	-	0.329	0.116	0.754	0.251
			24-Jan-07		0.192	<0.0505 U	<0.0505 U	<0.0505 U	<0.0505 U	<0.0505 U	<0.0505 U	<0.0505 U	<0.0505 U	<0.0505 U	0.0505	0.0606	<0.0505 U	-	0.242	0.0606	0.4946	0.1111
			22-Feb-07		0.361	<0.0474 U	0.0664	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	<0.0474 U	0.0949	0.133	<0.0474 U	-	0.285	0.104	0.8454	0.1989
			21-Mar-07		0.334	<0.0492 U	0.059	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	<0.0492 U	0.108	0.108	<0.0492 U	-	0.364	0.128	0.865	0.236
			23-Apr-07		0.17	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	<0.05 U	0.05	<0.05 U	-	0.16	0.05	0.38	0.05
			22-May-07		0.426	<0.0496 U	0.0595	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	<0.0496 U	0.139	0.159	<0.0496 U	-	0.337	0.178	0.9815	0.317
MW-3-81	HAI	5237-100316-MW-3-81-109	16-Mar-10	76-81	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.233	0.04 U	0.04 U	ND	ND
RP-03-30R	AMEC		19-Apr-04	23-28	483.	U	7.04	0.602	U	U	U	U	U	U	18.2	204.	U	1,440.	198.	14.4	2,332.04	33.202
	HAI	5237-100413-RP-03-30R-104	13-Apr-10		190.	7.62 U	7.62 U	7.62 U	7.62 U	7.62 U	7.62 U	7.62 U	7.62 U	7.62 U	7.62 U	65.4	7.62 U	15.6	57.9	7.62 U	328.9	ND
RP-03-52R	AMEC		19-Apr-04	46-51	0.0796	U	U	U	U	U	U	U	U	U	U	0.0891	U	0.117	0.104	U	0.3897	ND
(duplicate)			19-Apr-04		0.079	U	U	U	U	U	U	U	U	U	U	0.0936	U	0.118	0.107	U	0.3976	ND
		5237-100413-RP-03-52R-105	13-Apr-10		0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0755 U	0.0377 U	0.0377 U	ND	ND
RP-06-31	HAI	5237-100413-RP-06-31-100	13-Apr-10	24.5-29.5	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0755 U	0.0377 U	0.0377 U	ND	ND
RP-06-87	HAI	5237-100413-RP-06-87-101	13-Apr-10	81 - 86	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0755 U	0.0377 U	0.0377 U	ND	ND
RP-06-95	HAI	5237-100413-RP-06-95-103	13-Apr-10	89.5-94.5	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0748 U	0.0374 U	0.0374 U	ND	ND
RP-07-30	AMEC		13-Apr-04	25-30	7.78	0.0964	0.144	U	U	U	U	U	U	U	1.19	2.32	U	U	2.88	0.933	13.2204	2.123
	HAI	5237-070828-RP-7-30-106	28-Aug-07		7.24 J	0.19 U	0.0952 U	0.00809	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.00965	0.00476 U	0.66 J	3.04 J	0.00476 U	0.0952 U	1.07 J	0.494 J	11.35	1.17174
		5237-100317-RP-7-30-115	17-Mar-10		5.67	0.117	0.11	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.933	1.6	0.0374 U	0.0748 U	1.13	0.66	8.627	1.593
RP-07-55	AMEC		3-May-02	50-55	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	ND	ND
	HAI	5237-070827-RP-7-55-104	27-Aug-07		0.0952 U	0.0952 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.0952 U	0.00476 U	0.0952 U	0.0952 U	0.0952 U	ND	ND
		5237-100317-RP-7-55-113	17-Mar-10		0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0777 U	0.0388 U	0.0388 U	ND	ND
RP-07-84	AMEC		13-Apr-04	79-84	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	ND	ND
	HAI	5237-070828-RP-7-84-107	28-Aug-07		0.0966 U	0.0966 U	0.0966 U	0.00483 U	0.00483 U	0.00483 U	0.0966 U	0.00483 U	0.00483 U	0.00483 U	0.0966 U	0.0966 U	0.00483 U	0.0966 U	0.0966 U	0.0966 U	ND	ND
		5237-070828-RP-7-84-108 (DUP)	28-Aug-07		0.0962 UJ	0.0962 UJ	0.0962 UJ	0.00834 J	0.00962 UJ	0.0166 J	0.0962 UJ	0.00816 J	-	0.00481 UJ	0.0962 UJ	0.0962 UJ	0.0093 J	0.962 UJ	0.0962 UJ	0.0962 UJ	U	0.0424
		5237-100317-RP-7-84-114	17-Mar-10		0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0755 U	0.0377 U	0.0377 U	ND	ND
RP-07-119	AMEC		13-Apr-04	114-119	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	ND	ND
	HAI	5237-100317-RP-7-119-116	17-Mar-10		0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0862	0.0377 U	0.0377 U	0.0862	ND
RP-11-30	HAI	5237-070827-RP-11-30-101	27-Aug-07	15 - 30	4.47 J	0.0952 U	0.0952 U	0.0225	0.0169	0.0177	0.0952 U	0.0124	0.0318	0.00476 U	0.373 J	0.595 J	0.0112	0.106	0.532 J	0.326 J	5.703	0.8115
RP-11-160	HAI	5237-070827-RP-11-160-102	27-Aug-07	150 - 160	0.0957 U	0.0957 U	0.0957 U	0.00478 U	0.00478 U	0.00478 U	0.0957 U	0.00478 U	0.00478 U	0.00478 U	0.0957 U	0.0957 U	0.00478 U	0.0957 U	0.0957 U	0.0957 U	ND	ND
		5237-100317-RP-11-160-110	17-Mar-10		0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0388 U	0.0777 U	0.0388 U	0.0388 U	ND	ND
		5237-100317-RP-11-160-111	17-Mar-10		0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0792 U	0.0396 U	0.0396 U	ND	ND
RP-11-216	HAI	5237-070827-RP-11-216-103	27-Aug-07	211 - 216	0.0952 U	0.0952 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.0952 U	0.00476 U	0.0952 U	0.0952 U	0.0952 U	ND	ND
		5237-100317-RP-11-216-112	17-Mar-10		0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0374 U	0.0963	0.0374 U	0.0374 U	0.0963	ND
RP-20-25	HAI	5237-100315-RP-20-25-102	15-Mar-10	10 - 25	1.75	0.04 U	0.04 U	0.04 U	0.04 U	0.08 U,BK	0.04 U	- BK	0.04 U	0.04 U	0.0823	0.108	0.04 U	0.125	0.137	0.0769	2.12	0.1592
RP-20-97	HAI	5237-100315-RP-20-97-103	15-Mar-10	88 - 98	0.107	0.0421 U	0.0421 U	0.0421 U	0.0421 U	0.0421 U	0.0421 U	0.0421 U	0.0421 U	0.0421 U	0.0476	0.0421 U	0.0421 U	0.0842 U	0.0421 U	0.0531	0.107	0.1007
RP-21-28	HAI	5237-100315-RP-21-28-101	15-Mar-10	13 - 28	9.46	0.132	0.403	0.251	0.0655	0.103 BK	0.04 U	- BK	0.267	0.04 U	4.17	4.17	0.04 U	0.08 U	0.128	5.47	14.293	10.3265
RP-21-125	HAI	5237-100315-RP-21-125-100	15-Mar-10	120 - 125	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.0412 U	0.102	0.0412 U	0.0412 U	0.102	ND
RP-22-29	HAI	5237-100318-RP-22-29-120	18-Mar-10	14 - 29	0.528	0.682	0.358	0.0949	0.0543	0.0926 U,BK	0.0379 U	- BK	0.0924	0.0379 U	1.17	0.301	0.0379 U	0.106	0.047	1.64	2.022	3.0516
RP-22-75	HAI	5237-100318-RP-22-75-119	18-Mar-10	65 - 75	0.0395	0.057	0.104	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0755 U	0.107	0.0377 U	0.3075	ND
RP-23-30	HAI	5237-100316-RP-23-30-104	16-Mar-10	15-30	6.32	0.608	0.599	0.0816	0.0421 U	0.0842 U,BK	0.0421 U	- BK	0.0639	0.0421 U	1.23	2.13	0.0421 U	0.165	2.42	1.49	12.242	2.8655
RP-23-85	HAI	5237-100316-RP-23-85-105	16-Mar-10	80 - 85	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.08 U	0.04 U	0.04 U	ND	ND
RP-23-100	HAI	5237-100316-RP-23-100-106	16-Mar-10	95 - 100	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.0396 U	0.095	0.0396 U	0.0396 U	0.095	ND

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
RP-24-30	HAI	5237-070829-RP-24-30-109	29-Aug-07	25 - 30	0.233 J	0.1 U	0.1 U	0.00853	0.0121	0.0097	0.1 U	0.00896 J	0.00981	0.005 U	0.1 U	0.1 U	0.0131	0.1 U	0.113 J	0.1 U	0.346	0.0622
		5237-100318-RP-24-30-117	18-Mar-10		1.57	0.0424	0.0455	0.0638	0.0599	0.0907 U,BK	0.0494	- BK	0.0681	0.0381 U	0.538	0.0685	0.0383	0.0762 U	0.545	0.523	2.2714	1.3405
RP-24-60	HAI	5237-070828-RP-24-60-110	28-Aug-07	55 - 60	0.143 J	0.0952 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.512 J	0.394	0.00476 U	0.0952 U	0.239 J	0.296 J	0.776	0.808
		5237-100318-RP-24-60-118	18-Mar-10		0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.0377 U	0.297	0.0599	0.0377 U	0.0755 U	0.0377 U	0.36	0.0599	0.657
RP-24-73	HAI	5237-070829-RP-24-73-113	29-Aug-07	68 - 73	0.0952 U	0.0952 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.0952 U	0.00476 U	0.0952 U	0.0952 U	0.0952 U	ND	ND
RP-24-85	HAI	5237-070828-RP-24-85-111	28-Aug-07	80 - 85	0.0952 U	0.0952 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.00476 U	0.00476 U	0.00476 U	0.0952 U	0.0952 U	0.00476 U	0.0952 U	0.0952 U	0.0952 U	ND	ND
RP-25-30	HAI	5237-100316-RP-25-30-108	16-Mar-10	10 - 30	1.16	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.0394 U	0.143	0.0394 U	0.0394 U	1.303	ND
RP-25-86	HAI	5237-100316-RP-25-86-107	16-Mar-10	81 - 86	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.04 U	0.187	0.04 U	0.04 U	0.187	ND
NWN-1-20	HAI	5237-080807-NWN-1-20-107	7-Aug-08	10 - 20	66.	110.	28.	17.	14.	17.	13.	5.8	25.	1.5	63.	61.	11.	5,100.	240.	73.	5,605.	240.3
		5237-081211-NWN-1-20-019	11-Dec-08		70.	83.	28.	13.	13.	11.	9.2	4.2	15.	1.6	47.	61.	8.9	4,500.	160.	55.	4,902.	177.9
		5237-090407-NWN1-20-105	7-Apr-09		63.	54.	39.	27.	27.	26.	21.	8.8	37.	2.7	91.	68.	20.	2,900.	240.	100.	3,364.	360.5
		5237-090604-NWN-1-20-103	4-Jun-09		110.	110.	110.	94.	100.	84.	71.	26.	120.	11.	230.	150.	72.	3,900.	610.	340.	4,990.	1,148.
		5237-090818-NWN-1-20-148	18-Aug-09		930. U	930. U	930. U	930. U	930. U	930. U	930. U	930. U	930. U	930. U	930. U	930. U	930. U	3,410.	930. U	930. U	3,410.	ND
		5237-100301-NWN-1-20-101	1-Mar-10		75.6 J	74. J	78.1 J	71.7 J	72. J	84.9 J	53. J	- BK	94.1 J	7.44 J	206. J	91.2 J	48.7 J	2,410. J	400. J	233. J	3,128.9	870.84
NWN-2-20	HAI	5237-080730-NWN2-20-101	30-Jul-08	10 - 20	23.	0.94	15.	5.1	1.8	2.5	0.53	0.64	7.6	0.18	33.	18.	0.68	85.	110.	41.	251.94	93.03
		5237-081211-NWN-2-20-017	11-Dec-08		35.	1.8	18.	5.	1.8	2.	0.82	0.59	6.5	0.19	31.	25.	0.77	55.	110.	34.	244.8	82.67
		5237-090407-NWN2-20-107	7-Apr-09		33.	1.8	16.	12.	4.3	5.6	2.3	1.7	18.	0.44	56.	25.	2.	25.	100.	70.	200.8	172.34
		5237-090604-NWN-2-20-101	4-Jun-09		32.	2.3	27.	16.	6.1	6.7	2.6	2.	21.	0.52	61.	28.	2.6	17.	110.	98.	216.3	216.52
		5237-090818-NWN-2-20-142	18-Aug-09		36.8	2.12	45.4	27.6	12.7	19.9	5.1	- BK	42.7	1.87 U	112.	28.	4.95	18.3	211.	143.	341.62	367.95
		5237-100301-NWN-2-20-103	1-Mar-10		12.5 U	1.96 U	6.98	4.81	1.96 U	3.92 U,BK	1.96 U	- BK	6.7	1.96 U	19.6	11.3	1.96 U	5.65 U	18.3 U	25.1	18.28	56.21
NWN-3-17	HAI	5237-080730-NWN3-17-100	30-Jul-08	7 - 17	1.2	0.048	0.071	0.088	0.083	0.15	0.17	0.044	0.16	0.014 J	0.29	0.081	0.091	0.019 U	0.25	0.34	1.65	1.43
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-090407-NWN3-17-101	7-Apr-09		1.7	0.035	0.046	0.012 J	0.011 J	0.012 J	0.0096 J	0.0036 J	0.014 J	0.0026 U	0.038	0.035	0.0089 J	0.11	0.054	0.045	1.98	0.1541
		5237-090604-NWN-3-17-102	4-Jun-09		2.1	0.088	0.073	0.031	0.023	0.032	0.025	0.019 U	0.046	0.019 U	0.062	0.054	0.022	0.042	0.12 J	0.14	2.477	0.381
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-100301-NWN-3-17-102	1-Mar-10		3.47	0.0802	0.118	0.0475	0.0515	0.0849	0.0628	- BK	0.0572	0.0374 U	0.113	0.0374 U	0.0552	0.0981	0.116	0.148	3.8823	0.6201
NWN-4-15	HAI	NS (Dry)	30-Jul-08	5 - 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-081211-NWN-4-15-021	11-Dec-08		0.066	0.059	0.084	0.098	0.12	0.12	0.11	0.039	0.12	0.017 J	0.42	0.044	0.098	0.43	0.3	0.5	0.983	1.642
		5237-090407-NWN4-15-103	7-Apr-09		0.01 J	0.041	0.023	0.048	0.12	0.11	0.14	0.037	0.049	0.013 J	0.11	0.0067 J	0.14	0.12	0.066	0.13	0.2667	0.897
		5237-090604-NWN-4-15-100	4-Jun-09		0.076	0.49	0.3	0.68	1.6	1.6	1.5	0.53	0.96	0.22	1.2	0.17	1.6	1.2	0.76	2.	2.996	11.89
		5237-090818-NWN-4-15-152*	18-Aug-09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-100301-NWN-4-15-100	1-Mar-10		0.0377 U	0.222	0.093	0.303	0.675	0.899	0.86	- BK	0.41	0.0815	0.46	0.0377 U	0.729	0.241	0.131	0.668	0.687	5.0855
NWN-5-20	HAI	5237-080730-NWN5-20-103	30-Jul-08	10 - 20	110.	1.7	11.	1.2	0.26	0.43	0.078	0.15	1.	0.02	19.	47.	0.088	470.	61.	13.	700.7	35.226
		5237-081211-NWN-5-20-018	11-Dec-08		55.	0.62	5.	0.73	0.18	0.3	0.069	0.11	0.68	0.018 J	8.5	22.	0.075	280.	32.	5.8	394.62	16.462
		5237-090408-NWN5-20-111	8-Apr-09		16.	0.28	1.2	0.64	0.29	0.44	0.15	0.16	0.89	0.027	3.9	2.4	0.15	32.	3.5	2.5	55.38	9.147
		5237-090604-NWN-5-20-104	4-Jun-09		31.	0.42	1.6	0.21	0.042	0.072	0.021	0.026	0.2	0.02 U	2.6	5.1	0.022	94.	4.1	2.9	136.22	6.093
		5237-090818-NWN-5-20-150	18-Aug-09		24.3	0.748 U	2.07	0.748 U	0.748 U	0.748 U	0.748 U	0.748 U	0.748 U	0.748 U	3.85	2.63	0.748 U	8.76	4.57	2.85	42.33	6.7
		5237-100302-NWN-5-20-117	2-Mar-10		5.22 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.777 U	0.797	0.785	0.777 U	4.19 U	1.01 U	0.777 U	0.785	0.797
NWN-6-31	HAI	5237-080730-NWN6-31-104	30-Jul-08	21 - 31	460.	0.94	2.5	0.41	0.11	0.19	0.023	0.056	0.24	0.011 J	7.5	120.	0.037	1,400.	85.	6.6	2,068.44	15.177
		5237-081211-NWN-6-31-020	11-Dec-08		430.	2.7	2.	0.78	0.24	0.36	0.073	0.13	0.47	0.028	8.7	110.	0.097	1,200.	69.	6.5	1,813.7	17.378
		5237-090408-NWN6-31-109	8-Apr-09		400.	1.2	1.7	0.54	0.13	0.21	0.034	0.067	0.29	0.012 J	7.2	110.	0.044	910.	60.	6.1	1,482.9	14.627
		5237-090604-NWN-6-31-106	4-Jun-09		480.	1.9	1.9	0.47	0.097	0.17	0.022	0.048	0.26	0.02 U	6.7	140.	0.03	1,500.	83.	6.8	2,206.8	14.597

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
NWN-6-31	HAI	5327-090819-NWN-6-31-154	19-Aug-09	21 - 31	295.	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	186. U	921.	186. U	186. U	1,216.	ND
		5237-100303-NWN-6-31-120	3-Mar-10		493.	3.81 U	3.81 U	3.81 U	3.81 U	3.81 U	3.81 U	3.81 U	3.81 U	3.81 U	8.84	135.	3.81 U	1,130. U	84.4	5.88	712.4	14.72
NWN-7-30	HAI	5237-080807-NWN-7-30-106	7-Aug-08	20 - 30	68.	0.72	0.58	0.086	0.025	0.036	0.015 J	0.0093 J	0.11	0.0025 U	1.7	6.6	0.011 J	6.1	2.9	1.9	84.9	3.8923
		5237-081211-NWN-7-30-016	11-Dec-08		81.	0.82	0.93	0.31	0.28	0.28	0.21	0.085	0.43	0.024	2.3	6.4	0.18	1.5	2.	2.4	92.65	6.499
		5237-090408-NWN7-30-112	8-Apr-09		88. J	0.48 J	0.67 J	0.097 J	0.07 J	0.073 J	0.043 J	0.022 J	0.13 J	0.004 J	1.2 J	6. J	0.041 J	7.4 J	1.1 J	1.1 J	103.65	2.78
		5237-090604-NWN-7-30-108	4-Jun-09		95.	1.6	1.1	0.11	0.074	0.069	0.043	0.023	0.13	0.019 U	1.1	11.	0.039	1.4	1.2	1.5	111.3	3.088
		5237-090818-NWN-7-30-144	18-Aug-09		57.8	0.799	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	1.23	5.07	0.755 U	2. U	0.755 U	1.21	63.669	2.44
		5237-100301-NWN-7-30-104	1-Mar-10		81.7	0.647	0.734	0.081	0.0374 U	0.0748 U,BK	0.0374 U	- BK	0.0854	0.0374 U	1.26	6.19	0.0374 U	0.616	0.825	1.22	90.712	2.6464
NWN-8-30	HAI	5237-080730-NWN8-30-105	30-Jul-08	15 - 30	3.4	0.045	0.21	0.13	0.094	0.18	0.12	0.063	0.22	0.022	0.56	0.42	0.12	8.5	0.98	0.58	13.555	2.089
		5237-081211-NWN-8-30-022	11-Dec-08		4.3	0.14	1.4	0.79	0.64	0.99	0.96	0.33	1.4	0.13	4.	1.	0.85	4.3	5.1	4.2	16.24	14.29
		5237-090408-NWN8-30-113	8-Apr-09		3.8	0.034	0.12	0.052	0.05	0.08	0.074	0.028	0.084	0.0071 J	0.2	0.27	0.064	3.3	0.29	0.2	7.814	0.8391
		5237-090604-NWN-8-30-105	4-Jun-09		5.7	0.047	0.17	0.14	0.12	0.2	0.17	0.062	0.23	0.018 J	0.41	0.35	0.16	1.8	0.42 J	0.64	8.487	2.15
		5237-090818-NWN-8-30-146	18-Aug-09		5.38	0.0526	0.148	0.116	0.136	0.262	0.168	- BK	0.17	0.0377 U	0.334	0.307	0.139	1.05	0.246	0.401	7.1836	1.726
		5237-100301-NWN-8-30-105	1-Mar-10		2.97	0.0563	0.222	0.148	0.143	0.312	0.226	- BK	0.206	0.0388 U	0.466	0.602	0.19	4.98	0.372	0.512	9.2023	2.203
NWN-9-31	HAI	5237-080807-NWN-9-31-108	7-Aug-08	16 - 31	42.	0.75	1.2	0.44	0.34	0.4	0.31	0.13	0.61	0.033	4.2	7.3	0.26	6.7	6.5	4.4	64.45	11.123
		5237-081211-NWN-9-31-023	11-Dec-08		13. J	0.69 J	0.81 J	0.21 J	0.096 J	0.091 J	0.051 J	0.029 J	0.24 J	0.0091 J	2.4 J	3.3 J	0.046 J	11. J	3.6 J	2.6 J	32.4	5.7721
		5237-090409-NWN9-31-121	9-Apr-09		18.	0.56	0.83	0.14	0.046	0.053	0.026	0.016 J	0.18	0.0035 J	2.1	4.4	0.023	32.	4.	2.1	59.79	4.6875
		5237-090604-NWN-9-31-107	4-Jun-09		37.	0.91	1.1	0.2	0.1	0.1	0.065 J	0.031	0.24	0.021 UJ	2.2	9.2	0.064 J	200.	4.9	3.3	253.11	6.3
		5237-090604-NWN-9-31-109	4-Jun-09		40.	0.94	1.3	0.21	0.1	0.091	0.064	0.031	0.24	0.02 U	2.3	9.3	0.063	210.	5.5	3.3	267.04	6.399
		5327-090819-NWN-9-31-158	19-Aug-09		13.9	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	1.47	3.21	0.755 U	29.3	2.35	1.68	48.76	3.15
		5237-100302-NWN-9-31-111	2-Mar-10		20.	0.786	0.87	0.349	0.294	0.406	0.266	- BK	0.428	0.196 U	2.55	4.98	0.271	24.6 U	3.	2.82	29.636	7.384
		5237-100302-NWN-9-31-112	2-Mar-10		19.1	0.724	0.754	0.281	0.192 U	0.385 U	0.192 U	- BK	0.278	0.192 U	2.06	4.6	0.192 U	25. U	2.49 U	2.26	25.178	4.879
NWN-10-26	HAI	5237-080807-NWN-10-26-109	7-Aug-08	11 - 26	1.7	0.0094 J	0.0036 U	0.018 J	0.0098 J	0.013 J	0.011 J	0.0039 J	0.021	0.0025 U	0.095	0.011 J	0.0085 J	0.079	0.63	0.22	2.4294	0.4002
		5237-080807-NWN-10-26-110 (DUP)	7-Aug-08		1.6	0.017 J	0.02 J	0.048	0.051	0.056	0.058	0.02 J	0.067	0.0067 J	0.15	0.015 J	0.046	0.083	0.6	0.34	2.335	0.8427
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-090410-NWN10-26-123	9-Apr-09		2.4	0.041	0.035	0.14	0.17	0.16	0.17	0.053	0.19	0.018 J	0.54	0.054	0.14	0.18	1.	0.79	3.71	2.371
		5237-090604-NWN-10-26-111	4-Jun-09		3.5	0.047	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.02 U	0.0062 J	0.02 U	0.02 U	0.046	0.02 U	0.73	0.02 U	0.056	4.323	0.0622
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-100302-NWN-10-26-115	2-Mar-10		1.69	0.0408 U	0.0408 U	0.0408 U	0.0408 U	0.0816 U,BK	0.0408 U	- BK	0.0408 U	0.0408 U	0.0914	0.0408 U	0.0408 U	0.115	0.494	0.21	2.299	0.3014
Temporary Well Point Samples (3/2009 Sonic)																						
SB-21	HAI	5237-090309-100	9-Mar-09	13	1.5	0.69	1.3	4.4	2.5	6.9	7.4	2.1	7.7	0.64	18.	3.6	6.	21.	48.	20.	76.09	75.64
SB-21		5237-090311-101	11-Mar-09	76-80	0.14	0.037	0.031	0.029	0.028	0.03	0.027	0.0097 J	0.034	0.0029 J	0.094	0.097	0.025	4.4	0.3	0.12	5.005	0.3996
SB-21		5237-090311-102	11-Mar-09	97-101	48.	0.51	0.36	0.014 J	0.012 J	0.0025 U	0.011 J	0.0027 U	0.011 J	0.0027 U	0.043	3.6	0.012 J	560.	2.9	0.047	615.37	0.15
SB-27	HAI	5237-090319-112	19-Mar-09	22	3.	3.4	1.3	5.	9.5	10.	11.	3.1	6.8	0.81	15.	1.4	9.7	10.	4.7	22.	23.8	92.91
SB-27		5237-090320-113	20-Mar-09	61-65	2.7	0.17	0.75	0.51	0.44	0.52	0.42	0.16	0.68	0.053	2.3	1.5	0.37	21.	7.4	2.8	33.52	8.253
SB-27		5237-090320-114	20-Mar-09	76-80	0.99	0.045	0.26	0.06	0.035	0.042	0.028	0.014 J	0.084	0.004 J	0.57	0.63	0.025	4.9	3.2	0.68	10.025	1.542
SB-27		5237-090320-115	20-Mar-09	76-80	0.56	0.023	0.16	0.027	0.012 J	0.015 J	0.0092 J	0.0056 J	0.035	0.0025 U	0.3	0.35	0.0085 J	3.2	1.8	0.33	6.093	0.7423
SB-27		5237-090323-116	23-Mar-09	96-100	4.7	0.14 U	0.37	0.21 U	0.13 U	0.16 U	0.11 U	0.054 U	0.3 U	0.013 U	1.5 U	2.8	0.097 U	6.5	9.	1.7 U	23.37	ND
SB-35	HAI	5237-090317-108	17-Mar-09	20.5-24	1,500.	280.	820.	520.	490.	480.	380.	150.	600.	42.	1,700.	860.	340.	17,000.	4,000.	2,100.	24,460.	6,802.
SB-35		5237-090318-109	18-Mar-09	62-66	9.	0.37	2.2	0.33	0.21	0.21	0.15	0.064	0.43	0.018 J	3.	6.2	0.14	6.8	24.	3.6	48.57	8.152
SB-35		5237-090318-110	18-Mar-09	82-86	3.7	0.11	0.56	0.06	0.024	0.028	0.019 J	0.011 J	0.073	0.0029 J	0.9	2.2	0.016 J	3.8	6.6	0.93	16.97	2.0639
SB-35		5237-090318-111	18-Mar-09	91-95	6.1	0.17	1.2	0.26	0.12	0.16	0.09	0.052	0.34	0.012 J	2.5	4.	0.085	28.	17.	2.8	56.47	6.419

Table 26 - Summary of Analytical Results for Groundwater Samples: Polynuclear Aromatic Hydrocarbons (PAHs) by EPA Method 8270 SIM or 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Acenaphthene	Acenaphthylene	Anthracene	Benzo (a) anthracene	Benzo (a) pyrene	Benzo (b) fluoranthene	Benzo (g,h,i) perylene	Benzo (k) fluoranthene	Chrysene	Dibenzo (a,h) anthracene	Fluoranthene	Fluorene	Indeno (1,2,3 cd) pyrene	Naphthalene	Phenanthrene	Pyrene	LPAH	HPAH
					Analytical Results in ug/L (ppb)																	
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																						
Fish Consumption																						
	EPA 2004 NRWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
	Portland Harbor specific fish consumption rate				99.	#	4,000.	0.0018	0.0018	0.0018	#	0.0018	0.0018	0.0018	14.	530.	0.0018	#	#	400.	#	#
	DEQ 2004 AWQC (organism only)				990.	#	40,000.	0.018	0.018	0.018	#	0.018	0.018	0.018	140.	5,300.	0.018	#	#	4,000.	#	#
Drinking Water																						
	MCL [3]				0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	#	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				2,200.	#	11,000.	0.029	0.0029	0.029	#	0.29	2.9	0.0029	1,500.	1,500.	0.029	0.14	#	1,100.	#	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																						
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic)				#	520 [5]	#	#	#	#	#	#	#	#	#	#	#	620 [5]	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [4]				#	#	0.73	0.027	0.014	#	#	#	#	#	#	3.9	#	12.	#	#	#	#
Temporary Well Point Samples (3/2009 Sonic)																						
SB-53	HAI	5237-090312-103	12-Mar-09	22	**9,800.**	**4,000.**	**5,900.**	**3,700.**	**4,100.**	**3,600.**	**3,000.**	**1,200.**	**4,300.**	**340.**	**12,000.**	**6,500.**	**2,700.**	**120,000.**	**35,000.**	**14,000.**	181,200.	48,940.
SB-53		5237-090312-104	12-Mar-09	61-65	**37,000.**	**3,700.**	**14,000.**	**9,500.**	**11,000.**	**9,000.**	**7,500.**	**3,000.**	**11,000.**	**860.**	**30,000.**	**18,000.**	**7,100.**	**360,000.**	**76,000.**	**38,000.**	508,700.	126,960.
SB-53		5237-090313-105	13-Mar-09	102-106	**18.**	**1.3**	**2.8**	**3.**	**3.1**	**3.1**	**2.7**	**1.1**	**3.6**	**0.31**	**10.**	**7.5**	**2.5**	**160.**	**28.**	**13.**	217.6	42.41
SB-53		5237-090313-106	13-Mar-09	132-136	**26.**	**1.5**	**3.9**	**2.7**	**1.9**	**2.9**	**2.4**	**0.94**	**3.4**	**0.29**	**12.**	**12.**	**2.1**	**180.**	**42.**	**14.**	265.4	42.63
SB-53		5237-090316-107	16-Mar-09	152-156	**59.**	**1.7**	**4.**	**0.96**	**0.7**	**0.85**	**0.68**	**0.27**	**1.2**	**0.085** J	**6.7**	**21.**	**0.62**	**330.**	**44.**	**7.4**	459.7	19.465
Temporary Well Point Samples (8/2009 Push Probe)																						
P-45a	HAI	5237-090810-101	10-Aug-09	21 - 25	**10.5**	0.755 U	**2.18**	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	**3.44**	**2.63**	0.755 U	2. U	**14.2**	**3.77**	29.51	7.21
		5237-090810-102 (dup)	10-Aug-09	21 - 25	**14.1**	0.755 U	**1.58**	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	0.755 U	**1.98**	**2.54**	0.755 U	**5.14** J	**11.2**	**2.09**	34.56	4.07
Quality Control Samples (HAI)																						
Water EB	HAI	5237-011008-103	8-Oct-01		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	ND	ND
		5237-011212-102	12-Dec-01		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	ND	ND
		5237-020402-102	2-Apr-02		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	ND	ND
		5237-020710-102	10-Jul-02		0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	ND	ND
		5237-090323-EB1	23-Mar-09		0.026	0.081	0.065	**0.33**	**0.45**	**0.62**	**0.47**	**0.19**	**0.54**	**0.063**	**0.67**	0.021	**0.45**	0.051	**0.34**	**0.89**	0.584	4.673

Note:

AWQC = Ambient Water Quality Criteria
BK = Benzo(b)fluoranthene and Benzo(k)fluoranthene were indistinguishable. Lab reported as one number sum.
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
HPAH = High Molecular Weight Polynuclear Aromatic Hydrocarbons
J = Estimated Concentration

LPAH = Low Molecular Weight Polynuclear Aromatic Hydrocarbons
MCL = Maximum Contaminant Level
ND or U = not detected above detection limit indicated
NRWQC = National Recommended Water Quality Criteria
NS = No Sample
PAHs = polynuclear aromatic hydrocarbons

ppb = parts per billion
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
PRG = Preliminary Remediation Goal
SCV = Secondary Chronic Value
ug/l = micrograms per liter
U = Non-detect above method reporting limit

"-" = Measurement not taken, parameter not analyzed, or data unavailable (samper other than HAI)
* = Partial sample obtained, but sample volume completely used during other analysis (i.e 8260B), insufficient volume to analyze for additional determinants.
# = Reference Level not established

1 = Unless otherwise noted Screening Level Values are from *Portland Harbor Joint Source Control Strategy, Final*, December 2005 (7/16/07 revision)
2 = EPA, under CERCLA authority, has identified the Safe Drinking Water Acts MCLs and AWQCs (federal and state once approved) as potential ARARs under CERCLA. The final determination will be made in the EPA Portland Harbor Record of Decision (ROD). Decisions to implement source control, prior to The EPA Portland Harbor ROD, due to an exceedance of an SLV in upland stormwater will be evaluated and prioritized on a case by case basis.
3 = MCL is based on benzo(a)pyrene
4 = Tier II SCV values were taken from Suter II, G.W. and Tasco, C.L., 1996. *Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota*: 1996 Revision. ORNL publication ES/ER/TM-96/R2
5 = Values were taken from Table 33c (OAR 340-41), which are Water Quality Guidance Values, not criteria, that can be used in application of Oregon's Narrative Toxics Criteria to waters of the state in order to protect aquatic life

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																				
Fish Consumption																				
EPA 2004 NRWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#
Portland Harbor specific fish consumption rate					0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#
DEQ 2004 AWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#
Drinking Water																				
MCL					0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#
EPA Region 3,6,9 Tap Water PRGs (12/09 update)					0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																				
EPA 2004 NRWQC (chronic)					#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#
DEQ 2004 AWQC (chronic)					1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#
Oak Ridge National Laboratory (Tier II SCV) [10]					0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#
WS-1	CH2M HILL		Aug-85	7-22	-	-	0.005	-	-	-			0.003	-	0.01	-	-	-	0.002	-
WS-2	CH2M HILL		Aug-85	7.5-22	-	-	0.005 U	-	-	-			0.002	-	0.008	-	-	-	0.007	-
WS-3S	CH2M HILL		Aug-85	12-27	-	-	0.005	-	-	-			0.001	-	0.005	-	-	-	0.001	-
WS-3I	G&M		Oct-90	55-60	-	-	U	-	-	-			U	-	U	-	-	-	U	-
	AMEC		13-Apr-04		-	-	0.00181	0.00146	-	-			-	-	-	-	-	-	0.00221	-
W-03-81	URS		6-Apr-00	75-80	-	-	-	-	-	-			-	-	-	-	-	-	-	-
	AMEC		13-Apr-04		-	-	0.00337	0.00305	-	-			-	-	-	-	-	-	0.00156	-
WS-4	CH2M HILL		Aug-85	6.5-21.5	-	-	0.005 U	-	-	-			0.003	-	0.009	-	-	-	0.002	-
WS-5	CH2M HILL		Aug-85	5-20	-	-	0.005 U	-	-	-			0.002	-	0.006	-	-	-	0.02	-
WS-6	CH2M HILL		Aug-85	9-24	-	-	0.01	-	-	-			0.002	-	0.006	-	-	-	0.001	-
WS-7	CH2M HILL		Aug-85	10-25	-	-	0.005 U	-	-	-			0.001 U	-	0.004	-	-	-	0.004	-
			Oct-90		-	-	0.005 U	-	-	-			0.001 U	-	U	-	-	-	U	-
WS-8-33	HAI	011009-107	9-Oct-01	23-33	0.003 U	-	0.0063	-	0.184	-			0.001 U	-	0.0069	-	0.0041	-	0.0264	-
		011213-105	13-Dec-01		0.005 U	-	0.0162	-	0.142	-		-	0.002 U	-	0.005	-	0.005	-	0.005	-
		020403-105	3-Apr-02		0.005 U	0.005 U	0.018	0.0148	0.115	0.104			0.005 U	0.002 U	0.005 U	0.005	0.005 U	0.005 U	0.005 U	0.015 U
		020403-106D	3-Apr-02		0.005 U	-	0.0174	-	0.114	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-
		020710-104	10-Jul-02		0.005 U	0.005 U	0.0152	0.0198	0.117	0.114			0.002 U	0.0222 U	0.005 U	0.00556	0.005 U	0.0056 U	0.005 U	0.00556 U
		020710-105D	10-Jul-02		0.005 U	-	0.0173	-	0.116	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-
		5237-080521-WS8-33-105	21-May-08		0.00004 J	-	0.0151	-	0.109	-	0.000034		0.000179	-	0.0011	-	-	-	0.00068	-
		5237-080929-WS-8-33-145	2-Sep-08		0.00009	0.00005 U	0.0132	0.0135	0.134	0.111	0.00015	0.00002 U	0.0001	0.00002 U	0.0041	0.0006	-	-	0.0098	0.0002
		5237-090408-WS8-33-119	8-Apr-09		0.000005 U	-	0.015	-	0.118	-	0.000033	-	0.000111	-	0.00105	-	-	-	0.00148	-
		5327-090819-WS-8-33-159	19-Aug-09		0.001 U	-	0.0152	-	0.109	-	0.001 U	-	0.001 U	-	0.00209	-	-	-	0.004 U	-
		5237-100301-WS-8-33-107	1-Mar-10		0.001 U	-	0.0118	-	0.115	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-
WS-8-59	HAI	011008-104	8-Oct-01	49-59	0.003 U	-	0.005 U	-	0.153	-			0.001 U	-	0.005 U	-	0.001 U	-	0.0055	-
		011008-105D	8-Oct-01		0.003 U	-	0.005 U	-	0.142	-			0.001 U	-	0.005 U	-	0.001 U	-	0.0037	-
		011212-103	12-Dec-01		0.005 U	-	0.005 U	-	0.123	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-
		011212-104D	12-Dec-01		0.005 U	-	0.005 U	-	0.119	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-
		020403-104	3-Apr-02		0.005 U	-	0.005 U	-	0.0931	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-
		020710-103	10-Jul-02		0.005 U	-	0.005 U	-	0.1	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-
	HAI	5237-070716-WS-8-59-108	16-Jul-07		0.0008 U	-	0.00627	-	0.172	-	0.008 U		0.00038 U	-	0.0199	-	-	-	0.0277	-
		5237-080521-WS8-56-106	21-May-08		0.00004 J	-	0.00309	-	0.177	-	0.000595		0.000213 J	-	0.0113	-	-	-	0.0257	-
		5237-080929-WS-8-56-146	29-Sep-08		0.00005 U	0.00005 U	0.003	0.0045	0.158	0.0815	0.00081	0.00002 U	0.00016	0.00002 U	0.0192	0.0002	-	-	0.0264	0.0002
		5237-090408-WS8-59-115	8-Apr-09		0.000001 U	0.000005 U	0.0042	0.0023	0.304	0.0827	0.00129	0.000008 U	0.000383	0.000005 U	0.0363	0.00012 J	-	-	0.0647	0.00018
		5237-090408-WS8-59-117	8-Apr-09		0.00001 U	-	0.0046	-	0.316	-	0.00138	-	0.000379	-	0.0388	-	-	-	0.0672	-
		5327-090819-WS-8-59-157	19-Aug-09		-	0.001 U	-	0.00442	-	0.0737	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U
		5237-100301-WS-8-56-109	1-Mar-10		0.001 U	-	0.00842	0.00329	0.28	-	0.001 U	-	0.001 U	-	0.0359	-	-	-	0.0469	0.004 U
WS-9-34	HAI	011008-102	8-Oct-01	24-34	0.003 U	-	0.005 U	-	0.246	-			0.001 U	-	0.005 U	-	0.0281	-	0.0074	-
		011212-101	12-Dec-01		0.0067	0.0108	0.0607	0.005 U	0.923	0.0348			0.002 U	0.002 U	0.0207	0.005	0.0437	0.0112	0.0431	0.005 U
		020402-101	2-Apr-02		0.005 U	0.0086	0.038	0.007	0.607	0.0467			0.002 U	0.002 U	0.0187	0.005	0.0273	0.0132	0.0391	0.015 U
		020710-101	10-Jul-02		0.005 U	0.00556 U	0.0311	0.00556 U	0.553	0.081			0.002 U	0.00222 U	0.0326	0.00556	0.0404	0.0231	0.0359	0.00556 U
		5237-090410-WS9-34-122	10-Apr-09		0.00001 U	0.000005 U	0.0208	0.0044	0.377	0.0664	0.0106	0.000008 U	0.00267	0.000005 U	0.00962	0.00019 J	-	-	0.0575	0.00018
		5327-090819-WS-9-34-156	19-Aug-09		0.001 U	0.001 U	0.011	0.0108	0.0958	0.0861	0.001 U	0.001 U	0.001 U	0.001 U	0.00181	0.001 U	-	-	0.004 U	0.004 U
		5237-100302-WS-9-34-113	2-Mar-10		0.001 U	-	0.0104	-	0.0643	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-
WS-10-27	MFA	WS-10-27	27-Oct-03	11-26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			29-Jan-04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			29-Apr-04		-	-	0.02 U	-	-	-			-	-	0.0133	-	0.005 U	-	0.01 U	-
			16-Nov-04		0.02 U	-	0.02 U	-	-	-			-	-	0.0165	-	0.0073	-	0.01 U	-
			20-Nov-07		0.02 U	0.02 U	0.0032	0.0039	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			8-Feb-08		0.02 U	0.02 U	0.0011	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			13-May-08		0.02 U	0.02 U	0.0039	0.004	-	-	-	-	0.001 U	0.001	0.0051	0.005 U	-	-	0.01 U	0.01 U
			18-Aug-08		0.02 U	0.02 U	0.0049	0.0018	-	-	-	-	0.001 U	0.001	0.0062	0.005 U	-	-	0.01 U	0.01 U
WS-11-125	MFA	WS-11-125	28-Oct-03	109-124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30-Jan-04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			29-Apr-04		0.02 U	0.02 U	0.02 U	0.02 U	-	-			-	-	0.0115	-	0.005 U	-	0.01 U	-
			16-Nov-04		0.02 U	-	0.02 U	0.02 U	-	-			-	-	0.0156	-	0.005 U	-	0.01 U	-
			28-Jun-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			27-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			23-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			26-Sep-06		0.02 U	0.02 U	0.00158	0.0027	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			23-Oct-06		0.02 U	0.02 U	0.00101	0.0029	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			18-Dec-06		0.02 U	0.02 U	0.00114	0.0021	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			25-Jan-07		0.02 U	0.02 U	0.001 U	0.0026	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			21-Feb-07		0.02 U	0.02 U	0.001 U	0.0027	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			21-Mar-07		0.02 U	0.02 U	0.00142	0.0043	-	-	-	-	0.0013	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			23-Apr-07		0.02 U	0.02 U	0.00198	0.0026	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			22-May-07		0.02 U	0.02 U	0.0027	0.0049	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			15-Nov-07		0.02 U	0.02 U	0.0082	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			14-Feb-08		0.02 U	0.02 U	0.0095	0.001	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			15-May-08		0.02 U	0.02 U	0.0088	0.001	-	0.224	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
			6-Aug-08		0.02 U	0.02 U	0.0079	0.0012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U
	HAI	5237-080515-WS11-125-102	15-May-08		0.00003 J	-	0.00951	-	0.155	-	0.000009 J		0.000008 U	-	0.0003	-	-	-	0.00037	-
		5237-080929-WS-11-125-144	29-Sep-08		0.00005	0.00005	0.009	0.0082	0.136	0.0417	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.0003	0.0002 U	-	-	0.0003	0.0002

Well Number	Sample Number	Sample Date	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																							
Fish Consumption																							
EPA 2004 NRWQC (organism only)			#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Portland Harbor specific fish consumption rate			#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
DEQ 2004 AWQC (organism only)			#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																							
MCL			0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
EPA Region 3,6,9 Tap Water PRGs (12/09 update)			#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																							
EPA 2004 NRWQC (chronic)			#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
DEQ 2004 AWQC (chronic)			#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
Oak Ridge National Laboratory (Tier II SCV) [10]			#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-1		Aug-85	-	-	0.052	-	-	-	-	-	-	0.01	-	-	-	-	-	-	-	-	-	0.026	-
WS-2		Aug-85	-	-	0.04	-	-	-	-	-	-	0.007	-	-	-	-	-	-	-	-	-	0.016	-
WS-3S		Aug-85	-	-	0.025	-	-	-	-	-	-	0.005	-	-	-	-	-	-	-	-	-	0.017	-
WS-3I		Oct-90	-	-	U	-	-	-	-	-	-	U	-	-	-	-	-	-	-	-	-	U	U
		13-Apr-04	10.5	-	0.00043	-	55.	-	5.5	-	-	0.00452	0.00456	-	-	-	-	-	-	-	-	0.00653	0.00738
W-03-81		6-Apr-00	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		13-Apr-04	46.3	-	-	-	25.1	-	2.47	-	-	0.00476	0.00413	-	-	-	-	-	-	0.00188	-	0.00633	0.0035
WS-4		Aug-85	-	-	0.049	-	-	-	-	-	-	0.011	-	-	-	-	-	-	-	-	-	0.05	-
WS-5		Aug-85	-	-	0.028	-	-	-	-	-	-	0.006	-	-	-	-	-	-	-	-	-	0.011	-
WS-6		Aug-85	-	-	0.03	-	-	-	-	-	-	0.006	-	-	-	-	-	-	-	-	-	0.011	-
WS-7		Aug-85	-	-	0.02	-	-	-	-	-	-	0.003	-	-	-	-	-	-	-	-	-	0.047	-
		Oct-90	-	-	U	-	-	-	-	-	-	U	-	-	-	-	-	-	-	-	-	0.026	-
WS-8-33	011009-107	9-Oct-01	117.	-	0.0082	-	27.2	-	5.07	-	-	0.0039	-	0.005 U	-	0.0019 U	-	0.766	-	0.0397	-	0.0496	-
	011213-105	13-Dec-01	76.6	-	0.005 U	-	30.	-	5.57	-	-	0.005 U	-	0.0063	-	0.005 U	-	0.0762	-	0.0059	-	0.0147	-
	020403-105	3-Apr-02	90.9	81.5	0.005 U	0.01 U	21.8	19.9	4.88	4.51	-	0.005 U	0.005 U	0.005 U	0.0084	0.005 U	0.005 U	0.022 J	0.01 U	0.005 U	0.005 U	0.0243	0.015 U
	020403-106D	3-Apr-02	89.6	-	0.005 U	-	21.5	-	4.85	-	-	0.005 U	-	0.005 U	-	0.005 U	-	0.013 J	-	0.005 U	-	0.005 U	-
	020710-104	10-Jul-02	80.6	80.7	0.005 U	0.00556 U	24.1	24.3	4.89	5.02	-	0.005 U	0.00556 U	0.005 U	0.00556 U	0.005 U	0.00556 U	0.0286	0.0111 U	0.0053	0.00556 U	0.0053 U	0.00556 U
	020710-105D	10-Jul-02	80.3	-	0.005 U	-	24.2	-	4.89	4.89	-	0.005 U	-	0.005 U	-	0.005 U	-	0.0171	-	0.005 U	-	0.005 U	-
	5237-080521-WS8-33-105	21-May-08	86.1	-	0.00104	-	27.	-	4.61	-	0.00005 U	0.00312	-	0.0004 U*	-	0.000018 U*	-	-	-	0.00415	-	0.00343 J	-
	5237-080929-WS-8-33-145	2-Sep-08	91.2	86.7	0.0103	0.00002 U	29.1	27.6	4.18	4.04	0.0002 U	0.0084	0.0039	0.001 U	0.001 U	0.00003	0.00002 U	-	-	0.0179	0.0032	0.0316	0.0091
	5237-090408-WS8-33-119	8-Apr-09	78.9	-	0.0012	-	24.1	-	4.04	-	0.00005 U	0.00406	-	0.0006 J	-	0.000005 U	-	-	-	0.00502	-	0.0047	-
	5327-090819-WS-8-33-159	19-Aug-09	91.3	-	0.00189	-	24.1	-	3.76	-	0.0001 U	0.00452	-	0.001 U	-	0.001 U	-	-	-	0.0062	-	0.00834	-
	5237-100301-WS-8-33-107	1-Mar-10	85.7	-	0.001 U	-	25.4	-	4.05	-	0.00008 U	0.00494	-	0.002 U	-	0.001 U	-	-	-	0.00492	-	0.004 U	-
WS-8-59	011008-104	8-Oct-01	49.6	-	0.005 U	-	0.05 U	-	2.85	-	-	0.003 U	-	0.005 U	-	0.0019 U	-	0.564	-	0.0233	-	0.0307	-
	011008-105D	8-Oct-01	47.	-	0.005 U	-	0.05 U	-	2.84	-	-	0.003 U	-	0.005 U	-	0.0019 U	-	0.448	-	0.0173	-	0.0236	-
	011212-103	12-Dec-01	48.1	-	0.005 U	-	54.7	-	1.83	-	-	0.0056 U	-	0.005 U	-	0.005 U	-	0.169	-	0.0084	-	0.0104	-
	011212-104D	12-Dec-01	47.2	-	0.005 U	-	54.2	-	1.83	-	-	0.0055 U	-	0.005 U	-	0.005 U	-	0.132	-	0.0066	-	0.0094	-
	020403-104	3-Apr-02	46.8	-	0.005 U	-	39.9	-	3.33	-	-	0.005 U	-	0.005 U	-	0.005 U	-	0.0694	-	0.005 U	-	0.0086	-
	020710-103	10-Jul-02	45.7	-	0.005 U	-	46.4	-	2.19	-	-	0.005 U	-	0.005 U	-	0.005 U	-	0.108	-	0.0063	-	0.0055 U	-
	5237-070716-WS-8-59-108	16-Jul-07	72.2	-	0.00654	-	43.5	-	2.82	-	0.0002 U	0.02 U	-	0.005 U	-	0.00012 U	-	-	-	0.0668	-	0.0526 J	-
	5237-080521-WS8-56-106	21-May-08	68.8	-	0.00627	-	61.9	-	2.	-	0.00005 U	0.0179	-	0.0006 U*	-	0.000048 U*	-	-	-	0.0403	-	0.0402 J	-
	5237-080929-WS-8-56-146	29-Sep-08	61.3	45.1	0.00804	0.00002 U	27.2	43.4	2.05	3.22	0.0002 U	0.0196	0.0031	0.001 U	0.0011	0.00005	0.00002 U	-	-	0.0583	0.0007	0.0585	0.0033
	5237-090408-WS8-59-115	8-Apr-09	98.2	33.4	0.0136	0.000003 U	62.4	53.4	1.76	1.18	0.00006 J	0.0458	0.00735	0.0008 U	0.0004 U	0.000084	0.000005 U	-	-	0.107	0.00064	0.104	0.0011
	5237-090408-WS8-59-117	8-Apr-09	102.	-	0.0143	-	64.4	-	1.88	-	0.00005 U	0.0476	-	0.0008 U	-	0.000084	-	-	-	0.115	-	0.111	-
	5327-090819-WS-8-59-157	19-Aug-09	-	45.1	-	0.001 U	-	40.7	-	3.28	-	-	0.00352	-	0.00296	-	0.001 U	-	-	-	0.002 U	-	0.004 U
	5237-100301-WS-8-56-109	1-Mar-10	89.5	38.9	0.0083	0.001 U	60.6	2.37	3.01	-	0.00008 U	0.0385	0.0059	0.00246	-	0.001 U	-	-	-	0.108	-	0.0812	0.004 U
WS-9-34	011008-102	8-Oct-01	33.9	-	0.005 U	-	53.3	-	4.31	-	-	0.003 U	-	0.005 U	-	0.0019 U	-	0.0055	-	0.001 U	-	0.0055	-
	011212-101	12-Dec-01	188.	88.	0.197	0.005 U	60.2	15.6	7.1	2.24	-	0.0369	0.006	0.005 U	0.005 U	0.005 U	0.005 U	0.217	0.001 U	0.0548	0.005 U	0.376	0.0155
	020402-101	2-Apr-02	150.	37.7	0.0948	0.01 U	45.5	22.7	4.35	2.59	-	0.0229	0.0087	0.005 U	0.0054	0.005 U	0.005 U	0.254	0.01 U	0.0482	0.005 U	0.197	0.015 U
	020710-101	10-Jul-02	146.	64.3	0.131	0.00556 U	57.1	36.4	6.66	4.73	-	0.0365	0.00644	0.005 U	0.00556 U	0.005 U	0.00556 U	0.27	0.0111 U	0.043	0.00556 U	0.224	0.0153
	5237-090410-WS9-34-122	10-Apr-09	91.1	30.9	0.0835	0.000003 U	42.7	25.5	2.78	1.6	0.00008 J	0.0196	0.00358	0.0013 J	0.0004 U	0.000162	0.000005 U	-	-	0.0371	0.00044	0.373	0.0063
	5327-090819-WS-9-34-156	19-Aug-09	63.5	62.3	0.00177	0.001 U	35.9	36.2	1.75	1.74	0.0001 U	0.00523	0.0049	0.001 U	0.00161	0.001 U	0.001 U	-	-	0.00341	0.002 U	0.0111	0.004 U
	5237-100302-WS-9-34-113	2-Mar-10	49.2	-	0.00161	-	22.4	-	1.5	-	0.00008 U	0.00376	-	0.002 U	-	0.001 U	-	-	-	0.00308	-	0.00773	-
WS-10-27	WS-10-27	27-Oct-03	34.4	-	-	-	-	-	2.41	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		29-Jan-04	53.5	-	-	-	-	-	2.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		29-Apr-04	48.5	-	0.02 U	-	23.4	-	3.2	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.02	-	0.0152	-	0.01 U	-
		16-Nov-04	63.2	-	0.02 U	-	39.1	-	7.93	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.264	-	0.0216	-	0.0405	-
		20-Nov-07	43.1	39.5	0.02 U	0.02 U	-	-	11.	10.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		8-Feb-08	12.6	10.5	0.02 U	0.02 U	-	-	1.7	1.57	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0402	0.01 U
		13-May-08	21.3	21.6	0.02 U	0.02 U	-	-	3.42	3.13	0.0001 U	0.0053	0.0056	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		18-Aug-08	28.8	30.2	0.02 U	0.02 U	-	-	8.29	8.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
WS-11-125	WS-11-125	28-Oct-03	12.5	-	-	-	-	-	1.45	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		30-Jan-04	36.9	-	-	-	-	-	1.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		29-Apr-04	36.7	-	0.02 U	-	46.8	-	1.88	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.0069	-	0.01 U	-	0.01 U	-
		16-Nov-04	36.7	-	0.02 U	-	50.4	-	1.81	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.005	-	0.01 U	-	0.01 U	-
		28-Jun-06	183.	168.	0.02 U	0.02 U	-	-	4.49	4.76	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0114	0.01 U
		27-Jul-06	122.	118.	0.02 U	0.02 U	-	-	2.92	2.71	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		23-Aug-06	142.	135.	0.02 U	0.02 U	-	-	3.5	3.46	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		26-Sep-06	175.	173.	0.02 U	0.02 U	-	-	5.11	5.44	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0106	0.01 U
		23-Oct-06	168.	169.	0.02 U	0.02 U	-	-	5.9	5.76	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		18-Dec-06	290.	315.	0.02 U	0.02 U	-	-	9.28	9.36	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0163	0.0134
		25-Jan-07	304.	308.	0.02 U	0.02 U	-	-	10.6	10.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0163	0.0137
		21-Feb-07	332.	327.	0.02 U	0.02 U	-	-	12.5	13.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		21-Mar-07	336.	318.	0.02 U	0.02 U	-	-	12.8	12.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0177	0.0139
		23-Apr-07	330.	328.	0.02 U	0.02 U	-	-	12.7	13.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0175	0.0141
		22-May-07	224.	256.	0.02 U	0.02 U	-	-	8.98	10.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0107	0.01 U
		15-Nov-07	57.5	60.9	0.02 U	0.02 U	-	-	1.45	1.64	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		14-Feb-08	42.2	42.8	0.02 U	0.02 U	-	-	0.958	0.949	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		15-May-08	36.6	36.	0.02 U	0.02 U	-	94.	0.842	0.866	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
		6-Aug-08	35.	34.	0.02 U	0.02 U	-	-	0.874	0.849	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
	5237-080515-WS11-125-102	15-May-08	35.6	-	0.000016 J	-	95.5	-	0.878 J	-	0.00005 U	0.00379	-	0.0011	-	0.000018 J	-	-	-	0.00037	-	0.00112	-
	5237-080929-WS-11-125-144	29-Sep-08	38.9	0.216	0.00002 U	0.00002 U	81.	76.6	1.15	0.999	0.0002 U	0.0023	0.0022	0.0018	0.0013	0.00004	0.00002 U	-	-	0.0003	0.0002 U	0.0081	0.0005

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [1]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [1]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [1]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [1]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [1]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [1]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
EPA 2004 NRWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Portland Harbor specific fish consumption rate					0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
DEQ 2004 AWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
MCL					0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5. [7]	#
EPA Region 3,6,9 Tap Water PRGs (12/09 update)					0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
EPA 2004 NRWQC (chronic)					#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [4]	#	#	#	#	#	#	#	0.036	#
DEQ 2004 AWQC (chronic)					1.6	#	#	#	#	#	#		0.00038 [5]	#	#	#	#	#	0.0036 [5]	#	#	#	0.00054 [5]	#	#	#	#	#	0.000012	0.049 [5]	#	0.035	#	0.00012 [5]	#	#	#	#	0.033	#
Oak Ridge National Laboratory (Tier II SCV) [6]					0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-11-125	HAI	5237-090407-WS11-125-102	7-Apr-09	109-124	0.00005 U	-	0.0064	-	0.128	-	0.000011 J	-	0.000005 U	-	0.00031	-	-	-	0.00027 J	-	31.7	-	0.00003 U	-	64.9	-	1.01	-	0.00005 U	0.00223	-	0.001 J	-	0.00005 U	-	-	-	0.00026	-	0.0012	-
		5237-090818-WS-11-125-149	18-Aug-09		0.001 U	-	0.00439	-	0.114	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	35.	-	0.001 U	-	61.3	-	1.16 J	-	0.0001 U	0.00152	-	0.00171	-	0.001 U	-	-	-	0.002 U	-	0.00488 J	-
		5237-100302-WS-11-125-114	2-Mar-10		0.001 U	-	0.00384	-	0.11	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	34.6	-	0.001 U	-	57.2	-	1.2	-	0.00008 U	0.002 U	-	0.00263	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
WS-11-161	MFA	WS-11-161	27-Oct-03	145-160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.91	-	-	-	-	-	1.76	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			29-Jan-04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	27.6	-	-	-	-	-	2.32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			27-Apr-04		0.02 U	-	0.02 U	-	-	-			-	-	0.015	-	0.005 U	-	0.01 U	-	22.7	-	0.02 U	-	20.2	-	1.85	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.005 U	-	0.01 U	-	0.0125	-
			16-Nov-04		0.02 U	-	0.02 U	-	-	-			-	-	0.0189	-	0.005 U	-	0.01 U	-	25.5	-	0.02 U	-	24.3	-	2.34	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.005 U	-	0.01 U	-	0.01 U	-
			15-Nov-07		0.02 U	0.02 U	0.0063	0.007	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	32.2	32.8	0.02 U	0.02 U	-	-	2.95	3.07	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			11-Feb-08		0.02 U	0.02 U	0.0061	0.0068	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	36.9	35.6	0.02 U	0.02 U	-	-	2.81	2.85	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			15-May-08		0.02 U	0.02 U	0.0068	0.008	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	34.7	68.5	0.02 U	0.02 U	-	-	3.2	2.92	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			6-Aug-08		0.02 U	0.02 U	0.0065	0.0086	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	36.	35.	0.02 U	0.02 U	-	-	3.16	0.292	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
	HAI	5237-070712-WS11-161	12-Jul-07		0.0008 U	-	0.0065	-	0.0766	-	0.008 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	28.4	-	0.00054 U	-	21.	-	1.93	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.004 U	-	0.033 U	-
		5237-080515-WS11-161-103	15-May-08		0.00002 U	-	0.00735	-	0.0868	-	0.000017 J		0.000008 U	-	0.00033	-	-	-	0.00019	-	34.8	-	0.000003 U	-	28.3	-	2.83 J	-	0.00005 U	0.00096	-	0.0002 J	-	0.000003 U	-	-	-	0.0002	-	0.00081	-
		5237-080929-WS-11-161-142	29-Sep-08		0.00005 U	0.00005 U	0.0083	0.0007	0.0836	0.024	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.0004	0.0002 U	-	-	0.0002	0.0001	33.9	0.02 U	0.00002 U	0.00002 U	27.6	28.7	2.85	2.82	0.0002 U	0.0011	0.0011	0.001 U	0.001 U	0.00002 U	0.00002 U	-	-	0.0002 U	0.0002 U	0.0029	0.0005
		5237-080929-WS-11-161-143	29-Sep-08		0.00005 U	0.00005 U	0.0084	0.0009	0.0811	0.0258	0.00002 U	0.00002 U	0.00002 U	0.00002 U	0.0003	0.0002 U	-	-	0.0003	0.0002	31.8	0.043	0.00004	0.00002 U	25.9	27.6	2.67	2.68	0.0002 U	0.001	0.0011	0.001 U	0.001 U	0.00002 U	0.00002 U	-	-	0.0002 U	0.0002 U	0.0035	0.0012
		5237-090407-WS11-161-100	7-Apr-09		0.000005 U	-	0.0075	-	0.0774	-	0.000014 J	-	0.000005 U	-	0.00031	-	-	-	0.00017 J	-	30.	-	0.000003 U	-	25.	-	2.62	-	0.00005 U	0.00102	-	0.0004 U	-	0.000005 U	-	-	-	0.00016 J	-	0.0013	-
		5237-090818-WS-11-161-147	18-Aug-09		0.001 U	-	0.00719	-	0.0739	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	29.	-	0.001 U	-	23.7	-	2.5 J	-	0.0001 U	0.00108	-	0.001 U	-	0.001 U	-	-	-	0.002 U	-	0.00462 J	-
		5237-100302-WS-11-161-116	2-Mar-10		0.001 U	-	0.00784	-	0.0755	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	33.9	-	0.001 U	-	27.3	-	2.94	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
WS-12-125	MFA	WS-12-125	28-Oct-03	109-124	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.9	-	-	-	-	-	1.87	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30-Jan-04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42.7	-	-	-	-	-	1.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			26-Apr-04		0.02 U	-	0.02 U	-	-	-	-	-	-	-	0.0102	-	0.005 U	-	0.01 U	-	44.3	-	0.02 U	-	31.	-	1.76	-	-	0.005 U	-	-	-	0.01 U	-	0.0086	-	0.01 U	-	0.01 U	-
			17-Nov-04		0.02 U	-	0.02 U	-	-	-	-	-	-	-	0.0177	-	0.005 U	-	0.01 U	-	43.7	-	0.02 U	-	37.1	-	1.88	-	-	0.005 U	-	-	-	0.01 U	-	0.005 U	-	0.01 U	-	0.01 U	-
			13-Nov-07		0.02 U	0.02 U	0.0013	0.0017	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	45.8	47.3	0.02 U	0.02 U	-	-	2.31	2.43	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			11-Feb-08		0.02 U	0.02 U	0.0014	0.0017	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	51.3	53.2	0.02 U	0.02 U	-	-	2.46	2.47	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-May-08		0.02 U	0.02 U	0.0012	0.0017	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	46.6	47.7	0.02 U	0.02 U	-	-	2.54	2.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			6-Aug-08		0.02 U	0.02 U	0.0014	0.0019	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	49.2	47.3	0.02 U	0.02 U	-	-	2.66	0.246	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
	HAI	5237-070712-WS12-125	12-Jul-07		0.0008 U	-	0.00171	-	0.0953	-	0.008 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	44.1	-	0.00054 U	-	35.5	-	2.17	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.004 U	-	0.033 U	-
		5237-080521-WS12-126-104	21-May-08		0.00002 U	-	0.0021	-	0.0878	-	0.00001 U*		0.000008 U	-	0.00034 J	-	-	-	0.00013	-	45.3	-	0.000037 J	-	37.2	-	2.45	-	0.00005 U	0.00174	-	0.0017	-	0.000003 U	-	-	-	0.00024	-	0.00068 J	-
		5237-080925-WS-12-125-140	25-Sep-08		0.00001 U	-	0.00133	-	0.0908 J	-	0.00002 U	-	0.000007 J	-	0.00044	-	-	-	0.00015	-	44.1	-	0.000013 J	-	35.1	-	2.36	-	0.00005 U	0.00198	-	0.0005 U	-	0.000009 U	-	-	-	0.00023	-	0.00192	-
		5237-090407-WS12-125-106	7-Apr-09		0.000005 U	-	0.0018	-	0.105	-	0.000009 J	-	0.000008 J	-	0.00029	-	-	-	0.00047 J	-	46.	-	0.000061	-	36.8	-	2.58	-	0.00005 U	0.0023	-	0.0014	-	0.000005 U	-	-	-	0.00016 J	-	0.0094	-
		5237-090818-WS-12-125-145	18-Aug-09		0.001 U	-	0.00242	-	0.0836	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	45.6	-	0.001 U	-	35.5	-	2.41 J	-	0.0001 U	0.00243	-	0.00541	-	0.001 U	-	-	-	0.002 U	-	0.0089 J	-
		5237-100302-WS-12-125-118	2-Mar-10		0.001 U	-	0.01 U	-	0.0866	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	46.1	-	0.001 U	-	35.2	-	2.58	-	0.00008 U	0.00272	-	0.01 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
WS-12-161	MFA	WS-12-161	27-Oct-03	145-160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.67	-	-	-	-	-	1.35	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			29-Jan-04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	22.8	-	-	-	-	-	1.62	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			26-Apr-04		0.02 U	-	0.02 U	-	-	-			-	-	0.0126	-	0.005 U	-	0.01 U	-	16.5	-	0.02 U	-	20.2	-	1.27	-	-	0.005 U	-	-	0.02 U	0.01 U	-	0.005 U	-	0.01 U	-	0.0271	-
			17-Nov-04		0.02 U	-	0.02 U	-	-	-			-	-	0.0253	-	0.005 U	-	0.01 U	-	26.7	-	0.02 U	-	28.5	-	2.04	-	-	0.005 U	-	-	0.02 U	0.01 U	-	0.0292	-	0.01 U	-	0.0102	-
			13-Nov-07		0.02 U	0.02 U	0.0019	0.0023	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	20.	19.	0.02 U	0.02 U	-	-	1.82	1.83	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			11-Feb-08		0.02 U	0.02 U	0.0017	0.0022	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	20.1	21.3	0.02 U	0.02 U	-	-	1.83	1.85	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-May-08		0.02 U	0.02 U	0.0018	0.0022	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	19.8	20.2	0.02 U	0.02 U	-	-	2.18	2.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			5-Aug-08		0.02 U	0.02 U	0.0019	0.0025	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	19.8	19.1	0.02 U	0.02 U	-	-	1.93	1.85	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
	HAI	5237-070712-WS12-161	12-Jul-07		0.0008 U	-	0.0019	-	0.0606	-	0.008 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	18.2	-	0.00054 U	-	22.	-	1.69	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.004 U	-	0.033 U	-
		5237-080521-WS12-161-107	21-May-08		0.00002 U	-	0.00207	-	0.0569	-	0.000006 U*		0.000008 U	-	0.00017 J	-	-	-	0.0001	-	18.7	-	0.000005 J	-	25.1	-	2.	-	0.00005 U	0.00055	-	0.0003 U*	-	0.000004 U*	-	-	-	0.00007	-	0.00063 J	-
		5237-080925-WS-12-161-141	25-Sep-08		0.00001 U	-	0.00237	-	0.0566 J	-	0.00002 U	-	0.000005 U	-	0.00021	-	-	-	0.00008 J	-	17.6	-	0.000006 U	-	23.6	-	1.92	-	0.00005 U	0.0006	-	0.0005 U	-	0.000009 U	-	-	-	0.0001 J	-	0.00136	-
		5237-090407-WS12-161-104	7-Apr-09		0.000005 U	-	0.0023	-	0.0552	-	0.000008 U	-	0.000005 U	-	0.00009 J	-	-	-	0.0002 J	-	17.9	-	0.00003 U	-	23.9	-	1.92	-	0.00005 U	0.00068	-	0.0004 U	-	0.000005 U	-	-	-	0.00006 J	-	0.0022	-
		5237-090818-WS-12-161-143	18-Aug-09		0.001 U	-	0.00252	-	0.0549	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	17.9	-	0.001 U	-	23.1	-	1.89 J	-	0.0001 U	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.002 U	-	0.00506 J	-
		5237-100302-WS-12-161-120	2-Mar-10		0.001 U	-	0.00247	-	0.0542	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	19.1	-	0.001 U	-	24.4	-	2.08	-	0.00008 U	0.002 U	-	0.002 U	-	0.00102	-	-	-	0.002 U	-	0.004 U	-
WS-13-69	MFA	WS-13-69	29-Oct-03	52.6-67.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.	-	-	-	-	-	6.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30-Jan-04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65.7	-	-	-	-	-	6.11	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			28-Apr-04		0.02 U	-	0.02 U	-	-	-			-	-	0.0114	-	0.009	-	0.01 U	-	74.1	-	0.02 U	-	40.1	-	6.93	-	-	0.0131	-	0.02 U	-	0.01 U	-	0.005 U	-	0.01 U	-	0.0117	-
			18-Nov-04		0.02 U	-	0.02 U	-	-	-			-	-	0.0265	-	0.007	-	0.01 U	-	88.3	-	0.02 U	-	49.3	-	9.1	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.005	-	0.01 U	-	0.0117	-
			19-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	98.8	95.1	0.02 U	0.02 U	-	-	10.9	10.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	98.8	101.	0.02 U	0.02 U	-	-	10.4	10.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Sep-06		0.02 U	0.02 U	0.00852	0.0044	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	94.6	97.2	0.02 U	0.02 U	-	-	11.1	10.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Oct-06		0.02 U	0.02 U	0.00838	0.001	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	106.	104.	0.02 U	0.02 U	-	-	10.7	10.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			15-Nov-06		0.02 U	0.02 U	0.00863	0.001	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	94.	93.5	0.02 U	0.02 U	-	-	10.3	9.86	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Jan-07		0.02 U	0.02 U	0.00813	0.001	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	97.7	102.	0.02 U	0.02 U	-	-	10.2	10.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Feb-07		0.02 U	0.02 U	0.00812	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	89.6	89.1	0.02 U	0.02 U	-	-	10.3	10.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Mar-07		0.02 U	0.02 U	0.00891	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	95.1	89.7	0.02 U	0.02 U	-	-	10.2	9.76	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Apr-07		0.02 U	0.02 U	0.00836	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	90.3	89.9	0.02 U	0.02 U	-	-	9.86	10.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-May-07		0.02 U	0.02 U	0.0089	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	91.	95.5	0.02 U	0.02 U	-	-	10.7	10.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			15-Nov-07		0.02 U	0.02 U	0.0095	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	92.6	96.2	0.02 U	0.02 U	-	-	11.4	10.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			12-Feb-08		0.02 U	0.02 U	0.0088	0.001	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	95.	102.	0.02 U	0.02 U	-	-	11.	10.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-May-08		0.0292	0.02 U	0.0089	0.0012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	114.	99.4	0.02 U	0.02 U	-	-	11.5	11.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			8-Aug-08		0.02 U	0.02 U	0.0082	0.0087	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	98.1	96.2	0.02 U	0.02 U	-	-	12.	11.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-Nov-08		0.02 U	0.02 U	0.0085	0.011	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	96.6	87.3	0.02 U	0.02 U	-	-	12.	11.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-Apr-09		0.02 U	0.02 U	0.0091	0.01	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	112.	94.3	0.02 U	0.02 U	-	-	11.7	12.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-May-09		0.0247	0.02 U	0.0086	0.0077	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	122.	89.5	0.02 U	0.02 U	-	-	12.6	12.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Jul-09		0.02 U	0.02 U	0.0089	0.0018	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0067	-	-	0.01 U	0.01 U	122.	69.	0.02 U	0.02 U	-	-	13.1	11.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			3-Sep-09		0.02 U	0.02 U	0.0085	0.0062	-	-	-	-	0.001 U	0.001 U	0.0078	0.0067	-	-	0.01 U	0.01 U	120.	103.	0.02 U	0.02 U	-	-	12.3	12.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Oct-09		0.02 U	0.02 U	0.0094	0.004	-	-	-	-	0.001 U	0.001 U	0.009	0.007	-	-	0.01 U	0.01 U	117.	91.8	0.02 U	0.02 U	-	-	12.8	11.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0134	0.01 U
			16-Dec-09		0.02 U	0.02 U	0.0065	0.0073	-	-	-	-	0.001 U	0.001 U	0.0069	0.0065	-	-	0.01 U	0.01 U	120.	113.	0.02 U	0.02 U	-	-	14.9	12.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0135	0.01 U
		MFA(WS-13-69)	22-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	119.	121.	-	-	-	-	12.6	12.7	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-13-105	MFA	WS-13-105	29-Oct-03	89-104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.9	-	-	-	-	-	2.28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			30-Jan-04		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47.6	-	-	-	-	-	2.46	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
	EPA 2004 NRWQC (organism only)				0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
	Portland Harbor specific fish consumption rate				0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
	DEQ 2004 AWQC (organism only)				0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
	MCL				0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
	EPA 2004 NRWQC (chronic)				#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
	DEQ 2004 AWQC (chronic)				1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
	Oak Ridge National Laboratory (Tier II SCV) [10]				0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-13-105	MFA	WS-13-105	28-Apr-04	89-104	0.02 U	-	0.02 U	-	-	-	-	-	-	-	0.0153	-	0.005 U	-	0.01 U	-	**26.6**	-	-	0.02 U	19.6	-	**1.94**	-	-	0.005 U	-	0.02 U	-	0.01 U	-	0.005 U	-	0.01 U	-	0.0246	-
		Duplicate	28-Apr-04		0.02 U	-	-	-	-	-	-	-	-	-	0.0147	-	0.005 U	-	-	-	**27.1**	-	-	-	19.8	-	**1.95**	-	-	0.005 U	-	-	-	-	-	0.005 U	-	0.01 U	-	0.0282	-
			18-Nov-04		0.02 U	-	0.02 U	-	-	-	-	-	-	-	0.0359	-	0.005 U	-	0.01 U	-	**50.1**	-	-	0.02 U	26.4	-	**2.57**	-	-	0.005 U	-	0.02 U	-	0.01 U	-	**0.0855**	-	0.01 U	-	0.01 U	-
		Duplicate	18-Nov-04		0.02 U	-	-	-	-	-	-	-	-	-	0.0221	-	0.005 U	-	0.01 U	-	**52.4**	-	-	-	27.5	-	**2.61**	-	-	0.005 U	-	-	-	-	-	**0.0786**	-	0.01 U	-	0.01 U	-
			19-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**56.3**	52.5	0.02 U	0.02 U	-	-	**2.83**	2.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**61.8**	52.1	0.02 U	0.02 U	-	-	**2.81**	2.77	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Sep-06		0.02 U	0.02 U	**0.00884**	0.0088	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**54.5**	52.2	0.02 U	0.02 U	-	-	**2.65**	2.62	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Oct-06		0.02 U	0.02 U	**0.00887**	0.001	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**59.9**	57.9	0.02 U	0.02 U	-	-	**2.83**	2.56	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0115	0.01 U
			15-Nov-06		0.02 U	0.02 U	**0.00869**	0.0091	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**51.2**	56.2	0.02 U	0.02 U	-	-	**2.63**	2.52	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Jan-07		0.02 U	0.02 U	**0.00798**	0.0096	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**54.1**	50.3	0.02 U	0.02 U	-	-	**2.73**	2.65	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Feb-07		0.02 U	0.02 U	**0.00863**	0.0094	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**51.**	48.7	0.02 U	0.02 U	-	-	**2.65**	2.51	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Mar-07		0.02 U	0.02 U	**0.00836**	0.0095	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**51.5**	50.5	0.02 U	0.02 U	-	-	**2.57**	2.52	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Apr-07		0.02 U	0.02 U	**0.00811**	0.0055	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**50.7**	49.5	0.02 U	0.02 U	-	-	**2.62**	2.64	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-May-07		0.02 U	0.02 U	**0.0084**	0.0095	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**52.4**	51.4	0.02 U	0.02 U	-	-	**2.72**	2.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Nov-07		0.02 U	0.02 U	**0.0089**	0.0088	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**46.6**	40.8	0.02 U	0.02 U	-	-	**2.65**	2.68	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0106	0.01 U
			12-Feb-08		0.02 U	0.02 U	**0.0083**	0.0087	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**51.4**	57.3	0.02 U	0.02 U	-	-	**2.79**	2.57	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-May-08		0.02 U	0.02 U	**0.0083**	0.0099	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**53.8**	53.8	0.02 U	0.02 U	-	-	**2.83**	2.79	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			8-Aug-08		0.02 U	0.02 U	**0.0083**	0.0086	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**52.7**	53.1	0.02 U	0.02 U	-	-	**2.84**	2.66	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0124**	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-Nov-08		0.02 U	0.02 U	**0.0084**	0.0089	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**52.5**	48.8	0.02 U	0.02 U	-	-	**3.17**	2.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-May-09		**0.023**	0.02 U	**0.0081**	0.0088	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**54.7**	56.8	0.02 U	0.02 U	-	-	**2.84**	2.87	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Jul-09		0.02 U	0.02 U	**0.0084**	0.0027	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0051	-	-	0.01 U	0.01 U	**54.**	36.1	0.02 U	0.02 U	-	-	**2.96**	2.89	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			3-Sep-09		0.02 U	0.02 U	**0.0085**	0.0096	-	-	-	-	0.001 U	0.001 U	0.0062	0.005 U	-	-	0.01 U	0.01 U	**61.4**	61.	0.02 U	0.02 U	-	-	**3.24**	3.08	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Oct-09		0.02 U	0.02 U	**0.0091**	0.0093	-	-	-	-	0.001 U	0.001 U	0.0068	0.0076	-	-	0.01 U	0.01 U	**59.2**	52.3	0.02 U	0.02 U	-	-	**3.16**	2.85	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Dec-09		0.02 U	0.02 U	**0.0064**	0.0067	-	-	-	-	0.001 U	0.001 U	0.007	0.0053	-	-	0.01 U	0.01 U	**56.9**	55.5	0.02 U	0.02 U	-	-	**3.13**	2.83	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**57.1**	56.	-	-	-	-	**2.9**	2.78	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-14-125	MFA	WS-14-125	16-Nov-04	109-124	0.02 U	-	-	-	-	-			-	-	0.0153	-	0.005 U	-	0.01 U	-	**23.6**	-	-	-	23.	-	**1.46**	-	-	0.005 U	-	-	-	-	-	**0.0113**	-	0.01 U	-	0.0151	-
			14-Nov-07		0.02 U	0.02 U	**0.012**	0.013	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**17.7**	17.7	0.02 U	0.02 U	-	-	**1.19**	1.31	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			11-Feb-08		0.02 U	0.02 U	**0.012**	0.013	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**17.**	19.6	0.02 U	0.02 U	-	-	**1.24**	1.28	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			15-May-08		0.02 U	0.02 U	**0.011**	0.013	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**18.4**	18.4	0.02 U	0.02 U	-	-	**1.34**	1.38	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			4-Aug-08		0.02 U	0.02 U	**0.012**	0.016	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**17.5**	17.2	0.02 U	0.02 U	-	-	**1.34**	1.33	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
	HAI	5237-070712-WS14-125	12-Jul-07		0.0008 U	-	**0.0119**	-	0.0469	-	0.008 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**18.2**	-	0.00054 U	-	22.2	-	**1.28**	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.004 U	-	0.033 U	-
		5237-080515-WS14-125-100	15-May-08		0.00002 U	-	**0.012**	-	0.048	-	0.000008 J		0.000008 U	-	0.00027	-	-	-	0.00014	-	**17.1**	-	0.000003 U	-	24.1	-	**1.34** J	-	0.00005 U	0.0009	-	0.0005 J	-	0.000005 J	-	-	-	0.00024	-	0.00095	-
		5237-080925-WS-14-125-138	25-Sep-08		0.00001 U	-	**0.0137**	-	0.0476 J	-	0.00002 U	-	0.000005 U	-	0.00021	-	-	-	0.00013	-	**15.7**	-	0.000007 J	-	22.8	-	**1.32**	-	0.00005 U	0.00103	-	0.0005 U	-	0.00001 J	-	-	-	0.00023	-	0.00165	-
		5237-090408-WS14-125-110	8-Apr-09		0.000005 U	0.000007 J	**0.0128**	0.0002 J	0.0473	0.0396	0.00001 J	0.000046	0.000008 J	0.000075	0.00015 J	0.00031	-	-	0.00023	0.00064	**16.1**	0.0507	0.000028	0.000011 J	22.7	5.58	**1.29**	0.391	0.00005 U	0.0011	0.0097	0.0004 J	0.0004 U	0.000005 U	0.000005 U	-	-	0.00025	0.00047	0.0035	0.0057
		5327-090819-WS-14-125-155	19-Aug-09		0.001 U	-	**0.0127**	-	0.0482	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	**16.4**	-	0.001 U	-	23.3	-	**1.36**	-	0.0001 U	0.00103	-	0.001 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
		5237-100302-WS-14-125-110	2-Mar-10		0.001 U	-	**0.0125**	-	0.0483	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**17.**	-	0.001 U	-	24.4	-	**1.38**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
WS-14-161	MFA	WS-14-161	16-Nov-04	145-160	0.02 U	-	0.02 U	-	-	-			-	-	0.0122	-	0.0072	-	0.01 U	-	**29.1**	-	-	-	28.6	-	**1.96**	-	-	0.005 U	-	-	-	-	-	0.005 U	-	0.01 U	-	**0.0378**	-
			14-Nov-07		0.02 U	0.02 U	**0.011**	0.012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**29.4**	29.3	0.02 U	0.02 U	-	-	**1.96**	2.12	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			11-Feb-08		0.02 U	0.02 U	**0.0096**	0.012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.7**	33.6	0.02 U	0.02 U	-	-	**2.24**	2.23	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			15-May-08		0.02 U	0.02 U	**0.012**	0.012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.**	30.4	0.02 U	0.02 U	-	-	**2.36**	2.33	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			4-Aug-08		0.02 U	0.02 U	**0.011**	0.014	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**29.4**	29.8	0.02 U	0.02 U	-	-	**2.35**	2.32	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
	HAI	5237-070712-WS14-161	12-Jul-07		0.0008 U	-	**0.0113**	-	0.0395	-	0.008 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**30.4**	-	0.00054 U	-	27.2	-	**1.89**	-	0.0002 U	0.00247	-	0.005 U	-	0.00012 U	-	-	-	0.004 U	-	0.033 U	-
		5237-080515-WS14-161-101	15-May-08		0.00002 U	-	**0.0118**	-	0.0395	-	0.000007 J		0.000008 U	-	0.00016 J	-	-	-	0.0001	-	**28.9**	-	0.000003 U	-	28.3	-	**2.18** J	-	0.00005 U	0.00218	-	0.0004 J	-	0.000015 J	-	-	-	0.00022	-	0.00135	-
		5237-080925-WS-14-161-139	25-Sep-08		0.00001 U	-	**0.0123**	-	0.0382 J	-	0.00002 U	-	0.000005 U	-	0.00025	-	-	-	0.00014	-	**27.5**	-	0.000008 J	-	27.3	-	**2.24**	-	0.00005 U	0.00206	-	0.0005 U	-	0.00001 J	-	-	-	0.00021	-	0.00313	-
		5237-090408-WS14-161-108	8-Apr-09		0.000005 U	-	**0.0117**	-	0.0389	-	0.000009 J	-	0.000005 U	-	0.0002 J	-	-	-	0.00019	-	**27.6**	-	0.000003 U	-	27.2	-	**2.15**	-	0.00005 U	0.00223	-	0.0004 U	-	0.000005 U	-	-	-	0.0002 J	-	0.0028	-
		5237-090818-WS-14-161-151	18-Aug-09		0.001 U	-	**0.0114**	-	0.0374	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	**27.8**	-	0.001 U	-	27.3	-	**2.14** J	-	0.0001 U	0.00191	-	0.001 U	-	0.001 U	-	-	-	0.002 U	-	0.0206 J	-
		5237-100301-WS-14-161-108	1-Mar-10		0.001 U	-	**0.0119**	-	0.0377	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**27.3**	-	0.001 U	-	28.4	-	**2.11**	-	0.00008 U	0.00289	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
WS-15-85	MFA	WS-15-85	18-Nov-04	70-85	**0.0212**	-	0.02 U	-	-	-			-	-	0.0449	-	0.0116	-	**0.0106**	-	**39.6**	-	-	-	32.4	-	**7.82**	-	-	0.005 U	-	-	-	-	-	**0.25**	-	0.0193	-	0.0275	-
			15-Nov-07		0.02 U	0.02 U	**0.0082**	0.0098	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**40.4**	54.9	0.02 U	0.02 U	-	-	**7.16**	9.04	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			12-Feb-08		0.02 U	0.02 U	**0.004**	0.0045	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**47.4**	57.7	0.02 U	0.02 U	-	-	**5.06**	5.41	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0135	0.01 U
			14-May-08		0.02 U	0.02 U	**0.009**	0.011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**55.2**	56.5	0.02 U	0.02 U	-	-	**9.61**	9.54	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			8-Aug-08		0.02 U	0.02 U	**0.0011**	0.01	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**52.2**	52.4	0.02 U	0.02 U	-	-	**10.2**	9.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.557**	0.01 U
			11-Nov-08		0.02 U	0.02 U	**0.0094**	0.012	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0052	-	-	0.01 U	0.01 U	**50.1**	50.7	0.02 U	0.02 U	-	-	**9.94**	9.64	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-May-09		0.02 U	0.02 U	**0.01**	0.0086	-	-	-	-	0.001 U	0.001 U	0.0063	0.0073	-	-	0.01 U	0.01 U	**56.3**	50.4	0.02 U	0.02 U	-	-	**9.1**	9.71	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Jul-09		0.02 U	0.02 U	**0.0094**	0.0092	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**70.2**	64.1	0.02 U	0.02 U	-	-	**10.8**	10.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			2-Sep-09		0.02 U	0.02 U	**0.0091**	0.011	-	-	-	-	0.001 U	0.001 U	0.0073	0.0059	-	-	0.01 U	0.01 U	**51.7**	47.3	0.02 U	0.02 U	-	-	**10.3**	9.21	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Oct-09		0.02 U	0.02 U	**0.01**	0.0089	-	-	-	-	0.001 U	0.001 U	0.0083	0.0096	-	-	0.01 U	0.01 U	**61.8**	57.6	0.02 U	0.02 U	-	-	**11.**	9.01	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-Dec-09		0.02 U	0.02 U	0.01 U	0.0063	-	-	-	-	0.001 U	0.001 U	0.0088	0.0058	-	-	0.01 U	0.01 U	**67.1**	65.9	0.02 U	0.02 U	-	-	**10.9**	9.48	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**39.6**	60.	-	-	-	-	**6.01**	8.95	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-15-140	MFA	WS-15-140	18-Nov-04	125-140	0.02 U	-	0.02 U	-	-	-			-	-	0.0704	-	0.005 U	-	0.01 U	-	**12.**	-	-	-	32.1	-	**1.16**	-	-	0.005 U	-	-	-	-	-	0.005 U	-	0.01 U	-	0.0216	-
			15-Nov-07		0.02 U	0.02 U	**0.0022**	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**14.7**	14.9	0.02 U	0.02 U	-	-	**1.27**	1.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			12-Feb-08		0.02 U	0.02 U	**0.0017**	0.0019	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**14.9**	14.7	0.02 U	0.02 U	-	-	**1.24**	1.27	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-May-08		0.02 U	0.02 U	**0.0015**	0.0018	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**13.**	13.3	0.02 U	0.02 U	-	-	**1.32**	1.36	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			8-Aug-08		0.02 U	0.02 U	**0.0015**	0.0014	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**13.2**	12.4	0.02 U	0.02 U	-	-	**1.34**	1.31	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			12-Nov-08		0.02 U	0.02 U	**0.0012**	0.0013	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**10.2**	10.	0.02 U	0.02 U	-	-	**1.31**	1.29	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-May-09		0.02 U	0.02 U	**0.0014**	0.0014	-	-	-	-	0.001 U	0.001 U	0.0055	0.0065	-	-	0.01 U	0.01 U	**11.6**	11.2	0.02 U	0.02 U	-	-	**1.25**	1.37	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Jul-09		0.02 U	0.02 U	**0.0015**	0.0015	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0053	-	-	0.01 U	0.01 U	**12.5**	11.7	0.02 U	0.02 U	-	-	**1.54**	1.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			2-Sep-09		0.02 U	0.02 U	**0.0013**	0.0016	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**8.31**	10.8	0.02 U	0.02 U	-	-	**1.26**	1.36	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Oct-09		0.02 U	0.02 U	**0.0018**	0.0015	-	-	-	-	0.001 U	0.001 U	0.0072	0.0075	-	-	0.01 U	0.01 U	**11.**	10.9	0.02 U	0.02 U	-	-	**1.33**	1.32	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-Dec-09		0.02 U	0.02 U	0.01 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.007	0.0075	-	-	0.01 U	0.01 U	**12.5**	12.2	0.02 U	0.02 U	-	-	**1.36**	1.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**11.9**	12.	-	-	-	-	**1.34**	1.29	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-16-125	MFA	WS-16-125	17-Nov-04	109-124	0.02 U	-	0.02 U	-	-	-			-	-	0.0135	-	0.005 U	-	0.01 U	-	**48.8**	-	-	-	32.1	-	**4.48**	-	-	0.005 U	-	-	-	-	-	0.005 U	-	0.01 U	-	0.0291	-
			19-Nov-07		0.02 U	0.02 U	**0.0068**	0.0078	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**39.8**	41.6	0.02 U	0.02 U	-	-	**4.72**	5.03	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			12-Feb-08		0.02 U	0.02 U	**0.0061**	0.0073	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**51.1**	50.	0.02 U	0.02 U	-	-	**5.1**	5.07	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series

Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
EPA 2004 NRWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Portland Harbor specific fish consumption rate					0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
DEQ 2004 AWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
MCL					0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
EPA Region 3,6,9 Tap Water PRGs (12/09 update)					0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
EPA 2004 NRWQC (chronic)					#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
DEQ 2004 AWQC (chronic)					1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
Oak Ridge National Laboratory (Tier II SCV) [10]					0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-16-125	MFA	WS-16-125	14-May-08	109-124	0.02 U	0.02 U	0.0066	0.0079	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	50.8	49.6	0.02 U	0.02 U	-	-	5.9	5.24	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			5-Aug-08		0.02 U	0.02 U	0.0066	0.0097	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	46.8	47.6	0.02 U	0.02 U	-	-	5.29	0.519	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
WS-16-161	MFA	WS-16-161	17-Nov-04	145-160	0.02 U	-	0.02 U	-	-	-			-	-	0.005 U	-	0.0066	-	0.01 U	-	30.3	-	-	-	29.2	-	2.56	-	-	0.005 U	-	-	-	-	-	0.0572	-	0.0108	-	0.162	-
			15-Nov-07		0.02 U	0.02 U	0.0051	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	26.8	29.4	0.02 U	0.02 U	-	-	3.13	2.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			8-Feb-08		0.02 U	0.02 U	0.005	0.0055	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	31.5	32.	0.02 U	0.02 U	-	-	2.98	3.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-May-08		0.02 U	0.02 U	0.0051	0.0059	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	28.5	28.6	0.02 U	0.02 U	-	-	3.23	2.78	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0128	0.01 U
			5-Aug-08		0.02 U	0.02 U	0.0057	0.0067	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	30.8	29.6	0.02 U	0.02 U	-	-	3.11	3.02	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0507	0.01 U
WS-17-52	MFA	WS-17-52	16-Nov-04	41-51	0.02 U	-	0.02 U	-	-	-			-	-	0.0627	-	0.0225	-	0.0174	-	48.7	-	-	-	31.4	-	4.78	-	-	0.245	-	-	-	-	-	0.329	-	0.0202	-	0.0489	-
			14-Nov-07		0.02 U	0.02 U	0.0017	0.0019	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	29.2	28.5	0.02 U	0.02 U	-	-	4.18	4.42	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0207	0.01
			8-Feb-08		0.02 U	0.02 U	0.001 U	0.001	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	4.26	3.65	0.02 U	0.02 U	-	-	3.58	3.71	0.0001 U	0.0137	0.0138	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0161	0.022
			13-May-08		0.02 U	0.02 U	0.001	0.001 U	-	-	-	-	0.001 U	0.001	0.005	0.005 U	-	-	0.01 U	0.01 U	9.2	7.26	0.02 U	0.02 U	-	-	4.32	3.93	0.0001 U	0.0108	0.0081	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0151	0.01 U
			18-Aug-08		0.02 U	0.02 U	0.0016	0.0017	-	-	-	-	0.001 U	0.001	0.005 U	0.005	-	-	0.01 U	0.01 U	18.	18.6	0.02 U	0.02 U	-	-	4.16	4.16	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0129	0.0127
WS-17-94	MFA	WS-17-94	17-Nov-04	78-93	0.02 U	-	0.02 U	-	-	-			-	-	0.0163	-	0.005 U	-	0.01 U	-	31.9	-	-	-	24.6	-	3.44	-	-	0.005 U	-	-	-	-	-	0.0216	-	0.0101	-	0.0171	-
			14-Nov-07		0.02 U	0.02 U	0.0068	0.0072	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	45.8	52.	0.02 U	0.02 U	-	-	2.63	2.64	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			8-Feb-08		0.02 U	0.02 U	0.0064	0.0071	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	54.3	53.	0.02 U	0.02 U	-	-	2.81	2.81	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-May-08		0.02 U	0.02 U	0.0065	0.0078	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	49.1	49.	0.02 U	0.02 U	-	-	2.92	2.87	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Aug-08		0.02 U	0.02 U	0.0069	0.0072	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	53.3	54.9	0.02 U	0.02 U	-	-	3.03	2.85	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
WS-18-71	MFA	WS-18-71	27-Jun-06	61 - 71	0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0713	0.005 U	-	-	0.0872	0.01 U	176.	0.01 U	0.02 U	0.02 U	-	-	17.	15.1	0.0001 U	0.043	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.162	0.0164
			19-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0136	0.005 U	-	-	0.01 U	0.01 U	92.3	76.7	0.02 U	0.02 U	-	-	17.2	16.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0314	0.01 U
			29-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0051	0.005 U	-	-	0.01 U	0.01 U	91.3	77.8	0.02 U	0.02 U	-	-	15.5	15.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0178	0.01 U
			26-Sep-06		0.02 U	0.02 U	0.00385	0.0041	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	85.	75.2	0.02 U	0.02 U	-	-	16.4	16.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Oct-06		0.02 U	0.02 U	0.00395	0.0041	-	-	-	-	0.001 U	0.001	0.0064	0.005 U	-	-	0.01 U	0.01 U	83.7	77.5	0.02 U	0.02 U	-	-	15.8	14.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.031	0.01 U
			16-Nov-06		0.02 U	0.02 U	0.00233	0.0037	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	83.4	77.	0.02 U	0.02 U	-	-	14.6	14.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Jan-07		0.02 U	0.02 U	0.0023	0.004	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	79.8	80.6	0.02 U	0.02 U	-	-	15.3	15.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0153	0.01 U
			22-Feb-07		0.02 U	0.02 U	0.00154	0.0018	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	73.3	67.7	0.02 U	0.02 U	-	-	15.3	16.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Mar-07		0.02 U	0.02 U	0.001 U	0.0025	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	43.	46.2	0.02 U	0.02 U	-	-	15.8	17.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0212	0.01 U
			24-Apr-07		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	20.2	27.7	0.02 U	0.02 U	-	-	15.9	18.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-May-07		0.02 U	0.02 U	0.001 U	0.0017	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	22.9	34.8	0.02 U	0.02 U	-	-	14.5	17.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0193	0.01 U
			16-Nov-07		0.02 U	0.02 U	0.0014	0.0016	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	70.7	74.8	0.02 U	0.02 U	-	-	24.6	26.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-Feb-08		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.0065	0.0068	-	-	0.01 U	0.01 U	54.3	68.7	0.02 U	0.02 U	-	-	17.4	21.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-May-08		0.024	0.0251	0.0013	0.0018	-	-	-	-	0.001 U	0.001	0.0075	0.0062	-	-	0.01 U	0.01 U	94.2	92.	0.02 U	0.02 U	-	-	26.1	28.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			12-Aug-08		0.029	0.02 U	0.0054	0.0023	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	96.2	96.5	0.02 U	0.02 U	-	-	26.4	27.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-Nov-08		0.02 U	0.02 U	0.0018	0.0024	-	-	-	-	0.001 U	0.001 U	0.0075	0.0059	-	-	0.01 U	0.01 U	126.	96.5	0.02 U	0.02 U	-	-	28.8	28.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.0102	0.01 U	-	-	-	-	0.01 U	0.01 U
			10-Feb-09		0.02 U	0.0213	0.0028	0.001 U	-	-	-	-	0.0019	0.001	0.0073	0.0059	-	-	0.01 U	0.01 U	259.	241.	0.02 U	0.02 U	-	-	53.5	54.	0.000101	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.0149	-	-	-	-	0.0139	0.0134
			6-Apr-09		0.02 U	0.02 U	0.0023	0.001 U	-	-	-	-	0.0029	0.0018	0.005 U	0.005 U	-	-	0.01 U	0.01 U	593.	657.	0.02 U	0.02 U	-	-	76.5	79.4	0.000147	0.005 U	0.005 U	0.02 U	0.02 U	0.0118	0.0127	-	-	-	-	0.0409	0.0332
			20-May-09		0.02 U	0.02 U	0.0011	0.0011	-	-	-	-	0.0013	0.0012	0.005 U	0.005 U	-	-	0.01 U	0.01 U	532.	562.	0.02 U	0.02 U	-	-	46.4	47.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.0121	0.0121	-	-	-	-	0.0309	0.0299
			20-Jul-09		0.02 U	0.02 U	0.0013	0.002	-	-	-	-	0.0013	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	438.	441.	0.02 U	0.02 U	-	-	45.8	42.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.0104	0.0112	-	-	-	-	0.0299	0.0189
			28-Aug-09		0.02 U	0.02 U	0.0015	0.0018	-	-	-	-	0.001 U	0.001 U	0.0059	0.0083	-	-	0.01 U	0.01 U	473.	373.	0.02 U	0.02 U	-	-	49.1	46.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0247	0.0211
			20-Oct-09		0.02 U	0.0261	0.0024	0.0023	-	-	-	-	0.001 U	0.001 U	0.0089	0.0056	-	-	0.01 U	0.01 U	334.	306.	0.02 U	0.02 U	-	-	36.	36.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.0127	0.0111	-	-	-	-	0.0273	0.0194
			15-Dec-09		0.02 U	0.02 U	0.01 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0064	0.005 U	-	-	0.01 U	0.01 U	344.	304.	0.02 U	0.02 U	-	-	34.9	35.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.0106	-	-	-	-	0.0273	0.0193
			22-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	208.	173.	-	-	-	-	22.	21.8	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-18-101	MFA	WS-18-101	28-Jun-06	92 - 102	0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0311	0.005 U	-	-	0.0194	0.01 U	68.4	0.01 U	0.02 U	0.02 U	-	-	7.	6.38	0.0001 U	0.0677	0.0361	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.114	0.0483
			19-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0133	0.005 U	-	-	0.01 U	0.01 U	53.5	37.8	0.02 U	0.02 U	-	-	7.22	6.43	0.0001 U	0.0114	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.079	0.0614
			28-Aug-06		0.0425	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0086	0.005 U	-	-	0.01 U	0.01 U	53.	42.4	0.02 U	0.02 U	-	-	6.78	6.5	0.0001 U	0.0116	0.0068	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0531	0.0261
			26-Sep-06		0.02 U	0.02 U	0.00511	0.0032	-	-	-	-	0.001 U	0.001	0.0118	0.005 U	-	-	0.01 U	0.01 U	63.9	50.5	0.02 U	0.02 U	-	-	7.2	7.1	0.0001 U	0.0091	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0332	0.01 U
			24-Oct-06		0.02 U	0.02 U	0.00573	0.0053	-	-	-	-	0.001 U	0.001	0.014	0.005 U	-	-	0.01 U	0.01 U	58.5	46.6	0.02 U	0.02 U	-	-	7.44	6.51	0.0001 U	0.0117	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.059	0.01 U
			16-Nov-06		0.02 U	0.02 U	0.00493	0.0051	-	-	-	-	0.001 U	0.001	0.0145	0.005 U	-	-	0.01 U	0.01 U	61.1	49.5	0.02 U	0.02 U	-	-	7.04	6.43	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0262	0.01 U
			26-Jan-07		0.02 U	0.02 U	0.00442	0.0052	-	-	-	-	0.001 U	0.001	0.0098	0.005 U	-	-	0.01 U	0.01 U	58.4	52.7	0.02 U	0.02 U	-	-	6.97	6.84	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0307	0.01 U
			22-Feb-07		0.02 U	0.02 U	0.00476	0.004	-	-	-	-	0.001 U	0.001	0.0108	0.005 U	-	-	0.01 U	0.01 U	73.6	56.9	0.02 U	0.02 U	-	-	7.7	6.93	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Mar-07		0.02 U	0.02 U	0.00466	0.0056	-	-	-	-	0.001 U	0.001	0.0076	0.005 U	-	-	0.01 U	0.01 U	66.9	60.7	0.02 U	0.02 U	-	-	7.58	7.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0181	0.01 U
			24-Apr-07		0.02 U	0.02 U	0.00478	0.0013	-	-	-	-	0.001 U	0.001	0.0109	0.005 U	-	-	0.01 U	0.01 U	68.2	61.8	0.02 U	0.02 U	-	-	7.74	7.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0196	0.01 U
			22-May-07		0.02 U	0.02 U	0.0053	0.0054	-	-	-	-	0.001 U	0.001	0.0102	0.005 U	-	-	0.01 U	0.01 U	69.7	66.5	0.02 U	0.02 U	-	-	7.75	7.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0191	0.01 U
			16-Nov-07		0.02 U	0.02 U	0.0058	0.0056	-	-	-	-	0.001 U	0.001	0.0068	0.005 U	-	-	0.01 U	0.01 U	96.9	88.6	0.02 U	0.02 U	-	-	11.6	10.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0172	0.0302
			12-Feb-08		0.02 U	0.02 U	0.0051	0.0046	-	-	-	-	0.001 U	0.001	0.0126	0.005 U	-	-	0.01 U	0.01 U	100.	98.	0.02 U	0.02 U	-	-	11.5	10.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0241	0.01 U
			22-May-08		0.02 U	0.02 U	0.0061	0.0062	-	-	-	-	0.001 U	0.001	0.0176	0.005 U	-	-	0.01 U	0.01 U	125.	111.	0.02 U	0.02 U	-	-	13.2	11.7	0.00014	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0326	0.01 U
			12-Aug-08		0.02 U	0.02 U	0.0015	0.0045	-	-	-	-	0.001 U	0.001	0.013	0.005 U	-	-	0.01 U	0.01 U	135.	98.9	0.02 U	0.02 U	-	-	12.9	11.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0285	0.01 U
			14-Nov-08		0.02 U	0.0213	0.0056	0.0051	-	-	-	-	0.001 U	0.001 U	0.0103	0.005 U	-	-	0.01 U	0.01 U	134.	97.9	0.02 U	0.02 U	-	-	14.7	12.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0206	0.01 U
			10-Feb-09		0.022	0.02 U	0.0052	0.0028	-	-	-	-	0.001 U	0.001 U	0.0098	0.005 U	-	-	0.01 U	0.01 U	119.	106.	0.02 U	0.02 U	-	-	11.3	10.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0161	0.01 U
			6-Apr-09		0.0245	0.0237	0.0034	0.0028	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	194.	164.	0.02 U	0.02 U	-	-	18.6	15.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0156	0.0103
			20-May-09		0.02 U	0.0232	0.0037	0.0027	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	283.	268.	0.02 U	0.02 U	-	-	25.2	25.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0166	0.0156
			20-Jul-09		0.02 U	0.02 U	0.004	0.0045	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	373.	386.	0.02 U	0.02 U	-	-	34.9	32.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.0104	0.01 U	-	-	-	-	0.029	0.0219
			28-Aug-09		0.02 U	0.02 U	0.0038	0.0031	-	-	-	-	0.001 U	0.001 U	0.0051	0.0069	-	-	0.01 U	0.01 U	473.	465.	0.02 U	0.02 U	-	-	40.7	42.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0288	0.0248
			20-Oct-09		0.02 U	0.02 U	0.0043	0.0026	-	-	-	-	0.001 U	0.001 U	0.0066	0.005 U	-	-	0.01 U	0.01 U	583.	511.	0.02 U	0.02 U	-	-	48.9	42.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.0111	0.0107	-	-	-	-	0.0455	0.0313
			15-Dec-09		0.02 U	0.02 U	0.0029	0.0018	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	683.	656.	0.02 U	0.02 U	-	-	49.7	48.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.0131	0.0115	-	-	-	-	0.0514	0.0395
			22-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	773.	758.	-	-	-	-	53.4	51.6	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-19-71	MFA	WS-19-71	27-Jun-06	61 - 71	0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0331	0.005 U	-	-	0.0256	0.01 U	111.	62.8	0.02 U	0.02 U	-	-	12.4	12.4	0.0001 U	0.0187	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0704	0.0117
			20-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	66.4	63.9	0.02 U	0.02 U	-	-	13.3	11.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0342	0.005 U	-	-	0.0139	0.01 U	90.2	59.7	0.02 U	0.02 U	-	-	11.7	11.7	0.0001 U	0.013	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0538	0.01 U
			27-Sep-06		0.02 U	0.02 U	0.00319	0.0019	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	55.3	54.	0.02 U	0.02 U	-	-	11.8	11.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0127	0.01 U
			24-Oct-06		0.02 U	0.02 U	0.00227	0.0035	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	50.4	49.	0.02 U	0.02 U	-	-	12.6	11.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Nov-06		0.02 U	0.02 U	0.00227	0.0028	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	59.2	51.	0.02 U	0.02 U	-	-	13.	12.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Jan-07		0.02 U	0.02 U	0.00148	0.0036	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	81.	75.4	0.02 U	0.02 U	-	-	16.8	16.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Feb-07		0.02 U	0.02 U	0.00225	0.0032	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	83.2	90.8	0.02 U	0.02 U	-	-	16.2	17.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Mar-07		0.02 U	0.02 U	0.00193	0.0034	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	108.	93.7	0.02 U	0.02 U	-	-	19.6	19.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.011	0.01 U

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Berylium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
EPA 2004 NRWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Portland Harbor specific fish consumption rate					0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
DEQ 2004 AWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
MCL					0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
EPA Region 3,6,9 Tap Water PRGs (12/09 update)					0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
EPA 2004 NRWQC (chronic)					#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
DEQ 2004 AWQC (chronic)					1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
Oak Ridge National Laboratory (Tier II SCV) [10]					0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-19-71	MFA	WS-19-71	24-Apr-07	61 - 71	0.02 U	0.02 U	**0.00229**	0.0018	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**129.**	118.	0.02 U	0.02 U	-	-	**21.9**	22.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0222	0.01 U
			23-May-07		0.02 U	0.02 U	**0.0022**	0.0037	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**131.**	118.	0.02 U	0.02 U	-	-	**22.9**	22.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0208	0.01 U
			19-Nov-07		0.02 U	0.02 U	**0.0029**	0.0035	-	-	-	-	0.001 U	0.0013	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**128.**	130.	0.02 U	0.02 U	-	-	**26.5**	26.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0117	0.01 U
			13-Feb-08		0.02 U	0.02 U	**0.0025**	0.0032	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**139.**	145.	0.02 U	0.02 U	-	-	**28.3**	26.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-May-08		**0.0225**	0.02 U	**0.0029**	0.0044	-	-	-	-	**0.001**	0.001	0.005	0.005 U	-	-	0.01 U	0.01 U	**160.**	190.	0.02 U	0.02 U	-	-	**29.9**	32.5	**0.000134**	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0116	0.01 U
			12-Aug-08		**0.0242**	0.02 U	**0.0033**	0.0042	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**156.**	147.	0.02 U	0.02 U	-	-	**30.6**	28.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0103	0.01 U
			14-Nov-08		**0.02**	0.0209	**0.0044**	0.0052	-	-	-	-	0.001 U	0.001 U	0.0069	0.0074	-	-	0.01 U	0.01 U	**127.**	96.1	0.02 U	0.02 U	-	-	**29.1**	28.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0109	0.01 U
			29-May-09		0.02 U	0.02 U	**0.0061**	0.0052	-	-	-	-	0.001 U	0.001 U	0.0075	0.0097	-	-	0.01 U	0.01 U	**74.5**	27.	0.02 U	0.02 U	-	-	**15.3**	13.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Jul-09		0.02 U	0.02 U	**0.0054**	0.005	-	-	-	-	0.001 U	0.001 U	0.0058	0.0052	-	-	0.01 U	0.01 U	**64.3**	0.611	0.02 U	0.02 U	-	-	**11.5**	10.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			3-Sep-09		0.02 U	0.02 U	**0.0056**	0.0066	-	-	-	-	0.001 U	0.001 U	0.0083	0.0082	-	-	0.01 U	0.01 U	**65.6**	47.	0.02 U	0.02 U	-	-	**9.89**	9.23	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Oct-09		0.02 U	0.02 U	**0.0057**	0.0081	-	-	-	-	0.001 U	0.0012	0.0084	0.0103	-	-	0.01 U	0.01 U	**52.8**	6.37	0.02 U	0.02 U	-	-	**8.68**	7.67	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Dec-09		0.02 U	0.02 U	**0.0082**	0.0063	-	-	-	-	0.001 U	0.001 U	0.0074	0.0074	-	-	0.01 U	0.01 U	**53.**	41.1	0.02 U	0.02 U	-	-	**7.29**	6.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**47.9**	46.1	-	-	-	-	**43.8**	37.4	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-19-101	MFA	WS-19-101	27-Jun-06	92 - 102	0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0421	0.005 U	-	-	**0.0403**	0.01 U	**116.**	0.01 U	0.02 U	0.02 U	-	-	**9.48**	8.52	0.0001 U	**0.0585**	0.0251	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.118**	0.01 U
			20-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0125	0.005 U	-	-	0.01 U	0.01 U	**71.1**	60.2	0.02 U	0.02 U	-	-	**12.2**	11.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0282	0.01 U
			29-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0107	0.005 U	-	-	0.01 U	0.01 U	**162.**	130.	0.02 U	0.02 U	-	-	**16.5**	16.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0311	0.01 U
			27-Sep-06		0.02 U	0.02 U	**0.0025**	0.0013	-	-	-	-	0.001 U	0.001	0.0138	0.005 U	-	-	0.01 U	0.01 U	**283.**	296.	0.02 U	0.02 U	-	-	**25.**	27.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0436**	0.0149
			25-Oct-06		0.02 U	0.02 U	0.005 U	0.005 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**376.**	447.	0.02 U	0.02 U	-	-	**31.8**	36.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0224	0.0172
			15-Nov-06		0.02 U	0.02 U	0.001 U	0.0013	-	-	-	-	**0.0015**	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**493.**	533.	**0.0258**	0.02 U	-	-	**39.9**	40.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0252	0.0268
			25-Jan-07		0.02 U	0.02 U	0.001 U	0.0019	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**445.**	439.	0.02 U	0.02 U	-	-	**32.9**	33.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.026	0.0189
			23-Feb-07		0.02 U	0.02 U	**0.00515**	0.0021	-	-	-	-	**0.0014**	0.001	0.0369	0.005 U	-	-	0.01 U	0.01 U	**411.**	341.	**0.0264**	0.02 U	-	-	**27.5**	26.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0937**	0.0144
			22-Mar-07		0.02 U	0.02 U	**0.00188**	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**450.**	346.	0.02 U	0.02 U	-	-	**28.1**	25.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0443**	0.0133
			24-Apr-07		0.02 U	0.02 U	**0.00288**	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**394.**	312.	0.02 U	0.02 U	-	-	**25.3**	21.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0443**	0.0129
			23-May-07		0.02 U	0.02 U	**0.0015**	0.0018	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**400.**	390.	0.02 U	0.02 U	-	-	**24.1**	24.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0358**	0.0173
			19-Nov-07		0.02 U	0.02 U	**0.0037**	0.0023	-	-	-	-	**0.001**	0.001	0.0055	0.005 U	-	-	0.01 U	0.01 U	**247.**	237.	0.02 U	0.02 U	-	-	**14.5**	14.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0433**	0.0161
			13-Feb-08		0.02 U	0.02 U	**0.0033**	0.0025	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**270.**	265.	0.02 U	0.02 U	-	-	**14.**	13.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0337**	0.01 U
			22-May-08		**0.0268**	0.02 U	**0.0042**	0.0046	-	-	-	-	0.001 U	0.001	0.006	0.005 U	-	-	0.01 U	0.01 U	**119.**	147.	0.02 U	0.02 U	-	-	**4.39**	6.38	**0.000136**	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0228	0.01 U
			12-Aug-08		**0.0206**	0.02 U	**0.0031**	0.0033	-	-	-	-	0.001 U	0.001	0.0054	0.005 U	-	-	0.01 U	0.01 U	**81.9**	76.2	0.02 U	0.02 U	-	-	**3.22**	3.01	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0125	0.01 U
			14-Nov-08		0.02 U	0.02 U	**0.0029**	0.0032	-	-	-	-	0.001 U	0.001 U	0.0052	0.005 U	-	-	0.01 U	0.01 U	**58.8**	57.5	0.02 U	0.02 U	-	-	**2.75**	2.71	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			2-Apr-09		0.02 U	0.02 U	**0.0026**	0.003	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**55.4**	55.2	0.02 U	0.02 U	-	-	**2.31**	2.37	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-May-09		0.02 U	0.02 U	**0.0024**	0.002	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**54.5**	39.6	0.02 U	0.02 U	-	-	**2.4**	2.54	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Jul-09		0.02 U	0.02 U	**0.0025**	0.0018	-	-	-	-	0.001 U	0.001 U	0.0055	0.005 U	-	-	0.01 U	0.01 U	**51.4**	12.3	0.02 U	0.02 U	-	-	**2.38**	1.04	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			3-Sep-09		0.02 U	0.02 U	**0.0025**	0.0022	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0056	-	-	0.01 U	0.01 U	**52.9**	46.	0.02 U	0.02 U	-	-	**2.39**	2.28	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Oct-09		0.02 U	0.02 U	**0.0028**	0.0033	-	-	-	-	0.001 U	0.001 U	0.0058	0.0059	-	-	0.01 U	0.01 U	**45.9**	43.5	0.02 U	0.02 U	-	-	**2.43**	2.19	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0103	0.01 U
			15-Dec-09		0.02 U	0.02 U	**0.0032**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0071	-	-	0.01 U	0.01 U	**45.2**	45.6	0.02 U	0.02 U	-	-	**2.2**	2.14	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**43.6**	45.	-	-	-	-	**2.17**	2.2	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-20-112	MFA	WS-20-112	28-Jun-06	97 - 112	0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0109	0.005 U	-	-	0.01 U	0.01 U	**417.**	247.	0.02 U	0.02 U	-	-	**5.54**	4.03	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0376**	0.012
			27-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**310.**	296.	0.02 U	0.02 U	-	-	**4.34**	4.01	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0218	0.0149
			28-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**297.**	286.	0.02 U	0.02 U	-	-	**3.51**	3.43	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0191	0.0139
			25-Sep-06		0.02 U	0.02 U	**0.00149**	0.0027	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**155.**	132.	0.02 U	0.02 U	-	-	**1.33**	1.53	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0104	0.01 U
			23-Oct-06		0.02 U	0.02 U	**0.0015**	0.0025	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**133.**	120.	0.02 U	0.02 U	-	-	**1.25**	1.43	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Dec-06		0.02 U	0.02 U	0.001 U	0.0012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**43.3**	88.3	0.02 U	0.02 U	-	-	**0.207**	1.09	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0202	0.01 U
			25-Jan-07		0.02 U	0.02 U	0.001 U	0.0019	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**24.3**	61.3	0.02 U	0.02 U	-	-	0.0962	1.01	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Feb-07		0.02 U	0.02 U	0.001 U	0.0019	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**15.**	36.9	0.02 U	0.02 U	-	-	0.0404	0.59	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Mar-07		0.02 U	0.02 U	0.001 U	0.0026	-	-	-	-	0.001 U	0.001	0.0058	0.005 U	-	-	0.01 U	0.01 U	**26.5**	52.6	0.02 U	0.02 U	-	-	**0.226**	1.09	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Apr-07		0.02 U	0.02 U	0.001 U	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**17.4**	17.1	0.02 U	0.02 U	-	-	**0.133**	0.167	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-May-07		0.02 U	0.02 U	0.001 U	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**4.99**	7.01	0.02 U	0.02 U	-	-	0.0154	0.0346	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			15-Nov-07		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**3.18**	7.23	0.02 U	0.02 U	-	-	0.0109	0.0438	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-Feb-08		0.02 U	0.02 U	0.001 U	0.0054	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**3.74**	29.9	0.02 U	0.02 U	-	-	0.0191	0.243	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-May-08		0.02 U	0.02 U	**0.0029**	0.003	-	0.0599	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**18.7**	22.1	0.02 U	0.02 U	-	53.7	**0.169**	0.201	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			6-Aug-08		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.0053	0.0053	-	-	0.01 U	0.01 U	**3.66**	6.81	0.02 U	0.02 U	-	-	0.0124	0.0284	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
WS-21-112	MFA	WS-21-112	28-Jun-06	97 - 112	0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**51.1**	47.4	0.02 U	0.02 U	-	-	**2.59**	2.54	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0107	0.01 U
			28-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**39.4**	37.2	0.02 U	0.02 U	-	-	**1.66**	1.65	0.0001 U	0.0086	0.0065	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**37.9**	35.	0.02 U	0.02 U	-	-	**1.24**	1.21	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Sep-06		0.02 U	0.02 U	**0.00142**	0.0018	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.2**	33.6	0.02 U	0.02 U	-	-	**1.14**	1.21	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Oct-06		0.02 U	0.02 U	**0.00788**	0.0028	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**34.8**	32.3	0.02 U	0.02 U	-	-	**1.24**	1.26	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-Nov-06		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			19-Dec-06		0.02 U	0.02 U	**0.00105**	0.0014	-	-	-	-	0.001 U	0.001	0.005 U	0.0068	-	-	0.01 U	0.01 U	**33.7**	35.2	0.02 U	0.02 U	-	-	**1.19**	1.19	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Jan-07		0.02 U	0.02 U	**0.0012**	0.0018	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**32.3**	31.	0.02 U	0.02 U	-	-	**1.08**	1.09	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Feb-07		0.02 U	0.02 U	**0.00143**	0.0022	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**34.**	31.3	0.02 U	0.02 U	-	-	**1.1**	1.04	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Mar-07		0.02 U	0.02 U	**0.0014**	0.0023	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**32.8**	31.2	0.02 U	0.02 U	-	-	**1.04**	1.04	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Apr-07		0.02 U	0.02 U	**0.00137**	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.8**	31.4	0.02 U	0.02 U	-	-	**1.04**	1.04	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-May-07		0.02 U	0.02 U	**0.0013**	0.0027	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.7**	33.7	0.02 U	0.02 U	-	-	**1.03**	1.08	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Aug-07		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			14-Nov-07		0.02 U	0.02 U	0.001 U	0.0011	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.8**	30.9	0.02 U	0.02 U	-	-	**0.911**	0.954	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			11-Feb-08		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.9**	33.4	0.02 U	0.02 U	-	-	**0.94**	0.925	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-May-08		0.02 U	0.02 U	0.001 U	0.001 U	-	0.0922	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.**	30.1	0.02 U	0.02 U	-	41.6	**0.983**	0.987	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-Aug-08		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**30.8**	30.9	0.02 U	0.02 U	-	-	**0.866**	0.891	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Nov-08		0.02 U	0.02 U	0.001 U	0.001	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**32.2**	32.3	0.02 U	0.02 U	-	-	**1.02**	0.977	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jan-09		0.02 U	0.02 U	**0.0015**	0.0017	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.8**	33.6	0.02 U	0.02 U	-	-	**1.24**	1.24	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Apr-09		0.02 U	0.02 U	**0.002**	0.0025	-	-	-	-	0.001 U	0.001 U	0.0052	0.005 U	-	-	0.01 U	0.01 U	**33.1**	32.9	0.02 U	0.02 U	-	-	**1.26**	1.21	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jun-09		0.02 U	0.02 U	0.001 U	0.0015	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**32.3**	34.6	0.02 U	0.02 U	-	-	**1.3**	1.21	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Jul-09		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.008	0.005 U	-	-	0.01 U	0.01 U	**4.04**	4.24	0.02 U	0.02 U	-	-	**0.519**	0.55	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0144	0.01 U
			25-Aug-09		0.02 U	0.02 U	**0.004**	0.0049	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**34.**	35.4	0.02 U	0.02 U	-	-	**1.12**	1.15	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
		EPA 2004 NRWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
		Portland Harbor specific fish consumption rate			0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
		DEQ 2004 AWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
		MCL			0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
		EPA 2004 NRWQC (chronic)			#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
		DEQ 2004 AWQC (chronic)			1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
		Oak Ridge National Laboratory (Tier II SCV) [10]			0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-21-112	MFA	WS-21-112	23-Sep-09	97 - 112	0.02 U	0.02 U	0.0014	0.0019	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	32.2	30.6	0.02 U	0.02 U	-	-	1.1	1.17	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Oct-09		0.02 U	0.02 U	0.001 U	0.0012	-	-	-	-	0.001 U	0.001 U	0.0075	0.0059	-	-	0.01 U	0.01 U	31.7	30.8	0.02 U	0.02 U	-	-	1.21	1.17	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Nov-09		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0066	-	-	0.01 U	0.01 U	31.2	31.7	0.02 U	0.02 U	-	-	1.1	1.07	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Dec-09		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0057	0.0064	-	-	0.01 U	0.01 U	34.6	31.6	0.02 U	0.02 U	-	-	1.22	1.15	0.00159	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Jan-10		0.02 U	0.02 U	0.001 U	0.0011	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	32.4	31.5	0.02 U	0.02 U	-	-	1.16	1.13	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			1-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.9	30.8	-	-	-	-	1.09	1.05	-	-	-	-	-	-	-	-	-	-	-	-	-
			26-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.2	31.	-	-	-	-	1.02	0.953	-	-	-	-	-	-	-	-	-	-	-	-	-
	HAI	5237-070712-WS21-112	12-Jul-07		0.0008 U	-	0.00177	-	0.0734	-	0.008 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	31.8	-	0.00054 U	-	32.5	-	0.844	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.004 U	-	0.033 U	-
		5237-080521-WS21-112-108	21-May-08		0.00002 U	-	0.00087	-	0.0765	-	0.000012 U*		0.000008 U	-	0.00048	-	-	-	0.00013	-	30.1	-	0.000005 J	-	44.2	-	1.01	-	0.00005 U	0.00085	-	0.0007 U*	-	0.000004 U*	-	-	-	0.00036	-	0.00039 U*	-
		5237-080925-WS-21-112-137	25-Sep-08		0.00001 U	-	0.00103	-	0.0778 J	-	0.00002 U	-	0.000005 U	-	0.00031	-	-	-	0.00014	-	28.2	-	0.000006 U	-	41.5	-	0.906	-	0.00005 U	0.00098	-	0.0005 U	-	0.000009 U	-	-	-	0.00026	-	0.00164	-
		5237-090407-WS21-112-108	7-Apr-09		0.000005 U	0.000005 U	0.0028	0.0025	0.0811	0.0675	0.000013 J	0.000008 U	0.000005 U	0.000016 J	0.00016 J	0.00031	-	-	0.00025 J	0.00035	31.2	28.5	0.000003 U	0.000006 J	43.5	21.2	1.23	2.41	0.00005 U	0.00094	0.00486	0.001	0.0004 U	0.000005 U	0.000005 U	-	-	0.00017 J	0.00049	0.0049	0.0086
		5237-090820-WS-21-112-165	20-Aug-09		0.001 U	-	0.00509	-	0.0773	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	33.	-	0.001 U	-	46.9	-	1.11 J	-	0.0001 U	0.00106	-	0.00617	-	0.001 U	-	-	-	0.002 U	-	0.00424	-
		5237-090820-WS-21-112-166	20-Aug-09		0.001 U	-	0.00472	-	0.0778	-	0.001 U	-	0.001 U	-	0.001 U	-	-	-	0.004 U	-	32.6	-	0.001 U	-	46.6	-	1.1 J	-	0.0001 U	0.001 U	-	0.00454	-	0.001 U		-	-	0.002 U	-	0.004 U	-
		5237-100301-WS-21-112-106	1-Mar-10		0.001 U	-	0.0022	-	0.0722	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	29.5	-	0.001 U	-	45.4	-	1.01	-	0.00008 U	0.002 U	-	0.0035	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
WS-21-131	MFA	WS-21-131	29-Jan-09	115 - 130	0.02 U	0.02 U	0.0035	0.0032	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	66.9	63.8	0.02 U	0.02 U	-	-	4.78	4.75	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Apr-09		0.02 U	0.02 U	0.004	0.0043	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	51.8	51.	0.02 U	0.02 U	-	-	4.14	4.03	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jun-09		0.02 U	0.0212	0.0039	0.0029	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	50.4	34.	0.02 U	0.02 U	-	-	3.98	3.99	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Jul-09		0.02 U	0.02 U	0.0028	0.0036	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	37.6	43.5	0.02 U	0.02 U	-	-	3.28	3.43	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Aug-09		0.02 U	0.02 U	0.0092	0.01	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	25.1	26.8	0.02 U	0.02 U	-	-	1.38	1.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Sep-09		0.02 U	0.02 U	0.0042	0.0042	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	42.7	39.7	0.02 U	0.02 U	-	-	3.55	3.52	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Oct-09		0.02 U	0.02 U	0.0046	0.005	-	-	-	-	0.001 U	0.001 U	0.007	0.0054	-	-	0.01 U	0.01 U	45.6	45.3	0.02 U	0.02 U	-	-	3.7	3.76	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Nov-09		0.02 U	0.02 U	0.0034	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0068	-	-	0.01 U	0.01 U	47.1	49.6	0.02 U	0.02 U	-	-	3.29	3.76	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Dec-09		0.02 U	0.02 U	0.0048	0.0051	-	-	-	-	0.001 U	0.001 U	0.0064	0.0071	-	-	0.01 U	0.01 U	50.1	47.1	0.02 U	0.02 U	-	-	3.34	3.32	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Jan-10		0.02 U	0.02 U	0.0044	0.0054	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0063	-	-	0.01 U	0.01 U	49.3	46.6	0.02 U	0.02 U	-	-	3.72	3.26	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			1-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	47.9	46.1	-	-	-	-	3.68	3.3	-	-	-	-	-	-	-	-	-	-	-	-	-
			26-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	43.8	37.4	-	-	-	-	3.44	3.55	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-22-112	MFA	WS-22-112	28-Jun-06	97 - 112	0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.0815	0.005 U	-	-	0.01 U	0.01 U	2,210.	1,890.	0.113	0.109	-	-	17.7	17.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.379	0.242
			27-Jul-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	1,580.	1,470.	0.0914	0.0812	-	-	11.4	10.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.138	0.0989
			25-Aug-06		0.02 U	0.02 U	0.02 U	0.02 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	1,870.	1,640.	0.128	0.124	-	-	9.72	10.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.113	0.0975
			25-Sep-06		0.02 U	0.02 U	0.001 U	0.002 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	1,900.	1,920.	0.115	0.11	-	-	8.59	9.29	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.119	0.103
			24-Oct-06		0.02 U	0.02 U	0.005 U	0.0012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	990.	970.	0.0366	0.0363	-	-	3.51	4.22	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.057	0.0488
			19-Dec-06		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.0406	0.01 U	198.	243.	0.02 U	0.02 U	-	-	0.384	0.885	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0496	0.0118
			24-Jan-07		0.02 U	0.02 U	0.001 U	0.0017	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	84.5	88.7	0.02 U	0.02 U	-	-	0.112	0.338	0.0001 U	0.0126	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0128	0.01 U
			22-Feb-07		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	60.	67.5	0.02 U	0.02 U	-	-	0.118	0.278	0.0001 U	0.0164	0.0074	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Mar-07		0.02 U	0.02 U	0.001 U	0.0023	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	68.9	82.4	0.02 U	0.02 U	-	-	0.489	0.931	0.0001 U	0.0114	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Apr-07		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	56.	54.7	0.02 U	0.02 U	-	-	0.443	0.486	0.0001 U	0.0072	0.0062	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-May-07		0.02 U	0.02 U	0.001 U	0.0018	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	21.	37.3	0.02 U	0.02 U	-	-	0.0999	0.284	0.0001 U	0.0076	0.0068	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Nov-07		0.02 U	0.02 U	0.001 U	0.0012	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	8.22	12.4	0.02 U	0.02 U	-	-	0.0519	0.144	0.0001 U	0.0164	0.012	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			14-Feb-08		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	6.79	9.65	0.02 U	0.02 U	-	-	0.0519	0.103	0.0001 U	0.0171	0.012	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-May-08		0.02 U	0.02 U	0.0011	0.0012	-	0.0457	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	11.1	15.1	0.02 U	0.02 U	-	33.3	0.2	0.309	0.0001 U	0.0058	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			13-Aug-08		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	3.67	0.473	0.02 U	0.02 U	-	-	0.0252	0.107	0.0001 U	0.0121	0.0072	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
WS-23-116	MFA	WS-23-116	26-Jan-09	100 - 115	0.02 U	0.02 U	0.0042	0.0049	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	34.5	35.	0.02 U	0.02 U	-	-	2.76	2.74	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Apr-09		0.02 U	0.02 U	0.0051	0.0049	-	-	-	-	0.001 U	0.001 U	0.0058	0.005	-	-	0.01 U	0.01 U	34.7	0.01 U	0.02 U	0.02 U	-	-	3.03	2.98	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			30-Jun-09		0.02 U	0.02 U	0.0057	0.0059	-	-	-	-	0.001 U	0.001 U	0.0059	0.0058	-	-	0.01 U	0.01 U	33.8	35.4	0.02 U	0.02 U	-	-	2.72	3.05	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Jul-09		0.02 U	0.02 U	0.0058	0.0057	-	-	-	-	0.001 U	0.001 U	0.0059	0.005 U	-	-	0.01 U	0.01 U	35.8	36.1	0.02 U	0.02 U	-	-	3.1	3.06	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Aug-09		0.02 U	0.02 U	0.0058	0.0056	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	35.3	37.	0.02 U	0.02 U	-	-	2.94	2.94	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.107	0.01 U
			24-Sep-09		0.02 U	0.02 U	0.006	0.0067	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	37.5	35.8	0.02 U	0.02 U	-	-	2.91	2.94	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Oct-09		0.02 U	0.02 U	0.0064	0.007	-	-	-	-	0.001 U	0.001 U	0.0058	0.0065	-	-	0.01 U	0.01 U	37.1	37.1	0.02 U	0.02 U	-	-	3.17	3.16	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Nov-09		0.02 U	0.02 U	0.0033	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005	0.0063	-	-	0.01 U	0.01 U	37.	40.2	0.02 U	0.02 U	-	-	2.94	3.01	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Dec-09		0.02 U	0.02 U	0.006	0.006	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0073	-	-	0.01 U	0.01 U	40.9	37.6	0.02 U	0.02 U	-	-	3.55	2.38	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0166	0.01 U
			19-Jan-10		0.02 U	0.02 U	0.0074	0.0056	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0073	-	-	0.01 U	0.01 U	32.6	31.6	0.02 U	0.02 U	-	-	3.6	3.28	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.345	0.01 U
			18-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.94	29.4	-	-	-	-	35.3	2.51	-	-	-	-	-	-	-	-	-	-	-	-	-
			24-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	8.37	-	-	-	-	44.	2.7	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-24-111	MFA	WS-24-111	28-Jan-09	100 - 110	0.02 U	0.02 U	0.0033	0.0034	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	38.7	34.5	0.02 U	0.02 U	-	-	2.07	1.87	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Apr-09		0.02 U	0.02 U	0.0042	0.005	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	39.1	30.3	0.02 U	0.02 U	-	-	2.41	1.97	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jun-09		0.02 U	0.02 U	0.0055	0.0033	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	44.1	37.8	0.02 U	0.02 U	-	-	2.62	2.52	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Jul-09		0.02 U	0.02 U	0.0052	0.0058	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	44.9	41.4	0.02 U	0.02 U	-	-	2.74	2.38	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Aug-09		0.02 U	0.02 U	0.0058	0.0063	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	42.9	44.9	0.02 U	0.02 U	-	-	2.62	2.67	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Sep-09		0.02 U	0.02 U	0.0061	0.0066	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	43.9	42.5	0.02 U	0.02 U	-	-	2.62	2.45	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Oct-09		0.02 U	0.02 U	0.0062	0.0071	-	-	-	-	0.001 U	0.001 U	0.0066	0.0067	-	-	0.01 U	0.01 U	41.4	44.8	0.02 U	0.02 U	-	-	2.68	2.64	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Nov-09		0.02 U	0.02 U	0.0045	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0069	-	-	0.01 U	0.01 U	39.9	42.2	0.02 U	0.02 U	-	-	2.38	2.53	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Dec-09		0.02 U	0.02 U	0.0055	0.0058	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0059	-	-	0.01 U	0.01 U	47.4	43.8	0.02 U	0.02 U	-	-	2.58	2.43	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.021	0.01 U
			20-Jan-10		0.02 U	0.02 U	0.0053	0.0057	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0058	-	-	0.01 U	0.01 U	44.5	40.8	0.02 U	0.02 U	-	-	2.74	2.37	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.63	42.9	-	-	-	-	42.5	2.4	-	-	-	-	-	-	-	-	-	-	-	-	-
			25-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.78	42.7	-	-	-	-	6.88	2.73	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-24-126	MFA	WS-24-126	28-Jan-09	115 - 125	0.02 U	0.02 U	0.0024	0.0018	-	-	-	-	0.001 U	0.001 U	0.0079	0.005 U	-	-	0.01 U	0.01 U	12.2	8.02	0.02 U	0.02 U	-	-	0.622	0.578	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Apr-09		0.02 U	0.02 U	0.0014	0.0014	-	-	-	-	0.001 U	0.001 U	0.0055	0.0052	-	-	0.01 U	0.01 U	3.74	3.13	0.02 U	0.02 U	-	-	0.555	0.553	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jun-09		0.02 U	0.02 U	0.0034	0.0034	-	-	-	-	0.001 U	0.001 U	0.0058	0.0062	-	-	0.01 U	0.01 U	7.67	7.4	0.02 U	0.02 U	-	-	0.438	0.438	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Jul-09		0.02 U	0.0226	0.0038	0.0042	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	7.79	7.46	0.02 U	0.02 U	-	-	0.414	0.407	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Aug-09		0.02 U	0.02 U	0.0038	0.0041	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	7.57	7.44	0.02 U	0.02 U	-	-	0.391	0.389	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Sep-09		0.02 U	0.02 U	0.0046	0.0045	-	-	-	-	0.001 U	0.001 U	0.0056	0.0056	-	-	0.01 U	0.01 U	7.59	7.2	0.02 U	0.02 U	-	-	0.36	0.379	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Oct-09		0.02 U	0.02 U	0.0045	0.0048	-	-	-	-	0.001 U	0.001 U	0.0059	0.0059	-	-	0.01 U	0.01 U	7.	7.11	0.02 U	0.02 U	-	-	0.363	0.372	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			18-Nov-09		0.02 U	0.02 U	0.0015	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0067	0.0079	-	-	0.01 U	0.01 U	7.75	7.8	0.02 U	0.02 U	-	-	0.435	0.412	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Dec-09		0.02 U	0.02 U	0.0041	0.0042	-	-	-	-	0.001 U	0.001 U	0.0074	0.0077	-	-	0.01 U	0.01 U	8.31	7.39	0.02 U	0.02 U	-	-	0.406	0.392	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
		EPA 2004 NRWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
		Portland Harbor specific fish consumption rate			0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
		DEQ 2004 AWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
		MCL			0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
		EPA 2004 NRWQC (chronic)			#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
		DEQ 2004 AWQC (chronic)			1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
		Oak Ridge National Laboratory (Tier II SCV) [10]			0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-24-126	MFA	WS-24-126	20-Jan-10	115 - 125	0.02 U	0.02 U	**0.0039**	0.0042	-	-	-	-	0.001 U	0.001 U	0.006	0.0076	-	-	0.01 U	0.01 U	**7.46**	6.86	0.02 U	0.02 U	-	-	**0.402**	0.373	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.351**	6.87	-	-	-	-	**7.24**	0.338	-	-	-	-	-	-	-	-	-	-	-	-	-
			25-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.376**	6.71	-	-	-	-	**21.6**	0.326	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-24-155	MFA	WS-34-155	12-Mar-09	140 - 155	0.02 U	0.02 U	**0.012**	0.0053	-	-	-	-	0.001 U	0.001 U	0.0211	0.005 U	-	-	**0.0283**	0.01 U	**36.7**	9.19	0.02 U	0.02 U	-	-	**1.17**	0.646	0.0001 U	0.0159	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.148**	0.01 U
			17-Mar-09		0.02 U	0.02 U	**0.0052**	0.0046	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0058	-	-	0.01 U	0.01 U	**16.3**	13.3	0.02 U	0.02 U	-	-	**0.85**	0.747	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			10-Apr-09		0.02 U	0.02 U	**0.0036**	0.0038	-	-	-	-	0.001 U	0.001 U	0.0056	0.005	-	-	0.01 U	0.01 U	**18.2**	16.4	0.02 U	0.02 U	-	-	**1.11**	0.998	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			30-Jun-09		0.02 U	0.02 U	**0.0037**	0.0032	-	-	-	-	0.001 U	0.001 U	0.005	0.005 U	-	-	0.01 U	0.01 U	**18.2**	9.28	0.02 U	0.02 U	-	-	**1.17**	1.19	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jul-09		0.02 U	0.02 U	**0.005**	0.0051	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**13.3**	14.4	0.02 U	0.02 U	-	-	**0.74**	0.764	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			12-Aug-09		0.02 U	0.02 U	**0.0038**	0.0044	-	-	-	-	0.001 U	0.001 U	0.0063	0.005 U	-	-	0.01 U	0.01 U	**16.6**	16.2	0.02 U	0.02 U	-	-	**0.906**	0.909	**0.00581**	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Sep-09		0.02 U	0.02 U	**0.0057**	0.0044	-	-	-	-	0.001 U	0.001 U	0.0178	0.005 U	-	-	0.01 U	0.01 U	**27.4**	17.8	0.02 U	0.02 U	-	-	**1.48**	1.22	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0162	0.01 U
			29-Oct-09		0.02 U	0.02 U	**0.0045**	0.004	-	-	-	-	0.001 U	0.001 U	0.0078	0.0051	-	-	0.01 U	0.01 U	**18.5**	18.4	0.02 U	0.02 U	-	-	**1.19**	1.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Nov-09		0.02 U	0.02 U	**0.0019**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0059	0.0082	-	-	0.01 U	0.01 U	**18.1**	18.5	0.02 U	0.02 U	-	-	**1.12**	1.13	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Dec-09		0.02 U	0.02 U	**0.0036**	0.0036	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0061	-	-	0.01 U	0.01 U	**20.8**	19.2	0.02 U	0.02 U	-	-	**1.31**	1.23	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Jan-10		0.02 U	0.02 U	**0.0037**	0.0039	-	-	-	-	0.001 U	0.001 U	0.0056	0.005 U	-	-	0.01 U	0.01 U	**18.7**	18.	0.02 U	0.02 U	-	-	**1.17**	1.12	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			1-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.4**	20.2	-	-	-	-	**20.9**	1.32	-	-	-	-	-	-	-	-	-	-	-	-	-
			25-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.37**	20.2	-	-	-	-	**35.5**	1.24	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-25-96	MFA	WS-25-96	23-Jan-09	85 - 95	0.02 U	0.02 U	**0.0027**	0.0028	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.8**	32.7	0.02 U	0.02 U	-	-	**0.911**	0.933	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Apr-09		0.02 U	0.02 U	**0.0031**	0.0025	-	-	-	-	0.001 U	0.001 U	0.0053	0.005 U	-	-	0.01 U	0.01 U	**27.7**	18.9	0.02 U	0.02 U	-	-	**0.676**	0.661	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jun-09		0.02 U	0.02 U	**0.0025**	0.001	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**28.9**	17.6	0.02 U	0.02 U	-	-	**0.656**	0.688	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Jul-09		0.02 U	0.02 U	**0.0022**	0.0026	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**24.3**	27.	0.02 U	0.02 U	-	-	**0.694**	0.69	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Aug-09		0.02 U	0.02 U	**0.0048**	0.0059	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**35.1**	37.5	0.02 U	0.02 U	-	-	**1.1**	1.13	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Sep-09		0.02 U	0.02 U	**0.0036**	0.0042	-	-	-	-	0.001 U	0.001 U	0.005	0.005 U	-	-	0.01 U	0.01 U	**30.7**	29.6	0.02 U	0.02 U	-	-	**0.694**	0.698	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Oct-09		0.02 U	0.02 U	**0.0036**	0.0043	-	-	-	-	0.001 U	0.001 U	0.0064	0.005 U	-	-	0.01 U	0.01 U	**31.1**	30.7	0.02 U	0.02 U	-	-	**0.755**	0.761	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Nov-09		0.02 U	0.02 U	**0.0017**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0056	0.0068	-	-	0.01 U	0.01 U	**30.3**	30.9	0.02 U	0.02 U	-	-	**0.687**	0.672	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Dec-09		0.02 U	0.02 U	**0.0035**	0.0034	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0057	-	-	0.01 U	0.01 U	**33.2**	32.5	0.02 U	0.02 U	-	-	**0.709**	0.725	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Jan-10		0.02 U	0.02 U	**0.0035**	0.0039	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0054	-	-	0.01 U	0.01 U	**31.4**	30.2	0.02 U	0.02 U	-	-	**0.74**	0.704	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.718**	29.8	-	-	-	-	**32.1**	0.693	-	-	-	-	-	-	-	-	-	-	-	-	-
			26-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**32.1**	30.	-	-	-	-	**0.764**	0.674	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-25-111	MFA	WS-25-111	26-Jan-09	100 - 110	0.02 U	0.02 U	**0.0049**	0.0055	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**34.8**	34.1	0.02 U	0.02 U	-	-	**1.14**	1.24	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Apr-09		0.02 U	0.02 U	**0.0057**	0.0063	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.**	33.2	0.02 U	0.02 U	-	-	**1.26**	1.28	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			29-Jun-09		0.02 U	0.02 U	**0.005**	0.0065	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0051	-	-	0.01 U	0.01 U	**32.1**	35.1	0.02 U	0.02 U	-	-	**1.09**	1.18	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			28-Jul-09		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0057	-	-	0.01 U	0.01 U	**1.13**	1.18	0.02 U	0.02 U	-	-	**0.912**	0.994	0.0001 U	0.0091	0.0087	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.053**	0.0401
			25-Aug-09		0.02 U	0.02 U	**0.0068**	0.0076	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**32.7**	35.8	0.02 U	0.02 U	-	-	**1.29**	1.32	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Sep-09		0.02 U	0.02 U	**0.0067**	0.007	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.5**	32.5	0.02 U	0.02 U	-	-	**0.889**	0.924	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Oct-09		0.02 U	0.02 U	**0.0063**	0.007	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**32.7**	32.6	0.02 U	0.02 U	-	-	**0.934**	1.03	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Nov-09		0.02 U	0.02 U	**0.0046**	0.0014	-	-	-	-	0.001 U	0.001 U	0.006	0.0068	-	-	0.01 U	0.01 U	**32.9**	34.7	0.02 U	0.02 U	-	-	**0.934**	0.944	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Dec-09		0.02 U	0.02 U	**0.0062**	0.0058	-	-	-	-	0.001 U	0.001 U	0.0065	0.0059	-	-	0.01 U	0.01 U	**36.**	36.3	0.02 U	0.02 U	-	-	**0.96**	1.11	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Jan-10		0.02 U	0.02 U	**0.0057**	0.0069	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0058	-	-	0.01 U	0.01 U	**34.7**	33.4	0.02 U	0.02 U	-	-	**1.**	1.05	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.28**	33.3	-	-	-	-	**34.4**	1.18	-	-	-	-	-	-	-	-	-	-	-	-	-
			26-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.995**	30.3	-	-	-	-	**30.5**	0.935	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-26-86	MFA	WS-26-86	23-Jan-09	75 - 85	0.02 U	0.02 U	**0.0035**	0.0039	-	-	-	-	0.001 U	0.001 U	0.0052	0.005 U	-	-	0.01 U	0.01 U	**72.**	67.7	0.02 U	0.02 U	-	-	**1.61**	1.58	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0146	0.01 U
			20-Apr-09		0.02 U	0.02 U	**0.004**	0.0028	-	-	-	-	0.001 U	0.001 U	0.0064	0.005 U	-	-	0.01 U	0.01 U	**58.6**	44.	0.02 U	0.02 U	-	-	**1.58**	1.54	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			30-Jun-09		0.02 U	0.02 U	**0.0041**	0.0032	-	-	-	-	0.001 U	0.001 U	0.0064	0.0056	-	-	0.01 U	0.01 U	**43.3**	25.	0.02 U	0.02 U	-	-	**1.54**	1.73	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Jul-09		0.02 U	0.02 U	**0.0042**	0.0042	-	-	-	-	0.001 U	0.001 U	0.0064	0.005 U	-	-	0.01 U	0.01 U	**49.1**	48.6	0.02 U	0.02 U	-	-	**1.82**	1.64	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Aug-09		0.02 U	0.02 U	**0.0044**	0.005	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**47.3**	48.9	0.02 U	0.02 U	-	-	**1.56**	1.52	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Sep-09		0.02 U	0.02 U	**0.0047**	0.0054	-	-	-	-	0.001 U	0.001 U	0.0051	0.005 U	-	-	0.01 U	0.01 U	**46.3**	45.6	0.02 U	0.02 U	-	-	**1.47**	1.49	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Oct-09		0.02 U	0.02 U	**0.0047**	0.0056	-	-	-	-	0.001 U	0.001 U	0.005	0.0058	-	-	0.01 U	0.01 U	**43.5**	43.3	0.02 U	0.02 U	-	-	**1.6**	1.57	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Nov-09		0.02 U	0.02 U	**0.0026**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.008	-	-	0.01 U	0.01 U	**45.6**	46.2	0.02 U	0.02 U	-	-	**1.47**	1.48	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Dec-09		0.02 U	0.02 U	**0.0046**	0.0043	-	-	-	-	0.001 U	0.001 U	0.006	0.0054	-	-	0.01 U	0.01 U	**49.2**	49.1	0.02 U	0.02 U	-	-	**1.59**	1.56	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Jan-10		0.02 U	0.02 U	**0.0038**	0.0049	-	-	-	-	0.001 U	0.001 U	0.0054	0.0055	-	-	0.01 U	0.01 U	**47.**	45.6	0.02 U	0.02 U	-	-	**1.62**	1.47	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.59**	42.6	-	-	-	-	**36.3**	1.48	-	-	-	-	-	-	-	-	-	-	-	-	-
			24-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.51**	17.4	-	-	-	-	**31.3**	1.42	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-26-116	MFA	WS-26-116	23-Jan-09	105 - 115	0.02 U	0.02 U	**0.0028**	0.0032	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**27.8**	28.1	0.02 U	0.02 U	-	-	**1.57**	1.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Apr-09		0.02 U	0.02 U	**0.0038**	0.0034	-	-	-	-	0.001 U	0.001 U	0.0051	0.005 U	-	-	0.01 U	0.01 U	**22.7**	15.7	0.02 U	0.02 U	-	-	**0.98**	0.969	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			30-Jun-09		0.02 U	0.02 U	**0.0029**	0.0034	-	-	-	-	0.001 U	0.001 U	0.005 U	0.006	-	-	0.01 U	0.01 U	**26.5**	27.9	0.02 U	0.02 U	-	-	**0.858**	0.935	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Jul-09		0.02 U	0.02 U	**0.0026**	0.0027	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**29.6**	29.	0.02 U	0.02 U	-	-	**0.826**	0.816	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Aug-09		0.02 U	0.02 U	**0.0027**	0.0028	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.4**	32.4	0.02 U	0.02 U	-	-	**0.685**	0.729	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Sep-09		0.02 U	0.02 U	**0.0033**	0.0036	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**36.7**	34.7	0.02 U	0.02 U	-	-	**0.697**	0.711	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-Oct-09		0.02 U	0.02 U	**0.0031**	0.0035	-	-	-	-	0.001 U	0.001 U	0.006	0.0062	-	-	0.01 U	0.01 U	**35.8**	35.3	0.02 U	0.02 U	-	-	**0.647**	0.705	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Nov-09		0.02 U	0.02 U	**0.0013**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0051	0.0073	-	-	0.01 U	0.01 U	**36.1**	36.5	0.02 U	0.02 U	-	-	**0.711**	0.704	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Dec-09		0.02 U	0.02 U	**0.0034**	0.0031	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0052	-	-	0.01 U	0.01 U	**39.4**	39.4	0.02 U	0.02 U	-	-	**0.714**	0.771	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Jan-10		0.02 U	0.02 U	**0.003**	0.0037	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0067	-	-	0.01 U	0.01 U	**37.6**	37.2	0.02 U	0.02 U	-	-	**0.742**	0.741	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			25-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.731**	35.5	-	-	-	-	**34.4**	0.741	-	-	-	-	-	-	-	-	-	-	-	-	-
			24-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**0.637**	35.8	-	-	-	-	**42.9**	0.657	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-27-86	MFA	WS-27-86	22-Jan-09	70 - 85	0.02 U	0.02 U	**0.0011**	0.0014	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**34.7**	34.5	0.02 U	0.02 U	-	-	**1.19**	1.22	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Apr-09		0.02 U	0.02 U	**0.001**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**31.5**	15.	0.02 U	0.02 U	-	-	**1.28**	1.27	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			30-Jun-09		0.02 U	0.02 U	**0.0011**	0.0013	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0057	-	-	0.01 U	0.01 U	**34.5**	35.	0.02 U	0.02 U	-	-	**1.28**	1.33	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Jul-09		0.02 U	0.02 U	0.001 U	0.0011	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**34.2**	34.2	0.02 U	0.02 U	-	-	**1.43**	1.37	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			24-Aug-09		0.02 U	0.02 U	**0.0011**	0.0012	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**32.**	34.3	0.02 U	0.02 U	-	-	**1.25**	1.29	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			23-Sep-09		0.02 U	0.02 U	**0.0011**	0.0014	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.3**	32.9	0.02 U	0.02 U	-	-	**1.32**	1.29	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Oct-09		0.02 U	0.02 U	**0.0012**	0.0015	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.7**	32.4	0.02 U	0.02 U	-	-	**1.32**	1.34	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Nov-09		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0055	0.0078	-	-	0.01 U	0.01 U	**31.4**	32.3	0.02 U	0.02 U	-	-	**1.23**	1.22	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Dec-09		0.02 U	0.02 U	**0.0015**	0.0011	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0063	-	-	0.01 U	0.01 U	**34.8**	33.8	0.02 U	0.02 U	-	-	**1.33**	1.33	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			19-Jan-10		0.02 U	0.02 U	**0.0012**	0.0013	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0057	-	-	0.01 U	0.01 U	**32.7**	31.8	0.02 U	0.02 U	-	-	**1.32**	1.25	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
	EPA 2004 NRWQC (organism only)				0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
	Portland Harbor specific fish consumption rate				0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
	DEQ 2004 AWQC (organism only)				0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
	MCL				0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
	EPA 2004 NRWQC (chronic)				#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
	DEQ 2004 AWQC (chronic)				1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
	Oak Ridge National Laboratory (Tier II SCV) [10]				0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-27-86	MFA	WS-27-86	19-Feb-10	70 - 85	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.24**	30.2	-	-	-	-	**30.3**	1.2	-	-	-	-	-	-	-	-	-	-	-	-	-
			24-Mar-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1.22**	1.62	-	-	-	-	**864.**	1.06	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-30-96	MFA	WS-30-96	11-Feb-09	85 - 95	0.02 U	0.02 U	**0.0077**	0.007	-	-	-	-	0.001 U	0.001 U	0.0193	0.0062	-	-	**0.0126**	0.01 U	**54.7**	38.4	0.02 U	0.02 U	-	-	**5.4**	0.511	0.0001 U	0.0114	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0405**	0.0125
			24-Mar-09		0.02 U	0.02 U	**0.0071**	0.0038	-	-	-	-	0.001 U	0.001 U	0.0066	0.005 U	-	-	0.01 U	0.01 U	**47.7**	43.3	0.02 U	0.02 U	-	-	**5.16**	5.15	0.0001 U	0.0086	0.0056	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0171	0.0103
			26-May-09		**0.0226**	0.02	**0.006**	0.0044	-	-	-	-	0.001 U	0.001 U	0.0063	0.0057	-	-	0.01 U	0.01 U	**178.**	156.	0.02 U	0.02 U	-	-	**10.6**	10.	0.0001 U	**0.0214**	0.0125	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0449**	0.0112
			20-Jul-09		0.02 U	0.02 U	**0.0057**	0.0041	-	-	-	-	**0.0011**	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**789.**	463.	0.02 U	0.02 U	-	-	**30.**	17.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0119**	0.01 U	-	-	-	-	**0.0639**	0.0331
			3-Sep-09		0.02 U	0.02 U	**0.0054**	0.0028	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,370.**	116.	**0.0358**	0.02 U	-	-	**47.3**	4.05	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0817**	0.066
			21-Oct-09		0.02 U	0.02 U	**0.0038**	0.0035	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,420.**	1,020.	**0.0401**	0.02 U	-	-	**55.6**	45.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0179**	0.0166	-	-	-	-	**0.104**	0.0759
			15-Dec-09		0.02 U	0.02 U	0.01 U	0.026	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,580.**	1,310.	**0.0416**	0.0317	-	-	**57.4**	48.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0172**	0.0132	-	-	-	-	**0.101**	0.0839
			16-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**34.**	1,290.	-	-	-	-	**319.**	51.8	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-31-106	MFA	WS-31-106	20-Feb-09	95 - 105	0.02 U	0.02 U	**0.0048**	0.0032	-	-	-	-	0.001 U	0.001 U	0.0317	0.005 U	-	-	**0.0201**	0.01 U	**70.7**	48.6	0.02 U	0.02 U	-	-	**6.4**	6.27	0.0001 U	0.0075	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.119**	0.01 U
			6-Apr-09		0.02 U	0.02 U	**0.0021**	0.0015	-	-	-	-	0.001 U	0.001 U	0.0087	0.0082	-	-	0.01 U	0.01 U	**45.5**	36.1	0.02 U	0.02 U	-	-	**6.87**	5.55	0.0001 U	**0.0186**	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-May-09		0.02 U	0.0267	**0.0047**	0.0047	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**112.**	146.	0.02 U	0.02 U	-	-	**8.3**	10.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.0107
			23-Jul-09		0.02 U	0.02 U	**0.0038**	0.0029	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**442.**	439.	0.02 U	0.02 U	-	-	**25.2**	24.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0374**	0.0437
			27-Aug-09		0.02 U	0.02 U	**0.0047**	0.0031	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**737.**	568.	0.02 U	0.02 U	-	-	**38.6**	33.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0413**	0.0374
			26-Oct-09		0.02 U	0.02 U	**0.0052**	0.0018	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**922.**	703.	0.02 U	0.02 U	-	-	**44.8**	38.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.0115	-	-	-	-	**0.0608**	0.0487
			18-Dec-09		0.02 U	0.02 U	**0.0032**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,020.**	699.	0.02 U	0.02 U	-	-	**48.2**	44.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0186**	0.0155	-	-	-	-	**0.0705**	0.0555
			24-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**15.3**	273.	-	-	-	-	**2,300.**	15.	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-32-76	MFA	WS-32-76	23-Feb-09	61 - 71	0.02 U	0.02 U	**0.0082**	0.0062	-	-	-	-	0.001 U	0.001 U	0.0103	0.0073	-	-	0.01 U	0.01 U	**70.2**	40.2	0.02 U	0.02 U	-	-	**13.6**	12.3	0.0001 U	0.0131	0.0082	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.016	0.01 U
			26-Mar-09		0.02 U	0.0223	**0.017**	0.0086	-	-	-	-	0.001 U	0.001 U	0.074	0.0136	-	-	0.01 U	0.01 U	**228.**	161.	0.02 U	0.02 U	-	-	**16.6**	15.9	**0.000104**	**0.0349**	0.0055	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0969**	0.0296
			26-May-09		0.02 U	0.02 U	**0.0045**	0.0038	-	-	-	-	**0.0022**	0.0018	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,560.**	1,320.	**0.0283**	0.02 U	-	-	**32.1**	31.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0178**	0.0133	-	-	-	-	**0.121**	0.0867
			22-Jul-09		0.02 U	0.02 U	**0.0014**	0.0036	-	-	-	-	**0.0024**	0.0023	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**3,050.**	2,020.	**0.182**	0.108	-	-	**54.7**	44.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0166**	0.0138	-	-	-	-	**0.199**	0.13
			27-Aug-09		0.02 U	0.02 U	**0.0044**	0.0028	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**3,620.**	2,370.	**0.081**	0.0913	-	-	**69.5**	49.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0155**	0.01 U	-	-	-	-	**0.121**	0.138
			26-Oct-09		0.02 U	0.02 U	**0.0031**	0.002	-	-	-	-	0.001 U	0.0016	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,300.**	1,830.	**0.0864**	0.0741	-	-	**56.9**	52.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0185**	0.0186	-	-	-	-	**0.146**	0.125
			18-Dec-09		0.02 U	0.02 U	**0.002**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,940.**	1,620.	**0.0572**	0.0487	-	-	**51.**	51.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0249**	0.0191	-	-	-	-	**0.145**	0.126
			24-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**51.3**	1,520.	-	-	-	-	**103.**	49.5	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-32-106	MFA	WS-32-106	23-Feb-09	91 - 101	0.02 U	0.02 U	**0.0026**	0.0026	-	-	-	-	0.001 U	0.001 U	0.0062	0.0056	-	-	0.01 U	0.01 U	**23.3**	17.4	0.02 U	0.02 U	-	-	**4.93**	4.65	0.0001 U	0.0106	0.0087	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			26-Mar-09		0.02 U	0.02 U	**0.009**	0.0018	-	-	-	-	**0.0019**	0.0012	**0.199**	0.0392	-	-	0.01 U	0.01 U	**294.**	804.	**0.0988**	0.02 U	-	-	**4.98**	16.3	0.0001 U	**0.0505**	0.0081	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.508**	0.266
			26-May-09		0.02 U	0.02 U	**0.0018**	0.0013	-	-	-	-	**0.002**	0.0015	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,150.**	1,800.	**0.0435**	0.02 U	-	-	**30.5**	28.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0171**	0.0153	-	-	-	-	**0.21**	0.169
			22-Jul-09		0.02 U	0.02 U	0.001 U	0.002 U	-	-	-	-	**0.0032**	0.0018	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**5,120.**	1,730.	**0.326**	0.0889	-	-	**81.**	40.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0194**	0.0114	-	-	-	-	**0.321**	0.12
			27-Aug-09		0.02 U	0.02 U	0.001 U	0.001	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**4,310.**	2,610.	**0.125**	0.106	-	-	**84.1**	60.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0168**	0.0139	-	-	-	-	**0.18**	0.151
			26-Oct-09		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	**0.0015**	0.0017	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,570.**	1,600.	**0.112**	0.0619	-	-	**71.3**	61.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0199**	0.0179	-	-	-	-	**0.178**	0.111
			18-Dec-09		0.02 U	0.02 U	0.001 U	0.0019	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**3,450.**	1,930.	**0.151**	0.0598	-	-	**84.4**	70.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0316**	0.0235	-	-	-	-	**0.259**	0.146
			24-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**72.5**	1,840.	-	-	-	-	**1,680.**	62.3	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-33-81	MFA	WS-33-81	2-Feb-09	70 - 80	**0.0202**	0.02 U	**0.008**	0.005	-	-	-	-	0.001 U	0.001 U	0.0183	0.005 U	-	-	**0.011**	0.01 U	**69.2**	50.	0.02 U	0.02 U	-	-	**9.**	9.05	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.306**	0.01 U
			26-Mar-09		0.02 U	0.02 U	**0.0044**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.007	0.0069	-	-	0.01 U	0.01 U	**74.3**	63.8	0.02 U	0.02 U	-	-	**9.88**	10.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0227	0.01 U
			22-May-09		0.02 U	0.02 U	**0.0018**	0.0011	-	-	-	-	**0.0016**	0.0013	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**830.**	313.	0.02 U	0.02 U	-	-	**28.**	11.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.0111	-	-	-	-	**0.0735**	0.0379
			21-Jul-09		0.02 U	0.02 U	**0.0016**	0.0013	-	-	-	-	**0.0023**	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,100.**	754.	**0.0471**	0.02 U	-	-	**45.6**	22.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0208**	0.01 U	-	-	-	-	**0.138**	0.0418
			27-Aug-09		0.02 U	0.02 U	**0.0016**	0.0013	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,570.**	1,420.	**0.0823**	0.0403	-	-	**56.8**	36.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0155**	0.01 U	-	-	-	-	**0.122**	0.0808
			23-Oct-09		0.02 U	0.02 U	**0.0012**	0.001 U	-	-	-	-	**0.0012**	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,860.**	1,460.	**0.0562**	0.0215	-	-	**38.2**	34.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0137**	0.0155	-	-	-	-	**0.122**	0.0899
			21-Dec-09		0.02 U	0.02 U	0.001 U	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,610.**	1,550.	**0.0512**	0.0321	-	-	**38.2**	34.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0178**	0.0187	-	-	-	-	**0.116**	0.117
			18-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**1,390.**	1,300.	-	-	-	-	**36.**	33.8	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-33-106	MFA	WS-33-106	30-Jan-09	95 - 105	0.02 U	0.02 U	**0.0041**	0.0049	-	-	-	-	0.001 U	0.001 U	0.01	0.005 U	-	-	0.01 U	0.01 U	**48.7**	39.1	0.02 U	0.02 U	-	-	**5.97**	5.67	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0206	0.01 U
			26-Mar-09		**0.0222**	0.02 U	**0.002**	0.0015	-	-	-	-	0.001 U	0.001 U	0.0248	0.0115	-	-	0.01 U	0.01 U	**120.**	104.	0.02 U	0.02 U	-	-	**6.76**	6.81	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0308	0.0205
			21-May-09		**0.0243**	0.0211	0.001 U	0.0016	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**264.**	170.	0.02 U	0.02 U	-	-	**11.2**	8.85	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0173	0.0111
			21-Jul-09		0.02 U	0.02 U	**0.0016**	0.0024	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**231.**	191.	0.02 U	0.02 U	-	-	**13.5**	7.07	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0164	0.01 U
			27-Aug-09		0.02 U	0.02 U	**0.001**	0.0011	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**569.**	444.	0.02 U	0.02 U	-	-	**26.7**	21.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.023	0.0231
			23-Oct-09		0.02 U	0.02 U	**0.0013**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**492.**	399.	0.02 U	0.02 U	-	-	**22.2**	20.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0289	0.0246
			18-Dec-09		0.02 U	0.02 U	**0.0017**	0.005 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**199.**	161.	0.02 U	0.02 U	-	-	**10.3**	8.41	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0155	0.0102
			24-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**5.04**	106.	-	-	-	-	**1,390.**	5.48	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-34-71	MFA	WS-34-71	13-Feb-09	60 - 70	0.02 U	0.02 U	**0.003**	0.0022	-	-	-	-	0.001 U	0.001 U	0.0065	0.005 U	-	-	0.01 U	0.01 U	**136.**	114.	0.02 U	0.02 U	-	-	**18.5**	17.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0104	0.01 U
			2-Apr-09		**0.0218**	0.02 U	**0.0052**	0.0035	-	-	-	-	0.001 U	0.001 U	0.0074	0.0053	-	-	0.01 U	0.01 U	**90.1**	63.3	0.02 U	0.02 U	-	-	**14.3**	28.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			27-May-09		**0.0223**	0.02 U	**0.0069**	0.0051	-	-	-	-	0.001 U	0.001 U	0.0055	0.008	-	-	0.01 U	0.01 U	**127.**	75.6	0.02 U	0.02 U	-	-	**16.9**	17.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.024	**0.0106**	0.01 U	-	-	-	-	0.01 U	0.01 U
			16-Jul-09		**0.0242**	0.02 U	**0.0066**	0.0031	-	-	-	-	0.001 U	0.001 U	0.0063	0.0061	-	-	0.01 U	0.01 U	**132.**	41.9	0.02 U	0.02 U	-	-	**19.9**	16.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			1-Sep-09		0.02 U	0.02 U	**0.0069**	0.0058	-	-	-	-	0.001 U	0.001 U	0.0086	0.0092	-	-	0.01 U	0.01 U	**198.**	94.9	0.02 U	0.02 U	-	-	**26.8**	24.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0133	0.01 U
			22-Oct-09		0.02 U	0.02 U	**0.0073**	0.004	-	-	-	-	0.001 U	0.001 U	0.0088	0.0096	-	-	0.01 U	0.01 U	**267.**	173.	0.02 U	0.02 U	-	-	**37.**	30.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0157	0.0108
			17-Dec-09		0.02 U	0.02 U	**0.0074**	0.0066	-	-	-	-	0.001 U	0.001 U	0.0126	0.0089	-	-	0.01 U	0.01 U	**280.**	270.	0.02 U	0.02 U	-	-	**45.8**	41.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0171**	0.01 U	-	-	-	-	0.0194	0.0162
			23-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**283.**	227.	-	-	-	-	**42.**	36.9	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-34-106	MFA	WS-34-106	17-Feb-09	95 - 105	0.02 U	0.02 U	**0.004**	0.0032	-	-	-	-	0.001 U	0.001 U	0.0085	0.0066	-	-	0.01 U	0.01 U	**19.**	19.1	0.02 U	0.02 U	-	-	**1.87**	1.92	0.0001 U	**0.0188**	0.0173	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0104	0.01 U
			2-Apr-09		0.02 U	0.02 U	**0.0037**	0.0021	-	-	-	-	0.001 U	0.001 U	0.007	0.0063	-	-	0.01 U	0.01 U	**93.9**	60.1	0.02 U	0.02 U	-	-	**7.49**	5.59	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.0124
			27-May-09		**0.0285**	0.0211	**0.0041**	0.0038	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**210.**	167.	0.02 U	0.02 U	-	-	**13.4**	13.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0124	0.0118
			16-Jul-09		0.02 U	0.02 U	**0.0035**	0.0018	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005	-	-	0.01 U	0.01 U	**165.**	87.2	0.02 U	0.02 U	-	-	**12.6**	11.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			1-Sep-09		0.02 U	0.02 U	**0.0022**	0.0024	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0051	-	-	0.01 U	0.01 U	**162.**	79.5	0.02 U	0.02 U	-	-	**12.7**	12.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Oct-09		0.02 U	0.02 U	**0.0025**	0.0018	-	-	-	-	0.001 U	0.001 U	0.0077	0.0092	-	-	0.01 U	0.01 U	**172.**	108.	0.02 U	0.02 U	-	-	**12.1**	11.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01	0.01 U
			16-Dec-09		0.02 U	0.02 U	**0.0011**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0064	0.005	-	-	0.01 U	0.01 U	**146.**	133.	0.02 U	0.02 U	-	-	**12.**	9.82	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0105**	0.01 U	-	-	-	-	0.01	0.01 U
			23-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**134.**	121.	-	-	-	-	**8.32**	8.37	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-35-76	MFA	WS-35-76	17-Feb-09	65 - 75	0.02 U	0.02 U	**0.003**	0.0033	-	-	-	-	0.001 U	0.001 U	0.0112	0.0095	-	-	0.01 U	0.01 U	**34.**	33.8	0.02 U	0.02 U	-	-	**11.3**	11.	0.0001 U	**0.0346**	0.0345	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			2-Apr-09		**0.0262**	0.0201	**0.0023**	0.0026	-	-	-	-	**0.0014**	0.001 U	0.0087	0.0078	-	-	0.01 U	0.01 U	**165.**	150.	0.02 U	0.02 U	-	-	**15.1**	14.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0213	0.0155
			27-May-09		0.02 U	0.02 U	**0.0014**	0.0019	-	-	-	-	**0.0037**	0.0025	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,780.**	2,570.	**0.102**	0.0524	-	-	**42.3**	49.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0237**	0.016	-	-	-	-	**0.193**	0.147
			22-Jul-09		0.02 U	0.02 U	**0.0012**	0.0022	-	-	-	-	**0.0024**	0.0024	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**3,060.**	2,430.	**0.183**	0.139	-	-	**108.**	56.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0199**	0.0144	-	-	-	-	**0.204**	0.148
			1-Sep-09		0.02 U	0.02 U	**0.0031**	0.0026	-	-	-	-	0.001 U	0.001	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,750.**	2,340.	**0.0667**	0.0876	-	-	**59.4**	63.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0153**	0.0125	-	-	-	-	**0.105**	0.128
			22-Oct-09		0.02 U	0.02 U	**0.0021**	0.002	-	-	-	-	**0.0013**	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,540.**	2,310.	**0.0911**	0.086	-	-	**89.3**	62.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0142**	0.0221	-	-	-	-	**0.225**	0.159
			17-Dec-09		0.02 U	0.02 U	**0.0018**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,380.**	2,290.	**0.0786**	0.0894	-	-	**92.9**	62.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0379**	0.0219	-	-	-	-	**0.177**	0.178
			23-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2,220.**	2,420.	-	-	-	-	**85.6**	87.5	-	-	-	-	-	-	-	-	-	-	-	-	-

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
		EPA 2004 NRWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
		Portland Harbor specific fish consumption rate			0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
		DEQ 2004 AWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
		MCL			0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
		EPA 2004 NRWQC (chronic)			#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
		DEQ 2004 AWQC (chronic)			1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
		Oak Ridge National Laboratory (Tier II SCV) [10]			0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
WS-35-106	MFA	WS-35-106	17-Feb-09	95 - 105	0.02 U	0.02 U	**0.0081**	0.0052	-	-	-	-	0.001 U	0.001 U	0.044	0.0179	-	-	0.01 U	0.01 U	**198.**	164.	0.02 U	0.02 U	-	-	**12.6**	12.7	0.0001 U	**0.0526**	0.0312	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.101**	0.0564
			30-Mar-09		0.02 U	0.02 U	**0.0027**	0.0012	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**566.**	531.	0.02 U	0.02 U	-	-	**22.1**	20.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0521**	0.0337
			27-May-09		0.02 U	0.02 U	**0.0019**	0.0017	-	-	-	-	**0.0014**	0.0012	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**930.**	832.	0.02 U	0.02 U	-	-	**29.3**	30.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.014**	0.01 U	-	-	-	-	**0.0661**	0.0529
			22-Jul-09		0.02 U	0.02 U	**0.0022**	0.001	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**900.**	673.	**0.0346**	0.0243	-	-	**35.2**	29.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0101**	0.01 U	-	-	-	-	**0.0632**	0.0433
			1-Sep-09		0.02 U	0.02 U	**0.002**	0.0017	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,020.**	821.	**0.0241**	0.02 U	-	-	**38.7**	32.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0608**	0.0461
			22-Oct-09		0.02 U	0.02 U	**0.0023**	0.0011	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,020.**	855.	0.02 U	0.02 U	-	-	**40.8**	38.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.0158	-	-	-	-	**0.0755**	0.0558
			17-Dec-09		0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**1,180.**	926.	0.02 U	0.02 U	-	-	**47.8**	38.7	**0.000107**	0.005 U	0.005 U	0.02 U	0.02 U	**0.0208**	0.0131	-	-	-	-	**0.0817**	0.0589
			23-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**684.**	796.	-	-	-	-	**32.3**	32.4	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-36-81	MFA	WS-36-81	2-Feb-09	70 - 80	0.02 U	0.02 U	**0.0061**	0.0048	-	-	-	-	0.001 U	0.001 U	0.0076	0.005 U	-	-	0.01 U	0.01 U	**70.6**	60.2	0.02 U	0.02 U	-	-	**12.6**	12.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0105	0.01 U
			30-Mar-09		0.02 U	0.02 U	**0.0068**	0.0013	-	-	-	-	0.001 U	0.001 U	0.0091	0.0065	-	-	0.01 U	0.01 U	**72.7**	68.	0.02 U	0.02 U	-	-	**13.7**	13.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-May-09		0.02 U	0.02 U	**0.003**	0.0032	-	-	-	-	0.001 U	0.001 U	0.0123	0.0084	-	-	0.01 U	0.01 U	**35.**	31.4	0.02 U	0.02 U	-	-	**14.9**	15.1	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Jul-09		0.02 U	0.02 U	**0.0024**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.0091	0.0081	-	-	0.01 U	0.01 U	**38.5**	27.6	0.02 U	0.02 U	-	-	**19.3**	17.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			1-Sep-09		0.02 U	0.02 U	**0.0023**	0.0034	-	-	-	-	0.001 U	0.001 U	0.0107	0.0073	-	-	0.01 U	0.01 U	**31.6**	29.6	0.02 U	0.02 U	-	-	**14.9**	14.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			22-Oct-09		0.02 U	0.02 U	**0.0033**	0.0022	-	-	-	-	0.001 U	0.001 U	0.0151	0.0137	-	-	0.01 U	0.01 U	**95.7**	50.4	0.02 U	0.02 U	-	-	**15.7**	16.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0164	0.01 U
			17-Dec-09		0.02 U	0.02 U	**0.0032**	0.005 U	-	-	-	-	0.001 U	0.001 U	0.0174	0.0106	-	-	0.01 U	0.01 U	**124.**	85.2	0.02 U	0.02 U	-	-	**22.6**	19.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0133	0.01 U
			23-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**124.**	93.2	-	-	-	-	**20.8**	20.6	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-36-106	MFA	WS-36-106	3-Feb-09	95 - 105	0.02 U	0.02 U	**0.0075**	0.0085	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**33.1**	33.	0.02 U	0.02 U	-	-	**4.56**	4.64	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0125	0.01 U
			30-Mar-09		0.02 U	0.02 U	**0.0075**	0.0074	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**55.4**	58.6	0.02 U	0.02 U	-	-	**6.11**	6.09	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-May-09		0.02 U	0.02 U	**0.0017**	0.0018	-	-	-	-	**0.0013**	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**867.**	760.	0.02 U	0.02 U	-	-	**33.3**	31.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	**0.0528**	0.0546
			21-Jul-09		0.02 U	0.02 U	**0.002**	0.0023	-	-	-	-	**0.0015**	0.0021	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,380.**	1,750.	**0.13**	0.0793	-	-	**72.5**	59.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0159**	0.0172	-	-	-	-	**0.157**	0.116
			1-Sep-09		0.02 U	0.02 U	**0.0017**	0.0025	-	-	-	-	0.001 U	0.0011	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,770.**	2,460.	**0.131**	0.097	-	-	**69.1**	64.3	**0.000125**	0.005 U	0.005 U	0.02 U	0.02 U	**0.0159**	0.0115	-	-	-	-	**0.153**	0.136
			22-Oct-09		0.02 U	0.02 U	**0.0013**	0.0011	-	-	-	-	**0.0016**	0.0019	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**3,320.**	2,950.	**0.134**	0.101	-	-	**73.4**	75.7	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0185**	0.0185	-	-	-	-	**0.191**	0.166
			17-Dec-09		0.02 U	0.02 U	**0.0013**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**2,990.**	2,790.	**0.135**	0.104	-	-	**78.5**	70.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.029**	0.0255	-	-	-	-	**0.212**	0.196
			23-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**2,800.**	2,670.	-	-	-	-	**67.3**	64.9	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-37-51	MFA	WS-37-51	12-Feb-09	40 - 50	0.02 U	0.02 U	**0.0049**	0.0013	-	-	-	-	0.001 U	0.001 U	0.0096	0.0068	-	-	0.01 U	0.01 U	**141.**	13.	0.02 U	0.02 U	-	-	**13.2**	1.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0156	0.01 U
			25-Mar-09		0.02 U	0.02 U	**0.0048**	0.0035	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**218.**	170.	0.02 U	0.02 U	-	-	**15.8**	13.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0141	0.01 U
			27-May-09		**0.0239**	0.02 U	**0.0049**	0.005	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**242.**	127.	0.02 U	0.02 U	-	-	**16.7**	14.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0106**	0.01 U	-	-	-	-	0.0147	0.01 U
			22-Jul-09		0.02 U	0.02 U	**0.0055**	0.0018	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**288.**	125.	0.02 U	0.02 U	-	-	**22.2**	18.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.017	0.01 U
			3-Sep-09		0.02 U	0.02 U	**0.0095**	0.0039	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0075	-	-	0.01 U	0.01 U	**429.**	258.	0.02 U	0.02 U	-	-	**29.5**	27.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0223	0.0128
			19-Oct-09		0.02 U	0.02 U	**0.0097**	0.0034	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0055	-	-	0.01 U	0.01 U	**336.**	241.	0.02 U	0.02 U	-	-	**25.2**	25.6	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.0107	-	-	-	-	0.0196	0.0179
			16-Dec-09		0.02 U	0.02 U	0.01 U	0.0047	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**262.**	200.	0.02 U	0.02 U	-	-	**16.5**	16.	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0162	0.0118
			25-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**166.**	101.	-	-	-	-	**10.1**	9.94	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-38-61	MFA	WS-38-61	28-Jan-09	50 - 60	**0.0206**	0.02 U	**0.0042**	0.0045	-	-	-	-	0.001 U	0.001 U	0.0084	0.005 U	-	-	0.01 U	0.01 U	**87.4**	84.3	0.02 U	0.02 U	-	-	**17.3**	17.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0157	0.01 U
			25-Mar-09		0.02 U	0.02 U	**0.0059**	0.0015	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**236.**	185.	0.02 U	0.02 U	-	-	**27.1**	28.5	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0151	0.01 U
			21-May-09		0.02 U	0.0281	**0.0055**	0.0016	-	-	-	-	**0.0011**	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**284.**	236.	0.02 U	0.02 U	-	-	**24.9**	26.8	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0192	0.01 U
			22-Jul-09		0.02 U	0.02 U	**0.0047**	0.001 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**386.**	273.	0.02 U	0.02 U	-	-	**41.9**	42.2	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0302	0.0177
			28-Aug-09		0.02 U	0.02 U	**0.0054**	0.0038	-	-	-	-	0.001 U	0.001 U	0.0057	0.0097	-	-	0.01 U	0.01 U	**326.**	301.	0.02 U	0.02 U	-	-	**34.**	40.1	**0.000138**	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0207	0.0158
			21-Oct-09		0.02 U	0.02 U	**0.0038**	0.0057	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0092	-	-	0.01 U	0.01 U	**292.**	227.	0.02 U	0.02 U	-	-	**29.1**	32.3	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0127**	0.01 U	-	-	-	-	0.0209	0.0148
			17-Dec-09		0.02 U	0.02 U	**0.0054**	0.005 U	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0056	-	-	0.01 U	0.01 U	**240.**	115.	0.02 U	0.02 U	-	-	**18.**	10.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	**0.0112**	0.01 U	-	-	-	-	0.0171	0.01 U
			24-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**104.**	58.6	-	-	-	-	**4.53**	6.66	-	-	-	-	-	-	-	-	-	-	-	-	-
WS-39-101	MFA	WS-39-101	29-Jan-09	90 - 100	0.02 U	0.02 U	**0.0087**	0.01	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**47.**	44.3	0.02 U	0.02 U	-	-	**4.21**	3.98	**0.000324**	0.009	0.0063	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0181	0.0133
			24-Mar-09		0.02 U	0.02 U	**0.0092**	0.01	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**48.9**	51.4	0.02 U	0.02 U	-	-	**4.08**	3.94	**0.000129**	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-May-09		0.02 U	0.02 U	**0.0092**	0.0099	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**49.1**	49.4	0.02 U	0.02 U	-	-	**4.9**	4.48	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			20-Jul-09		0.02 U	0.02 U	**0.0088**	0.011	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**61.1**	65.8	0.02 U	0.02 U	-	-	**5.27**	4.9	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0143	0.01 U
			4-Sep-09		0.02 U	0.02 U	**0.0095**	0.011	-	-	-	-	0.001 U	0.001 U	0.0056	0.005 U	-	-	0.01 U	0.01 U	**117.**	115.	0.02 U	0.02 U	-	-	**8.76**	8.28	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.01 U	0.01 U
			21-Oct-09		0.02 U	0.02 U	**0.0085**	0.012	-	-	-	-	0.001 U	0.001 U	0.005 U	0.0051	-	-	0.01 U	0.01 U	**140.**	148.	0.02 U	0.02 U	-	-	**10.9**	11.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.011	0.0101
			14-Dec-09		0.02 U	0.0228	**0.0086**	0.012	-	-	-	-	0.001 U	0.001 U	0.005 U	0.005 U	-	-	0.01 U	0.01 U	**199.**	216.	0.02 U	0.02 U	-	-	**13.6**	14.4	0.0001 U	0.005 U	0.005 U	0.02 U	0.02 U	0.01 U	0.01 U	-	-	-	-	0.0145	0.0123
			16-Feb-10		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	**261.**	251.	-	-	-	-	**17.**	15.9	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3-81	HAI	5237-100316-MW-3-81-109	16-Mar-10	76-81	0.001 U	-	**0.00219**	-	0.112 J	-	0.001 U	-	0.001 U	-	0.00276	-	-	-	0.004 U	-	**40.9**	-	0.00164 J	-	23.7	-	**2.37**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.00626	-
RP-03-30R	HAI	5237-100413-RP-03-30R-104	13-Apr-10	23 - 28	0.001 U	-	**0.00737**	-	0.173	-	0.001 U		0.001 U	-	0.002 U	-	-	-	0.004 U	-	**39.6**	-	0.001 U	-	25.1	-	**5.16**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
RP-03-52R	HAI	5237-100413-RP-03-52R-105	13-Apr-10	46 - 51	0.001 U	-	**0.00238**	-	0.0568	-	0.001 U		0.001 U	-	0.00311	-	-	-	0.004 U	-	**0.734**	-	0.001 U	-	38.2	-	0.0422	-	0.00008 U	**0.125**	-	0.00259	-	0.001 U	-	-	-	0.0252	-	0.004 U	-
RP-06-31	HAI	5237-100413-RP-06-31-100	13-Apr-10	24.5 - 29.5	0.001 U	-	**0.00469**	-	0.0235	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**23.2**	-	0.001 U	-	7.87	-	**1.71**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
RP-06-87	URS		14-Apr-00	81 - 86	-	-	**0.0143**	0.0102	-	-			-	0.00024	0.00091	-	-	-	**0.00586**	0.00143	**6.5**	-	-	0.00011	177.	-	**25.9**	-	-	**0.0241**	0.0144	-	-	-	-	-	-	0.0038	0.00306	0.0134	0.00344
		5237-100413-RP-06-87-101	13-Apr-10		0.001 U	-	**0.0138**	-	0.341 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**9.52**	-	0.001 U	-	179.	-	**38.2**	-	0.00008 U	**0.0303** J	-	0.0243	-	0.001 U	-	-	-	0.00332	-	0.004 U	-
RP-06-95	HAI	5237-100413-RP-06-95-103	13-Apr-10	89.5-94.5	0.001 U	-	**0.0135**	-	0.323 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**4.77**	-	0.001 U	-	116.	-	**11.3**	-	0.00008 U	0.0112 J	-	0.0206	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
RP-7-30	HAI	5237-070828-RP-7-30-106	28-Aug-07	25 - 30	0.001 U	-	**0.0108**	-	0.0792	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**53.8**	-	0.00054 U	-	37.3 J	-	**6.28**	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
		5237-100317-RP-7-30-115	17-Mar-10		0.001 U	-	**0.0093**	-	0.0877 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**52.9**	-	0.001 U	-	19.6	-	**2.92**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.00209	-	0.00621	-
RP-7-55	HAI	5237-070827-RP-7-55-104	27-Aug-07	50 - 55	0.001 U	-	**0.00983**	-	0.102	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**6.66**	-	0.00054 U	-	48.4	-	**5.66**	-	0.0002 U	0.00439	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
		5237-100317-RP-7-55-113	17-Mar-10		0.001 U	-	**0.00953**	-	0.101 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**9.14**	-	0.001 U	-	48.4	-	**2.8**	-	0.00008 U	0.00463	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.00921	-
RP-07-84	AMEC		13-Apr-04	79-84	-	-	**0.00483**	0.00408	-	-			-	-	0.00296	-	-	-	**0.00749**	-	**3.73**	-	0.00066	-	127.	-	**0.556**	-	-	**0.0186**	0.0165	-	-	-	-	-	-	0.00854	-	0.0144	0.00803
	HAI	5237-070828-RP-7-84-107	28-Aug-07		0.001 U	-	**0.00175**	-	0.132 J	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**0.779**	-	0.00054 U	-	111.	-	**0.27** J	-	0.0002 U	0.00845	-	0.00625	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
	HAI	5237-070828-RP-7-84-108 (DUP)	28-Aug-07		0.001 U	-	**0.00161**	-	0.136 J	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**0.786**	-	0.00054 U	-	118.	-	**0.269** J	-	0.0002 U	0.00829	-	0.00562	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
		5237-100317-RP-7-84-114	17-Mar-10		0.001 U	-	**0.00379**	-	0.124 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**2.49**	-	0.001 U	-	99.9	-	**0.292**	-	0.00008 U	0.00864	-	0.0151	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
RP-07-119	AMEC		13-Apr-04	114-119	-	-	-	-	-	-			-	-	-	-	-	-	0.00181	-	**0.485**	-	-	-	57.5	-	**0.255**	-	-	0.00781	0.00792	-	-	-	-	-	-	0.00323	0.00277	0.0101	0.00999
		5237-100317-RP-7-119-116	17-Mar-10		0.001 U	-	0.002 U	-	0.0677 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**1.3**	-	0.001 U	-	61.7	-	0.0439	-	0.00008 U	0.00244	-	0.00373	-	0.001 U	-	-	-	0.00641	-	0.004 U	-
RP-11-30	HAI	5237-070827-RP-11-30-101	27-Aug-07	15 - 30	0.001 U	-	**0.00723**	-	0.0596	-	0.001 U		0.00038 U	-	0.00238	-	-	-	0.0027 U	-	**50.1**	-	0.00202	-	26.	-	**3.62**	-	0.0002 U	0.0024	-	0.005 U	-	0.00012 U	-	-	-	0.00575	-	**0.0689**	-
RP-11-160	HAI	5237-070827-RP-11-160-102	27-Aug-07	150 - 160	0.001 U	-	**0.00524**	-	0.0279	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**18.6**	-	0.00054 U	-	40.	-	**3.16**	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	**0.165**	-
		5237-100317-RP-11-160-110	17-Mar-10		0.001 U	-	**0.00616**	-	0.0299 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**19.3**	-	0.001 U	-	22.1	-	**1.7**	-	0.00008 U	0.00256	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	**0.0439**	-
		5237-100317-RP-11-160-111	17-Mar-10		0.001 U	-	**0.00614**	-	0.0299 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**19.**	-	0.001 U	-	22.	-	**1.7**	-	0.00008 U	0.0025	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	**0.0357**	-
RP-11-216	HAI	5237-070827-RP-11-216-103	27-Aug-07	211 - 216	0.001 U	-	0.0002 U*	-	0.0812	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**3.76**	-	0.00054 U	-	53.4	-	**2.75**	-	0.0002 U	0.00321	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
		5237-100317-RP-11-216-112	17-Mar-10		0.001 U	-	0.002 U	-	0.0633 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**5.55**	-	0.001 U	-	50.9	-	**0.522**	-	0.00008 U	0.00249	-	0.00399	-	0.001 U	-	-	-	0.002 U	-	**0.136**	-
RP-20-25	HAI	5237-100315-RP-20-25-102	15-Mar-10	10 - 25	0.001 U	-	**0.0113**	-	0.106	-	0.001 U	-	0.001 U	-	0.00303	-	-	-	0.004 U	-	**83.6**	-	0.001 U	-	26.9	-	**9.79**	-	0.00008 U	0.00231	-	0.002 U	-	0.001 U	-	-	-	0.00769	-	0.004 U	-
RP-20-97	HAI	5237-100315-RP-20-97-103	15-Mar-10	88 - 98	0.001 U	-	**0.018**	-	0.239 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**12.8**	-	0.001 U	-	110.	-	**8.86**	-	0.00008 U	0.00361 J	-	0.00298	-	0.001 U	-	-	-	0.00247	-	0.00412 J	-
RP-21-28	HAI	5237-100315-RP-21-28-101	15-Mar-10	13 - 28	0.001 U	-	**0.00854**	-	0.0146	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**21.1**	-	0.001 U	-	7.37	-	**1.64**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Berylium	Total Cadmium [5]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [5]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [5]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [5]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [5]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [5]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
		EPA 2004 NRWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
		Portland Harbor specific fish consumption rate			0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
		DEQ 2004 AWQC (organism only)			0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
		MCL			0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5 [7]	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
		EPA 2004 NRWQC (chronic)			#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [8]	#	#	#	#	#	#	#	0.036	#
		DEQ 2004 AWQC (chronic)			1.6 [3]	#	#	#	#	#	#		0.00038 [6]	#	#	#	#	#	0.0036 [6]	#	#	#	0.00054 [6]	#	#	#	#	#	0.000012	0.049 [6]	#	0.035	#	0.00012 [6]	#	#	#	#	#	0.033	#
		Oak Ridge National Laboratory (Tier II SCV) [10]			0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	0.00036	#	#	#	#	#	#	#
RP-21-125	HAI	5237-100315-RP-21-125-100	15-Mar-10	120 - 125	0.001 U	-	0.002 U	-	0.179	-	0.001 U	-	0.001 U	-	0.00226	-	-	-	0.004 U	-	**25.3**	-	0.001 U	-	47.9	-	**0.697**	-	0.00008 U	0.00499	-	0.00232	-	0.001 U	-	-	-	0.00416	-	0.00491	-
RP-22-29	HAI	5237-100318-RP-22-29-120	18-Mar-10	14 - 29	0.001 U	-	**0.00903**	-	0.137 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**159.**	-	0.001 U	-	32.4	-	**5.62**	-	0.00008 U	0.00904 J	-	0.002 U	-	0.001 U	-	-	-	0.00236	-	0.00767 J	-
RP-22-75	HAI	5237-100318-RP-22-75-119	18-Mar-10	65 - 75	0.001 U	-	**0.0115**	-	0.0725 J	-	0.001 U	-	**0.00117**	-	0.002 U	-	-	-	0.004 U	-	**176.**	-	0.001 U	-	56.	-	**8.16**	-	0.00008 U	0.002 J	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.00643 J	-
RP-23-30	HAI	5237-100316-RP-23-30-104	16-Mar-10	15-30	0.001 U	-	**0.0155**	-	0.149 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**126.**	-	0.001 UJ	-	51.9	-	**13.5**	-	0.00008 U	0.00563	-	0.002 U	-	0.001 U	-	-	-	0.00337	-	0.00662	-
RP-23-85	HAI	5237-100316-RP-23-85-105	16-Mar-10	80 - 85	0.001 U	-	**0.115**	-	0.159 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**29.8**	-	0.001 UJ	-	45.8	-	**11.3**	-	0.00008 U	0.00238	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.00533	-
RP-23-100	HAI	5237-100316-RP-23-100-106	16-Mar-10	95 - 100	0.001 U	-	**0.00808**	-	0.325 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**18.6**	-	0.001 UJ	-	62.1	-	**5.36**	-	0.00008 U	0.00486	-	0.00547 J	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
RP-24-30	HAI	5237-070829-RP-24-30-109	29-Aug-07	25 - 30	0.001 U	-	**0.00466**	-	0.184	-	0.001 U		0.00038 U	-	0.00129	-	-	-	0.0027 U	-	**78.8**	-	0.00452	-	47.	-	**6.49**	-	0.0002 U	0.002 U	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
		5237-100318-RP-24-30-117	18-Mar-10		0.001 U	-	**0.00728**	-	0.221	-	0.001 U	-	0.001 U	-	0.0137	-	-	-	**0.0116**	-	**78.6**	-	**0.0232**	-	45.7	-	**3.13**	-	0.00008 U	0.0139	-	0.002 U	-	0.001 U	-	-	-	0.0184	-	**0.0638**	-
RP-24-60	HAI	5237-070828-RP-24-60-110	28-Aug-07	55 - 60	0.001 U	-	**0.00822**	-	0.137	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**18.6**	-	0.00054 U	-	32.9	-	**5.82** J	-	0.0002 U	0.00214	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
		5237-100318-RP-24-60-118	18-Mar-10		0.001 U	-	**0.006**	-	0.122	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**16.2**	-	0.001 U	-	41.9	-	**3.17**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
RP-24-73	HAI	5237-070829-RP-24-73-113	29-Aug-07	68 - 73	0.001 U	-	**0.00184**	-	0.0906	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**3.39**	-	0.00054 U	-	32.3	-	**5.41**	-	0.0002 U	0.00798	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
RP-24-85	HAI	5237-070828-RP-24-85-111	28-Aug-07	80 - 85	0.001 U	-	**0.00137**	-	0.229	-	0.001 U		0.00038 U	-	0.001 U	-	-	-	0.0027 U	-	**0.626**	-	0.00054 U	-	128.	-	**1.73**	-	0.0002 U	0.00608	-	0.005 U	-	0.00012 U	-	-	-	0.005 U	-	0.033 U	-
RP-25-30	HAI	5237-100316-RP-25-30-108	16-Mar-10	30-Oct	0.001 U	-	0.002 U	-	0.0376 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**0.463**	-	0.001 UJ	-	11.9	-	**0.222**	-	0.00008 U	0.00732	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.022	-
RP-25-86	HAI	5237-100316-RP-25-86-107	16-Mar-10	81 - 86	0.001 U	-	**0.0204**	-	0.105 J	-	0.001 U	-	0.001 U	-	0.002 U	-	-	-	0.004 U	-	**4.37**	-	0.001 UJ	-	46.5	-	**7.79**	-	0.00008 U	0.002 U	-	0.002 U	-	0.001 U	-	-	-	0.002 U	-	0.004 U	-
NWN-1-20	HAI	5237-080807-NWN-1-20-107	7-Aug-08	10 - 20	0.00156	0.00037	**0.00458**	0.00357	0.261	0.22	0.0002	0.000026	**0.000157**	0.000008 U	0.0124	0.00606	-	-	0.00148	0.00023	**30.8**	30.1	**0.0213**	0.00004	35.3	34.3	**1.22**	1.17	**0.00009** J	**0.0643**	0.00454	0.0005 J	0.0002 J	0.00001 J	0.000009 J	-	-	0.163	0.19	0.0204	0.00057
		5237-081211-NWN-1-20-019	11-Dec-08		0.000582	0.000378	**0.0043**	0.0039	0.245	0.229	0.000126	0.000038	0.00008	0.000006	0.00888	0.00613	-	-	0.00122	0.00031	**26.**	25.	**0.00834**	0.000059	30.5	32.2	**0.607**	0.644	**0.00005**	0.0134	0.00242	0.0006	0.0004 U	0.000013 U*	0.000006 U*	-	-	0.0377	0.0197	0.0145	0.0006
		5237-090407-NWN1-20-105	7-Apr-09		0.00183	0.000005 U	**0.004**	0.0025	0.178	0.153	0.000191	0.000077	0.000053	0.000005 U	0.0115	0.00661	-	-	0.00036 J	0.00027 J	**13.7**	22.1	**0.013**	0.000003 U	14.7	28.7	**0.314**	0.534	**0.00006** J	**0.0337**	0.0044	0.0008 U	0.0004 U	0.00001 U	0.000005 U	-	-	0.043	0.0731	0.0037	0.0017
		5237-090604-NWN-1-20-103	4-Jun-09		0.00219 J	0.000168 J	**0.0038**	0.0024	0.175	0.148	0.00023	0.000075	0.000001 U	0.000005 U	0.0132	0.0069	-	-	0.00046	0.00037	**31.4**	24.4	**0.0153**	0.000017 J	30.1 J	29.8 J	**0.569**	0.528	**0.00006** J	**0.0382**	0.00393	0.0004 U	0.0004 J	0.000036 J	0.000006 J	-	-	0.0251	0.0592	0.0025	0.0002 U
		5237-090818-NWN-1-20-148	18-Aug-09		0.0012	0.001 U	**0.00308**	0.00294	0.196	0.188	0.001 U	0.001 U	0.001 U	0.001 U	0.00892	0.00669	-	-	0.004 U	0.004 U	**21.1**	20.8	0.00351	0.001 U	31.1	31.2	**0.519** J	0.519	0.0001 U	**0.0167**	0.00522	0.001 U	0.00141	0.001 U	0.001 U	-	-	0.138	0.14	0.0102 J	0.004 UJ
		5237-100301-NWN-1-20-101	1-Mar-10		0.0026	-	**0.00419**	0.00249	0.171	-	0.001 U	-	0.001 U	-	0.016	-	-	-	**0.00998**	0.004	**28.**	21.6	**0.00912**	0.001 U	29.5	-	**0.49**	0.412	0.00008 U	**0.0398**	0.00307	0.002 U	-	0.001 U	-	-	-	0.126	-	0.0184	-
NWN-2-20	HAI	5237-080730-NWN2-20-101	30-Jul-08	10 - 20	0.00012	0.00005 J	**0.00162**	0.00055	0.242	0.21	0.000184	0.000023	**0.000365**	0.000008 U	0.0737	0.00185	-	-	**0.00442**	0.00026	**54.1**	46.	**0.0247**	0.000024	44.8	45.1	**6.36**	6.43	0.00005 U	**0.0311**	0.00192	0.0004 J	0.0002 U	0.00001 J	0.000003 U	-	-	0.0305	0.0125	**0.0817**	0.0007
		5237-081211-NWN-2-20-017	11-Dec-08		0.000159	0.000045	**0.0032**	0.0016	0.155	0.131	0.0002	0.000013	**0.000495**	0.000005 U	0.00682	0.00109	-	-	**0.00327**	0.00017	**34.9**	31.	**0.0284**	0.000044	26.	27.3	**3.48**	3.69	0.00005 U	0.015	0.00207	0.0004 U	0.0004 U	0.000016 U*	0.000005 U	-	-	0.0314	0.0122	**0.106**	0.0011
		5237-090407-NWN2-20-107	7-Apr-09		0.00005 U	0.000005 U	**0.0012**	0.0006	0.0609	0.0485	0.000096	0.000016 J	**0.000186**	0.000005 U	0.00311	0.0005	-	-	**0.00329** J	0.00015 J	**18.9**	14.7	**0.0115**	0.000003 U	18.	16.8	**2.12**	1.98	0.00005 U	0.00814	0.00145	0.0004 U	0.0004 J	0.000005 U	0.000005 U	-	-	0.0118	0.00089	**0.0622**	0.0013
		5237-090604-NWN-2-20-101	4-Jun-09		0.000258 J	0.000165 J	**0.0045**	0.0031	0.119	0.0814	0.000261	0.000006 U	**0.000685**	0.000005 U	0.00965	0.0009	-	-	**0.00911**	0.00024	**24.3**	13.7	**0.0416**	0.000013 J	21.3 J	20.9 J	**2.63**	2.57	**0.00002** J	**0.0282**	0.0104	0.0004 J	0.0002 U	0.000035	0.000007 J	-	-	0.0328	0.00432	**0.189**	0.006
		5237-090818-NWN-2-20-142	18-Aug-09		0.001 U	-	**0.00107**	-	0.229	-	0.001 U	-	0.001 U	-	0.0206	-	-	-	0.004 U	-	**55.3**	-	**0.00884**	-	52.5	-	**6.82** J	-	0.0001 U	0.0148	-	0.001 U	-	0.001 U	-	-	-	0.0245	-	0.0252 J	-
		5237-100301-NWN-2-20-103	1-Mar-10		0.001 U	-	0.002 U	-	0.0451	-	0.001 U	-	0.001 U	-	0.0244	-	-	-	0.004 U	-	**13.8**	-	0.00439	-	16.7	-	**2.18**	-	0.00008 U	**0.0178**	-	0.002 U	-	0.001 U	-	-	-	0.00502	-	0.0227	-
NWN-3-17	HAI	5237-080730-NWN3-17-100	30-Jul-08	7 - 17	0.00024	0.00013	**0.0124**	0.0141	0.454	0.108	0.00183	0.000016 J	**0.00557**	0.000045	**0.131**	0.0008	-	-	**0.608**	0.00047	**128.**	50.7	**0.276**	0.000169	63.2	56.8	**9.**	9.	**0.00033**	**0.127**	0.0198	0.0009 J	0.0005 J	**0.000305** J	0.000009 J	-	-	0.113	0.00271	**0.532**	0.0107
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-090407-NWN3-17-101	7-Apr-09		0.000005 U	-	**0.0135**	-	0.0861	-	0.000022	-	0.000014 J	-	0.00159	-	-	-	0.00103 J	-	**41.5**	-	0.000259	-	54.3	-	**13.1**	-	0.00005 U	0.0106	-	0.0005 J	-	0.000005 U	-	-	-	0.00228	-	0.0065	-
		5237-090604-NWN-3-17-102	4-Jun-09		0.000214 J	0.000005 UJ	**0.0123**	0.0128	0.0871	0.0751	0.000063	0.000006 U	**0.000786**	0.000005 U	0.00391	0.00056	-	-	**0.0169**	0.00044	**44.4**	42.5	**0.00603**	0.000043	49.3 J	49.2 J	**12.3**	11.6	0.00002 U	0.0154	0.0106	0.0003 J	0.0002 J	0.000042	0.000008 J	-	-	0.00643	0.00174	0.0222	0.0073
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-100301-NWN-3-17-102	1-Mar-10		0.001 U	-	**0.00898**	0.0091	0.101	-	0.001 U	-	0.001 U	-	0.0157	-	-	-	**0.00543**	0.004 U	**34.3**	32.6	0.00176	0.001 U	64.9	-	**13.7**	13.7	0.00008 U	**0.0185**	0.00943	0.002 U	-	0.001 U	-	-	-	0.00421	-	0.0104	-
NWN-4-15	HAI	NS (Dry)	30-Jul-08	5 - 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-081212-NWN-4-15-021	12-Dec-08		0.000211	-	**0.0093**	-	0.696	-	0.0024	-	**0.00156**	-	0.05	-	-	-	**0.065**	-	**80.8**	-	**0.0525**	-	19.3	-	**2.67**	-	**0.00014**	**0.22**	-	0.0004 U	-	0.000095 J	-	-	-	0.124	-	**0.176**	-
		5237-090407-NWN4-15-103	7-Apr-09		0.00005 U	0.00005 U	**0.0011**	0.0002 J	0.07	0.0396	0.000214	0.000046	**0.000113**	0.000075	0.00453	0.00031	-	-	**0.00427** J	0.00064 J	**4.84**	0.0507	0.00369	0.000003 U	6.32	5.58	**0.45**	0.391	0.00005 U	0.0129	0.0097	0.0004 U	0.0004 U	0.00005 U	0.000005 U	-	-	0.00803	0.00047	0.019	0.0057
		5237-090604-NWN-4-15-100	4-Jun-09		0.000492 J	-	**0.0021**	-	0.138	-	0.000368	-	**0.000502**	-	0.0173	-	-	-	**0.0122**	-	**13.2**	-	**0.00878**	-	8.8 J	-	**1.59**	-	0.00002 U	**0.0594**	-	0.0004 J	-	0.000108	-	-	-	0.0196	-	**0.0438**	-
		5237-090818-NWN-4-25-152*	18-Aug-09		-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-100301-NWN-4-15-100	1-Mar-10		0.001 U	-	**0.00367**	0.002 U	0.106	-	0.001 U	-	0.001 U	-	0.0186	-	-	-	**0.00939**	0.004 U	**13.1**	0.177	**0.00819**	0.001 U	6.81	-	**0.179**	0.051	0.00008 U	**0.0219**	0.00866	0.002 U	-	0.001 U	-	-	-	0.0273	-	**0.0394**	0.004 U
NWN-5-20	HAI	5237-080730-NWN5-20-103	30-Jul-08	10 - 20	0.00009	0.00008	**0.0026**	0.00219	0.16	0.135	0.000107	0.000014 J	0.000026	0.000016 J	**0.169**	0.00083	-	-	**0.00318**	0.00045	**43.7**	38.4	0.00196	0.000037	34.5	33.1	**4.54**	4.34	0.00005 U	**0.0845**	0.00967	0.0005 J	0.0004 J	0.000012 J	0.000003 J	-	-	0.00766	0.0008	0.00922	0.00353
		5237-081211-NWN-5-20-018	11-Dec-08		0.000059	0.000034	**0.0033**	0.0033	0.139	0.12	0.000135	0.000008 U	0.000036	0.000009	0.00547	0.00069	-	-	**0.00341**	0.00033	**51.7**	47.1	0.00248	0.000064	31.8	30.8	**4.45**	4.27	0.00005 U	0.0101	0.00684	0.0007	0.0005	0.000014 U*	0.000005 U	-	-	0.00963	0.00065	0.0093	0.0037
		5237-090408-NWN5-20-111	8-Apr-09		0.000005 U	0.000005 U	**0.0028**	0.0025	0.0902	0.0675	0.000161	0.000008 U	0.000051	0.000016 J	0.00384	0.00031	-	-	**0.00635**	0.00035	**35.4**	28.5	0.0027	0.000003 U	21.	21.2	**2.42**	2.41	0.00005 U	0.00753	0.00486	0.0004 U	0.0004 U	0.000005 U	0.000005 U	-	-	0.0112	0.00049	0.0101	0.0086
		5237-090604-NWN-5-20-104	4-Jun-09		0.000088 J	-	**0.0025**	-	0.0922	-	0.000002 U	-	0.000002 U	-	0.0015	-	-	-	0.0017	-	**39.**	-	0.000334	-	30.8 J	-	**3.64**	-	0.00002 U	0.00639	-	0.0002 U	-	0.000014 J	-	-	-	0.00191	-	0.0053	-
		5237-090818-NWN-5-20-150	18-Aug-09		0.001 U	-	**0.00371**	-	0.0956	-	0.001 U	-	0.001 U	-	0.0211	-	-	-	0.004 U	-	**50.9**	-	0.001 U	-	31.1	-	**3.67** J	-	0.0001 U	0.0146	-	0.001 U	-	0.001 U	-	-	-	0.00299	-	0.00567 J	-
		5237-100302-NWN-5-20-117	2-Mar-10		0.001 U	-	0.002 U	-	0.0471	-	0.001 U	-	0.001 U	-	0.0671	-	-	-	**0.00639**	-	**10.7**	-	0.001 U	-	12.2	-	**0.682**	-	0.00008 U	**0.0394**	-	0.002 U	-	0.001 U	-	-	-	0.00501	-	0.00562	-
NWN-6-31	HAI	5237-080730-NWN6-31-104	30-Jul-08	21 - 31	0.0001	0.00005	**0.0545**	0.063	0.276	0.231	0.000197	0.000016 J	0.000071	0.000008 U	0.00409	0.00126	-	-	**0.0106**	0.00036	**66.**	55.3	0.00492	0.000058	59.8	59.8	**9.**	9.	0.00005 U	**0.0165**	0.00809	0.0007 J	0.0005 J	0.00003 J	0.000004 J	-	-	0.0102	0.00108	0.0141	0.00244
		5237-081211-NWN-6-31-020	11-Dec-08		0.000114	-	**0.0645**	-	0.278	-	0.000222	-	**0.000117**	-	0.00446	-	-	-	**0.0125**	-	**67.4**	-	**0.00608**	-	60.5	-	**15.4**	-	0.00005 U	0.00964	-	0.0008	-	0.000031	-	-	-	0.0136	-	0.014	-
		5237-090408-NWN6-31-109	8-Apr-09		0.000005 U	0.000005 U	**0.0744**	0.0759	0.382	0.215	0.000678	0.000008 U	**0.000178**	0.000005 U	0.0124	0.0007	-	-	**0.029**	0.00033	**92.2**	57.8	0.000003 U	0.000015 J	64.4	60.7	**15.9**	16.1	0.00005 U	**0.0203**	0.00294	0.0004 U	0.0007 J	0.000087	0.000005 U	-	-	0.0437	0.00068	**0.0546**	0.0087
		5237-090604-NWN-6-31-106	4-Jun-09		0.000114 J	0.000005 UJ	**0.0621**	0.0671	0.238	0.201	0.000186	0.000006 U	0.000093	0.000005 U	0.00426	0.00042	-	-	**0.0135**	0.00037	**67.2**	58.1	**0.00623**	0.000009 J	61.9 J	59.3 J	**16.**	16.	0.00002 U	0.00674	0.0026	0.0007 J	0.0005 J	0.000036	0.000005 J	-	-	0.0126	0.00071	0.0151	0.0014
		5327-090819-NWN-6-31-154	19-Aug-09		0.001 U	0.001 U	**0.0715**	0.0713	0.228	0.205	0.001 U	0.001 U	0.001 U	0.001 U	0.0143	0.001	-	-	**0.00628**	0.004 U	**62.1**	57.8	0.00232	0.001 U	59.1	58.4	**15.9**	15.5	0.0001 U	0.00966	0.00244	0.00112	0.00171	0.001 U	0.001 U	-	-	0.00906	0.002 U	0.012	0.004 U
		5237-100303-NWN-6-31-120	3-Mar-10		0.001 U	-	**0.0776**	0.0759	0.209	-	0.001 U	-	0.001 U	-	0.0335	-	-	-	**0.00499**	0.004 U	**60.9**	56.7	0.00153	0.001 U	60.4	-	**16.2**	15.6	0.00008 U	**0.0206**	0.002	0.002 U	-	0.001 U	-	-	-	0.0051	-	0.0058	-
NWN-7-30	HAI	5237-080807-NWN-7-30-106	7-Aug-08	20 - 30	0.00008	0.00008	**0.0108**	0.0107	0.171	0.183	0.000037	0.000084	0.000008 U	0.000016 J	0.00107	0.00276	-	-	0.00015	0.00192	**126.**	121.	0.00001 J	0.00109	44.1	42.	**6.63**	6.27	0.00005 U	0.00528	0.00727	0.0004 J	0.0005 J	0.000006 J	0.000011 J	-	-	0.00338	0.00691	0.00193	0.00675
		5237-081211-NWN-7-30-016	11-Dec-08		0.000083	-	**0.0135**	-	0.16	-	0.000075	-	0.000056	-	0.003	-	-	-	0.00192	-	**115.**	-	0.00123	-	37.6	-	**5.54**	-	0.00005 U	0.00684	-	0.0017	-	0.000017 U*	-	-	-	0.00719	-	0.0033	-
		NT	8-Apr-09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-090604-NWN-7-30-108	4-Jun-09		0.00009 J	0.00001 UJ	**0.0103**	0.0103	0.165	0.166	0.000042	0.000012 U	0.00001 U	0.00001 U	0.0018	0.00102	-	-	0.00043	0.0003	**132.**	132.	0.000188	0.00001 U	46.9 J	48.1 J	**7.57**	7.85	0.00002 U	0.0019	0.00159	0.0004 U	0.0004 U	0.000018 J	0.000008 U	-	-	0.00313	0.00267	0.0015	0.0012
		5237-090818-NWN-7-30-144	18-Aug-09		0.001 U	-	**0.0165**	-	0.158	-	0.001 U	-	0.001 U	-	0.00779	-	-	-	0.004 U	-	**136.**	-	0.001 U	-	47.6	-	**7.66** J	-	0.0001 U	0.00444	-	0.0153	-	0.001 U	-	-	-	0.00409	-	0.00436 J	-
		5237-100301-NWN-7-30-104	1-Mar-10		0.001 U	-	**0.0144**	-	0.156	-	0.001 U	-	0.001 U	-	0.00732	-	-	-	0.004 U	-	**128.**	-	0.001 U	-	48.8	-	**7.38**	-	0.00008 U	0.00523	-	0.0123	-	0.001 U	-	-	-	0.00273	-	0.004 U	-
NWN-8-30	HAI	5237-080730-NWN8-30-105	30-Jul-08	15 - 30	0.00012	0.0001	**0.0205**	0.0198	0.112	0.0592	0.000249	0.000032	0.000091	0.000044	0.0834	0.00224	-	-	**0.00858**	0.00017	**28.3**	17.5	**0.00583**	0.000079	6.09	4.69	**0.959**	0.862	0.00005 U	**0.0335**	0.00694	0.0003 J	0.0003 J	0.000053 J	0.000008 J	-	-	0.0178	0.00365	0.0159	0.00316
		5237-081211-NWN-8-30-022	11-Dec-08		0.000173	0.0001	**0.0279**	0.0274	0.574	0.0417	0.00214	0.000026	**0.000667** J	0.000005 U	0.0301	0.0006	-	-	**0.0618**	0.00011	**80.9**	11.	**0.0555**	0.000149	12.7	2.96	**1.28**	0.525	**0.00018**	**0.0335**	0.00156	0.0007	0.0008	**0.000127** J	0.000005 U	-	-	0.112	0.00411	**0.102**	0.0015
		5237-090408-NWN8-30-113	8-Apr-09		0.000005 U	-	**0.0283**	-	0.119	-	0.000342	-	**0.000118**	-	0.00755	-	-	-	**0.0106**	-	**31.8**	-	**0.00811**	-	6.23	-	**0.966**	-	0.00005 U	0.00859	-	0.0004 U	-	0.000005 U	-	-	-	0.024	-	0.0194	-
		5237-090604-NWN-8-30-105	4-Jun-09		0.000155 J	0.000093 J	**0.0257**	0.0259	0.11	0.0485	0.000288	0.000065	**0.000107**	0.000005 U	0.00698	0.00098	-	-	**0.00952**	0.00002 U	**25.1**	15.6	**0.00799**	0.000011 J	5.49 J	4.24 J	**0.89**	0.805	0.00002 U	0.00728	0.0012	0.0006 J	0.0004 J	0.000035	0.000004 U	-	-	0.0201	0.00355	0.0173	0.0002 U
		5237-090818-NWN-8-30-146	18-Aug-09		0.001 U	0.001 U	**0.0278**	0.0293	0.117	0.0472	0.001 U	0.001 U	0.001 U	0.001 U	0.0325	0.00183	-	-	**0.0131**	0.004 U	**26.1**	13.	0.00528	0.001 U	6.06	3.89	**0.969** J	0.678	0.0001 U	**0.0198**	0.00262	0.00106	0.00221	0.001 U	0.001 U	-	-	0.0218	0.00361	0.0184 J	0.00466 J
		5237-100301-NWN-8-30-105	1-Mar-10		0.001 U	-	**0.0253**	0.0229	0.138	-	0.001 U	-	0.001 U	-	0.0335	-	-	-	**0.00871**	0.004 U	**42.4**	33.9	**0.00723**	0.001 U	9.02	-	**1.52**	1.45	0.00008 U	**0.0209**	0.002 U	0.0022	-	0.001 U	-	-	-	0.0255	-	0.0199	-
NWN-9-31	HAI	5237-080807-NWN-9-31-108	7-Aug-08	16 - 31	0.00005	0.00004 J	**0.0278**	0.0294	0.138	0.109	0.000094	0.000004 J	**0.000113**	0.000008 U	0.00351	0.00047	-	-	**0.0113**	0.00014	**106.**	93.5	0.00504	0.000014 J	21.8	20.	**5.18**	4.84	0.00005 U	0.00726	0.00428	0.0003 J	0.0002 U	0.00002 J	0.000003 U	-	-	0.0117	0.00237	0.0214	0.00398
		5237-081211-NWN-9-31-023	11-Dec-08		0.000053	-	**0.0335**	-	0.177	-	0.000046	-	0.000064	-	0.00205	-	-	-	**0.00525**	-	**123.**	-	0.00251	-	25.2	-	**6.54**	-	0.00005 U	0.00844	-	0.0004 U	-	0.000017 U*	-	-	-	0.00703	-	0.0106	-
		5237-090409-NWN9-31-121	10-Apr-09		0.000005 U	0.000005 U	**0.0337**	0.0342	0.144	0.145	0.000028	0.000014 J	0.000007 J	0.000005 U	0.00085	0.00049	-	-	0.00052	0.00018	**106.**	104.	0.000184	0.000003 U	22.	21.2	**5.83**	5.65	0.00005 U	0.00627	0.00606	0.0004 U	0.0004 J	0.000005 U	0.000005 U	-	-	0.00295	0.00262	0.0036	0.0023
		5237-090604-NWN-9-31-107	4-Jun-09		0.000005 UJ	-	**0.0309**	-	0.142	-	0.000006 U	-	0.000005 U	-	0.00143	-	-	-	0.00177	-	**112.**	-	0.000657	-	24.1	-	**5.67** J	-	0.00002 U	0.00695	-	0.0002 U	-	0.000011 J	-	-	-	0.00355	-	0.0044	-
		5237-090604-NWN-9-31-109	4-Jun-09		0.000005 UJ	-	**0.0307**	-	0.141	-	0.000006 U	-	0.000005 U	-	0.00148	-	-	-	0.0018	-	**109.**	-	0.00066	-	23.9 J	-	**5.59**	-	0.00002 U	0.00698	-	0.0003 J	-	0.000011 J	-	-	-	0.00355	-	0.0045	-
		5327-090819-NWN-9-31-158	19-Aug-09		0.001 U	-	**0.0339**	-	0.173	-	0.001 U	-	0.001 U	-	0.00697	-	-	-	0.004 U	-	**131.**	-	0.001 U	-	27.	-	**6.99**	-	0.0001 U	0.00978	-	0.001 U	-	0.001 U	-	-	-	0.00423	-	0.0162	-
		5237-100302-NWN-9-31-111	2-Mar-10		0.001 U	-	**0.0334**	-	0.151	-	0.001 U	-	0.001 U	-	0.0137	-	-	-	0.004 U	-	**113.**	-	0.0018	-	23.1	-	**5.52**	-	0.00008 U	0.0128	-	0.002 U	-	0.001 U	-	-	-	0.005	-	0.0066	-
		5237-100302-NWN-9-31-112	2-Mar-10		0.001 U	-	**0.0329**	-	0.153	-	0.001 U	-	0.001 U	-	0.0131	-	-	-	0.004 U	-	**111.**	-	0.00237	-	22.6	-	**5.79**	-	0.00008 U	0.0124	-	0.002 U	-	0.001 U	-	-	-	0.00517	-	0.00708	-
NWN-10-26	HAI	5237-080807-NWN-10-26-109	7-Aug-08	11 - 26	0.00007	0.00003 J	**0.00864**	0.00887	0.0936	0.0811	0.000097	0.000013 J	0.00007	0.000008 U	0.0027	0.0006	-	-	**0.00543**	0.00007 J	**52.1**	47.2	0.00492	0.000009 J	18.5	17.8	**2.34**	2.25	0.00005 U	0.00245	0.00076	0.0002 U	0.0002 U	0.000059	0.000003 U	-	-	0.00815	0.00136	0.0192	0.00103
		5237-080807-NWN-10-26-110	7-Aug-08		0.00008	0.00003 J	**0.00901**	0.0089	0.0963	0.081	0.000081	0.000011 J	0.00006	0.000008 U	0.00271	0.0006	-	-	**0.00562**	0.0001 J	**51.2**	48.9	0.00536	0.000016 J	18.3	18.3	**2.28**	2.32	0.00005 U	0.00253	0.00075	0.0003 J	0.0002 U	0.000045	0.000003 U	-	-	0.00815	0.0013	0.0204	0.00253
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-090410-NWN10-26-123	10-Apr-09		0.000285	0.000005 U	**0.02**	0.008	0.668	0.102	0.00264	0.000017 J	**0.00227**	0.000014 J	0.09	0.00086	-	-	**0.172**	0.00084	**174.**	49.5	**0.182**	0.000725	36.9	18.6	**4.27**	2.66	**0.0007**	**0.211**	0.0136	0.0008 U	0.0004 U	**0.00112**	0.000005 U	-	-	0.217	0.00246	**0.652**	0.0034

Table27 - Summary of Historical Analytical Results for Groundwater Samples: Priority Pollutant Metals by EPA Methods 6010, 200.7, and/or 7000 Series
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	Sample Number	Sample Date	Screen Interval (feet bgs)	Total Antimony	Dissolved Antimony	Total Arsenic	Dissolved Arsenic	Total Barium	Dissolved Barium	Total Beryllium	Dissolved Beryllium	Total Cadmium [1]	Dissolved Cadmium	Total Chromium	Dissolved Chromium	Total Cobalt	Dissolved Cobalt	Total Copper [1]	Dissolved Copper	Total Iron	Dissolved Iron	Total lead [1]	Dissolved Lead	Total Magnesium	Dissolved Magnesium	Total Manganese	Dissolved Manganese	Mercury	Total Nickel [1]	Dissolved Nickel	Total Selenium	Dissolved Selenium	Total Silver [1]	Dissolved Silver	Total Titanium	Dissolved Titanium	Total Vanadium	Dissolved Vanadium	Total Zinc [1]	Dissolved Zinc
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]																																									
Fish Consumption																																									
EPA 2004 NRWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.0000146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Portland Harbor specific fish consumption rate					0.064	#	0.000014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.01	#	3.	0.46	#	0.42	#	#	#	#	#	#	#	2.6	#
DEQ 2004 AWQC (organism only)					0.64	#	0.00014	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.1	#	0.00146	4.6	#	4.2	#	#	#	#	#	#	#	26.	#
Drinking Water																																									
MCL					0.006	#	0.01	#	2.	#	0.004		0.005	#	0.1	#	#	#	1.3	#	0.3 [7]	#	0.015	#	#	#	0.05 [7]	#	0.002	#	#	0.05	#	0.1 [7]	#	0.002	#	#	#	5. [7]	#
EPA Region 3,6,9 Tap Water PRGs (12/09 update)					0.015	#	0.000045	#	7.3	#	0.073		0.018	#	#	#	11.	#	1.5	#	#	#	#	#	#	#	0.88	#	0.0057	0.73	#	0.18	#	0.18	#	#	#	0.26	#	11.	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]																																									
EPA 2004 NRWQC (chronic)					#	#	0.15	#	#	#	#		0.000094	#	#	#	#	#	0.0027	#	#	#	0.00054	#	#	#	#	#	0.00077	0.016	#	0.005 [4]	#	#	#	#	#	#	#	0.036	#
DEQ 2004 AWQC (chronic)					1.6	#	#	#	#	#	#		0.00038 [4]	#	#	#	#	#	0.0036 [4]	#	#	#	0.00054 [4]	#	#	#	#	#	0.000012	0.049 [4]	#	0.035	#	0.00012 [4]	#	#	#	#	#	0.033	#
Oak Ridge National Laboratory (Tier II SCV) [10]					0.03	#	0.0031 [4]	#	#	#	#		#	#	#	#	#	#	#	#	#	#	#	#	#	#	0.12	#	0.0013	#	#	#	#	#	#	#	#	#	#	#	#
NWN-10-26	HAI	5237-090604-NWN-10-26-111	4-Jun-09	11 - 26	0.000306 J	-	**0.0066**	-	0.0812	-	0.000006 U	-	0.00006	-	0.00198	-	-	-	0.00147	-	**45.4**	-	0.000615	-	17. J	-	**2.38**	-	0.00002 U	0.00367	-	0.0002 U	-	0.00001 J	-	-	-	0.00179	-	0.0036	-
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-100302-NWN-10-26-115	2-Mar-10		0.001 U	-	**0.0103**	0.00939	0.105	-	0.001 U	-	0.001 U	-	0.0128	-	-	-	**0.00482**	0.004 U	**64.5**	54.	0.00311	0.001 U	20.9	-	**3.12**	2.7	0.00008 U	0.00697	-	0.002 U	-	0.001 U	-	-	-	0.00778	-	0.0131	-
Temporary Well Point Samples (3/2009 Sonic)																																									
SB-21	HAI	5237-090309-100	9-Mar-09	13	-	0.000428	-	0.0012 J	-	0.023	-	0.000008 U	-	0.000035 J	-	0.00028	-	-	-	0.00126 J	-	0.19	-	0.00095	-	2.7	-	0.257	-	-	0.00174	-	0.0004 U	-	0.000007 J	-	-	-	0.00225	-	0.004 J
SB-21		5237-090311-101	11-Mar-09	76-80	-	0.000238 J	-	0.0002 J	-	0.0231 J	-	0.000008 U	-	**0.047** J	-	0.00007 J	-	-	-	0.00095 J	-	1.26 J	-	0.000022 J	-	22.5 J	-	2.96 J	-	-	0.0125 J	-	0.0004 U	-	0.000005 J	-	-	-	0.00002 UJ	-	0.0077 J
SB-21		5237-090311-102	11-Mar-09	97-101	-	0.000324 J	-	0.0044 J	-	0.0843 J	-	0.000008 U	-	0.000022 J	-	0.00007 J	-	-	-	0.0004 J	-	0.534 J	-	0.000046 J	-	25.7 J	-	5.87 J	-	-	0.0041 J	-	0.0004 U	-	0.000023 J	-	-	-	0.00033 J	-	0.0035 J
SB-27	HAI	5237-090319-112	19-Mar-09	22	-	0.00011 J	-	0.0036 J	-	0.0391 J	-	0.00002 UJ	-	0.000012 J	-	0.00063 J	-	-	-	0.00085 J	-	17.9 J	-	0.000028 J	-	2.96 J	-	0.818 J	-	-	0.00601 J	-	0.0006 J	-	0.000055 J	-	-	-	0.00136 J	-	0.0116 J
SB-27		5237-090320-113	20-Mar-09	61-65	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB-27		5237-090320-114	20-Mar-09	76-80	0.00042 J	-	**0.27** J	-	0.937 J	-	0.00308 J	-	**0.00172** J	-	0.0242 J	-	-	-	**0.187** J	-	**174.** J	-	**0.125** J	-	85.9 J	-	**12.9** J	-	**0.00017** J	**0.035** J	-	0.001 J	-	**0.00116** J	-	-	-	0.0758 J	-	**0.147** J	-
SB-27		5237-090320-115	20-Mar-09	76-80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB-27		5237-090323-116	23-Mar-09	96-100	-	0.000104 J	-	0.0004 J	-	0.0523 J	-	0.000008 UJ	-	0.000005 UJ	-	0.00003 UJ	-	-	-	0.00045 J	-	34.8 J	-	0.000013 J	-	63.7 J	-	6.17 J	-	-	0.0166 J	-	0.0004 UJ	-	0.000014 J	-	-	-	0.0001 J	-	0.0016 J
SB-35	HAI	5237-090317-108	17-Mar-09	20.5-24	0.00084 J	0.00007 J	**0.0775**	0.0039	**3.28**	0.139	0.0154 J	0.00002 U	**0.00623**	0.00001	**0.333**	0.00018	-	-	**0.766**	0.0003	**1,140.**	78.2	**0.508** J	0.000006 U	200.	54.9	**27.6**	7.38	**0.00074**	**0.348**	0.00489	0.01 U	0.0011 J	**0.00228**	0.000095	-	-	**1.07**	0.00099	**2.56**	0.0118
SB-35		5237-090318-109	18-Mar-09	62-66	0.00005 J	0.00003 J	**0.0071** J	0.005 J	0.2 J	0.0517 J	0.000759 J	0.00002 UJ	**0.00015** J	0.000017 J	0.0161 J	0.00008 J	-	-	**0.035** J	0.00019 J	**110.** J	64. J	0.00538 J	0.000014 J	36.2 J	28.7 J	**3.57** J	3.01 J	0.00005 UJ	**0.0192** J	0.00554 J	0.0004 UJ	0.0004 UJ	**0.000124** J	0.000033 J	-	-	0.0355 J	0.00041 J	**0.0693** J	0.0212 J
SB-35		5237-090318-110	18-Mar-09	82-86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SB-35		5237-090318-111	18-Mar-09	91-95	0.00012 J	-	**0.0187** J	-	0.406 J	-	0.00039 J	-	**0.000139** J	-	0.0129 J	-	-	-	**0.028** J	-	**94.4** J	-	0.00442 J	-	127. J	-	**13.9** J	-	0.00005 UJ	**0.0267** J	-	0.0006 J	-	**0.000165** J	-	-	-	0.021 J	-	**0.0361** J	-
SB-53	HAI	5237-090312-103	12-Mar-09	22	-	0.000275 J	-	0.001 J	-	0.166 J	-	0.000008 U	-	0.000005 U	-	0.00018 J	-	-	-	0.00031 J	-	13.9 J	-	0.000275 J	-	21.2 J	-	5.64 J	-	-	0.00912 J	-	0.0004 UJ	-	0.000021 J	-	-	-	0.00074 J	-	0.0265 J
SB-53		5237-090312-104	12-Mar-09	61-65	-	0.000069 J	-	0.0017 J	-	0.0663 J	-	0.000008 U	-	0.00001 J	-	0.0001 J	-	-	-	0.00023 J	-	33.8 J	-	0.000003 U	-	27.7 J	-	5.58 J	-	-	0.00471 J	-	0.0006 J	-	0.000039 J	-	-	-	0.00024 J	-	0.0135 J
SB-53		5237-090313-105	13-Mar-09	102-106	-	0.000043 J	-	0.002 J	-	0.0263 J	-	0.000008 UJ	-	0.000007 J	-	0.00004 J	-	-	-	0.00024 J	-	12.2 J	-	0.000014 UJ	-	33.3 J	-	0.756 J	-	-	0.00498 J	-	0.0004 UJ	-	0.000007 J	-	-	-	0.0001 J	-	0.0029 J
SB-53		5237-090313-106	13-Mar-09	132-136	-	0.000117 J	-	0.0004 J	-	0.0187 J	-	0.000008 UJ	-	0.000016 J	-	0.00003 J	-	-	-	0.00048 J	-	10.2 J	-	0.000073 J	-	33.8 J	-	0.777 J	-	-	0.00801 J	-	0.0004 UJ	-	0.000005 UJ	-	-	-	0.00004 J	-	0.0284 J
SB-53		5237-090316-107	16-Mar-09	152-156	0.00017 J	0.0001 J	**0.0006** J	0.0002 J	0.0591 J	0.0422 J	0.000019 J	0.000008 UJ	0.000039 J	0.000005 UJ	0.00588 J	0.00003 UJ	-	-	**0.00635** J	0.00024 J	**58.9** J	37.5 J	0.00067 J	0.000098 J	32.4 J	31.6 J	**2.** J	1.7 J	0.00005 UJ	**0.0203** J	0.0153 J	0.0004 J	0.0005 J	0.00001 J	0.000006 J	-	-	0.00156 J	0.00002 UJ	0.0157 J	0.0013 J
Temporary Well Point Samples (8/2009 Push Probe)																																									
P-45a	HAI	5237-090810-101	10-Aug-09	21 - 25	0.001 U	0.001 U	**0.0289**	0.0282	0.0792	0.0721	0.001 U	0.001 U	0.001 U	0.001 U	0.00217	0.00376	-	-	0.004 U	0.004 U	**50.8**	50.5	0.001 U	0.001 U	33.7	32.4	**3.04**	3.04	0.0001 U	0.00323	0.004 J	0.001 U	0.001 U	0.001 U	0.001 U	-	-	0.00406	0.002 U	**0.043**	0.0239 J
Quality Control Samples (HAI)																																									
Water EB	HAI	011212-102	12-Dec-01		0.003 U	-	0.005 U	-	0.005 U	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.0222	-	0.005 U	-	0.05	-	0.005 U	-	-	0.005 U	-	0.005 U	-	0.005 U	-	0.01 U	-	0.005 U	-	0.01 U	-
		011008-103	8-Oct-01		0.003 U	-	0.005 U	-	0.005 U	-			0.001 U	-	0.005 U	-	0.001 U	-	0.001 U	-	0.0417	-	0.005 U	-	0.0775	-	0.005 U	-	-	0.003 U	-	0.005 U	-	0.0019 U	-	0.001 U	-	0.005 U	-	0.005 U	-
		020402-102	2-Apr-02		0.005 U	-	0.005 U	-	0.005 U	-			0.002 U	-	0.005 U	-	0.005 U	-	**0.0052**	-	0.142	-	0.005 U	-	0.05 U	-	0.0059	-	-	0.005 U	-	0.005 U	-	0.005 U	-	0.01 U	-	0.005 U	-	**0.0359**	-
		020710-102	10-Jul-02		0.005 U	-	0.005 U	-	0.005 U	-			0.002 U	-	0.005 U	-	0.005 U	-	0.005 U	-	0.01 U	-	0.005 U	-	0.05 U	-	0.005 U	-	-	0.005 U	-	0.005 U	-	0.005 U	-	0.01 U	-	0.005 U	-	0.0079	-

AWQC = Ambient Water Quality Criteria
bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EB = equipment blank
EPA = U.S. Environmental Protection Agency
J = Estimated Concentration

MCL = Maximum Contaminant Level
mg/l = milligrams/liter
ND = not detected above detection limit indicated
NS = No Sample
NT = Not Analyzed

NRWQC = National Recommended Water Quality Criteria
ppm = parts per million
PRG = Potential Remediation Goal
SCV = Secondary Chronic Value
U = not detected above method reporting limit indicated
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
ug/l = micrograms per liter

"-" = Measurement not taken, parameter not analyzed, or data unavailable (samper other than HAI)
* = Partial sample obtained, but sample volume completely used during other analysis (i.e 8260B), insufficient volume to analyze for additional determinants.
# = Reference Level not established

1 = Unless otherwise noted Screening Level Values are from *Portland Harbor Joint Source Control Strategy, Final*, December 2005 (7/16/07 revision)
2 = EPA, under CERCLA authority, has identified the Safe Drinking Water Acts MCLs and AWQCs (federal and state once approved) as potential ARARs under CERCLA. The final determination will be made in the EPA Portland Harbor Record of Decision (ROD). Decisions to implement source control, prior to The EPA Portland Harbor ROD, due to an exceedance of an SLV in upland stormwater will be evaluated and prioritized on a case by case basis.
3 = Values were taken from Table 33c (OAR 340-41), which are Water Quality Guidance Values, not criteria, that can be used in application of Oregon's Narrative Toxics Criteria to waters of the state in order to protect aquatic life
4 = Value for Arsenic V.
5 = This is a hardness dependent metal. All values were calculated based on 25 mg/l of CaCO3.
6 = These values were taken from OAR 340-41 Table 20 because they will remain the enforceable values for these particular analytes.
7 = National Secondary Drinking Water Standards.
8 = This metal is listed as the total recoverable metal in the water column.
9 = Cyanide value is based on a free cyanide value per DEQ OAR 340-41 Table 33, and EPA values are based on total Cyanide.
10 = Tier II SCV values were taken from Suter II, G.W. and Tasco, C.L., 1996. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision. ORNL publication ES/ER/TM-96/R2.

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																						
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
	EPA 2004 NRWQC (organism only)				51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
	Portland Harbor specific fish consumption rate				5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
	DEQ 2004 AWQC (organism only)				51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
	MCL				5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic) [6]				#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [2]				130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-1	CH2M HILL		Aug-85	7-22	1,100.	U	410.	-	-	1,200.	-	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WS-2	CH2M HILL		Aug-85	7.5-22	100.	U	U	-	-	32.	-	1,900.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WS-3S	CH2M HILL		Aug-85	12-27	390.	U	U	-	-	U	-	600.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	URS		6-Apr-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Oct-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			25-Jun-01		0.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		16-Apr-02		4.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WS-3I	G&M		Oct-90	55-60	U	U	U	-	-	U	-	770.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	URS		6-Apr-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Oct-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			25-Jun-01		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		16-Apr-02		0.14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Apr-04		U	U	U	-	-	U	3.3	U	-	U	U	-	U	U	0.8	-	0.3	U	-	U	U	U	
W-03-81	URS		6-Apr-00	75-80	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Oct-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			25-Jun-01		0.17	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		16-Apr-02		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Apr-04		U	U	U	-	-	U	-	U	-	U	U	-	U	U	0.09	-	-	U	-	U	U	U	
WS-4	CH2M HILL		Aug-85	6.5-21.5	U	U	U	-	-	15.	-	350.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WS-5	CH2M HILL		Aug-85	5-20	U	U	U	-	-	U	-	58.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WS-6	CH2M HILL		Aug-85	9-24	1,200.	-	350.	-	-	430.	-	2,100.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	URS		6-Apr-00		40.4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Oct-00		614.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WS-7	CH2M HILL		Aug-85	10-25	U	U	U	-	-	U	-	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	URS		Oct-90		U	U	U	-	-	U	-	5.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			6-Apr-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Oct-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
WS-8-33	HAI	5237-011009-107	9-Oct-01	23-33	107.	10. U	27.9	-	-	20. U	-	841.	-	1. U	1. U	-	18.8	1. U	-	-	-	10. U	-	10. U	10. U	12. U	
		5237-011213-105	13-Dec-01		68.	5. U	29.6	-	-	23.2	-	455.	-	1. U	1. U	-	23.1	1. U	-	-	-	5. U	-	5. U	5. U	6. U	
		5237-020403-105	3-Apr-02		89.1	2.07	19.5	-	-	20.48	-	327.	-	2.38	1. U	-	9.56	2.49	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-020403-106	3-Apr-02		87.4	2.14	18.	-	-	18.5	-	216.	-	2.12	1. U	-	7.78	2.16	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-020710-104	10-Jul-02		65.9	1.24	31.6	-	-	53.1	-	135.	-	4.46	1.19	-	31.2	8.28	-	-	-	1. U	-	1. U	1. U	1.2 U	p-IPT=1.33
		5237-020710-105	10-Jul-02		68.1	1.29	30.4	-	-	49.8	-	145.	-	4.26	1.27	-	30.8	8.39	-	-	-	1. U	-	1. U	1. U	1.2 U	p-IPT=1.47
		5237-080521-WS8-33-105	21-May-08		76.	1.4	12.	17.	13.	30.	0.23 J	210.	0.039 U	5.2	1.6 J	-	17.	4.2	0.52	0.041 U	0.23 J	0.07 J	0.077 U	0.14 J	0.52	1.	CE(a) = 0.19 J n-B = 1 J, p-IPT = 0.8 sec-B = 0.44 J, tert-B = 0.08 J
		5237-080929-WS-8-33-145	29-Sep-08		110.	2.2	23.	29.	22.	51.	0.3 J	270.	0.098 U	6.	2.5 J	-	28.	7.1	0.83 J	0.11 U	0.43 J	0.16 U	0.6 J	0.23 J	0.5 J	0.9 J	n-B = 1.4 J sec-B = 0.28 J p-IPT = 1.4 J
		5237-090408-WS8-33-119	8-Apr-09		73.	1.2	11.	17.	15.	32.	0.21 J	220.	0.039 U	4.7	1.8 J	-	22.	5.7	0.58	0.041 U	0.23 J	0.061 U	0.077 U	0.15 J	0.32 J	0.54	CE(a) = 0.15 J p-IPT = 0.96 J, n-B = 0.8 J sec-B = 0.36 J, tert-B =0.07J
		5327-090819-WS-8-33-159	19-Aug-09		58.8	5. U	7.3	10. U	8.5	8.5	5. U	102.	5. U	5. U	5. U	-	10.	10. U	5. U	5. U	5. U	5. U	5. U	5. U	5. U	5. U	
		5237-100301-WS-8-33-107	1-Mar-10		106.	1.5	11.8	25.7	15.7	41.4	0.5 U	115.	0.5 U	5.96	2.27	-	22.4	6.26	0.81	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.52	1.5	p-IPT = 2.62
WS-8-59	HAI	5237-011008-104	8-Oct-01	49-59	14.7	1. U	1. U	-	-	2. U	-	38.9	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	251.	92.4	
		5237-011008-105 (duplicate)	8-Oct-01		21.4	2.02	1. U	-	-	2. U	-	49.9	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	345.	129.	
		5237-011212-103	12-Dec-01		26.8	1.27	1. U	-	-	2.66	-	13.9	-	1. U	1. U	-	1. U	1. U	-	-	-	3.53	-	2.2	409.	332.	
		5237-011212-104 (duplicate)	12-Dec-01		27.	1.32	1. U	-	-	2.57	-	12.4	-	1. U	1. U	-	1. U	1. U	-	-	-	3.39	-	2.15	398.	306.	
		5237-020403-104	3-Apr-02		13.	1. U	1. U	-	-	1.11	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	99.6	136.	
		5237-0207103	10-Jul-02		20.8	1.17	1. U	-	-	2.29	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1.19	-	1. U	117.	160.	
		5237-070716-WS-8-59-108	16-Jul-07		7.08	0.53	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	21.2	15.	
		5237-080521-WS8-56-106	21-May-08		13.	0.8	0.042 U	0.13 J	0.83	0.96	0.045 U	0.1 U	0.039 U	0.86 J	0.037 U	-	0.037 U	0.042 U	0.06 J	0.041 U	0.054 U	0.52	0.077 U	0.08 J	25.	18.	1,1-DCA = 0.08 J CE(a) = 0.39 J sec-B = 0.04 J
		5237-080929-WS-8-56-146	29-Sep-08		2.7	0.57	0.042 U	0.078 U	0.14 J	0.14	0.045 U	0.1 U	0.039 U	0.21 J	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.09 J	0.061 U	0.077 U	0.048 U	0.32 J	3.7	CD = 0.05 n-B = 0.1 J
		5237-090408-WS8-59-115	8-Apr-09		8.3	0.68	0.042 U	0.1 J	0.43 J	0.53 J	0.06 J	0.26 J	0.039 U	0.82 J	0.037 U	-	0.037 U	0.042 U	0.07 J	0.041 U	0.054 U	0.14 J	0.077 U	0.048 U	0.26 J	0.81	sec-B = 0.04 J
		5237-090408-WS8-59-117	8-Apr-09		9.7	0.77	0.042 U	0.12 J	0.51	0.63 J	0.045 U	0.1 J	0.039 U	0.93 J	0.037 U	-	0.037 U	0.042 U	0.08 J	0.041 U	0.054 U	0.15 J	0.077 U	0.048 U	0.29 J	0.87	1,1-DCA = 0.05 J sec-B = 0.05 J
		5327-090819-WS-8-59-157	19-Aug-09		1.67	0.5 U	0.5 U	1. U	0.5 U	1. U	0.5 U	5. U	0.5 U	0.5 U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	6.38	
		5237-100301-WS-8-56-109	1-Mar-10		6.36	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	1.5	
WS-9-34	HAI	5237-011008-102	8-Oct-01	24-34	1. U	1. U	1. U	-	-	2. U	-	5. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-011212-101	12-Dec-01		1. U	1. U	1. U	-	-	2. U	-	2.04	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-020402-101	2-Apr-02		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																						
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-9-34	HAI	5237-020710-101	10-Jul-02	24-34	1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-090410-WS9-34-122	10-Apr-09		0.12 J	0.39 J	0.07 J	0.15 J	0.09 J	0.24 J	0.045 U	2. U	0.039 U	0.031 U	0.037 U	-	0.04 J	0.042 U	0.044 U	0.041 U	0.12 J	0.061 U	0.077 U	0.048 U	0.045 U	0.07 U	A = 14. J
		5327-090819-WS-9-34-156	19-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.5 U	1. U	0.5 U	7.36	0.5 U	0.5 U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100302-WS-9-34-113	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
WS-10-27	MFA	WS-10-27	27-Oct-03	11-26	8,060.	150.	716.	947.	525.	1,472.	<1 U	13,600.	1.46	33.3	11.1	-	136.	47.5	<1 U	<1 U	<1 U	1. U	<1 U	1. U	1. U	1. U	p-IPT= 7.28 n-B=3.42
			29-Jan-04		5,040.	76.3	518.	195.	70.7	265.7	<1 U	8,350.	12.8	1. U	1. U	-	20.7	26.8	<1 U	<1 U	<1 U	1.75	<1 U	1. U	1. U	1. U	p-IPT= 2.84
			29-Apr-04		7,640.	337.	570.	276.	272.	548.	<1 U	7,110.	5.38	15.8	7.74	-	117.	36.	<1 U	<1 U	<1 U	7.15	<1 U	1. U	16.3	1.83	p-IPT = 2.68
			16-Nov-04		7,170.	376.	617.	642.	342.	984.	<0.2 U	8,670.	7.	23.3	7.8	-	101.	42.6	<0.3 U	<0.3 U	<0.3 U	0.2 U	<0.5 U	0.3 U	0.2 U	0.2 U	CD=0.22 p-IPT=4.3 n-B=1.22 tert-B=0.94
			17-Feb-05		5,070.	380.	557.	606.	358.	964.	<0.2 U	-	10.4	16.6	10.6	-	176.	52.4	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	1.42	<0.2 U	A = 11.2 p-IPT = 5.34 n-B = 1.73
			23-May-05		5,090.	222.	288.	189.	146.	335.	<0.2 U	-	3.59	5.85	3.14	-	65.6	18.4	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	1.52	0.76	p-IPT = 1.53 n-B = 0.52
			29-Aug-05		5,240.	228.	230.	253.	136.	389.	<0.2 U	-	2.38	2.42	0.87	-	50.3	12.	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			15-Nov-05		10,600.	428.	468.	350.	328.	678.	<0.3 U	-	11.6	12.2	6.68	-	127.	38.8	<0.3 U	<0.3 U	<0.3 U	19.4	<0.5 U	0.95	27.2	0.84	p-IPT = 4.02 n-B = 0.93 sec-B = 1.76 tert-B = 1.91
			16-Feb-06		572.	22.7	75.1	151.	87.7	238.7	<0.3 U	-	<0.3 U	3.91	2.01	-	57.8	17.8	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	p-IPT = 1.81 n-B = 0.88
			10-May-06		83.5	1.66	23.2	47.1	31.	78.1	<0.3 U	-	<0.3 U	<0.3 U	0.66	-	26.	5.67	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	A = 16.2
			22-Aug-06		7,160.	278.	266.	80.5	168.	248.5	<0.3 U	-	1.89	5.77	1.89	-	81.4	24.1	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	1.4	2.82	
			15-Nov-06		1,510.	79.3	154.	247.	116.	363.	<0.5 U	-	1.92	4.62	<0.5 U	-	83.3	24.	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	0.42	<0.3 U	
			20-Feb-07		326.	5.31	61.6	31.7	49.6	81.3	<0.5 U	-	0.98	2.6	2.	-	38.	11.9	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	2-CT = 1.68 p-IPT = 1.46 n-B = 1.18 sec-B = 0.6
			24-May-07		12.3	<0.5 U	2.9	2.35	1.51	3.86	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.32	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			16-Aug-07		7,820.	442.	296.	369.	162.	531.	<0.5 U	-	0.96	7.33	4.01	-	85.	26.	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	p-IPT = 2.21 n-B = 0.85
			20-Nov-07		6,160.	282.	281.	360.	189.	549.	<0.5 U	-	1.92	8.14	6.46	-	121.	32.1	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	p-IPT = 2.23 n-B = 0.89
			8-Feb-08		244.	5.1	53.1	73.4	51.3	124.7	<0.5 U	-	<0.5 U	2.24	1.72	-	33.1	9.38	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	p-IPT = 0.99
			13-May-08		2,420.	29.1	118.	123.	75.7	198.7	<0.5 U	-	<0.5 U	3.98	2.71	-	50.4	15.1	<1 U	<0.5 U	<1 U	5.5	<1 U	<0.5 U	2.09	<0.3 U	p-IPT = 1.32
			18-Aug-08		7,760.	360.	376.	306.	94.5	400.5	<0.5 U	-	<0.5 U	7.72	4.99	-	93.6	24.6	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	p-IPT = 1.81
WS-11-125	MFA	WS-11-125	28-Oct-03	109-124	252.	56.1	87.6	54.4	38.5	92.9	<1 U	1,660.	<1 U	1. U	1. U	-	12.6	3.67	<1 U	<1 U	<1 U	2,020.	<1 U	17.5	5,340.	961.	1,1-DCE = 14.2
			30-Jan-04		328.	68.5	124.	78.4	46.9	125.3	<0.2 U	2,340.	1.41	4.61	2.17	-	45.2	15.6	<0.2 U	<0.2 U	<0.2 U	1,100.	<0.5 U	35.	3,740.	936.	A = 10.5 CD = 3.04 Chloroform = 4.59 p-IPT = 1.62 1,1-DCA = 0.22 n-B = 0.34 1,1-DCE = 11.3
			29-Apr-04		379.	84.2	155.	90.7	117.	207.7	<1 U	6,520.	<1 U	5.58	2.4	-	78.5	25.	<1 U	<1 U	<1 U	1,120.	<1 U	48.9	7,020.	1,010.	p-IPT=1.82 1,1-DCE = 23.4
			16-Nov-04		536.	120.	182.	144.	112.	256.	<0.2 U	1,770.	1.76	5.06	0.56	-	34.8	9.72	<0.3 U	<0.3 U	<0.3 U	484.	<0.5 U	88.2	10,500.	1,150.	p-IPT=1. 1,1-DCE = 26.8
			16-Feb-05		5,540.	40.8	50.1	19.7	23.8	43.5	<0.2 U	-	<0.2 U	1.66	<0.3 U	-	8.24	3.07	<0.3 U	<0.3 U	<0.3 U	8,640.	<0.5 U	1,050.	21,000.	2,130.	CE(a) = 4.58 1,1-DCE = 50.1
			18-May-05		525.	71.2	94.9	41.7	36.5	78.2	<0.2 U	-	<0.2 U	2.15	2.07	-	17.8	7.1	<0.3 U	<0.3 U	<0.3 U	61.7	<0.5 U	111.	14,200.	2,660.	1,1-DCE = 16.4
			10-Aug-05		136.	13.4	22.4	8.41	9.87	18.28	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	264.	<0.5 U	47.7	7,810.	814.	1,1-DCE = 10.2
			15-Nov-05		447.	57.6	91.2	40.8	42.	82.8	<0.3 U	-	<0.3 U	<0.3 U	0.9	-	11.5	4.54	<0.3 U	<0.3 U	<0.3 U	319.	<0.5 U	93.4	15,200.	2,220.	1,1-DCE = 23.6
			15-Feb-06		554.	55.2	94.4	44.1	47.2	91.3	<0.3 U	-	<0.3 U	2.1	0.96	-	15.3	5.03	<0.3 U	<0.3 U	<0.3 U	848.	<0.5 U	96.4	22,700.	4,850.	1,1-DCE = 26.4
			11-May-06		344.	32.2	47.	25.	22.9	47.9	<0.3 U	-	<0.3 U	<0.3 U	0.47	-	6.85	0.9	<0.3 U	<0.3 U	<0.3 U	158.	<0.5 U	84.4	34,000.	5,170.	CM = 0.42 1,1-DCE = 19.8
			28-Jun-06		1,340.	252.	358.	245.	164.	409.	<1 U	-	<1 U	6.37	2.11	-	54.8	15.6	<1 U	<1 U	<1 U	22.9	<1 U	47.5	10,500.	2,490.	2-B = 113 p-IPT = 1.11 1,1-DCE = 9.81
			27-Jul-06		908.	173.	367.	222.	160.	382.	<1 U	-	<1 U	7.39	2.52	-	71.9	21.2	<1 U	<1 U	<1 U	21.1	<1 U	36.5	9,080.	2,620.	2-B = 25.2 p-IPT = 1.01 1,1-DCE = 15.8
			23-Aug-06		780.	154.	303.	174.	122.	296.	<0.3 U	-	0.64	4.76	<0.3 U	-	60.5	16.8	<0.3 U	<0.3 U	<0.3 U	3.22	<0.5 U	26.5	13,000.	5,480.	2-B = 80.4 A = 26. 1,1-DCE = 11.6
			26-Sep-06		717.	175.	225.	255.	175.	430.	<0.5 U	-	<0.5 U	7.82	2.25	-	68.6	20.4	<1 U	<0.5 U	<1 U	8.05	<1 U	45.8	6,240.	2,740.	1,2,3-Trichloropropane = 0.6 2-B = 159. A = 21.4 p-IPT = 1.14 1,1-DCE = 11.5
			23-Oct-06		673.	135.	253.	204.	138.	342.	<0.5 U	-	1.01	6.83	2.29	-	54.7	17.2	<1 U	<0.5 U	<1 U	5.7	<1 U	11.6	1,380.	1,370.	2-B = 422 A = 67.7 p-IPT = 1.13 1,1-DCE = 2.12
			18-Dec-06		813.	202.	395.	335.	177.	512.	<0.5 U	-	1.54	9.91	0.51	-	94.4	28.	<1 U	<0.5 U	<1 U	5.55	<1 U	4.75	934.	811.	2-B = 2160. A = 528. 1,1-DCE = 1.54
			25-Jan-07		947.	167.	367.	207.	150.	357.	<0.5 U	-	0.91	5.39	0.95	-	57.7	16.2	<1 U	<0.5 U	<1 U	3.24	<1 U	2.6	765.	494.	2-B = 1690. A = 675. p-IPT = 1.21 1,1-DCE = 0.66
			21-Feb-07		918.	250.	478.	252.	166.	418.	<0.5 U	-	1.37	7.25	2.44	-	74.1	21.4	<1 U	<0.5 U	<1 U	27.9	<1 U	4.08	669.	438.	2-B = 1,950. A = 622. p-IPT = 1.26
			21-Mar-07		862.	219.	474.	307.	167.	474.	<0.5 U	-	<0.5 U	9.04	3.19	-	87.	25.8	<1 U	<0.5 U	<1 U	0.81	<1 U	3.02	838.	462.	2-B = 1,920. A = 523. p-IPT = 1.52 1,1-DCE = 0.97
			23-Apr-07		972.	246.	575.	280.	233.	513.	<0.5 U	-	<0.5 U	9.86	<0.5 U	-	104.	28.6	<1 U	<0.5 U	<1 U	1.94	<1 U	3.58	1,060.	565.	2-B = 2,220. A = 1,890. 1,1-DCE = 1.1
			22-May-07		1,680.	365.	696.	530.	370.	900.	<0.5 U	-	<0.5 U	8.56	1.12	-	84.1	24.2	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	2.58	1,640.	422.	2-B = 1,290. A = 2,830. p-IPT = 0.83 1,1-DCE = 0.82
			15-Nov-07		985.	229.	495.	362.	225.	587.	<0.5 U	-	<0.5 U	11.5	4.23	-	135.	34.6	<1 U	<0.5 U	<1 U	1.01	<1 U	0.84	332.	78.5	2-B = 668. A = 254. p-IPT = 2.29

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-11-125	MFA	WS-11-125	14-Feb-08	109-124	**799.**	**135.**	**541.**	**419.**	**254.**	**673.**	<0.5 U	-	<0.5 U	8.89	3.21	-	**103.**	28.3	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	**79.5**	**16.4**	2-B = 307. A = 195. p-IPT = 1.93
			15-May-08		**448.**	**133.**	**392.**	**292.**	**218.**	**510.**	<0.5 U	-	<0.5 U	10.5	3.21	-	**134.**	34.6	<1 U	<0.5 U	<1 U	0.92	<1 U	<0.5 U	13.7	**5.93**	2-B = 12.5 p-IPT = 2.41
			6-Aug-08		**290.**	**133.**	**225.**	**148.**	**109.**	**257.**	<0.5 U	-	<0.5 U	7.47	2.38	-	**99.6**	23.2	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	10.6	**4.54**	p-IPT = 1.58
	HAI	5237-080515-WS11-125-102	15-May-08		**560.**	**190.**	**490.**	**380.**	**240.**	**620.**	0.14 J	**21,000.**	0.039 U	16.	5.5	-	**160.**	46.	0.044 U	0.041 U	0.054 U	0.32 J	0.077 U	0.3 J	20.	**6.7**	A = 25. CD = 0.2 J CE(a) = 0.56 p-IPT = 3.8 sec-B = 0.25 J
		5237-080929-WS-11-125-144	29-Sep-08		**350.**	**120.**	**340.**	**270.**	**170.**	**440.**	2.3 U	**16,000.**	2. U	11. J	3.5 J	-	**98.** J	28. J	2.2 U	2.1 U	2.7 U	3.1 U	3.9 U	2.4 U	14. J	**5.** J	n-B= 3 J p-IPT = 3.
		5237-090407-WS11-125-102	7-Apr-09		**610.**	**150.**	**410.**	**320.**	**200.**	**520.**	4.5 U	**18,000.**	3.9 U	15. J	6. J	-	**120.** J	39. J	4.4 U	4.1 U	5.4 U	6.1 U	7.7 U	4.8 U	31. J	**10.** J	
		5237-090818-WS-11-125-149	18-Aug-09		**480.**	**104.**	**298.**	**230.**	**159.**	**389.**	0.5 U	**10,800.**	0.5 U	14.4	4.17	-	**124.**	34.8	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	21.1	**8.16**	
		5237-100302-WS-11-125-114	2-Mar-10		**686.**	**73.**	**210.**	**180.**	**108.**	**288.**	50. U	**8,790.**	50. U	100. U	50. U	-	100. U	100. U	50. U	50. U	50. U	50. U	50. U	50. U	50. U	50. U	MC = 878
WS-11-161	MFA	WS-11-161	27-Oct-03	145-160	**0.56**	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 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	<0.2 U	1.6 U	<0.5 U	0.2 U	1.	0.2 U	Chloroform = 0.95
			29-Jan-04		0.2 U	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 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	<0.2 U	0.2 U	<0.5 U	0.2 U	0.2 U	0.2 U	
			27-Apr-04		0.2 U	0.2 U	U	<0.4 U	<0.2 U	0.4 U	<0.2 U	**1.24**	<0.2 U	-	U	-	0.2 U	U	<0.2 U	<0.2 U	<0.2 U	0.64	<0.5 U	0.2 U	0.78	0.2 U	
			16-Nov-04		0.2 U	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	<0.2 U	1. U	<0.2 U	0.3 U	0.3 U	-	1. U	0.3 U	<0.3 U	<0.3 U	<0.3 U	0.2 U	<0.5 U	0.3 U	0.2 U	0.2 U	
			16-Feb-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	1.22	<0.2 U	
			18-May-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			10-Aug-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			15-Nov-05		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			14-Feb-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			11-May-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	**6.56**	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			21-Aug-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			13-Nov-06		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.5 U	<0.3 U	
			21-Feb-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			29-May-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	**0.82**	
			15-Aug-07		**3.2**	0.88	0.85	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	2.04	<0.3 U	
			15-Nov-07		**2.83**	1.15	**1.56**	<1 U	0.62	0.62	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	0.58	**0.57**	
			11-Feb-08		**7.59**	2.59	**3.71**	**2.01**	1.21	3.22	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			15-May-08		**23.**	7.74	**11.**	**6.16**	4.24	10.4	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.65	<0.5 U	<1 U	<0.5 U	<1 U	0.81	<1 U	<0.5 U	<0.3 U	<0.3 U	n-B = 1.21
			6-Aug-08		**19.8**	4.7	**8.31**	**3.62**	2.33	5.95	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.87	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
	HAI	5237-070712-WS11-161	12-Jul-07		**8.53**	3.02	**3.91**	**2.67**	1.69	4.36	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	6.18	0.4 U	
		5237-080515-WS11-161-103	15-May-08		**25.**	8.6	**12.**	**8.**	5.7	13.7	0.045 U	**190.**	0.039 U	0.19 J	0.05 J	-	1.4 J	0.44 J	0.07 J	0.041 U	0.06 J	0.11 J	0.077 U	0.048 U	0.42 J	**0.1** J	
		5237-080929-WS-11-161-142	29-Sep-08		**25.**	9.7	**15.**	**9.7**	6.7	16.4	0.045 U	**140.**	0.039 U	0.22 J	0.05 J	-	1.3 J	0.44 J	0.07 J	0.041 U	0.054 U	0.08 J	0.077 U	0.048 U	0.52	**0.23** J	n-B= 0.07 J, p-IPT = 0.06
		5237-080929-WS-11-161-143	29-Sep-08		**23.**	9.7	**16.**	**10.**	7.	17.	0.045 U	**190.**	0.039 U	0.24 J	0.07 J	-	1.5 J	0.52 J	0.07 J	0.041 U	0.054 U	0.08 J	0.077 U	0.048 U	0.49 J	**0.16** J	n-B= 0.15 J, p-IPT = 0.07
		5237-090407-WS11-161-100	7-Apr-09		**18.**	7.7	**13.**	**8.8**	6.	14.8	0.045 U	**170.**	0.039 U	0.22 J	0.05 J	-	1.4 J	0.51 J	0.07 J	0.041 U	0.06 J	0.15 J	0.077 U	0.048 U	0.35 J	**0.16** J	
		5237-090818-WS-11-161-147	18-Aug-09		**11.3**	5.25	**9.69**	**3.94**	2.9	6.84	0.5 U	**131.**	0.5 U	0.5 U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100302-WS-11-161-116	2-Mar-10		**3.7**	2.33	**5.52**	**3.73**	2.35	6.08	0.5 U	**48.8**	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
WS-12-125	MFA	WS-12-125	28-Oct-03	109-124	**8.53**	0.2 U	0.2 U	<0.4 U	1.1	1.1	<0.2 U	11.4 U	<0.2 U	0.52	0.2 U	-	0.2 U	0.2 U	0.26	<0.2 U	<0.2 U	4.89 U	<0.5 U	0.2 U	28.	**63.5**	A = 768.
			30-Jan-04		**2.91**	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	<0.2 U	**5.27**	<0.2 U	0.2 U	0.2 U	-	0.2 U	0.2 U	<0.2 U	<0.2 U	<0.2 U	1.86	<0.5 U	0.2 U	14.7	**39.6**	
			26-Apr-04		**9.56**	0.2 U	0.2 U	<0.4 U	1.35	1.35	<0.2 U	**7.83**	<0.2 U	0.45	0.2 U	-	0.2 U	0.2 U	<0.2 U	<0.2 U	<0.2 U	1.35	<0.5 U	0.2 U	11.5	**12.7**	
			17-Nov-04		**4.01**	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	<0.2 U	1. U	<0.2 U	0.3 U	0.3 U	-	1. U	0.3 U	<0.3 U	<0.3 U	<0.3 U	0.2 U	<0.5 U	0.3 U	0.2 U	**4.58**	
			16-Feb-05		**4.63**	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	0.2	<0.5 U	<0.3 U	1.99	**4.33**	
			18-May-05		**1.46**	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	**2.98**	
			16-Aug-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	**0.74**	
			15-Nov-05		**6.**	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	2.21	**3.96**	
			14-Feb-06		**4.78**	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	**4.16**	
			9-May-06		**5.16**	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	**4.56**	
			21-Aug-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	**0.94**	
			13-Nov-06		**7.9**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	1.53	**4.46**	
			21-Feb-07		**6.29**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	**3.54**	
			29-May-07		**6.25**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**13.3**	<1 U	<0.5 U	0.61	**3.75**	
			15-Aug-07		**6.89**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**6.84**	<1 U	<0.5 U	1.15	**3.59**	
			13-Nov-07		**6.71**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**4.23**	<1 U	<0.5 U	1.14	**4.14**	
			11-Feb-08		**4.88**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**3.05**	<1 U	<0.5 U	1.2	**3.62**	
			21-May-08		**3.28**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**2.4**	<1 U	<0.5 U	0.61	**3.47**	
			6-Aug-08		**4.58**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.58	<1 U	<0.5 U	1.04	**1.91**	
	HAI	5237-070712-WS12-125	12-Jul-07		**6.44**	0.4 U	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	**6.5**	0.4 U	0.4 U	1.82	**3.58**	
		5237-080521-WS12-126-104	21-May-08		**6.6**	0.1 J	0.05 J	0.078 U	0.07 J	0.07	0.045 U	0.14 U*	0.039 U	0.16 J	0.037 U	-	0.037 U	0.042 U	0.1 J	0.041 U	0.054 U	**2.9**	0.077 U	0.048 U	2.4	**5.6**	CM = 0.06 J
		5237-080925-WS12-125-140	25-Sep-08		**6.2**	0.45 J	0.08 J	0.078 U	0.04 J	0.04	0.045 U	**3.1**	0.039 U	0.19 J	0.037 U	-	0.037 U	0.042 U	0.08 J	0.041 U	0.054 U	**3.**	0.077 U	0.048 U	1.5	**3.5**	
		5237-090407-WS12-125-106	7-Apr-09		**5.5**	0.09 J	0.042 U	0.078 U	0.037 U	0.17 U	0.045 U	0.1 U	0.039 U	0.17 J	0.037 U	-	0.037 U	0.042 U	0.09 J	0.041 U	0.054 U	2.	0.077 U	0.048 U	1.7	**4.3**	CE(a) = 0.2 J
		5237-090818-WS-12-125-145	18-Aug-09		**5.66**	0.5 U	0.5 U	1. U	0.5 U	1. U	0.5 U	2. U	0.5 U	0.5 U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	**2.87**	0.5 U	0.5 U	1.73	**3.87**	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-12-125	HAI	5237-100302-WS-12-125-118	2-Mar-10	109-124	4.35	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	1.47	0.5 U	0.5 U	2.04	4.28	
WS-12-161	MFA	WS-12-161	27-Oct-03	145-160	0.55	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	1.52	0.46 U	<0.2 U	0.2 U	0.2 U	-	0.2 U	0.2 U	1.76	<0.2 U	<0.2 U	3.74 U	<0.5 U	0.2 U	0.9	0.3 U	A = 1120. MTBE = 1.45 Chloroform = 0.36
			29-Jan-04		0.2 U	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	<0.2 U	0.2 U	<0.2 U	0.2 U	0.2 U	-	0.2 U	0.2 U	1.44	<0.2 U	<0.2 U	1.54	<0.5 U	0.2 U	0.8	0.33	A = 3570. MTBE = 1.71
			26-Apr-04		0.2 U	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	1.01	0.29	<0.2 U	0.2	0.2 U	-	0.2 U	0.2 U	1.11	<0.2 U	<0.2 U	0.2 U	<0.5 U	0.2 U	1.31	0.2 U	A=2360. MTBE = 1.49
			17-Nov-04		446.	0.2 U	79.7	51.4	35.7	87.1	<0.2 U	202.	<0.2 U	1.28	0.3 U	-	2.03	0.51	<0.3 U	<0.3 U	<0.3 U	0.2 U	<0.5 U	0.3 U	0.2 U	0.2 U	CM = 0.34
			18-Feb-05		5.88	1.36	<0.2 U	1.01	<0.2 U	1.01	2.25	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	2.22	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	1.35	<0.2 U	MTBE = 6.9
			20-May-05		<0.2 U	0.29	<0.2 U	<0.4 U	<0.2 U	<0.4 U	1.	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	0.41	<0.3 U	<0.3 U	1.51	<0.5 U	<0.3 U	<0.2 U	0.65	MTBE = 4.58
			16-Aug-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	MTBE = 4.5
			15-Nov-05		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	2.48	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	1.06	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	MTBE = 5.31
			14-Feb-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	1.78	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	MTBE = 5.84
			9-May-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	2.94	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	1.65	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	MTBE = 3.72
			21-Aug-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	MTBE = 1.66
			13-Nov-06		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	2.98	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.5 U	<0.3 U	MTBE = 7.31
			21-Feb-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	2.39	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	1.6	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	MTBE = 8.29
			29-May-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	2.34	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	0.79	MTBE = 9.81
			15-Aug-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	2.49	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	1.73	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	MTBE = 9.
			13-Nov-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	2.35	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	2.	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	MTBE = 6.51
			11-Feb-08		4.74	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	2.76	<1 U	<0.5 U	1.27	3.48	
			21-May-08		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	2.85	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	2.41	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	MTBE = 8.81
			5-Aug-08		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	2.54	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	2.41	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	MTBE = 10.8
	HAI	5237-070712-WS12-161	12-Jul-07		0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	2.82	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	MTBE = 8.84
		5237-080521-WS12-161-107	21-May-08		0.07 J	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	3.4	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	3.3	0.041 U	0.06 J	0.08 J	0.077 U	0.05 J	0.34 J	0.07 U	1,2-DCA = 0.17 J
		5237-080925-WS-12-161-141	25-Sep-08		0.06 J	0.74	0.042 U	0.078 U	0.037 U	0.078 U	3.	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	2.8	0.041 U	0.054 U	0.07 J	0.077 U	0.048 U	0.31 J	0.07 U	1,2-DCA = 0.16 J A = 6.1 J
		5237-090407-WS12-161-104	7-Apr-09		0.06 J	0.06 J	0.042 U	0.078 U	0.037 U	0.031 U	3.1	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	3.	0.041 U	0.054 U	0.1 J	0.077 U	0.048 U	0.34 J	0.07 U	1,2-DCA = 0.19 J
		5237-090818-WS-12-161-143	18-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.5 U	1. U	3.11	2. U	0.5 U	0.5 U	0.5 U	-	1. U	1. U	2.68	0.5 U	0.5 U	1.67	0.5 U	0.5 U	0.5 U	0.5 U	MTBE = 15.4
		5237-100302-WS-12-161-120	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	3.37	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	2.72	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	MTBE = 15.4
WS-13-69	MFA	WS-13-69	29-Oct-03	52.6-67.6	129.	46.9	60.1	56.	31.3	87.3	<1 U	343.	<1 U	1.31	1. U	-	8.07	2.13	<1 U	<1 U	<1 U	55,200.	1.12	89.8	7,040.	5.28	1,1,2-TCA = 12.2 1,1-DCE = 29 Chloroform = 2.05
			30-Jan-04		680.	58.6	153.	125.	71.7	196.7	<1 U	833.	<1 U	2.73	1. U	-	16.6	3.76	1.53	<1 U	<1 U	116,000.	1.62	109.	17,300.	24.1	1,1,2-TCA = 12.2 Chloroform = 3.84 1,1-DCE = 119.
			28-Apr-04		587.	57.5	123.	62.9	61.5	124.4	<1 U	527.	<1 U	2.98	1. U	-	18.4	4.32	1.19	<0.998 U	<0.998 U	117,000.	3.26	68.4	14,200.	12.4	1,1,2-TCA=13.7 1,1-DCE = 79.1
			18-Nov-04		764.	57.3	732.	103.	56.4	159.4	<0.2 U	648.	1.13	2.3	0.3 U	-	11.6	2.18	<0.3 U	<0.3 U	<0.3 U	198,000.	1.08	89.9	20,900.	20.7	1,1,2-TCA = 13. CM = 0.41 1,1-DCE = 96.6
			17-Feb-05		963.	63.4	198.	141.	70.3	211.3	<0.2 U	-	<0.2 U	3.53	0.69	-	18.2	3.85	<0.3 U	<0.3 U	<0.3 U	246,000.	1.26	166.	32,000.	22.	1,1,2-TCA = 15.6 1,1-DCE = 89.9
			20-May-05		340.	30.7	114.	50.4	28.9	79.3	<0.2 U	-	0.31	0.51	<0.3 U	-	8.96	1.82	<0.3 U	<0.3 U	<0.3 U	131,000.	1.09	104.	12,500.	8.62	1,1,2-TCA = 12. 1,1-DCE = 43.3
			10-Aug-05		271.	13.6	65.4	41.2	21.3	62.5	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	1.76	<0.3 U	<0.3 U	<0.3 U	<0.3 U	90,500.	<0.5 U	106.	9,920.	13.6	1,1,2-TCA = 8.82 1,1-DCE = 56.
			16-Nov-05		988.	57.9	312.	153.	68.6	221.6	<0.3 U	-	2.22	2.77	1.01	-	21.9	5.97	0.33	<0.3 U	<0.3 U	204,000.	1.57	312.	23,100.	24.3	1,1,2-TCA = 14 CM = 0.6 1,1-DCE = 138.
			16-Feb-06		1,160.	51.4	388.	119.	60.9	179.9	<0.3 U	-	<0.3 U	3.44	0.67	-	18.	4.11	0.3	<0.3 U	<0.3 U	131,000.	1.34	130.	16,300.	16.7	1,1,2-TCA = 17.3 Dichlorodifluoromethane = 98.6 1,1-DCE = 106.
			10-May-06		1,510.	80.7	380.	194.	85.7	279.7	0.34	-	0.79	4.39	1.32	-	32.	5.93	0.57	0.31	0.47	259,000.	2.32	84.5	24,100.	34.9	1,1,2-TCA = 24.4 A = 16.6 1,2,4-Trichlorobenzene = 0.65 1,2-DCA = 0.6 1,1-DCE = 202.
			19-Jul-06		1,140.	53.	243.	131.	52.2	183.2	<1 U	-	<1 U	4.95	1.11	-	29.	3.18	<1 U	<1 U	<1 U	178,000.	1.54	148.	36,000.	28.4	1,1,2-TCA = 13.5 1,1-DCE = 133.
			24-Aug-06		1,120.	31.2	115.	85.2	38.8	124.	<0.5 U	-	0.63	3.05	0.7	-	17.6	4.13	<1 U	<0.5 U	<1 U	118,000.	<1 U	134.	13,500.	11.4	1,1,2-TCA = 13.5 1,1-DCE = 65.
			27-Sep-06		937.	39.6	194.	107.	24.	131.	<5 U	-	<5 U	<3 U	<5 U	-	9.7	<5 U	<10 U	<5 U	<10 U	142,000.	<10 U	137.	16,100.	<3 U	1,1,2-TCA = 10.6 1,1-DCE = 62.9
			25-Oct-06		1,020.	40.3	189.	97.2	18.4	115.6	<5 U	-	<5 U	<3 U	<5 U	-	6.8	<5 U	<10 U	<5 U	<10 U	220,000.	<10 U	111.	29,000.	25.5	n-B = 8.2 1,1-DCE = 91.2
			15-Nov-06		2,150.	172.	720.	569.	205.	774.	<10 U	-	<10 U	<6 U	<10 U	-	177.	<10 U	<20 U	<10 U	<20 U	172,000.	<20 U	162.	44,200.	28.	1,1-DCE = 159.
			25-Jan-07		1,120.	45.8	274.	134.	49.1	183.1	<0.5 U	-	0.79	5.25	2.12	-	33.7	8.79	<1 U	<0.5 U	<1 U	150,000.	1.43	179.	52,800.	46.4	1,1,2-TCA = 11.9 1,1-DCA = 0.31 1,1-DCE = 160.

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-13-69	MFA	WS-13-69	21-Feb-07	52.6-67.6	**1,360.**	**63.2**	**327.**	**158.**	**40.6**	198.6	<10 U	-	<10 U	<6 U	<10 U	-	**31.6**	12.	<20 U	<10 U	<20 U	**135,000.**	<20 U	**216.**	**45,400.**	**3,840.**	1,1-DCE = 181.
			22-Mar-07		**1,170.**	**44.8**	**276.**	**107.**	**28.4**	135.4	<10 U	-	<10 U	<6 U	<10 U	-	**19.2**	<10 U	<20 U	<10 U	<20 U	**141,000.**	<20 U	**147.**	**38,500.**	**349.**	1,1-DCE = 176.
			24-Apr-07		**1,140.**	**46.8**	**310.**	<20 U	**37.**	37.	<10 U	-	<10 U	<6 U	<10 U	-	<10 U	<10 U	<20 U	<10 U	<20 U	**253,000.**	<20 U	**161.**	**67,800.**	**30.2**	1,1-DCE = 175.
			23-May-07		**1,160.**	**34.4**	**206.**	**85.7**	**32.6**	118.3	<2.5 U	-	<2.5 U	3.85	<2.5 U	-	**27.**	6.5	<5 U	<2.5 U	<5 U	**191,000.**	<5 U	**122.**	**51,400.**	**378.**	1,1,2-TCA = 9.45 2-B = 144. 1,1-DCE - 150.
			17-Aug-07		**1,480.**	**47.4**	**309.**	**99.2**	**31.4**	130.6	<10 U	-	<10 U	<6 U	<10 U	-	**31.**	<10 U	<20 U	<10 U	<20 U	**64,900.**	<20 U	**130.**	**21,200.**	**39.8**	Dichlorodifluoromethane = 216. 1,1-DCE = 156.
			15-Nov-07		**1,620.**	**50.4**	**352.**	**129.**	**43.2**	172.2	<10 U	-	<10 U	<6 U	<10 U	-	**53.4**	12.2	<20 U	<10 U	<20 U	**128,000.**	<20 U	**161.**	**37,200.**	**56.6**	1,1-DCE = 190.
			12-Feb-08		**1,610.**	**44.6**	**338.**	**121.**	**40.4**	161.4	<0.5 U	-	0.53	7.14	1.8	-	**56.9**	13.	<1 U	<0.5 U	<1 U	**129,000.**	**1.68**	**149.**	**33,600.**	**35.2**	1,1,2-TCA = 9.18 2-B = 32.5 1,1-DCE = 184.
			14-May-08		**1,000.**	**28.9**	**291.**	**74.2**	**29.7**	103.9	<0.5 U	-	<0.5 U	4.48	1.03	-	**37.9**	8.55	<1 U	<0.5 U	<1 U	**160,000.**	<1 U	**164.**	**40,400.**	**26.1**	1,1,2-TCA = 6.65 1,1-DCE = 122.
			8-Aug-08		**1,600.**	**47.9**	**299.**	**125.**	**43.**	168.	<0.5 U	-	0.61	6.45	1.2	-	**52.7**	10.5	<1 U	<0.5 U	<1 U	**208,000.**	**1.11**	**151.**	**56,500.**	**28.8**	1,1,2-TCA = 11.1 1,1-DCE = 162.
			13-Nov-08		**1,830.**	**47.4**	**460.**	**134.**	**43.8**	177.8	0.5 U	0.5 U	0.73	7.75	3,750.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**174,000.**	**1.98**	**175.**	**39,200.**	**31.3**	1,1,2-TCA = 11.3.
			13-Apr-09		**2,080.**	**45.8**	**420.**	**133.**	**45.1**	178.1	0.5 U	0.5 U	2.02	6.21	4,820.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**84,900.**	**1.51**	**458.**	**49,900.**	**36.9**	1,1,2-TCA = 9.97
			22-May-09		**1,620.**	**42.7**	**282.**	**106.**	**42.8**	148.8	0.5 U	0.5 U	2.09	6.47	2,850.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**99,600.**	1. U	**249.**	**46,200.**	**54.9**	A = 10.3. 1,1-DCA = 0.39 1,1,2-TCA = 9.9
			16-Jul-09		**1,840.**	**45.8**	**441.**	**152.**	**55.6**	**207.6**	0.5 U	0.5 U	0.51	7.38	5,260.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**110,000.**	**1.72**	**459.**	**68,800.**	**38.7**	1,1-DCA = 0.33 1,1,2-TCA = 8.85
			3-Sep-09		**1,770.**	**54.2**	**370.**	**155.**	**55.6**	**210.6**	0.5 U	0.5 U	0.91	7.55	5,400.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**122,000.**	**1.54**	**359.**	**75,400.**	**64.9**	1,1,2-TCA = 9.37, 2-B = 26.6, 4-IPT = 0.89, A = 143.
			19-Oct-09		**1,390.**	**38.8**	**304.**	**113.**	**47.2**	160.2	0.5 U	0.5 U	0.5 U	5.57	3,230.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**107,000.**	**1.2**	**393.**	**62,800.**	**67.3**	1,1,2-TCA = 7.83
			16-Dec-09		**1,130.**	**53.6**	**246.**	**143.**	**54.7**	197.7	0.5 U	0.5 U	0.5 U	6.65	3,970.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**6,050.**	1. U	**1,170.**	**161,000.**	**220.**	1,1,2-TCA = 4.97, 2-B = 64.2, A = 110.
			22-Feb-10		**1,680.**	**49.7**	**358.**	**139.**	**59.1**	198.1	0.5 U	0.5 U	0.92	6.98	3,230.	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	**4,400.**	1. U	**3,220.**	**179,000.**	**504.**	1,1,2-TCA = 6.84, 2-B = 117, A = 178, CM = 1.36
WS-13-105	MFA	WS-13-105	29-Oct-03	89-104	**2.14**	1.34	6.14 U	<5.09 U	<2.78 U	5.09 U	<0.2 U	**226.**	<0.2 U	0.46	0.2 U	-	2.78	0.5	<0.2 U	<0.2 U	<0.2 U	**10,600.**	<0.5 U	3.67	**360.**	0.52 U	Chloroform = 0.61 p-IPT = 0.22 1,1-DCE = 1.61
		Duplicate	29-Oct-03		**1.09**	0.2 U	1.29	-	-	2.2	-	**25.8**	-	0.2	2. U	-	2. U	2. U	-	-	-	**1,390.**	-	1.51	61.9	0.2 U	
			30-Jan-04		**11.7**	1.18	**3.32**	**2.09**	<1 U	2.09	<1 U	**78.7**	<1 U	1. U	1. U	-	1. U	1. U	<1 U	<1 U	<1 U	**949.**	<1 U	43.6	**1,360.**	**1.62**	1,1-DCE = 4.18
		Duplicate	30-Jan-04		**3.23**	1.79	**4.14**	-	-	3.6	-	**114.**	-	1. U	1. U	-	1. U	1. U	-	-	-	**641.**	-	88.	**1,520.**	**2.**	
			28-Apr-04		0.3 U	0.2 U	0.2 U	<2 U	<1 U	2. U	<1 U	**48.8**	<1 U	0.3 U	0.3 U	-	1. U	0.3 U	<1 U	<1 U	<1 U	**340.**	<1 U	7.86	**868.**	**44.5**	
		Duplicate	28-Apr-04		0.3 U	0.2 U	0.2 U	-	-	2. U	-	**41.**	-	-	0.3 U	-	1. U	0.3 U	-	-	-	**260.**	-	5.45	**1,150.**	**36.9**	
			18-Nov-04		0.2 U	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	<0.2 U	1. U	<0.2 U	0.3 U	0.3 U	-	1. U	0.3 U	<0.3 U	<0.3 U	<0.3 U	**7.72**	<0.5 U	0.3 U	12.4	**5.79**	CM = 0.4
		Duplicate	18-Nov-04		0.2 U	0.2 U	0.2 U	-	-	0.4 U	-	1. U	-	0.3 U	0.3 U	-	1. U	0.3 U	-	-	-	**25.9**	-	0.3 U	14.3	**5.58**	CM = 0.45
			17-Feb-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	**10.7**	<0.5 U	0.32	10.8	**1.9**	
			20-May-05		0.29	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	**6.66**	<0.5 U	<0.3 U	4.36	**0.93**	
			9-Aug-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	0.65	<0.2 U	
			16-Nov-05		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	1.39	<0.5 U	<0.3 U	5.24	**1.15**	
			16-Feb-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	1.73	<0.5 U	<0.3 U	5.72	**1.83**	
			10-May-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	3.05	**1.37**	
			19-Jul-06		<0.3 U	<1 U	<1 U	<2 U	<1 U	<2 U	<1 U	-	<1 U	<1 U	<1 U	-	<1 U	<1 U	<1 U	<1 U	<1 U	**3.49**	<1 U	<1 U	8.52	<1 U	
			24-Aug-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	1.74	<0.5 U	<0.3 U	17.4	**1.36**	
			27-Sep-06		**0.47**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**56.3**	<1 U	<0.5 U	19.4	**1.54**	
			25-Oct-06		0.3	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**3.13**	<1 U	<0.5 U	11.7	**1.66**	
			15-Nov-06		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**2.81**	<1 U	<0.5 U	19.1	**2.27**	
			25-Jan-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<1 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**3.28**	<1 U	<0.5 U	12.1	**1.78**	
			21-Feb-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	0.69	-	0.52	0.51	<1 U	<0.5 U	<1 U	**2.23**	<1 U	<0.5 U	8.65	**2.02**	p-IPT = 0.62 sec-B = 0.54
			21-Mar-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	0.84	<1 U	<0.5 U	5.42	<0.3 U	
			24-Apr-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**3.51**	<1 U	<0.5 U	10.4	**2.88**	
			23-May-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.93	<1 U	<0.5 U	7.15	**1.27**	
			16-Aug-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.61	<1 U	<0.5 U	5.81	**0.93**	
			19-Nov-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.04	<1 U	<0.5 U	4.63	**0.94**	
			12-Feb-08		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.39	<1 U	<0.5 U	6.33	**1.19**	
			13-May-08		**0.78**	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	**2.7**	<1 U	<0.5 U	7.03	**0.93**	
			8-Aug-08		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	5.87	**1.44**	
			13-Nov-08		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.5 U	0.5 U	0.3 U	1. U	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.55	**1.02**	
			22-May-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.5 U	0.5 U	0.3 U	1. U	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	2.49	**1.52**	2-B = 30.5 A = 86.5
			16-Jul-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.5 U	0.5 U	0.3 U	1. U	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	2.62	**1.42**	2-B = 65.3 A = 122.
			3-Sep-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.5 U	0.5 U	0.3 U	3.57	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	0.48	1. U	0.5 U	1.26	**1.26**	2-B = 49.9 A = 72.3
			19-Oct-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.5 U	0.5 U	0.3 U	1. U	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	0.65	1. U	0.5 U	0.83	**0.89**	2-B = 17.1 A = 31.6

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-13-105	MFA	WS-13-105	16-Dec-09	89-104	0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.5 U	0.5 U	0.3 U	1. U	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	1.46	1. U	0.5 U	0.86	0.46	2-B = 11.5 A = 22.8
			19-Feb-10		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.5 U	0.5 U	0.3 U	1. U	-	0.5 U	0.5 U	0.5 U	0.5 U	1. U	0.98	1. U	0.5 U	2.06	0.65	
WS-14-125	MFA	WS-14-125	16-Nov-05	109-124	3,630.	410.	514.	443.	232.	675.	<0.2 U	9,170.	<0.2 U	19.6	2.43	-	86.2	25.1	<0.3 U	<0.3 U	<0.3 U	0.2 U	0.5 U	0.3 U	8.54	4.09	p-IPT=2.18 n-B=0.97 Chloroform=0.97
			21-Feb-05		4,060.	287.	498.	375.	219.	594.	<0.2 U	-	<0.2 U	17.4	3.77	-	90.1	27.8	<0.3 U	<0.3 U	<0.3 U	0.25	<0.5 U	<0.3 U	9.52	5.2	p-IPT = 2.9
			23-May-05		3,740.	165.	269.	173.	103.	276.	<0.2 U	-	<0.2 U	6.89	1.61	-	45.7	12.6	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	11.4	2.77	p-IPT = 0.99
			9-Aug-05		2,610.	101.	154.	181.	103.	284.	<0.2 U	-	<0.2 U	4.16	<0.3 U	-	29.7	6.47	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	4.21	<0.2 U	
			16-Nov-05		5,240.	306.	539.	498.	247.	745.	<0.3 U	-	<0.3 U	19.6	3.65	-	97.3	29.7	<0.3 U	<0.3 U	<0.3 U	3.14	<0.5 U	<0.3 U	52.4	9.9	p-IPT = 3.51
			15-Feb-06		5,140.	217.	421.	346.	201.	547.	<0.3 U	-	<0.3 U	14.4	2.72	-	74.1	21.5	<0.3 U	<0.3 U	<0.3 U	2.7	<0.5 U	<0.3 U	33.8	5.38	p-IPT = 3.44
			9-May-06		7,300.	284.	456.	392.	181.	573.	<0.3 U	-	<0.3 U	10.9	2.73	-	82.9	22.6	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	26.7	5.26	1,2,3-Trichloropropane = 0.46 tert-B = 1.5 p-IPT = 0.64
			22-Aug-06		4,370.	217.	412.	256.	148.	404.	<0.3 U	-	<0.3 U	9.61	<0.3 U	-	65.4	18.	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	20.4	4.01	
			14-Nov-06		10,300.	239.	368.	279.	169.	448.	<0.5 U	-	<0.5 U	26.6	2.15	-	164.	50.2	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	61.2	11.2	
			21-Feb-07		9,820.	288.	608.	462.	238.	700.	<0.5 U	-	<0.5 U	15.7	3.46	-	90.3	25.9	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	42.3	11.3	p-IPT = 1.73
			24-May-07		5,000.	160.	369.	306.	176.	482.	<0.5 U	-	<0.5 U	16.5	2.67	-	92.8	28.8	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	28.3	7.47	p-IPT = 2.2
			18-Jul-07		7,440.	350.	525.	456.	262.	718.	<0.5 U	-	<0.5 U	17.4	3.33	-	80.7	26.1	<1 U	<0.5 U	<1 U	0.63	<1 U	<0.5 U	52.1	11.4	n-B = 0.57 p-IPT = 2.57
			19-Jul-07		9,070.	366.	556.	488.	276.	764.	<0.5 U	-	<0.5 U	18.7	3.73	-	88.8	29.1	<1 U	<0.5 U	<1 U	0.63	<1 U	<0.5 U	59.	12.5	n-B = 0.56 p-IPT = 2.8
			16-Aug-07		7,450.	294.	532.	473.	258.	731.	<0.5 U	-	<0.5 U	17.5	3.65	-	90.6	26.8	<1 U	<0.5 U	<1 U	0.45	<1 U	<0.5 U	45.7	11.2	n-B = 0.8 p-IPT = 2.56
			14-Nov-07		5,780.	292.	636.	533.	276.	809.	<0.5 U	-	<0.5 U	16.4	4.56	-	113.	31.	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	53.3	13.	n-B = 0.65 p-IPT = 2.4
			11-Feb-08		5,650.	228.	525.	386.	186.	572.	<0.5 U	-	<0.5 U	13.9	3.05	-	102.	27.5	<1 U	<0.5 U	<1 U	0.41	<1 U	<0.5 U	34.1	6.49	n-B = 0.51 p-IPT = 2.17
			15-May-08		4,700.	178.	447.	189.	133.	322.	<0.5 U	-	<0.5 U	19.4	4.49	-	127.	36.1	<1 U	<0.5 U	<1 U	1.62	<1 U	0.6	66.9	15.4	p-IPT = 3.13
			4-Aug-08		4,000.	205.	395.	279.	165.	444.	<0.5 U	-	<0.5 U	12.8	3.32	-	97.	25.	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	40.8	9.75	p-IPT = 2.15 sec-B = 0.55
	HAI	5237-070712-WS14-125	12-Jul-07		5,430.	202.	505.	419.	212.	631.	40. U	-	40. U	100. U	-	-	-	-	-	-	-	40. U	40. U	40. U	48.	40. U	
		5237-080515-WS14-125-100	15-May-08		6,400.	160.	640.	540.	280.	820.	0.18 J	11,000.	0.039 U	21.	5.	-	120.	37.	0.044 U	0.041 U	0.054 U	0.83	0.077 U	1.1	76.	12.	1,1-DCE = 0.12 J MC = 0.3 J p-IPT = 3.2, sec-B = 0.25 J
		5237-080925-WS-14-125-138	25-Sep-08		4,500.	190.	480.	390.	200.	590.	2.3 U	6,800.	2. U	15. J	3.5 J	-	73. J	22. J	2.2 U	2.1 U	2.7 U	3.1 U	3.9 U	2.4 U	50.	11. J	p-IPT = 3 J
		5237-090408-WS14-125-110	8-Apr-09		5,900.	170.	530.	440.	240.	680.	2.3 U	11,000.	2. U	18. J	4.5 J	-	97. J	29. J	2.2 U	2.1 U	2.7 U	3.1 U	3.9 U	2.4 U	83.	18. J	n-B = 3.5 J p-IPT = 3. J
		5327-090819-WS-14-125-155	19-Aug-09		5,670.	158.	558.	458.	208.	666.	100. U	20,200.	100. U	100. U	100. U	-	200. U	200. U	100. U	100. U	100. U	100. U	100. U	100. U	110.	100. U	
		5237-100302-WS-14-125-110	2-Mar-10		7,070.	136.	756.	642.	298.	940.	100. U	8,140.	100. U	200. U	100. U	-	200. U	200. U	100. U	100. U	100. U	100. U	100. U	100. U	154.	100. U	MC = 1,690.
WS-14-161	MFA	WS-14-161	16-Nov-04	145-160	0.43	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	0.2 U	3.92	0.2 U	0.3 U	0.3 U	-	1. U	0.3 U	<0.3 U	<0.3 U	<0.3 U	0.2 U	0.5 U	0.3 U	0.2 U	0.2 U	CD = 0.26 CM = 0.32
			21-Feb-05		2.06	0.46	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			23-May-05		0.34	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			9-Aug-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			16-Nov-05		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			15-Feb-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			9-May-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			22-Aug-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			14-Nov-06		0.65	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			21-Feb-07		0.51	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			24-May-07		0.52	<0.5 U	1.51	1.4	0.53	1.93	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			18-Jul-07		0.63	<0.5 U	0.82	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	0.64	<1 U	<0.5 U	<0.3 U	<0.3 U	
			19-Jul-07		0.6	<0.5 U	1.12	<1 U	0.33	0.33	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	0.54	<1 U	<0.5 U	<0.3 U	<0.3 U	
			16-Aug-07		0.38	<0.5 U	0.72	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			14-Nov-07		0.39	<0.5 U	4.93	3.89	1.91	5.8	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.98	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			11-Feb-08		0.32	<0.5 U	4.1	2.34	1.09	3.43	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.53	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			15-May-08		0.88	0.63	4.08	3.04	1.88	4.92	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.89	<0.5 U	<1 U	<0.5 U	<1 U	2.71	<1 U	<0.5 U	0.33	<0.3 U	
			4-Aug-08		0.34	0.8	6.96	4.06	1.57	5.63	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.78	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
	HAI	5237-070712-WS14-161	12-Jul-07		0.4 U	0.4 U	0.68	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
		5237-080515-WS14-161-101	15-May-08		0.44 J	0.94	7.6	6.5	3.5	10.	0.045 U	240.	0.039 U	0.38 J	0.12 J	-	2. J	0.61 J	0.044 U	0.041 U	0.054 U	0.25 J	0.077 U	0.048 U	0.045 U	0.071 U	n-B = 0.06 J, p-IPT = 0.06 J
		5237-080925-WS-14-161-139	25-Sep-08		0.79	1.5	9.6	8.1	3.9	12.	0.045 U	180. J	0.039 U	0.37 J	0.08 J	-	1.8 J	0.56 J	0.044 U	0.041 U	0.054 U	0.3 J	0.077 U	0.048 U	0.045 U	0.071 U	CD=0.07 J p-IPT = 0.06 J
		5237-090408-WS14-161-108	8-Apr-09		0.85 J	1.2 J	18.	16.	8.1	24.1	0.23 U	960.	0.2 U	1.7 J	0.55 J	-	10.	3.5 J	0.22 U	0.21 U	0.27 U	0.31 U	0.39 U	0.24 U	0.23 U	0.36 U	n-B = 0.5 J p-IPT = 0.45 J
		5237-090818-WS-14-161-151	18-Aug-09		0.88	1.05	22.1	15.3	7.9	23.2	0.5 U	961.	0.5 U	1.61	0.5 U	-	6.81	1.38	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100301-WS-14-161-108	1-Mar-10		1.25 U	2.5 U	27.4	23.8	11.3	35.1	2.5 U	756.	2.5 U	5. U	2.5 U	-	10.7	5. U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	
WS-15-85	MFA	WS-15-85	18-Nov-04	70-85	3,650.	268.	285.	194.	103.	297.	0.2 U	3,470.	0.2 U	8.7	1.03	-	44.4	11.7	<0.3 U	<0.3 U	<0.3 U	186.	0.5 U	23.6	2,640.	4.42	p-IPT = 1.26 Chloroform = 0.45 CM = 0.33 1,1-DCE = 12.2
			17-Feb-05		17,300.	555.	1,320.	894.	584.	1,478.	<0.2 U	-	<0.2 U	57.6	20.1	-	285.	110.	<0.3 U	<0.3 U	<0.3 U	14.7	<0.5 U	2.13	464.	2.12	n-B = 5.47 tert-B = 0.92 p-IPT = 17. 1,1-DCE = 1.52
			19-May-05		13,000.	410.	1,030.	733.	400.	1,133.	<0.2 U	-	1.8	33.1	11.4	-	208.	59.4	<0.3 U	<0.3 U	<0.3 U	7.88	<0.5 U	<0.3 U	525.	5.67	n=B = 5.07 sec-B = 3.66 p-IPT = 7.11

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																						
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-15-85	MFA	WS-15-85	10-Aug-05	70-85	5,130.	119.	270.	234.	114.	348.	<0.2 U	-	<0.2 U	7.01	0.46	-	58.	13.8	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	206.	9.01	
			14-Nov-05		10,800.	258.	860.	412.	353.	765.	<0.3 U	-	<0.3 U	34.2	8.94	-	175.	55.2	<0.3 U	<0.3 U	<0.3 U	20.5	<0.5 U	2.26	487.	8.07	n-B = 1.35 tert-B = 2.22 sec-B = 1.91 p-IPT = 7.27 1,1-DCE = 1.05
			16-Feb-06		21,600.	578.	1,970.	1,440.	642.	2,082.	<0.3 U	-	<0.3 U	33.9	9.79	-	270.	60.2	<0.3 U	<0.3 U	<0.3 U	21.8	<0.5 U	4.38	1,180.	16.	n-B = 1.67 p-IPT = 14.7 1,1-DCE = 0.93
			10-May-06		20,300.	314.	1,290.	1,040.	394.	1,434.	<0.3 U	-	<0.3 U	30.5	8.96	-	<50 U	59.6	<0.3 U	<0.3 U	<0.3 U	6.48	<0.5 U	<0.3 U	742.	14.8	A = 12.1 CM = 0.44 tert-B = 1.7 p-IPT = 4.25
			25-Aug-06		21,500.	362.	1,120.	977.	483.	1,460.	<0.5 U	-	<0.5 U	31.5	8.1	-	145.	48.5	<1 U	<0.5 U	<1 U	2,210.	<1 U	4.72	1,270.	4.96	n-B = 1.7 tert-B = 0.71 sec-B = 0.53 p-IPT = 5.42 1,1-DCE = 1.6
			14-Nov-06		10,500.	197.	632.	457.	274.	731.	<0.5 U	-	0.66	40.	7.71	-	40.2	75.5	<1 U	<0.5 U	<1 U	3.73	<1 U	1.66	593.	13.8	p-IPT = 3.43 1,1-DCE = 1.33
			21-Feb-07		12,900.	282.	1,190.	918.	476.	1,394.	<0.5 U	-	<0.5 U	33.6	9.35	-	160.	56.5	<1 U	<0.5 U	<1 U	3.79	<1 U	<0.5 U	574.	10.6	p-IPT = 4.7 sec-B = 0.64
			24-May-07		9,320.	7.57	32.3	27.1	15.3	42.4	<0.5 U	-	0.54	0.94	<0.5 U	-	6.36	1.99	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	20.6	0.37	
			17-Aug-07		3,540.	125.	502.	690.	358.	1,048.	<0.5 U	-	<0.5 U	18.7	0.78	-	147.	43.3	<1 U	<0.5 U	<1 U	3.	<1 U	0.69	331.	9.44	p-IPT = 4.43
			15-Nov-07		4,840.	236.	1,040.	884.	454.	1,338.	<0.5 U	-	<0.5 U	24.7	8.04	-	213.	52.4	<1 U	<0.5 U	<1 U	2.47	<1 U	0.94	434.	10.7	p-IPT = 4.56
			12-Feb-08		8,580.	266.	950.	852.	416.	1,268.	<0.5 U	-	<0.5 U	28.6	7.45	-	183.	58.6	<1 U	<0.5 U	<1 U	2.39	<1 U	0.97	303.	11.	p-IPT = 5.39 1,1-DCE = 0.5
			14-May-08		5,100.	175.	788.	657.	372.	1,029.	<0.5 U	-	<0.5 U	37.9	10.2	-	177.	74.8	<1 U	<0.5 U	<1 U	3.52	<1 U	1.74	374.	7.62	p-IPT = 7.96 1,1-DCE = 0.97
			8-Aug-08		3,860.	175.	993.	996.	214.	1,210.	<0.5 U	-	<0.5 U	25.2	4.92	-	230.	51.6	<1 U	<0.5 U	<1 U	2.15	<1 U	1.43	513.	6.92	n-B = 1.11 p-IPT = 4.37 1,1-DCE = 1.09
			11-Nov-08		2,970.	136.	1,060.	903.	417.	1,320.	0.5 U	16,700.	0.5 U	28.2	8.72	-	177.	55.3	1. U	0.5 U	1. U	1.68	1. U	0.97	244.	5.86	n-B = 1.61 p-IPT = 5.44 1,1 DCE = 0.5
			26-May-09		2,770.	205.	839.	758.	344.	1,102.	0.5 U	15,200.	0.5 U	30.8	9.46	-	123.	67.9	1. U	0.5 U	1. U	5.24	1. U	5.13	650.	18.5	p-IPT = 6.42 1,1-DCE = 2.19
			23-Jul-09		3,220.	119.	640.	642.	321.	963.	0.5 U	27,100.	0.5 U	25.3	7.79	-	162.	51.9	1. U	0.5 U	1. U	1.56	1. U	2.22	712.	22.2	p-IPT = 7.21 A = 11.6
			2-Sep-09		1,820.	125.	708.	749.	359.	1,108.	0.5 U	21,900.	0.5 U	21.8	7.2	-	54.1	194.	1. U	0.5 U	1. U	2.72	1. U	1.27	499.	14.2	p-IPT = 5.19 1,1-DCE = 1.63
			19-Oct-09		2,370.	129.	482.	385.	160.	545.	0.5 U	14,800.	0.5 U	17.4	5.38	-	171.	42.1	1. U	0.5 U	1. U	2.18	1. U	1.39	234.	15.	n-B = 1.11 p-IPT = 3.63 1,1 DCE = 1.33
			14-Dec-09		2,960.	164.	669.	564.	267.	831.	0.5 U	16,500.	0.5 U	24.6	8.94	-	55.7	142.	1. U	0.5 U	1. U	2.58	1. U	1.68	625.	24.	p-IPT = 5.73 1,1-DCE = 1.
			18-Feb-10		2,510.	134.	851.	709.	398.	1,107.	0.5 U	16,900.	0.5 U	25.	8.48	-	54.	219.	1. U	0.5 U	1. U	2.26	1. U	3.31	518.	12.7	1,1-DEC = 0.76
WS-15-140	MFA	WS-15-140	18-Nov-04	125-140	7.99	0.32	0.79	<0.4 U	<0.2 U	0.4 U	4.42	23.9	0.2 U	0.3 U	0.3 U	-	1. U	0.3 U	1.61	0.3 U	0.3 U	2.62	0.5 U	0.3 U	7.12	0.2 U	CM = 0.37 MTBE = 2.3
			17-Feb-05		18.	0.96	0.25	1.49	<0.2 U	1.49	7.64	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	2.89	<0.3 U	<0.3 U	3.08	<0.5 U	<0.3 U	7.36	<0.2 U	MTBE = 3.06
			19-May-05		6.67	0.75	0.52	<0.4 U	<0.2 U	<0.4 U	4.72	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	3.37	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	3.81	<0.2 U	MTBE = 4.03
			10-Aug-05		1,010.	16.5	67.2	49.6	31.8	81.4	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	5.26	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	49.2	<0.2 U	
			14-Nov-05		2,460.	24.4	155.	61.3	67.7	129.	2.43	-	<0.3 U	3.53	<0.3 U	-	14.6	4.34	0.56	<0.3 U	<0.3 U	36.	<0.5 U	1.32	128.	2.25	MTBE = 2.42 p-IPT = 2.09
			15-Feb-06		2,220.	21.1	229.	50.4	76.5	126.9	2.03	-	<0.3 U	4.29	1.01	-	22.5	6.29	<0.3 U	<0.3 U	<0.3 U	1.79	<0.5 U	<0.3 U	130.	1.54	MTBE = 1.92 p-IPT = 1.29
			10-May-06		2,110.	9.71	204.	28.8	68.6	97.4	1.4	-	1.61	2.23	0.91	-	24.	4.72	0.39	<0.3 U	<0.3 U	261.	<0.5 U	<0.3 U	115.	2.86	2-CT = 0.81 Trans-1,3-Dichloropropene = 0.77
			25-Aug-06		1,460.	4.7	62.7	9.52	27.8	37.32	0.53	-	0.88	1.75	0.61	-	8.86	2.41	<1 U	<0.5 U	<1 U	448.	<1 U	5.77	98.8	1.73	MTBE = 1.01 1,1-DCE = 1.16
			14-Nov-06		1,110.	10.7	120.	11.1	31.2	42.3	0.87	-	<0.5 U	<0.3 U	<0.5 U	-	15.7	2.35	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	82.6	3.49	MTBE = 1.1
			21-Feb-07		815.	4.44	85.2	8.09	17.1	25.19	<0.5 U	-	<0.5 U	1.52	<0.5 U	-	9.35	2.62	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	41.8	3.07	MTBE = 0.69
			24-May-07		26.2	<0.5 U	3.97	1.17	0.84	2.01	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.6	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			17-Aug-07		822.	3.33	93.3	6.4	17.2	23.6	0.71	-	<0.5 U	2.24	0.88	-	13.6	3.41	<1 U	<0.5 U	<1 U	6.57	<1 U	<0.5 U	19.	4.28	MTBE = 0.98
			15-Nov-07		866.	2.75	103.	7.63	17.8	25.43	<0.5 U	-	<0.5 U	2.77	1.22	-	12.1	5.11	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	10.7	3.46	
			12-Feb-08		546.	2.76	97.2	6.56	16.4	22.96	0.66	-	<0.5 U	2.66	1.32	-	10.1	4.34	<1 U	<0.5 U	<1 U	0.58	<1 U	<0.5 U	6.93	2.25	MTBE = 0.85
			14-May-08		424.	2.3	94.	6.91	14.1	21.01	0.79	-	<0.5 U	3.03	1.9	-	8.27	5.44	<1 U	<0.5 U	<1 U	0.98	<1 U	<0.5 U	2.34	0.67	MTBE = 1.12 p-IPT = 0.59
			8-Aug-08		509.	5.3	130.	10.7	22.6	33.3	<0.5 U	-	<0.5 U	1.89	1.24	-	8.93	3.28	<1 U	<0.5 U	<1 U	0.62	<1 U	<0.5 U	3.93	1.75	MTBE = 1.08
			12-Nov-08		771.	10.	136.	21.1	29.3	50.4	0.5 U	-	0.5 U	3.96	2.49	-	11.7	6.02	1. U	0.5 U	1. U	1.02	1. U	0.5 U	5.61	1.73	p-IPT = 0.65 MTBE = 1.41
			26-May-09		578.	2.85	124.	7.05	13.3	23.35	0.5 U	-	0.5 U	1.31	2.02	-	4.53	2.67	1. U	0.5 U	1. U	0.41	1. U	0.5 U	1.84	1.2	
			23-Jul-09		643.	2.01	52.3	6.02	11.1	17.12	0.5 U	-	0.5 U	1.6	1.32	-	4.49	2.47	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	A = 71.3 MTBE = 1.5
			2-Sep-09		470.	2.82	113.	9.17	23.7	32.87	0.5 U	-	0.5 U	2.5	2.28	-	4.18	8.58	1. U	0.5 U	1. U	0.5	1. U	0.5 U	1.49	1.28	MTBE = 0.79
			19-Oct-09		679.	2.18	97.7	3.89	12.8	16.69	0.5 U	-	0.5 U	1.08	1.37	-	2.5	1.5	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.93	0.8	MTBE = 0.68
			14-Dec-09		337.	1.93	96.4	4.87	16.8	21.67	0.79	-	0.5 U	1.1	1.42	-	2.66	4.12	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.64	0.3 U	MTBE = 0.62
			19-Feb-10		568.	0.72	132.	10.4	30.1	40.5	0.5 U	-	0.5 U	0.3 U	1.94	-	6.13	4.45	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.85	0.73	MTBE = 0.95

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-16-125	MFA	WS-16-125	17-Nov-04	109-124	0.2 U	0.2 U	0.2 U	<0.4 U	<0.2 U	0.4 U	2.21	275.	0.2 U	0.3 U	0.3 U	-	1. U	0.3 U	<0.3 U	<0.3 U	<0.3 U	0.2 U	0.5 U	0.3 U	0.2 U	0.2 U	2-B = 15.4 A = 512 n-B = 0.4 MTBE = 5.06
			21-Feb-05		698.	3.02	111.	65.7	52.1	117.8	<0.2 U	-	<0.2 U	0.51	<0.3 U	-	8.66	1.71	<0.3 U	<0.3 U	<0.3 U	0.57	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			23-May-05		224.	1.22	41.9	20.1	15.7	35.8	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	2.93	0.7	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	1.84	0.86	
			9-Aug-05		237.	<0.2 U	38.5	21.5	17.2	38.7	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			16-Nov-05		449.	1.65	92.	64.1	41.6	105.7	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	5.49	2.37	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			15-Feb-06		552.	1.17	96.8	57.7	43.3	101.	<0.3 U	-	<0.3 U	1.03	<0.3 U	-	5.78	1.27	<0.3 U	<0.3 U	<0.3 U	0.98	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			11-May-06		474.	0.75	57.5	32.	24.5	56.5	<0.3 U	-	0.77	0.88	<0.3 U	-	3.63	0.69	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			22-Aug-06		522.	<0.3 U	93.6	57.6	37.6	95.2	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	3.92	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	0.41	
			15-Nov-06		534.	1.56	89.5	57.	35.9	92.9	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	5.49	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	0.5	<0.3 U	
			21-Feb-07		1,060.	0.9	96.8	55.1	42.9	98.	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	5.35	1.3	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			24-May-07		16.3	<0.5 U	2.73	1.97	1.1	3.07	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			16-Aug-07		562.	0.78	80.3	51.1	36.6	87.7	<0.5 U	-	<0.5 U	0.88	<0.5 U	-	5.96	1.48	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			19-Nov-07		481.	1.91	75.7	46.2	33.5	79.7	<0.5 U	-	<0.5 U	1.09	<0.5 U	-	7.54	1.65	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	0.57	
			12-Feb-08		624.	0.9	91.8	53.7	38.3	92.	<0.5 U	-	<0.5 U	1.3	<0.5 U	-	8.76	1.94	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			14-May-08		398.	0.93	86.7	49.3	42.	91.3	<0.5 U	-	<0.5 U	1.75	<0.5 U	-	10.1	2.41	<1 U	<0.5 U	<1 U	0.73	<1 U	<0.5 U	<0.3 U	<0.3 U	
			5-Aug-08		543.	0.86	78.	40.8	33.9	74.7	<0.5 U	-	<0.5 U	0.83	<0.5 U	-	6.95	1.36	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
WS-16-161	MFA	WS-16-161	17-Nov-04	145-160	2.4	0.75	0.77	<0.4 U	1.32	1.32	0.2 U	13.9	0.2 U	0.3 U	0.3 U	-	1. U	0.3 U	<0.3 U	<0.3 U	<0.3 U	0.2 U	0.5 U	0.3 U	0.2 U	0.2 U	
			18-Feb-05		1.66	3.84	<0.2 U	0.63	<0.2 U	0.63	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	0.53	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			20-May-05		0.25	0.77	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	1.24	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			9-Aug-05		<0.2 U	<0.2 U	<0.2 U	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			16-Nov-05		<0.3 U	1.45	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			15-Feb-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			10-May-06		<0.3 U	0.67	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			22-Aug-06		<0.3 U	<0.3 U	<0.3 U	<0.4 U	<0.3 U	<0.4 U	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			15-Nov-06		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			21-Feb-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			24-May-07		2.25	<0.5 U	0.7	1.1	0.33	1.43	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			16-Aug-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			15-Nov-07		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			8-Feb-08		1.08	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			16-May-08		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	0.72	<1 U	<0.5 U	<0.3 U	<0.3 U	
			5-Aug-08		<0.3 U	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
WS-17-52	MFA	WS-17-52	16-Nov-04	41-51	105.	0.2 U	90.1	58.4	44.	102.4	0.2 U	1,780.	0.2 U	3.66	0.31	-	28.5	7.68	<0.3 U	<0.3 U	<0.3 U	0.2 U	0.5 U	0.3 U	0.2 U	0.2 U	p-IPT=1.29 n-B=0.71 CD=0.26
			17-Feb-05		52.7	0.96	54.1	22.2	17.2	39.4	<0.2 U	-	<0.2 U	2.78	0.84	-	24.7	7.49	<0.3 U	<0.3 U	<0.3 U	0.29	<0.5 U	<0.3 U	<0.2 U	<0.2 U	A = 7.81 p-IPT = 1.16
			20-May-05		12.3	0.24	15.8	2.8	1.75	4.55	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	5.54	1.41	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			9-Aug-05		10.7	<0.2 U	6.13	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	1.77	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			15-Nov-05		18.4	<0.3 U	8.75	<0.4 U	2.28	2.28	<0.3 U	-	<0.3 U	2.06	<0.3 U	-	5.99	1.91	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	p-IPT = 2.17
			16-Feb-06		7.96	<0.3 U	7.65	0.98	1.41	2.39	<0.3 U	-	<0.3 U	<0.3 U	0.39	-	3.01	0.35	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			10-May-06		5.23	<0.3 U	6.78	0.49	<0.3 U	0.49	<0.3 U	-	<0.3 U	<0.3 U	0.35	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	A = 18.6
			22-Aug-06		5.93	<0.3 U	8.94	<0.4 U	0.54	0.54	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			15-Nov-06		5.27	<0.5 U	3.68	<1 U	0.94	0.94	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			20-Feb-07		4.06	<0.5 U	3.46	<1 U	0.58	0.58	<0.5 U	-	<0.5 U	0.58	0.74	-	0.97	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	A = 10.9
			24-May-07		3.07	<0.5 U	3.18	1.19	0.77	1.96	<0.5 U	-	<0.5 U	0.6	<0.5 U	-	1.11	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			17-Aug-07		3.59	<0.5 U	2.17	<1 U	0.4	0.4	<0.5 U	-	<0.5 U	0.36	<0.5 U	-	0.56	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			14-Nov-07		2.67	<0.5 U	1.45	<1 U	0.38	0.38	<0.5 U	-	<0.5 U	0.32	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			8-Feb-08		1.63	<0.5 U	1.1	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			13-May-08		1.28	<0.5 U	0.77	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	0.68	<1 U	<0.5 U	<0.3 U	<0.3 U	
			18-Aug-08		0.78	<0.5 U	0.8	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	A = 12.4
WS-17-94	MFA	WS-17-94	17-Nov-04	78-93	7.67	4.39	8.94	7.18	3.71	10.89	0.2 U	164.	0.2 U	0.98	0.3 U	-	1.05	0.3 U	<0.3 U	<0.3 U	<0.3 U	0.81	0.5 U	0.3 U	0.2 U	0.2 U	CD=0.2 Chloroform=0.3
			18-Feb-05		13.6	4.46	13.4	10.9	6.46	17.36	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	3.91	1.02	<0.3 U	<0.3 U	<0.3 U	0.82	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			18-May-05		2.08	1.22	5.77	1.13	3.45	4.58	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	4.14	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			8-Aug-05		<0.2 U	<0.2 U	0.22	<0.4 U	<0.2 U	<0.4 U	<0.2 U	-	<0.2 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.2 U	<0.5 U	<0.3 U	<0.2 U	<0.2 U	
			15-Nov-05		2.	0.75	6.33	2.96	3.17	6.13	<0.3 U	-	<0.3 U	1.73	<0.3 U	-	2.34	1.58	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			16-Feb-06		2.99	<0.3 U	6.51	5.23	2.47	7.7	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	2.38	0.72	<0.3 U	<0.3 U	<0.3 U	0.76	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			9-May-06		1.35	0.57	5.55	3.75	0.41	4.16	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	<0.3 U	
			21-Aug-06		<0.3 U	<0.3 U	1.16	<0.4 U	0.47	0.47	<0.3 U	-	<0.3 U	<0.3 U	<0.3 U	-	<1 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.3 U	<0.5 U	<0.3 U	<0.3 U	0.85	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-17-94	MFA	WS-17-94	14-Nov-06	78-93	1.68	<0.5 U	<0.5 U	<1 U	1.84	1.84	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	0.5	<0.3 U	
			20-Feb-07		1.51	<0.5 U	3.12	2.7	1.22	3.92	<0.5 U	-	<0.5 U	0.45	0.59	-	1.89	0.81	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			24-May-07		0.97	<0.5 U	2.75	2.86	1.23	4.09	<0.5 U	-	<0.5 U	0.39	<0.5 U	-	2.37	0.87	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			17-Aug-07		1.35	<0.5 U	2.04	1.55	0.75	2.3	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.62	0.57	<1 U	<0.5 U	<1 U	3.06	<1 U	<0.5 U	0.97	<0.3 U	
			14-Nov-07		0.85	<0.5 U	1.43	1.4	0.71	2.11	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.83	0.56	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			8-Feb-08		0.63	<0.5 U	0.78	<1 U	0.34	0.34	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
			13-May-08		0.41	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.75	<0.5 U	<1 U	<0.5 U	<1 U	0.49	<1 U	<0.5 U	<0.3 U	<0.3 U	
			18-Aug-08		0.51	<0.5 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	
WS-18-71	MFA	WS-18-71	27-Jun-06	61 - 71	558.	24.1	30.2	12.9	4.06	16.96	<1 U	-	<1 U	<1 U	<1 U	-	1.72	<1 U	<1 U	<1 U	<1 U	7,990.	<1 U	626.	90,800.	25.8	1,1,2-TCA = 1.11 1,1-DCE = 198.
			19-Jul-06		574.	26.7	32.6	9.21	3.6	12.81	<1 U	-	<1 U	<1 U	<1 U	-	<1 U	<1 U	<1 U	<1 U	<1 U	2,960.	<1 U	563.	83,700.	24.9	1,1-DCE = 166.
			29-Aug-06		570.	19.7	23.	6.23	2.43	8.66	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1,980.	<1 U	478.	66,200.	17.5	1,1-DCE = 114.
			26-Sep-06		296.	226.	262.	66.6	23.6	90.2	<5 U	-	<5 U	<3 U	<5 U	-	<5 U	<5 U	<10 U	<5 U	<10 U	2,010.	<10 U	241.	57,000.	279.	CM = 31.9 1,1-DCE = 1470.
			24-Oct-06		521.	21.7	25.6	5.24	1.37	6.61	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	996.	<1 U	412.	69,700.	28.8	n-B = 0.56, 1,1-DCE = 143.
			16-Nov-06		530.	21.7	27.9	1.02	2.8	3.82	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	700.	<1 U	496.	88,900.	52.7	2-B = 12.9, 1,1-DCE = 161.
			26-Jan-07		520.	18.7	24.1	5.89	2.41	8.3	<0.5 U	-	<0.5 U	<1 U	<0.5 U	-	1.75	<0.5 U	<1 U	<0.5 U	<1 U	1,180.	<1 U	453.	77,300.	4,290.	2-B = 107, 1,1-DCE = 162.
			22-Feb-07		549.	19.4	23.1	5.7	2.08	7.78	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.55	<0.5 U	<1 U	<0.5 U	<1 U	587.	<1 U	471.	43,100.	3,340.	2-B = 112, 1,1-DCE = 126.
			22-Mar-07		481.	20.2	26.1	5.12	1.94	7.06	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	678.	<1 U	318.	42,100.	21,200.	2-B = 149, 1,1-DCE = 84.2
			24-Apr-07		320.	18.5	28.5	<1 U	2.34	2.34	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	251.	<1 U	193.	42,600.	34,000.	2-B = 325, A = 15.2 1,1-DCE = 84.3
			22-May-07		345.	15.9	19.6	5.14	1.93	7.07	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	111.	<1 U	162.	180,000.	8,680.	2-B = 1,640, 1,1-DCE = 51.4
			16-Nov-07		523.	19.4	26.6	7.11	2.94	10.05	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.75	<0.5 U	<1 U	<0.5 U	<1 U	900.	<1 U	104.	8,640.	23,300.	2-B = 530, A = 28.3 1,1-DCE = 29.
			13-Feb-08		480.	16.9	26.1	7.2	3.13	10.33	<0.5 U	-	<0.5 U	0.32	<0.5 U	-	0.93	<0.5 U	<1 U	<0.5 U	<1 U	102.	<1 U	107.	6,400.	16,600.	2-B = 187, A = 31.4 n-B = 0.98, 1,1-DCE = 34.2
			20-May-08		573.	24.1	33.	5.75	1.73	7.48	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	227.	<1 U	28.3	1,780.	4,350.	2-B = 501, A = 149. 1,1-DCE = 7.68
			12-Aug-08		606.	18.2	29.1	5.06	1.64	6.7	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.52	<0.5 U	<1 U	<0.5 U	<1 U	23.3	<1 U	64.	2,480.	10,100.	2-B = 888, A = 51.6 1,1-DCE = 24.5
			14-Nov-08		616.	23.8	42.	11.2	4.48	15.68	0.5 U	68.7	0.5 U	0.39	0.5 U	-	1.43	0.5 U	1. U	0.5 U	1. U	0.81	1. U	14.8	688.	8,620.	2B = 646 A = 74.4 1,1-DCE = 2.68
			10-Feb-09		614.	23.2	43.1	11.7	3.61	15.31	0.5 U	167.	0.54	0.35	0.5 U	-	1.72	0.5 U	1. U	0.5 U	1. U	0.58	1. U	10.9	1,060.	7,490.	2B = 4010 A = 171
			6-Apr-09		401.	33.4	62.5	22.3	7.3	29.6	0.5 U	129.	0.5 U	0.42	0.5 U	-	1.66	0.5 U	1. U	0.5 U	1. U	1.18	1. U	3.2	171.	902.	2B = 3160. A = 61.2 CE(a) = 12.1
			20-May-09		553.	17.1	35.9	12.7	5.72	18.42	0.5 U	101.	0.51	0.45	0.5 U	-	2.62	0.64	1. U	0.5 U	1. U	0.81	1. U	2.56	70.1	4,320.	2B = 3230 A =206
			20-Jul-09		571.	19.8	32.9	11.9	4.87	16.77	0.5 U	97.	0.5 U	0.49	0.5 U	-	2.01	0.5 U	1. U	0.5 U	1. U	1,060.	1. U	5.06	2,710.	6,480.	2B = 7040. A = 379. 1,1-DCE = 0.78 CE(a) =5.57
			28-Aug-09		465.	13.3	24.7	5.6	1.49	7.09	0.5 U	65.8	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	4.32	1. U	1.36	80.4	5,480.	2B = 8040. A = 208. CE(a) = 4.38
			20-Oct-09		268.	12.	23.1	5.27	1.73	7.	0.5 U	77.	0.5 U	0.3 U	0.5 U	-	0.77	0.5 U	1. U	0.5 U	1. U	1.51	1. U	0.5 U	73.4	806.	2B = 1890. A = 269. CE(a) = 6.32
			15-Dec-09		167.	11.9	16.3	4.07	1.52	5.59	0.5 U	48.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.52	1. U	0.5 U	1. U	0.95	1. U	0.5 U	41.7	117.	2B = 1740. A = 175. CE(a) = 3.42
			22-Feb-10		285.	12.5	16.6	4.06	1.4	5.46	0.5 U	37.2	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	16.8	11.	2-B = 2,980, A = 183
WS-18-101	MFA	WS-18-101	28-Jun-06	97 - 102	106.	13.4	19.	<20 U	<10 U	<20 U	<10 U	-	<10 U	<10 U	<10 U	-	<10 U	<10 U	<10 U	<10 U	<10 U	198,000.	<10 U	408.	33,600.	40.6	1,1-DCE = 125.
			19-Jul-06		125.	14.	24.2	13.2	8.73	21.93	<1 U	-	<1 U	<1 U	<1 U	-	3.03	<1 U	<1 U	<1 U	<1 U	103,000.	<1 U	590.	55,400.	57.2	1,1-DCE = 176.
			28-Aug-06		117.	13.6	27.3	17.2	11.8	29.	<0.5 U	-	<0.5 U	1.07	<0.5 U	-	4.29	1.14	<1 U	<0.5 U	<1 U	101,000.	<1 U	634.	53,800.	36.6	A = 44.2 1,1-DCE = 135.
			26-Sep-06		148.	18.5	34.7	19.9	7.5	27.4	<5 U	-	<5 U	<3 U	<5 U	-	5.9	<5 U	<10 U	<5 U	<10 U	150,000.	<10 U	911.	43,000.	81.8	1,1-DCE = 191.
			24-Oct-06		124.	18.2	28.7	14.6	6.3	20.9	<5 U	-	<5 U	<3 U	<5 U	-	<5 U	<5 U	<10 U	<5 U	<10 U	236,000.	<10 U	660.	72,500.	78.7	Dichlorofluoromethane = 16.9 1,1-DCE = 187.
			16-Nov-06		126.	20.8	52.2	28.2	18.2	46.4	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	5.06	<0.5 U	<1 U	<0.5 U	<1 U	199,000.	<1 U	618.	90,300.	162.	A = 14.6 1,1-DCE = 240.
			26-Jan-07		105.	16.9	36.2	19.9	13.3	33.2	<0.5 U	-	<0.5 U	1.04	1.43	-	5.31	2.57	<1 U	<0.5 U	<1 U	97,700.	<1 U	1,070.	93,000.	2,840.	A = 38.1 n-B = 1.77 1,1-DCE = 330.
			22-Feb-07		79.6	22.	49.4	28.4	12.8	41.2	<10 U	-	<10 U	<6 U	<10 U	-	<10 U	<10 U	<20 U	<10 U	<20 U	52,200.	<20 U	1,140.	153,000.	6,200.	1,1-DCE = 336.
			22-Mar-07		89.6	16.8	49.	21.2	<6 U	21.2	<10 U	-	<10 U	<6 U	<10 U	-	<10 U	<10 U	<20 U	<10 U	<20 U	36,800.	<20 U	900.	150,000.	5,190.	1,1-DCE = 277.
			24-Apr-07		69.6	13.	43.	<20 U	8.8	8.8	<10 U	-	<10 U	<6 U	<10 U	-	<10 U	<10 U	<20 U	<10 U	<20 U	53,500.	<20 U	567.	239,000.	9,170.	1,1-DCE = 200.
			22-May-07		72.8	14.7	34.9	20.2	14.7	34.9	<0.5 U	-	<0.5 U	1.13	<0.5 U	-	5.21	1.34	<1 U	<0.5 U	<1 U	11,800.	<1 U	959.	176,000.	7,980.	2-B = 63.6 1,1-DCE = 299.
			16-Nov-07		60.5	13.1	44.4	25.	16.3	41.3	<0.5 U	-	<0.5 U	1.81	0.68	-	9.01	2.29	<1 U	<0.5 U	<1 U	2,340.	<1 U	763.	89,700.	32,400.	1,1-DCE = 167.
			12-Feb-08		59.5	11.9	41.6	23.7	14.7	38.4	<0.5 U	-	<0.5 U	1.83	0.66	-	9.92	2.53	<1 U	<0.5 U	<1 U	2,920.	<1 U	757.	96,400.	24,900.	1,1-DCE = 158.
			22-May-08		47.4	11.9	41.1	23.7	15.2	38.9	<2.5 U	-	<2.5 U	1.75	<2.5 U	-	10.4	2.8	<5 U	<2.5 U	<5 U	2,070.	<5 U	461.	106,000.	45,200.	2-B = 121 1,1-DCE = 166.
			12-Aug-08		40.4	10.7	39.9	19.5	12.4	31.9	<0.5 U	-	<0.5 U	1.37	0.65	-	8.57	1.87	<1 U	<0.5 U	<1 U	1,470.	<1 U	113.	33,900.	21,200.	2-B = 233. A = 17.3 1,1-DCE = 144.

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-18-101	MFA	WS-18-101	14-Nov-08	97 - 102	57.4	16.6	54.6	34.5	19.8	54.3	0.5 U	1,480.	0.5 U	2.51	1.09	-	14.5	3.72	1. U	0.5 U	1. U	603.	1. U	111.	71,300.	40,500.	1,1-DCE = 160. 2-B = 257. A = 19.3 Acetylene = 4,350.
			10-Feb-09		29.1	6.89	29.8	14.7	9.23	23.93	0.5 U	1,100.	0.5 U	1.16	0.69	-	7.88	1.51	1. U	0.5 U	1. U	497.	1. U	121.	22,500.	24,100.	1,1-DCE = 79.4 2-B = 192. A = 24.2
			6-Apr-09		56.1	10.1	28.1	17.2	9.28	26.48	0.5 U	559.	0.5 U	0.93	0.5 U	-	5.39	1.12	1. U	0.5 U	1. U	84.4	1. U	170.	51,800.	76,000.	1,1-DCE = 148. 2-B = 290. A = 14.4
			20-May-09		64.7	16.1	28.5	17.3	12.6	29.9	0.5 U	465.	0.5 U	1.69	0.65	-	8.23	1.91	1. U	0.5 U	1. U	89.1	1. U	138.	112,000.	84,100.	1,1-DCE = 102. A = 109. Carbon Disulfide = 1.43 CE(a) = 6.25
			20-Jul-09		107.	13.8	27.6	20.	12.4	32.4	0.5 U	1,050.	0.5 U	1.5	0.58	-	8.36	2.25	1. U	0.5 U	1. U	1,340.	1. U	226.	149,000.	84,700.	1,1-DCE = 567. 2-B = 732. A = 289. CE(a) = 40.5
			28-Aug-09		73.7	12.1	29.5	16.1	8.88	24.98	0.5 U	546.	0.5 U	0.88	0.65	-	6.19	1.4	1. U	0.5 U	1. U	17.5	1. U	176.	145,000.	55,200.	1,1-DCA = 0.39 2-B = 488. 1,1-DCE = 446. A = 168.
			20-Oct-09		66.1	15.9	36.7	25.	16.	41.	0.5 U	699.	0.5 U	1.71	0.87	-	11.2	2.89	1. U	0.5 U	1. U	684.	1. U	265.	220,000.	43,400.	1,1-DCA = 0.35 2-B = 1090. 1,1-DCE = 421. A = 519. CE(a) = 50.5
			15-Dec-09		55.4	19.3	42.	29.3	17.1	46.4	0.5 U	1,350.	0.5 U	1.9	0.98	-	3.35	12.8	1. U	0.5 U	1. U	73.1	1. U	1,010.	207,000.	37,200.	1,1-DCE = 917. 2-B = 731. CE(a) = 42.3
			22-Feb-10		70.9	19.6	44.6	32.6	18.1	50.7	0.5 U	1,170.	0.5 U	2.27	1.	-	3.58	13.2	1. U	0.5 U	1. U	14.7	1. U	1,030.	255,000.	18,500.	1,1-DCA = 0.57 2-B = 1,050 1,1-DCE = 721. A = 548, CE(a) = 50.6 Bromomethane = 1.58 Carbon Disulfide = 1.03
WS-19-71	MFA	WS-19-71	27-Jun-06	61 - 71	564.	28.1	48.3	14.5	5.97	20.47	<1 U	-	<1 U	<1 U	<1 U	-	3.3	<1 U	<1 U	<1 U	<1 U	6,500.	<1 U	482.	88,400.	29.5	1,1,2-TCA = 1.02 1,1-DCE = 128.
			20-Jul-06		753.	48.8	79.8	20.6	9.05	29.65	<1 U	-	<1 U	<1 U	<1 U	-	3.49	<1 U	<1 U	<1 U	<1 U	611.	<1 U	459.	61,300.	67.5	
			29-Aug-06		729.	34.3	66.3	18.1	8.51	26.61	<0.5 U	-	<0.5 U	0.63	<0.5 U	-	2.9	0.59	<1 U	<0.5 U	<1 U	549.	<1 U	547.	89,500.	50.6	1,1-DCE = 105.
			27-Sep-06		554.	26.1	51.6	<10 U	<3 U	<10 U	<5 U	-	<5 U	<3 U	<5 U	-	<5 U	<5 U	<10 U	<5 U	<10 U	77.1	<10 U	441.	58,800.	115.	Dichlorodifluoromethane = 5.5 1,1-DCE = 65.1
			24-Oct-06		650.	29.2	62.5	16.8	8.64	25.44	<0.5 U	-	<0.5 U	0.58	<0.5 U	-	2.64	0.55	<1 U	<0.5 U	<1 U	38.3	<1 U	385.	67,000.	1,430.	2-B = 46.4 1,1-DCE = 105.
			16-Nov-06		706.	42.1	98.1	19.8	9.76	29.56	<0.5 U	-	0.63	<0.3 U	<0.5 U	-	0.81	<0.5 U	<1 U	<0.5 U	<1 U	15.6	<1 U	617.	87,500.	8,700.	2-B = 59.9 1,1-DCE = 136.
			26-Jan-07		694.	38.	85.2	19.9	7.93	27.83	<0.5 U	-	<0.5 U	<1 U	<0.5 U	-	2.94	0.65	<1 U	<0.5 U	<1 U	11.8	<1 U	393.	49,500.	44,500.	2-B = 417 A = 13.3 1,1-DCE = 168.
			23-Feb-07		659.	33.7	68.8	16.3	6.98	23.28	<0.5 U	-	0.96	0.52	<0.5 U	-	3.02	0.71	<1 U	<0.5 U	<1 U	16.6	<1 U	299.	25,500.	37,900.	2-B = 312 1,1-DCE = 40.4 Dichlorodifluoromethane = 2.68
			22-Mar-07		655.	37.6	84.6	16.7	6.88	23.58	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	2.27	<0.5 U	<1 U	<0.5 U	<1 U	33.5	<1 U	227.	7,350.	43,300.	2-B = 312. 1,1-DCE = 17.4
			23-Mar-07		629.	30.9	72.1	14.8	7.89	22.69	<0.5 U	-	<0.5 U	0.67	<0.5 U	-	3.59	<0.5 U	<1 U	<0.5 U	<1 U	15.9	<1 U	217.	12,200.	21,500.	2-B = 375. 1,1-DCE = 22.6
			24-Apr-07		630.	38.	95.1	16.7	9.8	26.5	<0.5 U	-	<0.5 U	0.62	<0.5 U	-	1.5	<0.5 U	<1 U	<0.5 U	<1 U	9.76	<1 U	169.	10,900.	69,300.	2-B = 1,160. A = 35.4 1,1-DCE = 14.9
			23-May-07		566.	34.2	68.9	17.8	8.51	26.31	<0.5 U	-	<0.5 U	0.54	<0.5 U	-	3.44	0.75	<1 U	<0.5 U	<1 U	142.	<1 U	121.	3,300.	54,600.	2-B = 689. A = 32.7 1,1-DCE = 9.11
			19-Nov-07		812.	37.3	101.	25.4	9.91	35.31	<0.5 U	-	<0.5 U	0.83	<0.5 U	-	5.83	1.34	<1 U	<0.5 U	<1 U	1.73	<1 U	2.64	208.	13,100.	2-B = 1,040. A = 34.6
			13-Feb-08		998.	47.2	130.	36.2	14.2	50.4	<0.5 U	-	<0.5 U	1.27	0.5	-	9.55	2.15	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	1.63	73.2	10,500.	2-B = 1,230. A = 45.3
			22-May-08		19.5	7.41	10.3	7.87	4.69	12.56	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.63	<0.5 U	<1 U	<0.5 U	<1 U	0.96	<1 U	<0.5 U	135.	436.	2-B = 25.5
			12-Aug-08		1,130.	37.3	123.	23.7	8.96	32.66	<0.5 U	-	<0.5 U	0.8	<0.5 U	-	6.4	1.29	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	64.4	342.	2-B = 1,960, A = 51.3 CD = 5.38
			14-Nov-08		608.	45.2	130.	34.8	13.	47.8	47.8	958.	0.5 U	1.24	0.53	-	8.6	2.05	1. U	0.5 U	1. U	28.4	1. U	1.	115.	140.	2-B = 764. A = 58.4
			29-May-09		342.	34.9	75.1	17.	6.2	23.2	23.2	204.	0.5 U	0.39	0.5 U	-	2.55	0.5 U	1. U	0.5 U	1. U	1.1	1. U	0.5 U	46.8	180.	A = 20.6
			16-Jul-09		773.	33.2	91.4	25.6	9.71	35.31	35.31	702.	0.5 U	0.6	0.5 U	-	4.59	0.82	1. U	0.5 U	1. U	1.55	1. U	0.73	46.6	98.7	CE(a) = 1.15
			3-Sep-09		584.	46.6	130.	40.2	13.7	53.9	53.9	605.	0.5 U	0.84	0.5 U	-	1.51	7.95	1. U	0.5 U	1. U	0.42	1. U	0.5 U	29.2	60.3	Carbon Disulfide = 3.89
			20-Oct-09		391.	38.3	102.	24.6	8.63	33.23	33.23	314.	0.5 U	0.48	0.5 U	-	4.28	0.84	1. U	0.5 U	1. U	0.78	1. U	0.5 U	17.8	29.7	
			16-Dec-09		448.	49.7	137.	36.2	13.6	49.8	49.8	449.	0.5 U	0.94	0.56	-	1.62	8.26	1. U	0.5 U	1. U	0.62	1. U	0.5 U	14.6	34.7	
			22-Feb-10		657.	34.6	92.	25.9	10.4	36.3	36.3	619.	0.5 U	0.71	0.5 U	-	1.02	5.54	1. U	0.5 U	1. U	0.48	1. U	0.5 U	5.59	10.5	Carbon Disulfide = 3.72
WS-19-101	MFA	WS-19-101	27-Jun-06	92 - 102	110.	17.4	20.4	13.9	6.87	20.77	<1 U	-	<1 U	<1 U	<1 U	-	1.96	<1 U	<1 U	<1 U	<1 U	92,900.	<1 U	338.	39,100.	22.2	1,1-DCE = 58.9
			20-Jul-06		78.5	19.8	13.	13.8	6.55	20.35	<1 U	-	<1 U	<1 U	<1 U	-	1.93	<1 U	<1 U	<1 U	<1 U	1,700.	<1 U	861.	114,000.	23.1	2-B = 263. 1,1-DCE = 58.3
			29-Aug-06		74.1	18.7	14.6	16.4	8.46	24.86	<0.5 U	-	<0.5 U	0.38	0.62	-	2.17	0.78	<1 U	<0.5 U	<1 U	836.	<1 U	766.	110,000.	121.	2-B = 353. A = 18. 1,1-DCE = 51.4
			27-Sep-06		47.2	14.4	12.6	<10 U	3.	3.	<5 U	-	<5 U	<3 U	<5 U	-	<5 U	<5 U	<10 U	<5 U	<10 U	102.	<10 U	944.	72,800.	1,340.	2-B = 1,260. 1,1-DCE = 73.4
			25-Oct-06		50.3	14.4	14.3	12.7	7.05	19.75	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.74	0.5	<1 U	<0.5 U	<1 U	44.4	<1 U	610.	86,600.	3,460.	2-B = 1,510. A = 102. CM = 0.53 n-B = 0.57 1,1-DCE = 119.

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-19-101	MFA	WS-19-101	15-Nov-06	92 - 102	160.	30.4	<10 U	<20 U	22.6	22.6	<10 U	-	<10 U	<6 U	<10 U	-	<10 U	<10 U	<20 U	<10 U	<20 U	<6 U	<20 U	670.	108,000.	5,060.	2-B = 1,800. 1,1-DCE = 232.
			25-Jan-07		46.2	15.1	16.9	13.2	6.97	20.17	<0.5 U	-	<0.5 U	<1 U	<0.5 U	-	1.78	<0.5 U	<1 U	<0.5 U	<1 U	2.78	<1 U	387.	78,800.	18,200.	2-B = 4,830. A = 160. 1,1-DCE = 146.
			23-Feb-07		44.4	14.8	15.7	12.4	5.8	18.2	<0.5 U	-	0.67	0.3	<0.5 U	-	1.76	0.74	<1 U	<0.5 U	<1 U	56.2	<1 U	351.	54,800.	14,200.	2-B = 2,170. A = 126. 1,1-DCE = 89.8
			22-Mar-07		35.	12.1	15.9	10.4	4.95	15.35	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.13	<0.5 U	<1 U	<0.5 U	<1 U	62.5	<1 U	230.	50,600.	15,500.	2-B = 3,270. A = 356. 1,1-DCE = 83.7
			24-Apr-07		37.1	12.4	18.	6.05	6.31	12.36	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	9.	<1 U	222.	66,900.	23,200.	2-B = 6,320. A = 333. Trans-1,3-D = 0.87 1,1-DCE = 102.
			23-May-07		33.5	11.3	14.	10.7	5.8	16.5	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.45	<0.5 U	<1 U	<0.5 U	<1 U	35.3	<1 U	203.	52,400.	15,600.	2-B = 2,670. A = 338. 1,1-DCE = 90.9
			19-Nov-07		23.6	7.67	10.9	8.29	4.38	12.67	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.45	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	3.91	4,090.	11,800.	2-B = 3,340. A = 343. 1,1-DCE = 4.69
			13-Feb-08		23.8	8.63	9.87	7.51	4.	11.51	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	1.41	<0.5 U	<1 U	<0.5 U	<1 U	0.37	<1 U	<0.5 U	94.3	156.	2-B = 2,800. A = 348.
			22-May-08		15.8	41.4	124.	32.6	14.1	46.7	<0.5 U	-	<0.5 U	1.44	<0.5 U	-	10.2	2.31	<1 U	<0.5 U	<1 U	1.35	<1 U	1.97	77.5	200.	2-B = 31.3. A = 46.9
			12-Aug-08		11.4	5.27	7.52	4.15	2.08	6.23	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.62	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	133.	235.	CD = 17.9
			14-Nov-08		13.9	7.56	11.2	8.68	4.87	13.55	3.21	160.	0.5 U	0.3 U	0.5 U	-	1.69	0.55	1. U	0.5 U	1. U	0.59	1. U	0.5 U	16.4	45.6	CE(a) = 3.21
			2-Apr-09		6.7	3.56	4.18	1.82	0.99	2.81	1. U	84.5	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.63	1. U	0.5 U	1.92	15.2	
			20-May-09		6.78	4.79	5.91	2.93	1.78	4.71	2.98	108.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.42	1. U	0.5 U	13.	29.	CE(a) = 2.98
			16-Jul-09		8.2	4.32	6.	3.95	2.22	6.17	6.28	146.	0.5 U	0.3 U	0.5 U	-	0.59	0.5 U	1. U	0.5 U	1. U	0.38	1. U	0.67	55.7	23.3	CE(a) = 6.28
			3-Sep-09		8.6	4.7	6.58	4.	1.98	5.98	3.94	109.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5	1. U	0.5 U	1. U	0.85	1. U	0.5 U	12.7	27.6	CE(a) = 3.94 Carbon Disulfide = 3.06
			20-Oct-09		5.55	3.79	5.	1.97	1.11	3.08	1. U	112.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	8.19	43.	
			15-Dec-09		8.2	3.58	5.49	2.88	1.74	4.62	3.08	102.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	11.6	27.4	CE(a) = 3.08
			22-Feb-10		7.13	4.23	6.13	3.86	2.07	5.93	1. U	115.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.54	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	7.11	30.5	Carbon Disulfide = 9.59
WS-20-112	MFA	WS-20-112	28-Jun-06	97 - 112	132.	2.05	<1 U	<2 U	<1 U	<2 U	<1 U	-	<1 U	<1 U	<1 U	-	<1 U	<1 U	<1 U	<1 U	<1 U	1,100.	<1 U	47.	10,000.	1,610.	2-B = 71.2 1,1-DCE = 19.7
			27-Jul-06		161.	13.8	4.39	14.8	6.09	20.89	<1 U	-	<1 U	<1 U	<1 U	-	4.01	<1 U	<1 U	<1 U	<1 U	827.	<1 U	46.7	6,320.	1,080.	2-B = 94.4 1,1-DCE = 17.9
			28-Aug-06		143.	5.47	1.57	3.7	1.92	5.62	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.92	<0.5 U	<1 U	<0.5 U	<1 U	885.	<1 U	32.1	10,000.	1,010.	2-B = 74.5 1,1-DCE = 10.4
			25-Sep-06		130.	3.55	<1 U	1.77	1.04	2.81	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.14	<1 U	94.5	6,280.	1,010.	2-B = 121. A = 27.9 n-B = 0.51 1,1-DEC = 13.5
			23-Oct-06		110.	2.71	1.74	1.42	1.22	2.64	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.65	<0.5 U	<1 U	<0.5 U	<1 U	1.57	<1 U	57.7	7,480.	1,160.	2-B = 139. A = 30.6 1,1-DCE = 11.
			18-Dec-06		128.	2.47	<0.5 U	<1 U	0.9	0.9	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	3.	<1 U	2.28	458.	736.	A = 88.8
			25-Jan-07		145.	3.52	4.51	3.75	2.1	5.85	<0.5 U	-	<0.5 U	<1 U	<0.5 U	-	0.68	<0.5 U	<1 U	<0.5 U	<1 U	0.68	<1 U	1.05	17.9	41.5	2-B = 448. A = 93.9
			21-Feb-07		179.	2.21	0.89	<1 U	0.54	0.54	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	0.56	6.11	5.85	2-B = 150. A = 42.6
			21-Mar-07		206.	1.9	0.91	<1 U	<0.3 U	<1 U	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	0.38	<0.3 U	2-B = 210. A = 58.3
			23-Apr-07		177.	1.63	0.69	<1 U	0.35	0.35	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	0.72	<1 U	<0.5 U	1.78	<0.3 U	
			21-May-07		252.	2.18	1.31	<1 U	0.79	0.79	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	0.6	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	1.42	
			15-Nov-07		241.	1.31	1.27	<1 U	0.92	0.92	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	1.1	0.61	
			14-Feb-08		175.	1.63	1.05	<1 U	0.71	0.71	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	0.73	<0.3 U	
			16-May-08		151.	1.57	1.5	<1 U	0.74	0.74	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.01	<1 U	<0.5 U	1.	<0.3 U	
			6-Aug-08		150.	1.53	1.88	<1 U	1.28	1.28	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.61	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	1.83	<0.3 U	
WS-21-112	MFA	WS-21-112	28-Jun-06	97 - 112	1,120.	7.71	31.7	6.83	21.1	27.93	<1 U	-	<1 U	1.18	<1 U	-	3.02	<1 U	<1 U	<1 U	<1 U	572.	<1 U	49.6	2,960.	548.	1,1-DCE = 4.13
			28-Jul-06		1,410.	14.7	27.8	14.4	19.2	33.6	<5 U	-	<5 U	<5 U	<5 U	-	6.7	<5 U	<5 U	<5 U	<5 U	164.	<5 U	5.85	1,130.	105.	
			28-Aug-06		1,670.	14.4	37.9	15.8	29.2	45.	<0.5 U	-	<0.5 U	0.69	0.56	-	3.29	<0.5 U	<1 U	<0.5 U	<1 U	273.	<1 U	6.02	775.	62.5	n-B = 0.52 1,1-DCE = 0.95
			25-Sep-06		1,420.	13.5	67.6	20.9	37.3	58.2	<0.5 U	-	<0.5 U	1.31	0.67	-	5.54	0.66	<1 U	<0.5 U	<1 U	201.	<1 U	9.52	950.	137.	1,1-DCE = 1.44
			24-Oct-06		1,320.	8.97	48.9	14.4	13.9	28.3	<0.5 U	-	<0.5 U	1.	<0.5 U	-	4.22	0.63	<1 U	<0.5 U	<1 U	339.	<1 U	15.8	1,910.	315.	1,1-DCE = 2.7
			14-Nov-06		1,300.	5.19	31.7	<1 U	5.73	5.73	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	239.	<1 U	8.87	1,050.	122.	1,1-DCE = 2.1
			19-Dec-06		1,170.	8.9	50.6	<1 U	8.99	8.99	<0.5 U	-	<0.5 U	2.15	<0.5 U	-	4.1	<0.5 U	<1 U	<0.5 U	<1 U	246.	<1 U	12.7	853.	153.	1,1-DCE = 3.76
			24-Jan-07		1,170.	8.3	31.1	6.4	10.7	17.1	<0.5 U	-	<0.5 U	1.46	<0.5 U	-	2.82	<0.5 U	<1 U	<0.5 U	<1 U	208.	<1 U	11.1	707.	124.	1,1-DCE = 2.2
			22-Feb-07		1,190.	7.83	24.3	6.09	8.39	14.48	<0.5 U	-	0.83	1.19	0.5	-	2.93	0.83	<1 U	<0.5 U	<1 U	218.	<1 U	10.6	740.	114.	
			21-Mar-07		1,070.	6.43	15.7	3.12	6.76	9.88	<0.5 U	-	<0.5 U	0.66	<0.5 U	-	1.49	<0.5 U	<1 U	<0.5 U	<1 U	263.	<1 U	12.6	1,280.	334.	
			23-Apr-07		802.	7.5	28.8	<1 U	14.	14.	<0.5 U	-	<0.5 U	1.18	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	129.	<1 U	10.7	620.	184.	1,1-DCE = 2.48

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																						
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chloride	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-21-112	MFA	WS-21-112	22-May-07	97 - 112	846.	7.37	27.7	6.07	19.4	25.47	<0.5 U	-	<0.5 U	1.36	<0.5 U	-	2.86	0.66	<1 U	<0.5 U	<1 U	113.	<1 U	11.5	1,520.	395.	1,1-DCE = 4.84
			16-Aug-07		850.	7.21	39.7	7.02	27.8	34.82	<0.5 U	-	<0.5 U	1.33	<0.5 U	-	3.53	<0.5 U	<1 U	<0.5 U	<1 U	0.77	<1 U	7.46	463.	383.	1,1-DCE = 1.01
			14-Nov-07		715.	7.33	43.1	8.93	30.	38.93	<0.5 U	-	0.96	1.97	0.56	-	5.26	0.55	<1 U	<0.5 U	<1 U	1.	<1 U	4.14	237.	370.	1,1-DCE = 0.79
			11-Feb-08		735.	6.9	47.1	7.35	28.3	35.65	<0.5 U	-	<0.5 U	1.6	0.59	-	4.01	<0.5 U	<1 U	<0.5 U	<1 U	1.67	<1 U	2.51	122.	444.	1,1-DCE = 0.8
			21-May-08		243.	2.8	14.6	2.37	10.9	13.27	<0.5 U	-	<0.5 U	0.49	<0.5 U	-	1.17	<0.5 U	<1 U	<0.5 U	<1 U	76.4	<1 U	1.18	622.	308.	1,1-DCE = 1.67
			13-Aug-08		530.	5.7	36.1	3.87	20.4	24.27	<0.5 U	-	<0.5 U	0.61	<0.5 U	-	1.44	<0.5 U	<1 U	<0.5 U	<1 U	8.25	<1 U	<0.5 U	109.	159.	1,1-DCE = 1.44
			18-Nov-08		293.	5.58	26.9	2.94	14.9	17.84	0.5 U	2.29	0.5 U	0.53	0.5 U	-	0.96	0.5 U	1. U	0.5 U	1. U	533.	1. U	11.3	3,710.	909.	1,1-DCE = 13.9
			29-Jan-09		118.	2.37	7.18	1.09	5.31	6.4	0.5 U	1.48	0.5 U	0.3	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	413.	1. U	43.5	2,190.	945.	1,1-DCE = 10.4
			21-Apr-09		168.	2.01	2.93	1. U	2.25	2.25	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	565.	1. U	61.9	7,630.	1,000.	1,1-DCE = 9.49 Acetylene = 150.
			29-Jun-09		207.	3.5	6.09	1.81	9.16	10.97	0.5 U	2.35	0.5 U	0.75	0.5 U	-	0.73	0.5 U	1. U	0.5 U	1. U	396.	1. U	39.8	3,130.	580.	1,1-DCE = 9.41
			28-Jul-09		95.2	0.81	1.72	1. U	0.73	0.73	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	4.4	1. U	2.52	91.4	90.6	2-B = 190, A = 78.5
			20-Aug-09		137.	2.38	9.44	1. U	2.55	2.55	0.5 U	3.7	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,900.	1. U	40.	9,500.	1,570.	1,1-DCE = 25.3
			25-Aug-09		134.	2.1	7.	1. U	1.65	1.65	0.5 U	5.64	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,870.	1. U	50.	10,400.	1,400.	1,1-DCE = 27.3
			23-Sep-09		155.	3.26	5.18	1. U	2.93	2.93	0.5 U	3.74	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	312.	1. U	13.3	1,800.	742.	1,1-DCE = 12.6
			27-Oct-09		232.	4.68	17.3	2.45	12.5	14.95	0.5 U	4.3	0.5 U	0.61	0.5 U	-	0.88	0.5 U	1. U	0.5 U	1. U	130.	1. U	6.96	1,710.	719.	1,1-DCE = 4.91
			18-Nov-09		241.	4.83	20.5	2.22	15.9	18.12	0.5 U	4.04	0.5 U	0.56	0.5 U	-	0.79	0.5 U	1. U	0.5 U	1. U	19.8	1. U	1.75	467.	432.	1,1-DCE = 5.32
			22-Dec-09		196.	5.54	21.4	4.57	21.	25.57	0.5 U	6.13	0.5 U	0.77	0.5 U	-	0.5 U	1.58	1. U	0.5 U	1. U	31.9	1. U	1.37	424.	246.	1,1-DCE = 3.79
			20-Jan-10		393.	5.15	19.3	3.72	19.2	22.92	0.5 U	5.25	0.5 U	0.69	0.5 U	-	0.5 U	1.26	1. U	0.5 U	1. U	65.7	1. U	1.57	528.	601.	1,1-DCE = 4.9
			1-Mar-10		178.	2.91	22.3	4.24	19.5	23.74	0.5 U	91.5	0.5 U	0.3 U	0.5 U	-	1.39	0.86	1. U	0.5 U	1. U	11.	1. U	0.8	164.	148.	1,1-DCE = 1.93
			26-Mar-10		240.	3.25	25.4	4.99	20.8	25.79	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	1.25	0.83	1. U	0.5 U	1. U	52.3	1. U	1.34	415.	169.	1,1-DCE = 1.49
	HAI	5237-070712-WS21-112	12-Jul-07		930.	9.1	45.2	2. U	30.6	39.3	4. U	-	4. U	10. U	-	-	-	-	-	-	-	4. U	4. U	9.9	610.	284.	
		5237-080521-WS21-112-108	21-May-08		510.	6.2	35.	7.1	23.	30.1	0.23 U	4.7 J	0.2 U	2. J	0.5 J	-	3.5 J	0.6 J	0.22 U	0.21 U	0.27 U	310.	0.39 U	4.8	1,500.	640.	1,1-DCE = 8.
		5237-080925-WS-21-112-137	25-Sep-08		380.	7.3	48.	9.2	31.	40.2	0.045 U	3.6	0.039 U	2.6	0.67 J	-	4.7	0.57 J	0.044 U	0.041 U	0.054 U	3.8	0.077 U	1.6	81.	220.	1,1-DCA = 0.2 J, A = 2.8 J 1,1-DCE = 1.5, CD = 0.07 J p-IPT = 0.12 J sec-B = 0.08 J, tert-B = 0.05 J
		5237-090407-WS21-112-108	7-Apr-09		210.	4. J	5. J	3.9 U	8.5 J	8.5 J	2.3 U	100. U	2. U	1.6 U	1.9 U	-	1.9 U	2.1 U	2.2 U	2.1 U	2.7 U	1,500.	3.9 U	17. J	7,200.	1,300.	1,1-DCE = 24. J
		5237-090820-WS-21-112-165	20-Aug-09		114.	50. U	50. U	100. U	50. U	100. U	50. U	500. U	50. U	50. U	50. U	-	100. U	100. U	50. U	50. U	50. U	1,370.	50. U	50. U	6,040.	1,340.	
		5237-090820-WS-21-112-166	20-Aug-09		115.	50. U	50. U	100. U	50. U	100. U	50. U	500. U	50. U	50. U	50. U	-	100. U	100. U	25. U	50. U	50. U	1,300.	50. U	50. U	6,010.	1,130.	
		5237-100301-WS-21-112-106	1-Mar-10		209.	25. U	25. U	50. U	50. U	50. U	25. U	250. U	25. U	50. U	25. U	-	50. U	50. U	25. U	25. U	25. U	77.5	25. U	25. U	532.	267.	MC = 400
WS-21-131	MFA		29-Jan-09	115 - 130	248.	35.2	46.7	32.3	19.7	52.	0.5 U	649. U	0.87	0.4	0.5 U	-	3.58	1.04	1. U	0.5 U	1. U	0.3 U	1. U	4.02	156.	210.	2-B = 221, A = 263 CD = 3.1
			21-Apr-09		312.	70.9	108.	76.	46.7	122.7	0.5 U	2,210. U	1.	0.85	0.5 U	-	15.4	3.48	1. U	0.5 U	1. U	1.96	1. U	8.79	792.	589.	1,1-DCE = 0.64 2-B = 29.6 A = 48.4 CD = 1.13
			29-Jun-09		193.	34.6	30.6	22.3	19.	41.3	0.5 U	1,440. U	0.5 U	0.51	0.5 U	-	5.07	1.24	1. U	0.5 U	1. U	2.38	1. U	3.74	636.	424.	2-B = 48.9, A = 76.8
			28-Jul-09		53.7	5.36	3.37	1.22	0.61	1.83	0.5 U	42.7 U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.47	1. U	1.03	4.48	0.3 U	2-B = 19
			25-Aug-09		58.8	10.8	20.3	9.8	4.54	14.34	0.5 U	681. U	0.5 U	0.3 U	0.5 U	-	1.42	0.5 U	1. U	0.5 U	1. U	17.2	1. U	3.14	510.	280.	2-B = 18.8, A = 32.1 Acetylene = 150
			23-Sep-09		470.	49.2	55.6	35.9	23.	58.9	0.5 U	1,250. U	0.5 U	0.36	0.5 U	-	4.9	1.36	1. U	0.5 U	1. U	13.1	1. U	4.2	1,330.	487.	1,1-DCE = 1.13 A = 18.3
			27-Oct-09		254.	43.9	51.3	34.1	22.6	56.7	0.5 U	1,720. U	0.5 U	0.46	0.5 U	-	5.69	1.44	1. U	0.5 U	1. U	13.6	1. U	6.32	1,700.	1,350.	1,1-DCE = 1.73
			18-Nov-09		208.	39.	48.4	28.9	18.8	47.7	0.5 U	1,410. U	0.5 U	0.32	0.5 U	-	3.81	1.03	1. U	0.5 U	1. U	8.	1. U	3.33	1,030.	657.	1,1-DCE = 1.32
			22-Dec-09		204.	47.4	66.6	49.4	30.7	80.1	0.5 U	1,160. U	0.5 U	0.76	0.5 U	-	2.95	10.2	1. U	0.5 U	1. U	7.48	1. U	2.11	670.	443.	1,1-DCE = 0.76
			20-Jan-10		289.	33.7	48.	34.	22.6	56.6	0.5 U	911.	0.5 U	0.98	0.5 U	-	2.67	8.75	1. U	0.5 U	1. U	10.1	1. U	2.09	849.	739.	
			1-Mar-10		140.	30.1	42.7	27.2	19.7	46.9	0.5 U	331.	0.5 U	0.3 U	0.5 U	-	6.77	2.07	1. U	0.5 U	1. U	14.1	1. U	2.33	763.	590.	1,1-DCE = 0.85
			26-Mar-10		211.	43.2	59.1	37.5	27.2	64.7	0.5 U	376.	0.5 U	0.3 U	0.5 U	-	8.84	2.56	1. U	0.5 U	1. U	11.	1. U	1.86	924.	677.	1,1-DCE = 0.84
WS-22-112	MFA	WS-22-112	28-Jun-06	97 - 112	157.	<1 U	<1 U	<2 U	<1 U	<2 U	<1 U	-	<1 U	<1 U	<1 U	-	<1 U	<1 U	<1 U	<1 U	<1 U	584.	<1 U	7.21	3,060.	474.	2-B = 1,280, A = 70.3 1,1-DCE = 6.95
			27-Jul-06		722.	3.7	18.3	2.2	11.2	13.4	<1 U	-	<1 U	<1 U	<1 U	-	<1 U	<1 U	<1 U	<1 U	<1 U	592.	<1 U	6.91	2,130.	346.	2-B = 382, A = 105.
			25-Aug-06		628.	2.46	8.5	1.34	3.74	5.08	<1 U	-	<1 U	<0.6 U	<1 U	-	<1 U	<1 U	<2 U	<1 U	<2 U	482.	<2 U	5.38	2,490.	305.	2-B = 153, A = 43.1 n-B = 1.08, 1,1-DCE = 6.06
			25-Sep-06		493.	2.65	7.05	1.01	2.88	3.89	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.59	<0.5 U	<1 U	<0.5 U	<1 U	83.6	<1 U	16.6	2,780.	324.	2-B = 542, A = 173. n-B = 0.54, 1,1-DCE = 5.94
			24-Oct-06		424.	2.5	7.97	1.16	4.33	5.49	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.51	<0.5 U	<1 U	<0.5 U	<1 U	31.4	<1 U	24.	3,590.	607.	2-B = 959, A = 175. 1,1-DCE = 4.75
			19-Dec-06		263.	2.92	4.94	<1 U	4.47	4.47	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	1.65	<1 U	1.	195.	171.	2-B = 2,630, A = 388.
			24-Jan-07		177.	3.67	4.73	1.18	3.08	4.26	<0.5 U	-	<0.5 U	<1 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	2.14	<1 U	<0.5 U	20.5	25.2	2-B = 3,210, A = 544.
			22-Feb-07		148.	7.47	5.12	1.23	3.02	4.25	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	0.51	<0.5 U	<1 U	<0.5 U	<1 U	0.42	<1 U	<0.5 U	1.39	17.2	2-B = 151, A = 34.
			21-Mar-07		157.	7.85	3.12	<1 U	1.74	1.74	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	4.33	34.	2-B = 134, A = 54.4
			23-Apr-07		141.	12.3	4.44	<1 U	2.54	2.54	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	26.3	80.2	2-B = 36.7, A = 13.1
			22-May-07		118.	14.4	3.2	1.36	2.58	3.94	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	2.35	
			16-Nov-07		66.1	15.8	1.57	<1 U	1.42	1.42	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	0.72	
			14-Feb-08		74.3	13.6	1.02	<1 U	1.06	1.06	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	<0.3 U	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
					Analytical Results – ug/L (ppb)																						
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-22-112	MFA	WS-22-112	16-May-08	97 - 112	89.	11.	1.07	<1 U	0.83	0.83	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	0.93	<1 U	<0.5 U	0.51	0.58	
			13-Aug-08		69.3	10.6	0.97	<1 U	0.32	0.32	<0.5 U	-	<0.5 U	<0.3 U	<0.5 U	-	<0.5 U	<0.5 U	<1 U	<0.5 U	<1 U	<0.3 U	<1 U	<0.5 U	<0.3 U	1.18	
WS-23-116	MFA	WS-23-116	26-Jan-09	100 - 115	3,820.	231.	376.	252.	146.	398.	0.5 U	9,190.	2.16	7.9	1.43	-	59.5	15.4	1. U	0.5 U	1. U	2.87	1. U	5.	314.	95.6	4-IPT = 1.03
			22-Apr-09		3,450.	182.	364.	286.	166.	452.	0.5 U	9,520.	1.47	11.3	2.72	-	86.7	22.6	1. U	0.5 U	1. U	5.67	1. U	16.6	531.	149.	1,1-DCE = 1.14 4-IPT = 2.25
			30-Jun-09		2,430.	104.	156.	124.	172.	296.	0.5 U	17,500.	0.5 U	13.2	4.08	-	122.	30.2	1. U	0.5 U	1. U	4.62	1. U	5.47	369.	86.3	4-IPT = 3.49
			24-Jul-09		4,460.	243.	485.	432.	229.	661.	0.5 U	20,200.	0.5 U	22.9	6.77	-	152.	49.8	1. U	0.5 U	1. U	5.35	1. U	14.	860.	80.9	4-IPT = 8.33, A = 33.2 CD = 1.51
			25-Aug-09		4,120.	262.	552.	342.	130.	472.	0.5 U	19,000.	0.5 U	20.1	4.83	-	167.	43.9	1. U	0.5 U	1. U	6.27	1. U	14.5	419.	161.	1,1-DCE = 1.7 4-IPT = 3.31
			24-Sep-09		5,380.	369.	769.	491.	316.	807.	0.5 U	10,200.	0.5 U	17.6	4.75	-	141.	38.4	1. U	0.5 U	1. U	7.34	1. U	11.6	1,230.	133.	1,1-DCE = 1.33 4-IPT = 3.32 n-But = 0.98
			28-Oct-09		2,060.	240.	468.	360.	221.	581.	0.5 U	16,700.	0.5 U	20.8	5.82	-	106.	44.4	1. U	0.5 U	1. U	7.28	1. U	12.	541.	99.2	1,1-DCE = 1.46 4-IPT = 3.87 n-But = 1.27
			18-Nov-09		4,480.	394.	808.	612.	323.	935.	0.5 U	20,600.	0.5 U	28.5	7.29	-	57.1	164.	1. U	0.5 U	1. U	4.6	1. U	15.8	958.	137.	1,1-DCE = 1.11 4-IPT = 4.8
			28-Dec-09		3,890.	324.	693.	581.	306.	887.	0.5 U	16,100.	0.5 U	26.7	7.27	-	54.6	167.	1. U	0.5 U	1. U	6.74	1. U	14.	810.	143.	1,1-DCE = 1. 4-IPT = 4.86
			19-Jan-10		4,590.	548.	985.	985.	509.	1,494.	0.5 U	16,900.	0.5 U	28.9	7.51	-	55.	250.	1. U	0.5 U	1. U	4.	1. U	20.	826.	314.	
			18-Feb-10		4,470.	381.	810.	656.	346.	1,002.	0.5 U	16,800.	0.5 U	25.3	7.42	-	51.7	175.	1. U	0.5 U	1. U	4.99	1. U	27.6	937.	153.	1,1-DCE = 1.47
			24-Mar-10		5,640.	438.	1,010.	929.	436.	1,365.	0.5 U	9,350.	0.5 U	35.4	8.35	-	218.	57.8	1. U	0.5 U	1. U	7.77	1. U	20.5	939.	213.	1,1-DCE = 1.31 4-IPT = 5.78, n-But = 1.68
WS-24-111	MFA	WS-24-111	28-Jan-09	100 - 110	57.4	0.5 U	0.65	1. U	0.3 U	1. U	0.5 U	3.55	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1.12	1. U	55.8	2,800.	823.	1,1-DCE = 9.97 CD = 1.72
			21-Apr-09		46.2	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	199.	1. U	82.	4,550.	1,010.	1,1-DCE = 6.14
			29-Jun-09		67.2	0.77	0.65	1. U	0.42	0.42	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.61	1. U	1,380.	1. U	72.9	5,690.	1,740.	1,1-DCE = 7.05 4-C = 0.5 n-But = 0.64
			27-Jul-09		62.5	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	822.	1. U	34.	12,300.	1,190.	1,1-DCE =10.4
			25-Aug-09		85.5	0.5	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,790.	1. U	56.5	16,400.	1,720.	1,1-DCE =15.5
			24-Sep-09		76.9	0.52	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,260.	1. U	53.2	5,400.	1,090.	1,1-DCE =16.4
			28-Oct-09		86.3	0.61	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,570.	1. U	37.1	6,160.	2,510.	1,1-DCE =18.1
			18-Nov-09		79.2	0.7	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,420.	1. U	42.7	15,700.	1,690.	1,1-DCE =14.6
			22-Dec-09		90.5	0.76	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,050.	1. U	132.	6,210.	841.	1,1-DCE =14.6
			20-Jan-10		96.6	0.72	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,580.	1. U	76.3	8,520.	1,870.	
			26-Feb-10		75.	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,740.	1. U	11.8	8,010.	1,760.	
			25-Mar-10		82.	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,450.	1. U	22.4	7,930.	1,380.	
WS-24-126	MFA	WS-24-126	28-Jan-09	115 - 125	0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.51	1. U	0.5 U	1.53	0.66	
			21-Apr-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.4	1. U	0.5 U	1.1	0.3 U	CD = 2.48
			29-Jun-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			27-Jul-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.67	0.3 U	
			25-Aug-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.35	1. U	0.5 U	0.67	0.3 U	
			24-Sep-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.59	0.3 U	
			28-Oct-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.11	0.79	
			18-Nov-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.74	0.3 U	
			22-Dec-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.75	0.33	
			20-Jan-10		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.42	0.3 U	
			26-Feb-10		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.31	1. U	0.5 U	0.3 U	0.3 U	
			25-Mar-10		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.33	1. U	0.5 U	0.3 U	0.3 U	
WS-24-155	MFA	WS-24-155	12-Mar-09	140 - 155	0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	Chloroform = 0.63
			17-Mar-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	Chloroform = 0.33
			27-Mar-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	Chloroform = 1.85
			10-Apr-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	Chloroform = 0.36
			30-Jun-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			28-Jul-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	2.18	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
		(duplicate)	28-Jul-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
		(triplicate)	28-Jul-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			29-Jul-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
		(duplicate)	29-Jul-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			12-Aug-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			24-Sep-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			29-Oct-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			20-Nov-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			28-Dec-09		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			21-Jan-10		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			1-Mar-10		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	
			25-Mar-10		0.3 U	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	0.3 U	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																						
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-25-96	MFA	WS-25-96	23-Jan-09	85 - 95	12.5	1.05	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	11.8	1. U	47.1	2,250.	1,610.	1,1-DCE = 6.21 CD = 1.14
			21-Apr-09		11.	0.81	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	5.21	1. U	24.7	2,510.	782.	1,1-DCE = 4.85
			29-Jun-09		17.8	1.23	0.5 U	1. U	0.59	0.59	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	8.25	1. U	24.9	1,950.	774.	1,1-DCE = 7.62
			28-Jul-09		9.21	0.56	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	3.57	1. U	9.07	2,040.	330.	1,1-DCE = 4.64 2-B = 156. A = 15.5
			25-Aug-09		33.2	1.54	0.5 U	1. U	0.31	0.31	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	208.	1. U	13.	3,460.	1,630.	1,1-DCE = 20.1
			23-Sep-09		10.7	1.48	0.5 U	1. U	0.3 U	1. U	0.5 U	1.84	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	8.99	1. U	5.7	2,030.	471.	1,1-DCE = 8.15
			27-Oct-09		13.2	1.51	0.5 U	1. U	0.3 U	1. U	0.5 U	1.08	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	4.94	1. U	10.7	2,620.	1,350.	1,1-DCE = 7.8
			19-Nov-09		11.6	1.32	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	5.99	1. U	10.4	2,700.	950.	1,1-DCE = 7.76
			21-Dec-09		15.2	1.67	0.5 U	1. U	0.32	0.32	0.5 U	1.18	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	2.8	1. U	8.39	1,590.	530.	1,1-DCE = 6.44
			19-Jan-10		12.4	1.03	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1.81	1. U	1.85	2,820.	1,280.	1,1-DCE = 5.11
			26-Feb-10		14.9	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1.55	1. U	2.42	2,050.	1,020.	1,1-DCE = 4.24
			26-Mar-10		15.3	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	11.7	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1.46	1. U	3.22	2,060.	934.	1,1-DCE = 4.53
WS-25-111	MFA	WS-25-111	26-Jan-09	100 - 110	31.8	2.	0.5 U	1. U	0.35	0.35	0.5 U	1.34	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	61.	1. U	9.37	1,760.	1,550.	1,1-DCE = 3.68
			21-Apr-09		36.9	2.32	0.5 U	1. U	0.42	0.42	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	51.3	1. U	20.3	1,520.	1,130.	1,1-DCE = 6.03
			29-Jun-09		21.7	1.32	0.5 U	1. U	0.72	0.72	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	19.9	1. U	3.1	839.	748.	1,1-DCE = 2.34 CE(a) = 1.1 CM = 1.12
			28-Jul-09		1.34	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	10.5	1. U	2.68	363.	300.	1,1-DCE = 1.18 2-B = 152. A = 30.8 Chloroform = 3.3
			25-Aug-09		26.8	1.8	0.5 U	1. U	0.39	0.39	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	72.6	1. U	2.64	1,440.	1,180.	1,1-DCE = 11
			23-Sep-09		39.7	3.08	0.79	1. U	0.68	0.68	0.5 U	1.28	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	45.3	1. U	4.79	1,620.	853.	1,1-DCE = 12.5
			27-Oct-09		38.7	3.43	0.5 U	1. U	0.66	0.66	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	55.9	1. U	1.7	912.	971.	1,1-DCE = 13.6
			19-Nov-09		38.	2.91	0.5 U	1. U	0.57	0.57	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	53.1	1. U	4.64	1,710.	1,250.	1,1-DCE = 10.2
			21-Dec-09		42.1	3.35	0.5 U	1. U	0.93	0.93	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	63.2	1. U	1.3	1,020.	594.	1,1-DCE = 8.49
			19-Jan-10		30.	1.7	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	46.4	1. U	0.94	1,320.	1,020.	1,1-DCE = 4.42 CM = 0.81
			25-Feb-10		37.3	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	67.8	1. U	1.38	1,470.	1,070.	1,1-DCE = 5.03
			26-Mar-10		36.6	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	135.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	39.2	1. U	1.13	1,080.	930.	1,1-DCE = 4.98
WS-26-86	MFA	WS-26-86	23-Jan-09	75 - 85	13.5	1.35	0.5 U	1. U	1.64	1.64	0.5 U	3.43	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	2.7	8.85	CD = 1.19
			20-Apr-09		13.5	1.5	0.5 U	1. U	1.58	1.58	0.5 U	2.29	0.5 U	0.3	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	2.13	7.03	
			30-Jun-09		12.2	0.94	0.5 U	1. U	0.3 U	1. U	0.5 U	6.4	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	1.21	
			24-Jul-09		16.6	1.33	0.5 U	1. U	1.58	1.58	0.5 U	4.41	0.5 U	0.7	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.48	3.17	
			26-Aug-09		11.6	0.95	0.5 U	1. U	0.56	0.56	0.5 U	1.28	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.57	2.57	
			23-Sep-09		10.5	0.83	0.5 U	1. U	0.56	0.56	0.5 U	1.13	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.58	1.66	
			27-Oct-09		9.95	1.	0.5 U	1. U	0.55	0.55	0.5 U	1.2	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.39	1.74	
			19-Nov-09		10.9	0.98	0.5 U	1. U	0.78	0.78	0.5 U	1.52	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.38	1.8	
			21-Dec-09		14.4	1.19	0.5 U	1. U	1.18	1.18	0.5 U	1.75	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.65	1.41	
			19-Jan-10		13.2	0.99	0.5 U	1. U	0.3 U	1. U	0.5 U	1.4	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	1.6	
			25-Feb-10		11.	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	1.24	
			24-Mar-10		12.2	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	1.37	
WS-26-116	MFA	WS-26-116	23-Jan-09	105 - 115	6.96	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.96	1. U	5.94	250.	86.6	CD = 15.9
			20-Apr-09		7.85	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.56	1. U	0.77	15.3	15.8	
			30-Jun-09		7.25	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.4	1. U	0.5 U	6.74	5.45	
			23-Jul-09		14.	0.5 U	0.5 U	1. U	0.3	0.3	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	6.65	8.45	
			24-Aug-09		12.4	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.36	1. U	0.5 U	1.7	6.3	
			23-Sep-09		11.5	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.18	3.49	
			27-Oct-09		12.1	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.9	3.69	
			19-Nov-09		12.9	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.37	3.	
			21-Dec-09		15.9	0.5 U	0.5 U	1. U	0.35	0.35	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.66	1.51	
			19-Jan-10		15.8	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.3 U	1.48	
			25-Feb-10		14.3	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	3.02	12.	
			24-Mar-10		14.6	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.47	2.79	
WS-27-86	MFA	WS-27-86	22-Jan-09	70 - 85	1.97	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.32	1. U	0.5 U	0.77	3.2	
			20-Apr-09		2.33	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.45	1. U	0.5 U	0.89	3.11	
			30-Jun-09		4.31	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.53	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.79	2.02	
			23-Jul-09		4.76	0.5 U	0.5 U	1. U	0.51	0.51	0.5 U	2.33	0.5 U	0.77	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.37	4.65	
			24-Aug-09		2.45	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.47	1. U	0.5 U	0.98	4.47	
			23-Sep-09		1.77	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.86	2.23	
			26-Oct-09		2.28	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.15	4.15	
			19-Nov-09		2.48	0.5 U	0.5 U	1. U	0.3	0.3	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.98	4.21	
			21-Dec-09		3.35	0.5 U	0.5 U	1. U	0.46	0.46	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	1.35	2.98	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-27-86	MFA	WS-27-86	19-Jan-10	70 - 85	1.77	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.73	4.68	
			19-Feb-10		2.98	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	0.91	2.86	
			24-Mar-10		3.05	0.5 U	0.5 U	1. U	0.3 U	1. U	0.5 U	1. U	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	0.34	1. U	0.5 U	0.77	2.53	
WS-30-96	MFA	WS-30-96	11-Feb-09	85 - 95	628.	30.2	111.	79.9	46.6	126.5	0.5 U	1,470.	1.1	4.07	1.59	-	34.5	9.36	1. U	0.5 U	1. U	80,900.	1. U	151.	17,200.	33.1	1,1-DCE = 54. 1,1-DCA = 0.62, 1,2-DCA = 0.5 p-IPT = 0.88 1,1,2-TCA = 4.55, A = 13.8 CM = 0.85 Chloroform = 0.59
			24-Mar-09		219.	29.8	108.	95.4	49.4	144.8	0.5 U	1,870.	0.5 U	5.73	1.88	-	29.9	9.18	1. U	0.5 U	1. U	108,000.	1. U	301.	34,300.	29.3	1,1-DCA = 0.74, A = 13.7 1,1-DCE = 148. 4-IPT = 1.05 1,1,2-TCA = 3.27, Chloroform = 0.4 Dichlorodifluoromethane = 57.1
			26-May-09		167.	28.2	109.	78.1	38.4	116.5	0.5 U	3,840.	0.5 U	3.07	1.66	-	23.7	6.99	1. U	0.5 U	1. U	4,600.	1. U	2,010.	164,000.	75.	2-B = 51.1, A = 10.7 1,1-DCE = 255. p-IPT = 0.54
			20-Jul-09		151.	20.2	63.6	54.	29.9	83.9	0.5 U	4,780.	0.5 U	3.34	1.06	-	21.	6.48	1. U	0.5 U	1. U	2,990.	1. U	2,070.	221,000.	150.	1,1-DCE = 646. 1,1-DCA = 0.58, 2-B = 123 1,2-DCA = 0.88, A = 29 p-IPT = 0.68 CE(a) = 9.74
			3-Sep-09		152.	23.1	92.3	85.8	41.1	126.9	0.5 U	4,500.	0.5 U	5.66	2.	-	12.	43.6	1. U	0.5 U	1. U	1,840.	1. U	1,100.	253,000.	349.	1,1-DCE = 338. 2-B = 638. 1,1,2-TCA = 1.17, A = 233 p-IPT = 1.42 CE(a) = 18
			21-Oct-09		138.	16.2	59.2	38.9	19.	57.9	2.5 U	2,960.	2.5 U	1.65	2.5 U	-	11.6	3.45	5. U	2.5 U	5. U	692.	5. U	714.	200,000.	468.	1,1-DCE = 423. 2-B = 949, A = 242 CE(a) = 18.6
			15-Dec-09		97.	16.3	53.6	37.8	18.4	56.2	2.5 U	12,000.	2.5 U	1.5	2.5 U	-	4.5	13.6	5. U	2.5 U	5. U	90.7	5. U	861.	152,000.	643.	1,1-DCE = 451. 2-B = 701
			16-Feb-10		114.	19.5	80.8	68.6	35.3	103.9	0.5 U	3,580.	0.5 U	4.73	2.11	-	10.9	36.3	1. U	0.5 U	1. U	83.2	1. U	2,350.	183,000.	655.	1,1-DCE = 662. 1,1,2-TCA = 1.19, A = 238 2-B = 1470, p-IPT = 1.2 2-H = 10.1 CE(a) = 19.1 Dichlorodifluoromethane = 10.1
WS-31-106	MFA	WS-31-106	20-Feb-09	95 - 105	91.8	6.03	58.8	25.4	15.2	40.6	0.5 U	1,030.	0.5 U	1.99	0.96	-	9.56	3.	1. U	0.5 U	1. U	23,800.	1. U	639.	44,800.	261.	1,1-DCE = 123.
			6-Apr-09		43.2	7.09	14.9	8.81	4.42	13.23	0.5 U	865.	0.5 U	0.57	0.5 U	-	3.82	1.47	1. U	0.5 U	1. U	121.	1. U	628.	29,700.	822.	1,1-DCE = 118.
			27-May-09		28.	7.04	11.5	7.71	4.69	12.4	0.5 U	418.	0.5 U	0.83	0.5 U	-	6.09	1.9	1. U	0.5 U	1. U	21.4	1. U	108.	18,000.	4,390.	1,1-DCE = 45.6 2-B = 161 A = 16 CE(a) = 6.57
			23-Jul-09		24.1	3.45	6.75	4.82	2.87	7.69	0.5 U	647.	0.5 U	0.63	0.5 U	-	4.27	1.37	1. U	0.5 U	1. U	2.93	1. U	346.	32,900.	5,570.	1,1-DCE = 27.3 2-B = 730 A = 103 CE(a) = 10.1
			27-Aug-09		33.8	2.85	7.92	3.21	1.28	4.49	0.5 U	316.	0.5 U	0.3 U	0.5 U	-	1.84	0.6	1. U	0.5 U	1. U	3.64	1. U	227.	39,900.	7,420.	1,1-DCA = 0.51 2-B = 1,740 1,1-DCE = 51.7 A = 93.8
			26-Oct-09		31.5	4.11	7.06	5.27	2.47	7.74	0.5 U	842.	0.5 U	0.6	0.53	-	1.65	5.14	1. U	0.5 U	1. U	2.28	1. U	184.	32,400.	7,080.	1,1-DCE = 49.7 2-B = 2,220. A = 278 CE(a) = 16.2 Bromomethane = 1.15
			18-Dec-09		23.8	3.68	7.54	3.8	1.76	5.56	0.5 U	410.	0.5 U	0.5	0.5 U	-	7.64	1.66	1. U	0.5 U	1. U	1.57	1. U	84.	21,100.	4,730.	2-B - 3,580, A = 184 1,1-DCE = 30.1 CE(a) = 10.2
			24-Feb-10		12.8	0.5 U	1.74	1. U	0.3 U	1. U	0.5 U	485.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.82	1. U	0.5 U	1. U	0.3 U	1. U	4.37	5,090.	7,080.	2-B = 1,690, A = 81.2 1,1-DCE = 1.08
WS-32-76	MFA	WS-32-76	23-Feb-09	61 - 71	888.	58.	248.	161.	95.7	256.7	0.5 U	3,070.	0.5 U	11.6	3.35	-	51.3	13.9	1. U	0.5 U	1. U	44,500.	1. U	857.	96,600.	25.6	1,1-DCE = 284. 1,1-DCA = 0.34, p-IPT = 1.5 1,1,2-TCA = 6.63, A = 20.9
			26-Mar-09		628.	35.	137.	67.2	50.8	118.	0.5 U	2,700.	1.54	4.73	1.8	-	40.6	10.3	1. U	0.5 U	1. U	17,300.	1. U	773.	110,000.	68.8	1,1-DCE = 200. 1,1,2-TCA = 8.5, 2-B = 22.1 1,2-DCA -1.07, A = 23.2 1,2,3-TCB = 1.46, p-IPT = 1.69 1,2,4-TCB = 1.21, n-B = 1.52
			26-May-09		865.	22.3	125.	78.8	51.2	130.	0.5 U	2,690.	0.5 U	4.73	0.5 U	-	37.	11.	1. U	0.5 U	1. U	3,020.	1. U	531.	113,000.	350.	1,1,2-TCA = 6.73, 2-B = 662 p-IPT = 1.23, A = 172 1,1-DCE = 330. CE(a) = 16.1
			22-Jul-09		635.	38.1	148.	76.	51.4	127.4	0.5 U	2,800.	2.73	7.56	4.2	-	42.8	14.4	1. U	0.5 U	1. U	821.	1. U	511.	177,000.	490.	1,1-DCE = 348. 1,1,2-TCA = 4.97, 2-B = 762 1,2-DCA = 1.34, A = 207 2-H = 10.6 p-IPT = 4.2, n-B = 2.69 CE(a) = 13.4
			27-Aug-09		674.	38.6	148.	73.1	47.7	120.8	0.5 U	2,820.	0.5 U	4.53	5. U	-	31.4	6.5	10. U	5. U	10. U	497.	1. U	568.	147,000.	866.	1,1-DCE = 386. 1,1-DCA = 0.66, 2-B = 1,510 1,1,2-TCA = 6.63, A= 255
			26-Oct-09		834.	47.8	158.	134.	70.3	204.3	0.5 U	4,980.	0.76	8.01	4.54	-	17.8	60.4	1. U	0.5 U	1. U	124.	1. U	564.	139,000.	668.	1,1,2-TCA = 4.13, 2-B = 1,970 1,2-DCA = 1.92 1,1-DCE = 330. p-IPT = 2.15, CE(a) = 29.3 Bromomethane = 1.73 A = 257
			18-Dec-09		650.	32.2	141.	83.8	52.6	136.4	0.5 U	1,110.	0.55	6.49	5. U	-	33.8	8.2	10. U	5. U	10. U	51.6	1. U	520.	153,000.	1,390.	1,1-DCE = 338. 1,1,2-TCA = 2.17, 2-B = 3,230 A = 1,440 CE(a) = 18.7
			24-Feb-10		1,090.	40.8	156.	111.	62.6	173.6	0.5 U	10,100.	0.5 U	6.93	4.82	-	66.8	20.4	1. U	0.5 U	1. U	52.1	1. U	997.	125,000.	8,200.	1,1-DCE = 359. 2-B = 5010 1,1,2-TCA = 2.87 A = 156 1,2,3-TCP = 0.9 CE(a) = 18.7

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-32-106	MFA	WS-32-106	23-Feb-09	91 - 101	**35.6**	**26.1**	**16.6**	**8.12**	3.6	11.72	0.5 U	**830.**	0.5 U	0.73	0.5 U	-	4.43	2.01	1. U	0.5 U	1. U	**17,400.**	1. U	**163.**	**15,200.**	**40.1**	1,1-DCE = 55.8 Chloroform = 0.31
			26-Mar-09		**47.2**	2.71	**18.9**	**7.43**	6.82	14.25	0.5 U	**570.**	0.5 U	0.89	0.54	-	7.56	1.59	1. U	0.5 U	1. U	**152.**	1. U	**400.**	**36,700.**	**545.**	1,1-DCE = 62.4 2-B = 65.8 2-H = 10.2
			26-May-09		**48.2**	3.14	**18.6**	**9.4**	5.77	15.17	0.5 U	**616.**	0.5 U	1.02	0.6	-	7.93	2.45	1. U	0.5 U	1. U	**192.**	1. U	**284.**	**21,400.**	**708.**	1,1-DCE = 56.6 2-B = 991 A = 148. CE(a) 27.6
			22-Jul-09		**50.2**	3.55	**18.7**	**9.39**	5.74	15.13	0.5 U	**566.**	0.5 U	1.27	0.68	-	7.43	2.2	1. U	0.5 U	1. U	**139.**	1. U	41.3	**65,800.**	**1,250.**	1,1-DCE = 35.1 2-B = 711. CE(a) = 28.2
			27-Aug-09		**45.2**	1.7	**12.4**	**4.58**	2.54	7.12	0.5 U	**306.**	0.5 U	0.4	0.5 U	-	6.35	1.4	1. U	0.5 U	1. U	**109.**	1. U	**382.**	**55,800.**	**2,850.**	1,1-DCE = 85.3 2-B = 2,090 2-H = 13. A = 1,700.
			26-Oct-09		**58.3**	4.38	**23.6**	**12.9**	6.84	19.74	0.5 U	**647.**	0.5 U	1.24	0.93	-	2.63	10.2	1. U	0.5 U	1. U	**124.**	1. U	**317.**	**53,600.**	**5,990.**	1,1-DCE = 147. 2-B = 4,120. 2-H = 16.6 A = 1,640. BM = 1.49 CE(a) = 82.9
			18-Dec-09		**45.5**	2.64	**20.6**	**8.87**	5.12	13.99	0.5 U	**740.**	0.5 U	1.28	0.8	-	10.4	2.74	1. U	0.5 U	1. U	**30.5**	1. U	**474.**	**56,100.**	**4,490.**	1,1-DCE = 79.6 2-B = 8,160. 2-H = 20.9 A = 3,050. CE(a) = 73.5
			24-Feb-10		**43.7**	1.91	**22.5**	**11.4**	6.11	17.51	0.5 U	**396.**	0.5 U	0.3 U	0.84	-	10.7	3.39	1. U	0.5 U	1. U	**9.45**	1. U	**425.**	**60,000.**	**7,790.**	1,1-DCE = 73.6 2-B = 5,320 2-H = 32.9 A = 9,800. CE(a) = 60.3
WS-33-81	MFA	WS-33-81	2-Feb-09	70 - 80	**3,350.**	**45.3**	**469.**	**202.**	**71.4**	**273.4**	0.5 U	**6,640.**	2.08	12.6	5.73	-	**103.**	28.1	1. U	0.5 U	1. U	**21,400.**	1. U	**953.**	**81,600.**	**79.**	1,1-DCE = 258. 4-IPT =3.03 1,1,2-TCA = 4.7 s-B = 0.61
			26-Mar-09		**1,070.**	**31.4**	**141.**	**104.**	**42.6**	146.6	0.5 U	**4,540.**	3.12	7.28	3.18	-	**57.9**	15.4	1. U	0.5 U	1. U	**4,990.**	1. U	**806.**	**135,000.**	**86.1**	1,1-DCE = 174. 4-IPT = 1.95
			22-May-09		**694.**	**22.5**	**89.6**	**39.8**	**23.5**	63.3	0.5 U	**1,870.**	1.11	3.63	1.73	-	**25.5**	6.21	1. U	0.5 U	1. U	**496.**	1. U	**1,080.**	**148,000.**	**147.**	1,1-DCE = 55.2 CE(a) = 5.85 2-B = 494. A = 204. 4-IPT = 1.35
			21-Jul-09		**1,210.**	**38.1**	**168.**	**87.7**	**39.9**	127.6	0.5 U	**7,670.**	0.58	7.09	2.8	-	**40.2**	12.	1. U	0.5 U	1. U	**1,150.**	1. U	**1,060.**	**106,000.**	**738.**	1,1-DCE = 288. 2-B = 676 1,1,2-TCA = 1.12 4-IPT = 1.48
			27-Aug-09		**1,040.**	**37.2**	**129.**	**90.5**	**39.2**	129.7	0.5 U	**3,210.**	0.5 U	5.61	3.65	-	**55.8**	15.4	1. U	0.5 U	1. U	**1,100.**	1. U	**752.**	**128,000.**	**999.**	1,1-DCA = 0.59 2-B = 1,240. 1,1-DCE = 222. 4-IPT = 1.84 A = 217. 1,1,2-TCA = 1.55
			23-Oct-09		**916.**	**37.6**	**233.**	**158.**	**53.3**	**211.3**	0.5 U	**6,360.**	0.79	8.84	4.89	-	**17.2**	58.9	1. U	0.5 U	1. U	**431.**	1. U	**704.**	**104,000.**	**4,130.**	1,1-DCE = 214. 2-B = 1,230. 1,1,2-TCA = 1.67 A = 151. 4-IPT = 1.76 CE(a) = 28.8
			21-Dec-09		**628.**	**29.**	**144.**	**92.2**	**41.8**	134.	0.5 U	**1,490.**	0.81	7.58	2.98	-	**48.4**	15.1	1. U	0.5 U	1. U	**92.2**	1. U	**465.**	**126,000.**	**3,720.**	1,1-DCE = 120. 2-B = 1,190. 1,1,2-TCA = 1.04 A = 182. 4-IPT = 1.77 CE(a) = 19.3 CD = 18.1 n-B = 0.54
			18-Feb-10		**1,480.**	**44.6**	**237.**	**169.**	**75.2**	**244.2**	0.5 U	**6,370.**	2.09	12.1	4.85	-	**78.1**	23.2	1. U	0.5 U	1. U	**160.**	1. U	**816.**	**158,000.**	**8,890.**	1,1,2-TCA = 1.81, 2-B = 2,360 1,2-DCA = 2.84, 2-B = 2,360 2-H = 12.4 CE(a) = 29 Dichlorodifluoromethane = 19.9
WS-33-106	MFA	WS-33-106	30-Jan-09	95 - 105	**22.4**	1.97	**2.68**	1. U	0.46	1.46	0.5 U	**478.**	0.5 U	0.3 U	0.5 U	-	0.68	0.5 U	1. U	0.5 U	1. U	**5,160.**	1. U	**706.**	**44,300.**	**79.**	1,1-DCE = 42.6
			26-Mar-09		**15.6**	1.46	**2.25**	1.33	0.71	2.04	0.5 U	**111.**	0.5 U	0.3 U	0.5 U	-	1.1	0.5 U	1. U	0.5 U	1. U	**43.**	1. U	**713.**	**31,600.**	**782.**	1,1-DCE = 34.3 2-B = 12. A = 11.2
			21-May-09		**19.**	1.45	**3.43**	**1.98**	1.05	3.03	0.5 U	**306.**	0.5 U	0.3 U	0.5 U	-	1.27	0.5 U	1. U	0.5 U	1. U	**35.9**	1. U	**243.**	**23,200.**	**4,840.**	1,1-DCE = 12.9 2-B = 136. A = 93.2
			21-Jul-09		**40.3**	1.56	**6.11**	**2.99**	1.81	4.8	0.5 U	**248.**	0.5 U	0.3 U	0.5 U	-	1.79	0.52	1. U	0.5 U	1. U	**58.9**	1. U	53.4	**11,200.**	**10,700.**	1,1-DCE = 9.11 2-B = 865. A = 95.2 CE(a) = 7.61
			27-Aug-09		**106.**	1.5	**14.3**	**5.05**	1.8	6.85	0.5 U	**207.**	0.5 U	0.3 U	0.5 U	-	1.06	0.5 U	1. U	0.5 U	1. U	0.72	1. U	29.2	**1,300.**	**1,960.**	1,1-DCE = 1.62 2-B = 1,740. A = 282
			23-Oct-09		**135.**	2.76	**18.5**	**11.**	4.91	15.91	0.5 U	**305.**	0.5 U	0.51	0.5 U	-	0.82	3.37	1. U	0.5 U	1. U	0.38	1. U	21.3	**1,190.**	**2,410.**	1,1-DCE = 3.23 2-B = 2,170. A = 498 CE(a) = 20.5 CD = 1.53
			18-Dec-09		**76.9**	1.48	**8.21**	**2.93**	1.28	4.21	0.5 U	**168.**	0.5 U	0.3 U	0.5 U	-	0.71	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	17.8	**11.5**	2-B = 2,730. A = 169. CE(a) 3.23
			24-Feb-10		**55.9**	0.5 U	**9.08**	**3.8**	0.3 U	4.1	0.5 U	**72.8**	0.5 U	0.3 U	0.5 U	-	0.5 U	0.87	1. U	0.5 U	1. U	0.68	1. U	0.5 U	15.3	**32.6**	2-B = 863. A = 139
WS-34-71	MFA	WS-34-71	13-Feb-09	60 - 70	**1,380.**	**23.4**	**50.5**	**23.**	10.8	33.8	0.5 U	**2,090.**	0.77	1.08	0.75	-	7.99	2.14	1. U	0.5 U	1. U	**2,910.**	1. U	**2,900.**	**142,000.**	**170.**	1,1-DCA = 0.37 2-B = 124. 1,1-DCE = 187. 4-IPT - 0.52 1,1,2-TCA = 5.25 A = 91.1
			2-Apr-09		**777.**	**23.7**	**83.**	**22.6**	6.75	29.35	0.5 U	**704.**	0.61	0.59	0.5 U	-	5.41	1.2	1. U	0.5 U	1. U	**462.**	1. U	**1,100.**	**79,600.**	**3,590.**	1,1-DCE = 94.1 2-B = 114. A = 102 CD = 156.
			27-May-09		**1,180.**	**27.1**	**79.5**	**31.3**	11.8	43.1	0.5 U	**923.**	0.5 U	1.19	0.5 U	-	7.3	2.06	1. U	0.5 U	1. U	**70.6**	1. U	**867.**	**64,900.**	**17,800.**	1,1-DCE = 206. 2-B = 301. A = 151.
			16-Jul-09		**1,180.**	**24.**	**78.2**	**28.6**	9.01	37.61	0.5 U	**691.**	0.5 U	0.64	0.5 U	-	3.49	0.85	1. U	0.5 U	1. U	**44.8**	1. U	**1,260.**	**75,500.**	**38,800.**	1,1-DCE = 201. 2-B = 143. 1,2-DCA = 0.74 A = 100. CD = 25.3 CE(a) = 3.95 Dichlorodifluoromethane = 110
			1-Sep-09		**593.**	**30.5**	**96.4**	**39.**	12.3	51.3	0.5 U	**225.**	0.5 U	1.33	0.78	-	2.57	8.21	1. U	0.5 U	1. U	**81.1**	1. U	**1,210.**	**62,000.**	**46,300.**	1,1-DCE = 120. 2-B = 421. 4-IPT = 0.61 A = 166. DC = 128.
			22-Oct-09		**638.**	**11.9**	**45.5**	**11.2**	2.32	13.52	0.5 U	**537.**	0.5 U	0.31	0.5 U	-	1.83	0.6	1. U	0.5 U	1. U	**4.11**	1. U	**511.**	**58,800.**	**68,100.**	1,1-DCE = 80.8 2-B = 886. A = 157. CE(a) = 2.66

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-34-71	MFA	WS-34-71	17-Dec-09	60 - 70	604.	37.1	128.	47.9	16.2	64.1	0.5 U	773.	0.5 U	1.62	1.19	-	3.03	11.6	1. U	0.5 U	1. U	10.7	1. U	640.	57,600.	61,900.	1,1-DCE = 4.25 2-B = 775. A = 273. 4-IPT = 0.88 BM = 4.48 CE(a) = 2.66
			23-Feb-10		968.	30.9	93.4	43.1	12.3	55.4	0.5 U	229.	0.5 U	0.3 U	0.5	-	5.63	1.81	1. U	0.5 U	1. U	1.7	1. U	763.	32,800.	43,800.	1,1-DCE = 54.6 2-B = 1,200 A = 255
WS-34-106	MFA	WS-34-106	17-Feb-09	95 - 105	8.67	0.75	6.28	1.74	1.28	3.02	0.5 U	40.8	0.5 U	0.3 U	0.5 U	-	0.74	0.5 U	1. U	0.5 U	1. U	104.	1. U	5.4	534.	32.	1,1-DCE = 1.62 2-B = 21.2 Chloroform = 10.5
			2-Apr-09		7.59	1.05	4.34	1.27	0.69	1.96	0.5 U	119.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1.32	1. U	262.	3,440.	2,490.	1,1-DCE = 2.28 2-B = 287. A = 18.1 CD = 39.1
			27-May-09		5.69	1.84	5.38	1.92	1.	2.92	0.5 U	172.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1.	1. U	9.68	1,430.	1,600.	1,1-DCE = 1.72 2-B = 591. A = 16.2
			16-Jul-09		6.41	1.2	4.59	2.15	1.22	3.37	0.5 U	163.	0.5 U	0.3 U	0.5 U	-	0.69	0.5 U	1. U	0.5 U	1. U	0.75	1. U	1.01	27.2	20.	2- B = 1,010. A = 16.8 CE(a) = 2.59
			1-Sep-09		4.39	0.97	3.82	1.17	0.66	1.83	0.5 U	163.	0.5 U	0.3 U	0.5 U	-	0.5 U	1.43	1. U	0.5 U	1. U	0.53	1. U	0.5 U	1.96	8.37	2- B = 220. A = 15.7 CD = 6.02
			21-Oct-09		2.45	1.03	3.74	1.25	0.75	2.	0.5 U	112.	0.5 U	0.3 U	0.5 U	-	0.61	0.5 U	1. U	0.5 U	1. U	0.3 U	1. U	0.5 U	2.36	22.8	CE(a) = 2.65
			16-Dec-09		3.79	1.12	4.38	2.1	1.21	3.31	0.5 U	115.	0.5 U	0.3 U	0.5 U	-	0.79	0.5 U	1. U	0.5 U	1. U	0.38	1. U	0.5 U	1.23	8.91	CE(a) = 1.6
			23-Feb-10		2.11	0.5 U	3.27	1.82	0.3 U	2.12	0.5 U	69.	0.5 U	0.3 U	0.5 U	-	0.5 U	0.81	1. U	0.5 U	1. U	1.56	1. U	0.5 U	0.51	4.67	
WS-35-76	MFA	WS-35-76	17-Feb-09	65 - 75	662.	25.5	11.7	3.8	2.33	6.13	0.5 U	13.3	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	2,050.	1. U	1,300.	103,000.	4,980.	1,1-DCE = 156. 2-B = 74. 1,1,2-TCA = 4.85 Chloroform = 1.03
			2-Apr-09		404.	19.6	8.81	2.8	2.22	5.02	0.5 U	32.	0.5 U	0.3 U	0.5 U	-	0.56	0.5 U	1. U	0.5 U	1. U	286.	1. U	735.	95,500.	2,590.	1,1-DCE = 132. 2-B = 891. 1,2-DCA = 1.97 A = 85.2 CD = 4.26
			27-May-09		363.	22.1	10.3	5.27	3.56	8.83	0.5 U	7.54	0.5 U	0.3 U	0.5 U	-	1.41	0.5 U	1. U	0.5 U	1. U	240.	1. U	354.	76,700.	3,680.	1,1-DCE = 189. 2-B = 963. 1,1,2-TCA = 1.03 A = 147. CE(a) = 23.
			22-Jul-09		404.	24.4	11.3	5.99	3.83	9.82	0.5 U	37.6	0.5 U	0.33	0.5 U	-	0.96	0.5 U	1. U	0.5 U	1. U	318.	1. U	528.	98,000.	2,580.	1,1-DCE = 232. 2-B = 929. A = 90.2 CE(a) = 21.5
			1-Sep-09		358.	28.2	14.1	7.73	4.89	12.62	0.5 U	25.4	0.5 U	0.31	0.5 U	-	0.54	2.69	1. U	0.5 U	1. U	179.	1. U	907.	165,000.	2,250.	1,1-DCE = 228. 2-B = 2,290. 2-H = 21.8 1,1,2-TCA = 2.05 A = 673. CE(a) = 25.6
			22-Oct-09		526.	20.9	8.82	5.12	2.79	7.91	0.5 U	113.	0.5 U	0.3 U	0.5 U	-	0.5 U	1.36	1. U	0.5 U	1. U	142.	1. U	499.	116,000.	2,760.	1,1-DCE = 428. 2-B = 2,050. 2-H = 23.4 1,1,2-TCA = 1.64 A = 1,250 CE(a) = 27.1
			17-Dec-09		355.	26.7	14.5	7.26	4.5	11.76	0.5 U	111.	0.5 U	0.34	0.5 U	-	2.15	0.5 U	1. U	0.5 U	1. U	84.7	1. U	322.	146,000.	3,160.	1,1-DCA = 0.69 2-B = 3,190 1,1-DCE = 218. 2-H = 25.4 1,1,2-TCA = 1.13 A = 1,850. CD = 3.85
			23-Feb-10		568.	34.2	15.6	7.67	3.93	11.6	0.5 U	25.9	0.5 U	0.3 U	0.5 U	-	0.5 U	0.83	1. U	0.5 U	1. U	44.4	1. U	401.	143,000.	9,780.	1,1-DCE = 313. 2-H = 18.2 1,1,2-TCA = 1.67, 2-B = 3,060 1,2-DCA = 1.38, A = 189 CE(a) = 36.8 CM = 1.03
WS-35-106	MFA	WS-35-106	17-Feb-09	95 - 105	77.2	20.4	27.6	21.7	12.8	34.5	0.5 U	217.	0.5 U	0.67	0.5 U	-	2.48	0.8	1. U	0.5 U	1. U	157,000.	1. U	602.	74,000.	133.	1,1-DCE = 395. 2-B = 82.7
			30-Mar-09		68.2	16.1	18.8	13.6	8.61	22.21	0.5 U	182.	0.5 U	0.34	0.5 U	-	2.73	0.54	1. U	0.5 U	1. U	9,920.	1. U	515.	169,000.	244.	1,1-DCE = 702. 2-B = 275.
			27-May-09		74.4	17.1	18.	7.75	5.01	12.76	0.5 U	164.	0.5 U	0.3 U	0.5 U	-	1.55	0.5 U	1. U	0.5 U	1. U	4,450.	1. U	578.	205,000.	1,290.	1,1-DCE = 688. 2-H = 16. A = 43.2 CE(a) = 6.64
			22-Jul-09		71.2	18.7	19.8	15.	8.72	23.72	0.5 U	446.	0.5 U	0.59	0.5 U	-	2.88	0.88	1. U	0.5 U	1. U	565.	1. U	2,000.	247,000.	1,980.	1,1-DCE = 718. 2-B = 149. A = 43.2 CE(a) = 18.1
			1-Sep-09		85.8	20.7	23.1	18.3	9.97	28.27	0.5 U	5,500.	0.5 U	0.5	0.5 U	-	1.2	5.47	1. U	0.5 U	1. U	108.	1. U	2,820.	348,000.	4,860.	1,1-DCA = 1.3 2-H = 10.6 1,1-DCE = 497. 2-B = 266. A = 301. CE(a) 26.9
			22-Oct-09		80.	22.9	23.9	21.	9.98	30.98	0.5 U	169.	0.5 U	0.49	0.5 U	-	1.02	4.1	1. U	0.5 U	1. U	20.3	1. U	264.	285,000.	10,300.	1,1-DCE = 867. 2-B = 330. A = 186. BM = 1.48 CE(a) = 24.2
			17-Dec-09		60.8	20.8	21.	14.	9.12	23.12	0.5 U	220.	0.5 U	0.4	0.5 U	-	0.72	2.39	1. U	0.5 U	1. U	14.9	1. U	1,460.	281,000.	11,400.	1,1-DCE = 1,470. 2-B = 379. A = 176. 2-H = 14.2 BM = 2.41 CE(a) = 23.
			23-Feb-10		69.5	18.1	24.8	17.1	9.98	27.08	0.5 U	280.	0.5 U	0.55	0.5 U	-	1.08	3.59	1. U	0.5 U	1. U	8.84	1. U	1,100.	265,000.	12,900.	1,1-DCE = 756. 2-B = 684. A = 152 2-H = 152 CD = 35.8
WS-36-81	MFA	WS-36-81	2-Feb-09	70 - 80	620.	32.4	32.1	13.	7.28	20.28	0.5 U	469.	0.5 U	1.1	0.99	-	9.02	2.38	1. U	0.5 U	1. U	13,800.	1. U	1,070.	68,000.	3,090.	1,1-DCE = 426. 2-B = 29.6 1,1,2-TCA = 5.64 A = 37.8 Chloroform = 0.84
			30-Mar-09		818.	45.6	38.4	18.6	8.8	27.4	0.5 U	329.	0.5 U	1.26	1.16	-	5.54	1.93	1. U	0.5 U	1. U	13,400.	1. U	1,250.	143,000.	2,520.	1,1-DCE = 398. 2-B = 28.1 1,1,2-TCA = 3.98 A = 47.2 1,2-DCA = 1.42
			21-May-09		384.	36.2	21.2	9.13	6.43	15.56	0.5 U	504.	0.5 U	1.09	0.81	-	4.69	1.31	1. U	0.5 U	1. U	3,890.	1. U	925.	160,000.	2,040.	1,1-DCA = 0.45 2-B = 87.4 1,1-DCE = 165. A = 90.2 1,1,2-TCA = 3.95 CD = 89.4

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-36-81	MFA	WS-36-81	21-Jul-09	70 - 80	776.	34.6	24.	13.2	7.07	20.27	0.5 U	286.	0.5 U	1.51	1.04	-	6.71	2.33	1. U	0.5 U	1. U	105.	1. U	2,290.	209,000.	13,400.	1,1-DCA = 0.33 2-B = 146. 1,1-DCE = 427. A = 49.6 4-IPT = 0.74 CD = 338.
			1-Sep-09		614.	40.4	25.4	12.9	6.43	19.33	0.5 U	1,030.	0.5 U	0.84	0.71	-	1.59	4.96	1. U	0.5 U	1. U	68.5	1. U	1,380.	234,000.	20,500.	1,1-DCE = 512. 2-B = 210. 1,1,2-TCA = 1.75 A = 75.5 CD = 712.
			22-Oct-09		741.	45.1	25.5	15.3	7.05	22.35	0.5 U	175.	0.5 U	0.98	1.1	-	1.65	5.74	1. U	0.5 U	1. U	44.7	1. U	635.	202,000.	45,900.	1,1-DCE = 516. 2-B = 253. 1,1,2-TCA = 2.06 A = 92.2 1,2-DCA = 1.56 CD = 7.95
			17-Dec-09		650.	34.4	23.3	10.3	5.27	15.57	0.5 U	224.	0.5 U	0.74	0.64	-	3.63	1.18	1. U	0.5 U	1. U	22.7	1. U	1,190.	158,000.	48,300.	1,1-DCA = 0.38, 2-B = 355. 1,1,DEC = 236. A = 103. 1,2-DCA = 1.79 CD = 129.
			23-Feb-10		834.	37.1	23.4	12.	6.92	18.92	0.5 U	317.	0.5 U	1.07	0.86	-	1.62	5.16	1. U	0.5 U	1. U	18.1	1. U	1,640.	129,000.	70,100.	1,1-DCA = 0.58, 2-B = 750 1,1-DCE = 337. CD = 206. 1,1,2-TCA = 1.33, A - 118
WS-36-106	MFA	WS-36-106	3-Feb-09	95 - 105	8.45	1.66	1.5	1. U	0.3 U	1.3	0.5 U	21.6	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	705.	1. U	1,140.	26,100.	1,810.	1,1-DCE = 42.5 2-B = 14.1 CD = 1.78
			30-Mar-09		11.2	2.28	1.73	1. U	0.3 U	1.3	0.5 U	11.1	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,300.	1. U	417.	26,000.	6,990.	1,1-DCE = 29.9 2-B = 27.8
			21-May-09		13.2	1.73	1.76	1. U	0.46	1.46	0.5 U	80.1	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	1,360.	1. U	158.	13,600.	11,700.	1,1-DCE = 40.4 2-B = 784. A = 546. CE(a) = 27.6
			21-Jul-09		16.4	3.05	2.39	1.54	0.99	2.53	0.5 U	37.7	0.5 U	0.3 U	0.5 U	-	0.51	0.5 U	1. U	0.5 U	1. U	316.	1. U	160.	21,600.	13,200.	1,1-DCE = 64.4 2-B = 870. A = 507. CE(a) 37.
			1-Sep-09		18.5	2.99	4.48	2.95	1.44	4.39	0.5 U	10.8	0.5 U	0.3 U	0.5 U	-	0.6	3.28	1. U	0.5 U	1. U	42.8	1. U	300.	34,100.	12,800.	1,1-DCE = 37.5 2-B = 2,270. 2-H = 13.3 A = 2,680. CE(a) = 31.9
			22-Oct-09		17.7	2.96	2.49	1.61	0.8	2.41	0.5 U	29.9	0.5 U	0.3 U	0.5 U	-	0.5 U	0.5 U	1. U	0.5 U	1. U	28.	1. U	92.8	27,500.	13,300.	1,1-DCE = 72.8 2-B = 2,560. 2-H = 13.8 A = 930. BM = 1.67 CE(a) = 38.5
			17-Dec-09		15.1	2.49	2.19	1.45	0.84	2.29	0.5 U	16.9	0.5 U	0.3 U	0.5 U	-	1.44	0.5 U	1. U	0.5 U	1. U	10.4	1. U	173.	27,300.	9,180.	1,1-DCE = 34.7 2-B = 6,500. 2-H = 19.8 A = 2,260. CD = 1.81 CE(a) = 27.6
			23-Feb-10		14.8	2.74	2.63	1.46	0.91	2.37	0.5 U	13.8	0.5 U	0.3 U	0.5 U	-	0.5 U	0.75	1. U	0.5 U	1. U	7.58	1. U	340.	27,800.	9,290.	1,1-DCE = 34.7 2-B = 6,500. 2-H = 19.8 CE(a) = 27.6 A = 2,260. CD = 1.81
WS-37-51	MFA	WS-37-51	12-Feb-09	40 - 50	1,310.	765.	651.	236.	125.	361.	0.5 U	1,860.	14.4	5.73	2.42	-	49.5	11.7	1. U	0.5 U	1. U	1,790.	1. U	622.	53,700.	475.	1,1-DCE = 71.7 2-B = 39.9 4-IPT = 0.91 A = 19.5 CM = 0.65
			25-Mar-09		1,550.	165.	331.	222.	116.	338.	0.5 U	2,760.	10.3	11.8	3.78	-	45.9	12.7	1. U	0.5 U	1. U	151.	1. U	179.	31,400.	270.	1,1-DCE = 71.1 2-B = 614. 4-IPT = 1.85 A =156. Dichlorodifluoromethane = 28.
			27-May-09		2,600.	207.	280.	152.	82.5	234.5	0.5 U	3,290.	5.63	6.53	2.61	-	41.	12.	1. U	0.5 U	1. U	5.26	1. U	122.	23,800.	290.	1,1-DCE = 73.7 2-B = 462. 4-IPT = 1.03 A = 161. CE(a) = 5.64
			22-Jul-09		1,800.	110.	170.	135.	71.9	206.9	0.5 U	3,880.	3.62	7.4	2.3	-	33.6	9.51	1. U	0.5 U	1. U	3.17	1. U	592.	27,300.	584.	1,1-DCE = 72.1 2-B = 659. 4-IPT = 1.2 A = 205. CD = 6.55
			3-Sep-09		1,760.	112.	218.	145.	79.1	224.1	0.5 U	3,770.	1.91	6.77	2.02	-	8.45	34.	1. U	0.5 U	1. U	1.84	1. U	262.	16,800.	3,130.	1,1-DCE = 50.4 2-B = 850. 4-IPT = 0.66 A = 734. CE(a) = 6.22
			19-Oct-09		1,520.	93.6	201.	111.	66.5	177.5	0.5 U	4,180.	0.5 U	5.46	2.25	-	34.2	7.72	1. U	0.5 U	1. U	0.97	1. U	123.	23,500.	5,720.	1,1-DCE = 50.3 2-B = 912. 4-IPT = 0.6 A = 999. CE(a) = 9.56
			16-Dec-09		1,490.	125.	95.4	172.	93.1	265.1	0.5 U	7,760.	0.5 U	9.53	3.59	-	13.5	55.7	1. U	0.5 U	1. U	0.51	1. U	129.	3,600.	1,410.	1,1-DCE = 15.1 2-B = 1,120. 4-IPT = 1.23 A = 778. CE(a) = 5.61
			25-Feb-10		2,480.	77.1	150.	120.	68.9	188.9	0.5 U	3,510.	0.5 U	4.61	1.91	-	38.4	9.25	1. U	0.5 U	1. U	0.91	1. U	95.5	7,610.	2,130.	1,1-DCE = 8.01 2-B = 3,120 A = 1.050.
WS-38-61	MFA	WS-38-61	28-Jan-09	50 - 60	1,620.	46.8	162.	21.5	14.	35.5	0.5 U	1,270.	2.44	1.2	0.9	-	9.74	2.15	1. U	0.5 U	1. U	495.	1. U	244.	7,170.	841.	1,1-DCE = 109. 2-B = 551. A = 53.5 Chloroform = 1.31
			25-Mar-09		879.	44.9	143.	33.9	18.6	52.5	0.5 U	915.	0.72	4.07	1.98	-	18.7	3.96	1. U	0.5 U	1. U	3.61	1. U	144.	43,800.	2,160.	1,1-DCE = 108. 2-B = 1,790. 4-IPT = 0.58 A = 232. Dichlorodifluoromethane = 12.9
			21-May-09		1,100.	37.8	162.	25.6	17.1	42.7	0.5 U	1,940.	2.32	3.14	1.72	-	18.2	2.58	1. U	0.5 U	1. U	20.6	1. U	117.	9,760.	17,500.	1,1-DCE = 15.7 2-B = 2,050 4-IPT = 0.88 A = 395.
			22-Jul-09		3,260.	45.9	151.	33.2	18.7	51.9	0.5 U	4,600.	0.51	3.8	1.44	-	16.7	3.12	1. U	0.5 U	1. U	1.34	1. U	71.	4,120.	19,600.	1,1-DCE = 7.71 2-B = 7,710. A = 266. CE(a) = 4.51
			28-Aug-09		1,370.	36.2	161.	20.3	10.2	30.5	0.5 U	1,230.	0.5 U	1.39	1.15	-	9.1	1.27	1. U	0.5 U	1. U	0.48	1. U	34.2	897.	15,900.	1,1-DCE = 1.71 2-B = 1,960 A = 328.
			21-Oct-09		705.	22.4	92.8	10.2	4.94	15.14	0.5 U	706.	0.5 U	0.87	0.71	-	4.31	0.79	1. U	0.5 U	1. U	0.55	1. U	12.9	189.	4,210.	1,1-DCE = 0.88 2-B = 2,250. A = 401 CE(a) = 7.58
			17-Dec-09		789.	27.3	81.2	12.	5.82	17.82	0.5 U	565.	0.5 U	0.94	0.53	-	3.47	0.63	1. U	0.5 U	1. U	0.35	1. U	3.95	91.1	1,200.	2-B = 4,820. CE(a) = 3.03 A = 1,930.
			24-Feb-10		1,330.	29.7	90.8	14.3	7.18	21.48	0.5 U	560.	0.5 U	0.3 U	0.5 U	-	3.92	1.18	1. U	0.5 U	1. U	0.3 U	1. U	1.6	27.8	130.	2-B = 1,760. A = 52.8 CM = 0.51

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
	EPA 2004 NRWQC (organism only)				51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
	Portland Harbor specific fish consumption rate				5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
	DEQ 2004 AWQC (organism only)				51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
	MCL				5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
	DEQ 2004 AWQC (chronic) [6]				#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
	Oak Ridge National Laboratory (Tier II SCV) [2]				130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
WS-39-101	MFA	WS-39-101	29-Jan-09	90 - 100	**40.4**	**11.2**	**30.6**	**22.5**	11.5	34.	0.5 U	**772.**	0.5 U	0.76	0.5 U	-	10.4	2.71	1. U	0.5 U	1. U	**120,000.**	1. U	**254.**	**21,600.**	**44.**	1,1-DCE = 41. 1,1,2-TCA = 3.13 Chloroform = 0.93
			24-Mar-09		**42.6**	**13.2**	**41.1**	**32.5**	**15.5**	48.	0.5 U	**636.**	0.5 U	1.8	0.82	-	13.2	4.18	1. U	0.5 U	1. U	**71,300.**	1. U	**213.**	**26,900.**	**157.**	1,1-DCE = 82.3 4-IPT = 0.51 1,1,2-TCA = 3.1 Dichlorodifluoromethane = 67.8
			21-May-09		**42.2**	**12.**	**26.9**	**19.2**	10.4	29.6	0.5 U	**777.**	0.5 U	0.61	0.5 U	-	7.55	1.79	1. U	0.5 U	1. U	**67,600.**	1. U	**443.**	**37,300.**	**143.**	1,1-DCE =88.5 1,1,2-TCA =2.52
			20-Jul-09		**63.3**	**14.8**	**41.3**	**30.5**	**16.1**	46.6	0.5 U	**1,490.**	0.5 U	1.16	0.5 U	-	11.9	2.84	1. U	0.5 U	1. U	**68,700.**	1. U	**1,070.**	**121,000.**	**431.**	1,1-DCE = 402. 2-B = 11.2 1,1,2-TCA = 3.03 A = 13.6
			4-Sep-09		**56.8**	**11.6**	**30.8**	**21.3**	11.2	32.5	0.5 U	**1,320.**	0.5 U	0.56	0.5 U	-	7.32	1.75	1. U	0.5 U	1. U	**12,500.**	1. U	**1,180.**	**155,000.**	**3,570.**	1,1-DCE = 354. 2-B = 56.8 1,1,2-TCA = 1.3
			21-Oct-09		**55.9**	**13.7**	**36.**	**27.8**	**15.8**	43.6	0.5 U	**656.**	0.5 U	1.27	0.66	-	11.9	3.32	1. U	0.5 U	1. U	**6,520.**	1. U	**486.**	**156,000.**	**2,750.**	1,1,-DCA = 0.37 2-B = 158. 1,1-DCE = 267. A = 42.3 1,1,2-TCA =1.33 CE(a) = 8.52
			14-Dec-09		**57.9**	**17.**	**45.2**	**34.3**	**17.5**	51.8	0.5 U	**1,340.**	0.5 U	1.65	0.86	-	4.51	15.2	1. U	0.5 U	1. U	**7,800.**	1. U	**866.**	**128,000.**	**4,320.**	1,1-DCE = 220. 2-B = 180. 1,1,2-TCA = 1.78 A = 32.5 CD = 68.5 CE(a) = 7.74
			16-Feb-10		**84.3**	**14.6**	**41.4**	**32.5**	**16.2**	48.7	0.5 U	**980.**	0.5 U	1.09	0.87	-	3.5	13.2	1. U	0.5 U	1. U	**7,780.**	1. U	**3,320.**	**130,000.**	**8,000.**	1,1,2-TCA = 1.67, 2-B = 478. 1,1-DCE = 301. A = 56.3 DC = 39.8 Dichlorodifluoromethane = 25
MW-3-81	HAI	5237-100316-MW-3-81-109	16-Mar-10	76-81	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1.59	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-01-31	URS		17-Apr-00	25-30	0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Fall-00		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			26-Jun-01		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		5-Apr-02		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			15-Apr-04		U	U	U	-	-	U	-	U	-	U	U	-	U	U	-	-	-	U	-	U	U	U	
RP-01-51	URS		17-Apr-00	45-50	**1.12**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Fall-00		0.16	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			26-Jun-01		0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		8-Apr-02		**0.5**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			15-Apr-04		**0.64**	U	U	-	-	U	37.	U	-	U	U	-	U	U	**270.**	8.1	**76.8**	**4.52**	-	0.48	4.64	**10.1**	
(duplicate)			15-Apr-04		**0.6**	U	U	-	-	U	35.	U	-	U	U	-	U	U	**270.**	8.1	**76.8**	**4.56**	-	0.52	4.62	**9.98**	
RP-01-65	URS		17-Apr-00	59-64	**27.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Fall-00		**13.7**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			26-Jun-01		**41.4**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		5-Apr-02		**4.75**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			15-Apr-04		**7.7**	U	U	-	-	U	**84.**	U	-	U	U	-	U	U	**678.**	20.3	**186.**	**11.8**	-	1.1	9.95	**19.7**	
RP-03-26	URS		7-Apr-00	20-25	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
RP-03-30R	URS		Fall-00	23-28	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			27-Jun-01		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		10-Apr-02		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			19-Apr-04		U	-	**5.1**	-	-	8.9	7.2	**1,720.**	-	2.5	U	-	**18.9**	7.8	-	-	-	U	-	U	U	U	
	HAI	5237-100413-RP-03-30R-104	13-Apr-10		**0.75**	1.26	**2.45**	**2.95**	2.21	5.16	9.07	**31.4**	1. U	1.54	0.5 U	-	9.49	4.38	0.77	0.5 U	0.97	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	p-IPT = 1.41
RP-03-52R	URS		Fall-00	46-51	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			27-Jun-01		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		10-Apr-02		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			19-Apr-04		U	U	U	-	-	U	-	U	-	U	U	-	U	U	-	-	-	U	-	U	U	U	
	HAI	5237-100413-RP-03-52R-105	13-Apr-10		0.5 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-06-31	URS		14-Apr-00	24.5 - 29.5	**0.45**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Fall-00		0.18	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			27-Jun-01		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		10-Apr-02		U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	HAI	5237-100413-RP-06-31-100	13-Apr-10		0.5 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-06-87	URS		14-Apr-00	81 - 86	**3.1**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			Fall-00		**1.85**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			27-Jun-01		**1.85**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	AMEC		10-Apr-02		**1.65**	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			15-Apr-04		**1.5**	U	U	-	-	U	**103.**	U	-	U	U	-	U	U	**583.**	13.5	**146.**	**18.6**	-	1.15	10.9	**19.8**	
	HAI	5237-100413-RP-06-87-101	13-Apr-10		**5.**	5. U	5. U	20. U	10. U	20. U	**132.**	50. U	10. U	10. U	5. U	-	10. U	20. U	**905.**	20.6	**213.**	**23.2**	5. U	5. U	21.8	**16.7**	
RP-06-95	HAI	5237-100413-RP-06-95-103	13-Apr-10	89.5-94.5	**3.77**	0.5 U	0.5 U	2. U	1. U	2. U	**366.**	5. U	1. U	1. U	0.5 U	-	1. U	2. U	**871.**	27.2	**263.**	**6.29**	0.5 U	1.87	15.7	**24.8**	
RP-07-30	AMEC		3-May-02	25-30	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	HAI	5237-070828-RP-7-30-106	28-Aug-07		0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
		5237-100317-RP-7-30-115	17-Mar-10		0.25 U	0.52	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																					
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
RP-07-55	AMEC		3-May-02	50-55	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
	HAI	5237-070827-RP-7-55-104	27-Aug-07		0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
		5237-100317-RP-7-55-113	17-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-07-84	AMEC		3-May-02	79-84	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Apr-04		1.9	U	U	-	-	U	107.	U	-	U	U	-	U	U	704.	19.6	190.	5.5	-	1.35	26.6	16.3	
	HAI	5237-070828-RP-7-84-107	28-Aug-07		1.39	0.4 U	0.4 U	2. U	1. U	2. U	140.	-	0.4 U	1. U	-	-	-	-	-	-	-	15.4	0.4 U	1.18	18.4	12.9	1,1-DCE = 2.4 MTBE = 1.57
		5237-070828-RP-7-84-108 (DUP)	28-Aug-07		1.31	0.4 U	0.4 U	2. U	1. U	2. U	136.	-	0.4 U	1. U	-	-	-	-	-	-	-	14.8	0.4 U	1.25	18.1	12.3	1,1-DCE = 2.33 MTBE = 1.56
		5237-100317-RP-7-84-114	17-Mar-10		1.09	0.5 U	0.5 U	2. U	1. U	2. U	140.	5. U	1. U	1. U	0.5 U	-	1. U	2. U	803.	24.3	213.	13.8	0.5 U	1.1	12.1	11.7	MTBE = 1.86, 1,1-DCE = 1.93
RP-07-119	AMEC		Spring-02	114-119	U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
			13-Apr-04		U	U	U	-	-	U	4.1	U	-	U	U	-	U	U	54.9	3.56	16.8	5.88	-	-	U	6.02	U	Chloroform = 0.44
	HAI	5237-100317-RP-7-119-116	17-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	12.1	5. U	1. U	1. U	0.5 U	-	1. U	2. U	192.	5.95	52.1	8.82	0.5 U	0.5 U	4.92	0.5 U	
RP-11-30	HAI	5237-070827-RP-11-30-101	27-Aug-07	15 - 30	0.4 U	0.75	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
RP-11-160	HAI	5237-070827-RP-11-160-102	27-Aug-07	150 - 160	0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
		5237-100317-RP-11-160-110	17-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100317-RP-11-160-111	17-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-11-216	HAI	5237-070827-RP-11-216-103	27-Aug-07	211 - 216	0.47	0.4 U	0.4 U	2. U	1. U	2. U	23.2	-	0.4 U	1. U	-	-	-	-	-	-	-	2.98	0.4 U	0.4 U	6.28	2.34	1,1-DCE = 0.63 MTBE = 3.94 Chloroform = 0.53
		5237-100317-RP-11-216-112	17-Mar-10		0.39	0.5 U	0.5 U	2. U	1. U	2. U	19.3	5. U	1. U	1. U	0.5 U	-	1. U	2. U	158.	4.19	39.7	1.86	0.5 U	0.5 U	4.22	2.37	MTBE = 6.16
RP-20-25	HAI	5237-100315-RP-20-25-102	15-Mar-10	10 - 25	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-20-97	HAI	5237-100315-RP-20-97-103	15-Mar-10	88 - 98	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.71	MTBE = 1.34
RP-21-28	HAI	5237-100315-RP-21-28-101	15-Mar-10	13 - 28	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-21-125	HAI	5237-100315-RP-21-125-100	15-Mar-10	102 - 125	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.57	0.5 U	0.5 U	0.5 U	0.5 U	
RP-22-29	HAI	5237-100318-RP-22-29-120	18-Mar-10	14 - 29	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	tert-B = 1.08
RP-22-75	HAI	5237-100318-RP-22-75-119	18-Mar-10	65 - 75	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-23-30	HAI	5237-100316-RP-23-30-104	16-Mar-10	15-30	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-23-85	HAI	5237-100316-RP-23-85-105	16-Mar-10	80 - 85	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-23-100	HAI	5237-100316-RP-23-100-106	16-Mar-10	95 - 100	1.8	0.5 U	0.5 U	2. U	1. U	2. U	81.5	5. U	1. U	1. U	0.5 U	-	1. U	2. U	318.	8.56	103.	0.77	0.5 U	0.51	7.97	7.09	MTBE = 3.26
RP-24-30	HAI	5237-070829-RP-24-30-109	29-Aug-07	25 - 30	0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
		5237-100318-RP-24-30-117	18-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	2. U	0.5 U	0.64	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-24-60	HAI	5237-070828-RP-24-60-110	28-Aug-07	55 - 60	0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
		5237-100318-RP-24-60-118	18-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-24-73	HAI	5237-070829-RP-24-73-113	29-Aug-07	68 - 73	0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	0.62	-	0.4 U	1. U	-	-	-	-	-	-	-	0.4 U	0.4 U	0.4 U	0.4 U	-	
RP-24-85	HAI	5237-070828-RP-24-85-111	28-Aug-07	80 - 85	1.86	0.4 U	0.4 U	2. U	1. U	2. U	59.3	-	0.4 U	1. U	-	-	-	-	-	-	-	14.	0.4 U	0.66	7.76	10.2	1,1-DCE = 1.68 Chloroform = 1.08
RP-25-30	HAI	5237-100316-RP-25-30-108	16-Mar-10	30-Oct-10	0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
RP-25-86	HAI	5237-100316-RP-25-86-107	16-Mar-10	81 - 86	0.34	4.04	1.22	4.9	1.97	6.87	0.5 U	5. U	1. U	1. U	0.5 U	-	1.22	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
NWN-1-20	HAI	5237-080807-NWN-1-20-107	7-Aug-08	10 - 20	610.	44.	88.	100.	87.	187.	2.3 U	6,600.	2. U	7.5 J	8. J	-	89. J	27. J	2.2 U	2.1 U	2.7 U	3.1 U	3.9 U	2.4 U	2.3 U	3.6 U	CD = 5.5 J p-IPT = 2.5 J
		5237-081211-NWN-1-20-019	11-Dec-08		690.	45.	120.	170.	160.	330.	1.2 U	8,400.	0.98 U	12. J	14. J	-	160.	47. J	1.1 U	1.1 U	1.4 U	1.6 U	2. U	1.2 U	1.2 U	1.8 U	1,2-DCA = 20. CD = 26. p-IPT = 5.3 J, sec-B = 2.5 J
		5237-090407-NWN1-20-105	7-Apr-09		440.	35.	91.	180.	190.	370.	1.2 U	4,300.	0.98 U	13. J	16. J	-	190.	55.	1.1 U	1.1 U	1.4 U	1.6 U	2. U	1.2 U	1.2 U	1.8 U	A = 110. J CD = 35. n-B = 8.3 J p-IPT = 4.8 J sec-B = 3.3 J
		5237-090604-NWN-1-20-103	4-Jun-09		480.	40.	110.	200.	210.	410.	5. U	3,600.	5. U	14. J	17. J	-	220.	68.	5. U	5. U	5. U	5. U	5. U	5. U	5. U	5. U	A = 77. J CD = 44. J n-B = 9.3 J p-IPT = 6.1 J
		5237-090818-NWN-1-20-148	18-Aug-09		470.	36.6	105.	174.	156.	330.	5. U	3,580.	5. U	11.7	15.9	-	188.	53.4	5. U	5. U	5. U	5. U	5. U	5. U	5. U	5. U	
		5237-100301-NWN-1-20-101	1-Mar-10		363.	30.5	95.	177.	170.	347.	25. U	2,270.	25. U	50. U	25. U	-	152.	50. U	25. U	25. U	25. U	25. U	25. U	25. U	25. U	25. U	MC = 380.
NWN-2-20	HAI	5237-080730-NWN2-20-101	30-Jul-08	10 - 20	18.	2.7	7.7	4.9	3.3	8.2	0.045 U	130.	0.039 U	1.4 J	0.53 J	-	3.8	1.1 J	0.05 J	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	1,2-DCA = 0.56 A = 4.2 J CD = 2.2 J n-B = 5.5, sec-B = 0.33 J p-IPT = 0.68 J
		5237-081211-NWN-2-20-017	11-Dec-08		58.	3.5	8.5	3.5	3.7	7.2	0.045 U	82.	0.039 U	1.9 J	0.96 J	-	2.6	0.64 J	0.09 J	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	1,2-DCA = 1.7 A = 2.5 J p-IPT = 0.49 J sec-B = 1.1 J, tert-B = 0.11 J

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
					Analytical Results – ug/L (ppb)																						
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
NWN-2-20	HAI	5237-090407-NWN2-20-107	7-Apr-09	10 - 20	**64.**	1.3	**2.2**	1.4	1.9	3.3	0.045 U	**36.**	0.13 J	1.3 J	0.93 J	-	0.99 J	0.36 J	0.05 J	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	n-B = 0.66 J p-IPT = 0.14 J sec-B = 1.2 J tert-B = 0.11 J
		5237-090604-NWN-2-20-101	4-Jun-09		**56.**	1.4	**3.8**	1.4	2.1	3.5	0.5 U	**29.**	0.22 J	1.2 J	0.8 J	-	0.97 J	0.38 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	Bromomethane = 0.1 J CD = 0.24 J CM = 0.06 J n-B = 0.58 J sec-B = 1.1 J tert-B = 0.13 J
		5237-090818-NWN-2-20-142	18-Aug-09		**32.3**	1.84	**5.52**	1.61	1.89	3.5	0.5 U	**29.3**	0.5 U	1.07	0.55	-	1. U	1. U	0.5 U	0.5 U	0.5 U	**2.19**	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100301-NWN-2-20-103	1-Mar-10		**27.2**	0.64	1.03	1. U	1.21	1.21	0.5 U	**8.11**	0.5 U	1.07	0.74	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
NWN-3-17	HAI	5237-080730-NWN3-17-100	30-Jul-08	7 - 17	0.08 J	0.22 J	0.042 U	0.09 J	0.11 J	0.2 J	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.04 J	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	A = 2.8 J CD = 0.05 J MC = 1.1 J n-B = 0.09 J
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-090407-NWN3-17-101	7-Apr-09		0.045 U	0.048 U	0.042 U	0.078 U	0.05 J	0.05 J	0.045 U	2. U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	tert-B = 0.05 J
		5237-090604-NWN-3-17-102	4-Jun-09		0.5 U	0.5 U	0.5 U	0.5 U	0.12 J	0.12 J	0.5 U	2. U	0.5 U	2. U	2. U	-	2. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	CD = 0.1 J CM = 0.06 J
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-100301-NWN-3-17-102	1-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
NWN-4-15	HAI	NS (Dry)	30-Jul-08	5 - 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-081211-NWN-4-15-021	11-Dec-08		**0.98**	0.2 U*	0.13 J	0.16 J	0.14 J	0.3 J	0.045 U	**22.**	0.039 U	0.031 U	0.037 U	-	0.09 J	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-090407-NWN4-15-103	7-Apr-09		0.045 U	0.06 J	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	2. U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	CM = 0.09 J
		5237-090604-NWN-4-15-100	4-Jun-09		0.19 J	0.08 J	0.06 J	0.5 U	0.5 U	0.5 U	0.5 U	2. U	0.5 U	2. U	2. U	-	2. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	MC = 0.63 J
		5327-090818-NWN-4-15-152	18-Aug-09		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100301-NWN-4-15-100	1-Mar-10		2.5 U	5. U	5. U	10. U	5. U	10. U	5. U	**748.**	5. U	5. U	5. U	-	10. U	10. U	5. U	5. U	5. U	5. U	5. U	5. U	5. U	5. U	
NWN-5-20	HAI	5237-080730-NWN5-20-103	30-Jul-08	10 - 20	**8.1**	6.4	**13.**	**14.**	6.8	20.8	0.45 U	**740.**	0.39 U	0.7 J	0.37 U	-	6.3 J	2.9 J	0.44 U	0.41 U	0.54 U	0.61 U	0.77 U	0.48 U	0.45 U	0.71 U	n-B = 12 J
		5237-081211-NWN-5-20-018	11-Dec-08		0.4 UR	0.46 J	**5.2**	1.7	2.7	4.4	0.06 J	**450.**	0.039 U	0.89 J	0.18 J	-	2.1	0.11 J	0.05 J	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	Bromodichloromethane = 0.21 J Bromoform = 0.51 Dibromochloromethane = 0.6 sec-B = 0.07 J, tert-B = 0.05 J
		5237-090408-NWN5-20-111	8-Apr-09		0.38 J	0.35 J	0.38 J	0.38 J	0.66	1.04 J	0.045 U	**82.**	0.039 U	0.2 J	0.04 J	-	0.51 J	0.15 J	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	tert-B = 0.04 J
		5237-090604-NWN-5-20-104	4-Jun-09		**0.66**	0.51	0.73	0.63	0.98	1.61	0.5 U	**110.**	0.5 U	0.19 J	2. U	-	0.74 J	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	
		5237-090818-NWN-5-20-150	18-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.5 U	1. U	0.5 U	**12.5**	0.5 U	0.5 U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100302-NWN-5-20-117	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
NWN-6-31	HAI	5237-080730-NWN6-31-104	30-Jul-08	21 - 31	**24.**	1.2 J	**32.**	**3.4** J	10.	13.4 J	15.	**1,700.**	0.78 U	7. J	1.8 J	-	**17.** J	8.2 J	2.8 J	0.82 U	4.6 J	1.3 U	1.6 U	0.96 U	2.4 J	1.5 U	
		5237-081211-NWN-6-31-020	11-Dec-08		**29.**	1. U*	**31.**	**3.6**	11.	14.6	18.	**1,600.**	0.2 U	7.3 J	1.8 J	-	**19.**	8.3 J	3.3	0.65 J	6.	0.31 U	0.39 U	0.24 U	1.3 J	0.36 U	1,2-DCA = 0.9 J p-IPT = 0.85 J, sec-B = 0.35 J
		5237-090408-NWN6-31-109	8-Apr-09		**27.**	0.9 J	**29.**	**3.6** J	10.	13.6 J	17.	**1,900.**	0.39 U	7.2 J	1.8 J	-	**18.** J	8.1 J	3.1 J	0.6 J	6.3	0.61 U	0.77 U	0.48 U	0.8 J	0.71 U	n-B = 1. J p-IPT = 0.8 J sec-B = 0.4 J
		5237-090604-NWN-6-31-106	4-Jun-09		**26.**	1.1 J	**43.**	**5.9**	**14.**	19.9	20.	**1,900.**	2.5 U	9.2 J	10. U	-	**29.**	13.	3.9	0.75 J	6.3	2.5 U	2.5 U	2.5 U	0.8 J	2.5 U	
		5327-090819-NWN-6-31-154	19-Aug-09		**22.6**	10. U	**32.4**	20. U	20. U	20. U	18.	**1,120.**	10. U	20. U	10. U	-	20. U	20. U	10. U	10. U	10. U	10. U	10. U	10. U	10. U	10. U	
		5237-100303-NWN-6-31-120	3-Mar-10		**19.4**	5. U	**35.1**	10. U	11.4	11.4	19.1	**1,360.**	5. U	6.8	5. U	-	**18.7**	10. U	5. U	5. U	6.7	5. U	5. U	5. U	5. U	5. U	
NWN-7-30	HAI	5237-080807-NWN-7-30-106	7-Aug-08	20 - 30	**1.2**	0.86	1.5	1.	2.7	3.7	1.2	**13.**	0.11 J	13.	1.2 J	-	0.77 J	0.16 J	0.19 J	0.041 U	0.15 J	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	CD = 0.06 J p-IPT = 0.09 J, n-B = 0.17 J sec-B = 0.44 J, tert-B = 0.2 J
		5237-081211-NWN-7-30-016	11-Dec-08		**0.81**	1.1	1.4	1.1	3.2	4.3	1.4	**2.5**	0.14 J	15.	1.5 J	-	0.77 J	0.17 J	0.26 J	0.041 U	0.18 J	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	2-CT = 0.04 J p-IPT = 0.12 J sec-B = 0.67 J, tert-B = 0.27 J
		5237-090408-NWN7-30-112	8-Apr-09		**37.**	1.	1.1	1.2	3.7	4.9	0.81	**15.**	0.05 J	12.	3.3	-	2.1	1.2 J	0.2 J	0.041 U	0.09 J	0.061 U	0.077 U	0.048 U	0.05 J	0.071 U	n-B = 0.47 J p-IPT = 0.23 J sec-B = 1.1 J tert-B = 0.28 J
		5237-090604-NWN-7-30-108	4-Jun-09		**4.2**	0.46 J	0.56	0.4 J	1.9	2.3 J	0.94	**2.** J	0.5 U	5.4	1.1 J	-	0.42 J	0.21 J	0.22 J	0.5 U	0.12 J	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	2-CT = 0.15 J MC = 0.27 J tert-B = 0.23 J
		5237-090818-NWN-7-30-144	18-Aug-09		**0.72**	0.52	0.5 U	1. U	1.64	1.64	1.33	0.755 U	0.5 U	4.29	0.6	-	1. U	1. U	0.5 U	0.5 U	0.5 U	1.49	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100301-NWN-7-30-104	1-Mar-10		**0.65**	0.51	0.68	1. U	1.75	1.75	1.5	5. U	0.5 U	6.81	0.73	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
NWN-8-30	HAI	5237-080730-NWN8-30-105	30-Jul-08	15 - 30	**0.51**	0.22 J	**5.7**	0.19 J	0.17 J	0.36 J	12.	**9.3**	0.039 U	0.18 J	0.037 U	-	0.17 J	0.042 U	1.1	0.15 J	1.1	0.061 U	0.077 U	0.048 U	0.19 J	0.071 U	CD = 0.05 J n-B = 0.37 J, sec-B = 0.04 J tert-B = 0.11J
		5237-081211-NWN-8-30-022	11-Dec-08		**0.55**	0.21 U*	**2.3**	0.17 J	0.17 J	0.34 J	16.	**4.8**	0.039 U	0.15 J	0.037 U	-	0.16 J	0.042 U	1.2	0.21 J	1.7	0.061 U	0.077 U	0.048 U	0.19 J	0.071 U	Bromodichloromethane = 0.08 J Bromoform = 0.14 J p-IPT = 0.11 J sec-B = 0.04 J, tert-B = 0.13 J
		5237-090408-NWN8-30-113	8-Apr-09		**0.65**	0.22 J	**3.4**	0.09 J	0.13 J	0.22 J	11.	**5.1**	0.039 U	0.17 J	0.037 U	-	0.07 J	0.042 U	1.1	0.16 J	1.3	0.061 U	0.077 U	0.048 U	0.11 J	0.071 U	tert-B = 0.09 J
		5237-090604-NWN-8-30-105	4-Jun-09		**0.61**	0.11 J	1.5	0.5 U	0.1 J	0.1 J	13.	**3.2**	0.5 U	0.15 J	2. U	-	2. U	2. U	1.1	0.19 J	1.4	0.5 U	0.5 U	0.5 U	0.13 J	0.5 U	tert-B = 0.12 J
		5237-090818-NWN-8-30-146	18-Aug-09		**0.58**	0.5 U	0.5 U	1. U	0.5 U	1. U	13.5	2. U	0.5 U	0.5 U	0.5 U	-	1. U	1. U	0.9	0.5 U	1.41	1.01	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100301-NWN-8-30-105	1-Mar-10		**0.98**	0.5 U	**1.85**	1. U	1. U	1. U	8.89	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.88	0.5 U	1.	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																						
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
NWN-9-31	HAI	5237-080807-NWN-9-31-108	7-Aug-08	16 - 31	4.4	0.3 J	2.8	1.6	3.5	5.1	0.045 U	14.	0.039 U	0.89 J	0.16 J	-	1.8 J	0.52 J	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.33 J	0.33 J	n-B = 0.13 J, sec-B = 0.19 J tert-B = 0.07 J
		5237-081211-NWN-9-31-023	11-Dec-08		20.	0.55	4.7	2.	3.4	5.4	0.06 J	11.	0.039 U	1.1 J	0.23 J	-	1.7 J	0.41 J	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.4 J	0.48 J	1,2-DCA = 0.56, p-IPT = 0.1 J sec-B = 0.15 J, tert-B = 0.08 J
		5237-090409-NWN9-31-121	10-Apr-09		16.	0.52	9.4	3.9	5.7	9.6	0.06 J	73.	0.06 J	1.1 J	0.25 J	-	3.1	0.7 J	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.27 J	0.41 J	n-B = 0.14 J p-IPT = 0.11 J sec-B = 0.12 J tert-B = 0.08 J
		5237-090604-NWN-9-31-107	4-Jun-09		21.	1.1	20.	9.1	13.	22.1	0.5 U	360.	0.5 U	2.2	2. U	-	11.	2.6	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.32 J	0.35 J	tert-B = 0.09 J
		5237-090604-NWN-9-31-109	4-Jun-09		21.	1.	19.	9.	12.	21.	0.5 U	410.	0.5 U	2.1	2. U	-	11.	2.4	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.27 J	0.4 J	p-IPT = 0.36 J tert-B = 0.11 J
		5327-090819-NWN-9-31-158	19-Aug-09		11.3	2.5 U	6.75	5. U	2.55	2.55	2.5 U	72.4	2.5 U	2.5 U	2.5 U	-	5. U	5. U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	2.5 U	MC = 25.2
		5237-100302-NWN-9-31-111	2-Mar-10		2.67	0.5 U	2.5	1.64	1.47	3.11	0.5 U	17.8	0.5 U	1. U	0.5 U	-	1.46	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100302-NWN-9-31-112	2-Mar-10		2.76	0.5 U	2.53	1.58	1.63	3.21	0.5 U	19.4	0.5 U	1. U	0.5 U	-	1.3	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
NWN-10-26	HAI	5237-080807-NWN-10-26-109	7-Aug-08	11 - 26	0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.93 J	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-080807-NWN-10-26-110 (DUP)	7-Aug-08		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.29 J	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-090410-NWN10-26-123	10-Apr-09		0.045 U	0.5 U	0.05 J	0.09 J	0.06 J	0.15 J	0.045 U	2. U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	CD = 0.16 J
		5237-090604-NWN-10-26-111	4-Jun-09		0.5 U	0.5 U	0.1 J	0.5 U	0.09 J	0.09 J	0.5 U	2. U	0.5 U	2. U	2. U	-	2. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		NS (Dry)	19-Aug-09		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-100302-NWN-10-26-115	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	5. U	0.5 U	1. U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
Temporary Well Point Samples (3/2009 Sonic)																											
SB-21	HAI	5237-090309-100	9-Mar-09	13	7.8	1.2	3.2	1.4	0.92	2.32	0.045 U	-	0.15 J	-	-	-	-	-	0.05 U	-	0.06 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	CD = 62. 1,2-DCA - 0.26 J A = 5.1 J Chlorotoluene = 0.08 J
SB-21		5237-090311-101	11-Mar-09	76-80	0.56	1.2	0.31 J	1.4	0.68	2.08	0.045 U	7.1	0.039 U	2. U	2 U	-	2 U	2. U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	A = 34. J
SB-21		5237-090311-102	11-Mar-09	97-101	84,000.	2,300.	510.	480	230. J	710. J	23 U	800. J	20. U	25. J	25 J	-	40 J	25. J	22. U	21 U	27. U	31. U	39 U	24. U	23. U	36. U	4-IPT = 30. J n-B = 60 J, sec-B = 30. J
SB-53	HAI	5237-090312-103	12-Mar-09	22	6,200.	910.	1,200.	750	520.	1,270.	4.5 U	17,000.	3.9 U	26. J	9 J	-	200 J	58. J	4.4 U	4.1 U	5.4 U	6.1 U	7.7 U	4.8 U	4.5 U	7.1 U	4-IPT = 9 J MC = 40. J
SB-53		5237-090312-104	12-Mar-09	61-65	16,000.	1,300.	1,300.	930	500.	1,430.	4.5 U	29,000.	3.9 U	31. J	9 J	-	220	68. J	4.4 U	4.1 U	5.4 U	6.1 U	7.7 U	4.8 U	4.5 U	7.1 U	4-IPT = 9 J
SB-53		5237-090313-105	13-Mar-09	102-106	1.1	0.74	1.	0.87	0.49 J	1.36 J	0.045 U	240.	0.039 U	2. U	2 U	-	0.7 J	2. U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	A = 3.1 J
SB-53		5237-090313-106	13-Mar-09	132-136	2.	0.57	0.9	0.82	0.49 J	1.31 J	5.3	260.	0.039 U	2. U	2 U	-	0.75 J	2. U	21.	0.62	6.5	0.09 J	0.077 U	0.048 U	0.24 J	0.071 U	A = 5.8 J MC = 0.59 J
SB-53		5237-090316-107	16-Mar-09	152-156	2.3	1.4	2.4	1.9	1.1	3.	0.74 J	550.	0.078 U	4. U	4 U	-	1.7 J	4. U	3.6	0.082 U	1.5	0.13 U	0.16 U	0.096 U	0.09 U	0.15 U	A = 7. J
SB-35	HAI	5237-090317-108	17-Mar-09	20.5-24	2,500.	130.	480.	320	240.	560.	2.3 U	12,000.	4. J	22. J	8 J	-	130	36. J	2.2 U	2.1 U	2.7 U	3.1 U	3.9 U	2.4 U	2.3 U	3.6 U	4-IPT - 4.5 J n-B = 4.0 J
SB-35		5237-090318-109	18-Mar-09	62-66	0.05 J	0.1 J	0.042 U	0.078 U	0.5 U	0.078 U	0.31 J	8.5	0.039 U	0.031 U	0.037 U	-	2 U	0.042 U	0.93	0.5 U	0.59	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	A = 5.2 J
SB-35		5237-090318-110	18-Mar-09	82-86	7.8	0.42 J	0.5 U	0.5 U	0.5 U	0.5 U	300	6.3	0.039 U	2. U	2 U	-	2 U	0.042 U	490.	15	190.	0.061 U	0.077 U	0.82	4.6	14.	1,2-DCA = 0.27 J A = 3.5 J MC = 0.29 J
SB-35		5237-090318-111	18-Mar-09	91-95	6.7	0.78	0.48 J	0.5 U	0.29 J	0.29 J	240	38.	0.039 U	2. U	2 U	-	2 U	2. U	700.	22	220.	0.061 U	0.077 U	1.1	6.8	19.	1,1-DCA = 0.06 J 1,2-DCA = 0.26 J A = 4.5 J
SB-27	HAI	5237-090319-112	19-Mar-09	22	0.6	0.48 J	0.45 J	0.5 U	0.5 U	0.5 U	0.18 J	9.	0.08 J	2. U	2 U	-	2 U	2. U	0.5 U	0.041 U	0.054 U	0.46 J	0.077 U	0.048 U	0.045 UJ	0.071 U	1,1,1-TCA = 0.07 J A = 5.3 J Chloroform = 0.06 J
SB-27		5237-090320-113	20-Mar-09	61-65	0.23 J	0.83	0.5	0.97	0.51	1.48	8	49.	0.039 U	2. U	2 U	-	2 U	2. U	28.	0.77	8.7	0.09 J	0.077 U	0.048 U	0.23 J	0.071 U	A = 5.5 J
SB-27		5237-090320-114	20-Mar-09	76-80	0.045 U	0.45 J	0.5 U	0.5 U	0.5 U	0.5 U	0.45 J	14.	0.039 U	0.031 U	0.037 U	-	2 U	0.042 U	3.5	0.5 U	1.	0.061 U	0.077 U	0.048 U	0.09 J	0.071 U	A = 4.7 J
SB-27		5237-090320-115	20-Mar-09	76-80	0.045 U	0.28 J	0.042 U	0.5 U	0.5 U	0.5 U	0.29 J	5.7	0.039 U	2. U	2 U	-	2 U	2. U	2.1	0.5 U	0.64	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	A = 4.2 J
SB-27		5237-090323-116	23-Mar-09	96-100	0.18 J	0.5 U	0.5 U	0.86	0.5 U	0.86	0.12 J	13.	0.039 U	0.031 U	0.08 J	-	0.56 J	0.14 J	1.3	0.041 U	0.5 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	2-CT = 0.08 J A = 5. J Chloroform = 0.07 J
Temporary Well Point Samples (8/2009 Push Probe)																											
P-45a	HAI	5237-090810-101	10-Aug-09	21 - 25	0.25 UJ	0.5 UJ	0.5 UJ	1 UJ	0.5 UJ	1. U	0.5 UJ	1. UJ	0.5 UJ	0.5 UJ	2 UJ	-	0.5 UJ	0.5 UJ	1. UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	
Quality Control Samples (HAI)																											
Trip Blanks	HAI	5237-011008-101	8-Oct-01		1. U	1. U	1. U	-	-	2. U	-	5. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-011212-100	12-Dec-01		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-011213-106	13-Dec-01		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-011009-106	9-Oct-01		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-020402-100	2-Apr-02		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-020403-103	3-Apr-02		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-020710-100	10-Jul-02		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-070712-MW-7	12-Jul-07		0.4 U	0.4 U	0.4 U	2. U	1. U	2. U	0.4 U	-	0.4 U	1. U	-	0.21	-	-	0.21	0.21	0.21	0.4 U	0.4 U	0.4 U	0.4 U	0.4 U	
		2708-080515-TB4-37553	15-May-08		0.045 U	0.09 J	0.042 U	0.078 U	0.037 U	0.078 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		TB5-37589	21-May-08		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-080730-TB-38071	30-Jul-08		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.99 J	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		TB080807	8-Aug-07		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-080925-TB38515	25-Sep-08		0.045 U	0.72	0.042 U	0.078 U	0.037 U	0.078 U	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
		5237-080929-TB38875	29-Sep-08		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	CM = 0.14 J
		5237-081211-TB-39349	11-Dec-08		0.045 U	0.08 J	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	CD = 0.09 J CM = 0.1 J

Table 28 - Summary of Historical Analytical Results for Groundwater Samples: Detected Volatile Organic Compounds (VOCs) by EPA Method 8260 or 8021
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results – ug/L (ppb)																						
					Benzene	Toluene	Ethylbenzene	m,p-Xylene	o-Xylene	Xylenes (total)	Chlorobenzene	Naphthalene	Styrene	Isopropyl-benzene	n-Propyl-benzene	1,2,3-Trimethylbenzene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	Trichloroethene	Tetrachloroethene (PCE)	Trans-1,2-Dichloroethene	cis-1,2-Dichloroethene	Vinyl Chlorde	Other VOCs
HUMAN HEALTH SCREENING LEVEL VALUES [4,5]																											
Fish Consumption																											
		EPA 2004 NRWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
		Portland Harbor specific fish consumption rate			5.1	1,500.	210.	#	#	#	160.	#	#	#	#	#	#	#	130.	96.	19.	3.	0.33	1,000.	#	0.24	#
		DEQ 2004 AWQC (organism only)			51.	15,000.	2,100.	#	#	#	1,600.	#	#	#	#	#	#	#	1,300.	960.	190.	30.	3.3	10,000.	#	2.4	#
Drinking Water																											
		MCL			5.	1,000.	700.	#	#	10,000.	100.	0.2 [3]	100	#	#	#	#	#	600.	#	75.	5.	5.	100.	70.	2.	#
		EPA Region 3,6,9 Tap Water PRGs (12/09 update)			0.41	2,300.	1.5	1,200.	1,200.	200.	91.	0.14	1,600	660.	#	#	15.	370.	370.	#	0.43	2.	0.11	110.	370.	0.016	#
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [4,5]																											
		EPA 2004 NRWQC (chronic)			#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#	#
		DEQ 2004 AWQC (chronic) [6]			#	840.	#	#	#	#	50.	620.	#	#	#	#	#	#	763.	763.	763.	21,900.	840.	#	#	#	#
		Oak Ridge National Laboratory (Tier II SCV) [2]			130.	9.8	7.3	1.8	13.	#	64.	12.	#	#	#	#	#	#	14.	71.	15.	47.	98.	590.	590.	#	#
Quality Control Samples (HAI)																											
Trip Blanks	HAI	5237-090311-TB39762	11-Mar-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.16 J	0.039 U	0.09 J	0.1 J	-	0.08 J	0.09 J	0.05 J	0.07 J	0.06 J	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	1,2,3-TCB = 0.23 J 1,2,4-TCB = 0.16 J 2-CT = 0.06 J 4-CT - 0.05 J 4-IPT = 0.1 J n-B = 0.09 J sec-B = 0.09 J tert-B = 0.08 J
		5237-090313-TB39760	13-Mar-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-090316-TB39759	16-Mar-09		0.045 U	0.048 U	0.05 J	0.09 J	0.04 J	0.13 J	0.045 U	0.1 U	0.039 U	0.08 J	0.09 J	-	0.08 J	0.09 J	0.19 J	0.08 J	0.11 J	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	1,2,3-TCB = 0.22 J 1,2,4-TCB = 0.15 J 2-CT = 0.07 J 4-CT - 0.06 J 4 IPT = 0.07 J n-B = 0.07 J sec-B = 0.07 J
		5237-090318-TB39757	18-Mar-09		0.045 U	0.048 U	0.042 U	0.08 J	0.037 U	0.08 J	0.045 U	0.1 U	0.039 U	0.07 J	0.08 J	-	0.12 J	0.08 J	0.06 J	0.06 J	0.06 J	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	1,2,3-TCB = 0.24 J 1,2,4-TCB = 0.15 J 2-CT = 0.06 J 4-CT - 0.05 J 4 IPT = 0.08 J n-B = 0.08 J sec-B = 0.07 J tert-B = 0.08 J
		5237-090319-TB39767	19-Mar-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.07 J	0.08 J	-	0.12 J	0.07 J	0.08 J	0.05 J	0.07 J	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	1,2,3-TCB = 0.2 J 1,2,4-TCB = 0.14 J 2-CT = 0.06 J 4-CT - 0.04 J 4-IPT = 0.09 J n-B = 0.07 J sec-B = 0.07 J tert-B = 0.07 J
		5237-090320-TB39836	20-Mar-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.05 J	0.06 J	-	0.08 J	0.06 J	0.05 J	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	1,2,3-TCB = 0.13 J 2-CT = 0.04 J 4-CT - 0.03 J 4-IPT = 0.07 J n-B = 0.06 J sec-B = 0.06 J
		5237-090323-TB39766	23-Mar-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.078 U	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-090407-TB39828	7-Apr-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.031 U	0.045 U	0.19 J	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-090408-TB39826	8-Apr-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.031 U	0.045 U	0.17 J	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-090409-TB40002	9-Apr-09		0.045 U	0.048 U	0.042 U	0.078 U	0.037 U	0.031 U	0.045 U	0.1 U	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.054 U	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	
		5237-090604-TB-40272	4-Jun-09		0.038 U	0.052 U	0.05 U	0.091 U	0.074 U	0.091 U	0.11 U	0.15 J	0.12 U	0.091 U	0.53 U	-	0.069 U	0.089 U	0.12 U	0.1 U	0.12 U	0.1 U	0.066 U	0.091 U	0.067 U	0.075 U	
		5237-090810-100	10-Aug-09		0.25 UJ	0.5 UJ	0.5 UJ	1. UJ	0.5 UJ	1. U	0.5 UJ	1. UJ	0.5 UJ	0.5 UJ	2. UJ	-	0.5 UJ	0.5 UJ	1. UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	0.5 UJ	
		5237-090818-TB-141	18-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.5 U	1. U	0.5 U	1. U	0.5 U	0.5 U	5. U	-	0.5 U	0.5 U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5327-090819-TB-153	19-Aug-09		0.25 U	0.5 U	0.5 U	1. U	0.5 U	1. U	0.5 U	5. U	0.5 U	0.5 U	0.5 U	-	1. U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100301TB5	1-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	1. U	0.5 U	1. U	5. U	-	0.5 U	0.5 U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100302-TB6	2-Mar-10		0.25 U	0.5 U	0.5 U	1. U	1. U	1. U	0.5 U	1. U	0.5 U	1. U	5. U	-	0.5 U	0.5 U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100315-TB1	15-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	1. U	1. U	1. U	5. U	-	0.5 U	0.5 U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	MC = 7.48
		5237-100316-TB2	16-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	1. U	1. U	1. U	5. U	-	0.5 U	0.5 U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100317-TB3	17-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	5. U	1. U	1. U	0.5 U	-	1. U	2. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100318-TB4	18-Mar-10		0.25 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	1. U	1. U	1. U	5. U	-	0.5 U	0.5 U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
		5237-100413-TB-12	13-Apr-10		0.5 U	0.5 U	0.5 U	2. U	1. U	2. U	0.5 U	1. U	1. U	1. U	5. U	-	0.5 U	0.5 U	1. U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U	
Equipment Blanks	HAI	5237-011008-103	8-Oct-01		1. U	1. U	1. U	-	-	2. U	-	5. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	A = 149.0
		5237-011212-102	12-Dec-01		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	A = 54.7
		5237-020402-102	2-Apr-02		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-020710-102	10-Jul-02		1. U	1. U	1. U	-	-	2. U	-	2. U	-	1. U	1. U	-	1. U	1. U	-	-	-	1. U	-	1. U	1. U	1.2 U	
		5237-090323-EB1	23-Mar-09		0.045 U	4.1	0.06 J	0.17 J	0.1 J	0.27 J	0.045 U	**0.53** J	0.039 U	0.031 U	0.037 U	-	0.037 U	0.042 U	0.044 U	0.041 U	0.19 J	0.061 U	0.077 U	0.048 U	0.045 U	0.071 U	A = 3.5 J, CM = 0.13 J MC = 0.32 J

Note:
"-" = Measurement not taken, parameter not analyzed, or data unavailable (samper other than HAI)
# = Reference Level not established
AWQC = Ambient Water Quality Criteria
bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency

SCV = Secondary Chronic Value
ug/L = micrograms per liter
U = Non-detect above method detection limit
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.
UJ = Compound not detected, but the reporting limit is probably higher due to a low bias identified during the quality assurrance review.
UR = Unusable Reportling Limit, compound may or may not be present in this sample.

1,1-DCA = 1,1-Dichloroethane
1,1-DCE = 1,1-Dichloroethene
1,1,1-TCA = 1,1,1-Trichloroethane
1,1,2-TCA = 1,1,2-Trichloroethane
2-B = 2-Butanone
2-CT = 2-Chlorotoluene
2-H = 2-Hexanone
4-CT = 4-Chlorotoluene
A = Acetone

CD = Carbon Disulfide
CE(a) = Chloroethane
CM = Chloromethane
MTBE = Methyl Tert-butyl Ether
MC = Methylene Chloride
p-IPT = p-Isopropyltoluene (4-Isopropyltoluene)
n-B = n-Butylbenzene
sec-B = sec-Butylbenzene
tert-B = tert-Butylbenzene

Note: Reference Level is lowest of EPA AWQC for aquatic life protection, AWQC for human consumption of organisms only, or DEQ SLV for aquatic receptors
1 = Sample number prefix: 5237-
2 = Tier II SCV values were taken from Suter II, G.W. and Tasco, C.L., 1996. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision. ORNL publication ES/ER/TM-96/R2
3 = MCL is based on benzo(a)pyrene
4 = Unless otherwise noted Screening Level Values are from *Portland Harbor Joint Source Control Strategy*, Final, December 2005 (7/16/07 revision)
5 = EPA, under CERCLA authority, has identified the Safe Drinking Water Acts MCLs and AWQCs (federal and state once approved as potential ARARs under CERCLA. The final determination will be made in the EPA Portland Harbor Record of Decision (ROD). Decisions to implement source control, prior to The EPA Portland Harbor ROD, due to an exceedance of an SLV in upland stormwater will be evaluated and prioritized on a case by case basis.
6 = Values were taken from Table 33c (OAR 340-41), which are Water Quality Guidance Vales, not criteria, that can be used in the application of Oregon's Narrative Toxics Criteria to waters of the state in order to protect aquatic life.

Table 29 - Summary of Analytical Results for Groundwater Samples: Detected SVOCs by EPA Method 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results in ug/L (ppb)					
					Carbazole	Dibenzofuran	1-Methylnapthalene	2-Methylnaphthalene	PAHs	Other SVOCs
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]										
Fish Consumption										
	EPA 2004 NRWQC (organism only)				#	#	#	#	#	
	Portland Harbor specific fish consumption rate				#	#	#	#	#	
	DEQ 2004 AWQC (organism only)				#	#	#	#	#	
Drinking Water										
	MCL				#	#	#	0.2 [4]	#	
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				#	37.	2.3	150.	#	
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]										
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	
	DEQ 2004 AWQC (chronic)				#	#	#	#	#	
	Oak Ridge National Laboratory (Tier II SCV) [3]				#	3.7	#	2.1	#	
WS-1	CH2M HILL		Aug-85	7-22	-	**77.**	-	-	See PAH Table	
WS-2	CH2M HILL		Aug-85	7.5-22	-	**75.**	-	**260.**	See PAH Table	
WS-3S	CH2M HILL		Aug-85	12-27	-	U	-	**67.**	See PAH Table	
WS-3I	G&M		Oct-90	55-60	-	**4.**	-	-	See PAH Table	
WS-4	CH2M HILL		Aug-85	6.5-21.5	-	U	-	**19.**	See PAH Table	
WS-5	CH2M HILL		Aug-85	5-20	-	U	-	**12.**	See PAH Table	
WS-6	CH2M HILL		Aug-85	9-24	-	**24.**	-	**41.**	See PAH Table	
WS-7	CH2M HILL		Aug-85	10-25	-	U	-	U	See PAH Table	
			Oct-90		-	3.	-	U	See PAH Table	
WS-8-33	HAI	011009-107	9-Oct-01	23-33	14.7	**4.26**	-	**59.2**	See PAH Table	
		011213-105	13-Dec-01		45.2	**3.97**	-	**65.8**	See PAH Table	
		020403-105	3-Apr-02		11.5	2.12	-	**5.48**	See PAH Table	
		020710-104	10-Jul-02		18.3	3.05	-	**41.9**	See PAH Table	
		5237-080521-WS8-33-105	21-May-08		38.	**4.1**	**96.**	**27.**	See PAH Table	
		5237-080929-WS-8-33-145	29-Sep-08		44.	**3.9**	**110.**	**48.**	See PAH Table	
		5237-090408-WS8-33-119	8-Apr-09		37.	3.2	**84.**	**38.**	See PAH Table	
		5327-090819-WS-8-33-159	19-Aug-09		46.5 U	46.5 U	**93.3**	46.5 U	See PAH Table	
		5237-100301-WS-8-33-107	1-Mar-10		39.4	**3.92**	**74.1**	**34.8**	See PAH Table	
WS-8-59	HAI	011008-104	8-Oct-01	49-59	4. U	2. U	-	**6.74**	See PAH Table	
		011008-105D	8-Oct-01		4. U	2. U	-	**7.17**	See PAH Table	
		011212-103	12-Dec-01		4. U	2. U	-	2. U	See PAH Table	
		011212-104D	12-Dec-01		4. U	2. U	-	2. U	See PAH Table	
		020403-104	3-Apr-02		8. U	4. U	-	4. U	See PAH Table	
		020710-103	10-Jul-02		4. U	2. U	-	2. U	See PAH Table	
		5237-070716-WS-8-59-108	16-Jul-07		0.0971 U	0.0971 U	-	0.0971 U	See PAH Table	
		5237-080521-WS8-56-106	21-May-08		0.029	0.011 J	0.12	0.072	See PAH Table	
		5237-080929-WS-8-56-146	29-Sep-08		0.026	0.007 J	0.033	0.039	See PAH Table	
		5237-090408-WS8-59-115	8-Apr-09		0.034	0.013 J	0.045	0.033	See PAH Table	
		5237-090408-WS8-59-117	8-Apr-09		0.017 U	0.0085 J	0.038	0.022	See PAH Table	
		5327-090819-WS-8-59-157	19-Aug-09		0.0374 U	0.0374 U	0.0374 U	0.0374 U	See PAH Table	
		5237-100301-WS-8-56-109	1-Mar-10		0.0392 U	0.0392 U	0.0392 U	0.0392 U	See PAH Table	
WS-9-34	HAI	011008-102	8-Oct-01	24-34	4. U	2. U	-	2. U	See PAH Table	
		011212-101	12-Dec-01		4. U	2. U	-	2. U	See PAH Table	
		020402-101	2-Apr-02		8. U	4. U	-	4. U	See PAH Table	
		020710-101	10-Jul-02		4. U	2. U	-	2. U	See PAH Table	

Table 29 - Summary of Analytical Results for Groundwater Samples: Detected SVOCs by EPA Method 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results in ug/L (ppb)					
					Carbazole	Dibenzofuran	1-Methylnapthalene	2-Methylnaphthalene	PAHs	Other SVOCs
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]										
Fish Consumption										
	EPA 2004 NRWQC (organism only)				#	#	#	#	#	
	Portland Harbor specific fish consumption rate				#	#	#	#	#	
	DEQ 2004 AWQC (organism only)				#	#	#	#	#	
Drinking Water										
	MCL				#	#	#	0.2 [4]	#	
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				#	37.	2.3	150.	#	
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]										
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	
	DEQ 2004 AWQC (chronic)				#	#	#	#	#	
	Oak Ridge National Laboratory (Tier II SCV) [3]				#	3.7	#	2.1	#	
WS-9-34	HAI	5237-090410-WS9-34-122	10-Apr-09	24-34	0.017 J	0.051	0.27	0.037	See PAH Table	
		5327-090819-WS-9-34-156	19-Aug-09		0.755 U	0.755 U	0.755 U	0.755 U	See PAH Table	
		5237-100302-WS-9-34-113	2-Mar-10		0.0392 U	0.117	0.196	0.0392 U	See PAH Table	
WS-10-27	MFA	WS-10-27	29-Apr-04	11-26	245.	**12.6**	-	**70.5**	See PAH Table	BEHP = 1.34 2,4-DMP = 57.9 2-Methylphenol = 7.59 Phenol = 20.8
			16-Nov-04		338.	**25.2**	-	**510.**	See PAH Table	2,4-DMP = 75. 2-Methylphenol = 6.76 Phenol = 38.6 3- & 4-Methylphenol = 10.9
WS-11-125	MFA	WS-11-125	29-Apr-04	109-124	153.	**46.9**	-	**1,260.**	See PAH Table	BEHP = 3.94 Di-n-butylphthalate = 1.16
			16-Nov-04		136.	1. U	-	**122.**	See PAH Table	
	HAI	5237-080515-WS11-125-102	15-May-08		290.	**18.**	**520.**	**810.**	See PAH Table	
		5237-080929-WS-11-125-144	29-Sep-08		260.	**17.**	**340.**	**570.**	See PAH Table	
		5237-090407-WS11-125-102	7-Apr-09		220.	**19.**	**410.**	**640.**	See PAH Table	
		5237-090818-WS-11-125-149	18-Aug-09		465. U	465. U	**465.**	**753.**	See PAH Table	
		5237-100302-WS-11-125-114	2-Mar-10		162.	**14.3**	**350.**	**624.**	See PAH Table	
WS-11-161	MFA	WS-11-161	27-Apr-04	145-160	U	U	-	U	See PAH Table	
			16-Nov-04		0.987 U	0.987 U	-	0.987 U	See PAH Table	
	HAI	5237-070712-WS11-161	12-Jul-07		0.348	0.0952 U	-	4.76 U	See PAH Table	
		5237-080515-WS11-161-103	15-May-08		1.9	0.023	1.6	**2.2**	See PAH Table	
		5237-080929-WS-11-161-142	29-Sep-08		2.	0.021	0.96	**1.4**	See PAH Table	
		5237-080929-WS-11-161-143	29-Sep-08		3.	0.033	1.4	**2.1**	See PAH Table	
		5237-090407-WS11-161-100	7-Apr-09		2.8	0.033	1.7	**2.5**	See PAH Table	
		5237-090818-WS-11-161-147	18-Aug-09		3.29	0.93 U	1.48	**2.2**	See PAH Table	
		5237-100302-WS-11-161-116	2-Mar-10		1.87	0.187 U	1.04 U	1.64 U	See PAH Table	
WS-12-125	MFA	WS-12-125	17-Nov-04	109 - 124	1.01 U	1.01 U	-	1.01 U	See PAH Table	
	HAI	5237-070712-WS12-125	12-Jul-07		0.0952 U	0.0952 U	-	0.0952 U	See PAH Table	
		5237-080521-WS12-126-104	21-May-08		0.0045 U	0.01 J	0.0093 J	0.0032 U*	See PAH Table	
		5237-080925-WS-12-125-140	25-Sep-08		0.0045 U	0.013 J	0.0082 J	0.005 J	See PAH Table	
		5237-090407-WS12-125-106	7-Apr-09		0.0045 U	0.011 J	0.0067 J	0.0064 J	See PAH Table	
		5237-090818-WS-12-125-145	18-Aug-09		0.0374 U	0.0374 U	0.0374 U	0.0374 U	See PAH Table	
		5237-100302-WS-12-125-118	2-Mar-10		0.0381 U	0.0381 U	0.0381 U	0.0381 U	See PAH Table	
WS-12-161	MFA	WS-12-161	17-Nov-04	145 - 160	0.952 U	0.952 U	-	0.952 U	See PAH Table	
	HAI	5237-070712-WS12-161	12-Jul-07		0.0952 U	0.0952 U	-	0.0952 U	See PAH Table	
		5237-080521-WS12-161-107	21-May-08		0.0093 J	0.0046 U	0.0075 J	0.0064 U*	See PAH Table	
		5237-080925-WS-12-161-141	25-Sep-08		0.0045 U	0.0046 U	0.0035 U	0.0031 J	See PAH Table	
		5237-090407-WS12-161-104	7-Apr-09		0.0045 U	0.0046 U	0.0046 J	0.0068 J	See PAH Table	

Table 29 - Summary of Analytical Results for Groundwater Samples: Detected SVOCs by EPA Method 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results in ug/L (ppb)										
					Carbazole		Dibenzofuran		1-Methylnapthalene		2-Methylnaphthalene		PAHs		Other SVOCs
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]															
Fish Consumption															
	EPA 2004 NRWQC (organism only)				#		#		#		#		#		
	Portland Harbor specific fish consumption rate				#		#		#		#		#		
	DEQ 2004 AWQC (organism only)				#		#		#		#		#		
Drinking Water															
	MCL				#		#		#		0.2 [4]		#		
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				#		37.		2.3		150.		#		
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]															
	EPA 2004 NRWQC (chronic)				#		#		#		#		#		
	DEQ 2004 AWQC (chronic)				#		#		#		#		#		
	Oak Ridge National Laboratory (Tier II SCV) [3]				#		3.7		#		2.1		#		
WS-12-161	HAI	5237-090818-WS-12-161-143	18-Aug-09	145 - 160	0.0374	U	0.0374	U	0.0374	U	0.0374	U	See PAH Table		
		5237-100302-WS-12-161-120	2-Mar-10		0.0374	U	0.0374	U	0.0374	U	0.0374	U	See PAH Table		
WS-13-69	MFA	WS-13-69	28-Apr-04	52.6-67.6	7.86			U	-		**23.**		See PAH Table	BEHP = 6.03	
			18-Nov-04		6.28		0.959	U	-		**15.3**		See PAH Table	p-Chloro-m-cresol = 3.18	
WS-13-105	MFA	WS-13-105	28-Apr-04	89-104	1.			U	-		**5.25**		See PAH Table	BEHP = 7.01 Diethylphthalate = 1.11	
		Duplicate	28-Apr-04		1.55			U	-		**4.63**		See PAH Table		
			18-Nov-04		1.05	U	1.05	U	-		1.05	U	See PAH Table		
		Duplicate	18-Nov-04		1.02	U	1.02	U	-		-		See PAH Table		
WS-14-125	MFA	WS-14-125	16-Nov-04	109-124	217.		**8.33**		-		**288.**		See PAH Table	2,4-DMP = 29.4 2-methylphenol = 3.4 Phenol = 6.67 Dimethylphthalate = 211.	
	HAI	5237-070712-WS14-125	12-Jul-07		166.		**6.99**		-		2,380.	U	See PAH Table		
		5237-080515-WS14-125-100	15-May-08		190.		**8.5**		**270.**		**430.**		See PAH Table		
		5237-080925-WS-14-125-138	25-Sep-08		150.		**8.1**		**270.**		**390.**		See PAH Table		
		5237-090408-WS14-125-110	8-Apr-09		150.		**7.3**		**180.**		**420.**		See PAH Table		
		5327-090819-WS-14-125-155	19-Aug-09		186.	U	186.	U	186.	U	**280.**		See PAH Table		
		5237-100302-WS-14-125-110	2-Mar-10		246.		**12.6**		**297.**		**525.**		See PAH Table		
WS-14-161	MFA	WS-14-161	16-Nov-04	145-160	0.95	U	0.95	U	-		0.95	U	See PAH Table		
	HAI	5237-070712-WS14-161	12-Jul-07		0.295		0.0952	U	-		**0.511**		See PAH Table		
		5237-080515-WS14-161-101	15-May-08		3.4		0.14		**4.4**		**6.7**		See PAH Table		
		5237-080925-WS-14-161-139	25-Sep-08		3.3		0.13		**2.9**		**4.7**		See PAH Table		
		5237-090408-WS14-161-108	8-Apr-09		21.		1.5		**37.**		**58.**		See PAH Table		
		5237-090818-WS-14-161-151	18-Aug-09		186.	U	186.	U	186.	U	186.	U	See PAH Table		
		5237-100301-WS-14-161-108	1-Mar-10		26.2		2.45		44.5	U	**97.4**		See PAH Table		
WS-15-85	MFA	WS-15-85	18-Nov-04	70-85	128.		2.46		-		**106.**		See PAH Table	BEHP = 4.18 2,4-DMP = 26.5 2-Methylphenol = 2.41 Phenol = 24.7 Dimethylphthalate = 6.45	
WS-15-140	MFA	WS-15-140	18-Nov-04	125-140	0.951	U	0.951	U	-		**1.47**		See PAH Table	2-Chlorophenol = 1.51 Dimethylphthalate = 8.89	
WS-16-125	MFA	WS-16-125	17-Nov-04	109-124	0.976	U	0.976	U	-		**2.8**		See PAH Table	Phenol = 4.84	
WS-16-161	MFA	WS-16-161	17-Nov-04	145-160	0.967	U	0.967	U	-		0.967	U	See PAH Table	3- & 4-Methylphenol = 9.84 Dimethylphthalate = 1.1	
WS-17-52	MFA	WS-17-52	16-Nov-04	41-51	16.2		1.03	U	-		**22.8**		See PAH Table	BEHP = 17.5	
WS-17-94	MFA	WS-17-94	17-Nov-04	78-93	2.89		0.973	U	-		**10.1**		See PAH Table	Di-n-butylphthalate = 1.3	
WS-21-112	HAI	5237-070712-WS21-112	12-Jul-07	97 - 112	0.382		0.0952	U	-		**0.69**		See PAH Table		
		5237-080521-WS21-112-108	21-May-08		0.38		0.019	J	**20.**		**1.**		See PAH Table		
		5237-080925-WS-21-112-137	25-Sep-08		0.38		0.0094	J	**24.**		**1.8**		See PAH Table		
		5237-090407-WS21-112-108	7-Apr-09		0.17		0.0095	J	**5.2**		0.16		See PAH Table		
		5237-090820-WS-21-112-165	20-Aug-09		2.04	U	2.04	U	**7.18**		2.04	U	See PAH Table		

Table 29 - Summary of Analytical Results for Groundwater Samples: Detected SVOCs by EPA Method 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results in ug/L (ppb)										
					Carbazole		Dibenzofuran		1-Methylnapthalene		2-Methylnaphthalene		PAHs		Other SVOCs
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]															
Fish Consumption															
	EPA 2004 NRWQC (organism only)				#		#		#		#		#		
	Portland Harbor specific fish consumption rate				#		#		#		#		#		
	DEQ 2004 AWQC (organism only)				#		#		#		#		#		
Drinking Water															
	MCL				#		#		#		0.2 [4]		#		
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				#		37.		2.3		150.		#		
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]															
	EPA 2004 NRWQC (chronic)				#		#		#		#		#		
	DEQ 2004 AWQC (chronic)				#		#		#		#		#		
	Oak Ridge National Laboratory (Tier II SCV) [3]				#		3.7		#		2.1		#		
WS-21-112	HAI	5237-090820-WS-21-112-166	20-Aug-09	97 - 112	1.96	U	1.96	U	**5.75**		1.96	U	See PAH Table		
		5237-100301-WS-21-112-106	1-Mar-10		0.447		0.0385	U	**14.1**		**1.24**		See PAH Table		
MW-3-81	HAI	5237-100316-MW-3-81-109	16-Mar-10	76-81	0.04	U	0.04	U	0.04	U	0.0421		See PAH Table		
RP-03-30R	HAI	5237-100413-RP-03-30R-104	13-Apr-10	23 - 28	77.7		**68.7**		**117.**		**138.**		See PAH Table		
RP-03-52R	HAI	5237-100413-RP-03-52R-105	13-Apr-10	46 - 51	0.0377	U	0.0377	U	0.0377	U	0.0377	U	See PAH Table		
RP-06-31	HAI	5237-100413-RP-06-31-100	13-Apr-10	24.5 - 29.5	0.0377	U	0.0377	U	0.0377	U	0.0377	U	See PAH Table		
RP-06-87	HAI	5237-100413-RP-06-87-101	13-Apr-10	81 - 86	0.0377	U	0.0377	U	0.0377	U	0.0377	U	See PAH Table		
RP-06-95	HAI	5237-100413-RP-06-95-103	13-Apr-10	89.5-94.5	0.0374	U	0.0374	U	0.0374	U	0.0374	U	See PAH Table		
RP-7-30	HAI	5237-070828-RP-7-30-106	28-Aug-07	25 - 30	0.0952	U	0.0952	U	-		0.0952	U	See PAH Table		
		5237-100317-RP-7-30-115	17-Mar-10		0.0374	U	0.147		0.0374	U	0.0374	U	See PAH Table		
RP-7-55	HAI	5237-070827-RP-7-55-104	27-Aug-07	50 - 55	0.0952	U	0.0952	U	-		0.0952	U	See PAH Table		
		5237-100317-RP-7-55-113	17-Mar-10		0.0388	U	0.0388	U	0.0388	U	0.0388	U	See PAH Table		
RP-7-84	HAI	5237-070828-RP-7-84-107	28-Aug-07	79 - 84	0.0966	U	0.0966	U	-		0.0966	U	See PAH Table		
		5237-070828-RP-7-84-108 (DUP)	28-Aug-07		0.0962	UJ	0.0962	UJ	-		0.0962	UJ	See PAH Table		
		5237-100317-RP-7-84-114	17-Mar-10		0.0377	U	0.0377	U	0.0377	U	0.0377	U	See PAH Table		
RP-07-119	HAI	5237-100317-RP-7-119-116	17-Mar-10	114 - 119	0.0377	U	0.0377	U	0.0377	U	0.0377	U	See PAH Table		
RP-11-30	HAI	5237-070827-RP-11-30-101	27-Aug-07	15 - 30	0.0952	U	0.0952	U	-		0.0952	U	See PAH Table		
RP-11-160	HAI	5237-070827-RP-11-160-102	27-Aug-07	150 - 160	0.0957	U	0.0957	U	-		0.0957	U	See PAH Table		
		5237-100317-RP-11-160-110	17-Mar-10		0.0388	U	0.0388	U	0.0388	U	0.0388	U	See PAH Table		
		5237-100317-RP-11-160-111	17-Mar-10		0.0396	U	0.0396	U	0.0396	U	0.0396	U	See PAH Table		
RP-11-216	HAI	5237-070827-RP-11-216-103	27-Aug-07	211 - 216	0.0952	U	0.0952	U	-		0.0952	U	See PAH Table		
		5237-100317-RP-11-216-112	17-Mar-10		0.0374	U	0.0374	U	0.0374	U	0.0374	U	See PAH Table		
RP-20-25	HAI	5237-100315-RP-20-25-102	15-Mar-10	10 - 25	0.04	U	0.04	U	0.789		0.04	U	See PAH Table		
RP-20-97	HAI	5237-100315-RP-20-97-103	15-Mar-10	88 - 98	0.0421	U	0.0421	U	0.0421	U	0.0421	U	See PAH Table		
RP-21-28	HAI	5237-100315-RP-21-28-101	15-Mar-10	13 - 28	0.04	U	0.184		0.0868		0.04	U	See PAH Table		
RP-21-125	HAI	5237-100315-RP-21-125-100	15-Mar-10	120 - 125	0.0412	U	0.0412	U	0.0412	U	0.0412	U	See PAH Table		
RP-22-29	HAI	5237-100318-RP-22-29-120	18-Mar-10	14 - 29	0.136		0.0381		0.77		0.0454		See PAH Table		
RP-22-75	HAI	5237-100318-RP-22-75-119	18-Mar-10	65 - 75	0.0377	U	0.0377	U	0.0377	U	0.0377	U	See PAH Table		
RP-23-30	HAI	5237-100316-RP-23-30-104	16-Mar-10	15-30	0.33		0.201		1.84		**0.994**		See PAH Table		
RP-23-85	HAI	5237-100316-RP-23-85-105	16-Mar-10	80 - 85	0.04	U	0.04	U	0.04	U	0.04	U	See PAH Table		
RP-23-100	HAI	5237-100316-RP-23-100-106	16-Mar-10	95 - 100	0.0396	U	0.0396	U	0.0396	U	0.0396	U	See PAH Table		
RP-24-30	HAI	5237-070829-RP-24-30-109	29-Aug-07	25 - 30	0.1	U	0.1	U	-		0.1	U	See PAH Table		
		5237-100318-RP-24-30-117	18-Mar-10		0.0381	U	0.0381	U	0.0381	U	0.0381	U	See PAH Table		
RP-24-60	HAI	5237-070828-RP-24-60-110	28-Aug-07	55 - 60	0.0952	U	0.0952	U	-		0.0952	U	See PAH Table		
		5237-100318-RP-24-60-118	18-Mar-10		0.0377	U	0.0377	U	0.0377	U	0.0377	U	See PAH Table		

Table 29 - Summary of Analytical Results for Groundwater Samples: Detected SVOCs by EPA Method 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results in ug/L (ppb)					
					Carbazole	Dibenzofuran	1-Methylnapthalene	2-Methylnaphthalene	PAHs	Other SVOCs
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]										
Fish Consumption										
	EPA 2004 NRWQC (organism only)				#	#	#	#	#	
	Portland Harbor specific fish consumption rate				#	#	#	#	#	
	DEQ 2004 AWQC (organism only)				#	#	#	#	#	
Drinking Water										
	MCL				#	#	#	0.2 [4]	#	
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				#	37.	2.3	150.	#	
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]										
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	
	DEQ 2004 AWQC (chronic)				#	#	#	#	#	
	Oak Ridge National Laboratory (Tier II SCV) [3]				#	3.7	#	2.1	#	
RP-24-73	HAI	5237-070829-RP-24-73-113	29-Aug-07	68 - 73	0.0952 U	0.0952 U	-	0.0952 U	See PAH Table	
RP-24-85	HAI	5237-070828-RP-24-85-111	28-Aug-07	80 - 85	0.0952 U	0.0952 U	-	0.0952 U	See PAH Table	
RP-25-30	HAI	5237-100316-RP-25-30-108	16-Mar-10	10 - 30	0.0394 U	0.0394 U	0.0394 U	0.0394 U	See PAH Table	
RP-25-86	HAI	5237-100316-RP-25-86-107	16-Mar-10	81 - 86	0.04 U	0.04 U	0.04 U	0.0809	See PAH Table	
NWN-1-20	HAI	5237-080807-NWN-1-20-107	7-Aug-08	10 - 20	150.	**12.**	**180.**	**300.**	See PAH Table	
		5237-081211-NWN-1-20-019	11-Dec-08		150.	**12.**	**190.**	**280.**	See PAH Table	
		5237-090407-NWN1-20-105	7-Apr-09		130.	**13.**	**190.**	**230.**	See PAH Table	
		5237-090604-NWN-1-20-103	4-Jun-09		180.	**24.**	**310.**	**410.**	See PAH Table	
		5237-090818-NWN-1-20-148	18-Aug-09		930. U	930. U	930. U	930. U	See PAH Table	
		5237-100301-NWN-1-20-101	1-Mar-10		146.	**16.9**	**210.**	**296.**	See PAH Table	
NWN-2-20	HAI	5237-080730-NWN2-20-101	30-Jul-08	10 - 20	71.	2.4	**23.**	**17.**	See PAH Table	
		5237-081211-NWN-2-20-017	11-Dec-08		50.	2.6	**20.**	**6.5**	See PAH Table	
		5237-090407-NWN2-20-107	7-Apr-09		13.	2.8	**10.**	**2.4**	See PAH Table	
		5237-090604-NWN-2-20-101	4-Jun-09		26.	3.	**9.8**	**0.96**	See PAH Table	
		5237-090818-NWN-2-20-142	18-Aug-09		62.6	3.1	**17.4**	1.87 U	See PAH Table	
		5237-100301-NWN-2-20-103	1-Mar-10		2.72	1.96 U	2.66 U	1.96 U	See PAH Table	
NWN-3-17	HAI	5237-080730-NWN3-17-100	30-Jul-08	7 - 17	0.0045 U	0.012 J	0.042	0.018 J	See PAH Table	
		NS (Dry)	11-Dec-08		-	-	-	-	-	
		5237-090407-NWN3-17-101	7-Apr-09		0.013 U	0.0053 J	0.011 J	0.0097 J	See PAH Table	
		5237-090604-NWN-3-17-102	4-Jun-09		0.019 U	0.0046 J	0.037	0.019 U	See PAH Table	
		NS (Dry)	19-Aug-09		-	-	-	-	-	
		5237-100301-NWN-3-17-102	1-Mar-10		0.0374 U	0.0557	0.0374 U	0.0374 U	See PAH Table	
NWN-4-15	HAI	NS (Dry)	30-Jul-08	5 - 15	-	-	-	-	-	
		5237-081211-NWN-4-15-021	11-Dec-08		0.061	0.022	0.041	0.04	See PAH Table	
		5237-090407-NWN4-15-103	7-Apr-09		0.0081 J	0.0046 U	0.0076 J	0.011 J	See PAH Table	
		5237-090604-NWN-4-15-100	4-Jun-09		0.063	0.025	0.1	0.093	See PAH Table	
		5327-090818-NWN-4-15-152*	18-Aug-09		-	-	-	-	-	
		5237-100301-NWN-4-15-100	1-Mar-10		0.0377 U	0.0377 U	0.0377 U	0.0377 U	See PAH Table	
NWN-5-20	HAI	5237-080730-NWN5-20-103	30-Jul-08	10 - 20	29.	**36.**	**52.**	**73.**	See PAH Table	
		5237-081211-NWN-5-20-018	11-Dec-08		21.	**24.**	**5.**	**0.84**	See PAH Table	
		5237-090408-NWN5-20-111	8-Apr-09		4.7	**5.2**	1.9	**1.1**	See PAH Table	
		5237-090604-NWN-5-20-104	4-Jun-09		7.8	**9.7**	**5.2**	**1.5**	See PAH Table	
		5237-090818-NWN-5-20-150	18-Aug-09		6.61	**9.28**	1.	0.748 U	See PAH Table	
		5237-100302-NWN-5-20-117	2-Mar-10		0.777 U	1.45	0.777 U	0.777 U	See PAH Table	

Table 29 - Summary of Analytical Results for Groundwater Samples: Detected SVOCs by EPA Method 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results in ug/L (ppb)					
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HUMAN HEALTH SCREENING LEVEL VALUES [1,2]										
Fish Consumption										
	EPA 2004 NRWQC (organism only)				#	#	#	#	#	
	Portland Harbor specific fish consumption rate				#	#	#	#	#	
	DEQ 2004 AWQC (organism only)				#	#	#	#	#	
Drinking Water										
	MCL				#	#	#	0.2 [4]	#	
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				#	37.	2.3	150.	#	
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]										
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	
	DEQ 2004 AWQC (chronic)				#	#	#	#	#	
	Oak Ridge National Laboratory (Tier II SCV) [3]				#	3.7	#	2.1	#	
NWN-6-31	HAI	5237-080730-NWN6-31-104	30-Jul-08	21 - 31	170.	**200.**	**240.**	**150.**	See PAH Table	
		5237-081211-NWN-6-31-020	11-Dec-08		140.	**120.**	**240.**	**130.**	See PAH Table	
		5237-090408-NWN6-31-109	8-Apr-09		130.	**130.**	**190.**	**110.**	See PAH Table	
		5237-090604-NWN-6-31-106	4-Jun-09		180.	**170.**	**260.**	**180.**	See PAH Table	
		5327-090819-NWN-6-31-154	19-Aug-09		186. U	186. U	186. U	186. U	See PAH Table	
		5237-100303-NWN-6-31-120	3-Mar-10		180.	**165.**	**237.**	168. U	See PAH Table	
NWN-7-30	HAI	5237-080807-NWN-7-30-106	7-Aug-08	20 - 30	0.13	0.16	**13.**	0.19	See PAH Table	
		5237-081211-NWN-7-30-016	11-Dec-08		0.082	0.13	**8.4**	0.048	See PAH Table	
		5237-090408-NWN7-30-112	8-Apr-09		0.047 J	0.26 J	**24.** J	0.19 J	See PAH Table	
		5237-090604-NWN-7-30-108	4-Jun-09		0.034	0.35 J	**5.1**	0.074	See PAH Table	
		5237-090818-NWN-7-30-144	18-Aug-09		0.755 U	0.755 U	0.94	0.755 U	See PAH Table	
		5237-100301-NWN-7-30-104	1-Mar-10		0.0816	0.214	**5.**	0.0534	See PAH Table	
NWN-8-30	HAI	5237-080730-NWN8-30-105	30-Jul-08	15 - 30	0.3	0.047	0.36	**0.28**	See PAH Table	
		5237-081211-NWN-8-30-022	11-Dec-08		0.5	0.11	0.33	0.15	See PAH Table	
		5237-090408-NWN8-30-113	8-Apr-09		0.23	0.029	0.24	0.026	See PAH Table	
		5237-090604-NWN-8-30-105	4-Jun-09		0.21	0.035	0.22	0.019 J	See PAH Table	
		5237-090818-NWN-8-30-146	18-Aug-09		0.191	0.0377 U	0.188	0.047	See PAH Table	
		5237-100301-NWN-8-30-105	1-Mar-10		0.497	0.0649	0.357	0.0772	See PAH Table	
NWN-9-31	HAI	5237-080807-NWN-9-31-108	7-Aug-08	16 - 31	0.53	0.9	**4.9**	**0.49**	See PAH Table	
		5237-081211-NWN-9-31-023	11-Dec-08		0.079 J	0.21 J	1.3 J	**0.49** J	See PAH Table	
		5237-090409-NWN9-31-121	9-Apr-09		0.43	0.4	**3.6**	**1.1**	See PAH Table	
		5237-090604-NWN-9-31-107	4-Jun-09		3.5	0.93	**16.**	**10.**	See PAH Table	
		5237-090604-NWN-9-31-109	4-Jun-09		3.6	0.95	**17.**	**11.**	See PAH Table	
		5327-090819-NWN-9-31-158	19-Aug-09		0.755 U	0.755 U	**2.54**	**5.3**	See PAH Table	
		5237-100302-NWN-9-31-111	2-Mar-10		0.574	0.532	4.73 U	2.68 U	See PAH Table	
		5237-100302-NWN-9-31-112	2-Mar-10		0.52	0.491	4.6 U	3.19 U	See PAH Table	
NWN-10-26	HAI	5237-080807-NWN-10-26-109	7-Aug-08	11 - 26	0.0045 U	0.0046 U	0.0083 J	0.0051 J	See PAH Table	
		5237-080807-NWN-10-26-110 (DUP)	7-Aug-08		0.0045 U	0.006 J	0.01 J	0.011 J	See PAH Table	
		NS (Dry)	11-Dec-08		-	-	-	-	-	
		5237-090410-NWN10-26-123	10-Apr-09		0.012 U	0.013 J	0.019 J	0.028	See PAH Table	
		5237-090604-NWN-10-26-111	4-Jun-09		0.02 U	0.0055 J	0.045	0.04	See PAH Table	
		NS (Dry)	19-Aug-09		-	-	-	-	-	
		5237-100302-NWN-10-26-115	2-Mar-10		0.0408 U	0.0408 U	0.0408 U	0.0408 U	See PAH Table	

Table 29 - Summary of Analytical Results for Groundwater Samples: Detected SVOCs by EPA Method 8270C
Siltronic Corporation Property Monitoring Wells

Well Number	Collected By	Sample Number	Sample Date	Screen Interval (feet bgs)	Analytical Results in ug/L (ppb)					
					Carbazole	Dibenzofuran	1-Methylnapthalene	2-Methylnaphthalene	PAHs	Other SVOCs
HUMAN HEALTH SCREENING LEVEL VALUES [1,2]										
Fish Consumption										
	EPA 2004 NRWQC (organism only)				#	#	#	#	#	
	Portland Harbor specific fish consumption rate				#	#	#	#	#	
	DEQ 2004 AWQC (organism only)				#	#	#	#	#	
Drinking Water										
	MCL				#	#	#	0.2 [4]	#	
	EPA Region 3,6,9 Tap Water PRGs (12/09 update)				#	37.	2.3	150.	#	
ECOLOGICAL RECEPTOR SCREENING LEVEL VALUES [1,2]										
	EPA 2004 NRWQC (chronic)				#	#	#	#	#	
	DEQ 2004 AWQC (chronic)				#	#	#	#	#	
	Oak Ridge National Laboratory (Tier II SCV) [3]				#	3.7	#	2.1	#	
Temporary Well Point Samples (3/2009 Sonic)										
SB-21	HAI	5237-090309-100	9-Mar-09	13	0.32	1.5	**4.3**	**3.3**	See PAH Table	
SB-21		5237-090311-101	11-Mar-09	76-80	0.11	0.052	0.27	**0.36**	See PAH Table	
SB-21		5237-090311-102	11-Mar-09	97-101	21.	**7.7**	**24.**	**14.**	See PAH Table	
SB-27	HAI	5237-090319-112	19-Mar-09	22	0.85	0.25	1.7	**1.6**	See PAH Table	
SB-27		5237-090320-113	20-Mar-09	61-65	0.83	0.25	2.2	**3.6**	See PAH Table	
SB-27		5237-090320-114	20-Mar-09	76-80	0.49	0.1	0.63	**0.96**	See PAH Table	
SB-27		5237-090320-115	20-Mar-09	76-80	0.25	0.057	0.37	**0.57**	See PAH Table	
SB-27		5237-090323-116	23-Mar-09	96-100	3.	0.52	1.9	**2.6**	See PAH Table	
SB-35	HAI	5237-090317-108	17-Mar-09	20.5-24	590.	**130.**	**1,600.**	**2,500.**	See PAH Table	
SB-35		5237-090318-109	18-Mar-09	62-66	3.5	0.98	**2.8**	**3.9**	See PAH Table	
SB-35		5237-090318-110	18-Mar-09	82-86	1.5	0.37	1.3	**1.9**	See PAH Table	
SB-35		5237-090318-111	18-Mar-09	91-95	2.	0.66	**3.**	**5.**	See PAH Table	
SB-53	HAI	5237-090312-103	12-Mar-09	22	3,100.	**1,100.**	**12,000.**	**19,000.**	See PAH Table	
SB-53		5237-090312-104	12-Mar-09	61-65	7,000.	**3,200.**	**37,000.**	**63,000.**	See PAH Table	
SB-53		5237-090313-105	13-Mar-09	102-106	4.6	1.4	**18.**	**27.**	See PAH Table	
SB-53		5237-090313-106	13-Mar-09	132-136	10.	2.4	**21.**	**31.**	See PAH Table	
SB-53		5237-090316-107	16-Mar-09	152-156	15.	**4.2**	**40.**	**73.**	See PAH Table	
Temporary Well Point Samples (8/2009 Push Probe)										
P-45a	HAI	5237-090810-101	10-Aug-09	21 - 25	10.8	0.755 U	0.755 U	0.755 U	See PAH Table	
		5237-090810-102 (dup)	10-Aug-09	21 - 25	6.27	0.755 U	0.796	0.755 U	See PAH Table	
Quality Control Samples (HAI)										
Equipment	HAI	5237-011008-103	8-Oct-01		4. U	2. U	-	2. U	See PAH Table	
Blank		5237-011212-102	12-Dec-01		4. U	2. U	-	2. U	See PAH Table	
		5237-090323-EB1	23-Mar-09		0.035	0.0071 J	0.01 J	0.015 J	See PAH Table	

Note:
AWQC = Ambient Water Quality Criteria
bgs = below ground surface
DEQ = Oregon Department of Environmental Quality
EPA = U.S. Environmental Protection Agency
MCL = Maximum Contaminant Level
ND = Not detected above detection limit indicated
NRWQC = National Recommended Water Quality Criteria
NS = No Sample
ppb = parts per billion
PRG = Potential Remediation Goal
SCV = secondary Chronic Value
U = not detected above method reporting limit indicated
ug/l = micrograms per liter

"-" = Measurement not taken, parameter not analyzed, or data unavailable (sampler other than HAI)
* = Partial sample obtained, but sample volume completely used during other analysis (i.e 8260B), insufficient volume to analyze for additional determinants.
# = Reference Level not established

1= Unless otherwise noted Screening Level Values are from *Portland Harbor Joint Source Control Strategy*, Final, December 2005 (7/16/07 revision)
2 = EPA, under CERCLA authority, has identified the Safe Drinking Water Acts MCLs and AWQCs (federal and state once approved) as potential ARARs under CERCLA. The final determination will be made in the EPA Portland Harbor Record of Decision (ROD). Decisions to implement source control, prior to The EPA Portland Harbor ROD, due to an exceedance of an SLV in upland stormwater will be evaluated and prioritized on a case by case basis.
3 = Tier II SCV values were taken from Suter II, G.W. and Tasco, C.L., 1996. Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota: 1996 Revision. ORNL publication ES/ER/TM-96/R2
4 = MCL is based on benzo(a)pyrene
5 = These values were taken form OAR 340-41 Table 20 because they will remain the enforceable values for these particular analytes.
6 = Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: Chronic = exp(1.005(ph)-5.134). The value displayed in the table corresponds to a pH of 7.8.
7 = Freshwater aquatic life values for pentachlorophenol are expressed as a function of pH, and are calculated as follows: Chronic = exp(1.005(ph)-5.29). The value displayed in the table corresponds to a pH of 7.8.

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-8-33	HAI	5237-080521-WS8-33-105	21-May-08	23-33	388	388	1 U	-	-	7.3	0.008 U	0.012 U	-	0.58	-85.6	6.33	888	21.4	17.05
		5237-080929-WS-8-33-145	29-Sep-08		392	392	1 U	-	-	9	0.008 U	0.012 U	-	0	-146	6.39	849	503	18
		5237-090408-WS8-33-119	8-Apr-09		373	373	2 U	-	-	7.9	1.5	1.72 J	-	4.29	-168	6.1	791	323	17.4
		5327-090819-WS-8-33-159	19-Aug-09		-	-	-	-	-	-	-	-	-	0.73	-200.8	6.36	733	45	20.75
		5237-100301-WS-8-33-107	1-Mar-10		-	-	-	-	-	-	-	-	-	0.28	-115	6.42	784	4.9	17.52
WS-8-59	HAI	5237-070716-WS-8-59-108	16-Jul-07	49-59	394	394	25 U	25 U	-	14.5	0.1 U	1.0 U	-	-	-124.8	6.98	1,589	210	21.09
		5237-080521-WS8-56-106	21-May-08		480	419	60	-	-	11.4	0.008 U	0.4	-	0.66	-68.9	6.51	947	487	17.25
		5237-080929-WS-8-56-146	29-Sep-08		377	377	1 U	-	-	12.4	0.008 U	0.012 U	-	1.79	-108	6.53	696	>1,000	19.3
		5237-090408-WS8-59-115	8-Apr-09		492	492	2 U	-	-	7.7	0.3	0.4	-	4.26	-132	6.14	98	830	17.7
		5327-090819-WS-8-59-157	19-Aug-09		-	-	-	-	-	-	-	-	-	0.72	-170.8	6.49	658	-170.8	19.51
		5237-100301-WS-8-56-109	1-Mar-10		-	-	-	-	-	-	-	-	-	0.0	-92	6.38	770	386	17.53
WS-9-34	HAI	5237-090410-WS9-34-122	10-Apr-09	24-34	318	318	2 U	-	-	4.4	0.3	0.6	-	4.17	-157	6.07	661	984	12.8
		5327-090819-WS-9-34-156	19-Aug-09		366.	366.	20. U	20. U	-	1.64	0.25 U	1. U	-	-	-82	6.78	739	149	16.7
		5237-100302-WS-9-34-113	2-Mar-10		-	-	-	-	-	-	-	-	-	0.0	-92	5.3	486	13.1	12.81
WS-10-27	MFA	WS-10-27	27-Oct-03	11-26	493	-	-	-	-	10.3	0.03 U	28.6	-	-	-	-	-	-	-
			29-Jan-04		314	-	-	-	-	5.26	0.03 U	3.16	-	-	-	-	-	-	-
			29-Apr-04		509	-	-	-	-	7.74	0.03 U	0.76	-	-	-	-	-	-	-
			16-Nov-04		609	-	-	-	-	8.82	0.03 U	0.5 U	-	-	-	-	-	-	-
			17-Feb-05		313	-	-	-	-	2.62	0.03 U	4.97	-	-	-	-	-	-	-
			23-May-05		606	-	-	-	-	4.06	0.03 U	1.85	-	-	-	-	-	-	-
			9-Aug-05		574	-	-	-	-	4.03	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-05		605	-	-	-	-	6.33	0.03 U	0.73	-	-	-	-	-	-	-
			16-Feb-06		290	-	-	-	-	5.43	0.03 U	13	-	-	-	-	-	-	-
			10-May-06		290	-	-	-	-	3.68	0.03 U	5.9	-	-	-	-	-	-	-
			22-Aug-06		448	-	-	-	-	6.25	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-06		198	-	-	-	-	3.57	0.0986	13.9	-	-	-	-	-	-	-
			20-Feb-07		255	-	-	-	-	3.75	0.03 U	0.5 U	-	-	-	-	-	-	-
			24-May-07		308	308	10 U	10 U	-	3.9	0.228	0.5 U	-	-	-	-	-	-	-
			16-Aug-07		470	-	-	-	-	6.14	0.03 U	0.5 U	-	-	-	-	-	-	-
			20-Nov-07		576	-	-	-	-	8.87	0.03 U	0.5 U	-	-	-	-	-	-	-
			8-Feb-08		178	-	-	-	-	2.61	0.03 U	4.31	-	-	-	-	-	-	-
			13-May-08		271	-	-	-	-	4.23	0.0366	0.5 U	-	-	-	-	-	-	-
			18-Aug-08		418	-	-	-	-	6.37	0.03 U	0.5 U	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-11-125	MFA	WS-11-125	28-Oct-03	109-124	302	-	-	-	-	36.2	0.03 U	40.9	-	-	-	-	-	-	-
			30-Jan-04		324	-	-	-	-	46.5	0.03 U	49.8	-	-	-	-	-	-	-
			29-Apr-04		297	-	-	-	-	40.3	0.03 U	40.8	-	-	-	-	-	-	-
			16-Nov-04		341	-	-	-	-	56.9	0.03 U	53.8	-	-	-	-	-	-	-
			16-Feb-05		326	-	-	-	-	50.2	0.03 U	49.2	-	-	-	-	-	-	-
			18-May-05		340	-	-	-	-	46.2	0.03 U	36.9	-	-	-	-	-	-	-
			10-Aug-05		335	-	-	-	-	52.6	0.03 U	46.8	-	-	-	-	-	-	-
			15-Nov-05		382	-	-	-	-	47.8	0.03 U	35.4	-	-	-	-	-	-	-
			15-Feb-06		387	-	-	-	-	49	0.03 U	41.7	-	-	-	-	-	-	-
			11-May-06		344	-	-	-	-	51.2	0.03 U	40.6	-	-	-	-	-	-	-
			28-Jun-06		403	-	-	-	-	50.9	-	7.17	-	-	-	-	-	-	-
			27-Jul-06		311	-	-	-	-	46.6	-	10.8	-	-	-	-	-	-	-
			23-Aug-06		378	-	-	-	-	50.1	0.03 U	4.95	-	-	-	-	-	-	-
			26-Sep-06		701	701	10 U	10 U	-	54.6	0.0466	0.78	-	-	-	-	-	-	-
			23-Oct-06		695	695	10 U	10 U	-	61.7	0.0434	0.72	-	-	-	-	-	-	-
			18-Dec-06		999	999	10 U	10 U	-	70.4	0.03 U	2.15	-	-	-	-	-	-	-
			25-Jan-07		976	976	10 U	10 U	-	72.4	0.0426	2.28	-	-	-	-	-	-	-
			21-Feb-07		1,160	1,160	10 U	10 U	-	52.8	0.0404	2.57	-	-	-	-	-	-	-
			21-Mar-07		1,300	1,300	10 U	10 U	-	56	0.0887	2.83	-	-	-	-	-	-	-
			23-Apr-07		1,420	1,420	10 U	10 U	-	73.6	0.03 U	2.45	-	-	-	-	-	-	-
			22-May-07		1,560	1,560	10 U	10 U	-	68	0.18	1.8	-	-	-	-	-	-	-
			15-Nov-07		1,070	-	-	-	-	60.6	0.0359	0.77	-	-	-	-	-	-	-
			14-Feb-08		894	-	-	-	-	66.6	0.03 U	0.55	-	-	-	-	-	-	-
			15-May-08		758	-	-	-	3.86	57.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			6-Aug-08		672	-	-	-	-	59	0.03 U	0.5 U	-	-	-	-	-	-	-
	HAI	5237-080515-WS11-125-102	15-May-08		762	762	1 U	-	-	57.4	0.008 U	0.117 J	-	0.12	-157.5	7.07	824	9.84	18
		5237-080929-WS-11-125-144	29-Sep-08		622	622	1 U	-	-	48	0.008 U	0.012 U	-	0.47	-244.7	6.92	764	3.1	18.74
		5237-090407-WS11-125-102	7-Apr-09		596	596	2 U	-	-	48.4	0.1 U	0.4	-	0.4	-151	7.41	982	9.8	17.11
		5237-090818-WS-11-125-149	18-Aug-09		-	-	-	-	-	-	-	-	-	0.37	-237.4	6.73	908	9.5	19.11
		5237-100302-WS-11-125-114	2-Mar-10		-	-	-	-	-	-	-	-	-	0.24	-275.7	7.07	858	4.67	14.99
WS-11-161	MFA	WS-11-161	27-Oct-03	145-160	217	-	-	-	-	32.7	0.03 U	17.5	-	-	-	-	-	-	-
			29-Jan-04		243	-	-	-	-	43.2	0.03 U	7.24	-	-	-	-	-	-	-
			27-Apr-04		239	-	-	-	-	27.6	0.03 U	3.05	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-11-161	MFA	WS-11-161	16-Nov-04	145-160	266	-	-	-	-	38.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-Feb-05		260	-	-	-	-	39.6	0.03 U	0.5 U	-	-	-	-	-	-	-
			18-May-05		252	-	-	-	-	41	0.03 U	0.5 U	-	-	-	-	-	-	-
			10-Aug-05		255	-	-	-	-	39.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-05		265	-	-	-	-	42	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Feb-06		264	-	-	-	-	37.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			11-May-06		257	-	-	-	-	40.3	0.03 U	0.5 U	-	-	-	-	-	-	-
			21-Aug-06		264	-	-	-	-	33.9	0.03 U	0.5 U	-	-	-	-	-	-	-
			13-Nov-06		241	-	-	-	-	32.8	0.0808	0.5 U	-	-	-	-	-	-	-
			21-Feb-07		241	-	-	-	-	38	0.03 U	0.5 U	-	-	-	-	-	-	-
			29-May-07		240	240	10 U	10 U	-	39.6	0.282	0.5 U	-	-	-	-	-	-	-
			15-Aug-07		249	-	-	-	-	39.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-07		292	-	-	-	-	36.2	0.0303	0.5 U	-	-	-	-	-	-	-
			11-Feb-08		310	-	-	-	-	37.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-May-08		323	-	-	-	-	32.8	0.0686	0.5 U	-	-	-	-	-	-	-
			6-Aug-08		319	-	-	-	-	35.1	0.03 U	0.5 U	-	-	-	-	-	-	-
	HAI	5237-070712-WS11-161	12-Jul-07		242	242	25 U	25 U	-	32.1	0.1 U	1.0 U	-	-	-	-	-	-	-
		5237-080515-WS11-161-103	15-May-08		332	332	1 U	-	-	33.5	0.008 U	0.072 J	-	0.09	-126.3	6.8	450	0.46	17.81
		5237-080929-WS-11-161-142	29-Sep-08		301	301	1 U	-	-	32.8	0.008 U	0.012 U	-	0.6	-263.2	6.77	427	0.0	17.33
		5237-080929-WS-11-161-143	29-Sep-08		283	283	1 U	-	-	33	0.008 U	0.012 U	-	-	-	-	-	-	-
		5237-090407-WS11-161-100	7-Apr-09		336	336	2 U	-	-	34	0.1 U	0.4	-	0.57	-132.4	7.04	599	5.2	16.66
		5237-090818-WS-11-161-147	18-Aug-09		-	-	-	-	-	-	-	-	-	0.48	-229.7	6.8	574	10.2	18.51
		5237-100302-WS-11-161-116	2-Mar-10		-	-	-	-	-	-	-	-	-	0.19	-278.5	7.36	568	3.52	15.79
WS-12-125	MFA	WS-12-125	28-Oct-03	109-124	366	-	-	-	-	16	0.03 U	17.2	-	-	-	-	-	-	-
			30-Jan-04		362	-	-	-	-	14.3	0.03 U	24.2	-	-	-	-	-	-	-
			26-Apr-04		396	-	-	-	-	14.4	-	19.8	-	-	-	-	-	-	-
			17-Nov-04		399	-	-	-	-	15.5	0.03 U	15.4	-	-	-	-	-	-	-
			16-Feb-05		367	-	-	-	-	15.9	0.03 U	26.1	-	-	-	-	-	-	-
			18-May-05		371	-	-	-	-	16.5	0.03 U	29.3	-	-	-	-	-	-	-
			16-Aug-05		374	-	-	-	-	16.5	0.03 U	19	-	-	-	-	-	-	-
			15-Nov-05		431	-	-	-	-	16.6	0.03 U	18.6	-	-	-	-	-	-	-
			14-Feb-06		430	-	-	-	-	15.9	0.03 U	20.4	-	-	-	-	-	-	-
			9-May-06		380	-	-	-	-	16.6	0.03 U	22.4	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-12-125	MFA	WS-12-125	21-Aug-06	109-124	414	-	-	-	-	15.2	0.03 U	16.2	-	-	-	-	-	-	-
			13-Nov-06		386	-	-	-	-	14.8	0.0682	19.8	-	-	-	-	-	-	-
			21-Feb-07		376	-	-	-	-	16.4	0.03 U	24.1	-	-	-	-	-	-	-
			29-May-07		359	359	10 U	10 U	-	15.8	0.522	18.2	-	-	-	-	-	-	-
			15-Aug-07		368	-	-	-	-	16.7	0.03 U	17.6	-	-	-	-	-	-	-
			13-Nov-07		413	-	-	-	-	14.2	0.03 U	18.9	-	-	-	-	-	-	-
			11-Feb-08		375	-	-	-	-	14	0.03 U	22.2	-	-	-	-	-	-	-
			21-May-08		377	-	-	-	-	15.3	0.061	20.9	-	-	-	-	-	-	-
			6-Aug-08		374	-	-	-	-	15.9	0.03 U	19.2	-	-	-	-	-	-	-
	HAI	5237-070712-WS12-125	12-Jul-07		410	410	25 U	25 U	-	16.1	0.1 U	18.5	-	-	-	-	-	-	-
		5237-080521-WS12-126-104	21-May-08		362	362	1 U	-	-	13.2	0.008 U	19.7	-	0.51	-49.9	6.24	647	1.05	17.04
		5237-080925-WS-12-125-140	25-Sep-08		352	352	1 U	-	-	16.2	0.008 U	19.4	-	0	-149	6.46	724	2.05	18.6
		5237-090407-WS12-125-106	7-Apr-09		412	412	2 U	-	-	14.1	0.1 U	18.9	-	0.65	-132.5	7.31	679	6.6	18.42
		5237-090818-WS-12-125-145	18-Aug-09		-	-	-	-	-	-	-	-	-	0.54	-211.3	6.53	676	2.9	19.01
		5237-100302-WS-12-125-118	2-Mar-10		-	-	-	-	-	-	-	-	-	0.29	-235.4	7.08	667	2.98	16.52
WS-12-161	MFA	WS-12-161	27-Oct-03	145-160	209	-	-	-	-	76.2	0.03 U	16	-	-	-	-	-	-	-
			29-Jan-04		242	-	-	-	-	68.3	0.03 U	3.03	-	-	-	-	-	-	-
			26-Apr-04		226	-	-	-	-	60.8	-	2.02	-	-	-	-	-	-	-
			17-Nov-04		310	-	-	-	-	63.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			18-Feb-05		280	-	-	-	-	57.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			20-May-05		273	-	-	-	-	57.2	0.03 U	0.68	-	-	-	-	-	-	-
			16-Aug-05		279	-	-	-	-	59.3	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-05		300	-	-	-	-	54.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Feb-06		283	-	-	-	-	55	0.03 U	0.5 U	-	-	-	-	-	-	-
			9-May-06		272	-	-	-	-	57.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			21-Aug-06		275	-	-	-	-	55.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			13-Nov-06		251	-	-	-	-	48.4	0.0702	0.5 U	-	-	-	-	-	-	-
			21-Feb-07		251	-	-	-	-	51.9	0.03 U	0.5 U	-	-	-	-	-	-	-
			29-May-07		256	256	10 U	10 U	-	55.5	0.199	0.5 U	-	-	-	-	-	-	-
			15-Aug-07		250	-	-	-	-	48.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			13-Nov-07		264	-	-	-	-	47.7	0.03 U	0.54	-	-	-	-	-	-	-
			11-Feb-08		256	-	-	-	-	44.8	0.03 U	0.73	-	-	-	-	-	-	-
			21-May-08		254	-	-	-	-	46.8	0.03 U	0.58	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-12-161	MFA	WS-12-161	5-Aug-08	145-160	246	-	-	-	-	48.5	0.03 U	0.51	-	-	-	-	-	-	-
	HAI	5237-070712-WS12-161	12-Jul-07		223	223	25 U	25 U	-	47.9	0.1 U	1.0 U	-	-	-	-	-	-	-
		5237-080521-WS12-161-107	21-May-08		248	248	1 U	-	-	48.2	0.008 U	0.6	-	0.15	-63.1	6.6	507	0.71	17.5
		5237-080925-WS-12-161-141	25-Sep-08		240	240	1 U	-	-	39.8	0.008 U	0.5	-	0	-164	6.71	560	0.21	18.3
		5237-090407-WS12-161-104	7-Apr-09		262	262	2 U	-	-	42.1	0.1 U	1.1	-	1.32	-129.5	7.38	523	6.1	17.99
		5237-090818-WS-12-161-143	18-Aug-09		-	-	-	-	-	-	-	-	-	0.45	-153.3	6.85	526	3.7	19.21
		5237-100302-WS-12-161-120	2-Mar-10		-	-	-	-	-	-	-	-	-	0.28	-246.3	7.38	506	3.29	16.28
WS-13-69	MFA	WS-13-69	29-Oct-03	52.6-67.6	379	-	-	-	-	17.9	0.03 U	64	-	-	-	-	-	-	-
			30-Jan-04		354	-	-	-	-	23.2	0.03 U	71.6	-	-	-	-	-	-	-
			28-Apr-04		436	-	-	-	-	28.9	0.03 U	95.6	-	-	-	-	-	-	-
			18-Nov-04		424	-	-	-	-	30.5	0.03 U	118	-	-	-	-	-	-	-
			17-Feb-05		372	-	-	-	-	30.2	0.03 U	122	-	-	-	-	-	-	-
			20-May-05		411	-	-	-	-	30.5	0.03 U	126	-	-	-	-	-	-	-
			10-Aug-05		384	-	-	-	-	35.7	0.03 U	139	-	-	-	-	-	-	-
			16-Nov-05		461	-	-	-	-	34.4	0.03 U	149	-	-	-	-	-	-	-
			16-Feb-06		474	-	-	-	-	45.6	0.03 U	175	-	-	-	-	-	-	-
			10-May-06		465	-	-	-	-	35.9	0.03 U	131	-	-	-	-	-	-	-
			19-Jul-06		504	-	-	-	-	33	-	105	-	-	-	-	-	-	-
			24-Aug-06		398	-	-	-	-	39.5	-	115	-	-	-	-	-	-	-
			27-Sep-06		404	404	10 U	10 U	-	41.2	0.106	126	-	-	-	-	-	-	-
			25-Oct-06		458	458	10 U	10 U	-	37.9	0.0912	119	-	-	-	-	-	-	-
			15-Nov-06		452	452	10 U	10 U	-	39.9	0.13	123	-	-	-	-	-	-	-
			25-Jan-07		448	448	10 U	10 U	-	40.6	0.03 U	123	-	-	-	-	-	-	-
			21-Feb-07		485	485	10 U	10 U	-	44.8	0.03 U	118	-	-	-	-	-	-	-
			22-Mar-07		431	431	10 U	10 U	-	44.9	0.124	122	-	-	-	-	-	-	-
			24-Apr-07		477	477	10 U	10 U	-	45.4	0.509	112	-	-	-	-	-	-	-
			23-May-07		498	498	10 U	10 U	-	9.18	1.01	23.1	-	-	-	-	-	-	-
			17-Aug-07		521	-	-	-	-	36.4	0.03 U	114	-	-	-	-	-	-	-
			15-Nov-07		526	-	-	-	-	40.5	0.03 U	114	-	-	-	-	-	-	-
			12-Feb-08		502	-	-	-	-	40.7	0.03 U	146	-	-	-	-	-	-	-
			14-May-08		514	-	-	-	-	41	0.03 U	121	-	-	-	-	-	-	-
			8-Aug-08		485	-	-	-	-	39.3	0.0347	114	-	-	-	-	-	-	-
			13-Nov-08		510	-	-	-	-	43.9	0.03 U	128	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-13-69	MFA	WS-13-69	13-Apr-09	52.6-67.6	549	-	-	-	-	52.9	0.111	131	-	0.09	-433.1	6.59	1111	-	12.86
			22-May-09		500	-	-	-	-	54.2	0.151	121	-	0.57	-98	6.47	1250	12.84	20.2
			16-Jul-09		539	-	-	-	-	59.6	0.0647	126	-	0.11	-110.4	6.67	1372	68.65	18.52
			3-Sep-09		538	-	-	-	-	63.3	0.161	123	-	0.18	-64.6	6.33	1227	11.72	18.58
			19-Oct-09		542	-	-	-	-	58.4	0.25	113	-	0.17	-104.5	6.42	1127	12.13	17.04
			16-Dec-09		555	-	-	-	-	197	0.03 U	199	-	0.15	-99.4	6.76	1129	18.99	13.49
			22-Feb-10		-	-	-	-	-	93	0.03 U	90	-	0.51	-345	6.69	1109	28.08	11.7
WS-13-105	MFA	WS-13-105	13-Nov-08	89 - 104	290	-	-	-	-	17.9	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-May-09		291	-	-	-	-	15.8	0.142	0.5 U	-	0.28	-101	6.67	612	37.28	16.83
			16-Jul-09		307	-	-	-	-	18.1	0.419	0.5 U	-	0.15	-123.5	6.67	690	14.42	16.79
			3-Sep-09		325	-	-	-	-	21.7	0.126	5 U	-	0.07	-100	6.49	614	6.8	16.62
			19-Oct-09		338	-	-	-	-	17.5	0.229	0.5 U	-	0.13	-116.3	6.52	591	3.5	15.41
			16-Dec-09		342	-	-	-	-	17.3	0.03 U	0.5 U	-	0.1	-122.4	6.91	567	6.22	14.3
			19-Feb-10		-	-	-	-	-	16.5	0.03 U	0.5 U	-	0.13	-337.9	7.29	563	1.5	13.85
WS-14-125	MFA	WS-14-125	16-Nov-04	109-124	258	-	-	-	-	23.2	0.03 U	20.2	-	-	-	-	-	-	-
			21-Feb-05		242	-	-	-	-	43.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			23-May-05		276	-	-	-	-	13.4	0.03 U	0.65	-	-	-	-	-	-	-
			9-Aug-05		282	-	-	-	-	13.1	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-Nov-05		294	-	-	-	-	11.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Feb-06		291	-	-	-	-	12	0.03 U	0.5 U	-	-	-	-	-	-	-
			9-May-06		287	-	-	-	-	11.7	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-Aug-06		297	-	-	-	-	11.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Nov-06		277	-	-	-	-	11	0.0701	0.5 U	-	-	-	-	-	-	-
			21-Feb-07		275	-	-	-	-	11.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			24-May-07		291	291	10 U	10 U	-	11.4	0.0391	0.5 U	-	-	-	-	-	-	-
			16-Aug-07		278	-	-	-	-	11.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Nov-07		289	-	-	-	-	11.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			11-Feb-08		285	-	-	-	-	10.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-May-08		289	-	-	-	-	11.1	0.0507	0.5 U	-	-	-	-	-	-	-
			4-Aug-08		283	-	-	-	-	12	0.03 U	0.5 U	-	-	-	-	-	-	-
	HAI	5237-070712-WS14-125	12-Jul-07		266	266	25 U	25 U	-	11.7	0.1 U	1.0 U	-	-	-	-	-	-	-
		5237-080515-WS14-125-100	15-May-08		294	294	1 U	-	-	10.7	0.008 U	0.073 J	-	0.2	-65	6.73	382	0.3	16.2
		5237-080925-WS-14-125-138	25-Sep-08		276	276	1 U	-	-	11.8	0.008 U	0.012 U	-	0	-170	6.72	510	1.12	17.4

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-14-125	MFA	5237-090408-WS14-125-110	8-Apr-09	109-124	307	307	2 U	-	-	10.6	1.5	1.65 J	-	1	-101.7	7.51	463	7.5	14.74
		5327-090819-WS-14-125-155	19-Aug-09		-	-	-	-	-	-	-	-	-	0.29	-144.2	6.73	486	0	17.49
		5237-100302-WS-14-125-110	2-Mar-10		-	-	-	-	-	-	-	-	-	0.3	-262.1	6.92	461	3.73	14.23
WS-14-161	MFA	WS-14-161	16-Nov-04	145-160	241	-	-	-	-	49.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			21-Feb-04		274	-	-	-	-	14.8	0.03 U	1.54	-	-	-	-	-	-	-
			23-May-05		237	-	-	-	-	44.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			9-Aug-05		240	-	-	-	-	56.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-Nov-05		254	-	-	-	-	47.6	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Feb-06		261	-	-	-	-	50.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			9-May-06		242	-	-	-	-	52.7	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-Aug-06		255	-	-	-	-	52.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Nov-06		235	-	-	-	-	47.6	0.089	0.5 U	-	-	-	-	-	-	-
			21-Feb-07		232	-	-	-	-	49	0.03 U	0.5 U	-	-	-	-	-	-	-
			24-May-07		250	250	10 U	10 U	-	48.4	0.194	0.5 U	-	-	-	-	-	-	-
			16-Aug-07		234	-	-	-	-	51.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Nov-07		258	-	-	-	-	49.6	0.03 U	0.5 U	-	-	-	-	-	-	-
			11-Feb-08		242	-	-	-	-	52.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-May-08		248	-	-	-	-	51.4	0.0369	0.5 U	-	-	-	-	-	-	-
			4-Aug-08		239	-	-	-	-	53.6	0.0366	0.5 U	-	-	-	-	-	-	-
	HAI	5237-070712-WS14-161	12-Jul-07		241	241	25 U	25 U	-	48.1	0.1 U	1.0 U	-	-	-	-	-	-	-
		5237-080515-WS14-161-101	15-May-08		251	251	1 U	-	-	50.5	0.008 U	0.06 J	-	0.24	-82.8	6.72	404	0.23	17.1
		5237-080925-WS-14-161-139	25-Sep-08		230	230	1 U	-	-	46.1	0.004 U	0.006 U	-	0	-159	6.71	575	0.77	16.3
		5237-090408-WS14-161-108	8-Apr-09		261	261	2 U	-	-	46.4	1.5	1.73 J	-	0.91	-94.2	7.44	519	9.1	14.63
		5237-090818-WS-14-161-151	18-Aug-09		-	-	-	-	-	-	-	-	-	0.72	-233.9	6.75	538	6.9	18.13
		5237-100301-WS-14-161-108	1-Mar-10		-	-	-	-	-	-	-	-	-	0.14	-187.2	7.35	517	7.04	15.27
WS-15-85	MFA	WS-15-85	18-Nov-04	70-85	355	-	-	-	-	10	0.03 U	4.1	-	-	-	-	-	-	-
			17-Feb-05		398	-	-	-	-	11.6	0.03 U	7.76	-	-	-	-	-	-	-
			19-May-05		396	-	-	-	-	10.4	0.03 U	3.26	-	-	-	-	-	-	-
			10-Aug-05		397	-	-	-	-	257	0.03 U	249	-	-	-	-	-	-	-
			14-Nov-05		443	-	-	-	-	85.5	0.03 U	60.3	-	-	-	-	-	-	-
			16-Feb-06		416	-	-	-	-	42.4	0.03 U	18.4	-	-	-	-	-	-	-
			10-May-06		470	-	-	-	-	30.6	0.03 U	9.19	-	-	-	-	-	-	-
			25-Aug-06		440	-	-	-	-	26.8	-	4.27	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-15-85	MFA	WS-15-85	14-Nov-06	70-85	453	-	-	-	-	2.94	0.051	14	-	-	-	-	-	-	-
			21-Feb-07		429	-	-	-	-	13	0.03 U	3.35	-	-	-	-	-	-	-
			24-May-07		444	444	10 U	10 U	-	10.4	0.227	1.22	-	-	-	-	-	-	-
			17-Aug-07		446	-	-	-	-	10.5	0.03 U	1.09	-	-	-	-	-	-	-
			15-Nov-07		432	-	-	-	-	9.74	0.03 U	0.5 U	-	-	-	-	-	-	-
			12-Feb-08		399	-	-	-	-	6.07	0.0403	0.5 U	-	-	-	-	-	-	-
			14-May-08		451	-	-	-	-	8.42	0.03 U	0.5 U	-	-	-	-	-	-	-
			8-Aug-08		415	-	-	-	-	7.79	0.0304	0.5 U	-	-	-	-	-	-	-
			11-Nov-08		430	-	-	-	-	8.3	0.123	32.6							
			26-May-09		422	-	-	-	-	6.97	0.134	0.5 U							
			23-Jul-09		439	-	-	-	-	7.49	0.0475	0.5 U							
			2-Sep-09		470	-	-	-	-	10.2	0.142	5 U							
			19-Oct-09		467	-	-	-	-	7.08	0.309	0.5 U							
			14-Dec-09		439	-	-	-	-	5.61	0.0413	0.5							
			18-Feb-10		-	-	-	-	-	5.17	0.03 U	0.5 U							
WS-15-140	MFA	WS-15-140	18-Nov-04	125-140	287	-	-	-	-	39.6	0.03 U	36.8	-	-	-	-	-	-	-
			17-Feb-05		280	-	-	-	-	40.8	0.03 U	44.2	-	-	-	-	-	-	-
			19-May-05		280	-	-	-	-	36.4	0.03 U	43.9	-	-	-	-	-	-	-
			10-Aug-05		275	-	-	-	-	44.2	0.03 U	50.8	-	-	-	-	-	-	-
			14-Nov-05		282	-	-	-	-	42	0.03 U	47.4	-	-	-	-	-	-	-
			15-Feb-06		275	-	-	-	-	44.6	0.03 U	50.6	-	-	-	-	-	-	-
			10-May-06		276	-	-	-	-	43.8	0.03 U	41.1	-	-	-	-	-	-	-
			25-Aug-06		270	-	-	-	-	21.2	-	12.6	-	-	-	-	-	-	-
			14-Nov-06		255	-	-	-	-	57.1	0.0569	35.2	-	-	-	-	-	-	-
			21-Feb-07		250	-	-	-	-	47.2	0.03 U	33.2	-	-	-	-	-	-	-
			24-May-07		275	275	10 U	10 U	-	47.2	0.15	26.6	-	-	-	-	-	-	-
			17-Aug-07		260	-	-	-	-	48.7	0.03 U	39.1	-	-	-	-	-	-	-
			15-Nov-07		265	-	-	-	-	47.5	0.03 U	32.1	-	-	-	-	-	-	-
			12-Feb-08		300	-	-	-	-	48.7	0.03 U	27.3	-	-	-	-	-	-	-
			14-May-08		255	-	-	-	-	45.6	0.03 U	24.2	-	-	-	-	-	-	-
			8-Aug-08		250	-	-	-	-	44.7	0.03 U	26.5	-	-	-	-	-	-	-
			12-Nov-08		250	-	-	-	-	53	0.03 U	21.2	-	-	-	-	-	-	-
			26-May-09		252	-	-	-	-	46.3	0.0378	21.4	-	0.33	-95	7.26	549	4.05	15.94

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-15-140	MFA	WS-15-140	23-Jul-09	125-140	266	-	-	-	-	50.7	0.03 U	22	-	0.092	-69.6	7.17	626	3.69	16.7
			2-Sep-09		274	-	-	-	-	51.2	0.0559	27.5	-	0.19	-95.8	6.71	577	6.01	16.94
			19-Oct-09		269	-	-	-	-	44	0.03 U	25.8	-	0.18	-178.3	6.76	570	1.87	16.4
			14-Dec-09		264	-	-	-	-	41.3	0.0642	23.1	-	0.15	-203.9	7.32	526	1.51	14.61
			19-Feb-10		-	-	-	-	-	36.8	0.03 U	26.8	-	0.52	-208.4	7.04	533	0.42	14.1
WS-16-125	MFA	WS-16-125	17-Nov-04	109-124	342	-	-	-	-	5.85	0.03 U	0.53	-	-	-	-	-	-	-
			21-Feb-05		335	-	-	-	-	4.43	0.03 U	0.5 U	-	-	-	-	-	-	-
			23-May-05		330	-	-	-	-	4.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			9-Aug-05		326	-	-	-	-	4.25	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-Nov-05		370	-	-	-	-	4.08	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Feb-06		372	-	-	-	-	3.54	0.03 U	0.5 U	-	-	-	-	-	-	-
			11-May-06		332	-	-	-	-	3.77	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-Aug-06		360	-	-	-	-	4.25	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-06		326	-	-	-	-	3.16	0.119	0.5 U	-	-	-	-	-	-	-
			21-Feb-07		333	-	-	-	-	3.52	0.03 U	0.5 U	-	-	-	-	-	-	-
			24-May-07		355	355	10 U	10 U	-	4.36	0.272	0.5 U	-	-	-	-	-	-	-
			16-Aug-07		340	-	-	-	-	4.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			19-Nov-07		338	-	-	-	-	4.34	0.0312	0.5 U	-	-	-	-	-	-	-
			12-Feb-08		342	-	-	-	-	3.79	0.0334	0.5 U	-	-	-	-	-	-	-
			14-May-08		354	-	-	-	-	4.6	0.0308	0.5 U	-	-	-	-	-	-	-
			5-Aug-08		268	-	-	-	-	4.63	0.0337	0.5 U	-	-	-	-	-	-	-
WS-16-161	MFA	WS-16-161	17-Nov-04	145-160	293	-	-	-	-	7.14	0.03 U	0.64	-	-	-	-	-	-	-
			18-Feb-05		287	-	-	-	-	6.63	0.03 U	0.5 U	-	-	-	-	-	-	-
			20-May-05		278	-	-	-	-	6.63	0.03 U	0.5 U	-	-	-	-	-	-	-
			9-Aug-05		294	-	-	-	-	5.41	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-Nov-05		296	-	-	-	-	0.5 U	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Feb-06		300	-	-	-	-	6.06	0.03 U	0.5 U	-	-	-	-	-	-	-
			10-May-06		281	-	-	-	-	7.74	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-Aug-06		287	-	-	-	-	7.79	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-06		262	-	-	-	-	7.01	0.0991	0.5 U	-	-	-	-	-	-	-
			21-Feb-07		257	-	-	-	-	8.22	0.03 U	0.5 U	-	-	-	-	-	-	-
			24-May-07		304	304	10 U	10 U	-	5.8	0.203	0.5 U	-	-	-	-	-	-	-
			16-Aug-07		278	-	-	-	-	7.2	0.03 U	0.5 U	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-16-161	MFA	WS-16-161	15-Nov-07	145-160	276	-	-	-	-	8.33	0.03 U	0.5 U	-	-	-	-	-	-	-
			8-Feb-08		267	-	-	-	-	8.38	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-May-08		264	-	-	-	-	9.06	0.0526	0.5 U	-	-	-	-	-	-	-
			5-Aug-08		338	-	-	-	-	8.26	0.0363	0.5 U	-	-	-	-	-	-	-
WS-17-52	MFA	WS-17-52	16-Nov-04	41-51	324	-	-	-	-	22.1	0.03 U	74.8	-	-	-	-	-	-	-
			17-Feb-05		305	-	-	-	-	29.6	0.03 U	109	-	-	-	-	-	-	-
			20-May-05		333	-	-	-	-	32.3	0.03 U	128	-	-	-	-	-	-	-
			9-Aug-05		287	-	-	-	-	36.9	0.03 U	170	-	-	-	-	-	-	-
			15-Nov-05		442	-	-	-	-	35.4	0.03 U	161	-	-	-	-	-	-	-
			16-Feb-06		190	-	-	-	-	28.2	0.03 U	103	-	-	-	-	-	-	-
			10-May-06		172	-	-	-	-	27.9	0.03 U	94.8	-	-	-	-	-	-	-
			22-Aug-06		358	-	-	-	-	39	0.03 U	144	-	-	-	-	-	-	-
			15-Nov-06		175	-	-	-	-	27.4	0.0728	93.4	-	-	-	-	-	-	-
			20-Feb-07		329	-	-	-	-	39.7	0.03 U	154	-	-	-	-	-	-	-
			24-May-07		167	167	10 U	10 U	-	29.8	0.0592	86.1	-	-	-	-	-	-	-
			17-Aug-07		212	-	-	-	-	33.9	0.03 U	108	-	-	-	-	-	-	-
			14-Nov-07		239	-	-	-	-	34.9	0.03 U	104	-	-	-	-	-	-	-
			8-Feb-08		166	-	-	-	-	31.7	0.03 U	83.2	-	-	-	-	-	-	-
			13-May-08		183	-	-	-	-	31	0.03 U	84.3	-	-	-	-	-	-	-
			18-Aug-08		206	-	-	-	-	32.9	0.03 U	78.3	-	-	-	-	-	-	-
WS-17-94	MFA	WS-17-94	17-Nov-04	78-93	271	-	-	-	-	15.1	0.03 U	0.5 U	-	-	-	-	-	-	-
			18-Feb-04		292	-	-	-	-	10.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			18-May-04		296	-	-	-	-	9.27	0.03 U	0.5 U	-	-	-	-	-	-	-
			8-Aug-05		308	-	-	-	-	8.73	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-05		339	-	-	-	-	9.85	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-Feb-06		321	-	-	-	-	10.1	0.03 U	0.5 U	-	-	-	-	-	-	-
			9-May-06		309	-	-	-	-	10.6	0.0338	0.5 U	-	-	-	-	-	-	-
			21-Aug-06		305	-	-	-	-	11.6	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Nov-06		290	-	-	-	-	9.56	0.0611	0.5 U	-	-	-	-	-	-	-
			20-Feb-07		308	-	-	-	-	10.3	0.0809	0.5 U	-	-	-	-	-	-	-
			24-May-07		305	305	10 U	10 U	-	10.9	0.279	0.5 U	-	-	-	-	-	-	-
			17-Aug-07		316	-	-	-	-	10.2	0.03 U	0.97	-	-	-	-	-	-	-
			14-Nov-07		308	-	-	-	-	11.2	0.03 U	0.5 U	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-17-94	MFA	WS-17-94	8-Feb-08	78-93	289	-	-	-	-	11.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			13-May-08		287	-	-	-	-	13.9	0.03 U	0.5 U	-	-	-	-	-	-	-
			18-Aug-08		297	-	-	-	-	11.8	0.03 U	0.5 U	-	-	-	-	-	-	-
WS-18-71	MFA	WS-18-71	27-Jun-06	61 - 71	603	-	-	-	-	89.8	-	652	-	-	-	-	-	-	-
			19-Jul-06		597	-	-	-	-	78.2	-	389	-	-	-	-	-	-	-
			29-Aug-06		584	-	-	-	-	322	-	104	-	-	-	-	-	-	-
			26-Sep-06		523	553	10 U	10 U	-	82.4	0.0644	387	-	-	-	-	-	-	-
			24-Oct-06		539	539	10 U	10 U	-	80.7	0.0538	503	-	-	-	-	-	-	-
			16-Nov-06		542	542	10 U	10 U	-	77.7	0.117	416	-	-	-	-	-	-	-
			26-Jan-07		613	613	10 U	10 U	-	79.4	0.03 U	407	-	-	-	-	-	-	-
			22-Feb-07		705	705	10 U	10 U	-	75.5	0.03 U	171	-	-	-	-	-	-	-
			22-Mar-07		771	771	10 U	10 U	-	101	0.122	117	-	-	-	-	-	-	-
			24-Apr-07		868	868	10 U	10 U	-	109	0.241	19.8	-	-	-	-	-	-	-
			22-May-07		891	891	10 U	10 U	-	101	0.436	8.86	-	-	-	-	-	-	-
			16-Nov-07		906	-	-	-	-	116	0.0345	11.6	-	-	-	-	-	-	-
			13-Feb-08		770	-	-	-	-	110	0.03 U	1.23	-	-	-	-	-	-	-
			20-May-08		1,040	-	-	-	-	154	0.0559	0.76	-	-	-	-	-	-	-
			12-Aug-08		918	-	-	-	-	151	0.03 U	0.5	-	-	-	-	-	-	-
			14-Nov-08		950	-	-	-	-	171	0.03 U	0.5 U	-	-	-	-	-	-	-
			10-Feb-09		1220	-	-	-	-	175	0.03 U	1.74	-	0.66	-62.2	6.29	3080	1.71	11.72
			6-Apr-09		1940	-	-	-	-	146	0.0801	3.88	-	0.06	-56.3	5.57	4699	0	16.77
			20-May-09		1670	-	-	-	-	185	0.03 U	1.08	-	0.38	-74.1	5.91	3290	5.02	16.02
			20-Jul-09		1730	-	-	-	-	203	0.0639	2.5 U	-	0.731	-96.2	6.02	4579	3.52	21.79
			28-Aug-09		1720	-	-	-	-	193	0.03 U	5.2	-	0.12	-63.2	5.87	3902	8.98	18.68
			20-Oct-09		1270	-	-	-	-	149	0.0826	1.49	-	0.56	-78.8	5.98	2806	41.41	15.97
			15-Dec-09		1450	-	-	-	-	175	0.0303	2.41	-	0.09	-112.1	6.93	2693	68.64	12.25
			22-Feb-10		-	-	-	-	-	172	0.03 U	5 U	-	0.21	-214	6.82	2500	64.26	14.45
WS-18-101	MFA	WS-18-101	28-Jun-06	92 - 102	339	-	-	-	-	26.9	-	8.17	-	-	-	-	-	-	-
			19-Jul-06		326	-	-	-	-	36.4	-	9.33	-	-	-	-	-	-	-
			28-Aug-06		330	-	-	-	-	45	-	6.89	-	-	-	-	-	-	-
			26-Sep-06		309	309	10 U	10 U	-	41.9	0.0516	3.14	-	-	-	-	-	-	-
			24-Oct-06		316	316	10 U	10 U	-	44.4	0.0464	3.17	-	-	-	-	-	-	-
			16-Nov-06		311	311	10 U	10 U	-	42.4	0.107	0.96	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-18-101	MFA	WS-18-101	26-Jan-07	92 - 102	284	284	10 U	10 U	-	92.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-Feb-07		291	291	10 U	10 U	-	88.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-Mar-07		294	294	10 U	10 U	-	96.2	0.114	0.5 U	-	-	-	-	-	-	-
			24-Apr-07		334	334	10 U	10 U	-	87.5	0.451	0.5 U	-	-	-	-	-	-	-
			22-May-07		358	358	10 U	10 U	-	99	1.45	0.5 U	-	-	-	-	-	-	-
			16-Nov-07		380	-	-	-	-	98.3	0.03 U	0.5 U	-	-	-	-	-	-	-
			12-Feb-08		342	-	-	-	-	118	0.03 U	0.5 U	-	-	-	-	-	-	-
			22-May-08		335	-	-	-	-	157	0.03 U	0.5 U	-	-	-	-	-	-	-
			12-Aug-08		365	-	-	-	-	146	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Nov-08		400	-	-	-	-	223	0.03 U	0.5 U	-	-	-	-	-	-	-
			10-Feb-09		276	-	-	-	-	95.8	0.03 U	0.5 U	-	0.25	-90.9	6.59	1063	55.1	12.36
			6-Apr-09		430	-	-	-	-	229	0.0624	0.5 U	-	0.051	-67.5	5.86	1637	0	13.98
			20-May-09		531	-	-	-	-	258	0.03 U	0.5 U	-	0.24	-61.8	5.9	2196	25.56	17.94
			20-Jul-09		911	-	-	-	-	282	0.0353	2.5 U	-	0.9	-80.8	5.86	3327	15.22	20.67
			28-Aug-09		1220	-	-	-	-	264	0.138	10.6	-	0.1	-55.5	5.76	3443	10.89	18.88
			20-Oct-09		1110	-	-	-	-	220	0.174	1.22	-	0.3	-67.3	5.77	3271	36.27	15.81
			15-Dec-09		1370	-	-	-	-	233	0.253	2.38	-	0.16	-81.5	6.3	3237	25.1	12.71
			22-Feb-10		-	-	-	-	-	204	0.135	5 U	-	0.31	-221.2	6.2	3294	43.88	12.88
WS-19-71	MFA	WS-19-71	27-Jun-06	61 - 71	561	-	-	-	-	56.5	-	149	-	-	-	-	-	-	-
			20-Jul-06		608	-	-	-	-	48.2	-	65.5	-	-	-	-	-	-	-
			29-Aug-06		554	-	-	-	-	60.1	-	81.7	-	-	-	-	-	-	-
			27-Sep-06		599	599	10 U	10 U	-	62.7	0.083	42.7	-	-	-	-	-	-	-
			24-Oct-06		661	661	10 U	10 U	-	59.1	0.0508	0.5 U	-	-	-	-	-	-	-
			16-Nov-06		681	681	10 U	10 U	-	59.4	0.117	1.32	-	-	-	-	-	-	-
			26-Jan-07		768	768	10 U	10 U	-	85.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			23-Feb-07		685	685	10 U	10 U	-	71	0.03 U	18.4	-	-	-	-	-	-	-
			22-Mar-07		755	755	10 U	10 U	-	82.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			24-Apr-07		888	888	10 U	10 U	-	83.9	0.401	0.79	-	-	-	-	-	-	-
			23-May-07		890	890	10 U	10 U	-	105	0.184	0.57	-	-	-	-	-	-	-
			19-Nov-07		924	-	-	-	-	100	0.032	0.9	-	-	-	-	-	-	-
			13-Feb-08		918	-	-	-	-	138	0.03 U	1.01	-	-	-	-	-	-	-
			22-May-08		902	-	-	-	-	134	0.0327	0.96	-	-	-	-	-	-	-
			12-Aug-08		934	-	-	-	-	128	0.0349	0.79	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-19-71	MFA	WS-19-71	14-Nov-08	61 - 71	1100	-	-	-	-	124	0.03 U	0.67	-	-	-	-	-	-	-
			29-May-09		1120	-	-	-	-	214	0.182	0.54	-	0.28	-126	6.9	2021	49.41	18.02
			16-Jul-09		1100	-	-	-	-	130	0.114	0.5 U	-	0.06	-126.3	6.75	2257	7.69	20.8
			3-Sep-09		1110	-	-	-	-	128	0.115	5 U	-	0.14	-76.4	6.51	1870	5.96	18.43
			20-Oct-09		1180	-	-	-	-	126	0.106	0.5 U	-	0.15	-103.6	6.54	1679	4.42	16.6
			16-Dec-09		1170	-	-	-	-	121	0.0348	0.5 U	-	0.19	-116.3	0	1697	5.98	13.36
			22-Feb-10		-	-	-	-	-	116	0.0452	5 U	-	0.2	-236.3	7.08	1720	3.03	15.03
WS-19-101	MFA	WS-19-101	27-Jun-06	92 - 102	372	-	-	-	-	33.8	-	173	-	-	-	-	-	-	-
			20-Jul-06		438	-	-	-	-	76.4	-	34.4	-	-	-	-	-	-	-
			29-Aug-06		589	-	-	-	-	80	-	0.5 U	-	-	-	-	-	-	-
			27-Sep-06		857	857	10 U	10 U	-	47.6	0.078	0.5 U	-	-	-	-	-	-	-
			25-Oct-06		1,090	1,090	10 U	10 U	-	68.6	0.0605	1.32	-	-	-	-	-	-	-
			15-Nov-06		1,300	1,300	10 U	10 U	-	83.5	0.03 U	1.83	-	-	-	-	-	-	-
			25-Jan-07		1,100	1,100	10 U	10 U	-	100	0.0428	1.21	-	-	-	-	-	-	-
			23-Feb-07		909	909	10 U	10 U	-	65.3	0.0416	0.83	-	-	-	-	-	-	-
			22-Mar-07		984	984	10 U	10 U	-	79.2	0.03 U	0.67	-	-	-	-	-	-	-
			24-Apr-07		975	975	10 U	10 U	-	84.1	0.338	0.93	-	-	-	-	-	-	-
			23-May-07		1,050	1,050	10 U	10 U	-	114	0.0493	0.67	-	-	-	-	-	-	-
			19-Nov-07		895	-	-	-	-	106	0.03 U	1.61	-	-	-	-	-	-	-
			13-Feb-08		1,010	-	-	-	-	148	0.037	0.89	-	-	-	-	-	-	-
			22-May-08		863	-	-	-	-	152	0.0392	0.5 U	-	-	-	-	-	-	-
			12-Aug-08		747	-	-	-	-	157	0.0338	0.5 U	-	-	-	-	-	-	-
			14-Nov-08		690	-	-	-	-	177	0.03 U	0.5 U	-	-	-	-	-	-	-
			2-Apr-09		661	-	-	-	-	159	0.057	0.5 U	-	0.04	-89.6	6.42	1323	0	14.6
			20-May-09		645	-	-	-	-	152	0.03 U	0.5 U	-	0.25	-87.2	6.47	1440	8.74	17.42
			16-Jul-09		678	-	-	-	-	163	0.112	0.5 U	-	0.09	-109.4	6.63	1694	4.4	19.24
			3-Sep-09		678	-	-	-	-	166	0.11	5 U	-	0.16	-37.6	6.39	1437	9.97	17.56
			20-Oct-09		709	-	-	-	-	164	0.132	0.5 U	-	0.23	-85.4	6.43	1368	32.55	16.51
			15-Dec-09		655	-	-	-	-	162	0.0335	0.58	-	0.2	-79.6	6.97	1149	9.11	10.87
			22-Feb-10		-	-	-	-	-	163	0.03 U	5 U	-	0.25	-182.7	6.93	1269	14.44	14.77
WS-20-112	MFA	WS-20-112	28-Jun-06	97 - 112	771	-	-	-	-	41.3	-	27.2	-	-	-	-	-	-	-
			27-Jul-06		2,160	-	-	-	-	37.2	-	16.3	-	-	-	-	-	-	-
			28-Aug-06		558	-	-	-	-	41.6	-	5.5	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-20-112	MFA	WS-20-112	25-Sep-06	97 - 112	447	447	10 U	10 U	-	45.3	0.0626	0.5 U	-	-	-	-	-	-	-
			23-Oct-06		498	498	10 U	10 U	-	49.8	0.054	0.95	-	-	-	-	-	-	-
			18-Dec-06		488	488	10 U	10 U	-	59	0.109	0.5 U	-	-	-	-	-	-	-
			25-Jan-07		311	311	10 U	10 U	-	50.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			21-Feb-07		343	343	10 U	10 U	-	51.3	0.03 U	0.5 U	-	-	-	-	-	-	-
			21-Mar-07		401	401	10 U	10 U	-	59.7	0.03 U	0.5 U	-	-	-	-	-	-	-
			23-Apr-07		289	289	10 U	10 U	-	50	0.03 U	0.5 U	-	-	-	-	-	-	-
			21-May-07		289	289	10 U	10 U	-	48.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			15-Nov-07		241	-	-	-	-	49.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Feb-08		234	-	-	-	-	51.3	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-May-08		358	-	-	-	7.19	49.5	0.03 U	0.5 U	-	-	-	-	-	-	-
			6-Aug-08		218	-	-	-	-	56.9	0.03 U	0.5 U	-	-	-	-	-	-	-
WS-21-112	MFA	WS-21-112	28-Jun-06	97 - 112	417	-	-	-	-	43.4	-	81.8	-	-	-	-	-	-	-
			28-Jul-06		426	-	-	-	-	45.2	-	34.3	-	-	-	-	-	-	-
			28-Aug-06		401	-	-	-	-	41.7	0.0446	21.6	-	-	-	-	-	-	-
			25-Sep-06		368	368	10 U	10 U	-	40.6	0.056	17.1	-	-	-	-	-	-	-
			24-Oct-06		384	384	10 U	10 U	-	39	0.0532	28.8	-	-	-	-	-	-	-
			14-Nov-06		384	-	-	-	-	40	0.0739	18	-	-	-	-	-	-	-
			19-Dec-06		371	371	10 U	10 U	-	45	0.129	13.1	-	-	-	-	-	-	-
			24-Jan-07		362	362	10 U	10 U	-	43.5	0.0317	8.49	-	-	-	-	-	-	-
			22-Feb-07		379	-	-	-	-	42.4	0.03 U	3.32	-	-	-	-	-	-	-
			21-Mar-07		376	376	10 U	10 U	-	45	0.0645	2.71	-	-	-	-	-	-	-
			23-Apr-07		391	391	10 U	10 U	-	41	0.23	0.65	-	-	-	-	-	-	-
			22-May-07		439	439	10 U	10 U	-	38.4	0.932	3.47	-	-	-	-	-	-	-
			16-Aug-07		376	-	-	-	-	41.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Nov-07		405	-	-	-	-	37.4	0.03 U	0.5 U	-	-	-	-	-	-	-
			11-Feb-08		391	-	-	-	-	32.7	0.03 U	0.5 U	-	-	-	-	-	-	-
			21-May-08		378	-	-	-	1.14	32.7	0.0397	3.48	-	-	-	-	-	-	-
			13-Aug-08		375	-	-	-	-	32.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			18-Nov-08		390	-	-	-	-	29.7	0.03 U	9.17	-	-	-	-	-	-	-
			29-Jan-09		373	-	-	-	-	31.4	0.0474	28.1	-	0.2	-120.5	6.64	748	1.49	15.35
			21-Apr-09		367	-	-	-	-	29.9	0.03 U	31.2	-	-	-	-	-	-	-
			29-Jun-09		381	-	-	-	-	33	0.112	11.5	-	0.12	-98.5	8.2	833	0	19.65

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-21-112	MFA	WS-21-112	28-Jul-09	97 - 112	234	-	-	-	-	20.9	0.0827	3.58	-	0.48	-94	6.74	556	1.69	24.2
			25-Aug-09		367	-	-	-	-	39.3	0.03 U	28.1	-	0.71	-55	6.44	697	2.15	16.6
			23-Sep-09		401	-	-	-	-	31.5	0.0351	11.9	-	0.26	-109	6.36	848	7.4	18.58
			27-Oct-09		408	-	-	-	-	40.4	0.139	2.71	-	0.1	-77	6.45	624	3.79	17.44
			18-Nov-09		403	-	-	-	-	28.6	0.0401	0.88	-	0.8	-78.6	6.62	711	1.11	17.25
			22-Dec-09		396	-	-	-	-	25.4	0.043	0.97	-	0.19	-92.4	6.68	680	1.12	16.5
			20-Jan-10		400	-	-	-	-	26.1	0.0335	0.95	-	0.23	-72.5	6.8	677	2.38	16.31
			1-Mar-10		-	-	-	-	-	25.5	0.203	0.5 U	-	0.13	-226	7.14	688	4.38	17.38
			26-Mar-10		-	-	-	-	-	24.7	0.0405	0.93	-	-	-	-	-	-	-
	HAI	5237-070712-WS21-112	12-Jul-07		392	392	25 U	25 U	-	37.1	0.1 U	1.0 U	-	-	-	-	-	-	-
		5237-080521-WS21-112-108	21-May-08		384	384	1 U	-	-	31.7	0.008 U	5.3	-	0.17	-40.9	6.3	646	2.6	17.44
		5237-080925-WS-21-112-137	25-Sep-08		376	376	1 U	-	-	27.7	0.008 U	0.012 U	-	0	-172	6.51	721	0.46	18.2
		5237-090407-WS21-112-108	7-Apr-09		396	2 U	2 U	-	-	26.4	0.3	29.7	-	0.98	-132.4	7.3	685	6.6	18.08
		5237-090820-WS-21-112-165	20-Aug-09											-	-	6.89	483	40	24.2
		5237-100301-WS-21-112-106	1-Mar-10		-	-	-	-	-	-	-	-	-	0.13	-226	7.14	688	4.38	17.38
WS-21-131	MFA	WS-21-131	29-Jan-09	115 - 130	509	-	-	-	-	48.5	0.0433	2.33	-	-	-	-	-	-	-
			21-Apr-09		534	-	-	-	-	48.3	0.03 U	5.48	-	-	-	-	-	-	-
			29-Jun-09		485	-	-	-	-	48.9	0.124	5.11	-	0.09	-118.4	8.72	1083	0.79	19.77
			28-Jul-09		428	-	-	-	-	34.2	0.03 U	0.68	-	0.88	-122	6.73	1007	3.99	27.09
			25-Aug-09		252	-	-	-	-	22.2	0.03 U	6.98	-	0.88	-71	6.54	516	2.29	15.39
			23-Sep-09		456	-	-	-	-	52.5	0.0339	6.33	-	0.12	-142.3	6.36	1010	5.72	19.52
			27-Oct-09		455	-	-	-	-	62.7	0.144	13.9	-	0.17	-76.1	6.38	712	3.45	17.01
			18-Nov-09		445	-	-	-	-	51.5	0.053	10.6	-	0.87	-75.5	6.56	834	1.96	16.53
			22-Dec-09		428	-	-	-	-	45.2	0.052	11.2	-	0.23	-96.1	6.6	813	1.8	16.15
			20-Jan-10		451	-	-	-	-	44.9	0.0415	11.2	-	0.26	-80.8	6.66	809	3.32	16.58
			1-Mar-10		-	-	-	-	-	45.4	0.03 U	11.6	-	0.18	-247	6.9	819	2.58	17.34
			26-Mar-10		-	-	-	-	-	44.5	0.03 U	11.9	-	-	-	-	-	-	-
WS-22-112	MFA	WS-22-112	28-Jun-06	97 - 112	10 U	-	-	-	-	96.6	-	31.5	-	-	-	-	-	-	-
			27-Jul-06		681	-	-	-	-	36	-	16.8	-	-	-	-	-	-	-
			25-Aug-06		1,980	-	-	-	-	19.6	-	6.26	-	-	-	-	-	-	-
			25-Sep-06		2,670	2,670	10 U	10 U	-	111	0.03 U	3.21	-	-	-	-	-	-	-
			24-Oct-06		1,770	1,770	10 U	10 U	-	68	0.03 U	6.07	-	-	-	-	-	-	-
			19-Dec-06		870	870	10 U	10 U	-	61.4	0.122	0.54	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-22-112	MFA	WS-22-112	24-Jan-07	97 - 112	883	883	10 U	10 U	-	64.2	0.0598	0.5 U	-	-	-	-	-	-	-
			22-Feb-07		839	839	10 U	10 U	-	63.8	0.0368	0.5 U	-	-	-	-	-	-	-
			21-Mar-07		743	743	10 U	10 U	-	64.2	0.0808	0.5 U	-	-	-	-	-	-	-
			23-Apr-07		604	604	10 U	10 U	-	72.8	0.26	0.5 U	-	-	-	-	-	-	-
			22-May-07		619	619	10 U	10 U	-	62.6	0.0991	0.5 U	-	-	-	-	-	-	-
			16-Nov-07		344	-	-	-	-	57.8	0.03 U	0.5 U	-	-	-	-	-	-	-
			14-Feb-08		327	-	-	-	-	52	0.03 U	0.5 U	-	-	-	-	-	-	-
			16-May-08		334	-	-	-	42.5	52.2	0.03 U	0.5 U	-	-	-	-	-	-	-
			13-Aug-08		269	-	-	-	-	51.3	0.03 U	0.5 U	-	-	-	-	-	-	-
WS-23-116	MFA	WS-23-116	26-Jan-09	100 - 115	310	-	-	-	-	23.1	0.03 U	32.9							
			22-Apr-09		329	-	-	-	-	22.4	0.0378	11.3							
			30-Jun-09		319	-	-	-	-	20.8	0.214	12.7							
			24-Jul-09		327	-	-	-	-	21.7	0.0735	4.33							
			25-Aug-09		311	-	-	-	-	22.8	0.03 U	7.88							
			24-Sep-09		339	-	-	-	-	21.8	0.0378	1.56							
			28-Oct-09		341	-	-	-	-	33.8	0.146	2.89							
			18-Nov-09		344	-	-	-	-	24.1	0.0527	0.5 U							
			28-Dec-09		355	-	-	-	-	21.6	0.0357	2.03							
			19-Jan-10		343	-	-	-	-	20.5	0.0352	42.6							
			18-Feb-10		-	-	-	-	-	22	0.03 U	9.91							
			24-Mar-10		-	-	-	-	-	22.3	0.0706	2.37							
WS-24-111	MFA	WS-24-111	28-Jan-09	100 - 110	360	-	-	-	-	37.5	0.0467	138	-	-	-	-	-	-	-
			21-Apr-09		368	-	-	-	-	37.4	0.03 U	160	-	-	-	-	-	-	-
			29-Jun-09		365	-	-	-	-	45.6	0.123	194	-	0.1	-113.9	8.31	1178	1.54	18.74
			27-Jul-09		376	-	-	-	-	45.5	0.0507	163	-	0.15	-126	6.63	1154	2.26	19.45
			25-Aug-09		347	-	-	-	-	48.1	0.03 U	182	-	0.26	-77.8	6.52	974	9.67	18.91
			24-Sep-09		377	-	-	-	-	45.1	0.0369	164	-	0.22	-100	6.53	1163	3.4	18
			28-Oct-09		372	-	-	-	-	5.98	0.152	15.1	-	0.2	-88.2	6.52	886	4.2	16.72
			18-Nov-09		364	-	-	-	-	43	0.0371	159	-	0.76	-79.8	6.67	934	5.31	15.66
			22-Dec-09		362	-	-	-	-	39.7	0.0384	145	-	0.16	-112	6.73	910	1.26	15.94
			20-Jan-10		356	-	-	-	-	40.2	0.0498	137	-	0.19	-90.9	6.97	926	2.94	16.77
			26-Feb-10		-	-	-	-	-	43.2	0.0382	132	-	0.17	-187.1	7	902	4.7	16.45
			25-Mar-10		-	-	-	-	-	42.3	0.0418	136	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-24-126	MFA	WS-24-126	28-Jan-09	115 - 125	226	-	-	-	-	5.05	0.03 U	20.5	-	0.13	-188.8	7.28	480	72.2	16.62
			21-Apr-09		251	-	-	-	-	6.94	0.03 U	3.72	-	-	-	-	-	-	-
			29-Jun-09		228	-	-	-	-	7.35	0.03 U	15.1	-	0.17	-155.4	8.88	475	1.75	18.75
			27-Jul-09		226	-	-	-	-	7.24	0.03 U	10.7	-	0.1	-154	7.14	468	1.43	19.56
			25-Aug-09		217	-	-	-	-	7.56	0.03 U	10.2	-	0.24	-111.5	6.97	408	8.32	18.7
			24-Sep-09		226	-	-	-	-	7.58	0.03 U	8.64	-	0.15	-134	6.99	473	4.8	18.01
			28-Oct-09		215	-	-	-	-	7.76	0.03 U	7.8	-	0.09	-119.6	6.89	386	3.89	17.04
			18-Nov-09		220	-	-	-	-	5.54	0.03 U	4.32	-	0.55	-124.8	7.11	387	2.17	16.99
			22-Dec-09		218	-	-	-	-	5.48	0.03 U	5.77	-	-	-	-	-	-	-
			20-Jan-10		222	-	-	-	-	5.29	0.03 U	5.75	-	0.23	-119.5	7.29	374	4.44	16.46
			26-Feb-10		-	-	-	-	-	6.28	0.03 U	6.14	-	0.2	-208.7	7.32	373	6.42	16.63
			25-Mar-10		-	-	-	-	-	6.15	0.03 U	6.12	-	-	-	-	-	-	-
WS-24-155	MFA	WS-24-155	12-Mar-09	140 - 155	223	-	-	-	-	39.6	0.0438	53.8	-	-	-	-	-	-	-
			17-Mar-09		225	-	-	-	-	18.3	0.03 U	34	-	-	-	-	-	-	-
			10-Apr-09		245	-	-	-	-	38.8	0.0517	87.5	-	0.07	-215.7	6.91	745	0	17.17
			30-Jun-09		269	-	-	-	-	38.4	0.114	82.4	-	0.27	-122	8.7	797	1.94	17.87
			29-Jul-09		231	-	-	-	-	16.9	0.03 U	34.5	-	-	-	-	-	-	-
			12-Aug-09		234	-	-	-	-	20.2	0.03 U	43.5	-	0.13	-111.9	5.08	518	1.63	17.57
			24-Sep-09		272	-	-	-	-	29.4	0.03 U	92.4	-	0.18	-120.4	7.35	892	10.37	16.45
			29-Oct-09		254	-	-	-	-	24.2	0.0736	81.3	-	0.02	-118.4	6.63	624	0.71	16.69
			20-Nov-09		256	-	-	-	-	24.3	0.0312	67.1	-	0.28	-137	6.9	607	1.68	16.94
			28-Dec-09		268	-	-	-	-	20.3	0.03 U	67.8	-	-	-	-	-	-	-
			21-Jan-10		255	-	-	-	-	20.5	0.03 U	55.9	-	0.11	-111.8	6.78	569	0.71	16.83
			1-Mar-10		-	-	-	-	-	23.1	0.03 U	79.8	-	0.16	-272.2	7.02	625	1.98	16.65
			25-Mar-10		-	-	-	-	-	20.3	0.03 U	63.3	-	-	-	-	-	-	-
WS-25-96	MFA	WS-25-96	23-Jan-09	85 - 95	409	-	-	-	-	20.4	0.03 U	7.15	-	0.27	-130	6.62	649	58.5	15.48
			21-Apr-09		378	-	-	-	-	19.5	0.0325	5.67	-	-	-	-	-	-	-
			29-Jun-09		378	-	-	-	-	19.8	0.0905	7.34	-	0.11	-87.8	8.11	770	0.21	19.46
			28-Jul-09		378	-	-	-	-	19.7	0.03 U	9.43	-	0.81	-101	6.9	848	1.29	25.19
			25-Aug-09		379	-	-	-	-	20.9	0.03 U	6.69	-	0.97	-49	6.37	678	1.32	17.18
			23-Sep-09		377	-	-	-	-	17.3	0.059	6.31	-	0.19	-82.3	7	735	4.28	19.2
			27-Oct-09		376	-	-	-	-	27.9	0.142	6.4	-	0.17	-61.5	6.35	579	13.13	17.01
			19-Nov-09		370	-	-	-	-	18.3	0.0455	5.82	-	0.36	-70.8	6.55	639	2.31	17.46

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-25-96	MFA	WS-25-96	21-Dec-09	85 - 95	359	-	-	-	-	17.5	0.03 U	5.11	-	0.21	-79.6	6.56	604	4.01	15.98
			19-Jan-10		363	-	-	-	-	17.3	0.0415	4.63	-	0.33	-66.5	7.11	616	2.71	16.89
			26-Feb-10		-	-	-	-	-	17.6	0.03 U	4.59	-	0.29	-186.1	6.7	612	5.19	16.52
			26-Mar-10		-	-	-	-	-	17.8	0.03 U	4.27	-	-	-	-	-	-	-
WS-25-111	MFA	WS-25-111	26-Jan-09	100 - 110	366	-	-	-	-	26.9	0.03 U	35.3	-	0.46	-110.72	6.56	844	8.61	15.07
			21-Apr-09		396	-	-	-	-	24.2	0.03 U	19.9	-	-	-	-	-	-	-
			29-Jun-09		408	-	-	-	-	2.62	0.108	114	-	0.37	-104.9	8.05	944	0	18.82
			28-Jul-09		241	-	-	-	-	22.3	0.03 U	47.8	-	0.58	34	6.81	0	2.04	26.33
			25-Aug-09		360	-	-	-	-	23.2	0.03 U	31.1	-	0.98	-56	6.4	681	2.24	16.55
			23-Sep-09		422	-	-	-	-	24.8	0.0324	7.15	-	0.22	-101	6.3	872	5.4	19.01
			27-Oct-09		415	-	-	-	-	33.6	0.146	8.56	-	0.12	-58.2	6.28	660	3.27	16.99
			19-Nov-09		414	-	-	-	-	24.8	0.0505	10.6	-	0.4	-57.8	6.5	723	1.13	17.35
			21-Dec-09		403	-	-	-	-	23.1	0.03 U	11.4	-	0.18	-83.3	6.53	685	5.51	16.21
			19-Jan-10		407	-	-	-	-	22.4	0.0411	11.6	-	0.23	-71.5	7.06	707	1.51	17.38
			25-Feb-10		-	-	-	-	-	22.8	0.03 U	18	-	0.18	-171.4	6.81	681	1.12	17.1
			26-Mar-10		-	-	-	-	-	22	0.03 U	9.59	-	-	-	-	-	-	-
WS-26-86	MFA	WS-26-86	23-Jan-09	75 - 85	444	-	-	-	-	21.6	0.0343	0.51	-	0.34	-139.2	6.53	795	42.2	16.16
			21-Apr-09		466	-	-	-	-	20.7	0.03 U	0.5 U	-	-	-	-	-	-	-
			29-Jun-09		416	-	-	-	-	18	0.148	0.5 U	-	0.07	-100.5	8.88	890	11.2	20.35
			28-Jul-09		421	-	-	-	-	18.3	0.0845	0.5 U	-	0.19	-415.8	6.49	819	14.35	18.9
			25-Aug-09		381	-	-	-	-	18.5	0.03 U	0.56	-	0.17	-60.8	6.32	746	14.93	18.92
			23-Sep-09		410	-	-	-	-	17.2	0.0309	0.5 U	-	0.18	-87	7.13	800	9.8	19.83
			27-Oct-09		398	-	-	-	-	28.4	0.145	0.56	-	0.12	-66	6.36	660	10.27	17.7
			19-Nov-09		401	-	-	-	-	0.5 U	0.0505	0.5 U	-	0.37	-69.2	6.51	686	8.9	17.27
			21-Dec-09		399	-	-	-	-	16.2	0.03 U	0.5 U	-	0.23	-91.7	6.55	646	14.6	15.92
			19-Jan-10		401	-	-	-	-	15.5	0.046	0.5 U	-	0.2	-76.8	7.06	667	16.7	17.36
			26-Feb-10		-	-	-	-	-	15.3	0.0321	0.5 U	-	0.2	-177.2	6.77	643	9	17.37
			26-Mar-10		-	-	-	-	-	14.7	0.0631	1.06	-	-	-	-	-	-	-
WS-26-116	MFA	WS-26-116	23-Jan-09	105 - 115	464	-	-	-	-	57.3	0.03 U	24.2	-	0.55	-131.4	6.75	900	10.73	15.37
			20-Apr-09		516	-	-	-	-	59.7	0.03 U	49.4	-	-	-	-	-	-	-
			30-Jun-09		480	-	-	-	-	31.9	0.106	12	-	0.08	-80.1	8.09	973	1.27	18.87
			23-Jul-09		444	-	-	-	-	19.8	0.0557	5.36	-	0.21	-56.7	6.88	883	1.24	19.6
			24-Aug-09		435	-	-	-	-	14.6	0.0861	0.6	-	0.4	-63.4	6.36	772	7.18	19.67

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0				Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate		Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-26-116	MFA	WS-26-116	23-Sep-09	105 - 115	417	-	-	-	-	12.7	0.03 U	0.5 U		-	0.25	-78.5	7.25	798	5.36	19.46
			27-Oct-09		414	-	-	-	-	13.2	0.134	0.53		-	0.11	-64.1	6.34	665	1.89	16.82
			19-Nov-09		407	-	-	-	-	0.5 U	0.0547	0.5 U		-	0.48	-64.3	6.55	674	4.55	16.5
			21-Dec-09		401	-	-	-	-	11	0.03 U	0.5 U		-	0.4	-89	6.59	633	6.09	15.16
			19-Jan-10		404	-	-	-	-	10.8	0.0495	0.5 U		-	0.22	-93.6	7.09	676	1.14	17.5
			25-Feb-10		-	-	-	-	-	11.3	0.03 U	0.5 U		-	0.21	-159.1	6.76	649	4.01	17.29
			24-Mar-10		-	-	-	-	-	10.7	0.0317	0.58		-	-	-	-	-	-	-
WS-27-86	MFA	WS-27-86	22-Jan-09	70 - 85	436	-	-	-	-	13.7	0.03 U	1.15		-	1.13	-111.2	6.51	759	9.31	17.8
			20-Apr-09		432	-	-	-	-	13.4	0.0304	0.5 U		-	-	-	-	-	-	-
			30-Jun-09		453	-	-	-	-	13.6	0.133	0.5 U		-	0.1	-61.8	8.36	834	1.28	19.27
			23-Jul-09		452	-	-	-	-	12.7	0.725	0.5 U		-	0.13	-37.8	6.59	872	3.19	21.22
			24-Aug-09		454	-	-	-	-	12.4	0.0561	0.5 U		-	0.26	-44.1	6.24	786	1.7	19.69
			23-Sep-09		437	-	-	-	-	11.8	0.03 U	0.5 U		-	0.2	-96.12	7.15	855	-	19
			26-Oct-09		448	-	-	-	-	31.6	0.145	0.5 U		-	-	-53.7	6.32	708	1.33	18.29
			19-Nov-09		431	-	-	-	-	11.1	0.0551	0.5 U		-	0.44	-9.8	6.5	723	1.08	17.78
			21-Dec-09		432	-	-	-	-	10	0.03 U	0.5 U		-	0.13	-79.3	6.54	694	4.82	17.23
			19-Jan-10		423	-	-	-	-	9.78	0.0419	0.5 U		-	0.27	-57.1	7.03	702	0.8	17.75
			19-Feb-10		-	-	-	-	-	9.48	0.132	0.5 U		-	-	-	-	-	-	-
			24-Mar-10		-	-	-	-	-	9.64	0.0409	0.5 U		-	0.18	-318.5	7.05	702	0.45	18.11
WS-30-96	MFA	WS-30-96	11-Feb-09	85 - 95	302	-	-	-	-	26.9	0.0461	37.1		-	1.19	-100.2	6.66	681	362	13.97
			24-Mar-09		276	-	-	-	-	38.7	0.051	16		-	0.71	-179.6	6.47	652	0	14.75
			26-May-09		365	-	-	-	-	118	0.0424	0.5 U		-	0.25	-76	6.15	1380	28.43	21.86
			20-Jul-09		997	-	-	-	-	155	0.0867	2.5 U		-	0.95	-77.6	5.38	4028	18.35	23.16
			3-Sep-09		1920	-	-	-	-	161	0.03 U	11.2		-	0.09	-49	5.47	4743	17.01	22.26
			21-Oct-09		1940	-	-	-	-	25 U	0.03 U	4.01		-	0.27	-68	5.67	4446	33.28	17.35
			15-Dec-09		2200	-	-	-	-	20.1	0.0828	4.74		-	0.1	-104.5	6.51	4612	44.41	13.09
			16-Feb-10		-	-	-	-	-	89	0.127	2.26		-	0.31	-101	6.43	4902	38.58	15.97
WS-31-106	MFA	WS-31-106	20-Feb-09	95 - 105	301	-	-	-	-	42.9	0.0756	5.15		-	-	-	-	-	-	-
			6-Apr-09		319	-	-	-	-	37.9	0.0525	50.2		-	0.19	-137.8	6.63	797	0	18.03
			27-May-09		329	-	-	-	-	26.4	0.126	0.5 U		-	0.33	-58	6.41	879	19.25	20.57
			23-Jul-09		914	-	-	-	-	51.3	0.85	0.84		-	0.14	-8.4	5.66	2908	13.83	20.3
			27-Aug-09		1380	-	-	-	-	25 U	1.21	49.2		-	1.03	-44.5	5.43	3913	20.71	23.43
			26-Oct-09		1610	-	-	-	-	110	0.512	41.1		-	0.1	-72.5	5.76	2182	32.5	16.02

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0					Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride		Nitrate-Nitrogen		Sulfate		Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		mg/l		mg/l		mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-31-106	MFA	WS-31-106	18-Dec-09	95 - 105	1820	-	-	-	-	25	U	0.265		25	U	-	0.13	-150.3	6.41	3608	24.8	14.38
			24-Feb-10		-	-	-	-	-	51.5		0.3	U	5	U	-	0.14	-158.8	6.87	2015	14.53	15.51
WS-32-76	MFA	WS-32-76	23-Feb-09	61 - 71	556	-	-	-	-	98		0.03	U	408		-	-	-	-	-	-	-
			26-Mar-09		473	-	-	-	-	106		0.0414		299		-	-	-212.1	5.59	2008	-	15.57
			26-May-09		2250	-	-	-	-	166		0.0948		327		-	0.29	-105	5.41	4996	68.43	19.61
			22-Jul-09		3730	-	-	-	-	25	U	0.645		284		-	0.84	-64.8	5.43	8485	16.15	21.08
			27-Aug-09		3610	-	-	-	-	25	U	0.3	U	146		-	1.81	-98.7	5.43	9072	58.08	22.82
			26-Oct-09		3390	-	-	-	-	109		0.499		84.6		-	0.21	-82.8	5.78	4128	28.66	16.2
			18-Dec-09		3060	-	-	-	-	81.5		0.266		47.5		-	0.16	-93.7	6.03	5769	32.8	15.52
			24-Feb-10		-	-	-	-	-	88		0.3	U	7.1		-	0.18	-57.7	6.25	4355	23.72	16.22
WS-32-106	MFA	WS-32-106	23-Feb-09	91 - 101	299	-	-	-	-	19.8		0.03	U	17.2		-	-	-	-	-	-	-
			26-Mar-09		402	-	-	-	-	46		0.203		10.6		-	0.48	-155.4	4.62	2280	559	15.04
			26-May-09		2520	-	-	-	-	48.3		0.0458		6.67		-	0.38	-111	5.68	5336	410.9	21.57
			22-Jul-09		4130	-	-	-	-	25	U	0.625		11		-	0.73	-101.6	5.51	9347	77.34	20.82
			27-Aug-09		6170	-	-	-	-	25	U	0.3	U	16.7		-	1.13	-100.9	5.6	9571	82.76	23.37
			26-Oct-09		4540	-	-	-	-	87		0.077		41		-	-	-	-	-	-	-
			18-Dec-09		5460	-	-	-	-	39.5		0.246		44.5		-	0.07	-120.3	6.05	8872	27.9	15.67
			24-Feb-10		-	-	-	-	-	88		1.85		84.5		-	0.18	-163.3	6.37	5713	12.01	15.32
WS-33-81	MFA	WS-33-81	2-Feb-09	70 - 80	626	-	-	-	-	78.1		0.0321		518		-	0.16	-133.1	6.69	1241	243	14.07
			26-Mar-09		595	-	-	-	-	124		0.03	U	383		-	6.42	-174.6	6.41	1856	46.31	14.68
			22-May-09		1570	-	-	-	-	140		0.0738		2.19		-	0.34	-136	5.46	4030	43.47	16.75
			21-Jul-09		2920	-	-	-	-	12		0.0902		41.3		-	0.7	-91.4	5.58	7437	59.83	20.11
			27-Aug-09		3280	-	-	-	-	10	U	0.03	U	14.8		-	1.31	-110.4	5.73	7899	45.02	22.26
			23-Oct-09		2930	-	-	-	-	248		0.0761		2.06		-	-	-	-	-	-	-
			21-Dec-09		2660	-	-	-	-	97		0.073		9.4		-	-	-	-	-	-	-
			18-Feb-10		-	-	-	-	-	120		0.0591		4.13		-	-	-	-	-	-	-
WS-33-106	MFA	WS-33-106	30-Jan-09	95 - 105	272	-	-	-	-	35.9		0.814		18.3		-	0.2	-118.8	6.67	629	128.5	13.72
			26-Mar-09		323	-	-	-	-	43.8		0.0494		0.5	U	-	0.55	-156.3	5.87	858	-	13.89
			21-May-09		542	-	-	-	-	44.3		0.0368		1.44		-	0.22	-84.8	6.2	1782	30.11	20.22
			21-Jul-09		658	-	-	-	-	66.4		0.0445		2.5	U	-	0.45	-138.9	6.65	2022	25.92	19.6
			27-Aug-09		1100	-	-	-	-	88.2		0.03	U	5	U	-	1.47	-145.2	6.41	2546	22.82	21.92
			23-Oct-09		1070	-	-	-	-	83.6		0.166		0.92		-	0.1	-141.4	6.46	2296	16.36	16.64

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0				Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen		Sulfate		Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		mg/l		mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-33-106	MFA	WS-33-106	18-Dec-09	95 - 105	904	-	-	-	-	51.8	0.03	U	10	U	-	0.07	-155.5	6.86	1803	45.3	15.71
			24-Feb-10		-	-	-	-	-	112	0.3	U	25	U	-	0.35	-148.9	7.07	1342	14.61	15.5
WS-34-71	MFA	WS-34-71	13-Feb-09	60 - 70	692	-	-	-	-	100	0.03	U	148		-	-	-	-	-	-	-
			2-Apr-09		710	-	-	-	-	84.8	0.0572		25.4		-	0.03	-130.7	6.59	1421	0	13.7
			27-May-09		916	-	-	-	-	92.3	0.0907		0.5	U	-	0.23	-104	6.8	1940	15.49	20.92
			16-Jul-09		850	-	-	-	-	108	0.0523		0.5	U	-	0.06	-122.2	6.57	2848	5.51	22.15
			1-Sep-09		1340	-	-	-	-	115	0.239		5	U	-	0.15	-85.4	6.26	2647	6.12	18.88
			22-Oct-09		1080	-	-	-	-	120	0.102		0.73		-	0.1	-100.4	6.2	2663	3.74	15.27
			17-Dec-09		1440	-	-	-	-	124	0.0729		1.31		-	0.23	-95.6	6.61	2651	4.16	12.91
			23-Feb-10		-	-	-	-	-	236	0.3	U	127		-	0.2	-139.7	6.7	2140	2.89	12.82
WS-34-106	MFA	WS-34-106	17-Feb-09	95 - 105	172	-	-	-	-	29.6	0.032		56.6		-	-	-	-	-	-	-
			2-Apr-09		332	-	-	-	-	39.9	0.0345		0.5	U	-	0.03	-112.3	6.39	1021	-	13.78
			27-May-09		706	-	-	-	-	55.6	0.0399		0.5	U	-	0.29	-89	6.68	1483	16.22	18.43
			16-Jul-09		718	-	-	-	-	70.3	0.03	U	0.5	U	-	0.04	-154.6	6.65	1837	13.85	22.81
			1-Sep-09		954	-	-	-	-	51.5	0.229		6.9		-	0.13	-106.6	6.46	1590	25.01	19.2
			21-Oct-09		878	-	-	-	-	47.5	0.0933		0.53		-	0.13	-121.8	6.43	1422	12.6	16.77
			16-Dec-09		1050	-	-	-	-	5	U	0.03	U	0.5	U	-	0.1	-107.2	6.78	1470	-	13.98
			23-Feb-10		-	-	-	-	-	60.5	0.3	U	25	U	-	0.16	-143.8	6.85	1424	3.71	12.66
WS-35-76	MFA	WS-35-76	17-Feb-09	65 - 75	575	-	-	-	-	144	0.0565		257		-	-	-	-	-	-	-
			2-Apr-09		1190	-	-	-	-	158	0.0442		0.85		-	0.06	-33	5.63	2921	-	12.68
			27-May-09		10	U	-	-	-	147	0.0316		49.9		-	0.33	-75	5.78	5984	36.3	18.34
			22-Jul-09		5270	-	-	-	-	250	0.294		3.1		-	0.56	-110	5.88	9606	24.14	18.64
			1-Sep-09		5030	-	-	-	-	162	0.264		28.3		-	0.28	-69.8	5.86	8571	22.34	19.1
			22-Oct-09		3960	-	-	-	-	25	U	0.03	U	8.2		-	0.09	-94	5.9	6151	16.59	15.81
			17-Dec-09		3750	-	-	-	-	138	0.153		40.5		-	0.24	-79.4	6.2	7610	26.6	14.59
			23-Feb-10		-	-	-	-	-	160	0.435		40		-	0.16	-157	6.44	5481	13.51	13.49
WS-35-106	MFA	WS-35-106	17-Feb-09	95 - 105	283	-	-	-	-	58.9	0.0741		24.9		-	-	-	-	-	-	-
			30-Mar-09		729	-	-	-	-	156	0.03	U	6.54		-	0.4	-52.4	5.52	2291	-	14.27
			27-May-09		1540	-	-	-	-	178	0.111		1.15		-	0.35	-65	5.74	3496	24.89	17.28
			22-Jul-09		1380	-	-	-	-	197	0.15	U	0.5	U	-	0.41	-93.5	5.99	4758	31.45	18.2
			1-Sep-09		1920	-	-	-	-	194	0.0791		5	U	-	0.3	-94.5	5.96	4591	33.45	19.4
			22-Oct-09		1340	-	-	-	-	202	0.03	U	0.52		-	0.1	-103.5	6.04	3626	50.17	15.92

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-35-106	MFA	WS-35-106	17-Dec-09	95 - 105	2020	-	-	-	-	222	0.172	3.33	-	0.57	-56.7	6.39	4312	99.6	13.77
			23-Feb-10		-	-	-	-	-	194	0.249	5 U	-	0.19	-165	6.6	3270	51.25	13.84
WS-36-81	MFA	WS-36-81	2-Feb-09	70 - 80	576	-	-	-	-	102	0.0418	407	-	0.21	-136.8	6.66	908	19.4	14.71
			30-Mar-09		579	-	-	-	-	124	0.0354	338	-	0.7	-106	6.44	1629	0	14.87
			21-May-09		716	-	-	-	-	120	0.03 U	113	-	0.25	-158.2	6.22	1685	13.16	17.17
			21-Jul-09		810	-	-	-	-	145	0.0453	85.4	-	0.5	-151.7	6.53	2279	7.2	21.77
			1-Sep-09		876	-	-	-	-	152	0.0423	64.3	-	0.36	-67.9	6.24	1905	17.01	18.15
			22-Oct-09		910	-	-	-	-	170	0.182	38.8	-	0.1	-77.6	6.16	2017	26.47	16.53
			17-Dec-09		978	-	-	-	-	179	0.0345	10 U	-	0.49	-51.1	6.57	2312	31.2	13.9
			23-Feb-10		-	-	-	-	-	194	0.03 U	86	-	0.21	-154.4	6.56	2118	21.2	14.26
WS-36-106	MFA	WS-36-106	3-Feb-09	95 - 105	298	-	-	-	-	41.2	0.03 U	47.9	-	0.18	-94.4	6.63	670	10.05	14.2
			30-Mar-09		285	-	-	-	-	29.3	0.0505	0.5 U	-	0.5	-111.9	6.41	632	0	14.99
			21-May-09		1110	-	-	-	-	68.5	0.03 U	9.8	-	0.37	-22.8	5.28	3016	11.52	15.4
			21-Jul-09		3190	-	-	-	-	148	0.66	53.6	-	0.73	-78.1	5.42	7411	26.77	21
			1-Sep-09		3730	-	-	-	-	25 U	0.215	12.7	-	0.72	-65.6	5.4	6995	18.74	18.21
			22-Oct-09		3530	-	-	-	-	5 U	0.03 U	4.4	-	0.33	-72.1	5.56	5585	6.47	16.34
			17-Dec-09		4830	-	-	-	-	43	0.0435	46	-	0.41	-73.2	5.95	7068	9.6	14.28
			23-Feb-10		-	-	-	-	-	37.5	0.0721	8	-	0.25	-200.3	6.22	6381	6.73	14.14
WS-37-51	MFA	WS-37-51	12-Feb-09	40 - 50	721	-	-	-	-	47.3	0.03 U	0.5 U	-	-	-	-	-	-	-
			25-Mar-09		941	-	-	-	-	39.6	0.03 U	4.82	-	4.26	-156	6.17	1736	-	15.92
			27-May-09		938	-	-	-	-	31.8	0.0606	0.79	-	0.39	-112	6.79	2007	4.11	17.14
			22-Jul-09		1190	-	-	-	-	31.8	0.04	0.5 U	-	0.22	-115.3	6.55	2441	4.18	19.13
			3-Sep-09		1860	-	-	-	-	37.8	0.03 U	5 U	-	0.06	-115.9	6.38	3163	14.36	20.58
			19-Oct-09		1670	-	-	-	-	51.2	0.191	1.01	-	0.19	-126.2	6.42	2654	5.5	17.7
			16-Dec-09		1630	-	-	-	-	94.4	0.037	1.37	-	0.12	-134.1	6.56	2612	11.28	15.5
			25-Feb-10		-	-	-	-	-	5 U	0.3 U	5 U	-	0.21	-147.2	6.86	2270	5.42	15.69
WS-38-61	MFA	WS-38-61	28-Jan-09	50 - 60	759	-	-	-	-	46.3	0.0407	127	-	0.26	-115.8	6.53	1072	69.6	15.01
			25-Mar-09		1270	-	-	-	-	55.8	0.0324	2.4	-	0.81	-166.4	6.13	2657	0	15.16
			21-May-09		1250	-	-	-	-	65.7	0.03 U	0.55	-	0.35	-58	6.24	2570	13.52	18
			22-Jul-09		1740	-	-	-	-	85.2	0.263	0.99	-	0.88	-95.1	6.3	3413	2.63	17.39
			28-Aug-09		1630	-	-	-	-	81.4	0.0318	5.9	-	0.09	-105.4	6.12	3293	16.21	19.06
			21-Oct-09		1790	-	-	-	-	80	0.104	0.93	-	0.12	-130.6	6.43	2645	14.05	17.05

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Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
WS-38-61	MFA	WS-38-61	17-Dec-09	50 - 60	1930	-	-	-	-	68.8	0.03 U	10 U	-	0.33	-119.5	6.97	2739	21.7	14.39
			24-Feb-10		-	-	-	-	-	78.9	0.3 U	5 U	-	0.17	-134.1	7.01	2053	9.54	13.87
WS-39-101	MFA	WS-39-101	29-Jan-09	90 - 100	263	-	-	-	-	21.5	0.114	20.4	-	0.16	-121.8	6.63	587	42.1	14.87
			24-Mar-09		257	-	-	-	-	27.4	0.038	10.2	-	0.75	-210.3	6.42	647	-	15.18
			21-May-09		276	-	-	-	-	33.7	0.15	8.13	-	0.3	-48.5	6.53	629	3.62	18.67
			20-Jul-09		306	-	-	-	-	62.7	0.0386	5.7	-	0.59	-121.8	6.5	752	4.13	17.71
			4-Sep-09		394	-	-	-	-	111	0.151	5.69	-	0.16	-70.2	6.22	885	2.6	17.35
			21-Oct-09		431	-	-	-	-	84	0.0554	2.99	-	0.1	-80.7	6.1	1253	9.62	16.39
			14-Dec-09		523	-	-	-	-	91.5	0.03 U	2.91	-	0.07	-105.2	6.65	1404	8.16	14.99
			16-Feb-10		-	-	-	-	-	84.7	0.03 U	1.48	-	0.38	-94.7	-	1630	10.76	16.13
MW-3-81	HAI	5237-100316-MW-3-81-109	16-Mar-10	76-81	330	330	20 U	20 U	-	15.3	0.25 U	1 U	2.4	0.16	-138	6.8	712	5.39	12.07
RP-03-30R	HAI	5237-100413-RP-03-30R-104	13-Apr-10	23 - 28	339.	339.	20. U	20. U	-	11.8	0.25 U	1. U	1.2	0.18	-120.8	6.47	677	9.19	12.5
RP-03-52R	HAI	5237-100413-RP-03-52R-105	13-Apr-10	46-51	373.	373.	20. U	20. U	-	58.1	0.25 U	4.56	0.9	1.23	30.4	6.33	766	3.73	12.98
RP-06-30	HAI	5237-100413-RP-06-31-100	13-Apr-10	24.5 - 29.5	231.	231.	20. U	20. U	-	10.	0.25 U	1. U	1.8	0.76	-115.3	6.44	967	2.14	11.37
RP-06-87	HAI	5237-100413-RP-06-87-101	13-Apr-10	81 - 86	488.	488.	20. U	20. U	-	1,250.	0.25 U	120.	2.4	0.17	-31.4	6.55	4,267	0.54	11.99
RP-06-95	HAI	5237-100413-RP-06-95-103	13-Apr-10	89.5-94.5	442.	442.	20. U	20. U	-	951.	0.25 U	172.	2.6	0.16	-47.7	6.54	3,284	0.37	12.68
RP-7-30	HAI	5237-070828-RP-7-30-106	28-Aug-07	25-30	311	311	25 U	25 U	-	7.81	0.1 U	1.0 U	2.8	0.44	-95.1	6.39	725	11.3	15.19
		5237-100317-RP-7-30-115	17-Mar-10		297.	297.	20. U	20. U	-	7.44	0.25 U	1. U	2.0	0.11	-124.9	6.51	640	5.39	14.88
RP-7-55	HAI	5237-070827-RP-7-55-104	27-Aug-07	50-55	515	515	5 U	5 U	-	9.45	0.1 U	16.1	2.5	0.41	-55.5	6.61	922	33.8	16.37
		5237-100317-RP-7-55-113	17-Mar-10		530.	530.	20. U	20. U	-	6.43	0.25 U	4.01	1.0	0.25	-66.6	6.7	876	28.91	15.04
RP-7-84	HAI	5237-070828-RP-7-84-107	28-Aug-07	79-84	263	263	5 U	5 U	-	984	0.1 U	84.2	1.2	0.19	18.4	6.44	3,113	1.21	13.96
	HAI	5237-070828-RP-7-84-108	28-Aug-07		262	262	5 U	5 U	-	991	0.1 U	84.3	-	-	-	-	-	-	-
		5237-100317-RP-7-84-114	17-Mar-10		262.	262.	20. U	20. U	-	920.	0.25 U	87.3	1.0	0.05	26.4	6.56	2,994	0.82	13.81
RP-07-119	HAI	5237-100317-RP-7-119-116	17-Mar-10	114 - 119	151.	151.	20. U	20. U	-	559.	0.25 U	33.8	0.0	0.05	13.3	6.63	1,836	0.7	14.64
RP-11-30	HAI	5237-070827-RP-11-30-101	27-Aug-07	15 - 30	166	166	25 U	25 U	-	2.63	0.1 U	1.0 U	4.5	0.36	-102	6.31	404	9.21	15.02
RP-11-160	HAI	5237-070827-RP-11-160-102	27-Aug-07	150 - 160	252	252	25 U	25 U	-	10.6	0.1 U	1.0 U	3.1	0.17	-126.6	6.69	495	4.41	14.94
		5237-100317-RP-11-160-110	17-Mar-10		239.	239.	20. U	20. U	-	18.7	0.25 U	1. U	2.2	0.09	-135.9	6.81	486	1.3	13.13
RP-11-216	HAI	5237-070827-RP-11-216-103	27-Aug-07	211 - 216	222	222	5 U	5 U	-	404	0.1 U	26.7	3.8	0.14	-93	6.69	1,629	1.63	14.59
		5237-100317-RP-11-216-112	17-Mar-10		222.	222.	20. U	20. U	-	391.	0.25 U	27.6	1.2	0.13	-64.4	6.76	1,499	3.65	13.22
RP-20-25	HAI	5237-100315-RP-20-25-102	15-Mar-10	10 - 25	376. J	376. J	20. UJ	20. UJ	-	2.16	0.25 U	1. U	1.8	0.07	-136.7	6.54	804	1.18	12.66
RP-20-97	HAI	5237-100315-RP-20-97-103	15-Mar-10	88 - 98	599. J	599. J	20. UJ	20. UJ	-	171.	0.25 U	183.	3.0	0.27	-54.6	6.58	1,673	3.84	14.23
RP-21-28	HAI	5237-100315-RP-21-28-101	15-Mar-10	13 - 28	99.8 J	99.8 J	20. UJ	20. UJ	-	1.22	0.25 U	6.02	2.0	0.14	-129.4	6.69	240	4.23	11.24
RP-21-125	HAI	5237-100315-RP-21-125-100	15-Mar-10	120 - 125	343. J	343. J	20. UJ	20. UJ	-	114.	0.25 U	1. U	2.5	0.12	-106.4	6.7	957	17.7	11.01

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
RP-22-29	HAI	5237-100318-RP-22-29-120	18-Mar-10	14 - 29	482.	482.	20. U	20. U	-	3.35	0.25 U	181.	0.6	0.06	-87.4	6.26	1,179	2.21	15.59
RP-22-75	HAI	5237-100318-RP-22-75-119	18-Mar-10	65 - 75	293.	293.	20. U	20. U	-	5.17	0.25 U	459.	2.8	0.24	-101.3	6.29	1,264	2.5	14.84
RP-23-30	HAI	5237-100316-RP-23-30-104	16-Mar-10	15-30	519.	519.	20. U	20. U	-	2.84	0.25 U	202.	1.6	0.25	-99.5	6.22	1,334	6.12	13.15
RP-23-85	HAI	5237-100316-RP-23-85-105	16-Mar-10	80 - 85	565.	565.	20. U	20. U	-	8.5	0.25 U	1. U	2.0	0.18	-171.7	6.89	964	11	13.57
RP-23-100	HAI	5237-100316-RP-23-100-106	16-Mar-10	95 - 100	214.	214.	20. U	20. U	-	488.	0.25 U	36.2	3.1	0.04	-169.2	7.14	1,636	1.89	13.61
	HAI	5237-070829-RP-24-30-109	1-Aug-07	25 - 30	-	-	-	-	-	-	-	-	-	0.47	-133.6	6.55	1,375	-	18.48
		5237-100318-RP-24-30-117	18-Mar-10		624.	624.	20. U	20. U	-	7.74	0.25 U	1. U	-	0.07	-142.7	6.58	1,148	-	13.2
RP-24-60	HAI	5237-070828-RP-24-60-110	28-Aug-07	55 - 60	506	506	25 U	25 U	-	11.6	0.1 U	8.1	3.7	0.31	-75.9	6.60	872	5.23	16.25
		5237-100318-RP-24-60-118	18-Mar-10		486.	486.	20. U	20. U	-	7.6	0.25 U	5.63	1.2	0.18	-54.6	6.48	808	0.47	12.39
RP-24-73	HAI	5237-070829-RP-24-73-113	29-Aug-07	68 - 73	433	433	5 U	5 U	-	34.8 U*	0.1 U	34.2	3.5	0.43	-25.5	6.34	1,004	2.14	13.84
RP-24-85	HAI	5237-070828-RP-24-85-111	28-Aug-07	80 - 85	296	296	5 U	5 U	-	1,560	0.1 U	71.1	1.6	0.16	-5.8	6.5	3,139	1.42	14.2
RP-25-30	HAI	5237-100316-RP-25-30-108	16-Mar-10	10 - 30	113.	113.	20. U	20. U	-	4.2	11.7	36.3	0	0.25	88.6	5.96	343	0.79	11.68
RP-25-86	HAI	5237-100316-RP-25-86-107	16-Mar-10	81 - 86	478.	478.	20. U	20. U	-	17.8	0.25 U	1. U	1.2	0.19	-137.9	7.14	828	0.97	12.84
NWN-1-20	HAI	5237-080807-NWN-1-20-107	07-Aug-08	10 - 20	497	497	1 U	-	-	6.1	0.008 U	1.7	-	-	-	6.34	791	>1,000	14.2
		5237-081211-NWN-1-20-019	11-Dec-08		467	467	1 U	-	-	5.7	0.011	10.3	-	-	-	6.33	448	110	15.1
		5237-090407-NWN1-20-105	07-Apr-09		323	323	2 U	-	-	5.2	0.1 U	9.5	-	6.08	-314	5.61	732	439	14.6
		5237-090604-NWN-1-20-103	04-Jun-09		274	274	1 U	-	-	6.9	0.008 U	13.6	-	11.26	-329	5.67	739	397	16.3
		5237-090818-NWN-1-20-148	18-Aug-09		-	-	-	-	-	-	-	-	-	-	-	5.95	440	-	17.00
		5237-100301-NWN-1-20-101	1-Mar-10		-	-	-	-	-	-	-	-	-	0.0	-113	7.21	695	69	13.28
NWN-2-20	HAI	5237-080730-NWN2-20-101	30-Jul-08	10 - 20	470	470	1 U	-	-	9	0.008 U	20.4	-	-	-	6.39	555	-	14.9
		5237-081211-NWN-2-20-017	11-Dec-08		378	378	1 U	-	-	7.2	0.008 U	8.6	-	-	-	6.19	305	170	15.3
		5237-090407-NWN2-20-107	07-Apr-09		202	202	2 U	-	-	14.4	0.1 U	49.7	-	-	-	6.27	223	-	16.2
		5237-090604-NWN-2-20-101	04-Jun-09		223	223	1 U	-	-	18.3	0.3	37.2	-	7.61	-34	6.09	565	239	14.3
		5237-090818-NWN-2-20-142	18-Aug-09		-	-	-	-	-	-	-	-	-	0.0	-87.	6.88	1,060	23.4	15.52
		5237-100301-NWN-2-20-103	1-Mar-10		-	-	-	-	-	-	-	-	-	0.69	-63	6.43	427	4.2	12.87
NWN-3-17	HAI	5237-080730-NWN3-17-100	30-Jul-08	7 - 17	691	691	1 U	-	-	3.2	0.008 U	0.141 J	-	-	-	6.14	503	>1,000	16.9
		NS (Dry)	11-Dec-08		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-090407-NWN3-17-101	07-Apr-09		596	596	2 U	-	-	2.8	0.1 U	0.4	-	4.3	-157	6.16	118	20	13.9
		5237-090604-NWN-3-17-102	04-Jun-09		546	546	1 U	-	-	3.1	0.3	0.5	-	-	-	6.16	464	-	16.2
		NS (Dry)	18-Aug-09		-	-	-	-	-	-	-	-	-	-	-	5.75**	566**	-	19.03**
		5237-100301-NWN-3-17-102	1-Mar-10		-	-	-	-	-	-	-	-	-	0.82	-363.1	6.60	1,056	85	13.74
NWN-4-15	HAI	NS (Dry)	30-Jul-08	5 - 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
		5237-081212-NWN-4-15-021	12-Dec-08		100	100	1 U	-	-	1.6	1.4	6.6	-	1.45**	31.2**	6.18**	178**	750**	12.75**

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0			Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate	Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mV	pH Units	uS/cm	NTU's	°C
NWN-4-15	HAI	5237-090407-NWN4-15-103	07-Apr-09	5 - 15	64	64	2 U	-	-	1.9	1.5	3.2	-	4.13	148	5.26	135	336	12.9
		5237-090604-NWN-4-15-100	04-Jun-09		86	86	1 U	-	-	2.2	0.9	5.8	-	-	-	5.32**	99.2**	-	17.2**
		5327-090818-NWN-4-15-152	18-Aug-09		-	-	-	-	-	-	-	-	-	-	-	6.15**	131.9**	-	19.8**
		5237-100301-NWN-4-15-100	1-Mar-10		-	-	-	-	-	-	-	-	-	-	-	5.72	92	450	10.0
NWN-5-20	HAI	5237-080730-NWN5-20-103	30-Jul-08	10 - 20	462	462	1 U	-	-	3.1	0.02 J	19.7	-	1.02	-145.8	6.25	358	750	21.1
		5237-081211-NWN-5-20-018	11-Dec-08		400	400	1 U	-	-	2.6	0.008 U	8.2	-	0.8	-62	5.63	78.4	180	12.22
		5237-090408-NWN5-20-111	08-Apr-09		272	272	2 U	-	-	2.8	0.3	3.9	-	3.9	-125	6.08	509	382	12.3
		5237-090604-NWN-5-20-104	04-Jun-09		349	349	1 U	-	-	2.6	0.3 J	8	-	0.78	-31.1	6.2	600	25	12.6
		5237-090818-NWN-5-20-150	18-Aug-09		-	-	-	-	-	-	-	-	-	0.24	-41	6.76	708	17.5	15.19
		5237-100302-NWN-5-20-117	2-Mar-10		-	-	-	-	-	-	-	-	-	0.0	-13	6.26	263	21.1	11.53
NWN-6-31	HAI	5237-080730-NWN6-31-104	30-Jul-08	21 - 31	667	667	1 U	-	-	79	0.015 J	0.6	-	0.32	-303.1	6.57	494	120	18.3
		5237-081211-NWN-6-31-020	11-Dec-08		603	603	1 U	-	-	99.3	0.008 U	0.075	-	0.4	-90	6.10	154	40	11.49
		5237-090408-NWN6-31-109	08-Apr-09		628	628	2 U	-	-	90.8	1.5	1.72 J	-	4.4	-172	6.34	148	746	12.6
		5237-090604-NWN-6-31-106	04-Jun-09		628	628	1 U	-	-	85.7	0.008 U	0.4	-	0.45	-30.2	6.54	1,172	150	15.13
		5327-090819-NWN-6-31-154	19-Aug-09		-	-	-	-	-	-	-	-	-	0.54	-109	7.10	1,230	54.1	13.73
		5237-100303-NWN-6-31-120	3-Mar-10		-	-	-	-	-	-	-	-	-	0.62	-397.7	6.70	1,060	75	11.92
NWN-7-30	HAI	5237-080807-NWN-7-30-106	07-Aug-08	20 - 30	667	667	1 U	-	-	13.8	0.008 U	33.5	-	0.72	-134.1	6.34	1,034	60	16.6
		5237-081211-NWN-7-30-016	11-Dec-08		670	670	1 U	-	-	13.4	0.008 U	19.5	-	0.2	-73	5.80	145	38	15.51
		5237-090408-NWN7-30-112	08-Apr-09		686	686	2 U	-	-	15.1	1.5	32.7	-	0.79	-117.9	7.48	1,036	24	15.3
		5237-090604-NWN-7-30-108	04-Jun-09		682	682	1 U	-	-	22.9	0.008 U	20.1	-	0.53	14.9	6.36	1,189	45	17.27
		5237-090818-NWN-7-30-144	18-Aug-09		-	-	-	-	-	-	-	-	-	0.54	-130	6.99	1,330	1.5	17.78
		5237-100301-NWN-7-30-104	1-Mar-10		-	-	-	-	-	-	-	-	-	0.78	-367.4	6.42	1,181	45	16.18
NWN-8-30	HAI	5237-080730-NWN8-30-105	30-Jul-08	15 - 30	354	354	1 U	-	-	171	0.008 U	4.3	-	0.14	-298.5	6.56	462	140	16.4
		5237-081211-NWN-8-30-022	11-Dec-08		410	410	1 U	-	-	183	0.008 U	1.3	-	1.1	-33	6.00	142	-	13.37
		5237-090408-NWN8-30-113	08-Apr-09		363	363	2 U	-	-	142	0.3	3.3	-	4.12	-192	6.40	129	355	13.5
		5237-090604-NWN-8-30-105	04-Jun-09		388	388	1 U	-	-	166	0.008 U	3.9	-	4.76	-161	6.19	146	277	15
		5237-090818-NWN-8-30-146	18-Aug-09		-	-	-	-	-	-	-	-	-	0.42	-110	7.00	1,170	91.3	14.83
		5237-100301-NWN-8-30-105	1-Mar-10		-	-	-	-	-	-	-	-	-	0.0	-127	6.48	907	71.8	14.06
NWN-9-31	HAI	5237-080807-NWN-9-31-108	07-Aug-08	16 - 31	334	334	1 U	-	-	6.9	0.008 U	1.3	-	1.4	-125.3	6.38	588	189	17.2
		5237-081211-NWN-9-31-023	11-Dec-08		389	389	1 U	-	-	6.1	0.008 U	0.2	-	0.6	-101.3	6.44	723	31	14.96
		5237-090409-NWN9-31-121	09-Apr-09		325	325	2 U	-	-	6.4	0.3	0.5	-	4.1	-194	4.1	714	190	15
		5237-090604-NWN-9-31-107	04-Jun-09		365	365	1 U	-	-	5.4	0.008 U	0.4	-	3.92	-202	6.14	97	7.5	16.6
		5237-090604-NWN-9-31-109	04-Jun-09		363	363	1 U	-	-	5.3	0.008 U	0.4	-	-	-	-	-	-	-

Table 30 - Indicator and Natural Attenuation Parameters Results for Groundwater Samples
Siltronic Corporation Property Monitoring Wells

Well Number	Collected by	HAI Sample Number	Sample Date	Screen Interval (bgs)	EPA Method 310.1/SM 2320 B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method SM 2320B	EPA Method 350.1	EPA Method 300.0				Field Measurement						
					Total Alkalinity	Bicarbonate Alkalinity	Carbonate Alkalinity	Hydroxide Alkalinity	Ammonia as Nitrogen	Chloride	Nitrate-Nitrogen	Sulfate		Ferrous Iron	Dissolved Oxygen	Oxygen Reduction Potential	pH	Specific Conductivity	Turbidity	Temperature
			Units ==>		mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l		mg/l	mg/l	mV	pH Units	uS/cm	NTU's	^{0}C
NWN-9-31	HAI	5327-090819-NWN-9-31-158	19-Aug-09	16 - 31	-	-	-	-	-	-	-	-		-	0.48	-134	6.98	867	27.5	19.11
		5237-100302-NWN-9-31-112	2-Mar-10		-	-	-	-	-	-	-	-		-	0.0	-141	6.17	730	4.6	15.17
NWN-10-26	HAI	5237-080807-NWN-10-26-109	07-Aug-08	11 - 26	267	267	1	U	-	-	1.6	0.008	U	0.006	U	-	1.09	-136.6	6.45	480	80	17
		5237-080807-NWN-10-26-110	07-Aug-08		270	270	1	U	-	-	1.9	0.008	U	0.012	U	-	-	-	-	-	-	-
		NS (Dry)	11-Dec-08		-	-	-		-	-	-	-		-		-	-	-	-	-	-	-
		5237-090410-NWN10-26-123	10-Apr-09		274	274	2	U	-	-	4.3	0.3		1.3		-	4.92**	-141**	5.96**	575**	>1,000**	13.4**
		5237-090604-NWN-10-26-111	04-Jun-09		238	238	1	U	-	-	2	0.3		0.6		-	4.6	-140	5.93	573	<0.1	15.3
		NS (Dry)	19-Aug-09		-	-	-		-	-	-	-		-		-	-	-	-	-	-	-
		5237-100302-NWN-10-26-115	02-Mar-10		-	-	-		-	-	-	-		-		-	0.0	-80	6.38	558	63	13.66
Temporary Well Point Samples (3/2009 Sonic)																						
SB-21	HAI	5237-090309-100	09-Mar-09	13	-	-	-		-	-	3.3	J	2.6	J	7.5	J	-	-	-	-	-	-	-
SB-21		5237-090311-101	11-Mar-09	76-80	-	-	-		-	-	5	J	0.033	J	22.7	J	-	-	-	5.59	232	>1000	8.7
SB-21		5237-090311-102	11-Mar-09	97-101	-	-	-		-	-	3.8	J	0.011	J	1	J	-	-	-	5.63	212	400	12.3
SB-53	HAI	5237-090312-103	12-Mar-09	22	-	-	-		-	-	2.3	J	0.017	J	5.3		-	-	-	5.54	277	>1000	14.7
SB-53		5237-090312-104	12-Mar-09	61-65	-	-	-		-	-	5.8	J	0.026	J	50.3		-	-	-	-	-	-	-
SB-53		5237-090313-105	13-Mar-09	102-106	-	-	-		-	-	3.4		0.021	J	0.5		-	0.87	-121.0	6.26	486	220	13.87
SB-53		5237-090313-106	13-Mar-09	132-136	-	-	-		-	-	8.7		0.057	J	28		-	-	-	6.78	300	>1000	15.3
SB-53		5237-090316-107	16-Mar-09	152-156	-	-	-		-	-	8.6	J	0.008	UJ	43.5	J	-	-	-	6.69	327	170	13.5
SB-35	HAI	5237-090317-108	17-Mar-09	20.5-24	-	-	-		-	-	3.4	J	0.02	J	39	J	-	-	-	6.12	601	>1,000	16.3
SB-35		5237-090318-109	18-Mar-09	62-66	-	-	-		-	-	3.8	J	0.021	J	0.3		-	-	-	6.33	316	-	14.9
SB-35		5237-090318-110	18-Mar-09	82-86	-	-	-		-	-	638	J	0.008	UJ	47.2		-	-	-	6.69	990	150	16.7
SB-35		5237-090318-111	18-Mar-09	91-95	-	-	-		-	-	885	J	0.008	UJ	105		-	-	-	6.67	1,278	>1,000	16.5
SB-27	HAI	5237-090319-112	19-Mar-09	22	-	-	-		-	-	5.8	J	0.093	J	146	J	-	-	-	6.03	161.7	>1,000	14.2
SB-27		5237-090320-113	20-Mar-09	61-65	-	-	-		-	-	2.7	J	0.008	UJ	13.4	J	-	-	-	6.21	326	>1000	15.3
SB-27		5237-090320-114	20-Mar-09	76-80	-	-	-		-	-	2.5	J	0.038	J	2.8	J	-	-	-	6.67	404	>1000	15
SB-27		5237-090320-115	20-Mar-09	76-80	-	-	-		-	-	2.5	J	0.016	J	0.184	J	-	-	-	-	-	-	-
SB-27		5237-090323-116	23-Mar-09	96-100	-	-	-		-	-	5.1	J	0.009	J	1	J	-	-	-	7.24	432	-	14.2

"-" = Measurement not taken, not analyzed, or data unavailable (sampler other than HAI).
* = Partial sample obtained, but sample volume completely used during other analysis (i.e 8260B), insufficient volume to analyze for natural attenuation parameters.
** = Insufficient recharge volume to ensure parameter stabilzation criteria meet (well purged dry).

Note:

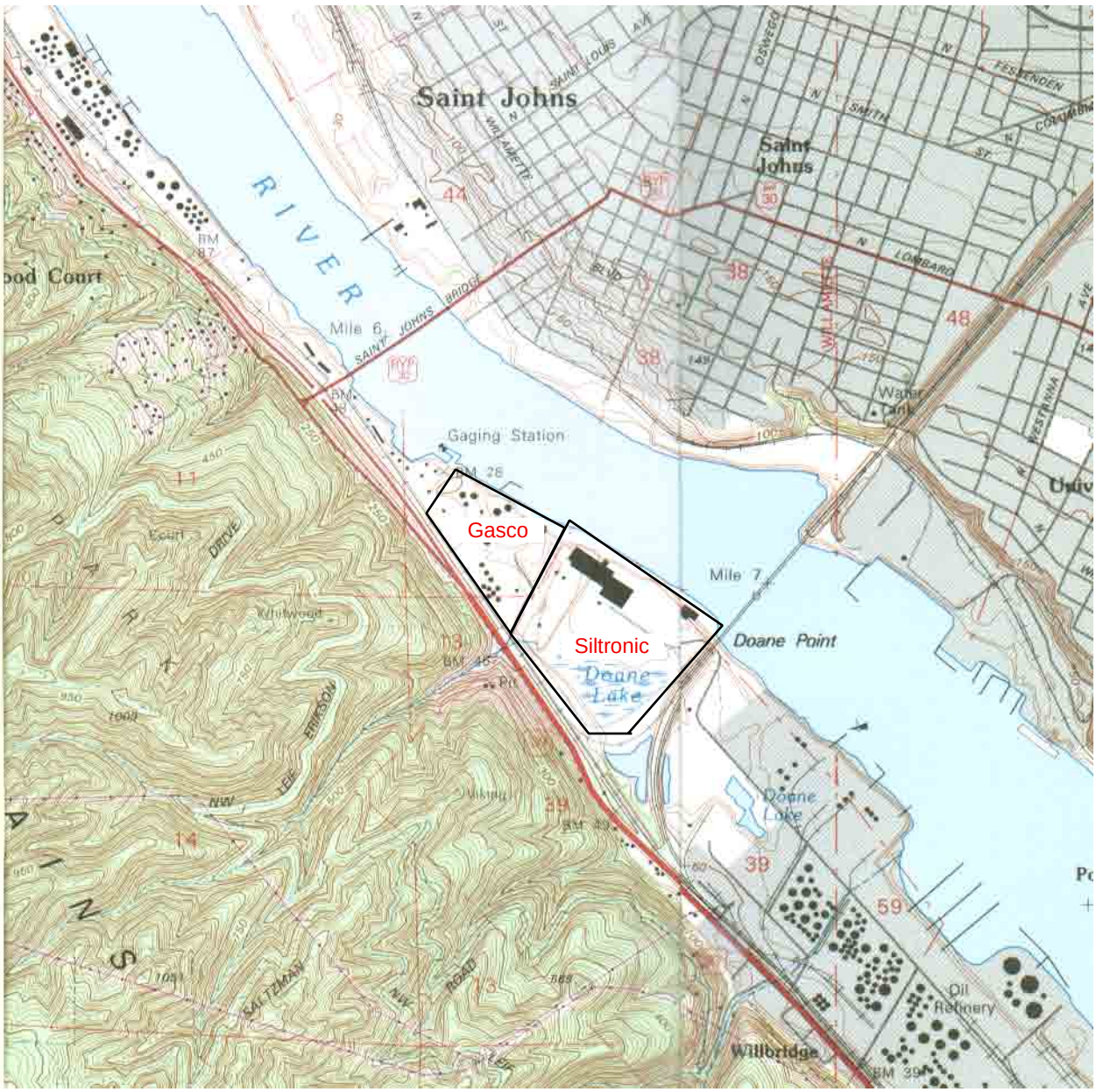
^{0}C = Degrees Celcius
EPA = Environmental Protection Agency
J - Estimated Concentration
uS/cm = microsiemens per centimeter
mg/l = milligrans per liter
mV = millivolts
NS = No Sample
NTU = nephelometric units
ORP = Oxidation Reduciton Potential
ppm = parts per million
ug/l = micrograms per liter
U = Non-detect above method reporting limits
U* = Compound considered non-detect because it was also detected in associated blank at similar concentration levels.

Table 31: Soil Grain Size Results - 2009 Rotosonic Soil Borings
Siltronic Corporation Property
Portland, Oregon

Particle Sized Determination (ASTM Method D422 Modified) Percent Total Weight Recovered														
Boring Location	Sample Number [1]	Sample Date	Sample Depth (ft bgs)	Total Soilds (%)	Gravel, Medium	Gravel, Fine	Sand, Very Coarse	Sand, Coarse	Sand, Medium	Sand, Fine	Sand, Very Fine	Silt	Clay	Total
				Sieve Size (mm) ==>	4.75	2	0.85	0.425	0.25	0.106	0.075	-	-	-
SB-21	11-005GS	11-Mar-09	50	74.6	0	0	0	0	0	0.13	0.27	74.3	22.4	97.1
	11-007GS	11-Mar-09	70	73	0	0	0	0	0	0.31	1.75	88.5	11.8	102.36
	11-009GS	11-Mar-09	90	76.3	0	0	0	0.08	4.01	33.2	19.1	40.2	2.14	98.73
SB-53	16-015GS	16-Mar-09	40	72.9	0	0	0	0	0	5.78	12.14	75	0.83	93.75
	16-017GS	16-Mar-09	60	72.6	0	0	0	0	0.15	9.05	13.8	64.5	13.4	100.9
	16-019GS	16-Mar-09	80	72.8	0	0	0.42	1.58	4.96	26.1	10.3	46.2	12.1	101.66
	16-021GS	16-Mar-09	100	71.5	0	0.27	0	0.04	0.62	7.03	7.09	67.7	15.1	97.85
	16-023GS	16-Mar-09	120	71.2	0	0	0	0	0.06	3.48	7.73	73.4	14.7	99.37
	16-025GS	16-Mar-09	140	73	0	0	0	0	5.47	28.6	8.25	44.9	7.83	95.05
	16-027GS	16-Mar-09	160	71.9	1.51	3.35	2.76	2.79	14.2	31.7	6.78	35.5	6.13	104.72
SB-35	19-031GS	19-Mar-09	40	68	0	0	0.45	10.2	5.13	9.25	2.61	41.2	28.8	97.64
	19-033GS	19-Mar-09	60	74.3	0	0	0.07	0.02	2.85	46.4	12.2	33.4	7	101.94
	19-035GS	19-Mar-09	80	72.8	0	0	0.14	0.39	8.27	35.4	7.6	40.5	7.16	99.46
	19-037GS	19-Mar-09	100	76.6	0.46	14.2	31	9.49	6.66	7.39	2.23	18.5	11	100.93
	19-039GS	19-Mar-09	116	57.3	0	0	0.32	14	14.7	25.5	6.8	45.6	0.75	107.67
SB-27	20-043GS	20-Mar-09	40	67	0	0	0	0	0.14	9.01	6.81	64.8	14.1	94.86
	20-045GS	20-Mar-09	60	69	0	0	0	0.07	4.13	2.7	1.82	78	14.2	100.92
	23-048GS	23-Mar-09	90	71.5	0	0	0	0	0.08	10.1	13.5	67	8.63	99.31
	23-048GS(DUP)	23-Mar-09	90	71.5	0	0	0	0	0.07	9.83	15.6	68.1	7.4	101
	23-050GS	23-Mar-09	110	77.1	0	3.68	34.4	9.92	6.78	6.63	2.32	29.5	10.5	103.73

Note:

ASTM = American Society for Testing and Materials
ft bgs = feet below ground surface
mm = millimeter
1= Sample Number Prefix = 5237-0903



Note: Base Map from Linnton (1990) and Portland (1990), Oregon, USGS 7.5-Minute Quadrangles

N

0 2,000 4,000

Approximate Scale in Feet
Contour Interval = 10 feet

FIGURE 1
Location Map

NW Natural Gasco Facility
7900 NW St. Helens Road

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.

Project No. 2708/5237 November 2005

Willamette River

Process Effluent/Fab 1 Stormwater Outfall (below river)

Fab 2 Stormwater Outfall (to riprap bank)

Admin Stormwater Outfall (to riprap bank)

City of Portland Outfall 22C

NW Natural Property (Gasco Site)

LNG Containment Basin

Ponds

Pencil Pitch Storage

Siltronic Property

FAB 1 Building

Administration Building

Paved Parking

Paved Parking

Central Facilities Building

Electrical Substation

FAB 2 Building

84 Concrete Pipe to Willamette River

Utility Easement

FAB 1 WWTP

FAB 2 WWTP

Culvert Pipe

48 Culvert Pipe

Contractor Area

Ditch (Ephemeral - Doane Creek)

Northwest Drainage Pond

48 Pipe to Northwest Drainage Pond

N

Notes

Allen Tract boundary from Title Insurance Plat Map Policy 91698, November 3, 1939

LEGEND

- Site Boundary
- Existing Structure or Feature
- Railroad Tracks

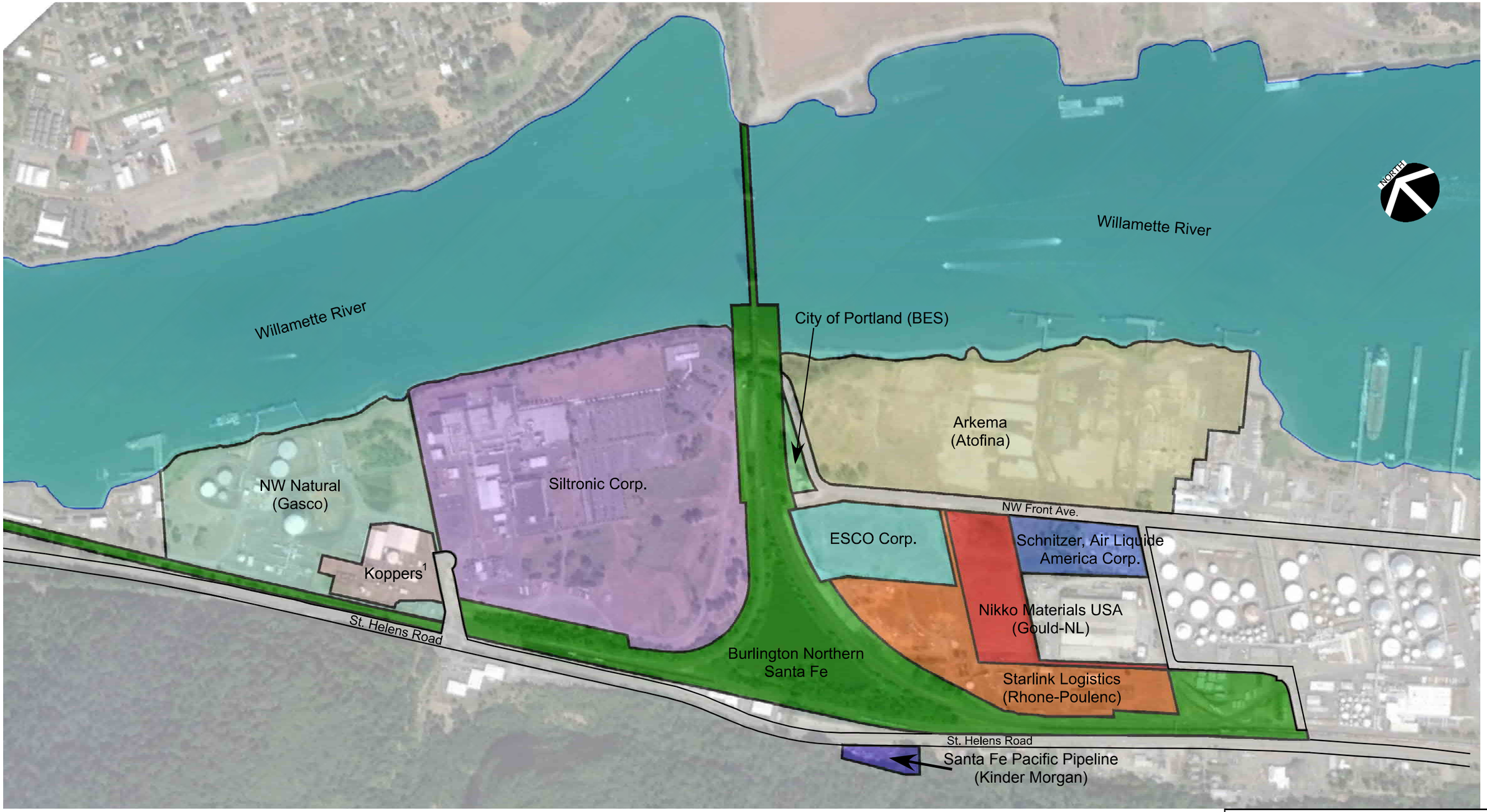
0 250 500

Approximate Scale in Feet

FIGURE 2
Site Map

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 5237 February 2011



Notes: 1 = The Koppers Property is a lease from NW Natural, and is part of the overall NW Natural (Gasco) property.

Scale 1 inch = 600 feet

300 0 300 600 900 1200 feet

Figure 3
Surrounding Properties
Siltronic Remedial Investigation
7200 NW Front Ave.
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 5237 February 2011

Willamette River

Siltronic Property

NW Natural Property
(Gasco Site)

Elliot Tract

Allen Tract

Lowland/Effluent Pond
Overflow Area
(1941-1956)
Filled 1966-1973

Former Tar
Settling Ponds
(1941-1956)

Central Excavation
Feature
(1955-1956)
Filled by 1964

Spent Oxide
Storage
(1952-1966)

Administration
Building

Paved Parking

Paved Parking

LNG
Containment
Basin

Ponds

Pencil Pitch
Storage

Electrical
Substation

Central
Facilities
Building

FAB 1
Building

FAB 2
Building

FAB 1
WWTP

FAB 2
WWTP

84 Concrete Pipe
to Willamette River

Utility Easement

Culvert
Pipe

48 Culvert Pipe

Contractor Area

Ditch (Ephemeral - Doane Creek)

Northwest
Drainage
Pond

48 Pipe to
Northwest
Drainage Pond

N

Notes

Allen Tract boundary from Title Insurance Plat Map
Policy 91698, November 3, 1939

LEGEND

Site Boundary

Existing Structure or Feature

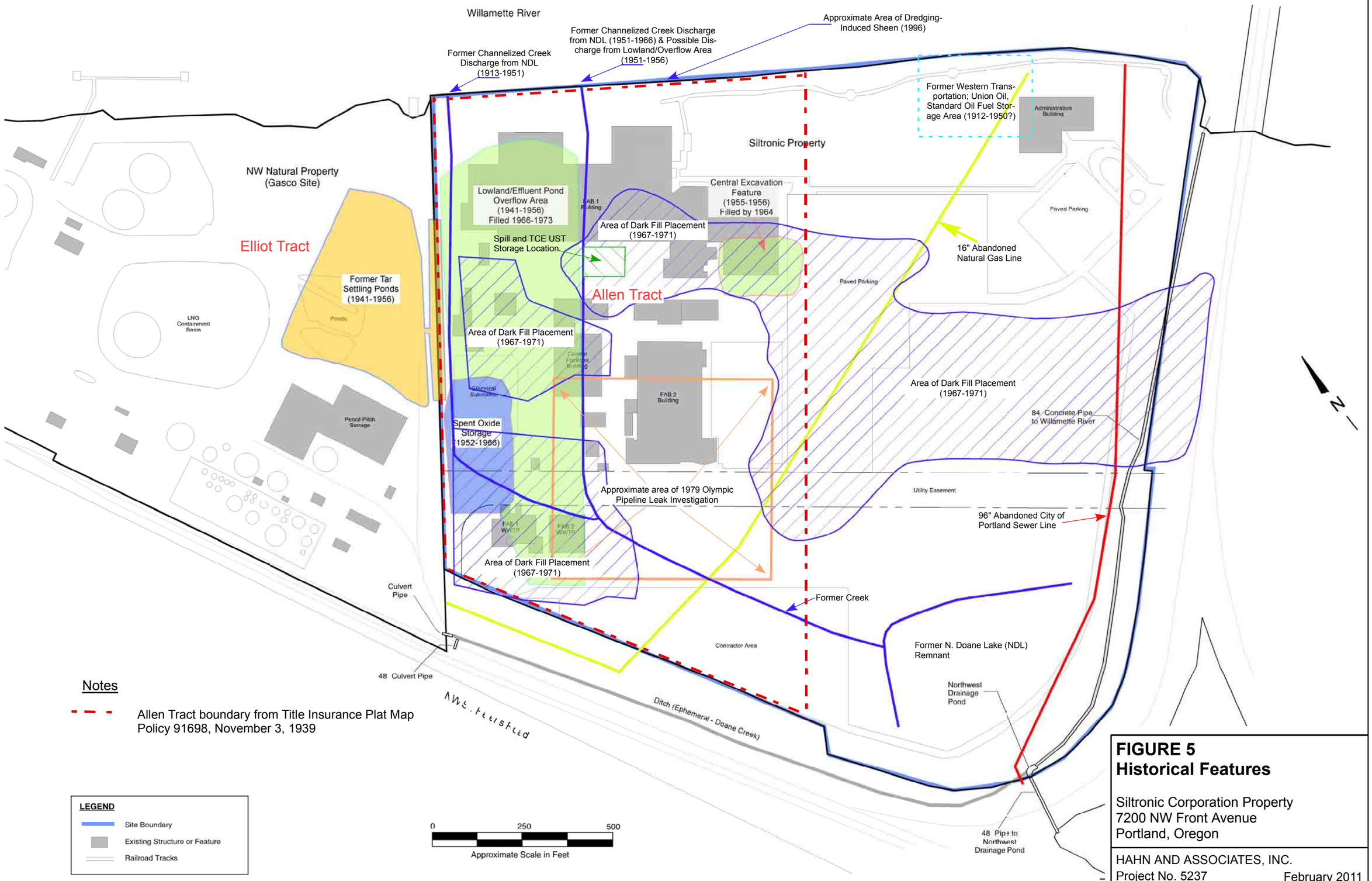
Railroad Tracks

0 250 500

Approximate Scale in Feet

FIGURE 4
Former MGP Residuals Management Areas
Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 5237 February 2011



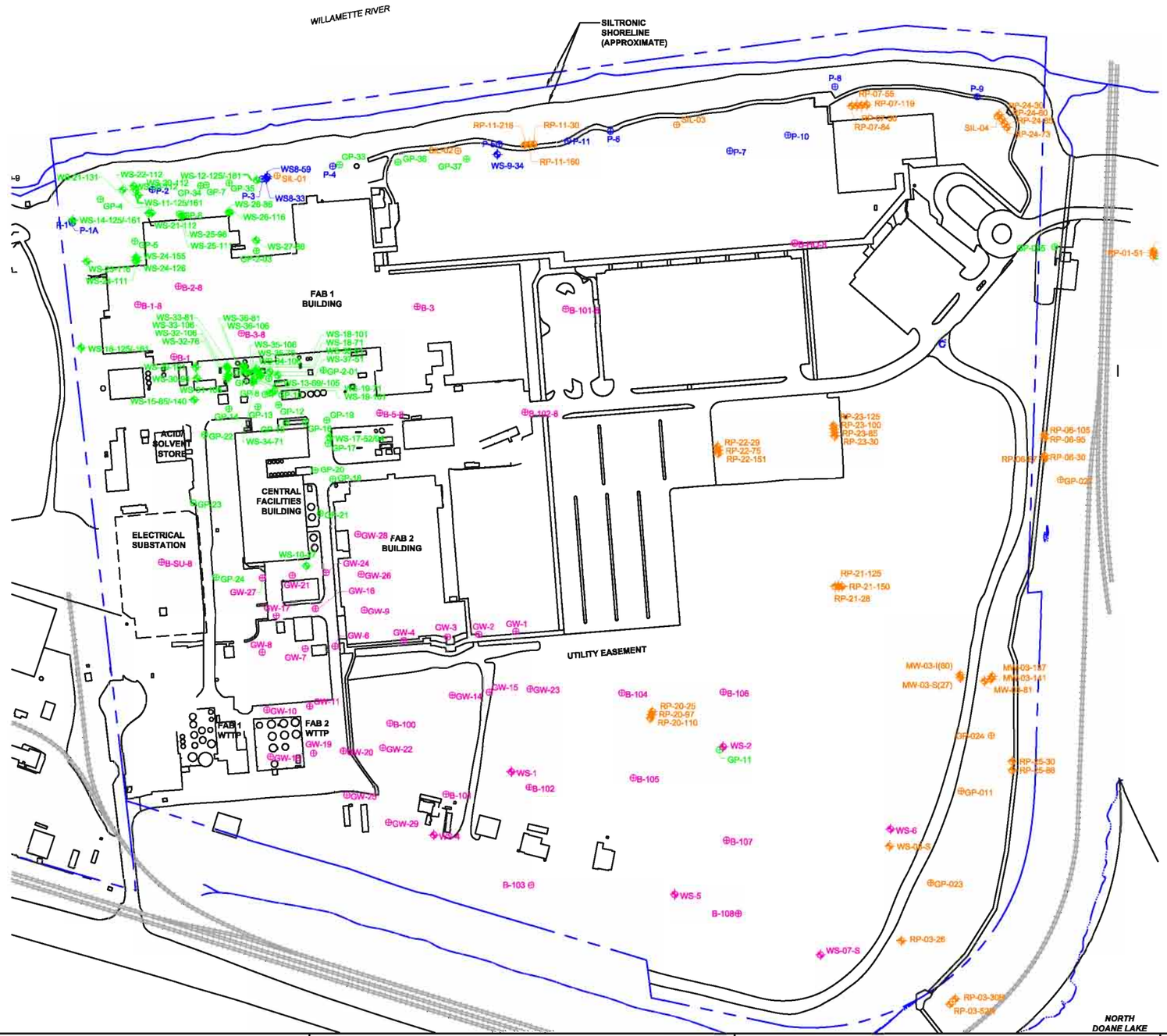
Notes

Allen Tract boundary from Title Insurance Plat Map Policy 91698, November 3, 1939

FIGURE 5
Historical Features

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

HAHN AND ASSOCIATES, INC.
Project No. 5237 February 2011



LEGEND

- Monitoring Well
- Soil Boring
- Property Line (Approximate)
- CH2M Hill Boring or Well (Geotechnical or Pipeline Release-Related)
- Rhone-Poulenc/SCCI Boring or Well
- Siltronic Boring or Well (TCE-Related Investigation)
- NW Natural Boring or Well (2001 Shoreline Investigation)

HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS
434 NW 6th AVENUE, SUITE 203
PORTLAND, OREGON 97209
503-796-0717

Scale: 1 inch = 250 feet

250 0 250 500 feet

Project No. 2708-5237 REV. FEB 2011

FIGURE 6
Borings and Monitoring Wells Previous Investigations

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

X:\Hahn\Gasco Site 2011\Siltronic Reporting\Previous Investigations.dwg 2/24/11

LEGEND

	Property Line (Approximate)
P-A	2007 Utility Easement Boring
P-13	2008 Push Probe Boring Location and Number
P-12	2008 Push Probe Boring Location and Number - with undisturbed core (DNAPL testing)
SB-21	2009 Sonic Boring Location and Number

HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS
434 NW 6th AVENUE, SUITE 203
PORTLAND, OREGON 97209
503-796-0717

Scale: 1 inch = 250 feet

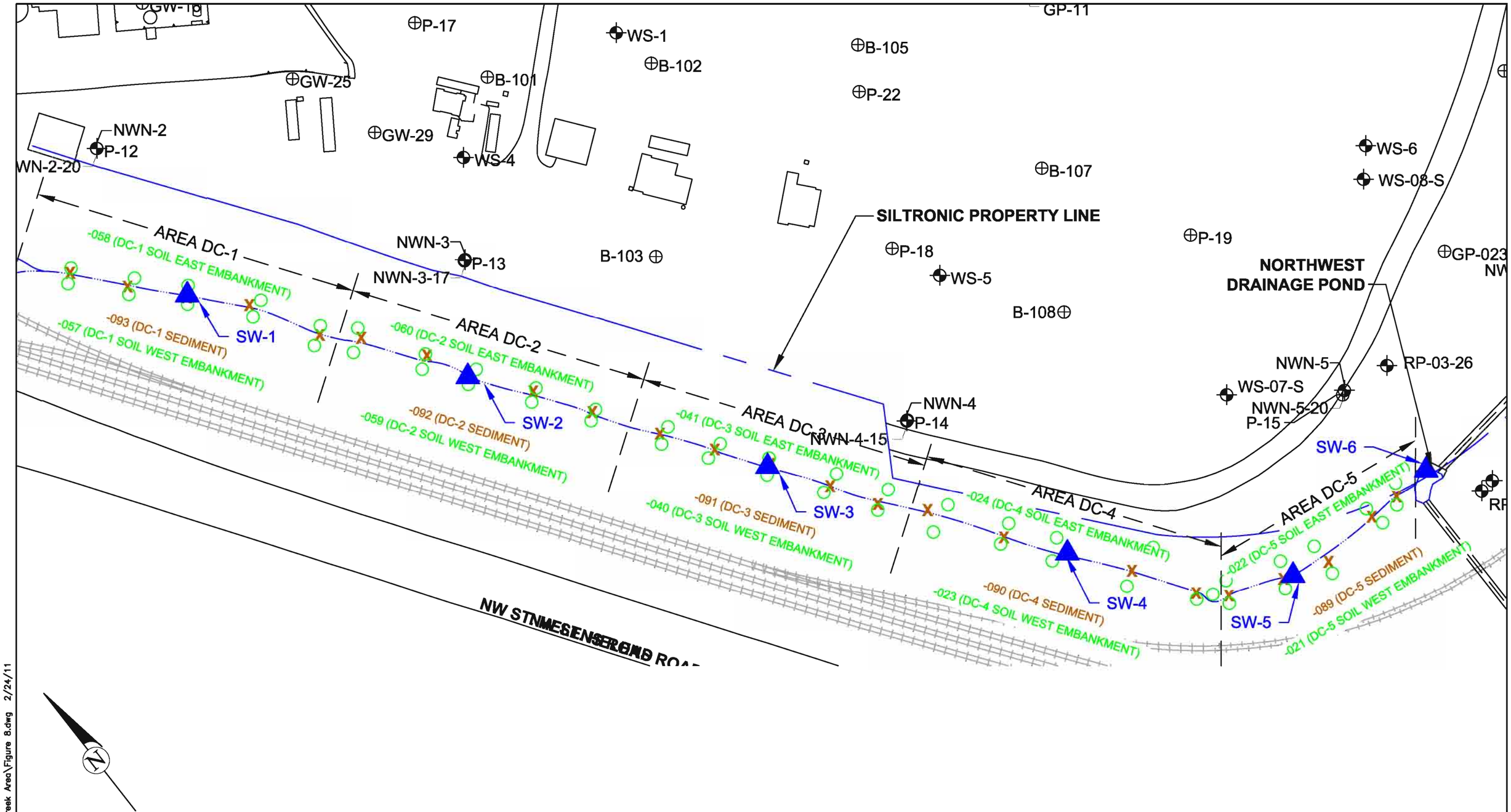
250 0 250 500 feet

Project No. 2708-5237 REV. FEB. 2011

Figure 7
RI Soil Boring Locations

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

X:\Hahn\Gasco Site 2011\Siltronic RI WorkPlan\RI Soil Boring Locations.dwg 2/28/11



LEGEND

- Soil Boring
- Monitoring Well
- Buried 84" Concrete Pipe
- Property Line (Approximate)
- X Doane Creek homogenized sediment grab sample (0-0.5' bgs)
- Doane Creek homogenized embankment grab sample (0-2' bgs)
- Doane Creek channel
- -058 Composite sample ID for indicated media and DC segment
- Surface water sampling station (staff gauges at SW-1, SW-3, SW-5)

HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS
434 NW 6th AVENUE, SUITE 203
PORTLAND, OREGON 97209
503-796-0717

Scale: 1 inch = 100 feet

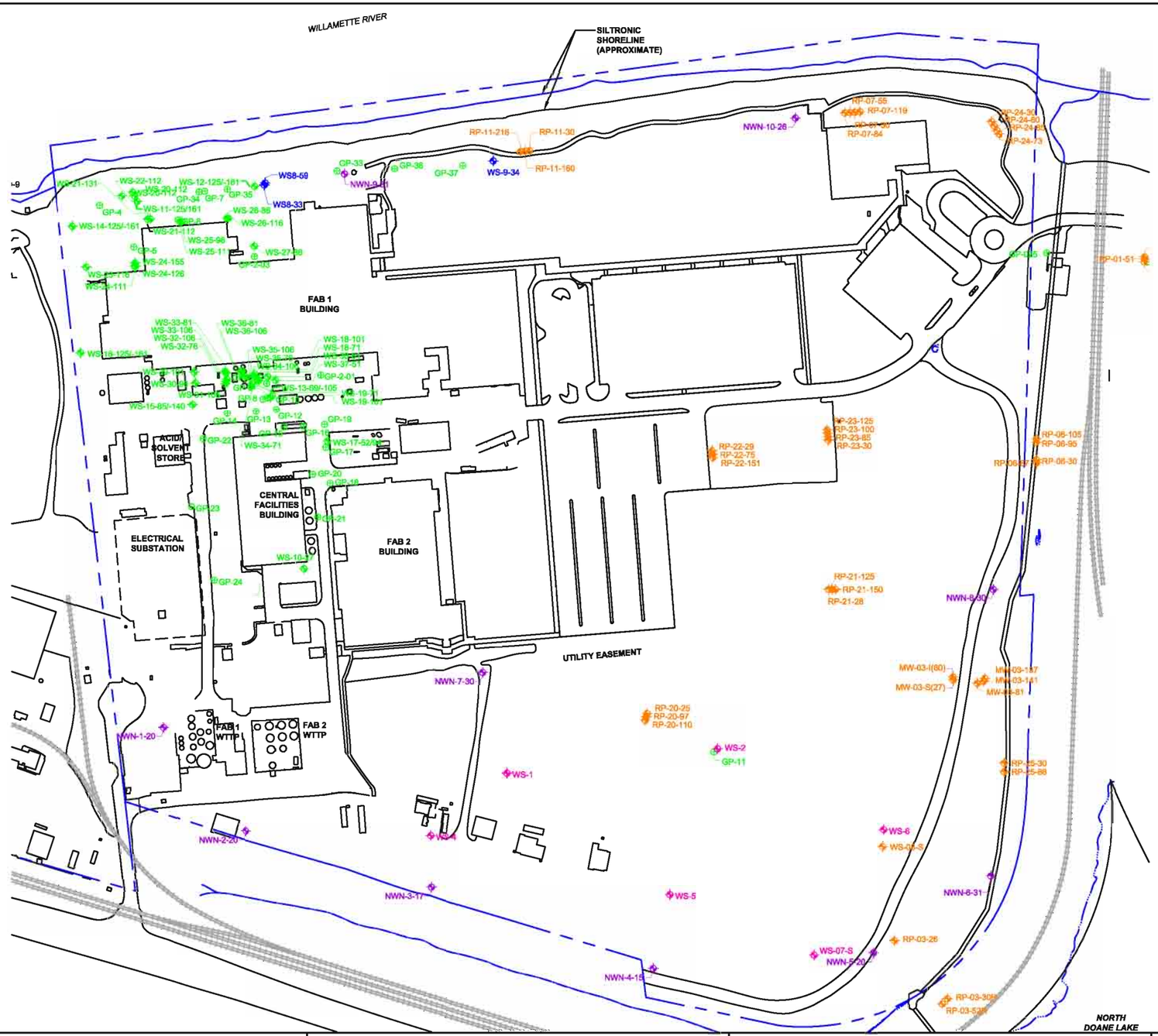
100 0 100 200 feet

Project No. 2708-5237 REV. SEPTEMBER 2010

FIGURE 8
Doane Creek Sample Locations

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

X:\Hahn\Gasco Site 2011\Doane Creek Area\Figure 8.dwg 2/24/11



LEGEND

- Monitoring Well
- Property Line (Approximate)
- CH2M Hill Well
- Rhone-Poulenc/SLLI Well
- Siltronic Well (TCE-Related Investigation)
- NW Natural Well (2001 Shoreline Investigation)
- NW Natural Well (2009 RI)

HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS
434 NW 6th AVENUE, SUITE 203
PORTLAND, OREGON 97209
503-796-0717

Scale: 1 inch = 250 feet

250 0 250 500 feet

Project No. 2708-5237 REV. FEB 2011

FIGURE 9
Monitoring Wells Locations

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

X:\Hahn\Gasco Site 2011\Siltronic Reporting\Monitoring Well Locations.dwg 2/25/11

LEGEND

- Property Line (Approximate)
- Oil presence in Fill, sporadic blebs to apparant saturation; any depth interval
- Tar presence in Fill, sporadic fragments to layers; any depth interval
- Tar and Oil presence in Fill, any magnitude; any depth interval
- No Tar or Oil presence in Fill, based on boring log description

HAHN AND ASSOCIATES, INC.

ENVIRONMENTAL CONSULTANTS
434 NW 6th AVENUE, SUITE 203
PORTLAND, OREGON 97209
503-796-0717

Scale: 1 inch = 250 feet

250 0 250 500 feet

Project No. 2708-5237 REV. MAR. 2011

Figure 10
Oil or Tar Observations in the Fill Unit: RI Borings - Any Depth interval

Siltronic Corporation Property
7200 NW Front Avenue
Portland, Oregon

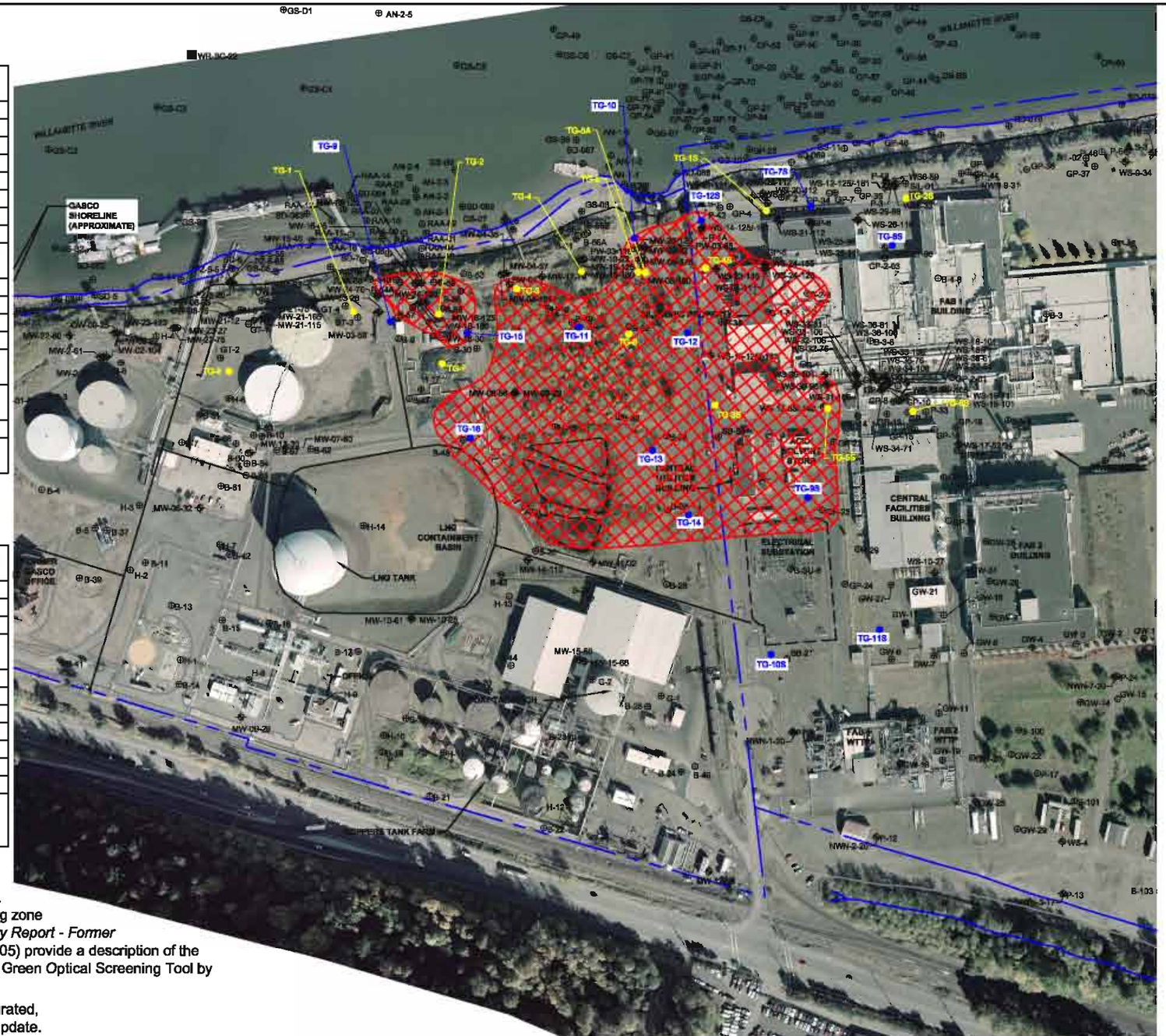
X:\Hahn\Gasco Site 2011\Siltronic RI WorkPlan\Figure 10.dwg 3/2/11

Table: TarGOST DNAPL Presence
Screening Results - Gasco Property

Boring ID	Boring Depth (ft bgs)	Depths of DNAPL Indication (Alluvial)
TG-1	150.1'	NONE
TG-2	150.3'	28.7'-30.6'
TG-3	150.3'	58.8'-60.6'
TG-4	150.0'	NONE
TG-5	99.1'	51.6'-53.3',57.8'-58.8',59.3'-63.2', 64.8'-65.1'
TG-5A	150.3'	51.3' ?
TG-6	125.5'	NONE
TG-7	150.4'	NONE
TG-8	150.2'	25'-39',41.4'-43.6',44.1'-45.3' 48.7'-48.9',51.5'-52.3',54.9'-61.1'
TG-9	148.2'	27.9'-28.8' (minor-upper silt)
TG-10	150.9'	75.4'-77.4',79.2'-88.2'
TG-11	150.2'	54.5'-56.1',112.3'? (plant/mineral interference?)
TG-12	149.5'	25'-36.8', 40.7'-48.8', 49.6'-49.9', 52.8'-53'
TG-13	101.7' (refusal)	26.5'-35.6' (minor), 35.6'-36.7', 36.7'-43.7' (minor), 43.7'-49.5', 55.3'-68.3'
TG-14	100.5' (refusal)	23'-27.9' (minor), 29.5'-30.8' (minor), 32.3'-32.4' (minor), 33.5'-39.8', 45.7'-46.3'
TG-15	149.4'	143.8'-143.9' (plant/mineral interference?)
TG-16	149.1'	26.5'-27.4', 41'-41.3', 42.5'-46.7', 52.2'-52.5', 57.9', 60.3'-61.2', 78.3'-83.9'

Table: TarGOST DNAPL Presence
Screening Results - Siltronic Property

Boring ID	Boring Depth (ft bgs)	Depths of DNAPL Indication (Alluvial)
TG-1S	151.3'	116.2-118.6'
TG-2S	151'	NONE
TG-3S	150.2'	34'-78' in multiple intervals
TG-4S	150.3'	36.7'-36.9', 62.8'-63.5', 63.8'-65.6', 67.3'-68.6', 79.0'-80.8', 91.8'-93.2', 93.9'-94.5', 98.6'-100'
TG-5S	150.6'	30'-38.6', 40.2'-41.5', 42.9'-44.2'
TG-6S	149.8'	NONE
TG-7S	150.0'	NONE
TG-8S	146.8'	NONE
TG-9S	101.3'	31.2'-48.7', 50.1'-50.5', 73.8'-74.4'
TG-10S	90.5'	NONE
TG-11S	78.5'	30.1'-30.3' (minor-upper silt)
TG-12S	156.0'	33.4'-35', 36.2', 37.2', 94.7'-97.8', 101.3'-101.7', 110.6'-111.6', 113.1'-119.6', 125.5'-127.5', 129.5'-131.4', 132.9'-136.7'



NOTES:
Borings within outlined areas identified the presence of DNAPL at some depth or depth interval within the Alluvial water-bearing zone at depths shallower than 100' bgs. Tables 2 and 3 of *Summary Report - Former MGP Operations and DNAPL Occurrence* (HAI, November 2005) provide a description of the DNAPL presence at each boring. TarGOST ™ = Tar-Specific Green Optical Screening Tool by Dakota Technologies.

Interpreted Extent of DNAPL (visually saturated, well entry, or TarGost ID), January 2011 update.

LEGEND
- Monitoring Well
- Soil Boring
- Property Line (Approximate)
- 2007 TarGost/CPT Boring Locations (TG-Series)
- 2008 TarGost/CPT Boring Locations (TG-Series)

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS
434 NW 6th AVENUE, SUITE 203
PORTLAND, OREGON 97209
503-796-0717

Scale: 1 inch = 250 feet
250 0 250 500 feet

Project No. 2708-5237 REV. JANUARY 2011

Figure 11
DNAPL Screening with TarGOST 2007 and 2008 Boring Locations Showing Estimated DNAPL within Alluvial - Above 100' BGS

NW Natural and Siltronic Properties
Portland, Oregon

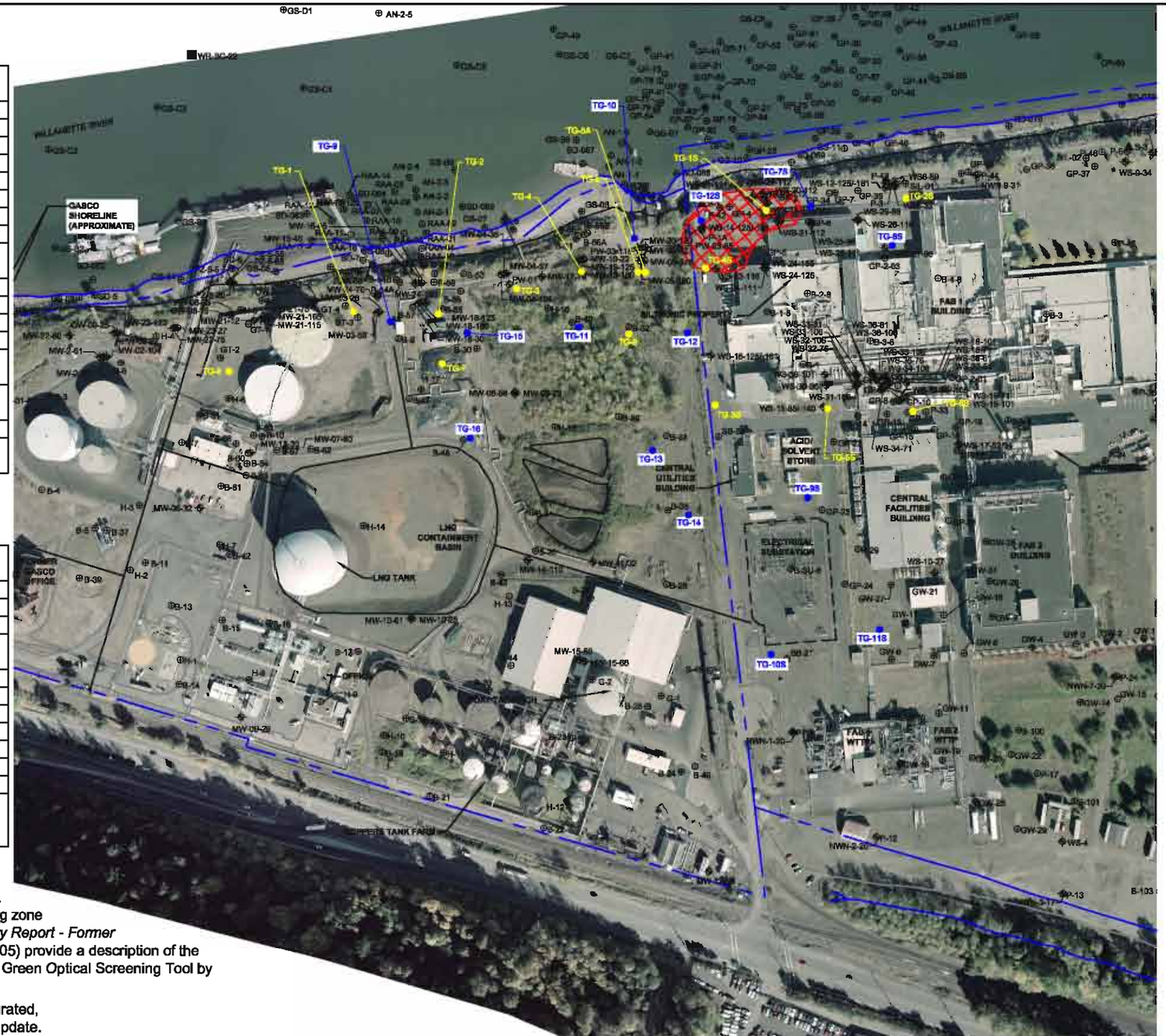
X:\Hahn\Gasco Site 2011\Siltronic Reporting\DNAPL\DNAPL Alluvial Shallow-TarGOST.dwg 2/24/11

Table: TarGOST DNAPL Presence
Screening Results - Gasco Property

Boring ID	Boring Depth (ft bgs)	Depths of DNAPL Indication (Alluvial)
TG-1	150.1'	NONE
TG-2	150.3'	28.7'-30.6'
TG-3	150.3'	58.8'-60.6'
TG-4	150.0'	NONE
TG-5	99.1'	51.6'-53.3',57.8'-58.8',59.3'-63.2', 64.8'-65.1'
TG-5A	150.3'	51.3' ?
TG-6	125.5'	NONE
TG-7	150.4'	NONE
TG-8	150.2'	25'-39',41.4'-43.6',44.1'-45.3' 48.7'-48.9',51.5'-52.3',54.9'-61.1'
TG-9	148.2'	27.9'-28.8' (minor-upper silt)
TG-10	150.9'	75.4'-77.4',79.2'-88.2'
TG-11	150.2'	54.5'-56.1',112.3'? (plant/mineral interference?)
TG-12	149.5'	25'-36.8', 40.7'-48.8', 49.6'-49.9', 52.8'-53'
TG-13	101.7' (refusal)	26.5'-35.6' (minor), 35.6'-36.7', 36.7'-43.7' (minor), 43.7'-49.5', 55.3'-68.3'
TG-14	100.5' (refusal)	23'-27.9' (minor), 29.5'-30.8' (minor), 32.3'-32.4' (minor), 33.5'-39.8', 45.7'-46.3'
TG-15	149.4'	143.8'-143.9' (plant/mineral interference?)
TG-16	149.1'	26.5'-27.4', 41'-41.3', 42.5'-46.7', 52.2'-52.5', 57.9', 60.3'-61.2', 78.3'-83.9'

Table: TarGOST DNAPL Presence
Screening Results - Siltronic Property

Boring ID	Boring Depth (ft bgs)	Depths of DNAPL Indication (Alluvial)
TG-1S	151.3'	116.2-118.6'
TG-2S	151'	NONE
TG-3S	150.2'	34'-78' in multiple intervals
TG-4S	150.3'	36.7'-36.9', 62.8'-63.5', 63.8'-65.6', 67.3'-68.6', 79.0'-80.8', 91.8'-93.2', 93.9'-94.5', 98.6'-100'
TG-5S	150.6'	30'-38.6', 40.2'-41.5', 42.9'-44.2'
TG-6S	149.8'	NONE
TG-7S	150.0'	NONE
TG-8S	146.8'	NONE
TG-9S	101.3'	31.2'-48.7', 50.1'-50.5', 73.8'-74.4'
TG-10S	90.5'	NONE
TG-11S	78.5'	30.1'-30.3' (minor-upper silt)
TG-12S	156.0'	33.4'-35', 36.2', 37.2', 94.7'-97.8', 101.3'-101.7', 110.6'-111.6', 113.1'-119.6', 125.5'-127.5', 129.5'-131.4', 132.9'-136.7'



NOTES:
Borings within outlined areas identified the presence of DNAPL at some depth or depth interval within the Alluvial water-bearing zone at depths shallower than 100' bgs. Tables 2 and 3 of *Summary Report - Former MGP Operations and DNAPL Occurrence* (HAI, November 2005) provide a description of the DNAPL presence at each boring. TarGOST ™ = Tar-Specific Green Optical Screening Tool by Dakota Technologies.

Interpreted Extent of DNAPL (visually saturated, well entry, or TarGost ID), January 2011 update.

LEGEND
- Monitoring Well
- Soil Boring
- Property Line (Approximate)
- 2007 TarGost/CPT Boring Locations (TG-Series)
- 2008 TarGost/CPT Boring Locations (TG-Series)

HAHN AND ASSOCIATES, INC.
ENVIRONMENTAL CONSULTANTS
434 NW 6th AVENUE, SUITE 203
PORTLAND, OREGON 97209
503-796-0717

Scale: 1 inch = 250 feet
250 0 250 500 feet

Project No. 2708-5237 REV. JANUARY 2011

Figure 12
DNAPL Screening with TarGOST 2007 and 2008 Boring Locations Showing Estimated DNAPL within Alluvial - Below 100' BGS

NW Natural and Siltronic Properties
Portland, Oregon

X:\Hahn\Gasco Site 2011\Siltronic Reporting\DNAPL\DNAPL Alluvial Deep-TarGOST.dwg 2/24/11