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September 18, 2012

VIA EMAIL

Anna Krasko
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5 Post Office Square, Suite 100
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Re: Centredale Manor Restoration Project Superfund Site Administrative Record

Dear Anna:

Given the recent announcement that the public comment period was being extended on the Proposed Cleanup Plan for the site, the NECC Customer Group is taking this opportunity to submit its Forensic Analysis of Dioxin Contamination and Dioxin Sources at the CMRP Superfund Site for the Administrative Record.

This report was produced prior to EPA's issuance of the July 2012 amendment to the Proposed Plan which significantly lowers the residential cleanup level for dioxin in soils from 1,000 parts per trillion to 50 parts per trillion. The effect of this change is to increase the significance of dioxin in the areas of the site subject to soils cleanup for human health protection, notably the Source Area. Please be aware that the analysis provided in Section 2.2 of the attached report significantly underestimates the contribution of dioxin in these areas because it was based on the former cleanup value.

Sincerely,

David B. Graham

DBG/rls
Enclosure
11932708_1.DOC

SDMS Doc ID 521736

Forensic Analysis of Dioxin Contamination and Dioxin Sources at Centredale Manor Restoration Project Superfund Site

Prepared by

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July 2012

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Acronyms and Abbreviations

2,3,7,8-TCDD	2,3,7,8-tetrachlorodibenzo-*p*-dioxin
2,4,5-TCP	2,4,5-trichorophenol
BHHRA	baseline human health risk assessment
CMRP	Centredale Manor Restoration Project
DA	Diamond Alkali
DDE	dichlorodiphenyldichloroethylene
EPA	U.S. Environmental Protection Agency
FS	feasibility study
HCX	hexachloroxanthene
Metro-Atlantic	Metro-Atlantic Chemical Company
NECC	New England Container Company
OCDD	octachlorodixoin
OCDF	octachlorodibenzofuran
PCB	polychlorinated biphenyl
PCDD/F	polychlorinated dibenzo-*p*-dioxin and polychlorinated dibenzofuran
PCE	perchloroethylene
PCG	proposed cleanup goal
PMF	positive matrix factorization
PRP	potentially responsible party
PSJ	*Providence Sunday Journal Business Weekly*
PVA	polytopic vector analysis
RI	remedial investigation report
RG	remediation goal
RME	reasonable maximum exposure
SW	Stirling Winthrop
TEF	toxicity equivalence factor
TEQ	toxicity equivalent

Summary and Conclusions

This report has been prepared for the New England Container Company (NECC) Customer Group, a group of thirteen potentially responsible parties (PRPs) at the Centredale Manor Restoration Project (CMRP) Superfund site, North Providence, Rhode Island.[1] The purpose of this report is to provide the results of our investigation into the PRPs' level of responsibility for past and future removal, remedial, and investigation efforts that have occurred or will occur at the site.

The Group members are alleged to have sent drums to NECC for reconditioning at the site prior to its cessation of operations in the early 1970s. The NECC Customer Group represents 10%–15% of all NECC customers (over 80% of which are defunct or bankrupt) over NECC's years of operation (1953 to 1970). The site was also occupied during that time by the Metro-Atlantic Chemical Company (Metro-Atlantic), a predecessor company of Emhart Industries, Inc., which is also a PRP at the site. In the early to mid-1960s, Metro-Atlantic made hexachlorophene at the site. This process involved using a raw material—2,4,5-trichorophenol (2,4,5-TCP)—which contained dioxin, specifically 2,3,7,8-tetrachlorodibenzo-p-dioxin (2 ,3,7,8-TCDD).

The results of our analyses are as follows:

- 2,3,7,8-Tetrachlorodibenzo-p-dioxin (2,3,7,8-TCDD) is the contaminant at the site that poses by far the greatest risk to human health and the environment.

The evidence in the data shows that:

- The highest 2,3,7,8-TCDD concentrations at the CMRP site are beneath the former Metro-Atlantic hexachlorophene manufacturing building, and this compound decreases in the area of NECC operations and increases again on the south end of the site, in the area that was used by Metro-Atlantic as a dump.
- 2,4,5-Trichlorophenol (2,4,5-TCP) and perchloroethylene (PCE) concentrations peak under the former Metro-Atlantic HCP manufacturing building. 2,4,5-TCP was the primary raw material for hexachlorophene production and contained 2,3,7,8-TCDD as an impurity. PCE was also used in the hexachlorophene process, as the carrier solvent for the 2,4,5-TCP.

[1] The Group comprises 13 (including successors in interest) of approximately 80–90 former customers of New England Container Company: BNS Co.; Bradford Soap Works, Inc.; BASF Corporation; CNA Holdings, Inc.;Union Oil Company of California; Cranston Print Works Company; Duro Textiles; ExxonMobil Corporation; Lonza, Inc.; Organic Dyestuff Corporation; Phibro Animal Health Corporation; Sequa Corporation; and Teknor Apex Company

- 2,3,7,8-TCDD and PCE were released in the area of the former Metro-Atlantic hexachlorophene building at the same location, and probably at the same time, in a comingled waste stream.

- Other contaminants potentially associated with NECC (i.e., polychlorinated biphenyls [PCBs], cadmium, dichlorodiphenyldichloroethylene [DDE], and dieldrin) show a peak in concentration in the area of NECC operations. These concentrations decrease with distance from NECC and peak again in the area of the former dump.

- There is no information to suggest that NECC received any 2,3,7,8-TCDD-laden waste (other than possibly from Metro-Atlantic), and its operation could not have produced more than a modicum of 2,3,7,8-TCDD as a by-product of the incineration process.

- The environmental data show that 2,3,7,8-TCDD behaves differently (i.e., fluctuates in magnitude differently and is distributed spatially differently) from the other dioxin/furan congeners. This can be explained only by 2,3,7,8-TCDD having a source separate from the sources of the other dioxin/furan congeners.

  Fingerprinting of the data for dioxins/furans and hexachloroxanthene (HCX), a compound associated with the hexachlorophene process, indicates a separate process/source for 99% of the 2,3,7,8-TCDD at the site that is associated with some HCX. Separate process/sources are associated with most of the HCX and the other dioxin/furan congeners; the contribution of 2,3,7,8-TCDD from these sources is very small (<1%)..

Site-specific historical information and data demonstrate that:

- Metro-Atlantic manufactured hexachlorophene for one to two years during 1964–1966. This was preceded by three years of product development, beginning in or around 1962.

- 2,4,5-TCP, containing up to 90 parts per million of 2,3,7,8-TCDD, was brought onto the site by Metro-Atlantic for use as a raw material in the manufacture of hexachlorophene. Based on our estimates of the total mass of 2,3,7,8-TCDD brought to the site in the raw material, 2,4,5-TCP, and the process waste characteristics, Metro-Atlantic had the manufacturing capacity to account for the level of 2,3,7,8-TCDD found at the CMRP.

Based on the foregoing observations, we conclude that:

1. The sampling and analysis data, coupled with historical information, confirm that the source of virtually all (99%) of the 2,3,7,8-TCDD at the site is Metro-Atlantic's manufacture of hexachlorophene.

2. The forensic analysis methods (geospatial and statistical fingerprinting) set forth in this report show that:

    a. The spatial distribution of 2,3,7,8-TCDD at the site is consistent with the manufacture of hexachlorophene at the site by Metro-Atlantic.

    b. The contaminant composition, evident from site soil and sediment analyses, demonstrates that Metro-Atlantic hexachlorophene manufacture is the source of virtually all (99%) of the 2,3,7,8-TCDD at the site.

3. There is no evidence to indicate that NECC or any of its customers (other than Metro-Atlantic) was a source of more than minimal amounts of 2,3,7,8-TCDD at the site. The potential contribution of barrel reconditioning operations to 2,3,7,8-TCDD at the site is estimated at 1% or less.

4. EPA's baseline risk assessment and proposed remedial action plan indicates that 2,3,7,8-TCDD is the contaminant that will drive and dictate the remedy for the CMRP site. This fact, combined with our findings, provides strong support for the NECC Customer Group's contention that its contribution to the contamination at the site is *de minimis*.

1 Introduction

This report has been prepared for the New England Container Company Customer Group (NECC Customer Group), a group of thirteen potentially responsible parties (PRPs) at the Centredale Manor Restoration Project (CMRP) Superfund site, North Providence, Rhode Island.[2] The purpose of this report is to provide the results of our investigation into the PRPs' level of responsibility for past and future removal, remedial, and investigation efforts that have occurred or will occur at the site.

The NECC Customer Group members, or their predecessors in interest, are alleged to have sent drums to the New England Container Company (NECC) for reconditioning at the site prior to its cessation of operations in the early 1970s. The NECC Customer Group represents about 15% of all NECC customers (over 80% of which are defunct or bankrupt) over NECC's years of operation. The site was also occupied until that time by the Metro-Atlantic Chemical Company (Metro-Atlantic), a predecessor company of Emhart Industries, Inc., which is also a PRP at the site. The CMRP site consists of the main site of operations (9 acres of land known as the "Source Area") and a 3-mile stretch of the Woonasquatucket River, which runs past the site and through a series of downstream ponds (see Figure 1-1). Figure 1-2 shows the Source Area as it was in 1965 (a time of interest to this analysis) identifying the NECC and Metro-Atlantic operating areas; the Woonasquatucket River runs along the western side of the Source Area; a water channel known as the "tail race" runs along the eastern edge; the northern portion of the Source Area was used for operations, whereas the southern portion was undeveloped but was used for waste disposal.

During the 1920s and 1930s the site was used as a wool mill by Centredale Worsted Mills and Olney Wool Company. Subsequently, the site was used for chemical manufacturing by Atlantic Chemical Company, which in 1953, became Metro-Atlantic and operated until approximately 1970. NECC began operations as a drum reconditioner in 1953. Chemical manufacturing and drum reconditioning operations ceased in the early 1970s, and in 1972, a fire destroyed most of the structures at the site. The site currently contains two apartment buildings—Brook Village, constructed in 1977, and Centredale Manor, constructed in 1982.

Discovery of site contamination began in the mid 1980s; the site was listed on the Superfund's National Priorities List in 2000. The Remedial Investigation (RI) report for the site contains further information on the site history and the various removal actions and other measures that have been taken by the U.S. Environmental Protection Agency (EPA) through 2005.[3]
A baseline risk assessment prepared by EPA evaluated human health and ecological risks posed

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[2] The Group comprises 13 (including successors in interest) of approximately 80–90 former customers of New England Container Company: BNS Co.; Bradford Soap Works, Inc.; BASF Corporation; CNA Holdings, Inc.; Union Oil Company of California; Cranston Print Works Company; Duro Textiles; ExxonMobil Corporation; Lonza, Inc.; Organic Dyestuff Corporation; Phibro Animal Health Corporation; Sequa Corporation; and Teknor Apex Company

[3] Interim final baseline human health risk assessment — Centredale Manor Restoration Project Superfund site, North Providence, Rhode Island. MACTEC Engineering and Consulting, Inc. November 2005.

by a number of site-related contaminants. However, as described in further detail later in this report, the majority of the risk can be attributed to a single compound—2,3,7,8-tetrachlorodibenzo-*p*-dioxin (2,3,7,8-TCDD). In the early to mid-1960s, Metro-Atlantic made hexachlorophene at the site. This process involved using a raw material, 2,4,5-trichorophenol (2,4,5-TCP), that contained 2,3,7,8-TCDD. The EPA's interim final Feasibility Study (FS), released in April 2010, is also referenced in this report.[4] The Record of Decision for the site is currently pending; however, in October 2011, EPA presented its preferred alternatives for clean-up of the various areas of concern at the site in its Proposed Plan.[5]

The analyses in this report rely on multiple information sources, including information generated by EPA, and historical documents such as internal memoranda, depositions, and trial testimony of individuals who worked at the site; a newspaper article on the hexachlorophene operation; 2,3,7,8-TCDD concentration data from Metro-Atlantic's supplier of 2,4,5-TCP; and data from a recent removal action conducted by Emhart Industries for the area where the hexachlorophene manufacturing building once stood. The EPA information can be found in the Administrative Record for the site; key data sources are the RI and EPA's database of sampling and analysis results. The RI's executive summary is attached as Appendix 1.1 for readers who are unfamiliar with the site history and other relevant information.

1.1 Metro-Atlantic

Metro-Atlantic manufactured a variety of chemical products at the site, including hexachlorophene (the location is shown in Figure 1-2). The focus of this report is on its manufacture of hexachlorophene and the connection between this process and the 2,3,7,8-TCDD that is present in soils, sediments, and fish tissue at the site. Evidence presented in this report supports the following facts:

- 2,4,5-TCP contaminated with 2,3,7,8-TCDD was brought onto the site by Metro-Atlantic over a period of several years.
- Metro-Atlantic had the capacity and intention to operate the hexachlorophene manufacturing process on a full-scale basis, and did run it for one or two years and possibly longer.
- Pathways existed for 2,3,7,8-TCDD to be released into the environment.
- Metro-Atlantic used the site for waste disposal, in particular a dump area on the south of the site, and also discharged wastewaters to the Woonasquatucket River.

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[4] Interim final feasibility study, Centredale Manor Restoration Project Superfund site, North Providence, Rhode Island. Battelle. April 30, 2010

[5] Proposed Plan, Centredale Manor Restoration Project Superfund site, North Providence, Rhode Island. EPA New England. October 2011

Later sections of this report, relying on the data collected at the site and in the Administrative Record, present analyses that support a finding that releases did, in fact, occur and that the 2,3,7,8-TCDD found at the site is exclusively linked to Metro-Atlantic's hexachlorophene operations; these findings are consistent with those of the EPA RI.

1.2 NECC

NECC used a portion of the Source Area for reconditioning empty drums (see location in Figure 1-2). Drums were placed open side down on a conveyor system above a concrete catchment basin and passed through an oven. The process is also believed to have included a caustic bath to wash out closed-head drums.

NECC was incorporated in 1953 and ceased operation in approximately August of 1971. For the majority of this period, until approximately 1967, Metro-Atlantic was NECC's largest customer.[6] A salesman employed by NECC testified under oath that it was not until 1967 that NECC began to actively pursue outside customers.[7] Thus, prior to about 1967, during the period of most interest for site releases and only 3 or 4 years before it ceased operation, NECC appears to have been primarily servicing Metro-Atlantic.

The administrative record also supports the conclusion, based on a review of multiple historical documents, that NECC had approximately 80−90 customers; therefore, the thirteen-member NECC Customer Group represents about 16% of the total number of NECC customers.

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[6] Mr. Vincent Buonanno, an NECC employee, in his March 25, 2003, deposition in *Emhart Industries, Inc., vs. Home Insurance Company et al*., United States District Court for the District of Rhode Island, described how NECC came to be in business: *"And Metro Atlantic making those liquids, which it prepared for textile companies, received liquids to make those liquids in different kinds of containers. Sometimes tank trucks, sometimes wooden barrels at the beginning of the 1930's and 40's, and then steel drums. So it was always receiving raw materials to make its product in steel drums, or drum, barrels. And it was always then refilling them with a product that it made of these different compounds back out in wooden barrels originally and then steel drums. So there came a time when it seemed logical for Metro Atlantic to have some sort of a recycling operation, where containers were received in empty of raw materials could be cleaned up and put back in service to be shipped back out again."* [Vincent Buonanno deposition on March 25, 2003, Page 15, line 7−24.] When asked when, in either late 1940 or around 1950, NECC started their business, whether Metro-Atlantic was its sole customer, he responded, *"Yes it was."* [Vincent Buonanno deposition on March 25, 2003, Page 16, line 19.] When asked whether it was fair to say that Metro-Atlantic was still the largest customer for NECC in the later part of the 1950s and the 1960s, he responded, *"It remained – It probably remained a very large or one of its largest customers."* [Vincent Buonanno deposition on March 25, 2003, Page 17, line 9−10.]

[7] When Mr. Vincent Buonanno was asked why he began his full-time employment (March 1967) at NECC, he stated, *"So I went there, and the objective was to try to sell containers to people other than Metro Atlantic, whose fortunes were waning because Metro Atlantic had already moved part of its operation to South Carolina where the textile industry had moved to…So the center of gravity of a major customer of ours was kind of diminishing and moving away."* [Vincent Buonanno deposition in *Emhart Industries, Inc., vs. Home Insurance Company et al*., United States District Court for the District of Rhode Island, March 25, 2003, Page 19, line 13−24.]

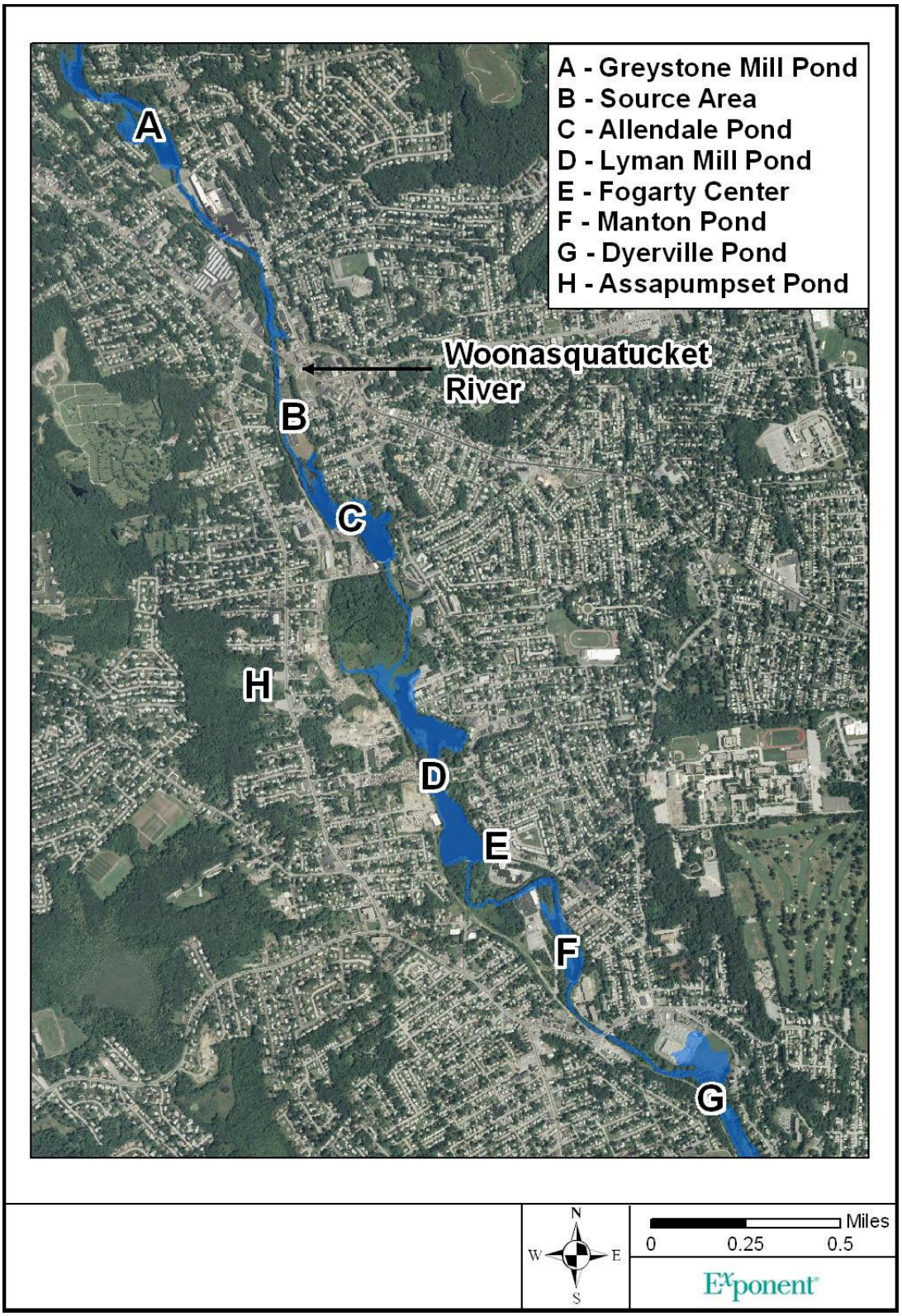

Figure 1-1. The Centredale Manor Restoration Project site

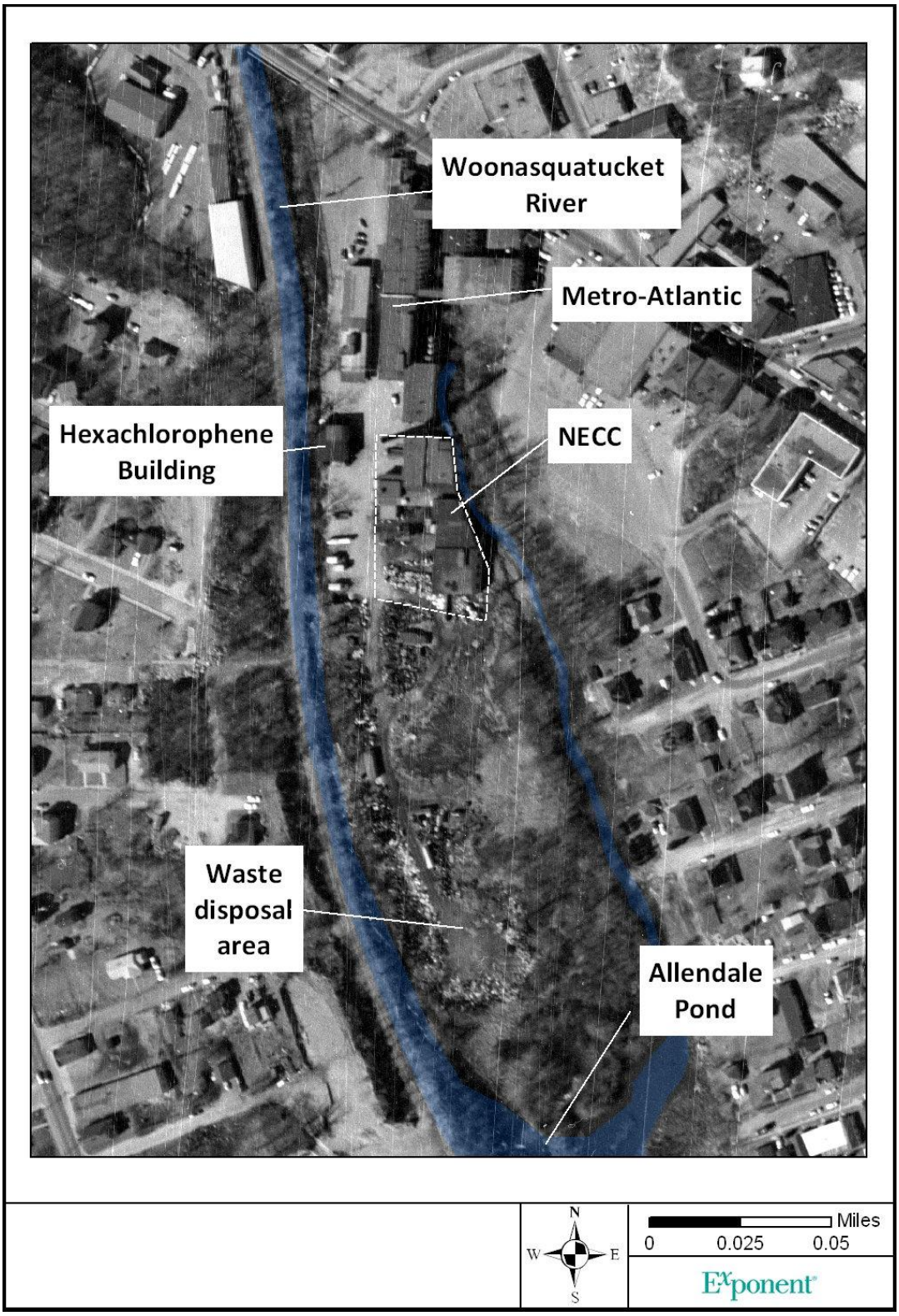

Figure 1-2. The CMRP Source Area (1965)

2 Risk Assessment and Contaminants of Concern

EPA's baseline human health risk assessment (BHHRA) evaluated and quantified risks associated with 1) fish consumption and 2) human contact with surface water, sediment, and soils.[8]

For the risk assessment, the site was divided into the following six exposure areas: Allendale Pond, Lyman Mill Pond, Manton Pond, Dyerville Pond, the Fogarty Center, and Greystone Mill Pond (an upstream background area); and a reference area, Assapumpset Brook and Pond (see Figure 1-1).

The BHHRA supports the following conclusions:

- Fish consumption is the exposure route that poses the largest potential cancer risk to current and potential future users of the site. Approximately 95% of the reasonable maximum exposure (RME) cancer risk in the two most highly contaminated areas, Allendale Pond and Lyman Mill Pond, is associated with the fish consumption exposure scenario (Figure 2-1).

- Approximately 90% of the fish consumption risk for Allendale, Lyman Mill, Manton, and Dyerville Ponds is due to the presence of dioxins and furans in fish (Figure 2-2).

- Polychlorinated biphenyls (PCBs) are a secondary cancer risk driver, constituting approximately 10% of the total fish consumption risk in Allendale and Lyman Mill Ponds and 8% and 7% in Manton and Dyerville Ponds, respectively. (Figure 2-2)

  EPA has concluded that concentrations of PCBs (and pesticides) below the Allendale Dam (i.e., in Lyman Mill, Manton, and Dyerville Ponds) are not significantly higher than those of upstream background concentrations.[9]

- The contribution to fish ingestion risk from all other compounds is negligible compared to that of the dioxins/furans and PCBs (Figure 2-2).

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[8] Interim final baseline human health risk assessment — Centredale Manor Restoration Project Superfund site, North Providence, Rhode Island. MACTEC Engineering and Consulting, Inc. November 2005.

[9] Interim final: Remedial investigation, Centredale Manor Restoration Project Superfund site, North Providence, Rhode Island. Battelle. June 30, 2005. Executive Summary, page iv (see Appendix 1.1)

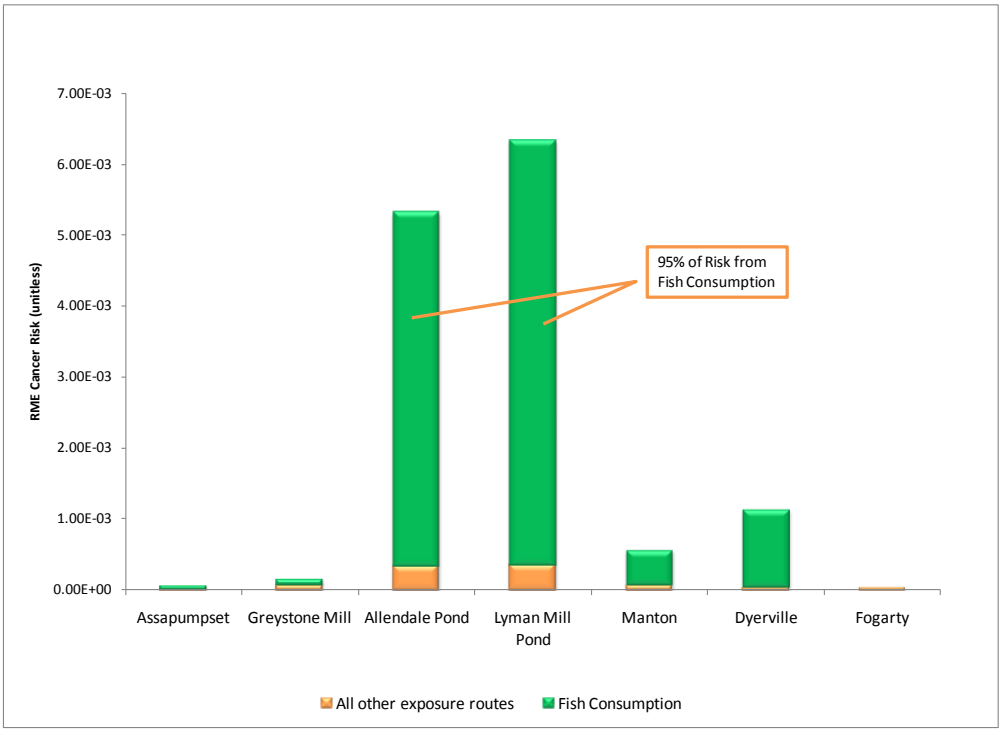

Figure 2-1. RME cancer risks for Resident (all ages)

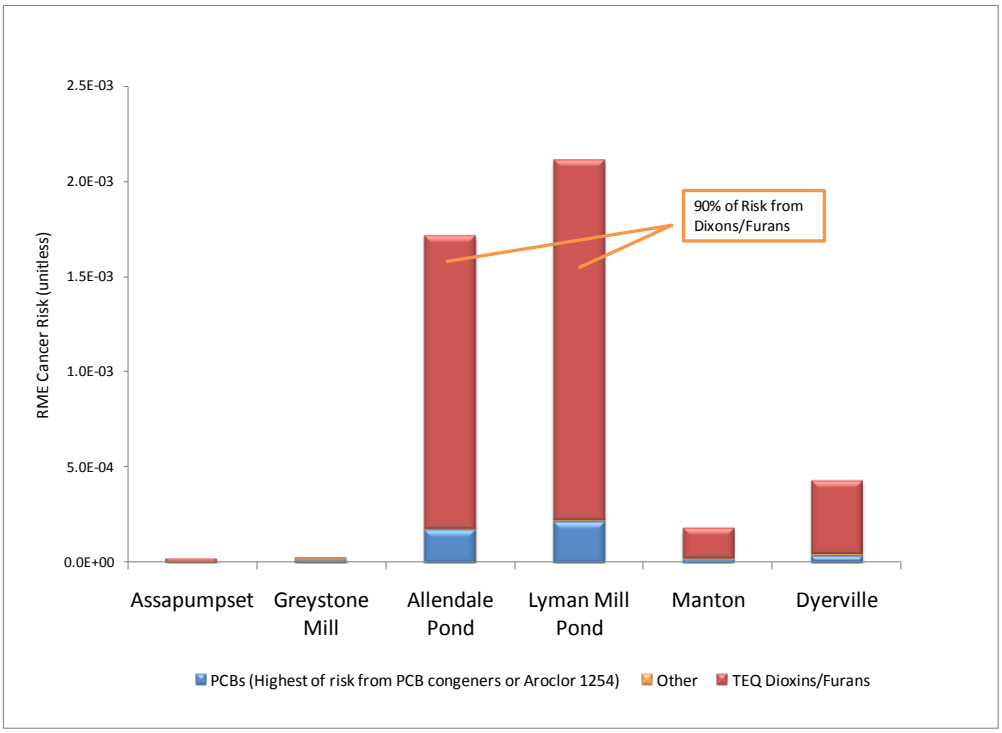

Figure 2-2. RME fish consumption cancer risks for Older Child Recreational Angler

2.1 Significance of 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin in Sediment

Using information from the September 2009 version of the Centredale Manor Database, we examined the contribution of 2,3,7,8-TCDD to the total risk from dioxins and furans for sediment samples in Allendale and Lyman Mill Ponds. The comparison was done on a sample-by-sample basis by parsing the toxicity equivalency (TEQ) concentrations into two parts—that associated with 2,3,7,8-TCDD, and that from all other dioxins and furans combined.[10]

The results are displayed graphically in Figure 2-3 for Allendale Pond (the left panel) and Lyman Mill Pond (the right panel). The figure's red-colored pie segments represent the TEQ for 2,3,7,8-TCDD, and the green-colored elements represent the TEQ sum of all other polychlorinated dibenzo-*p*-dioxins/polychlorinated dibenzofurans (PCDD/Fs); the size of the circles is proportional to the total TEQ at the sampling locations.[11]

As can be seen in Figure 2-3, 2,3,7,8-TCDD (in red) dominates the risk from dioxins and furans as a class. Where dioxins and furans other than 2,3,7,8-TCDD (green) contribute to the TEQ, it can be seen that the total TEQ (risk) is comparatively low (note circle size). Accordingly, their presence in these low-TEQ samples does not affect the overall risk in the pond sediments to any significant extent.

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[10] For each individual member of the dioxin/furan family, a toxicity equivalency factor (TEF) relates its cancer potency to that of 2,3,7,8-TCDD. In addition to the individual concentrations, EPA's database provides a single concentration value—the toxicity equivalency concentration, or TEQ—which accounts for both the concentration and relative toxicity of all members of the dioxin/furan family, which facilitates the computation of risk.

[11] For clarity, only samples in the top 1 foot of sediment which exceed EPA's Remediation Goal (14.7 ng/kg) are shown in Figure 2-3. Samples analyzed for 2,3,7,8-TCDD only are not shown in this figure.

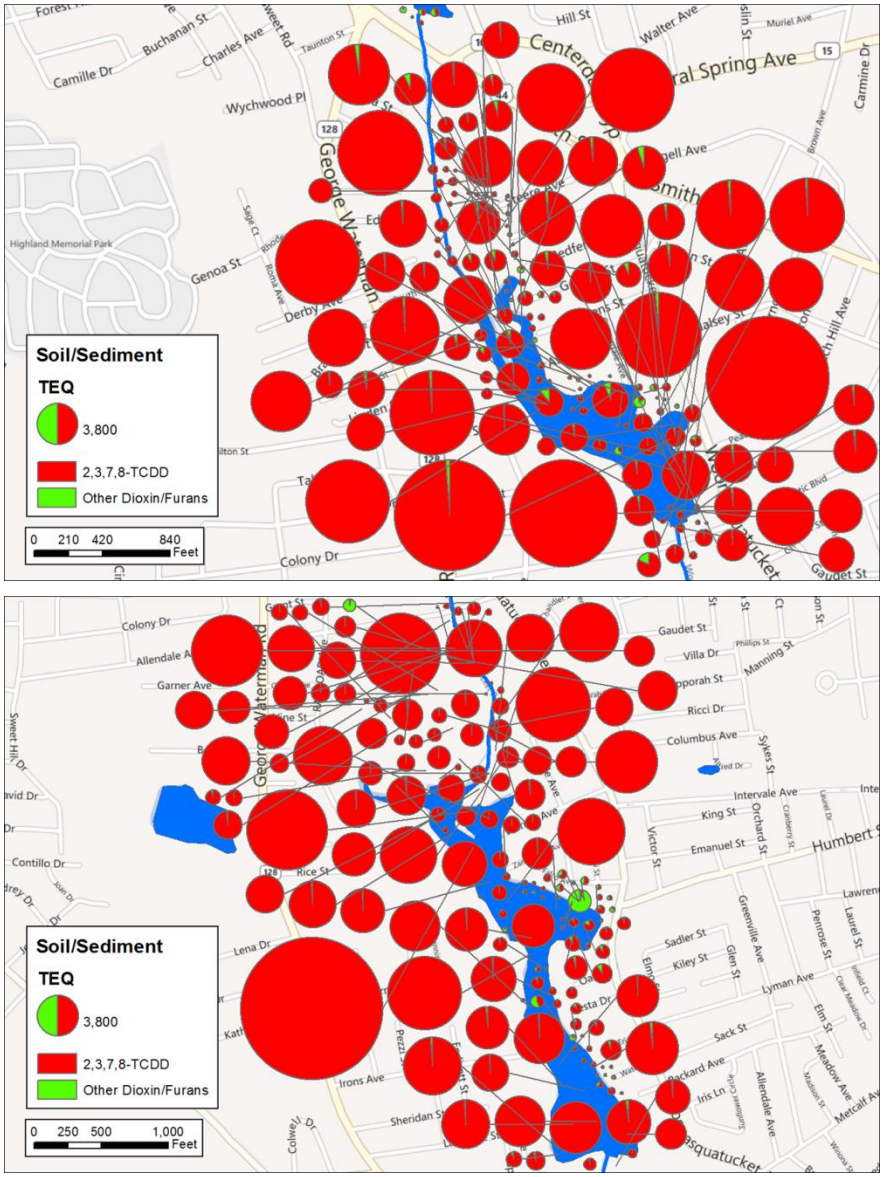


Figure 2-3. Contribution of 2,3,7,8-TCDD to total TEQ in Allendale and Lyman Mill Ponds

These findings are demonstrated alternatively by direct examination of the sampling results. For the six exposure areas of the site, identified above and shown in Figure 1-1, samples with reported concentrations of both 2,3,7,8-TCDD and other dioxins and furans were identified (see Appendix 2.1 for the underlying data table). For each area, we calculated the overall percentage contribution to total TEQ (risk) associated with 2,3,7,8-TCDD (this is the ratio of the arithmetic mean of the 2,3,7,8-TCDD TEQ to the arithmetic mean of the total TEQ).

Table 2-1 presents the results. For the most affected areas—Allendale and Lyman Mill—the contribution to the total TEQ from 2,3,7,8-TCDD is 99%, confirming the importance of this compound to the overall risk associated with the class of dioxins and furans. Table 2-1 indicates some areas with lower percentage contributions. However, these areas also have much lower

total TEQ and, therefore, relatively low risk. The average 2,3,7,8-TCDD contribution in non-background-area sediments, weighted by total TEQs, is also approximately 99%, and is unaffected by the lower percentage contributions from 2,3,7,8-TCDD in the lower TEQ samples.

Upstream and reference-area (Assapumpset) sediments show a 27% to 49% contribution to total TEQ from 2,3,7,8-TCDD. However, the total TEQs in these areas are low, about two to three orders of magnitude lower than those of Allandale and Lyman Mill Ponds.

For soils, the Source Area shows a 98% contribution from 2,3,7,8-TCDD, and for the Allendale and Lyman Mill pond bank soils, approximately 73%.

Table 2-1. Contribution of 2,3,7,8-TCDD to total dioxin/furan TEQ

Area and Media (RI Sample Group)	Number of Samples[12]	Mean of 2,3,7,8-TCDD TEQ (ng/kg)	Mean of Total TEQ (ng/kg)	Overall Contribution of 2,3,7,8-TCDD
Upstream sediment	28	10	38	27%
Assapumpsett sediment	5	2	4	49%
Source Area Soil	139	1999	2036	98%
Allendale sediment	149	5232	5291	99%
Allendale Soil	65	64	87	74%
Lyman Mill sediment	113	3132	3171	99%
Lyman Mill soil	117	53	74	72%
Oxbow Area soil	83	1755	1773	99%
Manton sediment	18	367	380	97%

2.2 Evaluation of In-Situ Concentrations and Remediation Goals Proposed by EPA

As explained above, the BHHRA presented in the RI indicates that approximately 10% of the cancer risk for residents is attributable to compounds other than 2,3,7,8-TCDD, mostly PCBs. This value reflects the exposure-point concentrations based on the actual data collected, predominantly the fish tissue data. Remedial efforts to address the fish ingestion pathway will

[12] These are the numbers of samples that have results for 2,3,7,8-TCDD and other dioxins and furans.

likely focus on reducing sediment concentrations, which in turn can be expected to lead to a reduction in the fish tissue levels.

EPA's FS and Proposed Plan for cleanup presents proposed remediation goals (RGs), for number of compounds of concern (COCs) present in the different media at the site. The RGs are based on consideration of human and ecological risk, background levels, and applicable or relevant and appropriate requirements (ARARS) and are specified for three media types: sediment, floodplain soil, and Source Area soil. EPA has evaluated remedial alternatives for all areas of the site, which has been has been divided into the following areas of concern (AOCs):

- Allendale and Lyman Mill Pond sediments
- Allendale floodplain soils
- Lyman Mill stream sediment
- Lyman Mill floodplain soils and the Oxbow Area
- Source Area soils
- Source Area groundwater.

Groundwater was addressed through a time-critical removal action in 2009 (see Section 4.9). All other AOCs will likely be subject to future remedial action (Proposed Plan 2011).

Table 2-2 shows the RGs for individual chemicals of concern (COCs) at the site. Table 2-3 shows the COC categories, or classes, for each media type/AOC; the checkmarks indicate that an RG has been established for at least one chemical within the class. Seven COC classes were designated: TCDD, dioxin TEQ, VOCs, semi-volatiles (SVOCs), pesticides, metals, and PCBs.

Using site data for COCs and their RGs, we analyzed the relative contribution of the COCs and COC classes in relation to the degree to which they exceed RGs in two ways:

1. The first analysis compares the concentrations for selected COCs in each AOC to their respective RGs using the average concentrations provided in the FS.
2. The second method involves consideration of the spatial distribution and the degree to which the COC concentrations exceed their RGs at all sampling locations and depths at the AOCs at the site.

The results of these analyses are presented in the following sections.

Table 2-2. Remediation Goals for Chemicals of Concern

	COC	Allendale and Lyman Mill Sediment	Allendale and Lyman Mill Floodplain Soil	Oxbow Floodplain Soil	Source Area Soil
TCDD	2,3,7,8-TCDD	14.7 ng/kg	17 ng/kg	35 ng/kg	-
TEQ	Dioxin TEQ	-	-	-	1000 ng/kg
PCBs	Aroclor 1254	0.15 mg/kg	0.82 mg/kg	0.82 mg/kg	-
	Aroclor 1268	0.14 mg/kg	-	-	-
	Total Aroclors (total PCB)	0.21 mg/kg	1.7 mg/kg	1.7 mg/kg	10 mg/kg
	Coplanar PCB TEQ	24.9 ng/kg	-	-	-
PESTs	4,4'-DDD	0.0084 mg/kg	-	-	-
	4,4'-DDE	0.006 mg/kg	0.016 mg/kg	0.016 mg/kg	-
	4,4'-DDE	0.006 mg/kg	0.016 mg/kg	0.016 mg/kg	-
	Dieldrin	0.0026 mg/kg	0.04 mg/kg	0.04 mg/kg	0.04 mg/kg
	Pentachlorophenol	-	-	-	5.3 mg/kg
	Technical Chlordane	0.4 mg/kg	-	-	0.5 mg/kg
VOCs	Benzene	-	-	-	2.5 mg/kg
	Biphenyl, 1,1	-	-	-	0.8 mg/kg
	Chlorobenzene	-	-	-	100 mg/kg
	Dichloroethane (1,2-)	-	-	-	0.9 mg/kg
	Dichloroethene (cis-1,2-)	-	-	-	60 mg/kg
	Ethyl benzene	-	-	-	62 mg/kg
	Tetrachloroethene (PCE)	-	-	-	4.2 mg/kg
	Toluene	-	-	-	54 mg/kg
	Trichloroethene (TCE)	-	-	-	13 mg/kg
	Vinyl chloride	-	-	-	0.02 mg/kg
	Xylenes (Total)	-	-	-	110 mg/kg
SVOCs	Benzo(a)anthracene	-	-	-	0.9 mg/kg
	Benzo(a)pyrene	1.4 mg/kg	-	-	0.4 mg/kg
	Benzo(b)fluoranthene	-	-	-	0.9 mg/kg
	Benzo(g,h,i)perylene	-	-	-	0.8 mg/kg
	Benzo(k)fluoranthene	-	-	-	0.9 mg/kg
	Bis(2-ethylhexyl)phthalate	-	-	-	46 mg/kg
	Chrysene	-	-	-	0.4 mg/kg
	Dibenzo(a,h)anthracene	0.97 mg/kg	-	-	0.4 mg/kg
	Fluoranthene	-	-	-	20 mg/kg
	Indeno(1,2,3-cd)pyrene	-	-	-	0.9 mg/kg
	Naphthalene	-	-	-	54 mg/kg
	N-nitroso-di-npropylamine	0.456 mg/kg	-	-	-
	Pyrene	-	-	-	13 mg/kg
METALs	Aluminum	8210 mg/kg	-	-	-
	Antimony	-	0.62 mg/kg	0.62 mg/kg	10 mg/kg
	Arsenic	3.9 mg/kg	7.7 mg/kg	7.7 mg/kg	7 mg/kg
	Barium	134 mg/kg	-	-	-
	Beryllium	-	-	-	0.4 mg/kg
	Cadmium	-	3.8 mg/kg	3.8 mg/kg	39 mg/kg
	Lead	-	450 mg/kg	450 mg/kg	150 mg/kg
	Manganese	-	-	-	390 mg/kg
	Selenium	1.1 mg/kg	0.7 mg/kg	0.7 mg/kg	-
	Thallium	-	-	-	5.5 mg/kg
	Vanadium	37.6 mg/kg	-	-	-
	Zinc	221 mg/kg	320 mg/kg	320 mg/kg	-

Table 2-3. Classes of chemicals of concern by medium

	Allendale Sediment	Lyman Mill Sediment	Floodplain Soils/Oxbow	Source Area Soil
2,3,7,8-TCDD	✓	✓	✓	
Dixoin TEQ				✓
PCBs	✓	✓	✓	✓
Pesticides	✓	✓	✓	✓
VOCs				✓
SVOCs	✓	✓		✓
Metals	✓	✓	✓	✓

2.2.1 Comparison of Average Concentrations to RGs

Initially we performed a simple comparison of the average concentrations for selected COCs in each AOC to their respective RGs using the COCs and concentration values provided in Table 2-6b of the FS. These concentration averages are shown in Table 2-4. Table 2-5 shows the ratios of these values to the RGs from the Proposed Plan. These ratios are also shown in Figure 2-4.

The results of this analysis demonstrate the strong influence that 2,3,7,8-TCDD has on the level of impact at the CMRP, especially in AOCs downstream (south) of the Source Area, such as Allendale and Lyman Mill Pond sediments and in the Oxbow area.

Table 2-4. Concentration averages from the FS

COC	Allendale Sediment	Lyman Sediment	Allendale Soil	Lyman Soil	Oxbow	Source Area Soil	units
2,3,7,8-TCDD	879	433	22.4	8.58	1409		ng/kg
Dioxin TEQ						118	ng/kg
Aroclor 1254	0.27	0.13			0.412		mg/kg
Aroclor 1268	0.067						mg/kg
Total Aroclors (total PCB)	0.27	0.135			0.412	0.29	mg/kg
Coplanar PCB TEQ	147	18.6					ng/kg
4,4'-DDE				0.0052	0.00618		mg/kg
4,4'-DDE							mg/kg
Dieldrin					0.00297	0.0009	mg/kg
Technical Chlordane	0.028	0.4					mg/kg
Benzo(a)anthracene						0.22	mg/kg
Benzo(a)pyrene	0.72	0.67				0.25	mg/kg
Benzo(b)fluoranthene						0.3	mg/kg
Bis(2-ethylhexyl)phthalate						0.18	mg/kg
Chrysene						0.27	mg/kg
Fluoranthene						0.46	mg/kg
Pyrene						0.47	mg/kg
Aluminum		8075					mg/kg
Antimony					2.31		mg/kg
Arsenic	3.03	3.95		5.94	2.91	3.4	mg/kg
Barium		92.2					mg/kg
Beryllium						0.41	mg/kg
Cadmium				0.203	2.61	0.32	mg/kg
Lead				164	275	53.8	mg/kg
Manganese						194	mg/kg
Selenium					1.52		mg/kg
Vanadium		27.2					mg/kg
Zinc	299	256		189	240		mg/kg

Table 2-5. Ratios of concentration averages to RGs

COC	Allendale Sediment	Lyman Sediment	Allendale Soil	Lyman Soil	Oxbow	Source Area Soil
2,3,7,8-TCDD	59.80	29.46	1.32	0.50	40.26	-
Dioxin TEQ	-	-	-	-	-	0.12
Aroclor 1254	1.80	0.87	-	-	0.50	-
Aroclor 1268	0.48	-	-	-	-	-
Total Aroclors (total PCB)	1.29	0.64	-	-	0.24	0.03
Coplanar PCB TEQ	5.90	0.75	-	-	-	-
4,4'-DDE	-	-	-	0.33	0.39	-
4,4'-DDE	-	-	-	-	-	-
Dieldrin	-	-	-	-	0.07	0.02
Technical Chlordane	0.07	1.00	-	-	-	-
Benzo(a)anthracene	-	-	-	-	-	0.24
Benzo(a)pyrene	0.51	0.48	-	-	-	0.63
Benzo(b)fluoranthene	-	-	-	-	-	0.33
Bis(2-ethylhexyl)phthalate	-	-	-	-	-	0.00
Chrysene	-	-	-	-	-	0.68
Fluoranthene	-	-	-	-	-	0.02
Pyrene	-	-	-	-	-	0.04
Aluminum	-	0.98	-	-	-	-
Antimony	-	-	-	-	3.73	-
Arsenic	0.78	1.01	-	0.77	0.38	0.49
Barium	-	0.69	-	-	-	-
Beryllium	-	-	-	-	-	1.03
Cadmium	-	-	-	0.05	0.69	0.01
Lead	-	-	-	0.36	0.61	0.36
Manganese	-	-	-	-	-	0.50
Selenium	-	-	-	-	2.17	-
Vanadium	-	0.72	-	-	-	-
Zinc	1.35	1.16	-	0.59	0.75	-

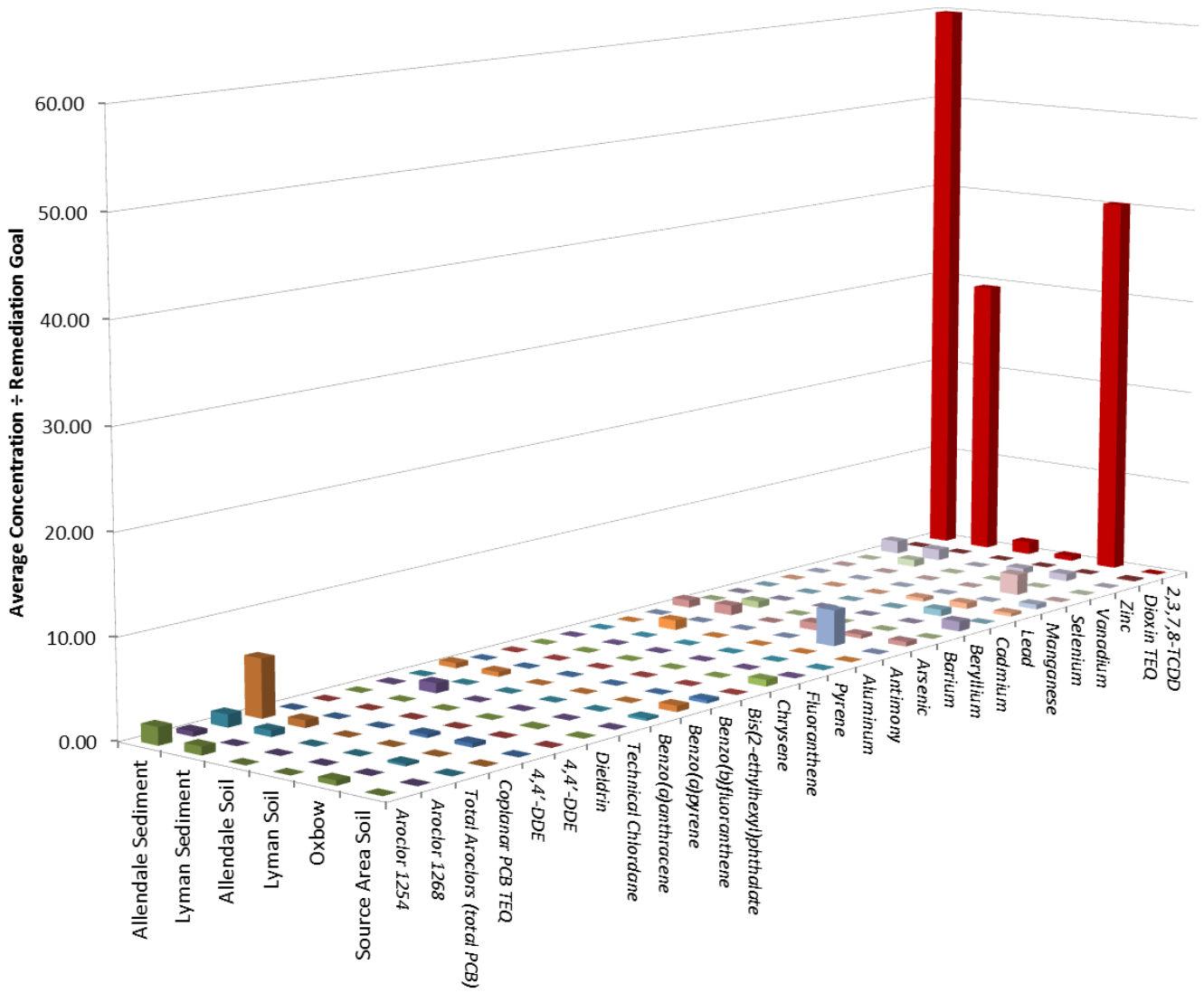


Figure 2-4. Ratios of concentration averages to RGs

2.2.2 Full Analysis of In-Situ COCs

The goal of this analysis is to understand the relative impact of COCs and COC classes on the cleanup effort for each AOC. The approach used is as follows:

1. First, for each COC class for which an RG had been established for at least one member of that class, each AOC was split into sub-areas using a Thiessen polygon approach to delineate unbiased areas of influence around each sample point. The Oxbow area and Source Area were split into sub-areas—excavation and cap areas—based on the preferred remedies in the Proposed Plan.

2. Next, for each COC, samples with concentrations exceeding the RG were identified, and the volume of soil or sediment represented by each sampling point was calculated—the volume was the product of the depth interval associated with the sample (e.g., 0–1 ft) and the areal extent of the sampling location defined by the area of the Thiessen polygon associated with the sampling location.

3. Then the volumes were weighted by the RG-normalized concentration at the sampling points. The RG-normalized concentration is the ratio of the concentration to the RG. This expresses the levels found in the environment in consistent terms and is equal to the number of times the RG is exceeded in each sample and, by extension, in the volume represented by that point.

4. The RG-weighted volumes were then summed for each COC class for each Area. Comparing the results provides a metric for quantifying the relative impact to the cleanup effort of each COC class.

Tables showing the polygons and sampling data, along with RGs, RG-normalized concentration ratios, and corresponding volumes, are provided in Appendix 2.2. The AOC-specific results showing the percentage of the total impact (the total of the RG-weighted volumes across all COCs) for each COC class are shown in Table 2-6. For illustrative purposes, Figure 2-5 shows the maximum exceedance levels for the main COC classes across the entire site (a full set of AOC/COC class-specific images is included in Appendix 2.2).

With the exception of the Source Area, the analysis indicates that 2,3,7,8-TCDD is found at levels that far exceed the RG when compared to other contaminants at the site, consistent with the initial analysis described above. For the Source Area, the analysis indicates that VOCs are the predominant COC class. This result is likely due to poorly delineated VOC hotspots (in particular benzene, which is the dominant contributor).

Table 2-6 Relative contribution to cleanup effort by COC class

	TCDD or TEQ	METAL	SVOC	PCB	PEST	VOC
Allendale and Lyman Mill Sediment	95.5%	1.3%	0.2%	1.7%	1.2%	-
Allendale Floodplain Soil	100.0%	-	-	-	-	-
Lyman Mill/Oxbow Floodplain Soil	83.6%	15.9%	-	-	0.5%	-
Lyman Mill Stream Sediment	96.7%	1.2%	0.2%	1.0%	0.7%	-
Oxbow Floodplain Soil_cap area	91.0%	8.3%	-	0.2%	0.4%	-
Source Area Soil _ principal threat waste area	5.7%	15.7%	19.3%	14.3%	2.0%	43.1%
Source Area Soil _ cap area	6.9%	17.7%	27.4%	8.6%	18.7%	20.7%

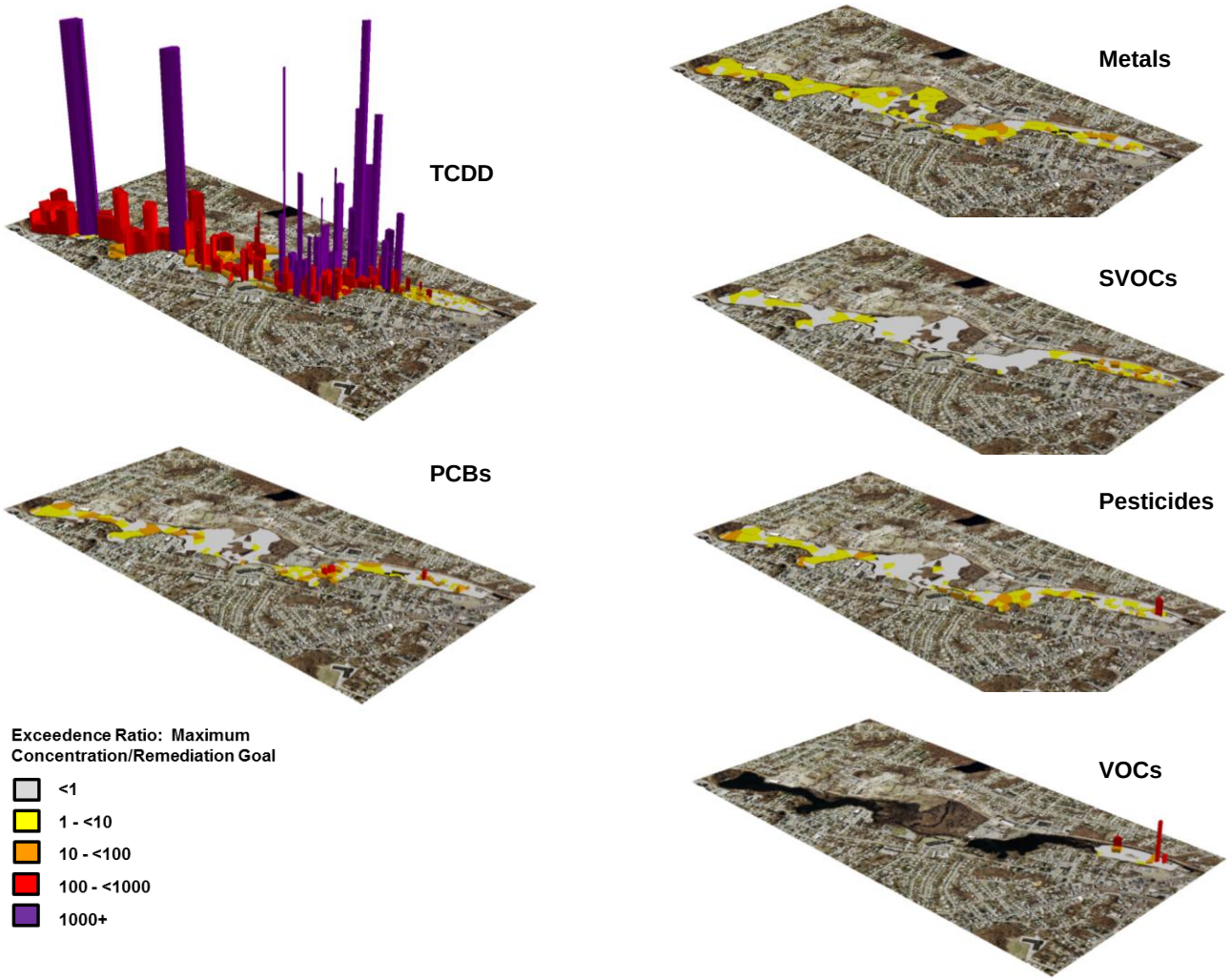


Figure 2-5. Maximum RG exceedance levels

These analyses establish the fact that 2,3,7,8-TCDD is the human health risk driver for remediation, consistent with the following statements made in the FS regarding the importance of 2,3,7,8-TCDD in Allendale and Lyman Mill Pond sediments:

> Overall, the spatial and vertical extent of the proposed cleanup area at Allendale Pond is driven by the cleanup goal for 2,3,7,8-TCDD. Areas with concentrations of other contaminants at levels above the cleanup goals generally represent a smaller area within the 2,3,7,8-TCDD footprint, suggesting that cleanup for 2,3,7,8-TCDD will address the other contaminants as well. Further, due to the widespread extent of the dioxin contamination and because the cleanup goals are generally based on background, limiting cleanup to 'hot spot' areas only would not be sufficient to reduce the surface weighted average concentration to a level below the cleanup goals… [FS page 3-13]
>
> Similar to the situation in Allendale Pond, cleanup for 2,3,7,8-TCDD at Lyman Mill Pond will address other contaminants as well, and remediation of the entire pond (as opposed to remediation of 'hot spot' areas only) is required to meet both the cleanup goals and RAOs. [FS page 3-13]

Our analysis also shows that, for the vast majority of the site (the Source Area being the exception), the 2,3,7,8,-TCDD exceedances cover and far exceed the exceedances for all other COC classes.

3 Hexachlorophene Production

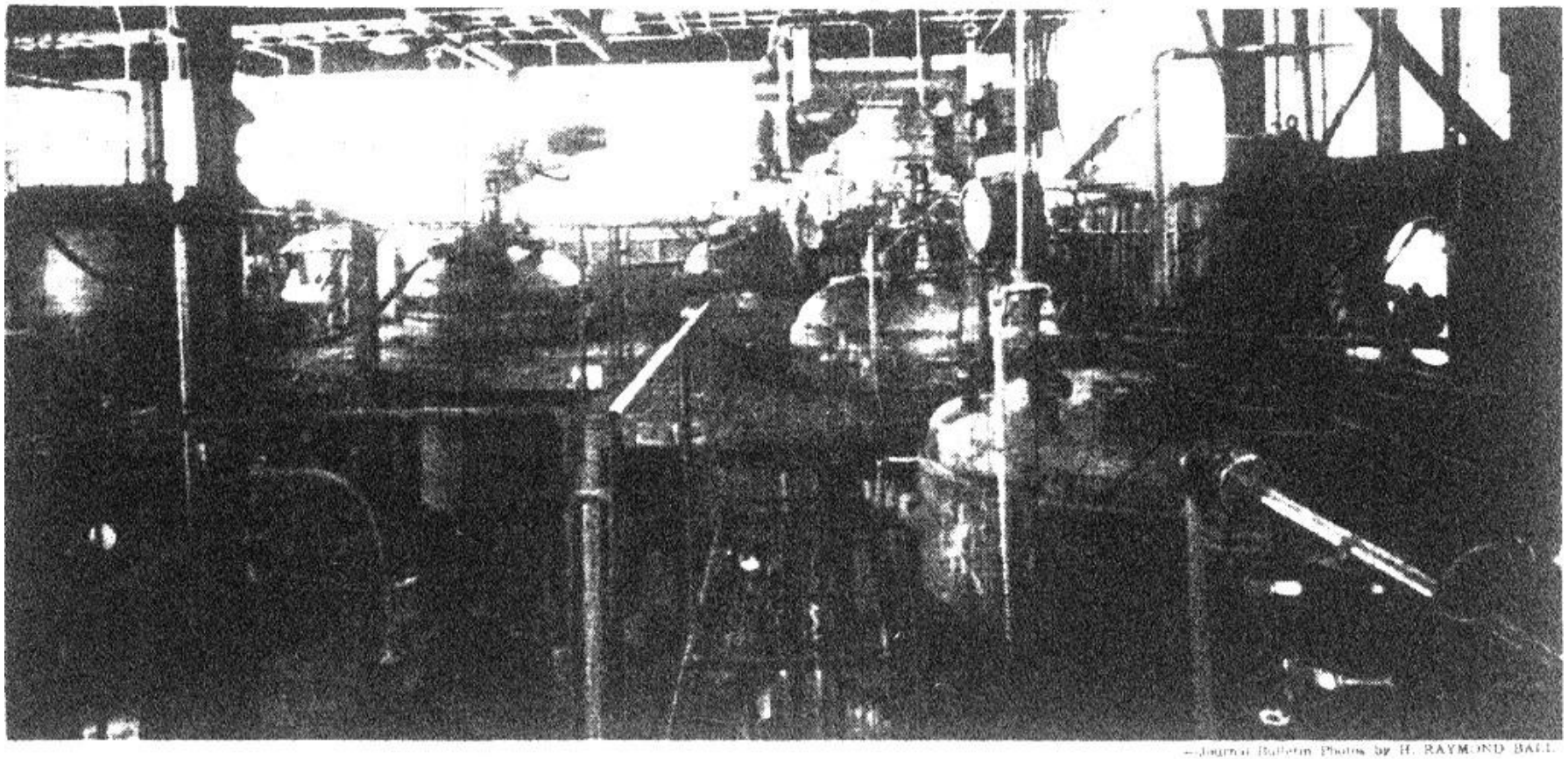
This section presents facts related to Metro-Atlantic bringing 2,3,7,8-TCDD-laden raw material to the CMRP site over a known time frame and releasing 2,3,7,8-TCDD-laden material and/or waste to the environment. It also discusses other compounds that are related to hexachlorophene production, including perchloroethylene (PCE) and 2,4,5-TCP. This development is important, because, as will become apparent in Sections 4 and 5, the environmental data show that these three compounds, along with another hexachlorophene-related compound, hexachloroxanthene (HCX), are comingled to varying degrees in soil and sediment at and near the Metro-Atlantic production site.

3.1 Timeline

The May 30, 1965, *Providence Sunday Journal Business Weekly* (PSJ) article titled "Pharmaceutical Products Added," provides clear evidence that Metro-Atlantic, at that time, was prepared for full-scale production of hexachlorophene at the CMRP site. It notes that the hexachlorophene facility had a chemical production capacity of 15 million pounds per year and that large storage tanks were present outside the plant (see Appendix 3.1). The article comments that Metro-Atlantic had conducted product development for the prior 3 years. Photographs in the PSJ article illustrating some of the internal features of the hexachlorophene plant are shown below as Figures 3-1 and 3-2.

The hexachlorophene manufacturing building was separate from Metro-Atlantic's main plant and was located to the south and on the east bank of the Woonasquatucket River (see Figure 2-2).

2 Providence Sunday Journal Business Weekly, May 30, 1965



—Journal Bulletin Photos by H. RAYMOND BALL

Upper level of new hexachlorophene plant at Metro-Atlantic, Inc., Centredale, showing a number of its stainless steel low and high temperature reactors

Figure 3-1. Upper level of Metro-Atlantic hexachlorophene plant

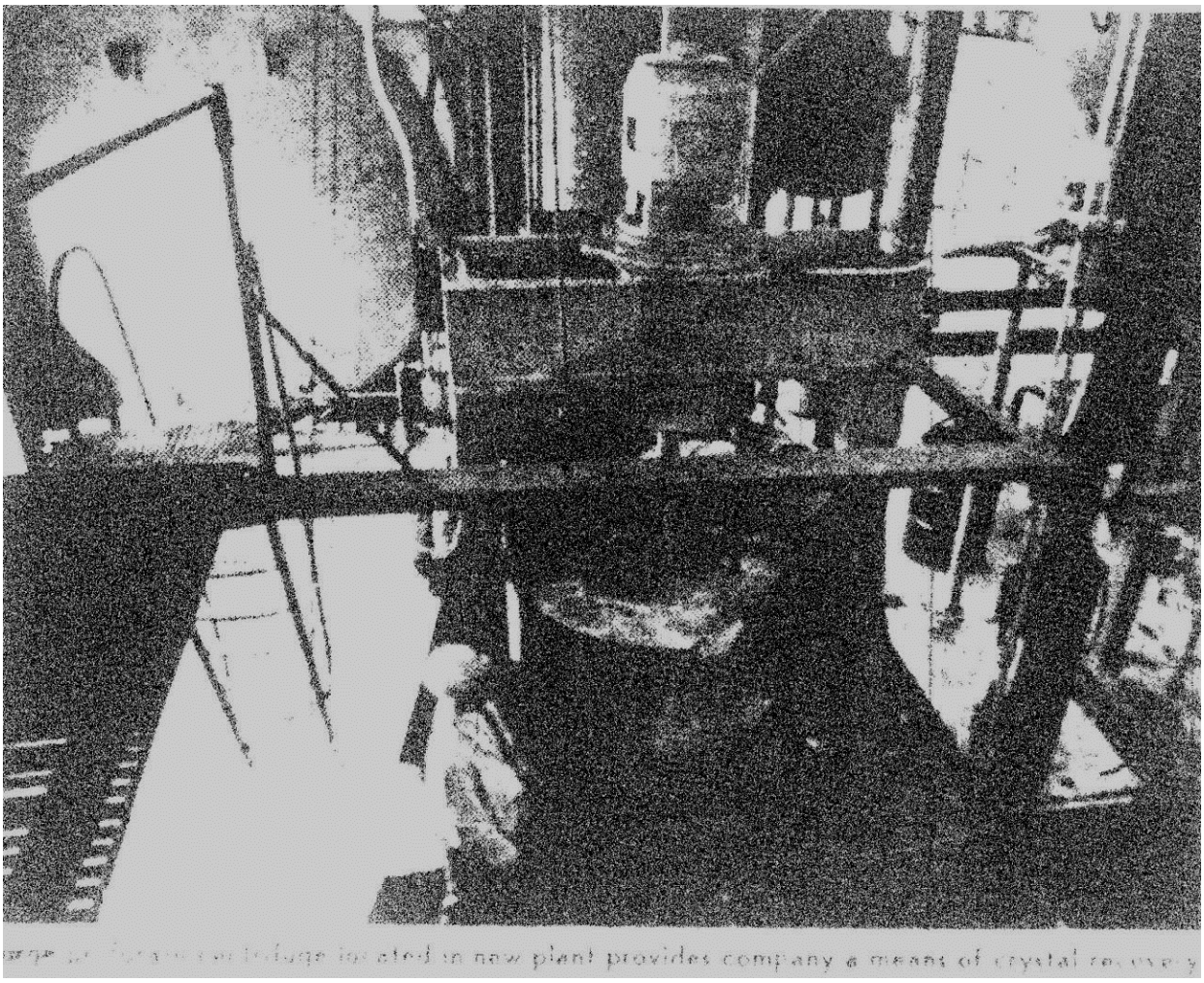


Figure 3-2. Centrifuge at Metro-Atlantic hexachlorophene plant

A timeline of hexachlorophene operations, from the early 1960s until some point after March 1966, can be constructed from the PSJ article and other documents. Appendix 3.2 contains copies of these documents.

- **May 1962—**Start of product development (based on the 3 years of product development reported by the PSJ article described above).
- **March 5 and 23, 1964—**An internal Diamond Alkali (DA) memorandum from March 5, 1964, states that DA was entering into negotiations with a potential customer for crude 2,4,5-TCP and that the potential customer will purify it. This is followed by a March 23, 1964, memo identifying Thomas Cleary of Centerchem Incorporated as having requested safety information on trichlorophenol. (Thomas Cleary is a chemical engineer who consulted with Metro-Atlantic on the hexachlorophene process and likely acted as a broker between DA and Metro-Atlantic for the sale of 2,4,5,-TCP.) These

memoranda suggest that Metro-Atlantic began to receive 2,4,5-TCP solution in early 1964 or shortly thereafter.

- **June 8, 1964—**"ZEP" manufacture (purification) bill of materials. Thomas Cleary provided this Metro-Atlantic document under deposition.[13] He described it as Metro-Atlantic's bill of materials for the purification of sodium 2,4,5-TCP, which was the first phase of the hexachlorophene ("ZEP") process.[14] This document suggests that Metro-Atlantic had begun the process in mid-1964.

- **May 30, 1965—**PSJ article described above indicates that Metro-Atlantic was ready for full-scale hexachlorophene production.

- **March 31, 1966—**An internal DA document, titled "Analysis of NaTCP–Metro-Atlantic," indicates that Metro-Atlantic was still using DA's 2,4,5-TCP in early 1966, almost 1 year after the PSJ article and 1½ years after the "ZEP manufacture" document.

- **August 24, 1966—**A letter to DA from Thomas Cleary declining DA's offer to supply a pure grade of 2,4,5-TCP. The letter states, "[F]rom the product that you sell us, we produce a grade of TCP which contains 99.5+% of the 2,4,5 Isomer, and this is the quality of material which is required for the successful operation of our process." Although Mr. Cleary does not mention Metro-Atlantic by name, based on the responses in his deposition, it is probable, if not certain, that Metro-Atlantic was being referenced.

These documents suggest that Metro-Atlantic's product development stage began in or around 1962. They also suggest that hexachlorophene production began in early to mid-1964, achieved full-scale production in or before early 1965, and continued until some point in 1966 (Figure 3-3).

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[13] Deposition of Thomas Cleary in *Emhart Industries, Inc., vs. Home Insurance Company et al*., February 10, 2003, Exhibit #8, Page 50, lines 14, 15

[14] Specifically, Mr. Cleary states that he obtained the bill of materials from George Huse and that Mr. Huse (believed to be deceased) was the Metro-Atlantic employee with primary responsibility for the hexachlorophene process. (Deposition of Thomas Cleary in *Emhart Industries, Inc., vs. Home Insurance Company et al*., February 10, 2003, Exhibit #8, Page 48, lines 17-20)

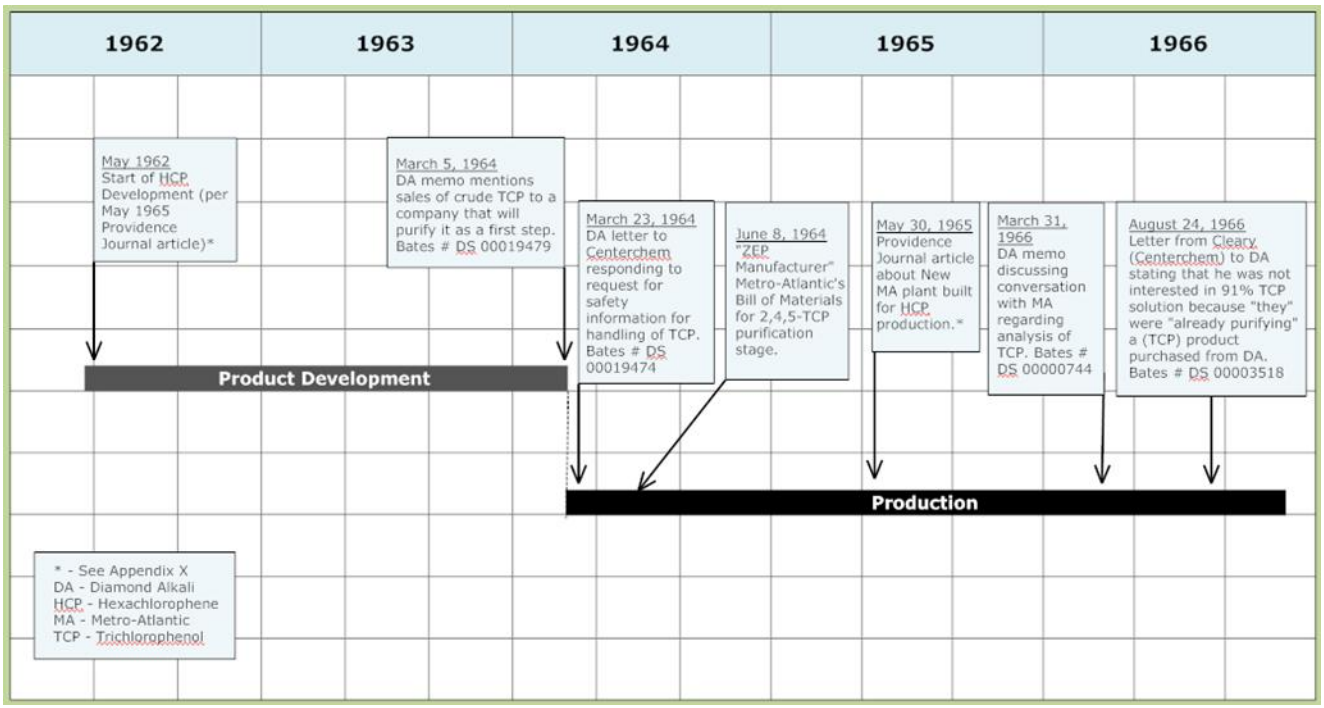

Figure 3-3. Timeline of hexachlorophene operations

3.2 Association Between Hexachlorophene and 2,3,7,8-TCDD

Production of hexachlorophene requires 2,4,5-TCP as a raw material. Metro-Atlantic is known to have purchased from DA an aqueous solution of the sodium salt of 2,4,5-TCP, which is a *crude* form of 2,4,5-TCP that required purification before it could be used in the hexachlorophene process.[15]

Based on DA data, its sodium 2,4,5-TCP solution contained about 40% 2,4,5-TCP (Table 3-1), and about 60% caustic water.[16] DA's test results for the time period from May 1965 through December 1966 indicate that its crude 2,4,5-TCP solution contained 2,3,7,8-TCDD at concentrations ranging from 7 to 38 mg/kg.[17] We estimate that the 2,3,7,8-TCDD concentration

[15] Deposition of Thomas Cleary in *Emhart Industries, Inc., vs. Home Insurance Company et al*., February 10, 2003, Page 50, lines 16–18.

[16] Values obtained from Dioxin Registry Report. Report prepared by reviewing documents from Diamond Shamrock Corporation, Diamond Alkali Company, Newark, New Jersey, Report Mo. IWS-117-16. Division of Surveillance, Hazard Evaluations and Field Studies, National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, Cincinnati, Ohio, June 1986, and Bates numbered documents that are included in Appendix 3.2.

[17] *Ibid.*

in 2,4,5-TCP itself for the same time period ranged from 19 to 90 ppm, with an average value of 40 ppm (40 mg/kg).[18]

Table 3-1. 2,3,7,8-TCDD content of Diamond Alkali's 2,4,5-trichlorophenol (TCP)

Date	2,3,7,8-TCDD in TCP Solution (ppm)	% TCP in Solution	2,3,7,8-TCDD Concentration in TCP (ppm)	Source
May-65	16	40	40	DS 00003394-3395
May-65	10	40	25	DS 00003394-3395
Jun-65	28	31	90	DS 00024548
Jun-65	38	44	86	DS 00024548
Jun-65	35	44	80	DS 00024548
Jun-65	19	36	53	DS 00024548
Jun-65	25	40	63	DS 00024548
Dec-65	22	39	56	DS 00024550-24551
Dec-65	10	34	29	DS 00024550-24551
Dec-65	12	35	34	DS 00024550-24551
Mar-66	7	36	19	DS 00024550-24551
Feb-66	16	40	40	DS 00024550-24551
Feb-66	10	46	22	DS 00024550-24551
Feb-66	7	30	23	DS 00024550-24551
May-66	17	40	43	Dioxin Registry Report
Jul-66	19	40	48	Dioxin Registry Report
Aug-66	11	40	28	Dioxin Registry Report
Nov-66	13	40	33	Dioxin Registry Report
Nov-66	20	40	50	Dioxin Registry Report
Dec-66	21	40	53	Dioxin Registry Report

3.3 Process Description

The process used by Metro-Atlantic is described by Thomas Cleary, a chemical engineer who consulted with Metro-Atlantic on the hexachlorophene process, in his 2003 deposition.[19]

[18] This value was derived by averaging the concentrations shown in Table 3-1 by month and then averaging the monthly values for the period May 1965 to January 1967.

Mr. Cleary described the first stage in the process as one of purifying the crude 2,4,5-TCP, and he provided Metro-Atlantic's bill of materials for this stage (the "ZEP" manufacture document referenced above). According to Mr. Cleary, the aqueous solution of the sodium salt of 2,4,5-TCP was delivered to the site in tanker trucks. It was stored in above-ground tanks and then used to manufacture hexachlorophene on a batch basis. The initial step was to purify the crude solution to extract pure 2,4,5-TCP. Purification involved heating and adding sodium hydroxide (caustic solution) to the TCP solution, followed by cooling and centrifuging to recover the crystallized sodium salt of TCP. The crystals were then washed with a sodium hydroxide solution and then dissolved in the organic solvent perchloroethylene (PCE), and sulfuric acid was added. The organic solvent (PCE and TCP) layer was decanted for use in the next stage of the process, and activated carbon was added to remove color. Both of the aqueous solutions used, the caustic and the acid, were likely discharged as wastewater; the ZEP manufacture document indicates that the yield of 2,4,5-TCP after purification was between 79% and 88%, meaning that 12% to 21% of the original 2,4,5-TCP and the attendant 2,3,7,8-TCDD was unrecoverable.

After purification, the 2,4,5-TCP was reacted with paraformaldehyde under heat to form hexachlorophene, with sulfuric acid added slowly to act as a condensing agent. After the acid was neutralized with calcium carbonate, activated carbon was added, and then the solution was passed through a filter press. The solution was cooled slowly to produce the desired size of hexachlorophene crystals. The hexachlorophene crystals were recovered by centrifuging and then were dried; this was the so-called "first crop" material that was shipped to Stirling Winthrop (SW). The liquid (PCE with some hexachlorophene) that passed through the centrifuge, the so-called "mother liquor," was further processed to recover the PCE for re-use, and the residue—the "second crop" of hexachlorophene that was not of sufficient purity for sale to SW—was sold to Kalo Labs for use as a seed disinfectant. [20]

When describing the process of making hexachlorophene, Mr. Cleary mentioned that the process was "tricky," implying that it was not easy to produce batches that met the customer's stringent quality requirements.[21] The PSJ article mirrors his comments by reporting information from George Huse that the hexachlorophene process at Metro-Atlantic involved *"a number of highly complicated chemical reactions"* and included "*such chemical processes as purification, crystallization, recovery of reactor media, drying, grinding , and packaging."* It also notes that

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[19] Deposition of Thomas Cleary in *Emhart Industries, Inc., vs. Home Insurance Company et al*., February 10, 2003.

[20] Deposition of Thomas Cleary in *Emhart Industries, Inc., vs. Home Insurance Company et al.*, February 10, 2003, Page 42-43.

[21] "…[T]here are very tricky chemical aspects to the manufacture of hexachlorophene which one can only determine by experimental work of trying to make the substance in the laboratory. And one of them, the primary one, is that in order to get good yields of a good product, you need to start with a raw material – namely, 2,4,5-trichlorophenol – which is very high in purity. Another important aspect of manufacturing it is that the proportions of the reaction – the reactants that you use in this preparation have to be exact with relationship to one another. If there is too much of one and not enough of another, why the results are not good, the yield is not good, the quality is not good, and, accordingly, the cost is bad and the customer is not interested." Deposition of Thomas Cleary in *Emhart Industries, Inc., vs. Home Insurance Company et al*., February 10, 2003, Page 22, lines 7-22:

the process required *"a dozen different stainless steel, glass lined low and high temperature reactors."* This information suggests that Metro-Atlantic likely generated wastes from bad batches, which waste may have been placed in the onsite dump or otherwise discharged to the environment.[22]

EPA's 1984 document titled *Waste Streams from Hexachlorophene Manufacturing Processes* states that two grades of hexachlorophene were produced, which led to differences in the process and waste streams.[23] The two grades were pharmaceutical grade and pesticide grade. The Metro-Atlantic process was designed to produce a pharmaceutical-grade hexachlorophene for use in antibacterial soap. According to EPA, this type of process was likely to generate waste streams with higher dioxin content than the pesticide process because of the high purity requirements of the final product. The major waste streams identified by EPA were filter solids, still bottoms, and wastewater.

As indicated above, Metro-Atlantic had a customer for what may have been "pesticide"-grade hexachlorophene. The so-called "second crop" was sent to Kalo Labs for use as a pesticide and seed disinfectant. It is not known, however, when Metro-Atlantic began shipping this unusable material to Kalo and how the material was managed before that time. Nor is it known to what extent the cleaning of process-related vessels, in particular the centrifuge, may have contributed to the waste streams. Mr. Cleary mentions that the centrifuge used for the purification of the 2,4,5-TCP feedstock may also have been used to separate the final product, after "appropriate cleaning up."[24]

In addition to 2,3,7,8-TCDD, PCE and 2,4,5-TCP, another compound, hexachloroxanthene (HCX), is associated with the hexachlorophene process (page iii of the EPA RI Executive Summary provided in Appendix 1.1). HCX was likely present in the hexachlorophene (first and second crop) and waste streams generated from the process after the purification and reaction stages.[25] HCX has been found throughout the CMRP site, and its presence is evidence that wastes were, in fact, generated and released after the purification stage. The presence of HCX at the site is reviewed in Section 4.2 and as part of the forensic analysis presented in Section 5 of this report.

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[22] Routine discharge of waste by Metro-Atlantic to the Woonasquatucket River is supported by deposition testimony of former workers in *Emhart Industries, Inc., vs. Home Insurance Company et al.*litigation. In addition, the affidavit of Charlotte Knott, former quality manager for Atlantic Chemical and Metro-Atlantic, describes the company's products formulation using large quantities of chemicals mixed in "kettles," where the "waste material," "waste water [from cleaning vessels]," and "bad batches of materials that could not be saved" were "drained from the kettles into the Woonasquatucket River." Her affidavit also supports the fact that the company made hexachlorophene. (Administrative Record, File Break 10.4, 25909)

[23] Kulkarni, S.V., and J.A. Kowalski. 1984. Waste streams from hexachlorophene manufacturing processes, Final draft. U.S. Environmental Protection Agency. March.

[24] "… [F]inally, the product which had crystallized was filtered out in that centrifuge. I think the same one that was used to separate the purified trichlorophenol. After appropriate cleaning up, of course." Deposition of Thomas Cleary in *Emhart Industries, Inc., vs. Home Insurance Company et al*., February 10, 2003. Page 42, lines 8–10.

[25] The health risk associated with this compound has not been quantified, nor has a PRG been developed, because the required dose/response relationship has yet to be determined. Its presence at the site is reviewed herein, however, and in the forensic analysis in Section 5 of this report.

In addition to importing raw material containing 2,3,7,8-TCDD, Metro-Atlantic may have attempted to make 2,4,5-TCP at the site during the 3-year product development stage, and if it did, it likely would have inadvertently generated 2,3,7,8-TCDD in this process. This possibility is suggested in a March 1999 letter to EPA from John Burton, formerly of DA, in which he states that he was contacted about trichlorophenol in the 1960s by a man named "Bonano," who Mr. Burton thought was manufacturing it in the Providence area.[26] Members of the Buonanno family were owners and managers of Metro-Atlantic (and also NECC).

3.4 2,4,5-TCP Purification Stage

There is a general lack of specific information about Metro-Atlantic's waste streams, which limits our ability to quantify the amount of 2,3,7,8-TCDD released by Metro-Atlantic. However, the site data described in later sections of this report confirm that releases did, in fact, occur. Losses from the 2,4,5-TCP purification stage, discussed in this section, were not the only waste stream or release mechanism from the hexachlorophene operation. Using the limited information that is available, we 1) estimated how much 2,3,7,8-TCDD might have been imported onto the site; 2) on that basis, estimated the amount of 2,3,7,8-TCDD "lost" during purification; and 3) compared the loss to an estimate of the mass of 2,3,7,8-TCDD in CMRP sediments based on sampling data.

3.4.1 Purification-Stage Losses

Mr. Cleary, in his February 10, 2003, deposition, produced a Metro-Atlantic document titled "*ZEP Manufacture Phase #1*," which shows material quantities and the expected yield of pure 2,4,5-TCP from the purification stage of the hexachlorophene process (reproduced below as Figure 3-4).[27] This document indicates that, for every 1,000 pounds of 2,4,5-TCP in the crude solution, a yield of between 787 and 880 pounds of purified 2,4,5-TCP could be achieved.[28] Thus, during the purification process, approximately 12% to 21% of the 2,4,5-TCP present in the feedstock was not recovered; this lost 2,4,5-TCP was likely entrained in the aqueous waste stream generated by the centrifuge.

After recovery, purified 2,4,5-TCP was dissolved in PCE, and carbon was then added to remove color. As discussed in Sections 4 and 5, PCE, 2,4,5-TCP, 2,3,7,8-TCDD, and HCX are all found at the site and around the former hexachlorophene building.

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[26] Burton, John J. 1999. Letter to Mr. Mendoza at EPA, dated March 5, 1999.

[27] Thomas Cleary deposition, in *Emhart Industries, Inc., vs. Home Insurance Company et al*., United States District Court for the District of Rhode Island, February 10, 2003, Page 92.

[28] It is our understanding that Nuchar, a type of activated carbon, was added at the end of the purification process to remove color from the recovered (purified) 2,4,5-TCP/ perchloroethylene solution.

6/8/64

ZEP Manufacture

Phase #1:

Purification Equipment:

Steel tank equipped with cooling jacket and gate type agitator and centrifuge.

Basic Charge:

Lbs.	Materials
--	Sodium TCP (Concentration 36-38%) So as to contain 1000 lbs. TCP contained
5280	30% Caustic Soda
800	30% Caustic Soda (Wash)
450	66° Be' Sulfuric Acid (Precipitating acid)
370	66° Be' Sulfuric Acid (Purification acid)
4800	Perchloroethylene
10	Nuchar
10	Fiber Flo
1000	Theo. Yield (Total Isomers)
787	Minimum Yield TCP
880	Maximum Yield TCP
650C	Melting Point (Minimum)

PLAINTIFF'S EXHIBIT 8 CLEARY-Photo 3

Figure 3-4. Metro-Atlantic bill of materials for 2,4,5-trichlorophenol purification

3.4.2 Comparison of 2,3,7,8-TCCD Lost in Purification and Mass in Sediment

The calculation of the 2,3,7,8-TCDD mass input and waste from the purification stage assumes 1 year of operation, daily usage of 1,000 pounds of 2,4,5-TCP for 250 days per year, as well as other parameters discussed above. The calculation is shown in Figure 3-5 below:

Estimated Mass of 2,3,7,8 TCDD Waste from TCP Purification Stage			
Months of operation	12	months	
days of operation	250	days	Calculated, assuming 250 work days per year
Mass pure TCP	1,000	lbs/day	Cleary Deposition/Exhibit 8
2,3,7,8 TCDD content of TCP	40	mg/kg TCP	Diamond Alkali Average 1965-1966
Pure TCP brought into site	113,000	Kg	Calculated
2,3,7,8 TCDD brought onsite	**4.6**	Kg	Calculated
TCP content of Crude TCP solution	39%		Cleary Exhibit 8 (Metro-Atlantic's purification stage mass balance)
Crude TCP solution used	291,000	Kg	Calculated from above
Volume of Crude TCP solution	61,000	gallons	Calculated assuming density of 1.25 kg/L for crude TCP
Number of tanker trucks	**12.2**	Assume truck of 5,000 gallon capacity	
	low	high	
% TCP lost in purification stage	12%	21%	Loss of yield in purification stage (Exhibit 8)
2,3,7,8-TCDD waste from TCP purification	**0.55**	**0.96**	Kg
Estimated 2,3,7,8 TCDD in sediment			
Allendale Pond	0.17	Kg	
Lyman Mill Pond	0.18	Kg	
	0.35		

Figure 3-5. Estimate of 2,3,7,8-TCDD imported and lost in 2,4,5-TCP purification stage

The following approximate quantities were derived:

- For each year of full-scale operation, Metro-Atlantic imported approximately 5 kg of 2,3,7,8-TCDD onto the CMRP site.
- The volume of crude 2,4,5-TCP solution used in 1 year was about 61,000 gallons of solution. This implies the need for about twelve 5,000-gallon capacity tanker trucks a year, or about 1 every month.
- 2,3,7,8-TCDD released as waste from the purification stage was between 0.6 and 1 kg per year (i.e., about 20% of the 2,3,7,8-TCDD contained in the feed).
- This leaves approximately 4 kg of 2,3,7,8-TCDD in the process, subject to release from other steps (not quantified here).

The estimated mass of 2,3,7,8-TCDD in Allendale Pond and Lyman Mill Pond sediments was derived using the data in the EPA database for the 0- to 2-ft depth range. Non-detect results were treated by assuming that the compound was present at a concentration equivalent to the detection limits provided in the database—this approach acts to maximize the mass, which is a conservative assumption for this analysis. Concentrations were first interpolated onto uniform virtual 3-ft mesh grids using the tension spline algorithm in the ArcGIS Spatial Analyst extension.[29] The mass of 2,3,7,8-TCDD in each pond is estimated to be approximately 0.17 kg.

Although not definitive, the above analysis shows consistency between one of the many possible 2,3,7,8-TCDD release pathways from Metro-Atlantic and all of the 2,3,7,8-TCDD impact seen at the CMRP.

As discussed above, there likely were other release sources of 2,3,7,8-TCDD from Metro-Atlantic over the period during which it developed and manufactured hexachlorophene. The site data show that releases did, in fact, occur. As detailed in Sections 4 and 5 below, releases (spills or otherwise) occurred at the site of the former hexachlorophene manufacturing building, where soils and/or groundwater show the presence of chemicals related to the hexachlorophene process (PCE, 2,4,5-TCP, HCX and 2,3,78-TCDD), comparably high levels of 2,3,7,8-TCDD at the dump area, and a clear forensic signature in sediments consistent with a distinct source of 2,3,7,8-TCDD.

3.5 Discharge Pipe

Because the crude 2,4,5-TCP contained about 60% water, the purification stage would have generated wastewater that would have required disposal. A former employee, John Turcone, indicated in his deposition that there was a discharge pipe from the hexachlorophene manufacturing building to the Woonasquatucket River. Mr. Turcone, employed by Metro-Atlantic from August 1963 through January 1965, described, and drew on a figure, a pipe that extended from the hexachlorophene building into the Woonasquatucket River.[30] Figure 3-6

[29] The mass of 2,3,7,8-TCDD in the sediment of Allendale and Lyman Mill ponds was estimated by using the sediment concentrations, moisture content and the specific gravity of the sediments. In order to estimate the concentrations, moisture and specific gravity throughout the ponds, the data was averaged and then interpolated according to the following procedures: 1. All concentrations were averaged in the 0-2ft range to generate one value for each sampling location. 2. Using ArcGIS Spatial Analyst, all sampling locations within the ponds and within 50 feet of the pond edges were interpolated to a 3ft grid using the tension spline method. 3. The interpolated results (concentration, moisture content, and specific gravity) were combined at each grid point to calculate the mass of 2,3,7,8-TCDD in each 2 ft x 3ft x 3ft grid cell. The masses from each cell (67,542 cells for Allendale Pond and 126,749 cells for Lyman Mill Pond) were summed to generate estimates of the mass of TCDD contained in the sediments of each pond.

[30] "Q. Looking at Exhibit 3, Mr. Turcone, can you pinpoint for me that area where the pipe came out that would become eroded by the acid? A. Well, in building --- Mr. Binder: Objection. A. Well, in Building 4, where it says, Woonasquatucket, it came out right about where the T is. Q. Could you circle that T and put a 5 by it, please. (Witness complies)." John Turcone deposition in *Emhart Industries, Inc., vs. Home Insurance Company et al*., United States District Court for the District of Rhode Island, December 16, 2002, Page 33, lines 6-15.

provides that figure, with an added enlarged insert that shows the hand-drawn pipe coming from the hexachlorophene building.

Mr. Turcone described the pipe as having to be replaced every 2 weeks due to acid corrosion, stating:

> "The reason why is because they used to drain in the river to a black iron pipe, and they would have to change the pipe about every two weeks, because it would just erode the pipe where it became very porous, and if you looked at it, it looked, from going around, it became elliptical, it just ate right through it."[31]

We note that acid corrosion is consistent with the use of sulfuric acid in the hexachlorophene process purification stage (Figure 3-4).

The pipe may have provided a direct pathway for wastes containing 2,3,7,8-TCDD to enter the river. The dates of Mr. Turcone's employment also suggest that Metro-Atlantic was already running the hexachlorophene process before the publication of the PSJ article—i.e., prior to May 1965. This is consistent with the above-discussed June 1964 date on the bill of materials for TCP purification.

The potential for one or more pipes to have been associated with the production building is further supported by a recent soil removal action conducted by Emhart Industries to remediate PCE and 2,3,7,8-TCDD-containing soil beneath the former hexachlorophene production building. During that excavation, a number of pipes were unearthed.

[31] John Turcone deposition in *Emhart Industries, Inc., vs. Home Insurance Company et al*., United States District Court for the District of Rhode Island, December 16, 2002, Page 20, lines 2-8.

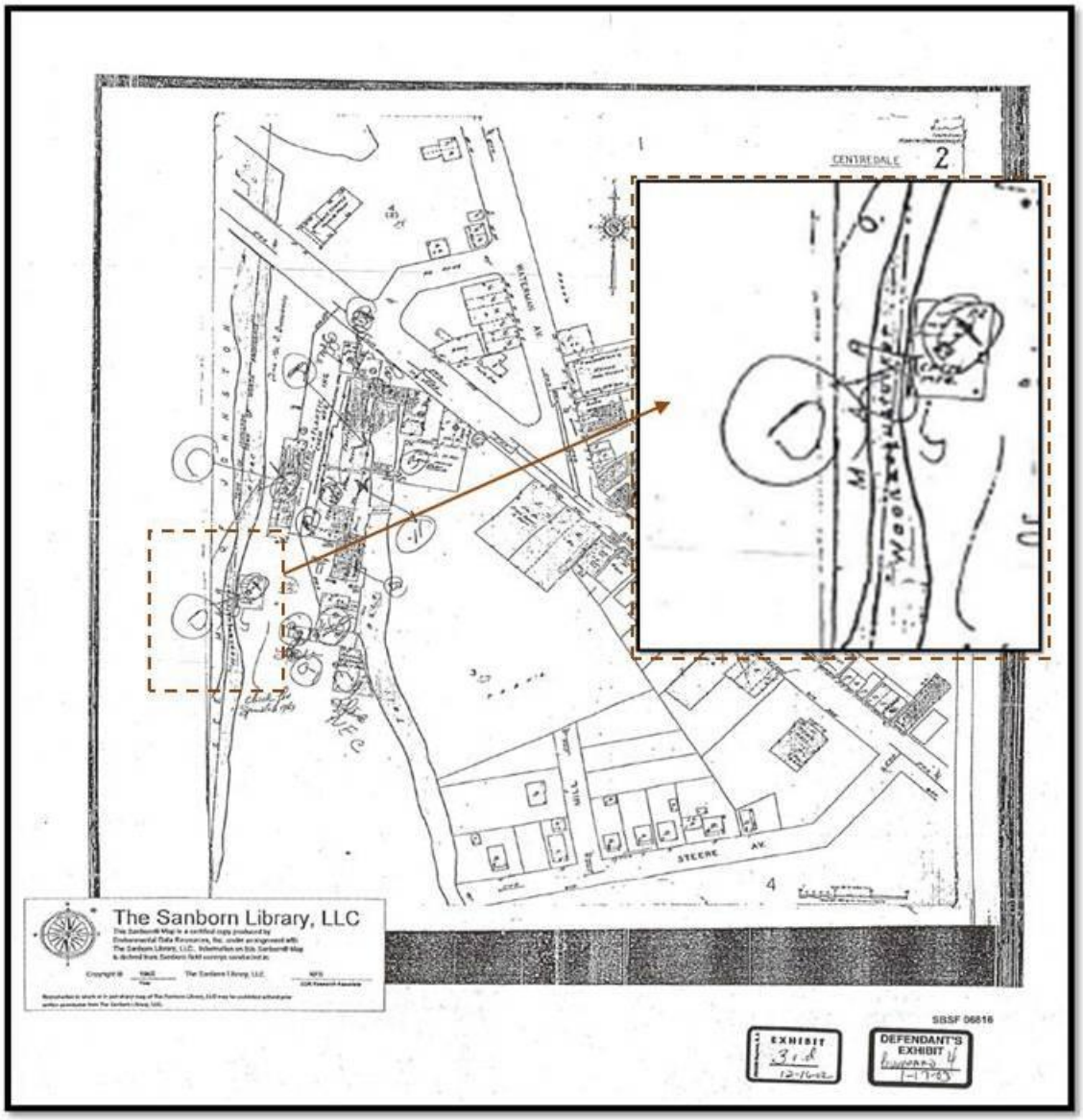

Figure 3-6. Exhibit 3 from 12-16-2002 deposition of J. Turcone (insert added)

4 Contaminants and Locations of Operations

This section presents the results of mapping that we performed using data for key contaminants, mainly for the Source Area (a statistical examination of the data is provided in Section 5). The mapping shows compelling associations between locations of former operations at the site and the risk-driving contaminants (2,3,7,8-TCDD and PCBs), and also chemicals related to the hexachlorophene process (2,4,5-TCP, PCE, and HCX). Other compounds, including pesticides and heavy metals, are presented to allow a visual comparison across compounds associated with the Metro-Atlantic hexachlorophene process and those not associated with that process (perhaps associated with the other Metro-Atlantic operations and/or NECC).

4.1 2,3,7,8-TCDD

The mapping of detected concentrations of 2,3,7,8-TCDD at the Source Area shown in Figure 4-1 clearly indicates high concentrations of 2,3,7,8-TCDD in soils near the location of Metro-Atlantic's former hexachlorophene manufacturing building and in the southern dump, in contrast to other parts of the site. The high 2,3,7,8-TCDD concentrations seen in the southern dump can be attributed to Metro-Atlantic waste trucking activity.[32] The value of 140,000 ng/kg, occurring at both locations, was the highest concentration of 2,3,7,8-TCDD found at the site during the RI. No such peaks are seen in the vicinity of NECC or areas immediately to the south of NECC that were used for drum storage. Accordingly, this figure presents strong evidence of releases of 2,3,7,8-TCDD from Metro-Atlantic's operation and not NECC's.

Releases of 2,3,7,8-TCDD from Metro-Atlantic are also evidenced by the pattern of concentrations of 2,3,7,8-TCDD in groundwater, as shown in Figure 4-2. The levels found in groundwater are related to the presence of PCE, where PCE is attributable to the Metro-Atlantic

[32] Mr. Raymond Nadeau, a NECC employee between 1956 and 1969, in his September 2006 testimony, establishes Metro-Atlantic's use of the dump site. He testified as follows when asked about Metro-Atlantic personnel discarding materials at the dump site located south of the NECC plant: *"Just the [Metro-Atlantic] truck drivers went down there. That's all I seen, the truck drivers went down there, and they dumped it, then they brought the empty barrel back to us."* [Raymond Nadeau trial testimony September 14 and 15, Page 74, lines 4−7]. In earlier testimony, Mr. Raymond Nadeau described the types of materials disposed of at the dumpsite as including plastic bags, and sand from sandblasting, as well as "black sludge." [Raymond Nadeau trial testimony September 14 and 15, 2006, Page 73, lines 3−8.] During his deposition testimony, Mr. Nadeau stated that the black sludge came from Metro-Atlantic's presses. [Raymond Nadeau deposition testimony, December 17, 2002, Page 16, line 7−16.] Mr. Nadeau stated that "a few times a week" Metro-Atlantic made this type of disposal into the dump site for the duration of his employment at NECC. [Raymond Nadeau trial testimony September 14 and 15, 2006, Page 79, lines 16−25.] Mr. Nadeau again confirmed that Metro-Atlantic used the dump site located below the NECC plant by stating that his brother-in-law, Felix Palumbo, a truck driver for Metro-Atlantic, would honk his horn at Mr. Nadeau as he traveled to and from the dump. [Raymond Nadeau trial testimony September 14 and 15, 2006, Page 80-81, lines 14–25.] Mr. Nadeau goes on to describe the grading operation that occurred at the dump site, stating: *"They just pushed everything into the point…. [w]here they [the rivers] came together."*

operation, as discussed in Section 3.3. In fact, this area of high 2,3,7.8-TCDD was remediated in 2009 by Emhart Industries (see Section 4.9).

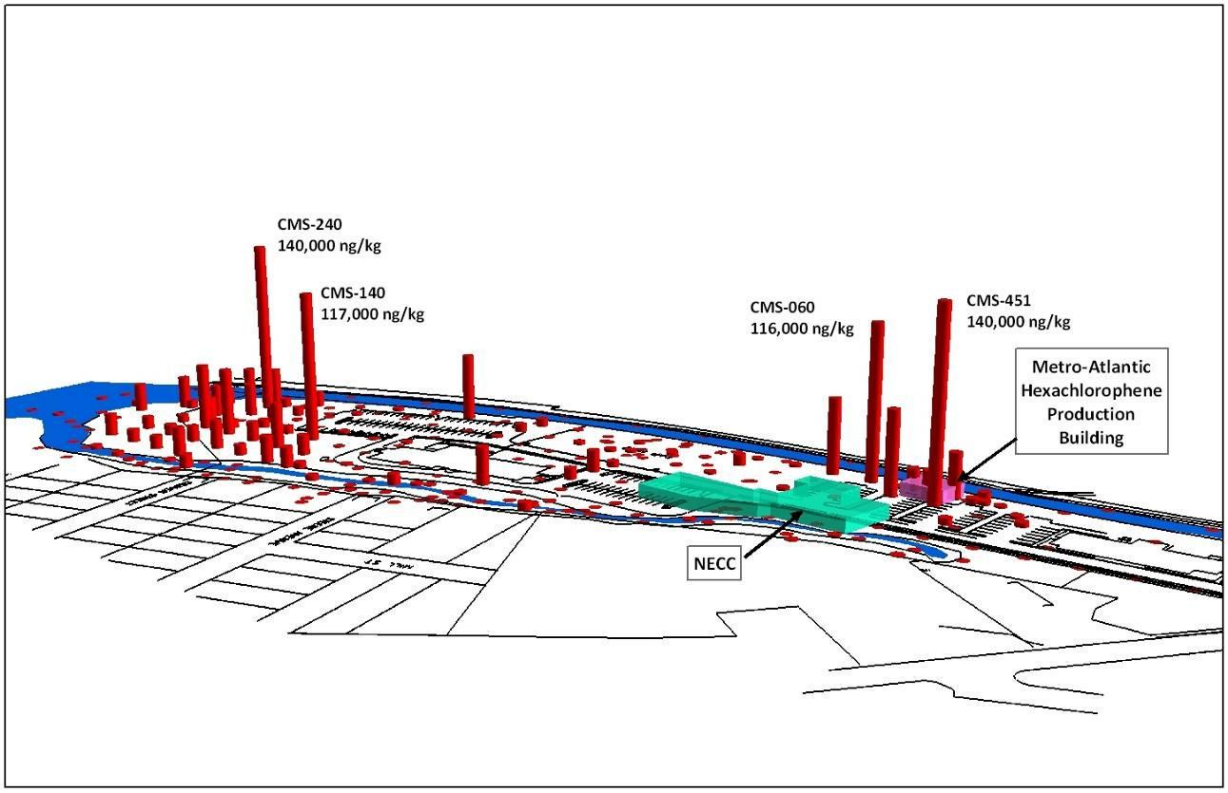

Figure 4-1. Detections of 2,3,7,8-TCDD at the Source Area

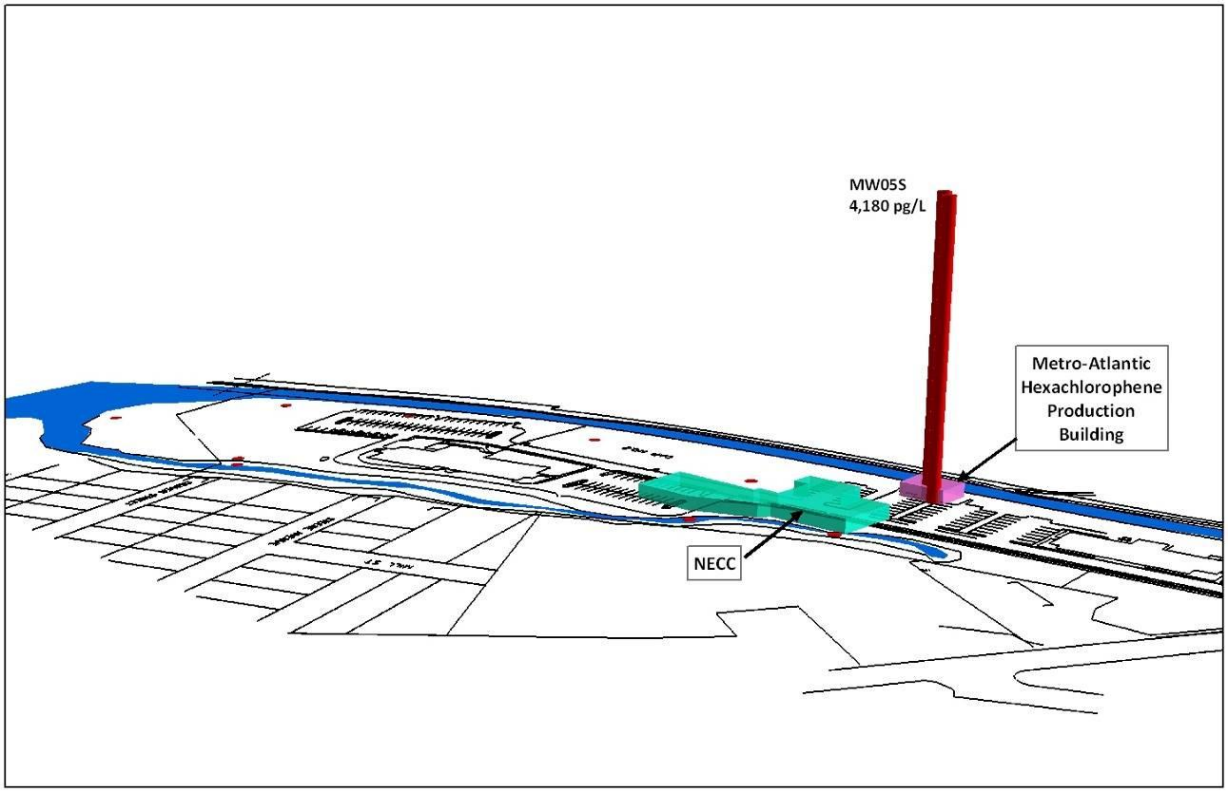

Figure 4-2. Detections of 2,3,7,8-TCDD in groundwater

4.2 Perchloroethylene

Perchloroethylene (PCE) was used as a raw material in Metro-Atlantic's hexachlorophene operation as the carrier solvent for 2,4,5-TCP (at a rate of 4,800 lbs, or about 350 gallons for every 1,000 lbs of 2,4,5-TCP processed). PCE is a solvent used in industry, typically for degreasing, and as such, may possibly have been present in small amounts in drums that were sent to NECC for reconditioning. However, as shown in Figure 4-4, Metro-Atlantic's former hexachlorophene building is indicated as the source of PCE in groundwater. Also note the correlation between PCE and 2,3,7,8-TCDD in groundwater (Figures 4-2 and 4-4). In 2009, Emhart conducted a removal action in the area of the former hexachlorophene building to address issues related to the PCE/TCDD contamination (see Section 4.9).

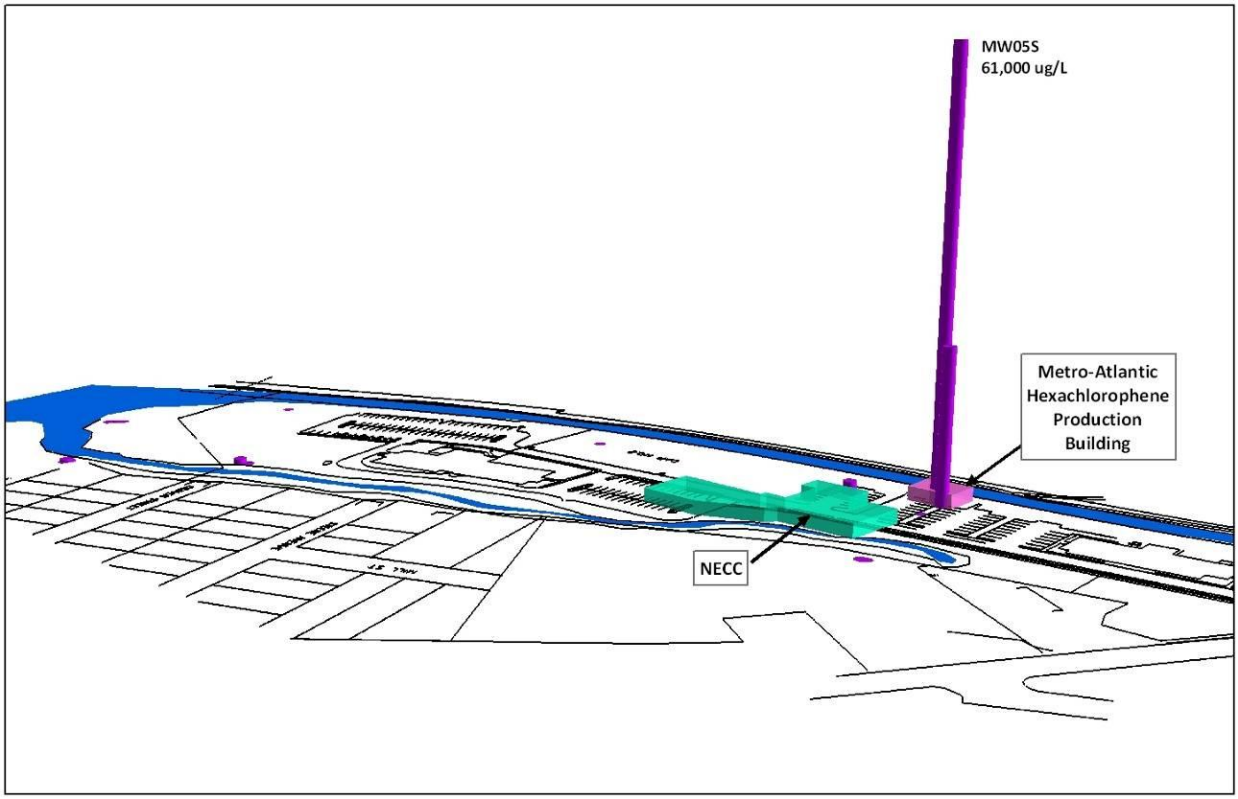

Figure 4-4. Detections of PCE in groundwater at the CMRP site

4.3 2,4,5-TCP

As discussed in Section 3, 2,4,5-TCP was part of the hexachlorophene process. Because 2,4,5-TCP degrades readily in the environment, it is not expected to persist far from its source.[33] As shown in Figure 4-5, 2,4,5-TCP was detected at 7 of 213 sampling locations at the CMRP site: two of these are within or very near the footprint of the former Metro-Atlantic hexachlorophene building, another is to the south of this area, two are at the southern waste disposal area, and two are to the south of NECC in or near the water channel known as the "tail race." As shown below, the only high levels detected were at the fomer hexachlorophene building, indicating that releases from Metro-Atlantic's hexachlorophene operation did occur. Furthermore, there is no evidence that NECC ever received 2,4,5-TCP from any customer except perhaps Metro-Atlantic, consistent with a lack of 2,4,5-TCP detections within its area of operation. Considering persistence, the 2,4,5-TCP pattern is consistent with that observed for 2,3,7,8-TCDD (Figure 4.1).

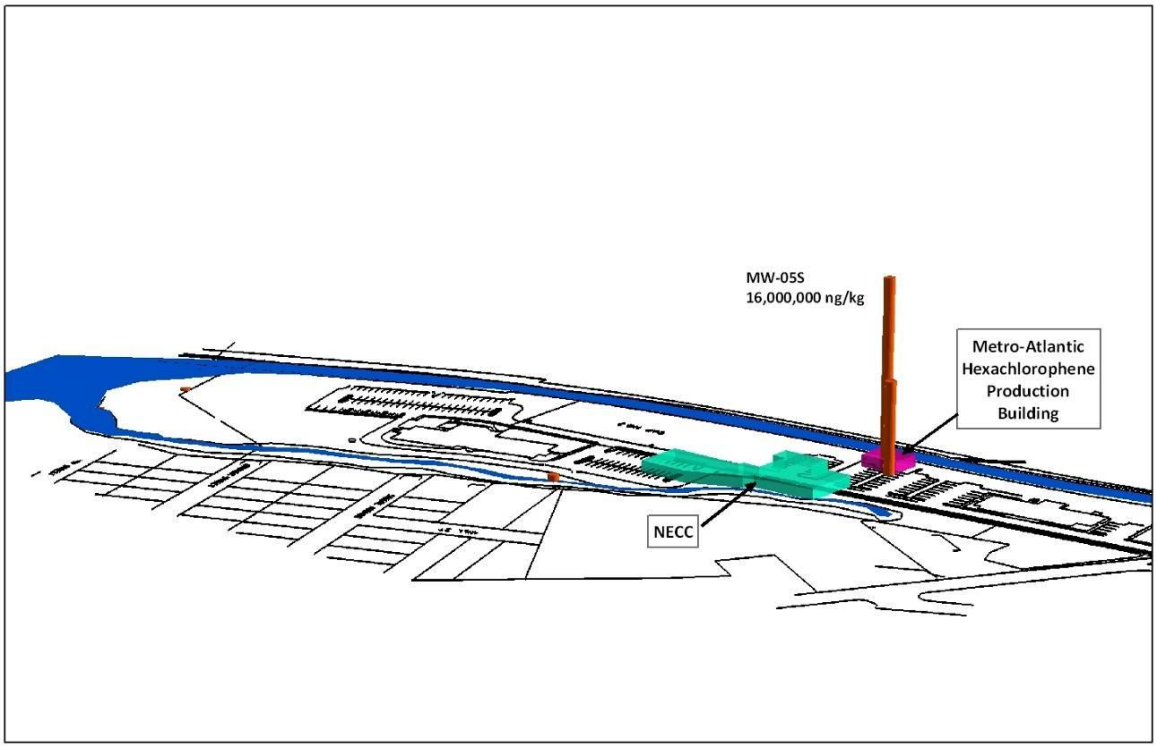

Figure 4-5. Detections of 2,4,5-TCP at the CMRP site

[33] Mackay et al. (1995) and the Hazardous Substances Databank (2002) provide numerous estimates from the literature of environmental half-lives for 2,4,5-TCP; these are typically on the order of days for soils and sediments and hours for release to surface water. See for example: Illustrated Handbook of Physical-Chemical Properties and Environmental Fate for Organic Chemicals, Volume IV: Oxygen, Nitrogen, and Sulfur-Containing Compounds. Donald Mackay, Wan Ying Shiu, Kuo-Ching Ma. CRC Press, 1995. Hazardous Substances Databank file for 2,4,5-trichlorophenol found at http://ds.datastarweb.com/ds/products/datastar/sheets/hsdb.htm; last accessed January 31, 2010

4.4 HCX

Figure 4-3 indicates the highest concentrations of hexachloroxanthene (HCX) in the tail race, south of NECC. The data pattern indicates that at least some HCX-containing waste was disposed of in this area. The one sampling location (MW-05S) under the Metro-Atlantic building that was analyzed for HCX also has elevated concentrations of the chemical. It is unknown whether elevated levels are present at the southern dump site, because these samples were not analyzed for HCX. However, an important observation is that the spatial distribution of HCX concentrations, where measured, is different from the distribution of 2,3,7,8-TCDD in Figure 4-1. As discussed in Sections 3 and 5, these two contaminants are associated with two different steps in the HCP process (2,3,7,8-TCDD with the 2,4,5-TCP feedstock and its purification, and HCX with the product and its handling). The data indicate that Metro-Atlantic likely handled the associated wastes differently. This is consistent with other sites contaminated by hexachlorophene operations, which have also reported a low correlation between these two contaminants.[34]

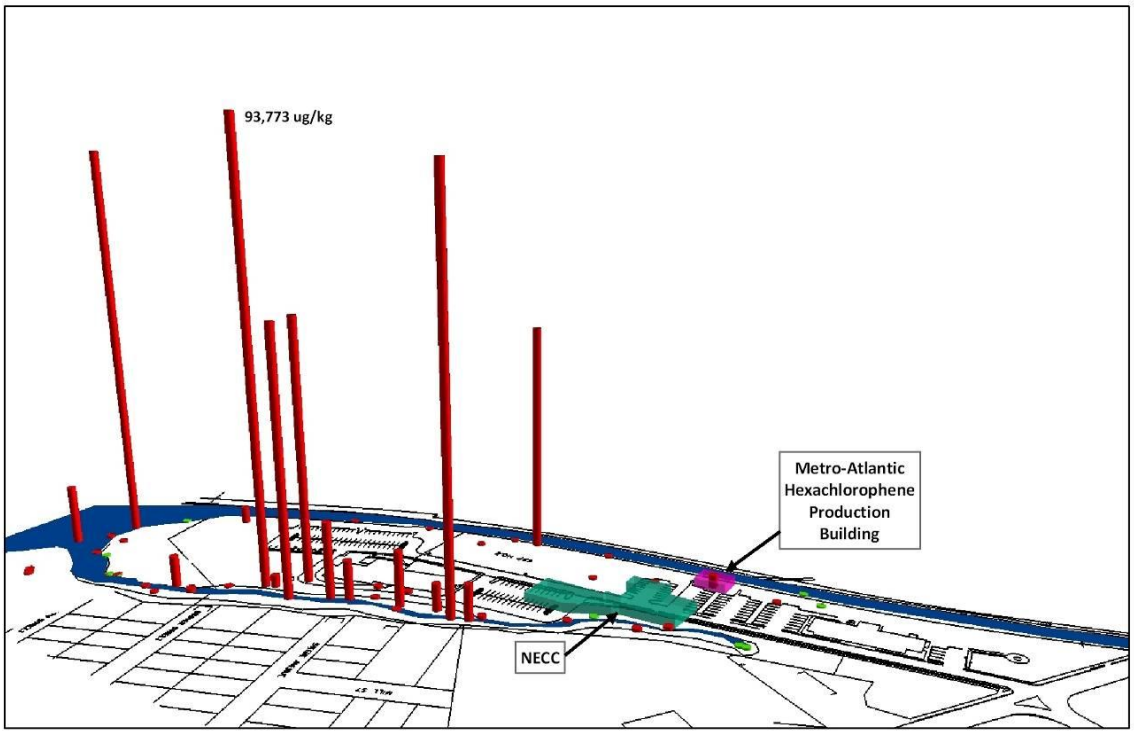

Figure 4-3. Detections of HCX at the Source Area

[34] Viswanathan, T.S., and R.D. Kleopfer. 1986. The presence of hexachloroxanthene at Missouri dioxin sites. In: C. Rappe, G. Choudhary, and L. Keith (Eds.). Chlorinated dioxins and dibenzofurans in perspective. Lewis Publishers, Chelsea, Michigan, pp. 201–210. The authors analyzed HCP waste products directly for TCDD and HCX, as well as soil samples from a range of sites. All samples linked with HCP manufacturing contained varying amounts of HCX comparable to levels of 2,3,7,8-TCDD concentrations, but in highly variable ratios. The samples from a 2,4,5-T manufacturing site, where HCP was not made, did not contain HCX at detectable levels.

4.5 PCB Aroclor® 1254

The pattern for PCB Aroclor® 1254 is remarkably different from apparent impacts associated with the HCP process (i.e., 2,3,7,8-TCDD, PCE, 2,4,5-TCP, and HCX). Figure 4-6 shows that the highest levels at the Source Area are located to the south of NECC (in an area where it likely stored drums) and also in the southern waste disposal area. Although NECC likely shares responsibility for these PCBs, this does not necessarily mean that the NECC Customer Group was responsible. Metro-Atlantic may have contributed to the levels seen near NECC during the time prior to NECC's incorporation when Metro-Atlantic (or its predecessor Atlantic Chemical) used at least a portion of what was to become the NECC facility for barrel storage, and subsequently, from 1953 to around 1967, when NECC serviced Metro-Atlantic predominantly. The NECC Customer Group also represents only 13 of the customers of NECC over the years it operated. Any of the other 67–77 customers could have been a source of PCBs.

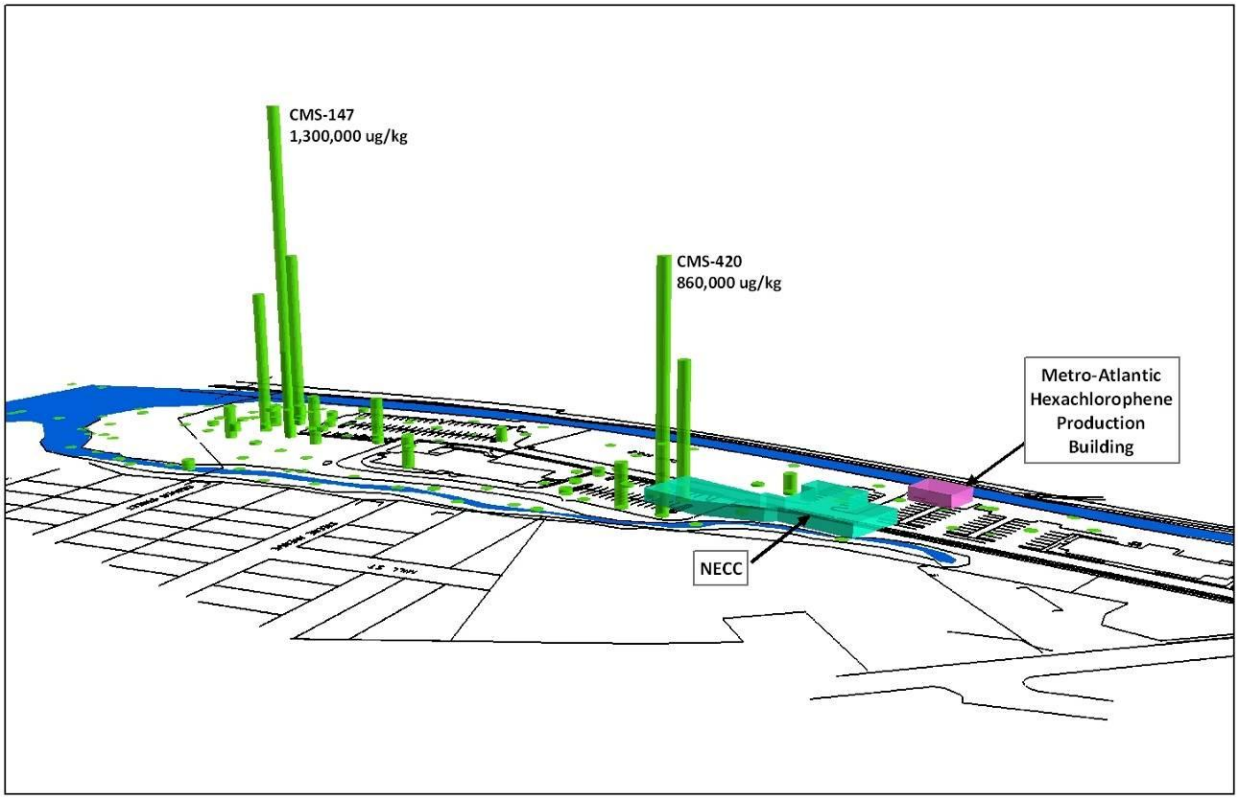

Figure 4-6. Detections of Aroclor® 1254 at the Source Area

4.6 OCDD

Octachlorodioxin (OCDD) is a member of the dioxin and furan family, with toxicity approximately 1/10,000 of that of 2,3,7,8-TCDD. As such, it makes only a small contribution to the site risks.[35] OCDD is generated from a very large list of precursors and in a great variety of combustion and non-combustion processes, and is present in the atmospheric background from regional combustion sources and atmospheric pentachlorophenol releases (which reacts in the atmosphere to form OCDD). It was found in virtually all samples for which it was analyzed.[36] As shown in Figure 4-7, the highest concentrations are seen to the south of NECC in an area that showed relatively low levels of 2,3,7,8-TCDD. OCDD was not measured in many samples, particularly around the dump area, and missing bars should not be interpreted as a lack of OCDD, but rather as areas where OCDD concentrations are unknown (i.e., no sample data).

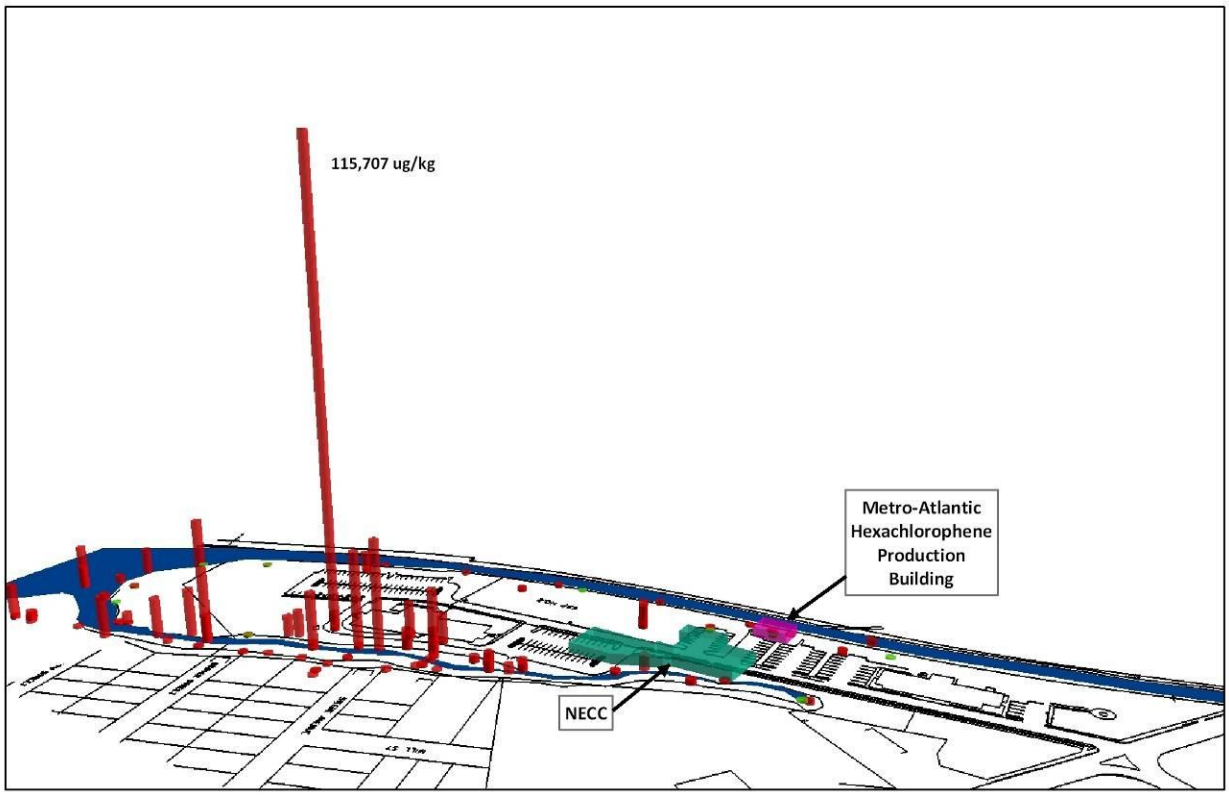

Figure 4-7. Detections of OCDD at the Source Area

[35] EPA BHHRA (2005) Table D-1

[36] It should be noted that most of the samples taken in the southern dump were not analyzed for dioxins and furans other than 2,3,7,8-TCDD; thus, the levels of OCDD in this area are unknown.

4.7 Pesticides

The levels of the three pesticides for which EPA has derived PRGs, dieldrin, DDE, and chlordane are shown in Figures 4-8, 4-9, and 4-10, respectively. No clear patterns are evident, but the highest levels are around NECC (i.e., for dieldrin and DDE in particular at one location to the west of NECC), and within the southern end of the Source Area (southern dump). The spatial patterns associated with these chemicals are clearly different from those associated with Metro-Atlantic-related compounds, and they appear to be more consistent with releases at the NECC operation or associated with pesticide use as was typical during that time.

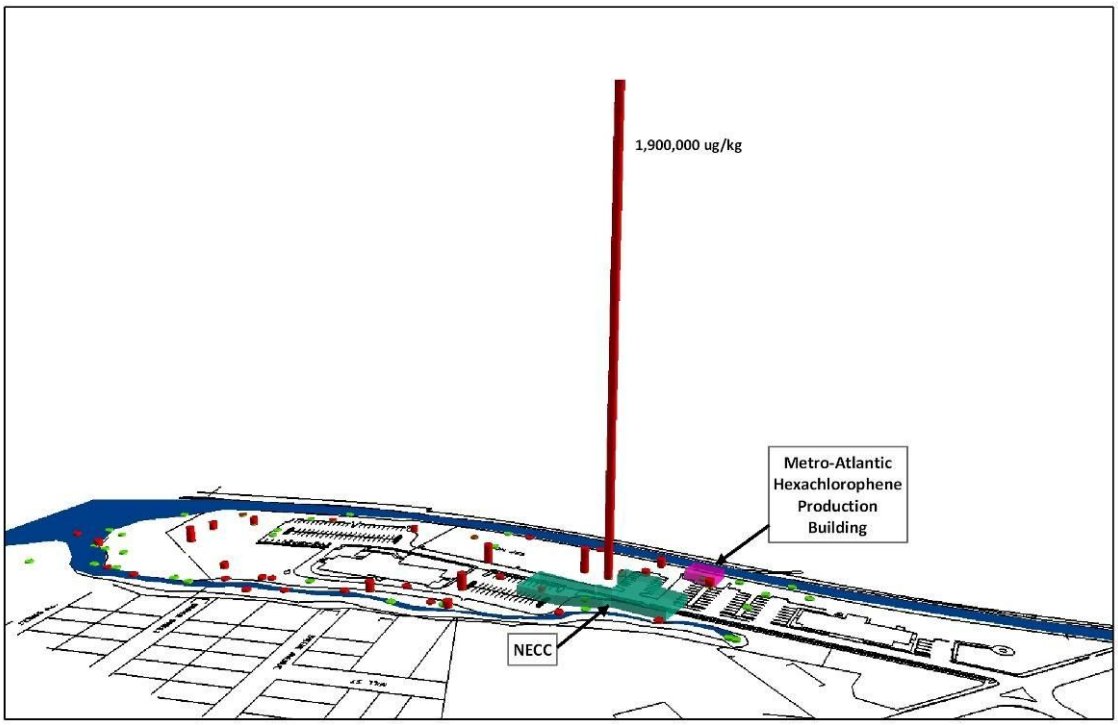

Figure 4-8. Detections of dieldrin at the Source Area

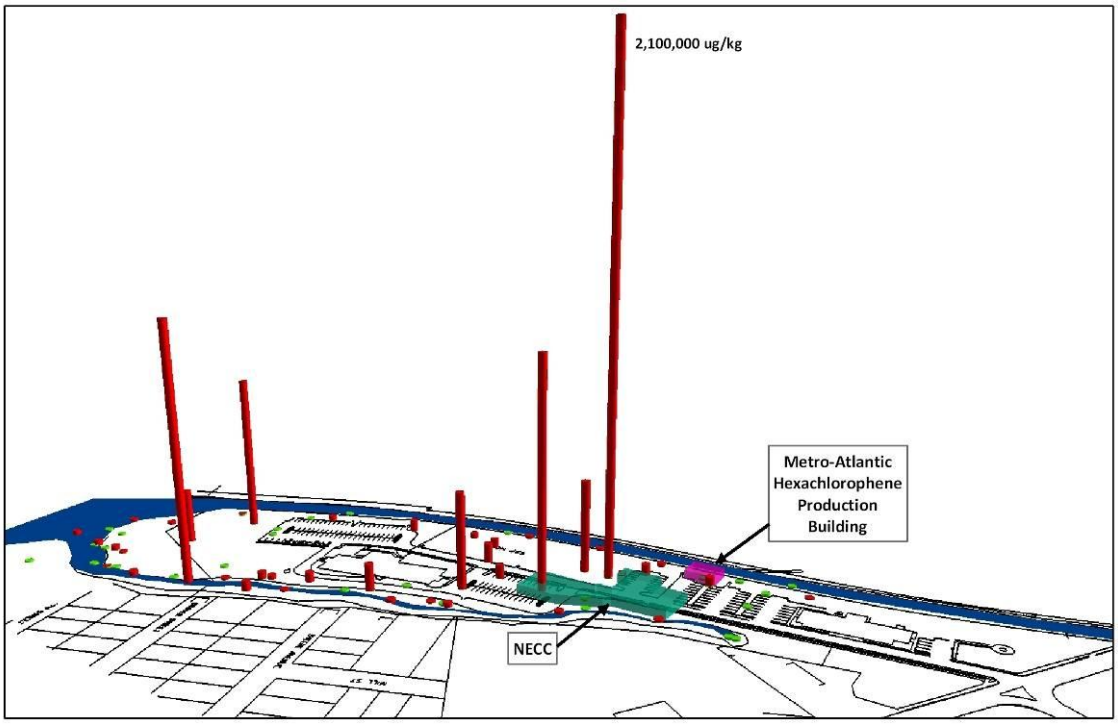

Figure 4-9. Detections of DDE at the Source Area

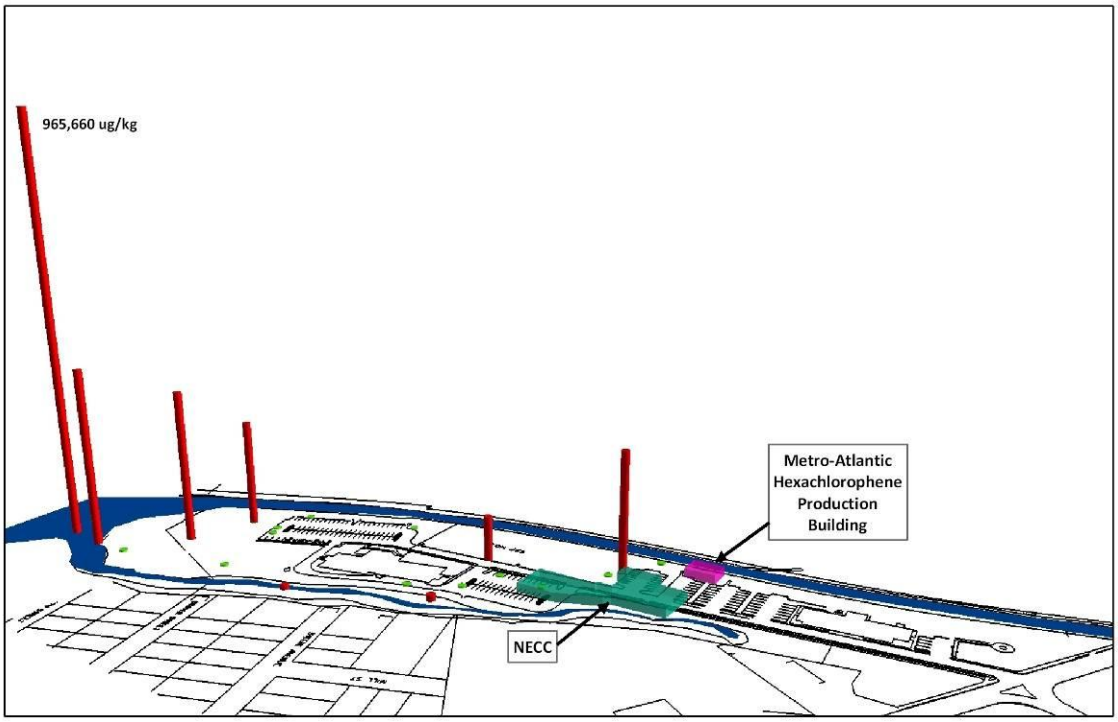

Figure 4-10. Detections of chlordane at the Source Area

4.8 Metals

The levels of cadmium, chromium, and lead are shown in Figures 4-11, 4-12, and 4-13, respectively. No clear patterns are evident, but the highest levels of chromium and cadmium are found to the west of NECC; lead levels are highest at NECC and to the south. As with the pesticides, the distributions are clearly different from those associated with Metro-Atlantic related compounds.

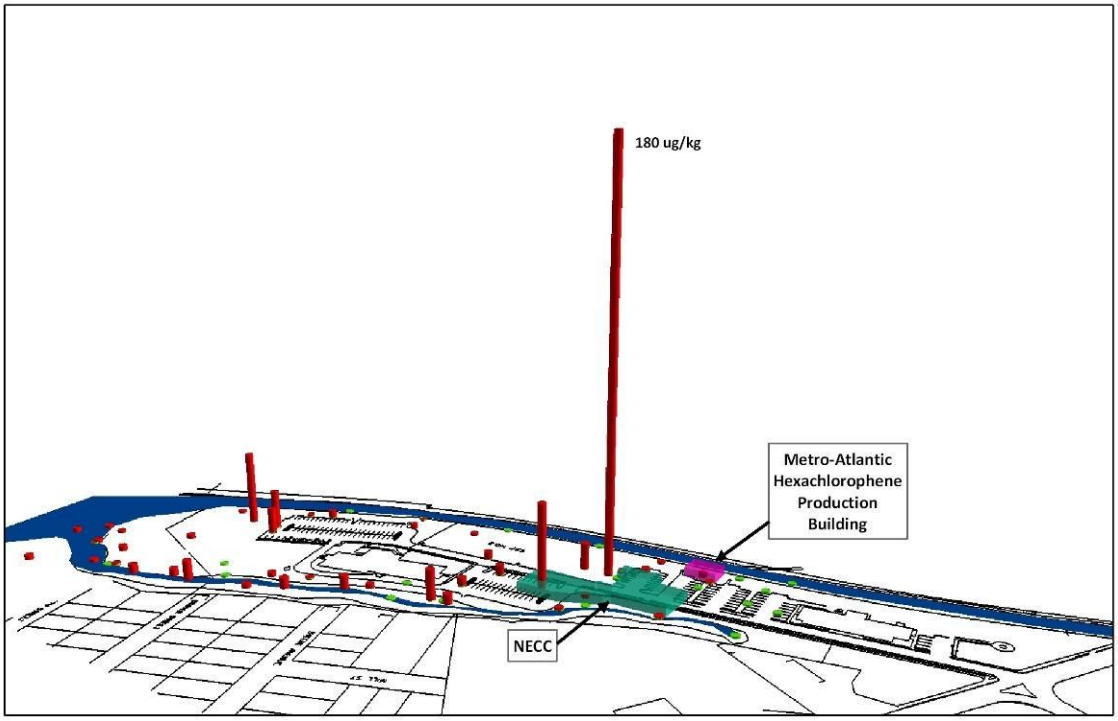

Figure 4-11. Detections of cadmium at the Source Area

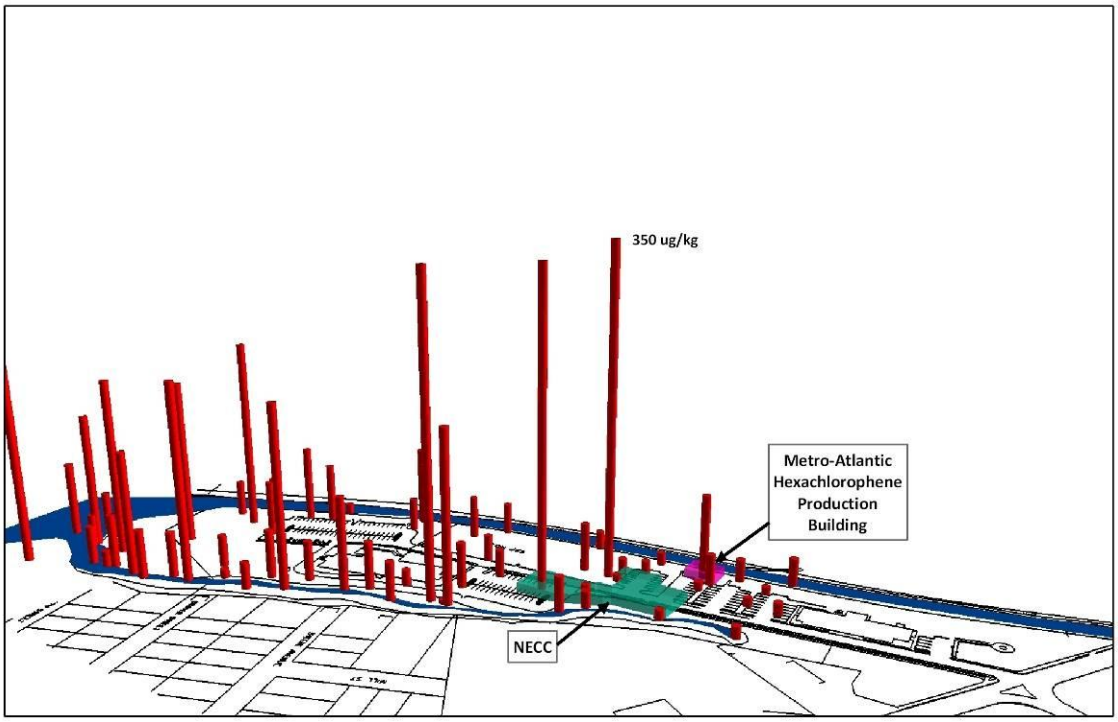

Figure 4-12. Detections of chromium at the Source Area

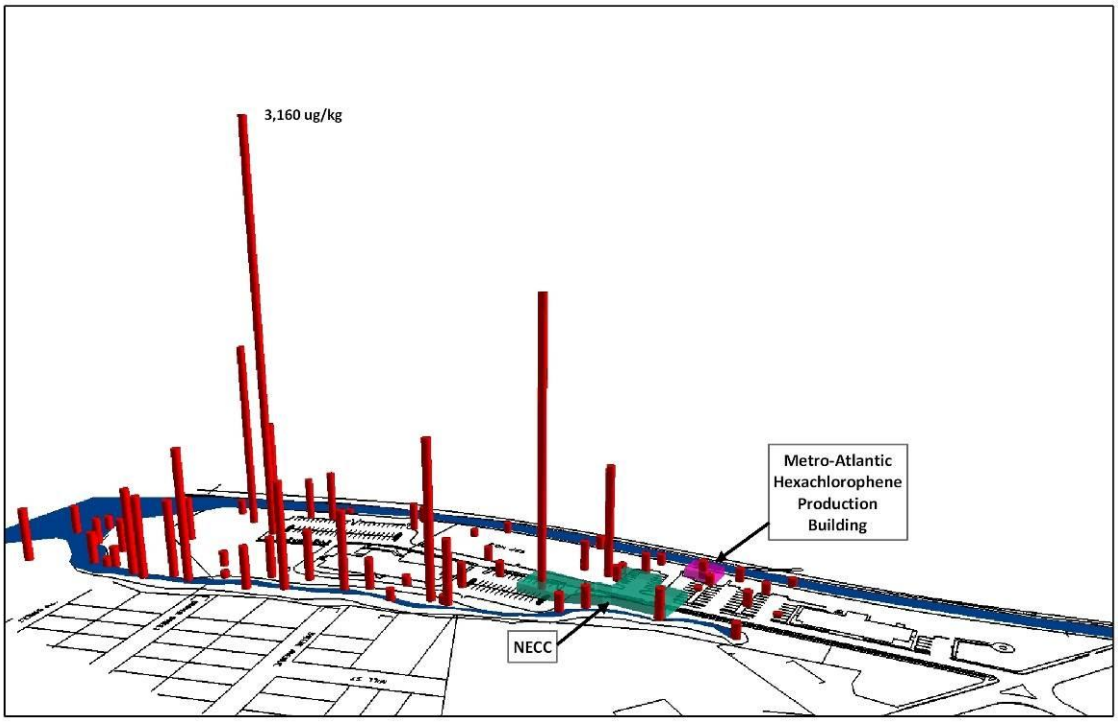

Figure 4-13. Detections of lead at the Source Area

4.9 2009 Time-Critical Removal Action

On behalf of Emhart Industries, Loureiro Engineering Associates, Inc. (LEA) reported on a Time-Critical Removal Action that occurred during the second half of 2009 to address the soil and groundwater contamination in the area of monitoring well MW-05S.[37] This is the area of the former hexachlorphene manufacturing building. We understand that, due to the presence of PCE and dioxins, EPA was concerned that the shallow groundwater in this area could present an ongoing pathway for contaminants to enter the Woonasquatucket River.

LEA installed three monitoring wells in the area in 2008 to characterize the groundwater in the area. Sampling of the soils and drill cuttings from these wells revealed detections of both 2,3,7,8-TCDD (maximum 33,400 ng/kg) and 2,4,5-TCP (maximum 4,900 µg/kg).

The removal action consisted of excavating more than 2 million kg (2,200 tons) of soil and sediment. The excavation was terraced, with successively deeper excavations from the east to the river bank extending approximately 5 ft below the river bed. A three-dimensional representation of the excavation area, along with the TCDD concentrations and TCP concentrations in the area, can be seen in Figures 4-14 and 4-15.

Appendix D of the LEA report contains soil sampling results that are not mentioned in the text of the report. These samples were collected from the area of excavation before work began, to characterize the soils and sediment that were shipped to Canada for disposal. The results for twelve samples show 2,3,7,8-TCDD concentrations that range from 800 ng/kg to 170,000 ng/kg. The 170,000-ng/kg value exceeds the highest 2,3,7,8-TCDD concentration previously measured at the CMRP site.

The LEA report describes two angled monitoring wells that were installed prior to backfilling. One of these wells was placed on the upstream edge (north) of the excavated area, and the other was placed on the downstream (south) edge of the excavation. Presumably, these wells were placed to confirm the effectiveness of the removal action by monitoring the groundwater quality in a zone where it might interact with the waters of the Woonasquatucket River (i.e., to assess discharging groundwater quality)—they are shown as being screened approximately 2 and 4 ft out from the river's edge and 2 feet below the river bottom. Five samples were collected on February 2, 2010, with a maximum 2,3,7,8-TCDD concentration of 6.7 pg/L.

[37] LEA. 2010. Completion of work report time-critical removal action: Shallow groundwater remedy-groundwater action area; Centredale Manor Restoration Project Superfund site. February 2010. Comm. No. 15RP901.

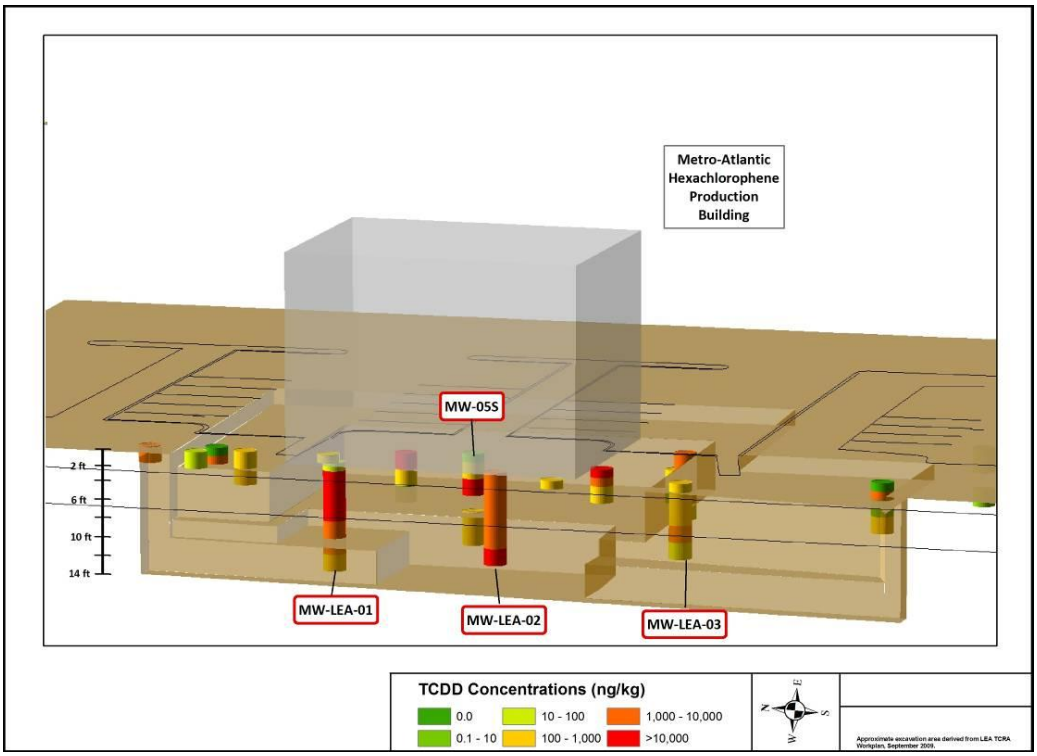

Figure 4-14. TCDD concentrations in excavation area

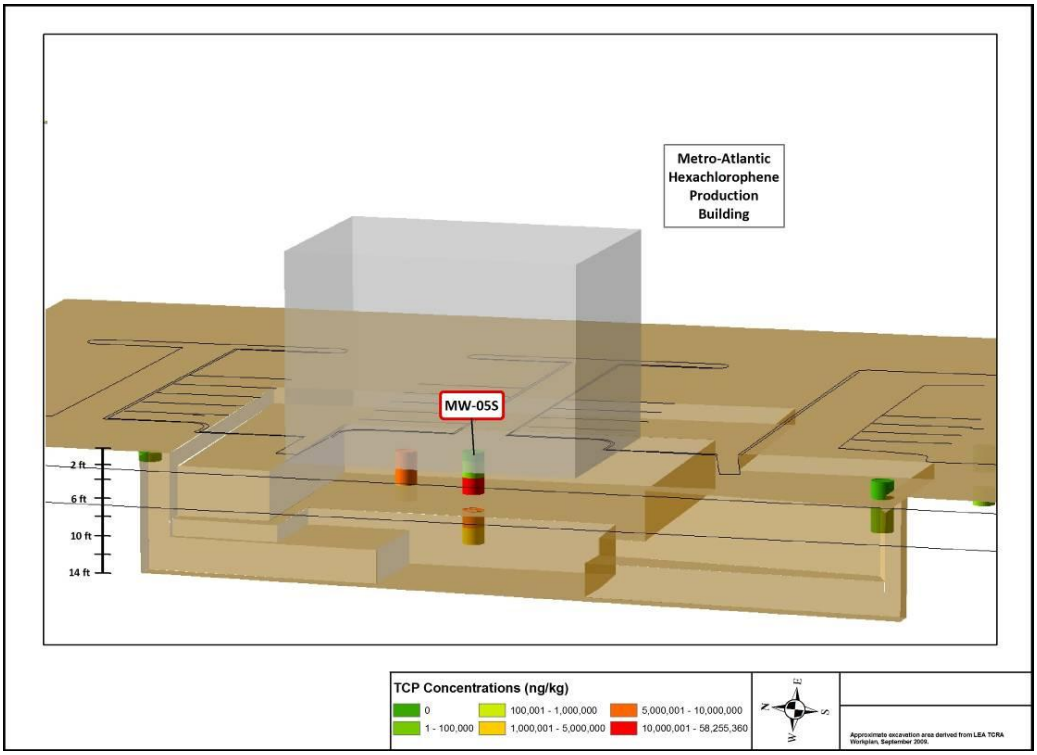

Figure 4-15. 2,4,5-TCP concentrations in excavation area

5 Fingerprinting Data Analysis

5.1 Purpose and Tools

A given chemical process releases chemicals into the environment in combinations that are characteristic of that process. For example, several combustion sources generate a mixture of different dioxin and furan congeners, which are dominated by OCDD and HpCDD.[38] Figure 5-1 shows the fingerprint of diesel truck emissions. This fingerprint is similar to the fingerprints from industrial wood combustion and sewage sludge incineration, as well as the dioxins associated with the widely used wood preservative pentachlorophenol (PCP) (not a combustion source; dioxins form from PCP in the atmosphere[39]). On the other hand, wastes from the manufacture of 2,4,5-trichlorophenoxyacetic acid (2,4,5-T, an Agent Orange component) contain mostly 2,3,7,8-TCDD and negligible quantities of other dioxin congeners.[40]

This source-specific composition of chemicals in waste streams is called a fingerprint, because like human fingerprints, it can be used to distinguish one source from another and to determine whether environmental samples contain emissions from one or more sources. As explained below, environmental fingerprinting is a collection of tools used to find source fingerprints in environmental samples, in order to determine the identity of the contributing sources.[41]

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[38] U.S. EPA. 2003. Exposure and human health reassessment of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD) and Related Compounds. National Academy Sciences (NAS) Review Draft. http://www.epa.gov/ncea/pdfs/dioxin/nas-review/ (Accessed December 4, 2009).

Buekens, A., E. Cornelis, H. Huang, and T. Dewettinck. 2000. Fingerprints of dioxin from thermal industrial processes. Chemosphere 40(9 11):1021–1024.

Cleverly, D., J. Schaum, G. Schweer, J. Becker, and D. Winters. 1997. The congener profiles of anthropogenic sources of chlorinated dibenzo-p-dioxins and chlorinated dibenzofurans in the United States. Presentation at Dioxin ’97, the 17th International Symposium on Chlorinated Dioxins and Related Compounds, held August 25-29 in Indianapolis, IN, USA. Short paper in Organohalogen Compounds, Volume 32:430–435.

Hagenmaier, H., V. Dawidowsky, U.B. Weber, et al. 1990. Emission of polyhalogenated dibenzodioxins and dibenzofurans from combustion-engines. Organohalogen Compounds 2:329–334.

[39] Baker, J.I., and R.A. Hites. 2000. Is combustion the major source of polychlorinated dibenzo-p-dioxins and dibenzofurans to the Environment? A mass balance investigation. Environ. Sci. Technol. 34(14):2879–2886.

[40] Rappe, C, H.R. Buser, and H-P. Bosshardt. 1978. Identification and quantification of polychlorinated dibenzo-p-dioxins (PCDDs) and dibenzofurans (PCDFs) in 2,4,5-T-ester formulations and herbicide orange. Chemosphere 5:431–438.

[41] Murphy, B.L., and R.D. Morrison (Eds.). 2007. Introduction to Environmental Forensics, Second Edition. Academic Press.

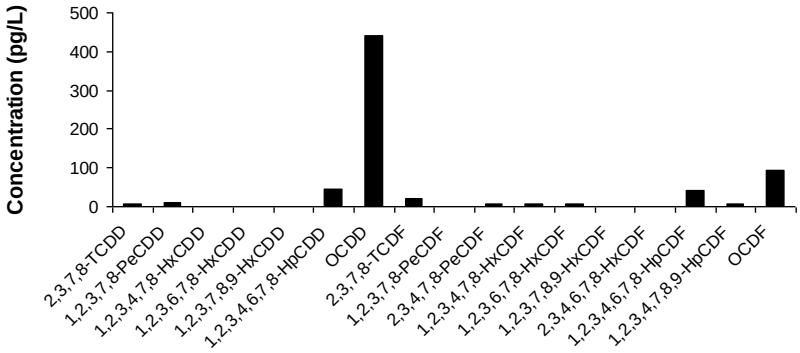

Figure 5-1. Example fingerprint of diesel truck emissions (Hagenmaier et al. 1990)

Fingerprinting analysis relies on two fundamental conditions that ensure that the source-specific fingerprint compositions are preserved to some statistically detectable level in environmental samples: first, once source material is released into the environment, it mixes incompletely with emissions from other sources; second, the compounds that characterize a given source are chemically stable, or persistent, in the environment.

Under these conditions, the original source fingerprints are preserved to varying degrees in the samples taken from the site. Fingerprints are best preserved near the source origin where mixing processes are minimized. With transport away from the source, the emission is diluted, and it mixes with the emissions of other sources. However, this mixing is incomplete in the sense that the heterogeneous nature of sediments and transport processes will not mix the various source emissions equally in all locations, leaving associations between all or some compounds in each source fingerprint intact and detectable in samples throughout the site, in both soils and sediments, although sediments can experience a greater degree of mixing than soil. Only in situations where multiple sources released chemicals into a turbulent medium that thoroughly mixed the emissions, even in close proximity of the release points and well prior to the time of sampling, would fingerprints be rendered undetectable.

Compounds like dioxins, furans, and PCBs are extremely stable in the environment regardless of transport processes, and this recalcitrance property makes them ideal for this composition-based fingerprinting analysis. In the case of less recalcitrant compounds, such as PCE, fate processes (e.g., biological and chemical degradation) will result in mass loss. If several such compounds are released in a mixture, differences in degradation rates will alter the original fingerprint composition, and these compounds are less suited for a composition-based fingerprinting analysis. However, if large quantities are released, such compounds will still be detected near the source decades after their release. Thus, individual compounds that are markers of certain industrial activities can still be used to help identify the local source based on their presence and location.

It is often the case in environmental data sets that the large number of samples and chemicals is overwhelming for a visual evaluation alone. Statistical methods greatly facilitate the process of

identifying the preserved association among chemicals. Chemicals that are consistently associated in many samples indicate a common occurrence in a fingerprint and thus a common source.

The tools used in fingerprinting include both visual examination of the chemical composition of samples and statistical evaluations of these compositions. As presented below, methods used in this analysis include visual comparisons of sample composition, tracer chemical analysis (hexachloroxanthene, perchloroethylene, 2,4,5-TCP), analysis of correlations between contaminant pairs, and a statistical decomposition method known as polytopic vector analysis (similar to positive matrix factorization, or PMF, a method promoted by the U.S. EPA via its PMF 3.0 public domain software[42]). All of these methods seek to identify stable associations between two or more chemicals. The ability to "unmix" the mixed sample compositions and recover the original source fingerprint is "best" in polytopic vector analysis; i.e., it can identify the actual composition of source fingerprints consisting of many different (persistent) chemicals, from many different sources, and with a complex pattern of incomplete mixing in the environment.

These methods, as well as evidence gained from maps and site history, presented in preceding sections are used to *complement* each other. Together, these approaches contribute to a weight-of-evidence process toward determining the most likely identity of contamination sources.

5.2 Data Validation

The chemistry data set used in these analyses was the externally validated Centredale Manor Database available from EPA. As described below, the reliability and adequacy of the data were tested for hexachloroxanthene (HCX) and dioxins by reviewing laboratory reports of selected samples.

5.2.1 Review of Laboratory Reports

Raw laboratory reports were obtained from EPA archives in Boston for samples selected such that they represent:

- Samples from upstream areas, Allendale sediment, source-area soil, and tail race sampling locations
- A range of detected concentrations, but no nondetects

[42] U.S. EPA. 2008. EPA Positive Matrix Factorization (PMF) 3.0 Model and User's Guide. http://www.epa.gov/heasd/products/pmf/pmf.html. Last accessed February 1, 2010.

- All three laboratory categories (Triangle Labs, BCO, and "unknown")
- In the Source Area, when possible, deep (up to 4 ft) soil samples to avoid samples from disturbed soil (e.g., construction activities).

However, in the boxes made available at the EPA, sufficient laboratory documentation could be found for only a subset of the identified candidate samples, which resulted in validation for samples from BCO laboratories only. The final list of samples is shown in Appendix 5.1, along with the detailed validation findings. Below is a short summary of the findings for HCX and dioxins.

5.2.2 Hexachloroxanthene Data

HCX is a tracer chemical uniquely identified with hexachlorophene manufacturing[43](see also Section 3.3), and it has not been associated with the production of 2,4,5-TCP or 2,4,5-T.[44] If present in sediment/soil samples at Centredale Manor, it indicates that the hexachlorophene manufacturing facility at the site released waste materials into the environment. Thus, the critical goal of data validation was to determine whether HCX has been correctly identified in the Centredale Manor samples.

The data indicate the definitive presence of this chemical. All sample results for HCX are flagged as estimated values (J-flag) due to the fact that HCX was not part of the target chemical list. A review of the laboratory documentation found that adequate procedures were followed to conclude that HCX was present in the samples and is present at the site (see Appendix 5.1).

5.2.3 Dioxin and Furan Data

Dioxin congeners, particularly 2,3,7,8-TCDD, are the critical component for purposes of the comparisons in the fingerprinting. The dioxin congener data at the Centredale Manor site were found to be of acceptable quality. Furan data may be biased high for some congeners due to the lack of second column confirmation analysis; however, furan data are not needed for distinguishing the source of 2,3,7,8-TCDD, and thus, the possibility of this bias does not affect the conclusions with regard to 2,3,7,8-TCDD sources (see Appendix 5.1).

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[43] Viswanathan, T.S., and R.D. Kleopfer. 1986. The presence of hexachloroxanthene at Missouri dioxin sites. In: C. Rappe, G. Choudhary, and L. Keith (Eds.). Chlorinated dioxins and dibenzofurans in perspective. Lewis Publishers, Chelsea, Michigan, pp. 201–210.

Gothe, R., and C.A. Wachtmeister 1972. Synthesis of 1,2,4,5,7,8-hexa-chloroxanthene. Acta Chem. Scand. 26:2523–2576. Authors describe the formation of HCX from HCP.

[44] Viswanathan, T.S., and R.D. Kleopfer. 1986. The presence of hexachloroxanthene at Missouri dioxin sites. In: C. Rappe, G. Choudhary, and L. Keith (Eds.). Chlorinated dioxins and dibenzofurans in perspective. Lewis Publishers, Chelsea, Michigan, pp. 201–10.

5.3 Associations Among Contaminants – Source Area Soils

The following analysis examines whether pairs of congeners "behave" similarly or not. Similar "behavior" is defined as concentrations that vary together (i.e., when the concentration of one congener is higher, the concentration of the other congener increases by a proportional amount, which would be a linear relationship). In general, persistent chemicals (i.e., decomposition and other biochemical alterations are very slow to non-existent) that were released together or transported in the environment together show similar behavior. Some "baseline" similarity at this site can also be expected for congeners that were not released together for the following combination of reasons: spatial proximity of the sources, similar time frame of release, and common transport pathways in the environment.

At this site, we are focused on the following chemical relationships:

1. **PCDD/F Congeners:** Metro-Atlantic's operations are unlikely to have generated dioxin and furan congeners other than 2,3,7,8-TCDD. These other PCDD/Fs are more likely to come from a mixture of sources consisting of at least background and potentially the barrel reclamation operation. If the similarity between 2,3,7,8-TCDD and other PCDD/Fs behavior is weaker than among the other PCDD/Fs, that indicates that the sources of 2,3,7,8-TCDD and the other PCDD/Fs are different and separate.

2. **PCE and 2,3,7,8-TCDD:** PCE was used in large quantities by Metro-Atlantic in the hexachlorophene process (see Section 3.3). PCE is a solvent that, when spilled, travels downward through the soil under the influence of gravity and, in the process, dissolves and spreads other organic compounds, including PCDD/Fs (i.e., acts as a co-solvent). PCE data can be used as a tracer linked to the Metro-Atlantic hexachlorophene operation; similarity with 2,3,7,8-TCDD indicates that Metro-Atlantic was the common source of PCE and TCDD.

5.3.1 PCDD/F Congener Associations

Figure 5-2 shows a plot of the data for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, and 1,2,3,6,7,8-HxCDD in soil in the vicinity of Metro-Atlantic. The horizontal axis is the sample ID in alphabetical order, and the vertical axis is the reported concentration of each congener in the sample. Each congener is represented by a different-colored line, and each data point is represented with a point symbol. The graph is free of assumptions because each point symbol shows the reported concentration in the sample indicated. Data flags are represented with different symbols. As seen in the example in Figure 5-2, dots are color coded by type of data flag. Due to the high number of different flags, the flags were grouped into the following classes according to the kind and extent of uncertainty they represent (Appendix 5.2 discusses the classification of data flags):

- Unflagged data (None)

- Flag with no increased uncertainty in the data (Minor flag)
- Estimated concentrations with slightly higher uncertainty (J-type flag), contaminated blanks leading to increased uncertainty and possible overestimation of the concentration (B-type flag)
- Various high uncertainty flags (Other)
- Flags with unknown meaning (Unknown)
- Upper limit of concentration, such as detection limits and estimated maximum possible concentrations (U-type flag).

The solid lines show how much the concentration changes for that congener from one sample to the next.

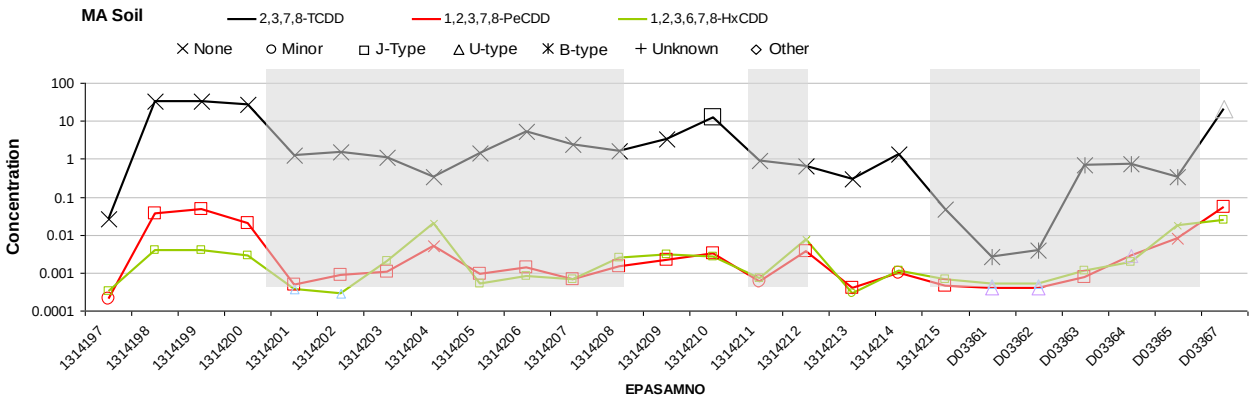


Figure 5-2. Congener concentrations [ug/kg] in soil samples for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD, and 1,2,3,6,7,8-HxCDD in the vicinity of Metro-Atlantic. Horizontal axis shows EPA soil sample IDs in alphabetical. Shaded areas highlight samples where TCDD concentrations diverge from the other two congeners.

This example plot demonstrates two types of relationships related to the slope of the lines, not the magnitude of the concentrations: a pair of congeners with similar behavior and a congener with different behavior. 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD have lines that are very close to parallel and follow a very similar trend (slope) from sample to sample. On the other hand, 2,3,7,8-TCDD deviates from the nearly parallel variation in the other two congeners for more than half the samples (samples 1314202 to 1314209, 1314212, and 1314215 to D03365). In addition to some expected similarity, as explained above, for this particular location, some similarity is also expected because of the historical presence of spilled PCE, which dissolves and mobilizes all congeners and thus induces similarity, even if initially there was none. The data on PCE and 2,3,7,8-TCDD, and the co-solvent effect of PCE, are explained in more detail in the following section.

The pattern of 2,3,7,8-TCDD diverging from the patterns in the other dioxin and furan congeners is maintained for all other congener combinations (see additional graphs in Appendix 5.3). 2,3,7,8-TCDD stands out as a congener that is less similar to other PCDD/F congeners than the other PCDD/Fs are to each other. This pattern indicates that TCDD was released *alone* and by an independent source or process, while the other congeners were released *together* from one or more sources/processes. If 2,3,7,8-TCDD had been released from

the same sources as the other congeners (i.e., together with some other congeners), then its similarity to other congeners would be comparable to the similarity among these other congeners.

5.3.2 PCE and 2,3,7,8-TCDD

The contaminant PCE is not as highly stable as 2,3,7,8-TCDD in terms of environmental fate. However, in close proximity to a source, even with biochemical degradation, PCE may remain in the soil at sufficiently high concentrations to detect its original relationship to the stable contaminant. This is the case near the former Metro-Atlantic HCP building, and a comparison is presented here.

Figures 5-3 through 5-5 show the PCE and 2,3,7,8-TCDD data in different source locations: at Metro-Atlantic, at NECC, and at the southern dump, respectively. In addition to showing sample-to-sample variation, a second graph in each figure also shows the depth profile of a core where both chemicals were reported at multiple depths.

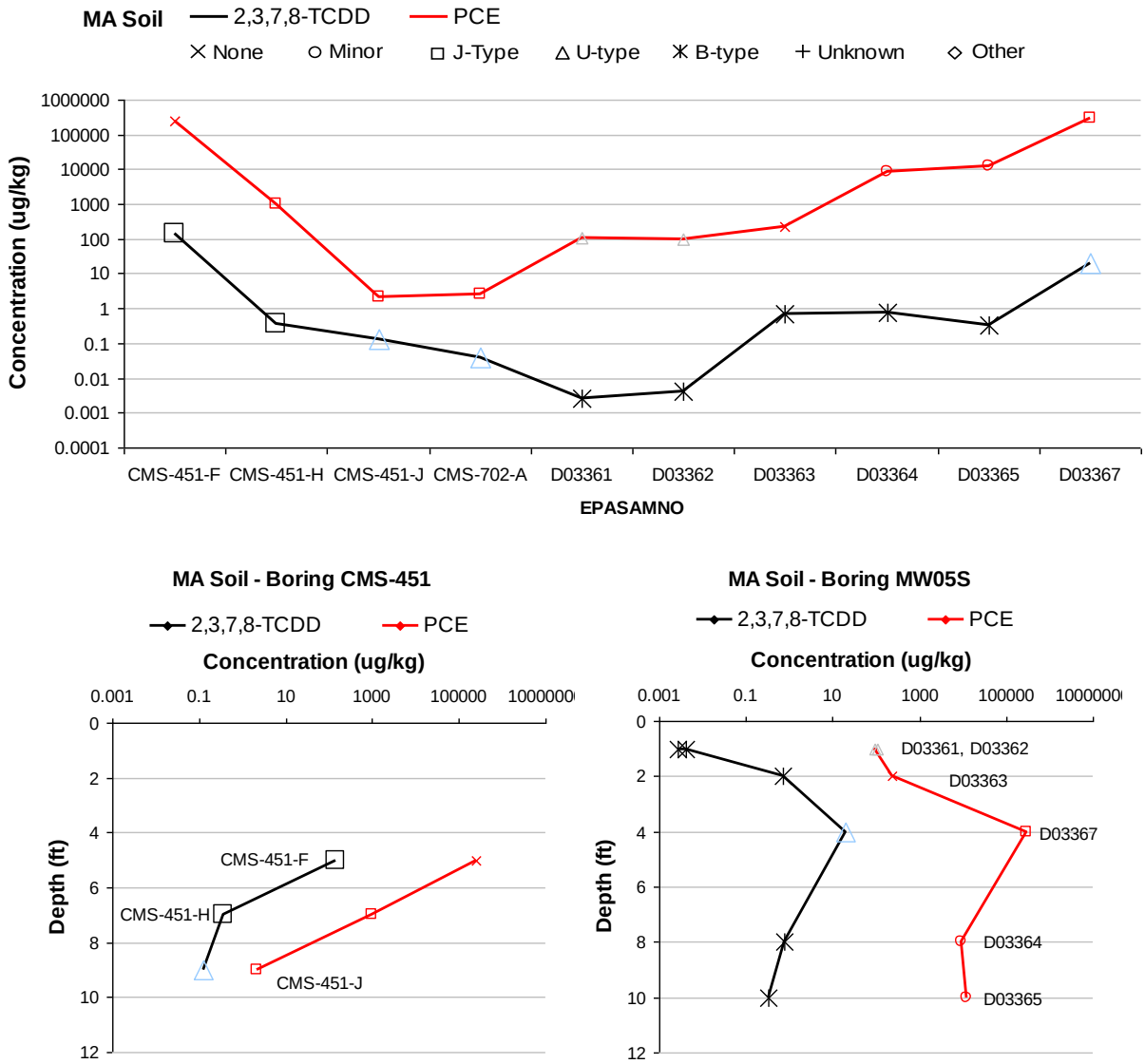
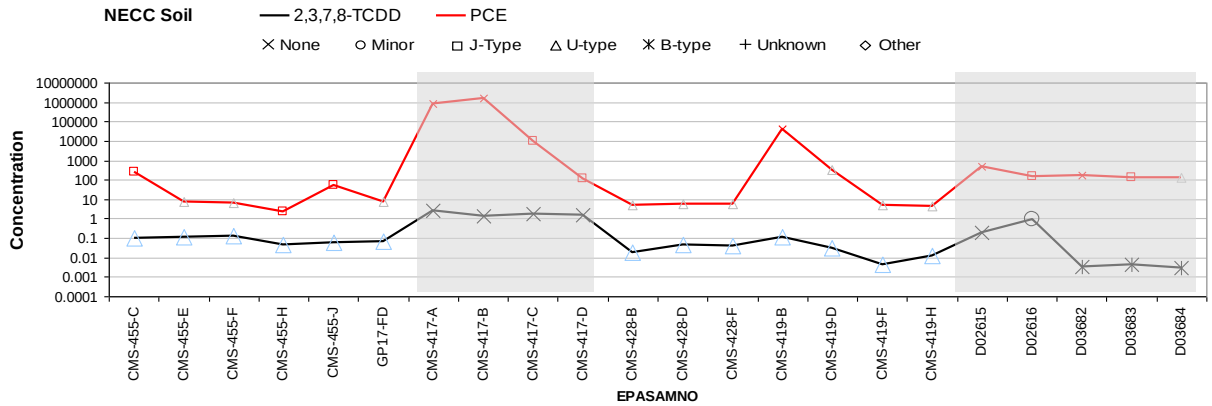


Figure 5-3. Concentrations of 2,3,7,8-TCDD and PCE in soils near the Metro-Atlantic hexachlorophene building site. The top graph shows concentrations [ug/kg] by sample (EPA sample ID shown in alphabetical order). A subset of these samples comes from two cores. For these two cores, the bottom graphs show the concentration depth profile with labeling of individual samples. PCE is a solvent that dissolves organic chemicals it encounters in surface soil layers and transports them downward into deep soil.



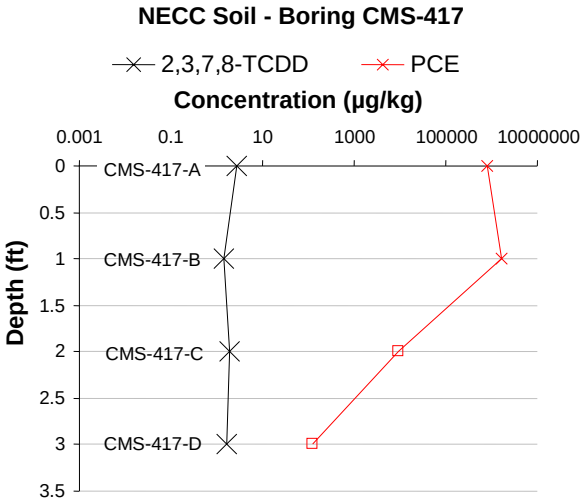
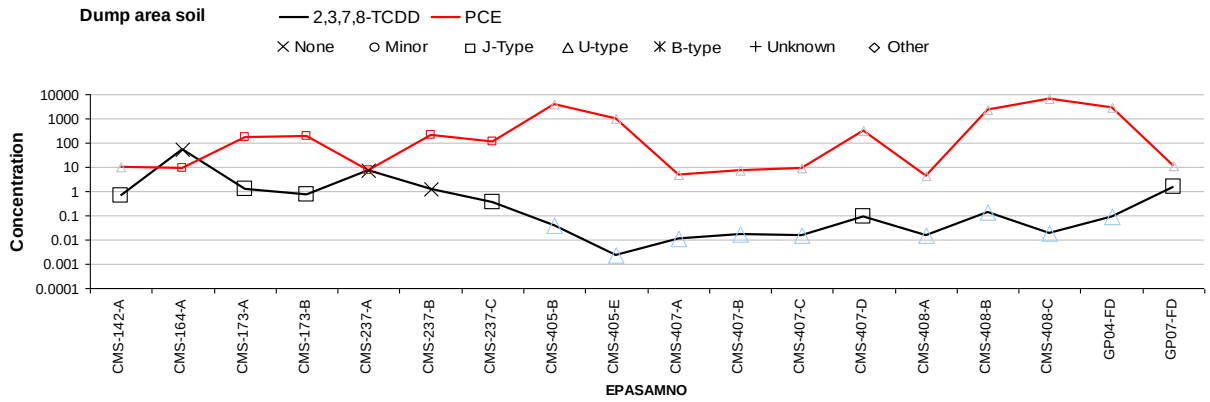


Figure 5-4. Concentrations of 2,3,7,8-TCDD and PCE in soils in the vicinity of NECC. The top graph shows concentrations [ug/kg] by sample (EPA sample ID shown in alphabetical order). The shaded areas highlight samples where patterns diverge and where there are sufficient detected concentrations in both analytes to interpret the pattern. The two chemicals in these samples behave differently. A subset of these samples comes from a single core. The bottom graph shows the concentration depth profile at this core with labeling of individual samples and also shows divergent behavior of the two chemicals.



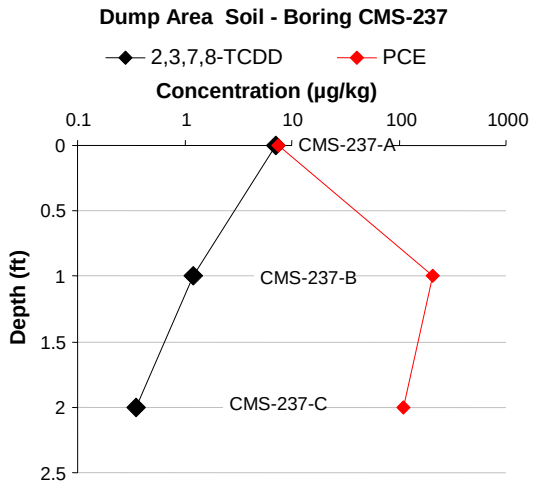


Figure 5-5. Concentrations of 2,3,7,8-TCDD and PCE in soils near the dump. The top graph shows concentrations [ug/kg] by sample (EPA sample ID shown in alphabetical order). A subset of these samples comes from a single core. The bottom graph shows the concentration depth profile at this core with labeling of individual samples.

These figures (5-3 to 5-5) show that PCE and 2,3,7,8-TCDD concentrations vary together in soil around the Metro-Atlantic hexachlorophene building to depths of 10−12 ft (the bottom sample was taken from the 10- to 12-ft interval beneath the soil surface), and they vary independently of each other in other locations, including the former dump area. Around the Metro-Atlantic building, the vertical profiles of the two compounds are very similar: they increase, peak, and then decrease together. PCE is a strong solvent and when released onto soil in sufficient volume, it is mobile, and it travels downward under the influence of gravity through the soil. The high concentrations of PCE imply that liquid-phase PCE is or was present in the soil. 2,3,7,8-TCDD is hydrophobic (does not dissolve in water) and binds very strongly to surfaces, including soil particles. When released onto soil, it attaches to soil particles and moves with the soil if the soil is mobilized (e.g., in an erosion process). In soil, the only way that 2,3,7,8-TCDD (released at the surface) would be expected at depth is if a solvent such as PCE was spilled on

the soil. In this case, one possibility is that the PCE acts as a co-solvent that leaches 2,3,7,8-TCDD from the soil and carries it downward. The other possibility is that the spilled PCE already contained 2,3,7,8-TCDD, which is consistent with the use of PCE as the carrier solvent for 2,3,7,8-TCDD-containing 2,4,5-TCP in Metro-Atlantic's hexachlorophene production operation. Either way, the vertical profiles indicate that TCDD and PCE were released in the same place (possibly also at the same time) and as PCE moved down through the soil, it carried the 2,3,7,8-TCDD down as well (whether it already contained 2,3,7,8-TCDD or released it from the soil). Note that the peaking pattern indicates that the soil has not been mechanically disturbed. Thus, the close relationship between these two compounds confirms that the Metro-Atlantic hexachlorophene operation, which used large amounts of PCE, released 2,3,7,8-TCDD during its production process either in the spilled PCE or separately. This demonstrates that Metro-Atlantic released 2,3,7,8-TCDD into the environment, and also that in its HCP production step involving PCE and Nuchar, the Nuchar did not completely bind the 2,3,7,8-TCDD as claimed by Stellacci.[45] Rather, PCE, acting as a solvent, prevented that outcome, and instead, significant amounts of 2,3,7,8-TCDD were contained in the waste PCE. Further, based on the evidence in the soil and groundwater data (i.e., the presence of high concentrations of PCE under the former HCP building), PCE was released in significant quantities to be mobile as a separate phase.

In contrast to the pattern near the former HCP manufacturing building, the pattern in samples from the NECC operation and the former dump area indicates that both compounds were deposited there, but not in association with each other, and it appears that PCE at NECC and the dump did not mobilize 2,3,7,8-TCDD. PCE was a widely used solvent, and at these locations it was probably contributed from sources other than the Metro-Atlantic HCP process.

5.4 Sample Profile Analysis

In this section, samples are compared based on their congener composition and absolute concentrations. Theoretically, one could examine each individual sample composition, but this would be very cumbersome given the large number of samples. Thus, it was necessary to use statistical summaries of concentrations. All congeners have highly skewed distributions (mostly low concentrations and many extreme concentrations spanning several multiples of 10; i.e., orders of magnitude). For such distributions, traditional statistics such as averages and standard deviations are inappropriate, because extreme concentrations bias them strongly so that the relative congener distribution based on averages would look unlike most individual samples and therefore would not be representative. Thus, this discussion uses the median to represent all samples in a group. The median is the 50th percentile of the data, and it divides the data into two halves, one that has lower concentrations, and one that has higher concentrations.

In addition to concentration magnitude, variability is also an important metric. For example, 2,3,7,8-TCDD concentrations fluctuate much more than other congener concentrations, and this difference indicates that 2,3,7,8-TCDD and the other congeners have different sources.

[45] Expert Opinion from Francesco Stellacci on "Metro Atlantic" vs. NECC. 1/12/2009.

Variability can be measured as the concentration range between the lower and upper quartiles. The lower and upper quartiles, or 25th and 75th percentiles, are similar to the median. The 25th percentile is the concentration that is greater than 25% of the data, and it is representative of lower concentrations. The 75th percentile is a concentration that is greater than 75% of the data and is representative of higher concentrations.

The composition of site samples has been grouped based on their location:

1. Background areas
2. The vicinity of the Metro-Atlantic hexachlorophene building location (within a 25-ft radius of the building footprint)
3. The vicinity of NECC operations (within a 25-ft radius of the footprint of the NECC building)
4. Remaining samples.

For the vicinities of the Metro-Atlantic and NECC operations, the chosen radii do not denote the boundary of influence. Rather, the samples within these distances are assumed to be most representative of these two operations.

Many samples analyzed for 2,3,7,8-TCDD did not include the other dioxin/furan congeners, such as the entire dump area. Those samples could not be used in these comparisons. Flagged data are used as reported, including detection limits. Detection limits are discussed for samples where they would affect the interpretation.

5.4.1 Background Samples

Figure 5-6 shows the representative congener profile for background sediment and soil, including the 25%, 50% (median), and 75% quartiles. Figure 5-7 shows the composition of two individual samples for both media, one with few flagged data (top graph), another with many (bottom graph). All four samples are very similar to their representative profiles. Background sediment and soil samples have similar compositions and are dominated by OCDD followed by 1,2,3,4,6,7,8-HpCDD. OCDF and 1,2,3,4,6,7,8-HpCDF are present in somewhat lower proportions. Background concentrations of 2,3,7,8-TCDD are very low and never dominate. The overall sediment concentrations are low, up to 11 µg/kg for OCDD. 2,3,7,8-TCDD is below the detection limit for the majority of sediment samples, with a few detections up to 0.09 µg/kg. In background soil, the four existing sample data likely do not capture the full variability in concentrations. However, all congener concentrations generally tend to be higher by about an order of magnitude than the majority of background sediment samples. The maximum soil OCDD concentration is 8 µg/kg, and 2,3,7,8-TCDD was detected only once at 0.06 µg/kg.

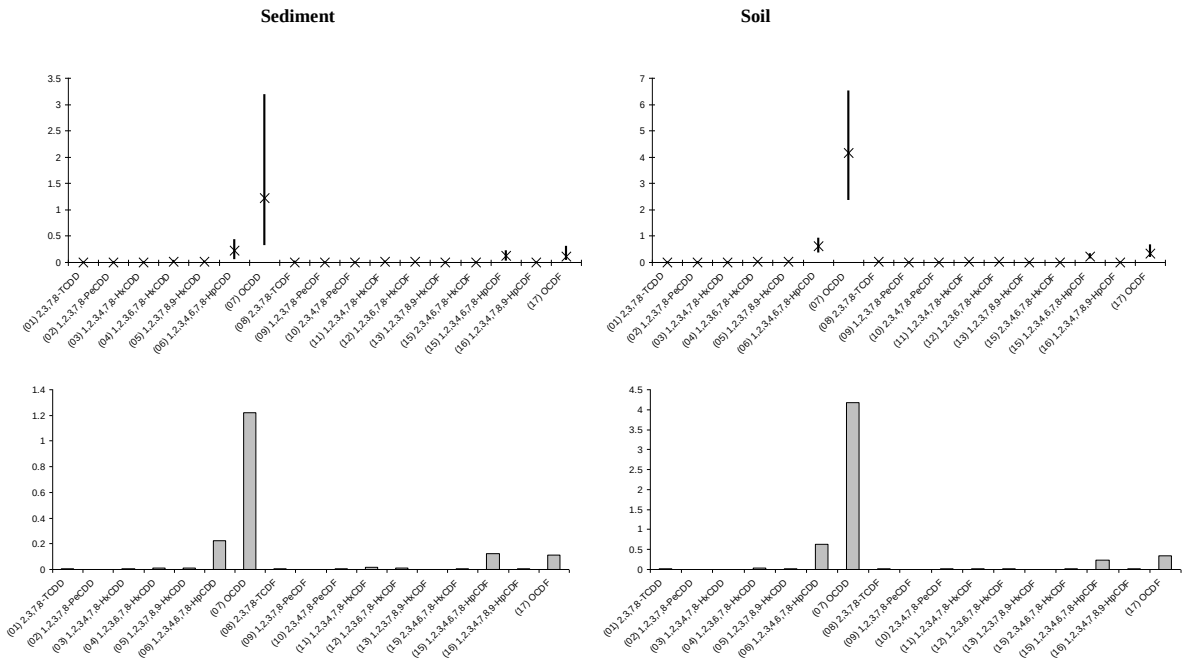


Figure 5-6. Background sediment and soil sample congener composition. The top graph shows the median and the range of variation between the lower and upper quartiles. The bottom graph shows the median only. The vertical axis shows concentration in µg/kg.

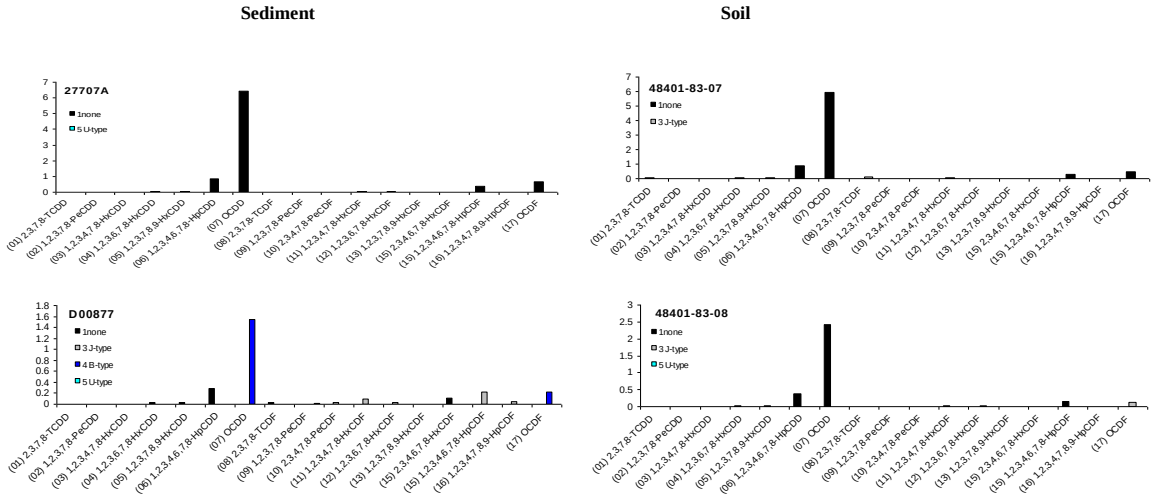


Figure 5-7. Actual congener composition of samples with few flagged data (top) and samples with several types of flags (bottom). Sample ID is indicated above the legend. The vertical axis shows concentration in µg/kg.

5.4.2 Non-Background Samples

An examination of samples from the CMRP site in Figures 5-8 (soil data) and 5-9 (sediment data) reveals that the presence of 2,3,7,8-TCDD distinguishes all of these from background.

Strikingly, however, near the Metro-Atlantic hexachlorophene building, 2,3,7,8-TCDD in soil (Figure 5-8) completely dominates the samples with concentrations between 0.003 and 33 µg/kg (all detected). The other congeners are present but not visible in the top figure, because they occur at concentrations far below the concentration of 2,3,7,8-TCDD. The bottom-left plot in Figure 5-8 for the Metro-Atlantic area omits 2,3,7,8-TCDD to illustrate that the rest of the profile is similar to the background composition (where OCDD dominates), with somewhat higher contributions by lower chlorinated PCDD/Fs. This relationship demonstrates that the Metro-Atlantic hexachlorophene building was, in fact, the source of 2,3,7,8-TCDD contamination, and the contribution of 2,3,7,8-TCDD was superimposed on a pattern otherwise determined in large part by background.

Samples from the NECC area in Figure 5-8 are also very similar in composition to background in terms of the congeners other than 2,3,7,8-TCDD. 2,3,7,8-TCDD occurs in fluctuating concentrations between 0.003 and 0.9 µg/kg (all detected). In some samples it is lower than other congeners; in other samples it dominates. The other congeners do not fluctuate as widely relative to each other. 2,3,7,8-TCDD concentrations in the NECC area are much lower than the majority of Metro-Atlantic area samples. Only two of six samples have concentrations comparable to the lower end of the Metro-Atlantic area distribution (i.e., greater than 1 µg/kg). The independent fluctuation/variability of 2,3,7,8-TCDD from other congeners in this area, combined with the fact that concentrations in the NECC area are lower than concentrations in the Metro-Atlantic area, demonstrate that Metro-Atlantic, not NECC, was the source of 2,3,7,8-TCDD. In other words, NECC as the source is not possible, because source-area concentrations are always higher than concentrations in areas where the contaminant has been deposited secondarily (e.g., by natural transport mechanisms such as wind-blown deposition and surface water run-off, and anthropogenic mechanisms such as regrading).

In sediment samples (Figure 5-9), the same general tendencies can be observed, with elevated and fluctuating concentrations of 2,3,7,8-TCDD relative to background. The one sediment sample near NECC has a very low 2,3,7,8-TCDD concentration, lower than any other congener, with the profile resembling the background pattern very strongly. Again, this points to an independent source of 2,3,7,8-TCDD different from the source(s) of the other congeners.

Based on the above discussion, 2,3,7,8-TCDD has a separate and different source at the Centredale Manor site from the other congeners, and the evidence demonstrates that that source is the Metro-Atlantic hexachlorophene manufacturing operation. With regard to the other congeners, their sources at the site are similar to their sources in the background samples, possibly including background itself. It is also probable that the activities at the NECC site independently generated a composition of dioxin congeners similar to that of the background sources, given that many types of combustion activities generate similar dioxin/furan composition, including the dominance of OCDD. The concentrations in the NECC area are actually lower or similar to background (except 2,3,7,8-TCDD).

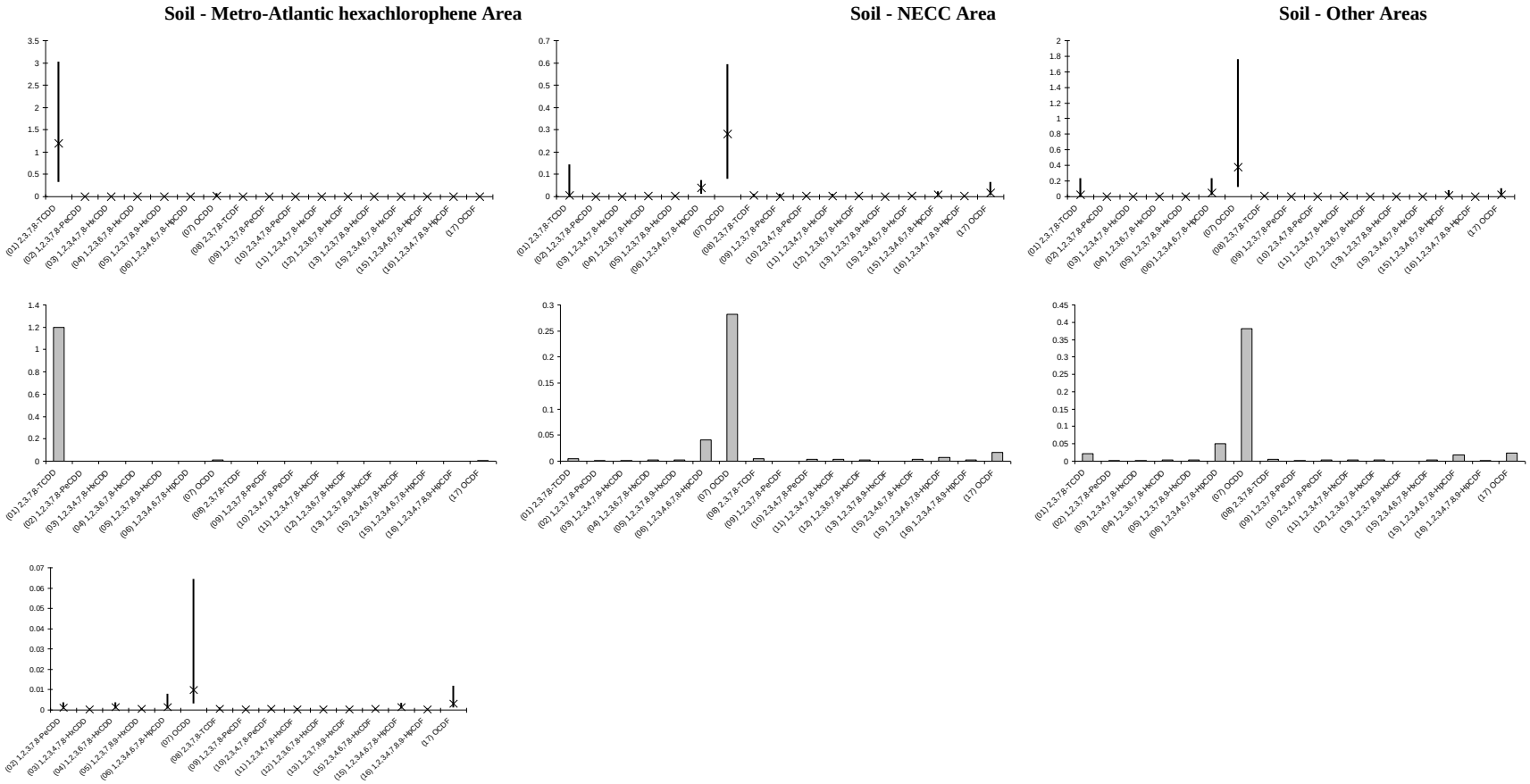


Figure 5-8. Non-background soil sample congener compositions. The first row of graphs shows the median and the range of variation between the lower and upper quartiles. The second row of graphs shows the median only. The figure in the third row for the Metro-Atlantic area omits 2,3,7,8-TCDD to illustrate the similarity of the rest of the profile to background samples. The vertical axis shows concentration in µg/kg.

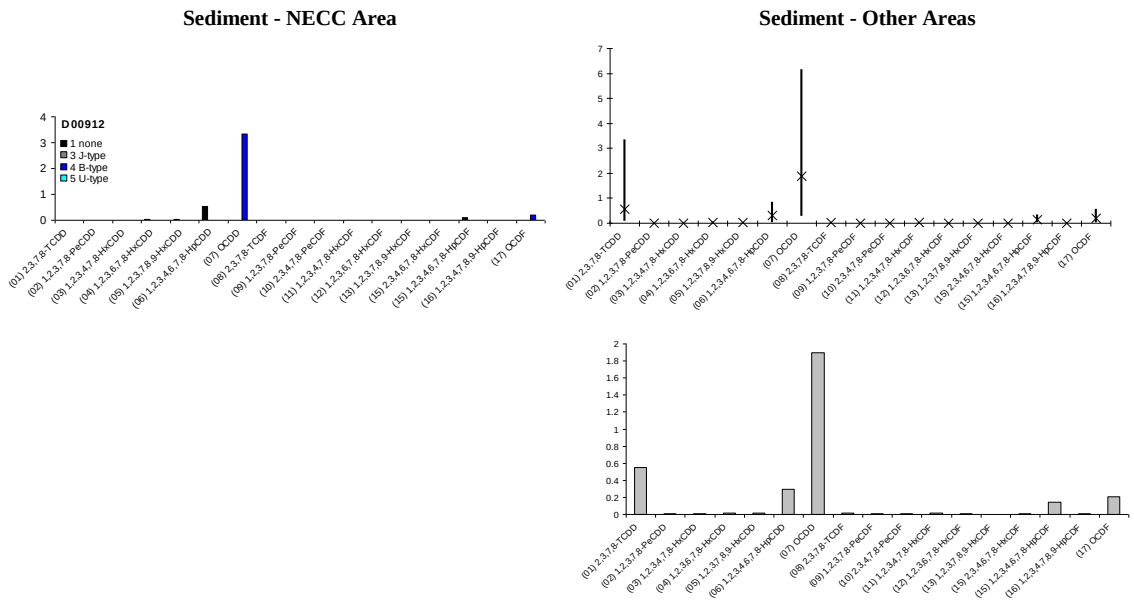


Figure 5-9. Non-background sediment sample congener compositions (matching positions with Figure 5-8). The top graph shows the median and the range of variation between the lower and upper quartiles. The bottom graph shows the median only. The vertical axis shows concentration in µg/kg. There are no sediment samples within the Metro-Atlantic hexachlorophene area. There is only one sediment sample in the NECC area, as shown. The majority of sediment samples are from other areas (Allendale and Lyman Mill ponds).

5.5 Statistical Decomposition Using Congener Data

We have seen in the visual analysis of Section 5-4 that 2,3,7,8-TCDD represents a one-congener group or 'fingerprint' because it varies independently of other dioxin and furan congeners. The background congeners of 1,2,3,4,6,7,8-HpCDD and OCDD, and 1,2,3,4,6,7,8-HpCDF and OCDF constitute another fingerprint, since they occur together in similar proportions in nearly all samples and is attributable to background conditions. For a sediment sample located downgradient of the Source Area, its composition can be described as a linear combination of such groups and others if they are present. While these groupings may be visually evident, this is a qualitative approach that is limited by what one can discern with the eye. The actual fingerprints are identified and quantified with a mathematical algorithm called Polytopic vector analysis (PVA) which is, in many ways, the quantitative equivalent of the qualitative process performed in previous sections.

PVA is a statistical analysis tool related to principal components analysis and conceptually similar to positive matrix decomposition (PMF), a method promoted by the U.S. EPA via its public domain software, PMF 3.0. The method quantifies the variability relationships that were described in the preceding sections in the form of correlation coefficients (a quantitative measure of similarity) between every possible contaminant pair. The statistical signal contained in the correlation coefficients is extracted through *eigenvalue* decomposition, which is, conceptually, a process similar to the visual assessment that the above sections exemplified. Sample congener compositions and correlations among congeners guide the derivation of a smaller number of stable congener groupings (called 'factors' and interpreted as source fingerprints) that appear to be present to varying degrees in every sample, where each sample's composition is derived as a linear combination of these 'fingerprints'. PVA does not require the modeler to start with a prior guess of fingerprints. The fingerprints are entirely the result of the mathematical algorithm.

What is mathematically special about the calculated fingerprint compositions is that when they are mixed in the calculated proportions (i.e. as a linear combination), they reproduce the measured sample profiles. In other words, this mathematical mixing is analogous to real-world mixing. The initial congener compositions of a few real sources enter the environment and mix together, yielding the actual and varying compositions measured in a large number of samples. The mathematical algorithm "unmixes" the samples to find the likely initial source compositions that could have given rise to the patterns observed in the samples, and it also defines the extent to which each fingerprint has contributed to each sample. This can be done because, in the environment, the congeners are stable and the mixing has been spatially incomplete, and various degrees of the original source fingerprints are preserved. Some of these fingerprints are clearly seen in the discussion in the previous sections. That is why correlation analysis is possible, and that is what makes PVA itself possible, as well. PVA is described and compared to other statistical fingerprinting methods by Johnson and Ehrlich.[46] In their paper, the authors also provide a performance comparison between PVA and PMF, a method promoted by the EPA Office of Research and Development. They found

[46] Johnson, G.W., and R. Ehrlich. 2002. State of the art report on multivariate chemometric methods in environmental forensics. Environ. Forensics 3(1):59–79.

that both methods yield comparable results. The mathematical details of the PVA method are given in Appendix 5.4.

PVA was performed on the 17 dioxin and furan congeners and HCX using a subset of the total sample data. There are two reasons for sample screening. First, all congeners must be represented in each sample, so samples with missing data had to be excluded, including the detected data in the affected sample. Second, large numbers of non-detects in a given sample can lead to artifact factors that represent a "composition" of detection limits, not real concentrations, so samples with more than nine results at the detection limit were also excluded.[47] The resulting PVA data set included results from a combination of 72 sediment and soil samples. Sediment and soil samples were both used, because previous analysis indicated that they are similar in relative composition, and normalization, described below, removes the difference with respect to absolute concentrations. If there is a consistent difference in terms of sources in sediments and soils, it would result in some factors that have a zero contribution in all sediment or soil samples.

An important part of the process is the normalization of the data. There are two normalization steps. First, each sample is represented in terms of the ratio of concentrations to the total sample concentration. This is the mathematical equivalent to scaling the vertical axis in the previous figures for each sample, so that very large concentrations in one sample do not hide the presence of very low but real concentrations in another sample and thus the differences among them. Second, a similar scaling is then performed with respect to the range of the resulting ratios for each compound individually, which serves the same purpose of making sure that large ranges/ variabilities do not hide the existence of small but real variabilities that can be used to make distinctions among congeners.

The PVA process is semiautomatic, with computer-based calculations and certain steps that involve decision making by the modeler. The first such decision is deciding how many fingerprints are appropriate to keep. The maximum in this case is 18, or the number of compounds included in the analysis. However, the influence of "noise" (inherent variation in data concentration due to uncertainty induced by field methods, laboratory procedures, equipment limitations, which is always present in all environmental measurements and is limited by following standard procedures) increases as more and more fingerprints are retained, and it is usually not desirable to keep the maximum possible number. To determine the appropriate number of fingerprints, an iterative procedure was used, where, starting with a single fingerprint, one additional fingerprint is retained with each iteration. Fingerprints that appear in every iteration were retained. For this data set, 70% of the variability in the normalized data set was accounted for by six consistent fingerprints. For each congener, the final fingerprint's composition was calculated as the average across the different iterations. The standard deviation was also calculated to represent the uncertainty in the contributions and is represented in the following figures by error bars. Figure 5-10 shows two of the resulting fingerprint compositions.

[47] Barabás, N., P. Goovaerts, and P. Adriaens. 2004. Modified polytopic vector analysis to identify and quantify a dioxin dechlorination signature in sediments. 2. Application to the Passaic River. Environ. Sci. Technol. 15:38(6):1821–1827.

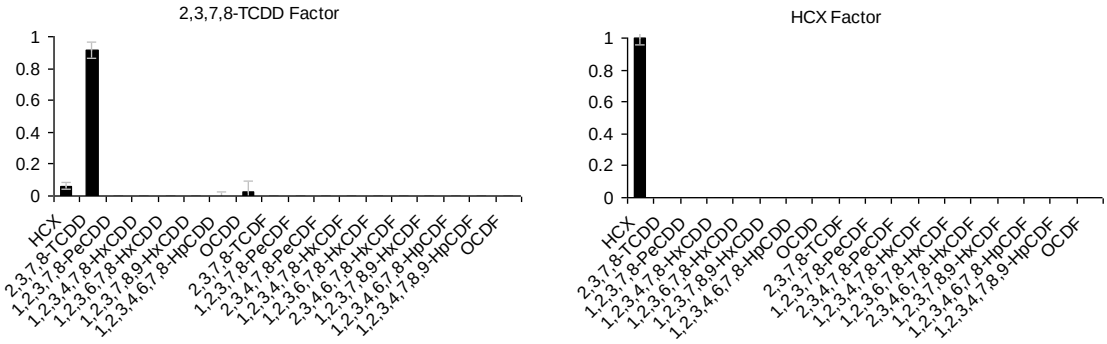


Figure 5-10. Two of six factor compositions from PVA

As shown in Figure 5-10, PVA has identified the source of 2,3,7,8-TCDD and HCX as separate factors. This is due to the weak correlation between these two compounds. As explained in Section 3.3, although they are both thought to come from the same HCP manufacturing process, they are likely associated with different points of the process, and thus released at different times and the wastes managed in a different manner. 2,3,7,8-TCDD was a feed impurity that could have been released during delivery, as well as during the disposal of the waste streams (such as the 2,4,5-TCP purification step) that would have contained the 2,3,7,8-TCDD in the feed and any newly formed 2,3,7,8-TCDD. HCX, on the other hand, is strictly a by-product of the hexachlorophene reaction that would only have been released from process waste (after 2,4,5-TCP purification and after the reaction to HCP). In addition, their environmental fate may be different. Weak correlation has been observed at other dioxin/hexachlorophene manufacturing sites that are known to have released both compounds during their operation.[48] Nevertheless, some HCX does associate with the 2,3,7,8-TCDD factor. The error bar on HCX in the 2,3,7,8-TCDD factor is narrow, suggesting that the association is not from noise in the data. This association can also be seen in Figures 4-1 and 4-6, with elevated HCX concentrations collocated with peak 2,3,7,8-TCDD concentrations under the Metro-Atlantic HCP building footprint . The only other association is with a small amount of OCDD. However, OCDD has a large uncertainty based on the range of the error bar, indicating that it may reflect noise or simply the ubiquitous distribution of this compound in the environment (see Section 5.4.1). The PVA analysis confirms the conclusions from the preceding analyses that the 2,3,7,8-TCDD release mechanism (source) is unique, but locally correlated with HCX (i.e., both are HCP-related compounds).

As shown in Figure 5-11, very little 2,3,7,8-TCDD is found in the other factors, and when it is found, there is a very large error range, suggesting that the association is highly uncertain and may reflect noise only. The same conclusion can be drawn from these results as in previous sections: the

[48] Viswanathan, T.S. & Kleopfer, R.D. (1986) The presence of hexachloroxanthene at Missouri dioxin sites, In: Rappe, C., Choudhary, G., & Keith, L., ed. Chlorinated dioxins and dibenzofurans in perspective, Chelsea, Michigan, Lewis Publishers, pp. 201-210. The authors analyzed HCP waste products directly for TCDD and HCX, as well as soil samples from a range of sites. All samples linked with HCP manufacturing contained varying amounts of HCX comparable to levels of 2,3,7,8-TCDD concentrations (but in highly variable ratios). The samples from a 2,4,5-T manufacturing site, where HCP was not made, did not contain HCX at detectable levels.

source of 2,3,7,8-TCDD is distinct and different from the sources of the other PCDD/F congeners. Furthermore, HCX is associated with the same source as 2,3,7,8-TCDD.

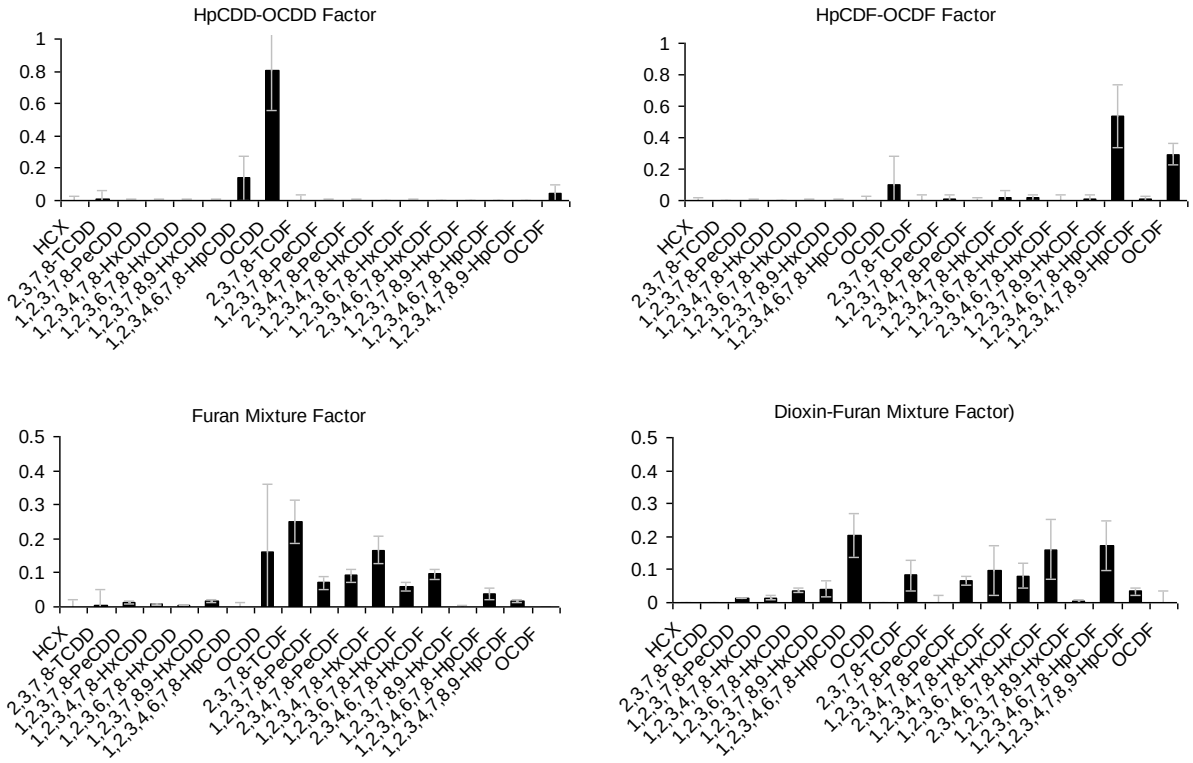


Figure 5-11. The remaining four of six factor compositions from PVA

The HpCDD-OCDD fingerprint shown in Figure 5-11 is a composition that can be typical of both combustion sources and atmospheric reactions of PCP.[49] While both are common sources of PCDD/Fs today, this same fingerprint could be associated with barrel reclamation operations. Specifically, the HpCDF-OCDF factor can be associated with various incineration processes, consistent with NECC operations.[50] The combination of these two factors closely resembles the pattern that has been termed "background" in preceding analyses.

The furan mixture is typical of the furan impurities found in PCBs, and given that PCBs are present at the site, such a factor was expected in the results.[51] The dioxin-furan mixture is most difficult to identify, because this type of composition occurs in many types of chemical manufacturing operations and resembles fingerprints of dye manufacturing releases, impurities in 2,4-D, and PVC

[49] See footnotes 36 and 37.

[50] Buekens, A., E. Cornelis, H. Huang, and T. Dewettinck. 2000. Fingerprints of dioxin from thermal industrial processes. Chemosphere 40(9-11):1021–1024.

[51] Bowes, G.W., M.J. Mulvihill, B.R.T. Simoneit, A.L. Burlingame, and R.W. Risebrough. 1975. Identification of chlorinated dibenzofurans in American polychlorinated biphenyls. Nature 256:305–307.

manufacturing waste.[52] To some extent at least, the combustion/PCP type factors could be associated with the background, and the additional variation of the lower chlorinated PCDD/Fs observed in previous sections is explained by the latter two factors. The corresponding furan and dioxin-furan mixture factors could be the unique contribution of NECC operations, considering the variety of chemicals that were probably received in processed barrels.

The above results were used to separate the observed total sample concentration of 2,3,7,8-TCD0D into the contribution by the 2,3,7,8-TCDD fingerprint and the sum of contributions from other fingerprints. Figure 5-12 shows the 2,3,7,8-TCDD concentration in each sample used in the analysis, with the grey bars denoting the portion contributed by the 2,3,7,8-TCDD factor and the black bars denoting the sum of contributions from other factors. The samples are in order of increasing 2,3,7,8-TCDD concentrations. Because the highest concentrations are several orders of magnitude higher than other sample concentrations, the graph is shown with three vertical axes. The majority of samples have concentrations less than 1000 ng/kg on the left panel; they are followed by samples with concentrations less than 5000 ng/kg in the middle and a single sample with the maximum 2,3,7,8-TCDD concentration on the right. This way, the small relative contribution of the other 2,3,7,8-TCDD sources is visible for every sample. Quantitatively, the average contribution of other sources to 2,3,7,8-TCDD concentrations is 0.96%, based on the samples included in the analysis, and the 2,3,7,8-TCDD factor identified as HCP manufacturing contributes 99.04%.

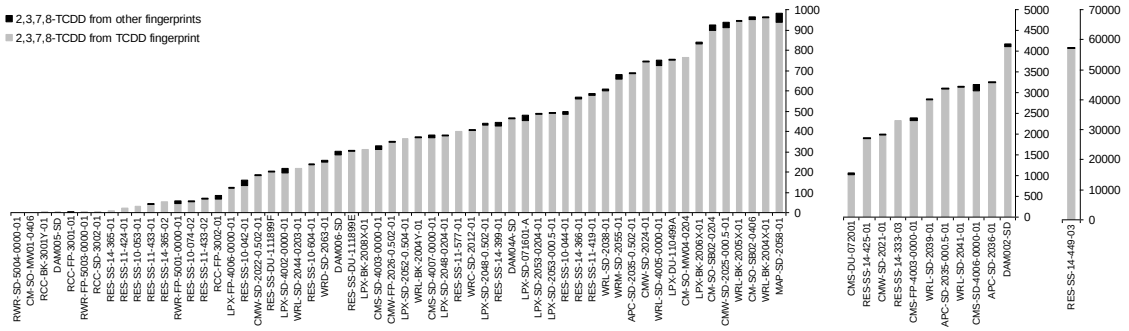


Figure 5-12. Contribution of fingerprints to total 2,3,7,8-TCDD concentrations [ng/kg] observed in samples. Grey bars denote the contribution from the 2,3,7,8-TCDD fingerprint associated with Metro-Atlantic HCP manufacturing, and black bars denote the contribution from other fingerprints. The samples along the horizontal are ordered from lowest to highest TCDD concentration, and the vertical axis is the sample concentration. For clarity, three scales are used.

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[52] Williams, D.T., G.L. LeBel, and F.M. Benoit. 1992. Polychlorodibenzodioxins and polychlorodibenzofurans in dioxazine dyes and pigments. Chemosphere 24(2):169–180.

Schecter, A., O. Papke, J. Isaac, N.D. Hrimat, F. Neiroukk, J. Safi, and Y. El-Nahhal. 1997. 2,3,7,8 Chlorine substituted dioxin and dibenzofuran congeners in 2,4-D, 2,4,5-T and pentachlorophenol. Organohalogen Compounds 32:51–55.

The Vinyl Institute. 1996. Dioxin characterization program. Interim Phase I Report. The Vinyl Institute, 0Morristown, NJ. November 1.

Appendix 1.1
Executive Summary of Remedial Investigation Report

Interim Final

Remedial Investigation
Centredale Manor Restoration Project
Superfund Site
North Providence, Rhode Island

Contract No. DACW33-01-D-0004
Delivery Order No. 01

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EXECUTIVE SUMMARY

The United States Environmental Protection Agency (U.S. EPA) Region 1 and United States Army Corps of Engineers (USACE) New England District are conducting a Remedial Investigation and Feasibility Study (RI/FS) for the Centredale Manor Restoration Project (CMRP) Superfund site located in North Providence, Rhode Island. The main part of the site is located at 2072 and 2074 Smith Street (Route 44). The CMRP site formerly was used for chemical manufacturing and drum recycling operations, and currently is occupied by the Brook Village and Centredale Manor apartment complexes. The study area also includes the 3-mile reach of the Woonasquatucket River from the Route 44 bridge immediately upstream of the Brook Village apartment complex, downstream to the former Dyerville Dam. From north to south, this reach of the river has four dammed impoundments: Allendale Pond, Lyman Mill Pond, Manton Pond, and Dyerville Pond. The study area includes parts of three Rhode Island towns: North Providence, Providence, and Johnston. This report presents the results of the Remedial Investigation (RI) completed for the site. The purpose of the RI is to determine the sources, nature, and extent of contamination at the site; characterize the fate and transport of contaminants; and evaluate potential human health and ecological risks resulting from exposure to site-related contaminants. Human health and ecological risks are evaluated separately in the *Baseline Human Health Risk Assessment Report* (BHHRA) (MACTEC, 2004b) and the *Baseline Ecological Risk Assessment Report* (BERA) (MACTEC, 2004a).

The main part of the CMRP site, referred to as the source area, encompasses approximately nine acres. Chemical manufacturing activities took place at the source area from approximately 1940 until the early 1970s. Potential historical sources of contamination include improper storage and disposal of chemicals in drums, stockpiles and surface impoundments. It is believed that hexachlorophene was manufactured at the site in approximately 1965. Hexachloroxanthene (HCX) and dioxin were byproducts of this process. Other chemical processes also occurred and could be the source of other contaminants at the site. Chemicals that were potentially used on site were identified based on drum labels and included caustics, halogenated solvents, polychlorinated biphenyls (PCBs), and inks. The New England Container Company, Inc. operated an incinerator-based drum reconditioning facility on a portion of the site from 1952 until the early 1970s. Chemical residues were dumped or burned prior to drum reconditioning. Residues associated with drum reconditioning operations also may have been a source of dioxin and other chemicals at the site. Evidence from historical photographs, state report files and geophysical testing suggests that buried waste material may be present in several areas of the site.

In 1972, a fire destroyed most property structures. Brook Village was constructed in 1977 and Centredale Manor was constructed in 1982. Dioxin was first identified in the area in 1996 in fish collected from the Woonasquatucket River by the U.S. EPA. Since that time, elevated levels of contaminants including dioxin (primarily 2,3,7,8-tetrachlorodibenzo-*p*-dioxin [TCDD]), PCBs, volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals have been detected in various media including soil, groundwater, sediment, surface water, and biota.

Contamination at the CMRP site is being addressed in two stages: immediate (removal) actions, and long-term (remedial) actions. A time critical removal action (TCRA) for the source area floodplain soils was conducted at the site in 1999-2000 to reduce the immediate threat to the health of residents on and near the site. The major activities conducted under the TCRA included construction of two interim soil caps and installation of fencing to restrict access to potentially contaminated areas. An Engineering Evaluation/Cost Analysis (EE/CA) was performed in 2000 as the basis for a non-time critical removal action (NTCRA). The NTCRA included reconstruction of the Allendale Dam and restoration of Allendale Pond, and excavation of contaminated floodplain soils in eleven action areas on residential properties and recreational access points along Allendale and Lyman Mill Ponds. Another TCRA was performed in 2003-2004 to cap contaminated soils and sediments in the former tailrace on the east side of the source area.

Several studies were conducted between 1997 and 2004 to characterize the nature and extent of contamination in soil, groundwater, sediment, surface water and biota at the site. Indoor air screening was also performed in both housing complexes at the site. Studies also were conducted to address U.S. EPA's sediment management principles (U.S. EPA, 2002). A variety of contaminants have been detected in source area soils, including dioxins, VOCs, PCBs, SVOCs, pesticides, and inorganic constituents. The majority of the contaminated soils are in areas that are paved or capped. The mean dioxin toxic equivalent (TEQ) concentration in source area soils was approximately 118 nanograms per kilogram (ng/kg). The highest concentrations are found in surface soils beneath the interim soil caps. Dioxin concentrations decrease with increasing depth, with only localized contamination found at depths of greater than 5 ft below ground surface (bgs). Six VOCs have been measured at concentrations exceeding Rhode Island Department of Environmental Management (RIDEM) direct exposure criteria for residential use soils. PCB concentrations are highest in the central and southern parts of the source area, and in the upper 2 ft of soil. The mean total PCB concentration in source area soils is approximately 0.29 milligrams per kilogram (mg/kg). Aroclor 1254 was the most frequently detected PCB. Other detected contaminants in soil were measured at lower concentrations or were not as widely distributed as dioxin and PCBs.

Groundwater contamination at the CMRP site is not pervasive or widespread. Concentrations of VOCs were below RIDEM GB groundwater criteria except for trichloroethylene (TCE) and tetrachloroethylene (PCE) in samples from one well in the Brook Village parking lot and PCE in two other wells. VOC concentrations generally decreased from 2001 to 2002. Trace levels of other contaminants (e.g., phenols and dioxin) have been detected in some groundwater samples. Dioxin has been detected at high concentrations (>1,000 picograms per liter [pg/L]) in the well with the elevated PCE and TCE concentrations in the Brook Village parking lot; the dioxin appears to have been mobilized by the solvents. This plume of VOC-contaminated groundwater appears to discharge into the Woonasquatucket River along approximately 50 ft of its east bank. It is not known whether dioxin is discharging to the river in the VOC plume. Groundwater discharging to Allendale Pond at the south end of the source area contains low levels of VOCs.

The mean dioxin TEQ concentrations in Allendale and Lyman Mill Pond sediments were approximately 972 ng/kg and 491 ng/kg respectively. Sediment dioxin concentrations decrease in a downstream direction. In Allendale and Lyman Mill Ponds, mean dioxin concentrations are highest in the uppermost 1 ft of sediment. Mean concentrations of other chemicals (e.g., PCBs and pesticides) also were highest in Allendale Pond sediments. Radiometric age-dating results indicate that no significant dioxin contamination is found in sediments deposited prior to 1940, and maximum concentrations generally correspond to sediments deposited between about 1950 and 1970. Dioxin concentrations are lowest in samples with less than 20% silt+clay and less than 3% total organic carbon (TOC). Dioxin and other hydrophobic organic compounds tend to adsorb to fine-grained sediment particles and organic material. Additional data collection is in progress to better define the horizontal and vertical distribution of dioxin and other contaminants of concern (COCs) in Lyman Mill Pond.

An environmental forensics review of sediment chemistry data for chlorinated organic compounds suggests that different contaminants may have had different release histories and transport mechanisms. Dioxin (primarily 2,3,7,8-TCDD) and HCX contamination in sediment extended from the source area downstream to approximately half of the sampling locations downstream of Manton Dam. 2,3,7,8-TCDD and HCX concentrations in sediment are significantly higher in the reaches of the river adjacent to and downstream of the CMRP site relative to upstream background concentrations. The mean dioxin concentration in Allendale Pond sediment was higher than the mean concentration in source area soils. Elevated concentrations of PCBs and pesticides in sediment do not appear to extend as far downstream as dioxin and HCX. PCB and pesticide concentrations in sediment generally were not significantly higher than upstream background concentrations below Allendale Dam. These differences could arise from

differences in timing, location, and magnitude of the original releases, and in subsequent transport mechanisms.

HCX and dioxin are believed to be primarily derived from a hexachlorophene manufacturing process, which took place on the CMRP site for a relatively short period of time in the mid-1960s. If these byproducts were contained in waste that was directly discharged to the Woonasquatucket River, then dioxin and HCX could have been carried downstream in the water column adsorbed to suspended sediment particles. Source area contaminants (e.g. dioxins, HCX, PCBs, and pesticides) probably mostly entered the river via surface runoff and erosion and transport of contaminated soils from the source area. These transport mechanisms would have operated for a longer period of time (throughout the duration of waste-related activities on the CMRP site, until contaminated source area soils were capped). Persistent organic contaminants entering the river via surface runoff and erosion from the source area are expected to be more readily attenuated by sediment particles and organic matter in Allendale Pond.

The most important potential transport mechanism currently affecting the CMRP source area is leaching of contaminants from soil to groundwater. The soil caps and paved surfaces currently prevent the erosion and runoff of contaminated soils. A leachability evaluation indicated that except in the vicinity of the Brook Village parking lot, leaching does not appear to be a major pathway of concern. However, PCE and TCE in soil and groundwater beneath the Brook Village parking lot adjacent to the Woonasquatucket River may be mobilizing dioxin. Additional investigation is in progress to determine whether this is a significant transport pathway for dioxin.

Because of the hydrophobic and persistent nature of the primary COCs (dioxin and PCBs), sediment resuspension and downstream transport are the most important potential transport pathways in the Woonasquatucket River. A sediment stability evaluation of Allendale and Lyman Mill Ponds indicated that during a rare flood (i.e., 100-year return period), significant scour (i.e., more than about 1 cm of erosion) will occur over less than 5 percent of the bed area in Allendale Pond. Erosion will generally occur in the northern portion of the pond, near the upstream inlet. Significant scour will occur over a larger area in Lyman Mill Pond, with up to 10 to 15 percent of the Lyman Mill Pond bed experiencing significant scour. Scour would generally occur in the northern portion of Lyman Mill Pond, with maximum erosion near the upstream inlet. Sediment eroded in the upstream portion of each pond during a flood will be transported downstream by river currents. A portion of the eroded sediment is likely to be redeposited within the pond where current velocities tend to decrease. Additional data collection is in progress to reduce uncertainty and refine the sediment stability study conclusions.

Analysis of surface water data from 1999 suggests that minimal net export of dioxin from the two ponds occurs during low-flow, non-resuspending conditions. The water column load of dioxin entering the study area (i.e., the background load) is approximately equal to the load over Lyman Mill Dam during low-flow periods. Additional data collection is in progress to verify this hypothesis.

Bioaccumulation is a significant transport pathway for transfer of contaminants from lower trophic level organisms into upper trophic level organisms. Compounds with a tendency to bioaccumulate are taken up by plants, invertebrates, and fish, and are transferred through aquatic food webs. Wildlife species that consume these lower trophic level organisms are also exposed to site-related contaminants. Humans are also exposed to the contaminants through ingestion of fish and other aquatic organisms.

Vertical dioxin profiles in sediment cores indicate that natural recovery (i.e., burial of contaminated sediment by cleaner sediment) may be occurring in some areas of the ponds, but not in others. A natural recovery trend is not expected to be apparent in the ponds at this point in time because contaminated soils in the source area were not completely capped until 2004 and post-depositional processes (e.g. bioturbation and resuspension) continue to mix surface and subsurface sediment. Radiometric age-dating results

indicate that the average sediment accumulation rate in Allendale Pond is approximately 0.5-0.8 cm/year. Results from a single core from Lyman Mill Pond indicate an average sediment accumulation rate of about 0.3 cm/year.

Overall, findings from the BERA indicate that the greatest ecological risks at the site are associated with exposure to sediments, which pose a bioaccumulation hazard. Sediments in Allendale and Lyman Mill Ponds pose a greater risk than those downstream of Lyman Mill Dam. The primary exposure pathway to ecological receptors is ingestion of contaminated prey. The benthic macroinvertebrate communities that reside in impoundments upstream of dams and fish populations are at substantial risk of harm due to exposure to site-related contaminants in surface water, sediment, and tissue. Mammal and bird populations may be at substantial risk of harm due to exposure to site-related contaminants in surface water, sediment, floodplain soil (insect-eating mammals and birds only), and prey. Consumption of contaminated prey by mammal and bird populations may result in elevated tissue residues in these receptors resulting in adverse reproductive effects (i.e., bioaccumulation hazard). Chemicals that contribute to ecological risk include dioxins/furans; coplanar PCBs; Aroclor 1254; total Aroclors; 4,4′-DDD; 4,4′-DDE; technical chlordane; aluminum; arsenic, barium; cadmium, selenium; vanadium; and zinc. The concentrations of the predominant risk contributors (e.g., dioxin) in tissue are directly related to corresponding sediment concentrations.

Results from the BHHRA indicate that study areas downstream of the CMRP site have higher cumulative lifetime risks (i.e., cancer risks) and hazards (i.e., non-cancer risks) compared with the background and reference areas. Human health risks associated with exposure to aquatic biota, surface water and sediment are higher in Allendale and Lyman Mill Ponds than in areas downstream of Lyman Mill Dam. Cancer and non-cancer risks from exposure to surface soil at the Fogarty Center on the southeast side of Lyman Mill Pond are below the U.S. EPA levels of concern.

Incremental cancer risks (i.e., risks above background) for current and future residents and visiting recreational anglers from the consumption of fish are above the U.S. EPA Superfund risk range at Allendale Pond, Lyman Mill Pond, Manton Pond, and Dyerville Pond (reasonable maximum exposure [RME] and central tendency exposure [CTE]). Incremental cancer risks from exposure to surface water also exceeded the U.S. EPA Superfund risk range in all four exposure areas (RME in all areas and CTE for Allendale residents only). Risk estimates for the surface water direct exposure pathway currently are being refined. Incremental cancer risks from direct exposure to sediment exceeded the U.S. EPA Superfund risk range for Allendale residents only (RME only). Incremental non-cancer risks for residents and visiting recreational anglers from the consumption of fish are above the U.S. EPA Superfund Hazard Index (HI) benchmark of one at Allendale Pond, Lyman Mill Pond, and Dyerville Pond (RME and CTE). Non-cancer risks from fish consumption exceeded the U.S. EPA Superfund benchmark value for residents in the Manton Pond area (CTE only). Non-cancer risks associated with exposure to surface water and sediment were below the U.S. EPA Superfund benchmark value. Human health contaminants of concern are dioxins/furans; coplanar PCBs; Aroclor 1254; Aroclor 1268; 4,4′-DDE; dieldrin; technical chlordane; benzo(a)pyrene; dibenz(a,h)anthracene, n-nitroso-di-n-propylamine; arsenic; and methylmercury.

Preliminary remediation goals will be developed for pathways and contaminants that were found to be associated with unacceptable ecological and human health risks at the CMRP site. As summarized above, additional data collection is in progress to address important uncertainties identified in the RI and refine the conceptual site model. This information will be incorporated into the Feasibility Study (FS) of remedial alternatives for the CMRP site.

Appendix 2.1
Dioxin and Furan Data Used for Calculating Congener TEQ Contribution

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Upstream sediment	Esmond Dam	27707A	0	0.33	8.40	3.77	0.03	0.21	4.04	6.71	3.97	6.66	0.12	0.96	0.03	0.12	0.30	0.04	0.65	0.07	0.57	36.63	2%
Upstream sediment	GMP-SD-5002	48401-77-02	0	0.5	2.08	0.83	0.04	0.25	1.02	1.01	0.82	0.82	0.02	2.15	0.14	0.48	1.97	0.68	0.16	0.01	2.77	15.24	18%
Upstream sediment	RCC-BK-3001	D00871	0	0.5	2.39	2.02	0.10	0.41	4.53	2.33	2.23	1.75	0.03	3.70	0.82	2.67	7.40	2.94	0.13	0.02	10.90	44.36	25%
Upstream sediment	RCC-BK-3001	D00872	0	0.5	9.59	2.60	0.20	0.85	1.82	3.58	1.19	3.12	0.02	3.50	0.55	1.70	3.55	1.06	0.40	0.08	2.70	36.50	7%
Upstream sediment	RCC-BK-3001	D00876	0	0.5	1.82	1.03	0.05	0.46	3.46	1.23	1.51	1.64	0.03	3.60	1.45	2.01	7.15	2.34	0.09	0.01	2.10	29.98	7%
Upstream sediment	RCC-BK-3001	D00877	0	0.5	2.90	2.27	0.43	0.50	10.10	3.45	3.49	2.74	0.40	7.10	0.72	11.10	14.85	3.92	0.15	0.02	5.50	69.64	8%
Upstream sediment	RCC-BK-3002	D00878	0	0.5	1.07	0.30	0.01	0.19	0.35	0.51	0.26	0.48	0.04	1.30	0.07	0.29	-	0.14	0.07	0.01	0.55	5.62	10%
Upstream sediment	RCC-BK-3002	D00879	0	0.5	0.28	0.34	0.01	0.01	0.12	0.13	0.07	0.06	0.01	0.35	0.00	0.14	-	0.07	0.02	0.01	48.00	49.61	97%
Upstream sediment	RCC-BK-3002	D00880	0	0.5	0.15	0.06	0.01	0.01	0.05	0.05	0.02	0.03	0.01	0.10	0.00	0.04	-	0.06	0.01	0.00	14.90	15.49	96%
Upstream sediment	RCC-FP-3001	D01045	0	0.5	4.44	1.92	0.11	0.71	2.57	2.34	1.70	2.49	0.14	3.50	0.13	1.90	4.75	1.75	0.35	0.03	2.90	31.73	9%
Upstream sediment	RCC-FP-3002	D01040	0	0.5	14.70	5.33	0.27	2.53	7.39	8.53	5.03	6.87	0.16	13.10	0.77	6.19	13.45	6.93	1.09	0.06	86.60	179.00	48%
Upstream sediment	RCC-SD-3001	D01044	0	0.5	0.44	0.41	0.01	0.05	0.17	0.14	0.13	0.17	0.02	0.62	0.02	0.15	0.65	0.35	0.03	0.00	0.43	3.77	11%
Upstream sediment	RCC-SD-3002	D01038	0	0.5	9.92	3.83	0.22	1.89	6.05	6.28	3.94	5.55	0.11	10.30	0.58	4.90	12.25	5.89	0.49	0.04	6.50	78.74	8%
Upstream sediment	RCC-SD-3003	D01042	0	0.5	2.41	0.46	0.04	0.42	0.15	1.09	0.12	1.07	0.04	0.90	0.03	0.18	0.21	0.12	0.17	0.01	0.75	8.16	9%
Upstream sediment	RWR-FP-5001	48401-83-07	0	0.5	8.78	3.02	0.15	1.13	3.11	4.64	2.36	3.10	0.11	6.72	0.26	1.55	5.86	11.03	0.59	0.05	56.70	109.16	52%
Upstream sediment	RWR-FP-5002	48401-83-08	0	0.5	3.83	1.42	0.07	0.55	1.92	2.20	1.30	1.53	0.06	3.09	0.15	1.03	3.32	1.03	0.24	0.01	1.76	23.50	7%
Upstream sediment	RWR-FP-5003	48401-83-10	0	0.5	2.79	1.48	0.07	0.42	2.04	1.81	1.36	1.39	0.04	2.66	0.21	0.97	3.79	1.23	0.22	0.02	2.29	22.80	10%
Upstream sediment	RWR-FP-5004	48401-83-11	0	0.5	10.28	4.82	0.22	1.23	5.06	4.59	3.30	3.50	0.18	8.05	0.40	2.48	6.12	4.06	0.83	0.13	9.21	64.43	14%
Upstream sediment	RWR-SD-5003	48401-77-03	0	0.5	0.67	0.26	0.01	0.14	0.44	0.51	0.26	0.18	0.08	0.53	0.05	0.17	2.56	0.42	0.05	0.00	0.51	6.83	7%
Upstream sediment	RWR-SD-5004	48401-77-05	0	0.5	1.07	2.27	0.03	0.18	0.74	0.77	0.57	0.68	0.32	0.35	0.03	0.49	1.20	0.42	0.06	0.01	0.38	9.56	4%
Upstream sediment	SD-32	AAL24038	0	0.5	0.38	0.05	0.01	0.14	0.07	0.39	-	0.35	-	0.43	-	-	0.11	0.03	0.02	0.00	0.78	2.77	28%
Upstream sediment	SD-33	AAL24039	0	0.25	3.51	5.47	0.48	0.27	14.89	5.06	6.04	2.41	-	4.10	0.48	2.61	26.20	7.85	0.04	0.04	19.07	98.51	19%
Upstream sediment	SD-34	AAL24040	0	0.25	1.19	1.86	0.09	0.58	3.32	3.62	1.43	2.68	0.49	1.77	0.32	0.93	3.60	1.03	0.06	0.00	4.84	27.80	17%
Upstream sediment	SD-35	AAL24041	0	0.25	0.41	0.01	0.01	0.23	-	0.61	0.37	0.39	-	1.53	0.07	0.29	1.05	0.34	0.02	0.00	1.21	6.53	18%
Upstream sediment	SD-36	AAL24042	0	0.25	0.13	0.10	0.00	0.06	0.17	-	-	0.06	-	0.61	0.04	0.12	0.47	0.09	0.01	0.00	0.50	2.35	21%
Upstream sediment	SD-37	AAL24043	0	0.5	0.33	0.32	0.04	0.82	-	-	-	0.82	-	4.70	-	-	0.76	0.16	0.03	0.00	2.06	10.02	21%
Upstream sediment	SD-38	AAL24044	0	0.5	1.00	0.57	0.05	0.48	1.08	1.02	0.75	54.97	-	-	0.17	0.57	1.76	0.69	0.06	0.00	-	63.16	0%
Upstream sediment	SD-39	AAL24045	0	0.25	0.23	0.49	0.03	0.08	-	0.22	-	7.84	-	0.85	-	0.21	1.01	0.38	0.01	0.00	1.08	12.43	9%
Assaumpsett sediment	RAB-FP-3004	D01050	0	0.5	0.79	0.17	0.01	0.09	0.16	0.41	0.08	0.22	0.02	0.50	0.02	0.10	0.28	0.23	0.06	0.00	0.76	3.88	20%
Assaumpsett sediment	RAB-SD-2069	D02182	0	0.5	0.24	0.07	0.01	0.08	0.25	0.27	0.21	0.23	0.10	1.10	0.00	0.41	1.00	0.34	0.02	0.00	3.40	7.73	44%
Assaumpsett sediment	RAB-SD-2070	D02183	0	0.5	0.02	0.00	0.00	0.01	0.02	0.01	0.01	0.01	0.01	0.10	0.01	0.02	0.05	0.06	0.00	0.00	0.10	0.42	24%
Assaumpsett sediment	RAB-SD-3004	D01049	0	0.5	0.08	0.01	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.20	0.01	0.02	0.08	0.02	0.01	0.00	4.50	5.02	90%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Assaumpsett sediment	RAB-SD-5004	48401-77-06	0	0.5	0.22	0.08	0.00	0.05	0.12	0.10	0.05	0.16	0.03	0.13	0.01	0.06	0.25	0.12	0.01	0.00	0.52	1.91	27%
Source Area Soil	AP-DEL-01	2102243	0	1	0.61	0.14	0.00	0.07	0.12	0.35	0.08	0.15	0.07	1.15	0.03	0.10	0.40	0.20	0.06	0.00	49.00	52.53	93%
Source Area Soil	AP-DEL-01	2102244	1	2	0.30	0.13	0.00	0.06	0.38	0.14	0.11	0.10	0.07	1.05	0.04	0.14	1.45	0.41	0.02	0.00	76.00	80.39	95%
Source Area Soil	AP-DEL-01	2102245	1	2	0.32	0.12	0.01	0.04	0.40	0.11	0.13	0.09	0.05	0.60	0.06	0.12	1.75	0.72	0.02	0.00	56.00	60.52	93%
Source Area Soil	AP-DEL-02	2102241	0	1	0.43	0.19	0.01	0.05	0.38	0.14	0.33	0.14	0.03	1.00	0.19	0.14	2.45	1.00	0.03	0.00	150.00	156.49	96%
Source Area Soil	AP-DEL-02	2102242	1	2	0.01	0.00	0.00	0.10	0.12	0.11	0.11	0.10	0.13	1.90	0.06	0.12	0.58	0.07	0.00	0.00	0.45	3.83	12%
Source Area Soil	AP-DEL-03	2102239	0	1	0.38	1.60	0.01	0.04	0.48	1.10	0.41	0.58	0.02	0.47	0.17	0.44	2.45	0.90	0.02	0.01	14.00	23.07	61%
Source Area Soil	AP-DEL-03	2102240	1	2	3.10	41.00	0.14	0.04	2.80	17.00	1.00	5.50	0.08	0.34	0.17	0.97	3.30	0.55	0.01	0.12	1.70	77.80	2%
Source Area soil	CMS-4101	CMS-SS-4101-1019-01	1	1.9	0.72	0.20	0.02	0.16	0.85	0.74	0.31	0.47	0.03	1.79	0.06	0.30	1.63	0.17	0.06	0.00	3.14	10.65	29%
Source Area soil	CMS-4101	CMS-SS-4101-3042-01	3	4.2	1.63	0.62	0.03	0.37	0.89	1.21	0.80	1.51	0.03	3.18	0.13	0.76	2.37	2.61	0.10	0.01	44.03	60.26	73%
Source Area soil	CMS-4102	CMS-SS-4102-0008-01	0	0.8	2.79	0.22	0.01	0.32	0.68	0.95	0.29	0.93	0.02	2.12	0.09	0.27	1.66	0.43	0.25	0.01	65.24	76.26	86%
Source Area soil	CMS-4102	CMS-SS-4102-1019-01	1	1.9	1.25	0.20	0.02	0.14	0.82	0.54	0.34	0.52	0.02	1.48	0.15	0.17	2.20	0.63	0.16	0.00	52.59	61.22	86%
Source Area soil	CMS-4102	CMS-SS-4102-3038-01	3	3.8	1.34	0.19	0.02	0.18	0.80	0.63	0.34	0.53	0.02	1.70	0.13	0.33	1.98	0.54	0.14	0.00	58.57	67.43	87%
Source Area soil	CMS-4103	CMS-SS-4103-0010-01	0	1	1.50	0.23	0.02	0.22	0.79	0.67	0.33	0.61	0.02	1.80	0.12	0.30	2.00	0.47	0.18	0.01	151.26	160.52	94%
Source Area soil	CMS-4104	CMS-DU-112202A-01	0	1	5.67	1.68	0.23	0.79	3.53	2.73	1.92	2.88	0.19	9.03	0.90	1.58	12.55	6.79	0.38	0.03	3020.73	3071.59	98%
Source Area soil	CMS-4104	CMS-SS-4104-0010-01	0	1	6.37	1.76	0.09	0.92	3.59	3.16	2.17	3.40	0.07	11.00	0.68	1.76	11.67	7.98	0.43	0.03	5725.28	5780.36	99%
Source Area soil	CMS-4105	CMS-SS-4105-1015-01	1	1.5	0.17	0.03	0.00	0.03	0.07	0.08	0.05	0.10	0.00	0.26	0.01	0.02	0.15	0.04	0.01	0.00	41.94	42.95	98%
Source Area soil	CMS-4105	CMS-SS-4105-3040-01	3	4	1.35	0.22	0.02	0.12	0.54	0.41	0.26	0.47	0.01	1.08	0.06	0.16	1.17	0.24	0.13	0.00	222.79	229.02	97%
Source Area soil	CMS-4106	CMS-DU-111902A-01	0	1	11.48	1.94	0.10	1.55	1.34	5.24	1.10	4.94	0.03	8.58	0.16	0.78	2.16	0.34	0.66	0.04	928.56	968.99	96%
Source Area soil	CMS-4106	CMS-SS-4106-0010-01	0	1	5.45	0.95	0.04	0.77	0.66	2.56	0.55	2.40	0.02	4.29	0.08	0.41	1.22	0.25	0.31	0.02	522.81	542.78	96%
Source Area soil	CMS-4106	CMS-SS-4106-1016-01	1	1.6	27.38	4.60	0.24	3.60	2.91	12.67	2.45	11.47	0.09	20.38	0.27	1.91	3.80	0.93	1.61	0.09	2312.37	2406.78	96%
Source Area soil	CMS-4106	CMS-SS-4106-3036-01	3	3.6	0.57	0.08	0.01	0.03	0.26	0.23	0.14	0.24	0.01	0.39	0.01	0.10	0.73	0.13	0.04	0.00	348.20	351.15	99%
Source Area soil	CMS-4107	CMS-SS-4107-1030-01	1	3	8.32	0.34	0.02	0.76	0.39	2.88	0.19	2.47	0.00	4.94	0.04	0.07	1.14	0.36	0.69	0.01	54.44	77.05	71%
Source Area soil	CMS-4107	CMS-SS-4107-3040-01	3	4	0.28	0.01	0.00	0.02	0.02	0.12	0.01	0.12	0.01	0.15	0.00	0.01	0.07	0.02	0.02	0.00	19.41	20.28	96%
Source Area soil	CMS-4108	CMS-SS-4108-0010-01	0	1	1.37	0.35	0.02	0.27	1.25	0.80	0.48	1.01	0.02	2.65	0.24	0.54	3.52	1.24	0.16	0.00	54.55	68.45	80%
Source Area soil	CMS-4108	CMS-SS-4108-1030-01	1	3	13.19	0.64	0.04	1.76	1.18	6.14	0.49	6.63	0.02	12.42	0.14	0.41	3.83	1.03	0.86	0.01	65.34	114.12	57%
Source Area soil	CMS-4108	CMS-SS-4108-3040-01	3	4	1.28	0.13	0.01	0.27	0.35	0.74	0.15	0.91	0.02	2.26	0.07	0.18	1.07	0.29	0.08	0.00	15.75	23.55	67%
Source Area soil	CMS-4109	CMS-SS-4109-0010-01	0	1	46.62	7.45	0.43	4.92	4.63	24.44	4.80	19.48	0.16	33.72	0.61	3.99	8.42	1.57	2.35	0.13	2133.09	2296.80	93%
Source Area soil	CMS-4109	CMS-SS-4109-1014-01	1	1.4	0.75	0.14	0.01	0.09	0.14	0.34	0.14	0.26	0.01	0.21	0.01	0.09	0.15	0.09	0.06	0.00	88.32	90.80	97%
Source Area soil	CMS-4109	CMS-SS-4109-3038-01	3	3.8	0.62	0.17	0.01	0.09	0.20	0.33	0.16	0.26	0.01	0.72	0.04	0.06	0.66	0.11	0.04	0.00	142.96	146.43	98%
Source Area soil	CMS-4110	CMS-SS-4110-0010-01	0	1	21.25	3.16	0.23	2.33	7.05	10.23	4.49	9.44	0.11	13.70	0.42	3.54	13.96	3.78	1.37	0.07	4064.56	4159.69	98%
Source Area soil	CMS-4110	CMS-SS-4110-1015-01	1	1.5	2.29	0.35	0.02	0.27	0.65	1.10	0.44	1.07	0.01	2.35	0.09	0.31	1.67	0.39	0.14	0.01	786.99	798.14	99%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Source Area soil	CMS-4110	CMS-SS-4110-3739-01	3.7	3.9	0.05	0.00	0.00	0.01	0.02	0.02	0.01	0.02	0.01	0.13	0.01	0.02	0.08	0.02	0.00	0.00	16.52	16.91	98%
Source Area soil	CMS-4111	CMS-SS-4111-0009-01	0	0.9	7.45	0.40	0.02	1.48	0.51	4.13	0.33	4.63	0.02	10.18	0.09	0.32	1.70	0.58	0.43	0.00	279.09	311.36	90%
Source Area soil	CMS-4111	CMS-SS-4111-1028-01	1	2.8	431.19	19.35	0.49	132.61	17.02	300.65	14.19	367.49	0.19	943.35	1.56	13.10	55.23	20.14	11.57	0.13	1663.81	3992.06	42%
Source Area soil	CMS-4111	CMS-SS-4111-3046-01	3	4.5	1.36	0.06	0.00	0.34	0.15	0.86	0.09	0.96	0.01	1.92	0.00	0.06	0.54	0.17	0.05	0.00	15.18	21.76	70%
Source Area soil	CMS-464	HA12-FD	0	1	0.13	0.07	0.01	0.09	0.28	0.18	0.35	0.08	0.15	0.79	0.04	0.91	9.60	0.14	0.01	0.00	2.61	15.43	17%
Source Area soil	CMS-481	CMS-481-A	0	1	19.40	2.54	0.13	2.37	1.98	13.40	2.58	4.85	0.78	9.03	0.36	4.45	13.45	0.49	0.99	0.03	21.70	98.53	22%
Source Area soil	CMS-482	CMS-482-A	0	1	0.26	0.11	0.00	0.06	0.15	0.18	0.14	0.11	0.03	0.31	0.04	0.28	2.37	0.14	0.02	0.00	7.32	11.52	64%
Source Area soil	CMS-500	CMS-500-A	0	1	0.22	0.11	0.01	0.08	0.30	0.20	0.30	0.15	0.03	0.85	0.17	0.49	5.65	0.95	0.01	0.00	16.80	26.33	64%
Source Area soil	CMS-500	HA16-FD	0	1	0.29	0.45	0.04	0.07	1.14	0.31	0.91	0.23	0.28	1.46	0.37	1.34	7.25	1.12	0.01	0.00	22.70	37.98	60%
Source Area soil	CMS-501	CMS-501-A	0	1	0.06	0.06	0.00	0.05	0.17	0.11	0.14	0.08	0.01	0.51	0.09	0.17	1.72	0.46	0.01	0.00	20.00	23.64	85%
Source Area soil	CMS-502	CMS-502-A	0	1	0.24	0.10	0.01	0.09	0.29	0.20	0.22	0.15	0.07	0.96	0.14	0.28	2.42	0.70	0.01	0.00	64.30	70.18	92%
Source Area soil	CMS-503	CMS-503-A	0	1	0.15	0.08	0.01	0.07	0.33	0.18	0.28	0.11	0.10	0.90	0.14	0.48	3.94	0.80	0.01	0.00	19.20	26.79	72%
Source Area soil	CMS-504	CMS-504-A	0	1	0.21	0.12	0.02	0.10	0.45	0.19	0.33	0.15	0.10	0.97	0.20	0.38	3.30	1.04	0.01	0.00	25.90	33.48	77%
Source Area soil	CMS-504	CMS-504-A-QC	0	1	0.19	0.11	0.01	0.07	0.80	0.15	0.33	0.23	0.04	1.90	0.18	0.30	2.30	1.10	0.01	0.00	28.00	35.73	78%
Source Area soil	CMS-505	CMS-505-A	0	1	0.16	0.06	0.01	0.06	0.15	0.12	0.13	0.10	0.05	0.50	0.09	0.22	1.63	0.54	0.01	0.00	9.60	13.41	72%
Source Area soil	CMS-506	CMS-506-A	0	1	0.50	0.13	0.01	0.08	0.20	0.29	0.17	0.19	0.05	0.69	0.07	0.23	1.64	0.22	0.04	0.00	21.20	25.70	82%
Source Area soil	CMS-507	CMS-507-A	0	1	0.27	0.08	0.01	0.04	0.15	0.17	0.15	0.11	0.04	0.49	0.05	0.27	2.07	0.19	0.03	0.00	43.40	47.51	91%
Source Area soil	CMS-508	CMS-508-A	0	1	0.17	0.08	0.01	0.05	0.15	0.13	0.14	0.10	0.05	0.51	0.05	0.22	1.29	0.13	0.01	0.00	15.70	18.77	84%
Source Area soil	CMW-SD-2016	D00911	0	0.5	0.57	0.15	0.01	0.14	0.18	0.36	0.12	0.42	0.12	1.20	0.06	0.02	0.47	0.15	0.04	0.00	0.60	4.59	13%
Source Area soil	CMW-SD-2017	D00912	0	0.5	5.41	1.06	0.06	0.91	0.67	2.61	0.57	2.31	0.80	5.30	0.34	0.03	1.20	0.37	0.34	0.02	2.30	24.29	9%
Source Area soil	CMW-SD-2018	D00907	0	0.5	0.99	0.18	0.01	0.20	0.31	0.57	0.21	0.82	0.26	2.60	0.02	0.05	0.55	0.35	0.07	0.00	21.50	28.69	75%
Source Area soil	CMW-SD-2019	D00906	0	0.5	41.20	5.34	0.40	5.81	11.30	18.70	5.76	18.70	0.17	36.70	2.92	6.43	33.20	16.30	2.66	0.10	8200.00	8405.68	98%
Source Area soil	CMW-SD-2020	D00904	0	0.5	12.30	1.27	0.10	2.00	4.30	4.62	2.12	6.33	0.08	15.50	1.11	2.52	16.85	10.10	0.61	0.01	4660.00	4739.83	98%
Source Area soil	CMW-SD-2021	D00902	0	0.5	21.40	3.77	0.22	3.08	3.42	10.40	2.71	9.13	0.04	14.80	0.68	3.75	8.10	3.60	1.14	0.06	2000.00	2086.29	96%
Source Area soil	CMW-SD-2022	D00921	0.5	2	3.80	1.50	0.09	0.74	2.49	2.11	1.83	2.56	2.04	6.30	0.41	0.05	5.55	1.76	0.26	0.02	186.00	217.50	86%
Source Area soil	CMW-SD-2022	D00922	2	2.5	0.19	0.12	0.02	0.13	0.31	0.12	0.18	0.13	0.25	0.80	0.09	0.08	0.80	0.34	0.01	0.00	8.90	12.47	71%
Source Area Soil	DRS-CMRP-001	1314216			0.17	0.05	0.02	0.03	0.05	1.57	0.05	0.85	0.06	25.60	0.01	0.06	5.00	0.67	0.02	0.00	39900.00	39934.23	100%
Source Area soil	MW01S	D02617	1	2	0.27	0.10	0.01	0.03	0.50	0.13	0.24	0.03	0.03	0.20	0.01	0.28	1.05	0.55	0.02	0.00	5.80	9.24	63%
Source Area soil	MW01S	D02618	2	4	0.46	0.15	0.01	0.05	1.17	0.39	0.48	0.05	0.04	1.50	1.35	0.49	3.80	3.62	0.03	0.00	1060.00	1073.57	99%
Source Area soil	MW01S	D02619	4	6	0.92	0.42	0.03	0.06	0.61	0.34	0.42	0.22	0.03	0.20	0.01	0.41	0.75	0.14	0.06	0.01	1.40	6.02	23%
Source Area soil	MW01S	D02620	6	8	0.59	0.22	0.01	0.05	0.27	0.22	0.14	0.14	0.02	0.10	0.00	0.18	0.32	0.06	0.05	0.01	2.60	4.97	52%
Source Area soil	MW02S	D02631	2	4	0.08	0.06	0.00	0.03	0.10	0.05	0.07	0.03	0.02	0.20	0.01	0.12	0.29	0.07	0.00	0.00	11.50	12.62	91%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Source Area soil	MW02S	D02632	4	6	0.17	0.15	0.01	0.04	0.25	0.11	0.20	0.13	0.02	0.43	0.01	0.31	0.75	0.26	0.01	0.00	68.10	70.93	96%
Source Area soil	MW02S	D02633	4	6	0.15	0.11	0.01	0.02	0.18	0.09	0.15	0.10	0.01	0.10	0.01	0.24	0.49	0.14	0.01	0.00	86.00	87.79	98%
Source Area soil	MW02S	D02634	6	8	0.18	0.13	0.01	0.05	0.21	0.13	0.18	0.05	0.04	0.35	0.84	0.28	0.65	0.18	0.01	0.00	65.20	68.48	95%
Source Area soil	MW02S	D02635	8	10	0.01	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.01	0.05	0.00	0.00	0.02	0.02	0.00	0.00	1.10	1.24	89%
Source Area soil	MW02S	D02636	18	20	0.00	0.00	0.00	0.02	0.01	0.02	0.01	0.02	0.02	0.10	0.01	0.01	0.05	0.01	0.00	0.00	0.10	0.36	28%
Source Area soil	MW03S	D02615	4	6	0.47	0.08	0.00	0.03	0.36	0.26	0.22	0.23	0.02	1.00	0.01	0.31	1.15	0.45	0.03	0.00	189.00	193.61	98%
Source Area soil	MW03S	D02616	6	8	0.34	0.08	0.02	0.09	0.36	0.21	0.20	0.22	0.06	3.60	0.01	0.31	2.45	0.47	0.02	0.00	907.00	915.45	99%
Source Area soil	MW04D	D03353	2	4	1.12	1.32	0.07	0.50	2.20	1.04	1.40	1.38	0.31	3.80	0.01	1.48	4.25	1.51	0.05	0.01	766.00	786.45	97%
Source Area soil	MW04D	D03354	4	6	0.00	0.00	0.00	0.02	0.01	0.02	0.01	0.02	0.01	0.10	0.01	0.01	0.03	0.01	0.00	0.00	0.28	0.51	54%
Source Area soil	MW04D	D03355	6	8	0.01	0.01	0.00	0.02	0.01	0.02	0.01	0.02	0.01	0.15	0.01	0.01	0.05	0.01	0.00	0.01	0.46	0.79	58%
Source Area soil	MW05S	D03361	1	2	0.00	0.00	0.00	0.03	0.05	0.03	0.02	0.03	0.02	0.20	0.02	0.02	0.08	0.10	0.00	0.00	2.70	3.27	83%
Source Area soil	MW05S	D03362	1	2	0.00	0.00	0.00	0.02	0.01	0.03	0.01	0.02	0.02	0.20	0.01	0.01	0.05	0.01	0.00	0.00	4.00	4.38	91%
Source Area soil	MW05S	D03363	2	4	0.13	0.03	0.00	0.03	0.10	0.11	0.07	0.06	0.02	0.75	0.01	0.06	0.50	0.17	0.01	0.00	695.00	697.05	100%
Source Area soil	MW05S	D03367	4	6	0.62	0.12	0.01	0.21	0.36	2.48	0.18	0.57	0.01	52.20	0.16	0.67	9.60	7.30	0.08	0.00	20380.00	20454.57	100%
Source Area soil	MW05S	D03364	8	10	0.00	0.00	0.00	0.04	0.02	0.19	0.02	0.11	0.03	2.80	0.03	0.02	0.13	0.09	0.00	0.00	745.00	748.48	100%
Source Area soil	MW05S	D03365	10	12	0.02	0.00	0.00	0.04	0.03	1.73	0.03	0.69	0.04	7.80	0.02	0.03	0.15	0.03	0.00	0.00	330.00	340.59	97%
Source Area soil	MW06S	D02599	2	4	7.55	3.27	0.57	1.72	12.70	5.48	5.88	5.63	0.21	16.50	-	4.37	20.15	6.37	0.65	0.10	193.00	284.15	68%
Source Area soil	MW06S	D02600	2	4	4.55	2.10	0.29	1.10	9.41	3.73	3.43	3.57	0.15	11.70	-	3.27	14.00	5.26	0.53	0.08	190.00	253.16	75%
Source Area soil	MW06S	D02601	4	6	1.47	0.59	0.07	0.58	4.04	2.03	1.57	1.74	0.02	6.10	-	1.40	4.75	1.70	0.10	0.01	1.30	27.48	5%
Source Area soil	MW06S	D02602	6	8	0.77	0.32	0.04	0.27	1.87	0.94	0.78	0.86	0.02	3.10	-	0.69	2.30	0.81	0.07	0.01	0.84	13.68	6%
Source Area soil	MW07S	D02603	3	4	1.05	0.32	0.02	0.15	0.48	0.53	0.28	0.44	0.01	1.40	-	0.35	0.95	0.28	0.07	0.01	417.00	423.34	99%
Source Area soil	MW07S	D02604	4	6	0.17	0.07	0.00	0.02	0.14	0.05	0.07	0.05	0.02	0.10	0.01	0.07	0.29	0.06	0.08	0.00	40.30	41.49	97%
Source Area soil	MW07S	D02605	6	8	0.00	0.02	0.00	0.01	0.10	0.01	0.05	0.01	0.01	0.10	0.03	0.02	0.16	0.05	0.00	0.00	3.10	3.67	85%
Source Area soil	MW08S	D02608	1	2	11.50	5.48	0.51	2.03	24.80	7.22	8.26	13.60	0.18	17.10	0.04	10.30	27.45	4.15	0.56	0.03	47.90	181.10	26%
Source Area soil	MW08S	D02610	2	4	0.34	0.84	0.03	0.07	0.73	0.24	0.52	0.37	0.02	0.20	0.01	0.51	1.40	0.17	0.02	0.01	3.10	8.56	36%
Source Area soil	MW08S	D02611	2	4	0.37	0.75	0.03	0.08	1.05	0.28	0.56	0.42	0.02	1.10	0.01	0.58	1.85	0.22	0.02	0.00	3.80	11.13	34%
Source Area soil	MW08S	D02612	4	6	0.22	0.04	0.00	0.02	0.18	0.02	0.10	0.07	0.02	0.15	0.01	0.06	0.40	0.08	0.06	0.00	0.76	2.18	35%
Source Area soil	MW08S	D02613	6	8	0.02	0.02	0.00	0.02	0.11	0.02	0.01	0.02	0.02	0.15	0.01	0.02	0.08	0.01	0.00	0.00	0.15	0.64	23%
Source Area soil	MW09S	D02592	4	6	0.16	0.27	0.02	0.02	0.62	0.11	0.53	0.02	0.01	1.60	-	0.30	0.90	1.02	0.01	0.00	7150.00	7155.59	100%
Source Area soil	MW09S	D02594	10	11	0.01	0.01	0.00	0.01	0.04	0.01	0.02	0.01	0.01	0.10	-	0.02	0.15	0.09	0.00	0.00	25.00	25.46	98%
Source Area soil	MW14M	D03682	1	2	0.84	0.29	0.04	0.18	1.44	0.42	0.62	0.53	0.03	0.30	1.47	0.51	2.90	1.52	0.07	0.01	3.30	14.45	23%
Source Area soil	MW14M	D03683	1	2	1.12	0.40	0.06	0.11	2.09	0.65	0.84	0.83	0.09	0.90	0.77	0.78	3.90	2.05	0.10	0.01	4.60	19.29	24%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Source Area soil	MW14M	D03684	2	4	0.03	0.03	0.00	0.02	0.08	0.02	0.01	0.02	0.02	0.15	0.01	0.04	0.05	0.11	0.00	0.00	2.80	3.38	83%
Source Area soil	MW14M	D03687	6	8	0.00	0.00	0.00	0.01	0.00	0.22	0.00	0.01	0.01	2.20	0.00	0.04	0.02	0.16	0.00	0.00	4.20	6.88	61%
Source Area soil	MW15D	D03700	2	4	0.02	0.01	0.00	0.02	0.06	0.02	0.02	0.02	0.02	0.20	0.01	0.02	0.08	0.05	0.00	0.00	80.10	80.63	99%
Source Area soil	MW15D	D03701	4	6	0.88	0.15	0.01	0.09	0.72	0.09	0.06	0.09	0.07	0.45	0.02	0.05	1.60	0.57	0.08	0.00	2640.00	2644.91	100%
Source Area soil	MW15D	D03702	4	6	0.64	0.12	0.02	0.09	0.66	0.17	0.14	0.09	0.17	0.40	0.02	0.14	1.80	0.48	0.06	0.00	1470.00	1475.00	100%
Source Area soil	MW15D	D03703	6	8	0.01	0.00	0.00	0.03	0.02	0.03	0.02	0.03	0.03	0.30	0.01	0.02	0.10	0.02	0.00	0.00	23.90	24.52	97%
Source Area Soil	MW-LEA-01	1314197	0	2	0.06	0.02	0.00	0.01	0.04	0.03	0.02	0.04	0.01	0.20	0.01	0.03	0.18	0.05	0.00	0.00	25.70	26.39	97%
Source Area Soil	MW-LEA-01	1314198	2	4	0.12	0.03	0.00	0.05	0.12	0.39	0.07	0.11	0.02	35.60	0.03	0.22	1.85	0.34	0.01	0.00	33400.00	33438.95	100%
Source Area Soil	MW-LEA-01	1314199	4	6	0.12	0.03	0.00	0.07	0.08	0.39	0.03	0.10	0.03	48.20	0.01	0.21	1.24	0.40	0.01	0.00	32700.00	32750.91	100%
Source Area Soil	MW-LEA-01	1314200	6	8	0.10	0.03	0.00	0.05	0.08	0.28	0.02	0.07	0.03	20.10	0.01	0.18	1.13	0.36	0.01	0.00	26900.00	26922.44	100%
Source Area Soil	MW-LEA-01	1314201	8	10	0.00	0.00	0.00	0.02	0.01	0.02	0.01	0.02	0.02	0.49	0.00	0.01	0.04	0.03	0.00	0.00	1280.00	1280.68	100%
Source Area Soil	MW-LEA-01	1314202	8	10	0.00	0.01	0.00	0.01	0.02	0.01	0.01	0.01	0.01	0.85	0.00	0.01	0.04	0.03	0.00	0.00	1480.00	1481.04	100%
Source Area Soil	MW-LEA-01	1314203	10	12	0.01	0.01	0.00	0.01	0.01	0.21	0.01	0.01	0.01	1.06	0.00	0.09	0.04	0.02	0.00	0.00	1120.00	1121.50	100%
Source Area Soil	MW-LEA-01	1314204	12	14	0.00	0.01	0.00	0.01	0.01	2.04	0.13	0.41	0.01	5.19	0.01	0.40	0.37	0.01	0.00	0.00	325.00	333.62	97%
Source Area Soil	MW-LEA-02	1314205	0	2	0.04	0.03	0.00	0.01	0.04	0.05	0.01	0.01	0.02	0.92	0.01	0.03	0.20	0.08	0.00	0.00	1430.00	1431.48	100%
Source Area Soil	MW-LEA-02	1314206	2	4	0.03	0.09	0.00	0.01	0.10	0.08	0.03	0.04	0.01	1.40	0.00	0.03	0.25	0.10	0.00	0.00	5180.00	5182.19	100%
Source Area Soil	MW-LEA-02	1314207	4	6	0.03	0.01	0.00	0.01	0.01	0.07	0.01	0.01	0.02	0.66	0.00	0.01	0.14	0.04	0.00	0.00	2380.00	2381.04	100%
Source Area Soil	MW-LEA-02	1314208	6	8	0.01	0.08	0.00	0.01	0.12	0.25	0.05	0.05	0.01	1.43	0.01	0.06	0.17	0.03	0.00	0.00	1640.00	1642.28	100%
Source Area Soil	MW-LEA-02	1314209	8	10	0.01	0.00	0.00	0.01	0.01	0.30	0.02	0.06	0.01	2.19	0.01	0.06	0.22	0.05	0.00	0.00	3240.00	3242.96	100%
Source Area Soil	MW-LEA-02	1314210	10	12	0.00	0.00	0.00	0.01	0.01	0.26	0.01	0.07	0.01	3.14	0.00	0.05	0.15	0.17	0.00	0.00	12600.00	12603.89	100%
Source Area Soil	MW-LEA-03	1314211	0	2	0.08	0.04	0.00	0.01	0.08	0.07	0.04	0.05	0.01	0.57	0.03	0.05	0.38	0.07	0.01	0.00	890.00	891.50	100%
Source Area Soil	MW-LEA-03	1314212	2	4	0.01	0.01	0.00	0.01	0.01	0.74	0.01	0.04	0.01	3.66	0.02	0.07	4.40	0.01	0.00	0.00	659.00	668.01	99%
Source Area Soil	MW-LEA-03	1314213	4	6	0.01	0.00	0.00	0.01	0.01	0.03	0.01	0.01	0.01	0.39	0.00	0.01	0.09	0.02	0.00	0.00	289.00	289.60	100%
Source Area Soil	MW-LEA-03	1314214	6	8	0.08	0.03	0.00	0.01	0.06	0.12	0.03	0.04	0.02	1.02	0.02	0.07	0.45	0.06	0.01	0.00	1330.00	1332.00	100%
Source Area Soil	MW-LEA-03	1314215	8	10	0.00	0.00	0.00	0.01	0.01	0.07	0.01	0.01	0.01	0.46	0.00	0.02	0.02	0.00	0.00	0.00	45.90	46.53	99%
Source Area soil	RES-14-271-01	D01141	0	1	1.14	0.23	0.01	0.27	0.22	0.65	0.23	0.58	0.04	0.25	0.12	0.41	1.40	0.26	0.07	0.01	231.00	236.87	98%
Source Area soil	RES-14-303-01	D01052	0	1	44.20	3.54	0.45	7.45	17.20	19.90	7.04	23.80	0.19	39.50	3.05	7.31	31.25	10.90	2.92	0.06	4030.00	4248.75	95%
Source Area soil	RES-14-303-02	D01054	0	1	13.30	1.39	0.08	3.39	3.73	8.04	1.93	9.58	0.14	28.90	0.45	2.20	9.25	5.70	0.65	0.02	10520.00	10608.74	99%
Source Area soil	RES-14-333-01	D01055	0	1	15.80	3.71	0.22	3.90	3.52	9.80	2.84	8.82	0.19	23.70	0.66	3.68	8.70	3.06	0.94	0.09	1290.00	1379.63	94%
Source Area soil	RES-14-333-02	D01056	0	1	0.95	0.54	0.02	0.19	0.50	0.50	0.40	0.56	0.04	0.35	0.04	0.74	1.45	0.47	0.06	0.00	96.10	102.92	93%
Source Area soil	SB02	D02626	2	4	7.14	0.01	0.02	0.66	2.19	2.17	1.18	2.63	0.06	4.30	5.30	1.72	4.70	2.29	0.47	0.01	923.00	957.85	96%
Source Area soil	SB02	D02627	4	6	5.61	0.32	0.05	0.46	1.30	1.56	0.56	1.45	0.09	2.60	2.04	0.73	3.25	1.38	0.32	0.01	964.00	985.71	98%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Source Area soil	SB02	D02628	6	8	3.33	0.27	0.03	0.33	1.12	1.03	0.49	1.10	0.09	2.10	1.73	0.67	3.00	1.03	0.23	0.00	970.00	986.55	98%
Source Area soil	SB03	D02637	2	4	0.57	0.10	0.01	0.07	0.14	0.31	0.13	0.17	0.05	0.55	0.01	0.14	0.38	0.14	0.04	0.00	12.70	15.50	82%
Source Area soil	SB03	D02638	4	6	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.10	0.00	0.01	0.03	0.01	0.00	0.00	0.50	0.70	71%
Source Area soil	SB03	D02639	4	6	0.01	0.00	0.00	0.01	0.01	0.01	0.00	0.01	0.01	0.05	0.00	0.01	0.03	0.00	0.00	0.00	0.22	0.37	60%
Source Area soil	SB03	D02642	6	8	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.10	0.00	0.01	0.03	0.01	0.00	0.00	0.16	0.35	45%
Source Area soil	SB03	D02643	18	20	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.05	0.00	0.01	0.03	0.00	0.00	0.00	0.05	0.19	26%
Source Area soil	SB-14-271	D03376	1	2	0.19	0.12	0.01	0.04	0.43	0.14	0.26	0.13	0.03	0.75	0.01	0.37	1.45	0.80	0.01	0.00	42.00	46.74	90%
Source Area soil	SB-14-271	D03377	2	4	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.10	0.01	0.01	0.05	0.01	0.00	0.00	0.10	0.34	29%
Source Area soil	SB-14-271	D03378	4	6	0.02	0.01	0.00	0.01	0.03	0.01	0.02	0.01	0.01	0.10	0.01	0.02	0.05	0.06	0.00	0.00	12.20	12.55	97%
Source Area soil	SB-14-271	D03379	6	8	0.00	0.00	0.00	0.01	0.00	0.01	0.01	0.01	0.01	0.05	0.00	0.00	0.03	0.01	0.00	0.00	0.66	0.78	85%
Source Area soil	SD-30	AAL24036	0	0.5	9.10	0.74	0.07	1.69	4.14	3.87	2.01	5.15	-	20.04	7.55	0.80	4.66	58.76	0.47	0.00	15738.10	15857.14	99%
Source Area soil	SD-31	AAL24037	0	0.5	0.37	0.07	0.01	0.17	-	0.43	0.07	0.48	-	0.33	0.01	-	0.32	0.08	0.02	0.00	0.92	3.27	28%
Allendale sediment	AD-01	AD-01-A	0	1	0.14	0.04	0.00	0.02	0.02	0.04	-	0.04	0.01	0.29	0.01	0.03	0.05	0.02	0.01	0.00	68.00	68.71	99%
Allendale sediment	AD-01	AD01-FD	0	1	56.00	6.70	0.43	10.00	8.40	20.00	7.00	23.00	0.24	81.00	1.30	3.60	34.50	11.00	3.80	0.10	93000.00	93267.07	100%
Allendale sediment	AD-01	AD-01-B	9	10	0.01	0.05	0.00	0.01	0.38	0.02	-	0.01	0.02	0.30	0.04	0.06	0.45	0.11	0.00	0.00	2.50	3.97	63%
Allendale sediment	AD-01	AD-01-C	10.7	11.7	0.00	0.00	0.00	0.02	0.01	0.02	-	0.02	0.01	0.23	0.01	0.01	0.10	0.01	0.00	-	1.40	1.85	76%
Allendale sediment	AD-02	AD-02-A	0	1	0.01	0.09	0.00	0.02	0.05	0.03	-	0.02	0.01	0.23	0.01	0.02	0.09	0.02	0.00	0.00	0.68	1.27	53%
Allendale sediment	AD-02	AD-02-B	7	9	0.01	0.05	0.00	0.03	0.02	0.03	-	0.03	0.01	0.22	0.01	0.01	0.06	0.01	0.00	0.00	0.25	0.72	34%
Allendale sediment	AD-02	AD-02-C	11	12	0.01	0.05	0.00	0.02	0.02	0.02	-	0.02	0.01	0.19	0.01	0.01	0.09	0.01	0.01	0.00	3.90	4.39	89%
Allendale sediment	AD-03	AD-03-A	0	1	0.04	0.03	0.00	0.02	0.02	0.03	-	0.02	0.01	0.27	0.01	0.01	0.10	0.03	0.01	0.00	14.00	14.58	96%
Allendale sediment	AD-03	AD-03-C	6	7	0.01	0.00	0.00	0.02	0.00	0.02	-	0.02	0.00	0.14	0.01	0.00	0.08	0.01	0.01	0.00	0.20	0.52	39%
Allendale sediment	AD-04	AD-04-A	0	1	18.00	7.60	0.32	3.30	9.00	10.00	7.80	9.50	0.14	31.00	1.00	3.70	19.00	5.20	1.30	0.08	26000.00	26126.94	100%
Allendale sediment	AD-04	AD-04-A-QC	0	1	24.50	3.64	0.22	3.33	4.71	9.11	3.93	7.90	1.26	44.00	0.71	5.14	42.25	7.23	1.49	0.06	34200.00	34359.48	100%
Allendale sediment	AD-04	AD-04-B	2	3	0.54	0.28	0.01	0.06	0.39	0.36	0.35	0.31	0.01	0.43	0.03	0.08	0.35	0.24	0.04	0.00	570.00	573.47	99%
Allendale sediment	AD-04	AD-04-C	9	10	0.00	0.00	0.00	0.02	0.01	0.02	-	0.01	0.01	0.14	0.00	0.01	0.05	0.01	0.00	0.00	6.50	6.79	96%
Allendale sediment	Allendale Dam	27708A	0	0.33	7.39	3.87	0.04	2.92	2.81	6.23	2.47	6.52	1.67	1.41	0.04	0.82	0.44	0.06	0.68	0.06	4170.00	4207.43	99%
Allendale sediment	APB-BK-2003	D00861	0	0.5	0.22	0.07	0.00	0.06	0.07	0.08	0.05	0.17	0.01	0.84	0.07	0.06	0.28	0.10	0.02	0.00	118.00	120.09	98%
Allendale sediment	APB-BK-2003	D00862	0	0.5	0.39	0.12	0.01	0.09	0.09	0.30	0.06	0.35	0.02	1.10	0.14	0.17	0.45	0.16	0.03	0.00	173.00	176.45	98%
Allendale sediment	APB-BK-2003	D00863	0	0.5	0.02	0.02	0.00	0.01	0.10	0.03	0.05	0.09	0.01	0.55	0.02	0.14	0.85	0.11	0.00	0.00	0.88	2.88	31%
Allendale sediment	APB-BK-2003	D00870	0	0.5	0.20	0.06	0.00	0.02	0.04	0.04	0.03	0.06	0.02	0.41	0.02	0.04	-	0.06	0.03	0.00	117.00	118.04	99%
Allendale sediment	APB-FP-2028	D00937	0.5	2	0.34	0.55	0.02	0.12	0.70	0.30	0.59	0.33	0.39	1.50	0.24	0.03	1.50	0.70	0.02	0.00	153.00	160.31	95%
Allendale sediment	APB-FP-2028	D00938	2	3.5	0.08	0.07	0.01	0.07	0.21	0.06	0.12	0.07	0.08	0.50	0.01	0.05	0.60	0.25	0.00	0.00	27.70	29.88	93%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Allendale sediment	APB-FP-2033	D00941	0	0.5	11.50	3.47	0.18	2.21	5.05	6.21	3.19	5.97	4.63	22.20	1.16	0.05	13.40	6.05	0.78	0.06	4060.00	4146.10	98%
Allendale sediment	APB-FP-2033	D00942	0.5	2	6.65	4.60	0.19	1.45	7.54	4.65	5.85	4.90	9.92	25.20	6.40	0.23	22.40	7.93	0.32	0.04	3950.00	4058.26	97%
Allendale sediment	APB-SD-2029	D00947	0	0.5	0.24	0.09	0.01	0.05	0.13	0.14	0.12	0.17	0.04	0.45	0.08	0.13	0.55	0.14	0.01	0.00	326.00	328.34	99%
Allendale sediment	APB-SD-2029	D00949	0	0.5	0.42	0.14	0.01	0.06	0.18	0.21	0.13	0.23	0.05	0.55	0.08	0.18	0.20	0.19	0.03	0.00	252.00	254.65	99%
Allendale sediment	APB-SD-2029	D00946	0.5	2	0.05	0.01	0.01	0.05	0.03	0.04	0.03	0.05	0.04	0.35	0.01	0.03	0.10	0.02	0.00	0.00	56.70	57.51	99%
Allendale sediment	APB-SD-2029	D00948	2	3	0.05	0.02	0.01	0.06	0.04	0.06	0.04	0.06	0.04	0.50	0.02	0.04	0.18	0.03	0.00	0.00	36.40	37.51	97%
Allendale sediment	APB-SD-2034	D00981	0	0.5	11.20	3.77	0.21	1.70	3.95	5.19	2.94	5.25	0.28	11.80	0.58	3.31	6.20	2.91	0.38	0.06	2010.00	2069.73	97%
Allendale sediment	APC-SD-2035	D00983	0	0.5	9.73	3.02	0.18	1.28	3.97	4.14	2.65	4.79	0.27	9.70	0.54	3.57	7.15	2.75	0.62	0.05	3110.00	3164.40	98%
Allendale sediment	APC-SD-2035	D00984	0.5	2	2.60	5.93	0.15	0.57	3.69	2.01	3.25	1.94	0.31	5.80	0.61	3.32	6.05	2.34	0.16	0.04	690.00	728.77	95%
Allendale sediment	APC-SD-2035	D00985	2	4	0.14	0.55	0.01	0.08	0.17	0.11	0.26	0.22	0.04	0.45	0.05	0.25	0.80	0.28	0.01	0.00	41.80	45.21	92%
Allendale sediment	APC-SD-2035	D00986	4	5	0.15	0.15	0.01	0.09	0.12	0.10	0.11	0.17	0.04	0.35	0.07	0.14	0.55	0.24	0.01	0.00	46.80	49.08	95%
Allendale sediment	APC-SD-2036	D00982	0	0.5	14.10	3.89	0.26	2.01	4.40	5.38	3.14	6.28	0.36	12.40	0.61	4.27	7.55	2.93	0.83	0.07	3270.00	3338.47	98%
Allendale sediment	APC-SD-2036	D00987	0	0.5	13.20	4.00	0.27	1.85	4.07	6.14	3.34	6.08	0.17	11.70	0.56	3.52	6.70	3.37	0.59	0.07	2070.00	2135.62	97%
Allendale sediment	CMS-188	48401-83-03	0	0.5	6.76	1.49	0.09	0.75	2.33	3.16	1.36	2.45	0.04	4.92	0.14	0.88	4.19	1.56	0.46	0.03	4718.26	4748.87	99%
Allendale sediment	CMS-465	CMS-465-A	0	1	0.59	0.12	0.01	0.10	0.10	0.13	0.10	0.11	0.04	0.30	0.03	0.13	0.79	0.16	0.04	0.00	135.00	137.74	98%
Allendale sediment	CMS-467	CMS-467-A	0	1	4.34	0.81	0.04	1.05	0.92	7.55	0.79	5.02	0.22	49.40	0.15	1.12	8.55	2.13	0.22	0.01	2680.00	2762.31	97%
Allendale sediment	CMS-470	CMS-470-A	0	1	32.70	5.08	0.59	8.45	6.40	21.20	4.43	20.20	2.59	187.00	0.89	5.91	55.50	18.40	1.50	0.07	27500.00	27870.91	99%
Allendale sediment	CMS-470	CMS-470-B	1	2	20.50	8.68	0.78	5.84	8.85	84.50	6.44	40.90	3.81	253.00	1.11	8.36	58.50	11.50	0.95	0.10	13200.00	13713.83	96%
Allendale sediment	CMS-471	CMS-471-A	0	1	3.14	1.88	0.14	0.73	2.18	1.99	2.08	1.49	0.66	6.23	0.34	2.28	15.15	1.79	0.19	0.03	2120.00	2160.30	98%
Allendale sediment	CMS-471	CMS-471-B	1	2	4.69	2.82	0.24	1.07	3.75	2.94	3.90	2.17	1.06	12.20	0.69	3.44	22.15	2.76	0.27	0.04	4020.00	4084.19	98%
Allendale sediment	CMS-471	CMS-471-C	2	3	0.48	0.68	0.03	0.10	0.40	0.29	0.46	0.20	0.12	1.07	0.08	0.47	3.17	0.24	0.03	0.01	321.00	328.81	98%
Allendale sediment	CMS-472	CMS-472-A	0	1	18.00	2.90	0.24	2.73	1.89	8.04	2.00	5.91	0.45	12.50	0.34	2.86	11.35	0.86	1.32	0.10	1430.00	1501.48	95%
Allendale sediment	CMS-477	CMS-477-A	0	1	6.28	4.46	0.33	1.14	5.50	3.23	6.80	2.32	0.91	13.30	1.15	4.27	21.85	3.08	0.37	0.07	5150.00	5225.06	99%
Allendale sediment	CMS-477	CMS-477-B	1	2	0.25	0.09	0.01	0.04	0.15	0.13	0.11	0.11	0.04	0.21	0.02	0.11	0.86	0.18	0.02	0.00	240.00	242.30	99%
Allendale sediment	CMS-477	HA13-FD	1	2	0.08	0.06	0.00	0.01	0.09	0.03	0.09	0.05	0.02	0.12	0.03	0.08	0.55	0.21	0.01	0.00	63.40	64.84	98%
Allendale sediment	CMS-477	CMS-477-C	2	3	2.86	1.91	0.09	0.52	1.52	1.73	1.59	1.17	0.23	10.60	0.25	1.80	12.75	1.45	0.18	0.02	2730.00	2768.66	99%
Allendale sediment	CMS-477	CMS-477-C-QC	2	3	8.70	2.70	0.14	1.20	3.40	4.90	2.70	4.10	0.04	16.00	0.24	1.70	9.50	2.40	0.55	0.03	8800.00	8858.30	99%
Allendale sediment	CMS-484	CMS-484-A	0	1	0.78	0.18	0.02	0.17	0.12	0.38	0.14	0.35	0.02	0.40	0.01	0.25	1.52	0.04	0.05	0.01	0.26	4.69	5%
Allendale sediment	CMS-484	CMS-484-B	1	2	0.78	0.21	0.01	0.10	0.12	0.37	0.14	0.21	0.02	0.35	0.01	0.25	1.84	0.07	0.05	0.01	3.59	8.11	44%
Allendale sediment	CMS-484	HA14-FD	1	2	0.97	0.27	0.02	0.14	0.18	0.46	0.21	0.28	0.03	0.36	0.04	0.43	2.96	0.13	0.06	0.01	1.15	7.71	15%
Allendale sediment	CMS-484	CMS-484-C	2	3	0.33	0.27	0.02	0.15	0.61	0.65	1.38	0.36	0.37	1.89	0.04	3.88	39.15	0.37	0.01	-	0.21	49.70	0%
Allendale sediment	CMS-484	CMS-484-C-QC	2	3	0.61	0.51	0.04	0.08	1.20	1.00	2.00	0.61	0.02	1.35	0.19	2.00	8.00	0.76	0.04	0.01	4.40	22.81	19%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Allendale sediment	CMS-487	CMS-487-A	0	1	23.00	2.75	0.18	6.11	4.29	13.80	3.40	13.90	1.00	78.90	0.72	5.02	49.70	11.70	0.97	0.04	44900.00	45115.47	100%
Allendale sediment	CMS-487	CMS-487-B	1	2	14.80	5.86	0.36	4.14	6.40	9.56	6.11	9.87	1.79	42.90	0.89	8.31	67.50	8.20	0.63	0.06	22800.00	22987.37	99%
Allendale sediment	CMS-487	CMS-487-C	2	3	10.90	6.44	0.23	3.04	4.47	7.54	4.64	6.81	0.90	33.50	0.67	6.10	46.55	6.11	0.47	0.05	6870.00	7008.42	98%
Allendale sediment	CMS-489	CMS-489-A	0	1	27.00	3.29	0.22	6.93	5.63	16.50	4.17	16.80	1.12	77.40	0.90	5.70	44.65	11.10	1.19	0.05	16200.00	16422.65	99%
Allendale sediment	CMS-490	CMS-490-A	0	1	0.91	0.38	0.02	0.14	0.33	0.40	0.36	0.32	0.07	1.73	0.05	0.35	2.23	0.42	0.06	0.01	728.00	735.77	99%
Allendale sediment	CMS-490	CMS-490-B	1	2	0.52	0.30	0.02	0.09	0.21	0.24	0.25	0.19	0.03	0.84	0.04	0.23	1.26	0.22	0.03	0.00	307.00	311.45	99%
Allendale sediment	CMS-490	CMS-490-B-QC	1	2	0.52	0.42	0.01	0.04	0.43	0.13	0.38	0.12	0.04	0.65	0.02	0.11	0.35	0.21	0.04	0.00	450.00	453.45	99%
Allendale sediment	CMS-490	HA15-FD	1	2	0.56	0.33	0.02	0.10	0.22	0.26	0.26	0.21	0.03	0.93	0.04	0.24	1.56	0.26	0.04	0.00	351.00	356.05	99%
Allendale sediment	CMS-493	CMS-493-A	0	1	0.81	0.14	0.01	0.16	0.16	0.44	0.17	0.37	0.02	1.87	0.03	0.32	2.82	0.29	0.05	0.00	693.00	700.68	99%
Allendale sediment	CMS-493	CMS-493-B	1	2	2.18	0.74	0.05	0.44	0.89	1.22	0.90	0.98	0.21	4.53	0.13	1.09	8.60	1.29	0.14	0.01	1370.00	1393.39	98%
Allendale sediment	CMS-493	CMS-493-C	2	3	1.85	1.94	0.17	0.48	2.05	1.22	2.80	0.94	0.49	4.59	0.39	2.10	10.30	1.19	0.09	0.03	654.00	684.62	96%
Allendale sediment	CMS-494	CMS-494-A	0	1	5.08	4.98	0.26	1.03	3.70	3.19	4.25	2.29	0.92	13.40	0.64	4.37	26.00	2.83	0.27	0.04	4130.00	4203.25	98%
Allendale sediment	CMS-495	CMS-495-A	0	1	6.92	3.06	0.13	1.38	2.58	3.90	2.19	3.03	0.70	17.60	0.38	2.96	26.65	3.89	0.40	0.03	7560.00	7635.81	99%
Allendale sediment	CMS-496	CMS-496-A	0	1	3.01	0.63	0.09	0.90	1.17	2.04	0.84	1.85	0.29	6.08	0.31	1.35	9.65	0.99	0.16	0.02	574.00	603.37	95%
Allendale sediment	CMS-FP-4001	48401-83-02	0	0.5	8.15	1.91	0.10	1.05	1.42	3.60	1.25	3.46	0.06	6.36	0.13	0.84	2.30	0.83	0.57	0.05	1582.71	1614.77	98%
Allendale sediment	CMS-FP-4001	48401-83-06	0	0.5	13.71	2.90	0.16	1.85	2.10	5.66	1.90	5.02	0.05	9.49	0.18	1.19	3.32	1.05	1.09	0.07	1057.60	1107.34	96%
Allendale sediment	CMS-FP-4003	48401-83-04	0	0.5	8.66	2.37	0.13	1.04	2.08	3.92	1.70	3.33	0.62	7.23	0.11	1.11	3.06	1.24	0.64	0.05	2383.01	2420.31	98%
Allendale sediment	CMS-FP-4005	48401-83-05	0	0.5	14.11	3.06	0.18	1.60	2.03	7.04	1.83	5.78	0.39	9.79	0.14	1.36	3.34	1.37	1.00	0.08	634.29	687.39	92%
Allendale sediment	CMS-SD-4003	48401-77-07	0	0.5	1.11	0.68	0.03	0.17	0.58	0.60	0.51	0.54	0.01	0.47	0.02	0.35	1.24	0.71	0.07	0.01	327.90	334.99	98%
Allendale sediment	CMS-SD-4006	48401-77-08	0	0.5	5.84	1.94	0.08	0.57	1.20	2.50	1.06	2.32	0.02	4.46	0.12	0.68	1.95	1.99	0.52	0.04	3199.28	3224.55	99%
Allendale sediment	CMS-SD-4007	48401-77-09	0	0.5	2.46	1.18	0.05	0.56	1.37	1.43	1.16	2.40	0.02	1.66	0.13	1.00	3.25	1.22	0.12	0.02	381.41	399.43	95%
Allendale sediment	CMS-SD-4204	CMS-SD-4204-0005-0010	0.05	0.1	23.44	3.87	0.21	3.05	2.79	9.43	2.54	10.33	0.07	20.88	0.28	1.70	7.94	3.40	1.54	0.09	2989.99	3081.56	97%
Allendale sediment	CMS-SD-4204	CMS-SD-4204-0055-0060	0.55	0.6	22.13	9.40	0.49	4.18	18.15	11.90	11.06	15.94	2.73	28.33	2.40	6.14	47.24	23.94	1.34	0.11	1622.78	1828.25	89%
Allendale sediment	CMS-SD-4204	CMS-SD-4204-0200-0210	2	2.1	0.02	0.01	0.01	0.02	0.01	0.02	0.02	0.02	0.02	0.13	0.01	0.02	0.05	0.01	0.00	0.00	1.75	2.09	84%
Allendale sediment	CMS-SD-4206	CMS-SD-4206-0035-0045	0.35	0.45	17.38	29.14	0.72	2.67	18.88	10.61	18.28	10.96	0.05	23.68	2.12	7.78	32.48	15.21	1.05	0.17	2741.63	2932.81	93%
Allendale sediment	CMS-SD-4206	CMS-SD-4206-0105-0115	1.05	1.15	15.28	4.68	0.22	1.65	3.40	6.29	3.24	5.89	0.07	11.99	0.38	2.06	6.46	3.05	1.13	0.08	5451.65	5517.51	99%
Allendale sediment	CMS-SD-4206	CMS-SD-4206-0140-0145	1.4	1.45	0.77	0.41	0.10	0.30	0.41	0.41	0.31	0.56	0.31	1.40	0.05	0.52	0.85	0.31	0.07	0.01	216.43	223.19	97%
Allendale sediment	CMS-SD-4209	CMS-SD-4209-0035-0045	0.35	0.4	9.97	3.16	0.15	0.84	2.14	4.29	1.90	3.52	0.01	5.67	0.22	1.05	3.55	1.50	0.74	0.07	3479.12	3517.87	99%
Allendale sediment	CMS-SD-4209	CMS-SD-4209-0065-0075	0.65	0.7	1.45	0.92	0.05	0.10	1.07	1.19	0.98	0.35	0.02	4.60	0.15	0.33	3.74	2.17	0.10	0.01	15755.54	15772.77	100%
Allendale sediment	CMS-SD-4209	CMS-SD-4209-0160-0170	1.6	1.7	0.09	0.30	0.02	0.02	0.74	0.06	0.48	0.12	0.04	0.85	0.23	0.29	2.06	5.43	0.01	0.01	12.60	23.34	54%
Allendale sediment	CMS-SD-4210	CMS-SD-4210-0030-0040	0.3	0.4	7.66	2.33	0.15	1.19	1.99	3.78	1.87	3.77	0.10	10.34	0.22	1.49	5.21	2.71	0.53	0.05	1666.17	1709.55	97%
Allendale sediment	CMS-SD-4210	CMS-SD-4210-0080-0090	0.8	0.9	11.92	3.14	0.15	1.50	3.12	5.56	2.69	4.85	0.04	13.79	0.47	2.05	8.31	4.34	0.83	0.07	3723.82	3786.65	98%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Allendale sediment	CMS-SD-4210	CMS-SD-4210-0200-0210	2	2.1	0.13	0.14	0.03	0.07	0.15	0.08	0.15	0.07	0.04	1.68	0.14	0.14	1.50	1.43	0.01	0.00	26.41	32.16	82%
Allendale sediment	CMS-SD-4212	CMS-SD-4212-0000-0010	0	0.1	16.99	4.40	0.11	4.93	3.91	6.86	3.45	6.50	0.03	16.75	0.31	1.02	3.94	4.23	1.20	0.08	8933.85	9008.57	99%
Allendale sediment	CMS-SD-4212	CMS-SD-4212-0055-0065	0.55	0.65	24.23	28.38	0.69	3.42	16.60	11.86	18.01	12.64	0.06	33.46	1.16	9.17	28.13	16.89	1.54	0.17	15962.06	16168.47	99%
Allendale sediment	CMS-SD-4212	CMS-SD-4212-0125-0135	1.25	1.35	0.10	0.10	0.01	0.04	0.18	0.09	0.16	0.11	0.05	1.50	0.09	0.10	0.53	0.38	0.01	0.00	150.94	154.39	98%
Allendale sediment	CMS-SD-4213	CMS-SD-4213-0035-0045	0.35	0.45	12.65	3.52	0.17	1.35	3.99	5.13	2.80	4.90	0.02	10.69	0.30	1.64	6.76	3.12	1.01	0.06	6522.14	6580.26	99%
Allendale sediment	CMS-SD-4213	CMS-SD-4213-0055-0065	0.55	0.65	31.41	5.58	0.33	3.29	9.80	12.47	6.92	13.50	0.02	42.00	0.69	1.42	26.35	12.59	2.15	0.07	52828.45	52997.02	100%
Allendale sediment	CMS-SD-4213	CMS-SD-4213-0115-0125	1.15	1.25	2.19	10.13	0.59	0.48	15.52	1.30	18.86	2.34	0.53	4.74	2.05	3.58	11.88	7.06	0.14	0.13	119.39	200.91	59%
Allendale sediment	CMS-SD-4218	CMS-SD-4218-0035-0045	0.35	0.45	0.66	0.36	0.01	0.07	0.47	0.32	0.37	0.49	0.05	1.54	0.08	0.23	1.20	0.67	0.05	0.00	703.00	709.57	99%
Allendale sediment	CMS-SD-4218	CMS-SD-4218-0070-0080	0.7	0.8	14.88	3.23	0.15	3.31	2.67	4.81	2.34	5.83	0.11	10.81	0.29	1.62	5.97	3.12	1.78	0.06	6040.87	6101.83	99%
Allendale sediment	CMS-SD-4218	CMS-SD-4218-0150-0160	1.5	1.6	0.51	9.74	0.53	0.07	12.79	0.33	15.97	0.62	0.47	2.59	2.82	2.71	12.53	14.87	0.04	0.25	25.38	102.22	25%
Allendale sediment	CMS-SD-4219	CMS-SD-4219-0035-0045	0.35	0.45	10.96	10.02	0.43	2.00	9.78	7.43	10.04	7.51	0.06	17.85	1.26	6.20	27.88	11.02	0.72	0.08	5339.25	5462.50	98%
Allendale sediment	CMS-SD-4219	CMS-SD-4219-0075-0085	0.75	0.85	0.92	14.02	1.01	0.10	20.31	0.68	24.38	0.80	0.99	2.98	4.17	3.55	17.46	10.71	0.08	0.24	48.92	151.32	32%
Allendale sediment	CMS-SD-4219	CMS-SD-4219-0145-0155	1.45	1.55	0.06	0.08	0.02	0.03	0.08	0.03	0.11	0.03	0.12	0.26	0.02	0.12	0.21	0.08	0.01	0.00	7.83	9.07	86%
Allendale sediment	CMS-SD-4220	CMS-SD-4220-0030-0040	0.3	0.4	14.90	4.88	0.10	0.90	3.66	6.85	3.70	6.55	0.10	14.75	0.63	1.12	3.88	4.35	1.03	0.08	8373.18	8440.66	99%
Allendale sediment	CMS-SD-4220	CMS-SD-4220-0060-0070	0.6	0.7	1.26	0.55	0.03	0.12	0.24	0.34	0.23	0.37	0.05	1.51	0.06	0.22	0.46	0.50	0.10	0.00	653.17	659.20	99%
Allendale sediment	CMS-SD-4220	CMS-SD-4220-0120-0130	1.2	1.3	0.03	0.02	0.00	0.02	0.07	0.02	0.03	0.03	0.03	0.33	0.03	0.03	0.17	0.21	0.00	0.00	33.37	34.40	97%
Allendale sediment	CMS-SD-4222	CMS-SD-4222-0025-0035	0.25	0.35	8.73	3.00	0.07	0.42	2.80	3.85	2.36	1.37	0.07	8.35	0.37	0.72	3.21	3.48	0.74	0.05	6620.01	6659.58	99%
Allendale sediment	CMS-SD-4222	CMS-SD-4222-0085-0095	0.85	0.95	20.51	22.78	0.84	3.78	28.40	12.49	21.45	14.91	0.08	22.98	1.69	8.10	46.21	13.07	1.10	0.14	1045.69	1264.22	83%
Allendale sediment	CMS-SD-4222	CMS-SD-4222-0125-0135	1.25	1.35	0.09	7.78	0.08	0.02	3.09	0.08	3.76	0.09	0.06	1.51	0.97	0.86	2.28	19.30	0.01	0.36	29.84	70.19	43%
Allendale sediment	CMW-FP-2026	D00929	0	0.5	7.34	3.97	0.20	1.53	5.60	4.67	3.75	4.20	4.52	22.80	2.47	0.09	12.50	5.35	0.53	0.05	16380.00	16459.56	100%
Allendale sediment	CMW-FP-2026	D00933	0	0.5	7.21	2.95	0.14	1.24	4.15	3.40	2.91	3.84	3.21	16.60	2.15	0.15	10.50	4.53	0.67	0.05	16110.00	16173.69	100%
Allendale sediment	CMW-FP-2026	D00930	0.5	2	3.05	24.70	0.30	0.81	9.53	3.52	9.25	2.99	8.37	7.90	6.65	0.07	12.70	2.99	0.14	0.13	352.00	445.10	79%
Allendale sediment	CMW-FP-2026	D00931	2	4	0.07	0.28	0.01	0.04	0.26	0.10	0.17	0.14	0.14	0.30	0.13	0.03	0.65	0.23	0.00	0.00	24.70	27.24	91%
Allendale sediment	CMW-FP-2027	D00932	0	0.5	11.50	2.72	0.15	1.40	4.05	5.71	2.53	5.19	2.85	15.40	2.53	0.09	8.85	3.55	0.79	0.06	4960.00	5027.36	99%
Allendale sediment	CMW-SD-2023	D00914	0	0.5	2.06	0.41	0.03	0.32	0.46	0.94	0.33	1.09	0.42	3.20	0.26	0.04	1.25	0.71	0.14	0.01	20.90	32.57	64%
Allendale sediment	CMW-SD-2024	D00918	0	0.5	2.69	0.99	0.06	0.51	1.03	1.30	0.77	1.42	0.80	4.60	0.62	0.03	2.20	0.73	0.18	0.02	747.00	764.94	98%
Allendale sediment	CMW-SD-2025	D00924	0	0.5	18.10	3.92	0.23	3.22	3.18	8.21	2.42	8.92	2.67	18.90	1.47	0.12	5.35	1.92	1.32	0.09	939.00	1019.03	92%
Allendale sediment	CMW-SD-2025	D00928	0.5	2	2.50	0.45	0.04	0.43	0.58	1.10	0.40	1.08	0.43	2.80	0.16	0.03	1.35	0.48	0.19	0.01	135.00	147.02	92%
Allendale sediment	RES-12-240-01	D01053	0	1	18.00	4.05	0.25	4.25	6.28	10.20	3.91	11.30	0.18	54.80	1.48	4.58	19.20	10.90	0.91	0.05	15050.00	15200.33	99%
Allendale sediment	RES-12-240-01	D01075	0	1	16.10	3.54	0.24	4.03	6.17	9.83	3.88	11.60	0.22	41.90	0.88	5.26	19.25	10.00	0.83	0.04	12590.00	12723.77	99%
Allendale sediment	RES-12-240-02	D01071	0	1	18.60	2.40	0.11	5.60	4.68	11.60	3.00	15.70	0.06	63.00	1.25	3.71	16.75	10.20	0.63	0.03	10590.00	10747.31	99%
Allendale sediment	RES-12-555-01	D01069	0	1	7.70	6.48	0.15	1.50	5.62	4.82	3.95	4.88	0.06	16.60	5.80	4.89	15.45	6.28	0.39	0.04	3180.00	3264.61	97%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Allendale sediment	RES-12-555-01	D01070	0	1	6.43	4.16	0.15	1.31	5.73	3.96	3.29	4.32	0.07	14.40	2.40	4.04	12.80	6.02	0.36	0.03	3020.00	3089.46	98%
Allendale sediment	RES-14-210-01	D01072	0	1	0.33	0.16	0.04	0.14	0.60	0.11	0.21	0.38	0.05	1.00	0.06	0.27	1.55	0.80	0.03	0.00	12.30	18.02	68%
Allendale sediment	RES-14-365-01	D01058	0	1	1.36	2.47	0.17	0.19	0.03	1.26	3.03	1.22	0.04	1.65	0.56	2.95	6.25	3.20	0.08	0.02	8.50	32.97	26%
Allendale sediment	RES-14-366-01	D01062	0	1	7.92	1.28	0.13	1.00	0.97	2.97	0.76	3.68	0.03	2.10	0.04	0.95	0.75	0.48	0.46	0.04	567.00	590.56	96%
Allendale sediment	RES-14-366-02	D01063	0	1	24.10	3.78	0.29	3.64	5.11	9.59	3.16	10.10	0.18	17.70	0.46	4.57	9.15	4.01	1.59	0.09	5350.00	5447.53	98%
Allendale sediment	RES-14-399-01	D01065	0	1	15.40	2.60	0.24	2.26	2.43	8.83	2.06	5.97	0.07	11.30	0.31	3.97	4.40	1.33	1.00	0.04	446.00	508.20	88%
Allendale sediment	RES-14-422-01	D01153	0	1	0.32	0.22	0.01	0.05	0.12	0.10	0.09	0.27	0.01	0.55	0.00	0.23	0.50	0.47	0.01	0.00	87.90	90.84	97%
Allendale sediment	RES-14-424-01	D01147	0	1	0.61	0.41	0.02	0.27	0.85	0.80	0.38	0.82	0.03	2.40	0.18	0.45	2.70	1.06	0.04	0.00	31.40	42.43	74%
Allendale sediment	RES-14-424-02	D01149	0	1	5.23	4.83	0.16	1.36	5.38	3.70	4.24	4.16	0.23	19.20	0.01	4.53	17.25	8.55	0.23	0.03	1640.00	1719.08	95%
Allendale sediment	RES-14-425-01	D01150	0	1	4.24	2.69	0.09	0.86	2.53	2.48	1.78	2.47	0.12	8.60	0.57	2.04	6.50	2.48	0.27	0.02	1910.00	1947.74	98%
Allendale sediment	RES-14-448-01	D01066	0	1	16.40	6.71	0.31	3.04	6.73	8.71	5.17	8.23	0.17	38.00	0.86	6.01	20.60	11.10	0.99	0.06	10530.00	10663.08	99%
Allendale sediment	RES-14-449-01	D01138	0	1	6.74	6.84	0.28	1.42	5.55	4.15	4.71	4.59	0.38	15.90	0.02	5.28	14.10	9.24	0.34	0.04	2880.00	2959.58	97%
Allendale sediment	RES-14-449-02	D01139	0	1	15.30	5.23	0.29	3.63	7.36	8.64	5.42	10.50	0.34	32.20	1.91	5.15	20.40	11.00	0.73	0.04	6670.00	6798.13	98%
Allendale sediment	RES-14-449-03	D01137	0	1	39.20	4.84	0.40	11.30	12.50	24.90	6.38	32.30	0.53	181.00	1.52	9.30	44.25	33.80	1.96	0.04	33690.00	34094.22	99%
Allendale sediment	RES-14-449-03	D01140	0	1	53.00	5.21	0.46	12.30	11.70	26.20	6.03	33.70	0.52	169.00	1.47	9.08	48.90	30.00	2.50	0.04	57310.00	57720.11	99%
Allendale sediment	SD-20	AAL24026	0	0.25	14.24	6.44	0.21	2.35	4.47	7.14	3.43	6.70	-	13.46	0.47	2.13	5.75	4.53	0.86	0.03	3534.20	3606.42	98%
Allendale sediment	SD-21	AAL24027	0.5	2	1.76	0.82	0.04	0.36	1.17	0.92	0.88	1.09	-	3.15	0.09	0.39	0.26	1.49	0.05	0.00	4098.98	4111.45	100%
Allendale sediment	SD-22	AAL24028	0	0.25	17.87	0.04	0.30	2.33	-	7.06	3.25	8.44	-	12.90	0.46	2.21	9.03	4.26	1.15	0.12	7468.07	7537.47	99%
Allendale sediment	SD-23	AAL24029	0	0.25	16.07	-	0.31	3.56	5.24	6.88	3.60	7.61	-	19.12	0.40	1.80	9.75	4.71	0.92	-	10050.80	10130.75	99%
Allendale sediment	SD-24	AAL24030	0	0.25	14.09	-	0.09	2.25	3.67	7.94	2.65	7.38	-	9.57	0.28	1.40	5.39	3.56	0.83	-	5788.14	5847.23	99%
Allendale sediment	SD-25	AAL24031	0	0.25	7.58	-	-	1.35	1.27	4.13	0.92	4.59	-	-	-	0.53	2.10	1.18	0.65	-	5178.90	5203.20	100%
Allendale sediment	SD-26	AAL24032	0	0.5	0.05	0.10	0.02	0.07	-	-	0.14	0.07	-	0.79	-	-	0.53	0.14	0.00	0.00	92.24	94.13	98%
Allendale sediment	SD-27	AAL24033	0	0.5	0.12	0.16	0.01	0.02	0.22	0.20	0.15	0.02	-	0.41	0.03	0.11	0.35	0.26	0.01	0.00	1332.96	1335.03	100%
Allendale sediment	SD-28	AAL24034	0	0.5	0.13	0.16	0.01	0.05	0.06	0.27	0.03	0.17	-	0.47	-	0.07	0.30	0.08	0.01	0.00	1.07	2.87	37%
Allendale sediment	SD-29	AAL24035	0	0.5	0.59	0.34	0.01	0.14	-	0.55	-	0.75	-	0.97	-	0.13	0.55	0.14	0.04	0.00	54.60	58.80	93%
Allendale sediment	WRC-SD-2009	D00959	0	0.5	1.83	0.48	0.03	0.31	0.37	0.87	0.35	0.92	0.02	2.40	0.22	0.50	0.85	0.19	0.13	0.01	6.30	15.77	40%
Allendale sediment	WRC-SD-2010	D00966	0	0.5	0.72	0.27	0.02	0.14	0.29	0.41	0.18	0.38	0.03	1.80	0.18	0.28	0.75	0.27	0.05	0.01	194.00	199.78	97%
Allendale sediment	WRC-SD-2011	D00967	0	0.5	0.68	0.26	0.02	0.15	0.35	0.54	0.23	0.45	0.04	1.70	0.22	0.28	0.95	0.26	0.05	0.01	210.00	216.19	97%
Allendale sediment	WRC-SD-2011	D00968	0.5	1.5	0.31	0.12	0.01	0.08	0.17	0.22	0.12	0.18	0.06	0.55	0.11	0.13	0.20	0.14	0.02	0.00	313.00	315.41	99%
Allendale sediment	WRC-SD-2012	D00969	0	0.5	0.92	1.50	0.12	0.19	2.39	0.61	2.42	0.53	0.20	2.30	0.53	1.59	3.75	0.99	0.06	0.02	407.00	425.12	96%
Allendale sediment	WRC-SD-2013	D00960	0	0.5	0.10	0.06	0.00	0.03	0.17	0.06	0.15	0.10	0.02	0.25	0.04	0.14	0.29	0.09	0.01	0.00	58.60	60.09	98%
Allendale sediment	WRC-SD-2014	D00961	0	0.5	0.17	0.07	0.01	0.04	0.14	0.11	0.11	0.11	0.03	5.30	0.07	0.19	0.49	0.39	0.01	0.00	8300.00	8307.23	100%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Allendale sediment	WRC-SD-2015	D00962	0	0.5	5.95	3.14	0.19	1.03	4.84	3.55	3.47	2.93	0.09	12.40	2.93	4.85	15.25	4.51	0.26	0.05	7300.00	7365.43	99%
Allendale Soil	AP-DEL-05	2102235	0	1	12.00	1.80	0.13	1.40	1.30	4.70	1.20	3.40	0.03	7.70	0.23	0.95	3.80	0.68	0.84	0.05	440.00	480.20	92%
Allendale Soil	AP-DEL-05	2102236	1	2	0.58	0.37	0.03	0.08	0.94	0.53	0.83	0.50	0.04	1.10	0.25	0.89	4.75	1.10	0.04	0.00	5.90	17.93	33%
Allendale Soil	AP-DEL-06	2102233	0	1	0.45	0.07	0.00	0.04	0.04	0.12	0.03	0.12	0.02	0.34	0.01	0.04	0.13	0.07	0.03	0.00	0.99	2.49	40%
Allendale Soil	AP-DEL-06	2102234	1	2	0.33	0.10	0.01	0.03	0.42	0.10	0.06	0.11	0.03	0.45	0.05	0.08	0.70	0.46	0.02	0.00	5.30	8.22	64%
Allendale Soil	AP-DEL-07	2102231	0	1	8.70	2.70	0.12	0.65	1.40	8.50	1.80	2.10	0.05	10.00	0.31	1.40	4.70	0.99	0.65	0.07	97.00	141.13	69%
Allendale Soil	AP-DEL-07	2102232	1	2	4.40	1.20	0.08	0.47	1.20	1.80	1.10	1.10	0.03	3.70	0.24	1.10	6.00	1.20	0.40	0.03	120.00	144.04	83%
Allendale Soil	AP-DEL-08	2102228	0	1	0.50	0.34	0.02	0.10	1.20	0.58	1.20	0.23	0.08	1.55	0.37	1.20	6.50	1.70	0.03	0.00	91.00	106.59	85%
Allendale Soil	AP-DEL-08	2102229	1	2	0.06	0.03	0.00	0.07	0.16	0.07	0.08	0.06	0.06	1.05	0.03	0.08	0.40	0.26	0.00	0.00	6.50	8.91	73%
Allendale Soil	AP-DEL-08	2102230	1	2	0.07	0.06	0.00	0.06	0.17	0.07	0.09	0.06	0.05	1.15	0.04	0.10	0.53	0.33	0.01	0.00	14.00	16.78	83%
Allendale Soil	AP-DEL-09	2102226	0	1	0.01	0.00	0.00	0.02	0.02	0.02	0.02	0.02	0.02	0.31	0.01	0.02	0.11	0.02	0.00	0.00	0.20	0.81	25%
Allendale Soil	AP-DEL-09	2102227	1	2	0.86	0.62	0.01	0.05	0.93	1.00	0.78	0.61	0.03	0.70	0.07	0.72	3.75	0.54	0.05	0.00	8.20	18.92	43%
Allendale Soil	AP-DEL-10	2102224	0	1	0.53	0.11	0.00	0.03	0.09	0.09	0.06	0.08	0.01	0.25	0.01	0.04	0.10	0.05	0.05	0.00	1.40	2.90	48%
Allendale Soil	AP-DEL-10	2102225	1	2	0.32	0.05	0.00	0.03	0.03	0.06	0.03	0.03	0.03	0.43	0.01	0.03	0.14	0.04	0.03	0.00	0.92	2.18	42%
Allendale Soil	AP-DEL-11	2102222	0	1	1.70	1.00	0.01	0.10	0.60	1.10	0.16	0.62	0.06	0.65	0.04	0.10	0.53	0.26	0.16	0.01	18.00	25.09	72%
Allendale Soil	AP-DEL-11	2102223	1	2	0.11	0.05	0.00	0.02	0.09	0.11	0.05	0.07	0.03	0.34	0.01	0.04	0.19	0.10	0.01	0.00	4.40	5.60	79%
Allendale Soil	AP-DEL-12	2102220	0	1	0.24	0.03	0.00	0.05	0.09	0.11	0.04	0.12	0.00	0.65	0.02	0.06	0.23	0.12	0.01	0.00	49.00	50.76	97%
Allendale Soil	AP-DEL-12	2102221	1	2	0.25	0.07	0.00	0.03	0.09	0.09	0.04	0.08	0.00	0.30	0.01	0.05	0.25	0.12	0.02	0.00	47.00	48.40	97%
Allendale Soil	AP-DEL-13	2102218	0	1	2.30	0.97	0.04	0.38	0.71	1.40	0.69	1.30	0.01	3.70	0.16	0.58	2.50	0.59	0.18	0.01	130.00	145.51	89%
Allendale Soil	AP-DEL-13	2102219	1	2	0.16	0.03	0.00	0.01	0.02	0.02	0.01	0.03	0.01	0.12	0.00	0.01	0.03	0.02	0.15	0.00	2.40	3.02	79%
Allendale Soil	AP-DEL-14	2102216	0	1	12.00	6.50	0.52	2.90	15.00	8.10	14.00	5.30	0.86	41.00	7.50	16.00	95.00	31.00	0.61	0.03	42.00	298.32	14%
Allendale Soil	AP-DEL-14	2102217	1	2	15.00	9.50	0.90	5.00	29.00	13.00	27.00	8.60	1.50	73.00	13.00	30.00	185.00	40.00	0.59	0.04	52.00	503.13	10%
Allendale Soil	AP-DEL-15	2102214	0	1	0.90	0.11	0.00	0.10	0.14	0.42	0.07	0.58	0.02	0.80	0.02	0.06	0.35	0.20	0.11	0.00	110.00	113.89	97%
Allendale Soil	AP-DEL-15	2102215	1	2	0.01	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.00	0.17	0.00	0.00	0.03	0.02	0.00	0.00	3.00	3.28	92%
Allendale Soil	AP-DEL-16	2102212	0	1	0.05	0.04	0.00	0.01	0.09	0.02	0.05	0.03	0.01	0.12	0.02	0.02	0.24	0.21	0.00	0.00	2.40	3.31	72%
Allendale Soil	AP-DEL-16	2102213	1	2	0.01	0.01	0.00	0.02	0.04	0.02	0.02	0.02	0.02	0.42	0.01	0.02	0.11	0.04	0.00	0.00	0.20	0.93	21%
Allendale Soil	AP-DEL-17	2102211	0	1	3.30	0.85	0.06	0.79	1.80	2.10	1.50	1.60	0.03	7.20	0.65	1.20	9.50	2.90	0.16	0.01	840.00	873.65	96%
Allendale Soil	AP-DEL-18	2102209	0	1	16.00	1.80	0.12	2.00	1.60	5.40	1.20	4.90	0.01	9.70	0.07	0.81	3.70	0.60	0.96	0.03	230.00	278.91	82%
Allendale Soil	AP-DEL-18	2102210	1	2	19.00	1.30	0.08	3.00	1.60	7.70	1.30	6.80	0.01	0.60	0.25	0.49	3.95	1.70	1.20	0.02	730.00	778.99	94%
Allendale Soil	AP-DEL-19	2102207	0	1	0.25	0.08	0.00	0.02	0.12	0.12	0.06	0.06	0.02	0.19	0.02	0.07	0.23	0.14	0.02	0.00	1.20	2.59	46%
Allendale Soil	AP-DEL-19	2102208	1	2	0.71	0.11	0.01	0.04	0.13	0.36	0.08	0.10	0.01	0.12	0.02	0.07	0.33	0.10	0.07	0.00	1.10	3.34	33%
Allendale Soil	AP-DEL-20	2102205	0	1	0.22	0.05	0.00	0.02	0.05	0.04	0.03	0.03	0.00	0.12	0.01	0.04	0.12	0.06	0.24	0.00	1.20	2.23	54%
Allendale Soil	AP-DEL-20	2102206	1	2	0.28	0.01	0.00	0.01	0.02	0.02	0.03	0.02	0.01	0.24	0.01	0.01	0.09	0.08	0.51	0.00	1.80	3.12	58%
Allendale soil	CMS-460	CMS-460-A	0	1	0.06	0.03	0.00	0.02	0.08	0.03	0.06	0.02	0.02	0.21	0.03	0.09	0.78	0.16	0.01	0.00	4.49	6.10	74%
Allendale soil	CMS-461	CMS-461-A	0	1	0.19	0.16	0.01	0.07	0.29	0.09	0.25	0.08	0.08	0.43	0.11	0.43	4.16	0.53	0.01	0.00	24.40	31.29	78%
Allendale soil	CMS-462	CMS-462-A	0	1	0.33	0.19	0.02	0.12	0.58	0.22	0.73	0.14	0.23	1.63	0.20	1.63	16.95	0.88	0.02	0.00	10.50	34.35	31%
Allendale soil	CMS-463	CMS-463-A	0	1	0.44	0.15	0.01	0.08	0.26	0.16	0.33	0.10	0.09	0.51	0.08	0.66	6.00	0.34	0.03	0.00	16.00	25.23	63%
Allendale soil	CMS-463	CMS-463-A-QC	0	1	0.24	0.12	0.00	0.02	0.35	0.11	0.33	0.09	0.02	0.49	0.04	0.41	0.65	0.26	0.01	0.00	15.00	18.13	83%
Allendale soil	CMS-464	CMS-464-A	0	1	0.11	0.06	0.01	0.05	0.23	0.13	0.29	0.07	0.15	0.75	0.04	0.77	8.80	0.12	0.01	0.00	1.62	13.18	12%
Allendale soil	CMS-466	CMS-466-A	0	1	0.79	0.62	0.04	0.31	1.48	0.34	1.22	0.55	0.34	1.52	0.38	2.06	8.65	0.90	0.04	0.00	74.30	93.54	79%
Allendale soil	CMS-469	CMS-469-A	0	1	0.11	0.07	0.01	0.05	0.19	0.08	0.16	0.06	0.04	0.37	0.09	0.22	2.06	0.57	0.01	0.00	5.81	9.88	59%
Allendale soil	CMS-473	CMS-473-A	0	1	0.16	0.25	0.02	0.08	0.46	0.14	0.42	0.11	0.15	0.46	0.15	0.68	2.98	0.37	0.03	0.00	0.39	6.84	6%
Allendale soil	CMS-474	CMS-474-A	0	1	1.38	0.98	0.04	0.28	1.50	1.34	1.13	0.94	0.38	3.25	0.47	2.02	14.50	1.82	0.09	0.01	47.40	77.53	61%
Allendale soil	CMS-474	CMS-474-B	1	2	1.48	1.06	0.05	0.27	1.47	1.48	1.12	0.91	0.34	5.75	0.50	2.00	14.35	1.93	0.10	0.01	74.20	107.02	69%
Allendale soil	CMS-474	CMS-474-C	2	3	1.17	0.92	0.04	0.30	1.16	1.17	0.94	0.81	0.38	3.91	0.37	1.53	11.00	1.27	0.09	0.01	258.00	283.08	91%
Allendale soil	CMS-475	CMS-475-A	0	1	0.30	0.11	0.01	0.08	0.25	0.20	0.22	0.15	0.08	0.36	0.09	0.37	1.96	0.26	0.02	0.00	1.38	5.85	24%
Allendale soil	CMS-478	CMS-478-A	0	1	3.73	2.36	0.15	0.86	3.82	2.68	3.21	1.90	1.12	10.80	1.87	4.50	24.25	5.33	0.18	0.01	48.40	115.17	42%
Allendale soil	CMS-479	CMS-479-A	0	1	0.48	0.26	0.01	0.13	0.31	0.48	0.25	0.30	0.09	1.18	0.12	0.39	2.83	0.43	0.03	0.00	3.97	11.26	35%
Allendale soil	CMS-480	CMS-480-A	0	1	0.38	0.14	0.01	0.10	0.34	0.26	0.28	0.18	0.09	0.47	0.16	0.36	2.85	0.35	0.02	0.00	7.53	13.51	56%
Allendale soil	CMS-485	CMS-485-A	0	1	0.73	5.97	0.30	0.33	6.06	0.59	3.76	0.39	1.16	2.07	0.64	4.07	13.40	0.24	0.04	0.07	2.26	42.07	5%
Allendale soil	CMS-486	CMS-486-A	0	1	0.14	0.07	0.01	0.02	0.16	0.10	0.11	0.09	0.02	0.19	0.04	0.16	1.12	0.11	0.01	0.00	3.76	6.11	62%
Allendale soil	CMS-488	CMS-488-A	0	1	0.19	0.06	0.00	0.04	0.11	0.17	0.09	0.10	0.02	0.18	0.01	0.13	1.03	0.08	0.02	0.00	0.24	2.47	10%
Allendale soil	CMS-491	CMS-491-A	0	1	0.15	0.07	0.00	0.04	0.11	0.24	0.12	0.13	0.04	7.84	0.03	0.27	2.33	0.08	0.01	0.00	2.41	13.86	17%
Allendale soil	CMS-492	CMS-492-A	0	1	0.31	0.08	0.00	0.06	0.08	0.15	0.09	0.11	0.03	0.40	0.02	0.16	1.18	0.05	0.04	0.00	35.20	37.95	93%
Allendale soil	CMS-497	CMS-497-A	0	1	0.30	0.07	0.00	0.01	0.13	0.20	0.11	0.15	0.04	0.55	0.04	0.19	1.47	0.16	0.02	0.00	78.40	81.84	96%
Allendale soil	CMS-498	CMS-498-A	0	1	0.28	0.05	0.00	0.06	0.08	0.15	0.06	0.14	0.02	0.56	0.03	0.10	0.66	0.11	0.02	0.00	84.90	87.22	97%
Allendale soil	CMS-499	CMS-499-A	0	1	0.42	0.07	0.00	0.08	0.11	0.21	0.09	0.16	0.03	0.88	0.03	0.14	0.91	0.14	0.03	0.00	90.30	93.59	96%
Allendale soil	RES-14-210-02	D01073	0	1	0.08	0.09	0.01	0.03	0.42	0.06	0.08	0.10	0.02	0.44	0.05	0.25	0.55	0.30	0.01	0.00	12.10	14.57	83%
Allendale soil	RES-14-210-03	D01074	0	1	0.36	0.28	0.00	0.11	0.87	0.16	0.40	0.19	0.02	0.65	0.09	0.52	1.43	1.47	0.03	0.00	8.40	14.96	56%
Allendale soil	RES-14-365-02	D01061	0	1	3.31	1.03	0.06	0.88	1.99	2.09	1.33	2.56	0.04	7.80	0.48	2.40	7.10	1.91	0.21	0.02	55.00	88.20	62%
Allendale soil	RES-14-365-03	D01067	0	1	1.81	0.42	0.02	0.24	0.57	0.81	0.35	0.79	0.02	2.10	0.33	0.47	0.70	0.44	0.15	0.01	96.60	105.82	91%
Allendale soil	RES-14-366-03	D01064	0	1	0.60	0.16	0.01	0.06	0.19	0.16	0.10	0.14	0.04	0.55	0.07	0.11	0.75	0.68	0.05	0.00	9.80	13.44	73%
Allendale soil	RES-14-399-02	D01392	0	1	13.80	1.81	0.14	2.20	1.88	8.04	1.94	6.03	0.14	10.40	0.44	3.35	3.75	0.69	0.36	0.02	3.00	57.98	5%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Allendale soil	RES-14-422-02	D01156	0	1	0.73	0.21	0.02	0.18	0.18	0.49	0.25	0.42	0.02	0.85	0.00	0.40	0.55	0.21	0.04	0.00	20.40	24.95	82%
Allendale soil	RES-14-425-02	D01151	0	1	0.22	0.08	0.01	0.17	0.21	0.48	0.21	0.40	0.02	2.00	0.14	0.24	1.55	0.25	0.01	0.00	3.70	9.67	38%
Allendale soil	RES-14-425-03	D01152	0	1	0.19	0.10	0.00	0.04	0.17	0.09	0.34	0.09	0.01	0.33	0.01	0.73	1.75	0.19	0.01	0.00	4.10	8.13	50%
Lyman Mill sediment	AD-05	AD-05-A	0	1	1.40	0.80	0.02	0.19	0.90	0.90	0.52	0.78	0.02	0.85	0.07	0.13	2.05	0.82	0.09	0.01	2800.00	2809.54	100%
Lyman Mill sediment	CMS-468	CMS-468-A	0	1	0.43	0.20	0.01	0.12	0.29	0.15	0.27	0.11	0.07	0.54	0.09	0.53	3.97	0.34	0.12	0.00	6.95	14.19	49%
Lyman Mill sediment	LPX-BK-2006	D00846	0	0.5	4.18	1.92	0.10	0.98	4.98	2.39	2.14	2.81	0.13	10.30	1.00	2.87	10.30	3.77	0.22	0.02	840.00	888.10	95%
Lyman Mill sediment	LPX-BK-2006	D00847	0	0.5	0.59	0.29	0.01	0.11	1.42	0.52	0.57	0.10	0.08	0.70	0.37	0.58	4.00	1.99	0.04	0.00	57.70	69.07	84%
Lyman Mill sediment	LPX-BK-2006	D00848	0	0.5	0.34	0.44	0.01	0.09	0.71	0.25	0.28	0.26	0.03	1.60	0.23	0.38	2.55	1.48	0.03	0.00	5.40	14.07	38%
Lyman Mill sediment	LPX-BK-2008	D00852	0	0.5	1.17	0.34	0.02	0.23	1.19	0.47	0.53	0.86	0.13	0.80	0.19	0.60	2.50	0.97	0.06	0.00	313.00	323.06	97%
Lyman Mill sediment	LPX-BK-2008	D00853	0	0.5	0.01	0.01	0.00	0.01	0.04	0.02	0.01	0.06	0.01	0.05	0.01	0.02	0.15	0.06	0.00	0.00	0.59	1.06	56%
Lyman Mill sediment	LPX-BK-2008	D00854	0	0.5	0.02	0.01	0.00	0.04	0.07	0.03	0.03	0.08	0.01	0.55	0.02	0.02	0.23	0.10	0.00	0.00	1.10	2.30	48%
Lyman Mill sediment	LPX-SD-2045	D01016	0	0.5	9.91	3.41	0.21	1.83	3.91	4.74	2.75	5.87	0.23	14.00	0.58	3.32	8.70	4.06	0.63	0.05	7610.00	7674.20	99%
Lyman Mill sediment	LPX-SD-2045B	D03863	0	0.3	2.72	0.74	0.04	0.43	0.79	1.31	0.68	1.14	0.19	2.10	0.56	0.64	1.80	0.76	0.16	0.01	715.00	729.08	98%
Lyman Mill sediment	LPX-SD-2047	D01010	0	0.5	7.94	2.96	0.25	1.50	5.22	4.04	2.81	4.24	0.25	10.70	0.43	3.17	8.45	3.84	0.58	0.05	4130.00	4186.43	99%
Lyman Mill sediment	LPX-SD-2048	D01024	0	0.5	4.94	0.97	0.06	0.77	1.07	2.61	0.79	2.00	0.04	5.10	0.21	0.90	2.30	0.64	0.36	0.02	179.00	201.77	89%
Lyman Mill sediment	LPX-SD-2048	D01026	0	0.5	12.00	2.09	0.30	1.75	2.02	6.09	1.47	2.12	0.11	9.40	0.31	1.80	3.35	1.36	0.57	0.05	374.00	418.80	89%
Lyman Mill sediment	LPX-SD-2048	D01025	0.5	2	7.02	1.31	0.10	0.81	1.50	3.29	1.03	2.56	0.04	6.70	0.23	1.39	3.50	1.61	0.45	0.03	440.00	471.55	93%
Lyman Mill sediment	LPX-SD-2048	D01027	2	4	1.21	0.89	0.04	0.34	1.26	0.94	0.91	0.97	0.08	5.10	0.18	1.14	3.35	2.13	0.08	0.01	382.00	400.63	95%
Lyman Mill sediment	LPX-SD-2049	D01004	0	0.5	0.09	0.03	0.02	0.13	0.08	0.12	-	0.13	0.09	0.90	0.03	0.08	0.28	0.19	0.01	0.00	28.70	30.86	93%
Lyman Mill sediment	LPX-SD-2050	D01003	0	0.5	18.30	5.29	0.24	3.10	4.93	8.36	3.41	9.59	0.12	39.20	0.74	3.55	12.05	7.13	0.88	0.09	6190.00	6306.96	98%
Lyman Mill sediment	LPX-SD-2051	D00997	0	0.5	9.35	2.32	0.14	1.64	3.48	4.28	2.25	4.97	0.07	27.30	1.21	2.51	10.20	5.92	0.43	0.03	4030.00	4106.10	98%
Lyman Mill sediment	LPX-SD-2052	D00991	0	0.5	17.10	5.75	0.32	2.65	5.65	8.25	4.54	8.83	0.35	20.30	0.96	4.96	11.10	5.23	0.66	0.09	4350.00	4446.74	98%
Lyman Mill sediment	LPX-SD-2052	D00996	0.5	4	0.95	0.23	0.01	0.28	0.44	0.52	0.32	0.68	0.05	5.40	0.11	0.24	1.60	1.00	0.04	0.00	365.00	376.86	97%
Lyman Mill sediment	LPX-SD-2053	D00992	0	0.5	6.00	1.62	0.12	1.10	2.23	2.91	1.51	3.00	0.09	9.00	0.29	1.72	5.15	2.85	0.21	0.03	492.00	529.83	93%
Lyman Mill sediment	LPX-SD-2053	D00993	0	0.5	5.80	1.54	0.12	0.98	2.05	2.72	1.42	2.89	0.07	8.10	0.33	1.53	5.30	2.67	0.28	0.03	756.00	791.82	95%
Lyman Mill sediment	LPX-SD-2053	D00994	0.5	2	0.69	0.18	0.01	0.10	0.26	0.32	0.17	0.27	0.04	1.10	0.09	0.25	0.95	0.38	0.05	0.00	89.30	94.16	95%
Lyman Mill sediment	LPX-SD-2053	D00995	2	4	2.43	3.06	0.12	0.55	2.88	1.27	3.85	1.65	0.20	13.50	1.03	2.09	6.20	2.56	0.12	0.02	489.00	530.52	92%
Lyman Mill sediment	LPX-SD-2072	D03865	0	0.5	1.20	0.44	0.03	0.24	0.46	0.70	0.45	0.69	0.09	1.70	0.07	0.40	1.10	0.42	0.08	0.01	487.00	495.07	98%
Lyman Mill sediment	LPX-SD-4001	48401-77-10	0	0.5	6.27	2.26	0.11	0.79	2.09	2.89	1.81	2.68	0.45	6.44	0.19	1.24	4.12	1.79	0.43	0.03	4556.77	4590.35	99%
Lyman Mill sediment	LPX-SD-4002	48401-77-11	0	0.5	14.93	3.34	0.18	1.38	1.95	6.82	1.91	5.08	0.21	10.35	0.21	1.37	1.23	0.63	1.08	0.09	216.21	266.97	81%
Lyman Mill sediment	LPX-SD-4004	48401-77-12	0	0.5	4.07	1.23	0.06	0.60	1.21	1.89	0.96	1.81	0.02	3.97	0.19	0.65	2.66	1.30	0.27	0.02	2072.67	2093.58	99%
Lyman Mill sediment	LPX-SD-4013	48401-83-15	0	0.5	15.67	3.13	0.18	2.15	2.22	7.46	2.01	5.44	0.09	10.23	0.24	1.46	2.89	0.54	1.11	0.06	478.54	533.43	90%
Lyman Mill sediment	LPX-SD-4201	LPX-SD-4201-0035-0045	0.35	0.45	12.16	5.88	0.11	0.95	5.83	6.08	5.64	6.45	0.12	40.48	0.68	1.51	16.54	10.59	0.73	0.06	7475.42	7589.21	99%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Lyman Mill sediment	LPX-SD-4201	LPX-SD-4201-0095-0105	0.95	1.05	0.03	0.02	0.01	0.05	0.09	0.05	0.07	0.10	0.05	0.66	0.10	0.07	0.40	0.20	0.00	0.00	12.85	14.74	87%
Lyman Mill sediment	LPX-SD-4201	LPX-SD-4201-0125-0135	1.25	1.35	0.04	0.02	0.05	0.77	0.15	0.76	0.17	0.75	0.18	1.57	0.09	0.18	0.81	0.07	0.00	0.00	11.82	17.44	68%
Lyman Mill sediment	LPX-SD-4204	LPX-SD-4204-0000-0050	0.3	0.4	9.36	3.36	0.16	1.61	3.40	4.35	2.89	3.77	0.09	11.25	0.22	1.70	6.63	2.04	0.73	0.06	5688.33	5739.93	99%
Lyman Mill sediment	LPX-SD-4204	LPX-SD-4204-0110-0120	1.1	1.2	2.54	21.21	0.88	0.65	24.84	2.10	32.77	2.10	1.28	7.51	5.03	6.73	23.38	8.75	0.12	0.16	70.16	210.20	33%
Lyman Mill sediment	LPX-SD-4204	LPX-SD-4204-0235-0245	2.35	2.45	0.00	0.00	0.00	0.02	0.00	0.02	0.00	0.02	0.00	0.05	0.00	0.00	0.03	0.00	0.00	0.00	0.04	0.20	18%
Lyman Mill sediment	LPX-SD-4205	LPX-SD-4205-0000-0050	0.4	0.5	13.14	4.23	0.22	1.97	3.98	5.21	3.31	4.93	0.13	12.29	0.42	1.89	7.19	2.34	0.99	0.08	5772.72	5835.06	99%
Lyman Mill sediment	LPX-SD-4205	LPX-SD-4205-0130-0140	1.3	1.4	13.10	4.83	0.21	1.79	5.61	5.74	4.30	4.66	0.13	15.96	0.53	2.57	10.00	3.74	0.95	0.06	19084.33	19158.50	100%
Lyman Mill sediment	LPX-SD-4205	LPX-SD-4205-0240-0250	2.4	2.5	32.15	4.63	0.28	5.63	10.37	13.03	4.81	14.67	0.21	164.13	0.73	4.26	38.32	21.74	1.63	0.05	49420.66	49737.29	99%
Lyman Mill sediment	LPX-SD-4207	LPX-SD-4207-0000-0010	0	0.1	24.27	5.44	0.26	3.04	2.70	10.41	2.83	10.00	0.06	17.27	0.34	1.83	3.76	1.32	1.89	0.13	778.46	864.01	90%
Lyman Mill sediment	LPX-SD-4207	LPX-SD-4207-0110-0120	1.1	1.2	7.34	1.75	0.05	0.39	2.22	3.41	1.61	1.38	0.07	7.82	0.21	0.61	5.96	2.58	0.64	0.02	1410.05	1446.11	98%
Lyman Mill sediment	LPX-SD-4208	LPX-SD-4208-0000-0010	0	0.1	11.50	4.09	0.10	0.72	2.81	4.66	1.36	2.42	0.15	11.17	0.41	0.86	2.94	2.96	0.88	0.07	4311.95	4359.04	99%
Lyman Mill sediment	LPX-SD-4208	LPX-SD-4208-0120-0130	1.2	1.3	5.15	1.85	0.10	0.83	3.48	2.79	2.27	2.70	0.10	13.32	0.33	1.67	12.61	6.92	0.36	0.03	3749.57	3804.07	99%
Lyman Mill sediment	LPX-SD-4208	LPX-SD-4208-0190-0200	1.9	2	8.62	20.97	1.70	1.25	24.16	5.02	33.65	10.52	0.80	14.85	3.77	8.74	26.90	4.85	0.36	0.28	13.90	180.34	8%
Lyman Mill sediment	LPX-SD-4209	LPX-SD-4209-0000-0010	0	0.1	10.77	3.44	0.08	0.68	2.61	3.78	1.23	2.09	0.02	9.94	0.33	0.63	2.83	2.45	1.02	0.07	4174.28	4216.24	99%
Lyman Mill sediment	LPX-SD-4209	LPX-SD-4209-0145-0155	1.45	1.55	7.89	9.05	0.13	0.68	8.89	5.23	8.10	2.42	0.04	15.74	1.21	3.24	21.25	12.63	0.48	0.07	1331.01	1428.05	93%
Lyman Mill sediment	LPX-SD-4209	LPX-SD-4209-0245-0255	2.45	2.55	0.08	0.12	0.01	0.27	0.03	0.28	0.12	0.27	0.04	0.80	0.02	0.04	0.18	0.05	0.00	0.00	54.34	56.65	96%
Lyman Mill sediment	LPX-SD-4501	LPX-SD-4501-0000-0005	0	0.5	13.32	4.39	0.22	2.01	4.08	5.76	3.44	5.05	0.10	14.50	0.40	1.97	7.84	2.65	1.03	0.08	5268.07	5334.91	99%
Lyman Mill sediment	LPX-SD-4501	LPX-SD-4501-0012-0013	1.2	1.3	7.76	23.76	0.65	1.79	14.63	6.77	20.06	5.55	0.52	15.51	1.94	7.25	21.18	8.15	0.38	0.15	407.99	544.04	75%
Lyman Mill sediment	LPX-SD-4501	LPX-SD-4501-0024-0025	2.4	2.5	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.13	0.01	0.01	0.06	0.01	0.00	0.00	0.39	0.65	60%
Lyman Mill sediment	LPX-SD-4502	LPX-SD-4502-0000-0005	0	0.5	7.60	2.71	0.13	0.98	2.52	2.86	2.08	1.70	0.02	4.19	0.08	1.29	5.08	1.67	0.56	0.05	3072.49	3105.99	99%
Lyman Mill sediment	LPX-SD-4502	LPX-SD-4502-0012-0013	1.2	1.3	8.25	2.94	0.14	1.24	3.52	3.64	2.69	2.86	0.10	9.78	0.40	1.63	5.99	2.12	0.62	0.05	2490.87	2536.85	98%
Lyman Mill sediment	LPX-SD-4502	LPX-SD-4502-0024-0025	2.4	2.5	0.13	0.17	0.02	0.04	0.72	0.11	0.30	0.17	0.04	0.39	0.17	0.26	2.06	1.09	0.01	0.00	30.39	36.08	84%
Lyman Mill sediment	LPX-SD-4503	LPX-SD-4503-0000-0005	0	0.5	7.90	3.37	0.16	0.45	2.84	3.21	2.56	3.27	0.03	9.17	0.16	1.39	5.59	1.91	0.58	0.05	3902.84	3945.46	99%
Lyman Mill sediment	LPX-SD-4503	LPX-SD-4503-0012-0013	1.2	1.3	6.43	2.45	0.16	1.29	3.27	2.77	2.37	1.62	5.24	7.15	0.38	1.66	8.92	3.41	0.49	0.03	3273.61	3321.24	99%
Lyman Mill sediment	LPX-SD-4503	LPX-SD-4503-0024-0025	2.4	2.5	0.12	0.16	0.01	0.05	0.43	0.11	0.25	0.17	0.07	0.34	0.09	0.18	0.95	0.40	0.01	0.00	31.73	35.05	91%
Lyman Mill sediment	LPX-SD-4504	LPX-SD-4504-0000-0005	0	0.5	11.51	4.20	0.20	1.83	4.09	5.01	3.05	4.27	0.09	11.40	0.44	1.92	6.42	1.96	0.85	0.08	5678.72	5736.03	99%
Lyman Mill sediment	LPX-SD-4504	LPX-SD-4504-0012-0013	1.2	1.3	8.52	3.25	0.20	0.89	5.16	4.17	3.33	3.96	0.06	12.30	0.62	2.03	10.71	3.21	0.63	0.05	4339.53	4398.63	99%
Lyman Mill sediment	LPX-SD-4504	LPX-SD-4504-0024-0025	2.4	2.5	5.83	14.18	0.32	1.16	8.60	4.67	8.94	4.98	0.40	11.45	1.06	5.38	18.10	3.48	0.28	0.09	41.02	129.94	32%
Lyman Mill sediment	LPX-SD-4505	LPX-SD-4505-0000-0005	0	0.5	11.32	4.76	0.22	1.64	4.29	4.17	3.60	3.49	0.85	15.52	0.20	1.82	8.37	3.12	0.83	0.07	4588.81	4653.06	99%
Lyman Mill sediment	LPX-SD-4505	LPX-SD-4505-0012-0013	1.2	1.3	7.11	2.23	0.13	1.08	3.80	3.11	2.41	2.79	0.05	16.12	0.49	1.69	9.80	3.90	0.52	0.03	5399.33	5454.58	99%
Lyman Mill sediment	LPX-SD-4505	LPX-SD-4505-0024-0025	2.4	2.5	6.16	7.97	0.34	1.17	8.94	3.10	10.31	3.15	0.36	17.58	1.54	3.25	12.79	7.60	0.36	0.11	3767.75	3852.47	98%
Lyman Mill sediment	LPX-SD-4506	LPX-SD-4506-0000-0005	0	0.5	6.81	2.46	0.13	1.04	3.24	2.80	2.32	2.72	0.11	8.47	0.33	1.48	5.81	1.96	0.49	0.04	12352.61	12392.81	100%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Lyman Mill sediment	LPX-SD-4506	LPX-SD-4506-0012-0013	1.2	1.3	3.10	1.00	0.07	0.60	3.15	1.85	1.36	1.80	0.08	11.36	0.30	1.23	6.98	2.73	0.20	0.01	3314.41	3350.22	99%
Lyman Mill sediment	LPX-SD-4506	LPX-SD-4506-0024-0025	2.4	2.5	0.05	0.16	0.01	0.05	0.81	0.08	0.34	0.12	0.03	0.70	0.26	0.22	2.49	10.00	0.01	0.00	4.83	20.15	24%
Lyman Mill sediment	LPX-SD-4507	LPX-SD-4507-0000-0005	0	0.5	5.01	2.41	0.05	0.36	1.82	2.42	0.44	2.09	0.03	3.33	0.12	0.96	1.94	1.44	0.39	0.03	2148.70	2171.54	99%
Lyman Mill sediment	LPX-SD-4507	LPX-SD-4507-0012-0013	1.2	1.3	8.53	2.82	0.14	1.25	3.80	3.74	2.75	2.96	0.08	12.72	0.57	1.69	9.03	3.14	0.65	0.04	5246.28	5300.18	99%
Lyman Mill sediment	LPX-SD-4507	LPX-SD-4507-0024-0025	2.4	2.5	0.03	0.07	0.01	0.13	0.35	0.13	0.14	0.09	0.02	0.50	0.07	0.14	0.76	0.45	0.00	0.00	7.73	10.62	73%
Lyman Mill sediment	LPX-SD-4508	LPX-SD-4508-0000-0005	0	0.5	15.62	3.94	0.20	2.33	2.55	6.87	2.51	5.64	0.03	12.01	0.17	1.52	1.75	1.04	1.33	0.09	1143.84	1201.42	95%
Lyman Mill sediment	LPX-SD-4508	LPX-SD-4508-0012-0013	1.2	1.3	0.55	0.12	0.01	0.07	0.15	0.28	0.11	0.21	0.05	0.50	0.03	0.08	0.18	0.09	0.04	0.00	142.47	144.93	98%
Lyman Mill sediment	LPX-SD-4508	LPX-SD-4508-0024-0025	2.4	2.5	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.04	0.01	0.00	0.00	0.56	0.68	82%
Lyman Mill sediment	LPX-SD-4509	LPX-SD-4509-0000-0005	0	0.5	8.08	3.23	0.16	1.05	3.75	3.32	2.77	2.96	0.09	9.29	0.42	1.93	7.13	2.23	0.63	0.05	10117.51	10164.59	100%
Lyman Mill sediment	LPX-SD-4509	LPX-SD-4509-0012-0013	1.2	1.3	0.74	0.29	0.02	0.12	0.87	0.38	0.34	0.37	0.02	1.20	0.08	0.34	1.21	0.29	0.05	0.01	184.30	190.61	97%
Lyman Mill sediment	LPX-SD-4509	LPX-SD-4509-0024-0025	2.4	2.5	0.01	0.01	0.00	0.06	0.07	0.06	0.03	0.06	0.03	0.27	0.01	0.03	0.06	0.10	0.00	0.00	1.37	2.17	63%
Lyman Mill sediment	LPX-SD-4510	LPX-SD-4510-0000-0005	0	0.5	11.72	4.20	0.19	1.88	4.17	5.40	3.67	4.80	0.06	15.36	0.22	2.01	8.23	2.68	0.86	0.07	45673.11	45738.64	100%
Lyman Mill sediment	LPX-SD-4510	LPX-SD-4510-0012-0013	1.2	1.3	20.04	5.59	0.25	3.59	10.53	9.53	6.02	9.89	0.18	78.97	1.40	4.10	37.42	21.21	1.11	0.06	23636.51	23846.38	99%
Lyman Mill sediment	LPX-SD-4510	LPX-SD-4510-0024-0025	2.4	2.5	7.81	20.51	1.76	2.45	26.37	5.46	32.55	8.95	1.81	19.14	3.15	8.58	24.09	3.61	0.33	0.33	4.07	170.95	2%
Lyman Mill sediment	Lymansville Dam	6199-SD	0	0.33	9.17	3.56	-	2.97	-	4.71	-	-	0.98	-	-	-	-	-	1.18	0.07	5970.00	5992.64	100%
Lyman Mill sediment	SD-10	AAL24016	0	0.5	0.39	0.15	0.02	0.15	-	0.31	-	0.36	-	0.89	-	-	0.58	0.79	0.02	0.00	160.94	164.59	98%
Lyman Mill sediment	SD-11	AAL24017	0	1	0.45	1.42	0.01	0.16	0.58	0.40	0.36	0.43	-	0.84	0.02	0.33	0.69	0.70	0.03	0.00	264.41	270.83	98%
Lyman Mill sediment	SD-12	AAL24018	0	1	0.05	0.05	0.00	0.03	0.14	-	0.06	0.14	-	0.33	0.04	-	0.36	0.07	0.00	0.00	19.16	20.42	94%
Lyman Mill sediment	SD-13	AAL24019	0	1	0.48	0.39	0.02	0.13	0.75	0.62	0.27	0.53	-	0.57	0.11	0.24	1.18	0.61	0.04	0.00	112.27	118.21	95%
Lyman Mill sediment	SD-14	AAL24020	0	0.5	0.12	0.09	0.00	0.01	-	0.20	0.14	0.17	-	0.28	0.01	0.10	0.32	0.02	0.01	0.00	28.86	30.34	95%
Lyman Mill sediment	SD-15	AAL24021	0	0.5	0.00	0.00	0.00	0.03	-	-	-	0.05	-	0.33	-	-	0.09	0.03	0.00	-	0.35	0.89	39%
Lyman Mill sediment	SD-16	AAL24022	0	0.5	0.79	0.22	0.01	0.08	0.32	0.73	0.13	1.65	-	1.26	0.06	-	1.04	0.04	0.05	0.00	469.12	475.50	99%
Lyman Mill sediment	SD-16	AAL24023	0	0.5	1.10	0.02	0.02	0.07	1.22	0.87	0.45	0.91	-	1.94	0.08	0.29	1.41	0.57	0.08	0.00	611.06	620.09	99%
Lyman Mill sediment	SD-18	AAL24024	0	0.25	7.10	3.54	0.03	0.77	3.36	4.22	2.36	4.22	-	7.22	0.37	1.21	6.29	2.50	0.46	0.02	7987.02	8030.67	99%
Lyman Mill sediment	SD-19	AAL24025	0	0.25	0.34	0.01	0.01	0.05	-	0.42	-	0.05	-	0.97	-	0.10	0.20	0.03	0.02	0.00	18.11	20.30	89%
Lyman Mill sediment	Water St.	27717A	0	-	9.17	3.56	0.04	2.97	0.17	4.71	0.17	0.31	0.98	1.38	0.04	0.17	0.43	0.06	1.18	0.07	5970.00	5995.41	100%
Lyman Mill sediment	WRL-BK-2004	D00864	0	0.5	2.94	0.87	0.04	0.42	0.99	1.30	0.70	1.22	0.03	2.90	0.22	0.79	2.60	0.59	0.21	0.01	966.00	981.82	98%
Lyman Mill sediment	WRL-BK-2004	D00865	0	0.5	1.07	0.38	0.03	0.30	1.47	0.63	0.58	0.96	0.05	3.20	0.29	0.77	4.40	1.91	0.07	0.01	374.00	390.11	96%
Lyman Mill sediment	WRL-BK-2004	D00866	0	0.5	3.75	1.07	0.06	0.53	1.86	1.57	1.09	2.00	0.07	4.70	0.59	1.25	4.35	1.95	0.28	0.02	2930.00	2955.13	99%
Lyman Mill sediment	WRL-BK-2004	D01017	0	0.5	9.84	4.22	0.18	1.72	4.22	4.54	3.42	4.64	0.07	11.30	0.71	3.49	8.15	3.70	0.59	0.05	7110.00	7170.83	99%
Lyman Mill sediment	WRL-BK-2004	D01018	0.5	2	2.77	1.16	0.08	0.65	2.12	1.53	1.55	1.79	0.09	9.80	1.14	1.66	6.60	3.67	0.15	0.01	2060.00	2094.76	98%
Lyman Mill sediment	WRL-BK-2004	D01019	2	4	0.05	0.02	0.00	0.08	0.15	0.18	0.11	0.26	0.02	1.30	0.06	0.10	0.85	0.41	0.00	0.00	14.60	18.19	80%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Lyman Mill sediment	WRL-BK-2005	D00867	0	0.5	1.75	0.62	0.04	0.28	0.68	0.87	0.57	0.94	0.04	2.00	0.13	0.67	1.70	0.59	0.12	0.01	945.00	956.01	99%
Lyman Mill sediment	WRL-BK-2005	D00868	0	0.5	0.21	0.14	0.01	0.08	0.42	0.09	0.24	0.27	0.02	0.90	0.12	0.26	1.60	0.88	0.01	0.00	86.40	91.64	94%
Lyman Mill sediment	WRL-BK-2005	D00869	0	0.5	0.14	0.11	0.01	0.06	0.49	0.13	0.22	0.15	0.03	1.00	0.16	0.29	2.00	1.27	0.01	0.00	10.50	16.55	63%
Lyman Mill sediment	WRL-SD-2038	D00889	0	0.5	2.97	1.03	0.05	0.57	1.15	1.31	0.64	1.92	0.01	4.80	0.37	0.75	2.00	0.98	0.16	0.01	611.00	629.72	97%
Lyman Mill sediment	WRL-SD-2039	D00888	0	0.5	6.18	2.41	0.12	0.79	1.76	2.38	1.44	2.86	0.02	5.30	0.74	1.73	3.20	1.56	0.38	0.04	2840.00	2870.90	99%
Lyman Mill sediment	WRL-SD-2040	D00885	0	0.5	0.09	0.03	0.00	0.02	0.02	0.04	0.02	0.02	0.01	0.15	0.01	0.03	-	0.01	0.00	0.00	60.00	60.45	99%
Lyman Mill sediment	WRL-SD-2040	D00886	0	0.5	0.06	0.03	0.00	0.01	0.02	0.03	0.01	0.02	0.00	0.05	0.00	0.02	-	0.03	0.00	0.00	80.80	81.08	100%
Lyman Mill sediment	WRL-SD-2041	D00887	0	0.5	5.02	1.71	0.10	0.58	1.41	1.68	1.04	1.66	0.04	3.70	0.37	1.28	2.45	1.11	0.38	0.03	3150.00	3172.56	99%
Lyman Mill sediment	WRL-SD-2041	D03858	0	0.2	1.88	0.61	0.04	0.30	0.59	0.89	0.54	0.80	0.09	2.10	0.01	0.54	1.30	0.49	0.12	0.01	2020.00	2030.31	99%
Lyman Mill sediment	WRL-SD-2041	D03859	0	0.2	2.96	1.01	0.06	0.46	0.67	1.38	0.58	0.99	0.03	2.30	0.01	0.59	1.00	0.35	0.20	0.02	485.00	497.60	97%
Lyman Mill sediment	WRL-SD-2042	D00974	0	0.5	6.58	2.19	0.11	1.07	2.55	3.10	1.85	3.08	0.22	8.10	0.84	2.22	4.30	1.97	0.28	0.04	2010.00	2048.49	98%
Lyman Mill sediment	WRL-SD-2042	D03860	0	0.3	5.09	1.03	0.04	0.42	0.83	1.54	0.74	1.26	0.08	2.90	0.02	0.72	1.15	0.64	0.55	0.02	1720.00	1737.04	99%
Lyman Mill sediment	WRL-SD-2043	D01009	0	0.5	7.07	3.12	0.15	1.22	2.45	3.18	1.74	3.22	0.22	8.10	0.13	2.15	4.60	2.16	0.42	0.05	3230.00	3269.97	99%
Lyman Mill sediment	WRL-SD-2043	D03864	0	0.2	2.03	0.80	0.05	0.35	0.78	1.13	0.67	1.06	0.02	2.80	0.01	0.69	1.75	0.59	0.13	0.02	1190.00	1202.87	99%
Lyman Mill sediment	WRL-SD-2044	D01032	0	0.5	7.63	2.65	0.16	1.32	4.92	4.15	3.28	3.68	0.08	13.70	0.67	3.13	11.85	7.36	0.38	0.03	3350.00	3414.97	98%
Lyman Mill sediment	WRL-SD-2044	D01033	0.5	2	6.05	3.13	0.17	1.25	5.22	3.40	3.76	3.65	0.14	11.70	0.60	3.52	11.80	7.48	0.29	0.02	2220.00	2282.19	97%
Lyman Mill sediment	WRL-SD-2044	D01034	2	3	1.84	4.07	0.14	0.44	3.62	1.43	3.67	1.50	0.12	1.65	0.49	2.65	4.95	3.11	0.07	0.02	217.00	246.76	88%
Lyman Mill sediment	WRL-SD-2071	D03861	0	0.2	4.00	1.34	0.07	0.60	1.71	1.87	1.29	1.69	0.02	3.80	0.24	1.17	3.55	1.69	0.23	0.02	1730.00	1753.29	99%
Lyman Mill sediment	WRL-SD-4005	48401-77-13	0	0.5	1.93	0.71	0.03	0.30	0.63	0.93	0.47	0.83	0.01	2.03	0.09	0.36	1.43	0.52	0.13	0.01	751.75	762.15	99%
Lyman Mill soil	LPX-4112	LPX-SS-4112-0005-01	0	0.5	0.57	0.14	0.01	0.07	0.22	0.31	0.10	0.28	0.01	0.63	0.04	0.05	0.53	0.16	0.04	0.00	2.01	5.16	39%
Lyman Mill soil	LPX-4113	LPX-SS-4113-0005-01	0	0.5	0.11	0.09	0.01	0.04	0.22	0.13	0.11	0.12	0.01	0.38	0.05	0.04	0.50	0.14	0.01	0.00	3.18	5.13	62%
Lyman Mill soil	LPX-4114	LPX-SS-4114-0005-01	0	0.5	0.71	0.20	0.01	0.09	0.31	0.37	0.15	0.33	0.01	0.75	0.06	0.08	0.75	0.18	0.06	0.00	2.65	6.72	39%
Lyman Mill soil	LPX-FP-4004	48401-83-12	0	0.5	0.57	0.18	0.01	0.09	0.27	0.25	0.17	0.23	0.06	0.61	0.04	0.13	0.67	0.23	0.04	0.00	1130.07	1133.63	100%
Lyman Mill soil	LPX-FP-4006	48401-83-13	0	0.5	3.48	0.61	0.04	0.66	2.43	1.83	1.11	2.24	0.07	6.44	0.45	1.27	6.47	3.55	0.18	0.01	123.29	154.11	80%
Lyman Mill soil	LPX-FP-4007	48401-83-14	0	0.5	17.39	8.44	0.39	2.71	3.62	7.44	2.90	7.22	0.05	12.64	0.25	2.52	4.22	1.01	1.12	0.20	9.86	81.97	12%
Lyman Mill soil	RES-10-004-01	D01437	0	1	0.30	0.12	0.01	0.10	0.79	0.21	0.20	0.24	-	0.99	0.10	0.33	1.25	0.97	0.03	0.00	113.00	118.65	95%
Lyman Mill soil	RES-10-004-02	D01438	0	1	0.14	0.06	0.01	0.04	0.35	0.12	0.11	0.19	0.02	0.20	0.08	0.14	0.32	0.37	0.07	0.00	4.40	6.61	67%
Lyman Mill soil	RES-10-004-03	D01439	0	1	0.11	0.05	0.00	0.03	0.28	0.08	0.08	0.16	0.03	0.25	0.07	0.13	0.24	0.28	0.06	0.00	0.30	2.14	14%
Lyman Mill soil	RES-10-005-01	D01432	0	1	0.89	0.29	0.03	0.11	0.74	0.37	0.26	0.37	0.05	1.40	0.14	0.31	1.00	0.68	0.09	0.00	148.00	154.72	96%
Lyman Mill soil	RES-10-005-02	D01433	0	1	0.49	0.14	0.01	0.05	0.27	0.20	0.08	0.21	0.04	0.40	0.04	0.13	0.46	0.19	0.05	0.00	6.30	9.04	70%
Lyman Mill soil	RES-10-005-03	D01436	0	1	0.48	0.15	0.01	0.05	0.23	0.19	0.10	0.16	0.04	0.35	0.01	0.12	0.10	0.21	0.05	0.00	0.86	3.11	28%
Lyman Mill soil	RES-10-042-01	D01440	0	1	1.03	2.59	0.18	1.13	25.90	1.58	8.82	3.23	0.34	17.40	4.02	13.40	80.00	44.80	0.04	0.01	161.00	365.46	44%
Lyman Mill soil	RES-10-042-02	D01441	0	1	0.10	0.07	0.01	0.05	0.35	0.07	0.11	0.11	0.02	0.46	0.05	0.19	0.55	0.37	0.01	0.00	2.00	4.51	44%
Lyman Mill soil	RES-10-042-03	D01442	0	1	0.13	0.09	0.00	0.04	0.16	0.03	0.12	0.10	0.03	0.40	0.01	0.16	0.75	0.36	0.01	0.00	2.00	4.39	46%
Lyman Mill soil	RES-10-044-01	D01448	0	1	5.14	2.01	0.11	0.63	3.04	2.52	1.57	2.88	0.20	6.40	1.04	1.70	7.10	3.60	0.33	0.05	496.00	534.30	93%
Lyman Mill soil	RES-10-044-02	D01451	0	1	0.23	0.10	0.01	0.07	0.39	0.06	0.21	0.07	0.05	0.80	0.08	0.23	1.05	0.79	0.02	0.00	58.60	62.75	93%
Lyman Mill soil	RES-10-044-03	D01452	0	1	0.22	0.12	0.01	0.06	0.52	0.05	0.17	0.06	0.04	0.40	0.17	0.23	1.35	0.60	0.01	0.00	8.40	12.38	68%
Lyman Mill soil	RES-10-053-01	D01143	0	1	0.69	0.43	0.03	0.24	0.81	0.67	0.38	0.66	0.05	2.20	0.17	0.50	2.65	1.01	0.04	0.00	32.70	43.23	76%
Lyman Mill soil	RES-10-053-01	D01144	0	1	0.24	0.10	0.01	0.09	0.29	0.34	0.07	0.09	0.08	0.70	0.03	0.07	0.28	0.24	0.01	0.00	6.00	8.63	70%
Lyman Mill soil	RES-10-053-03	D01145	0	1	0.19	0.08	0.01	0.03	0.13	0.17	0.03	0.03	0.03	0.25	0.01	0.03	0.10	0.28	0.01	0.00	0.90	2.27	40%
Lyman Mill soil	RES-10-053-03	D01162	0	1	0.92	0.09	0.00	0.03	0.08	0.08	0.03	0.06	0.02	0.15	0.02	0.04	0.30	0.07	0.11	0.00	1.30	3.28	40%
Lyman Mill soil	RES-10-068-01	D01453	0	1	0.31	0.19	0.02	0.06	0.86	0.17	0.42	0.37	0.04	0.93	0.28	0.39	2.70	1.43	0.02	0.00	18.50	26.70	69%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Lyman Mill soil	RES-10-068-02	D01454	0	1	0.20	0.11	0.01	0.03	0.45	0.14	0.20	0.23	0.02	0.30	0.10	0.23	1.40	0.82	0.01	0.00	5.00	9.26	54%
Lyman Mill soil	RES-10-068-03	D01455	0	1	0.34	0.27	0.02	0.14	1.08	0.29	0.40	0.36	0.02	1.30	0.36	0.49	2.65	1.64	0.02	0.00	10.60	19.97	53%
Lyman Mill soil	RES-10-074-01	D01446	0	1	3.77	0.65	0.05	0.60	1.00	1.76	0.68	1.74	0.05	3.10	0.02	1.02	2.50	1.19	0.28	0.01	14.70	33.11	44%
Lyman Mill soil	RES-10-074-01	D01456	0	1	2.31	0.40	0.03	0.33	0.69	0.91	0.44	0.93	0.03	1.90	0.23	0.65	1.65	0.95	0.22	0.01	5.20	16.87	31%
Lyman Mill soil	RES-10-074-02	D01457	0	1	1.53	0.54	0.05	0.42	2.58	1.09	1.12	1.19	0.10	4.50	1.25	1.51	7.75	6.57	0.08	0.00	59.10	89.37	66%
Lyman Mill soil	RES-10-074-03	D01458	0	1	0.80	0.25	0.01	0.29	0.99	0.45	0.55	0.58	0.04	1.70	0.46	0.85	2.80	2.36	0.05	0.00	5.40	17.57	31%
Lyman Mill soil	RES-10-075-01	D01461	0	1	0.07	0.11	0.02	0.09	0.06	0.09	-	0.11	0.08	0.50	0.23	0.06	0.28	0.72	0.00	0.00	8.50	10.89	78%
Lyman Mill soil	RES-10-075-01	D01464	0	1	0.05	0.11	0.02	0.11	0.18	0.11	0.24	0.11	0.06	0.70	0.02	0.28	0.50	0.28	0.00	0.00	11.70	14.46	81%
Lyman Mill soil	RES-10-075-02	D01465	0	1	0.03	0.03	0.01	0.05	0.13	0.04	0.08	0.04	-	0.45	0.01	0.30	1.15	0.25	0.00	0.00	1.20	3.76	32%
Lyman Mill soil	RES-10-075-03	D01466	0	1	0.06	0.06	0.01	0.07	0.27	0.06	0.08	0.07	0.04	0.65	0.09	0.19	1.25	0.33	0.01	0.00	2.70	5.92	46%
Lyman Mill soil	RES-10-076-01	D01459	0	1	0.94	0.24	0.02	0.14	0.85	0.47	0.35	0.53	0.09	1.90	0.34	0.41	2.15	1.61	0.06	0.00	106.00	116.09	91%
Lyman Mill soil	RES-10-076-02	D01460	0	1	0.53	0.12	0.02	0.11	0.54	0.25	0.26	0.38	0.02	1.10	0.29	0.36	1.65	1.01	0.04	0.00	11.50	18.17	63%
Lyman Mill soil	RES-10-076-03	D01463	0	1	0.12	0.04	0.00	0.02	0.12	0.02	0.12	0.02	0.02	0.49	0.08	0.17	0.75	0.48	0.01	0.00	1.40	3.84	36%
Lyman Mill soil	RES-10-604-01	D01434	0	1	4.81	2.16	0.13	1.01	1.73	2.22	1.11	2.62	0.11	6.20	0.33	1.69	3.20	1.52	0.30	0.05	204.00	233.18	87%
Lyman Mill soil	RES-10-604-01	D01443	0	1	4.09	1.81	0.10	0.66	1.22	1.90	0.83	2.00	0.05	5.30	0.02	1.28	2.70	0.94	0.26	0.04	241.00	264.20	91%
Lyman Mill soil	RES-10-604-02	D01444	0	1	0.28	0.12	0.01	0.03	0.16	0.17	0.13	0.25	0.02	0.25	0.05	0.17	0.80	0.46	0.02	0.00	49.70	52.61	94%
Lyman Mill soil	RES-10-604-03	D01445	0	1	0.06	0.03	0.01	0.05	0.10	0.04	0.05	0.05	0.04	0.45	0.05	0.10	0.48	0.19	0.00	0.00	1.70	3.38	50%
Lyman Mill soil	RES-11-011-01	D01166	0	1	0.33	0.10	0.00	0.04	0.09	0.09	0.06	0.10	0.01	0.29	0.02	0.07	0.28	0.10	0.02	0.00	5.70	7.28	78%
Lyman Mill soil	RES-11-011-02	D01167	0	1	0.20	0.06	0.00	0.05	0.11	0.06	0.05	0.07	0.01	0.28	0.03	0.06	0.33	0.13	0.02	0.00	3.10	4.53	68%
Lyman Mill soil	RES-11-011-03	D01148	0	1	0.89	0.21	0.02	0.15	0.34	0.41	0.21	0.34	0.02	1.40	0.03	0.25	1.15	0.41	0.07	0.00	1.00	6.89	15%
Lyman Mill soil	RES-11-011-03	D01168	0	1	0.83	0.22	0.02	0.08	0.18	0.39	0.19	0.40	0.03	0.47	0.03	0.26	0.45	0.16	0.07	0.00	0.75	4.52	17%
Lyman Mill soil	RES-11-012-01	D01163	0	1	1.50	0.38	0.04	0.26	0.22	0.68	0.28	0.72	0.02	0.65	0.04	0.42	0.53	0.18	0.11	0.01	7.70	13.71	56%
Lyman Mill soil	RES-11-012-02	D01164	0	1	0.59	0.12	0.00	0.16	0.09	0.30	0.07	0.33	0.05	0.75	0.02	0.15	0.24	0.08	0.05	0.00	0.50	3.48	14%
Lyman Mill soil	RES-11-012-03	D01165	0	1	0.83	0.18	0.02	0.11	0.51	0.30	0.23	0.32	0.01	0.47	0.05	0.33	1.40	0.65	0.07	0.00	0.69	6.16	11%
Lyman Mill soil	RES-11-328-01	D01417	0	1	1.26	0.48	0.03	0.32	1.03	0.73	0.48	0.97	0.03	3.20	0.20	0.70	2.70	1.64	0.08	0.01	335.00	348.84	96%
Lyman Mill soil	RES-11-328-01	D01422	0	1	1.42	0.54	0.04	0.34	0.96	0.94	0.56	1.05	0.03	4.30	0.29	0.72	3.30	2.36	0.09	0.01	371.00	387.95	96%
Lyman Mill soil	RES-11-328-02	D01423	0	1	0.50	0.28	0.02	0.17	1.00	0.49	0.42	0.58	0.06	1.70	0.01	0.67	3.20	2.15	0.02	0.00	12.20	23.46	52%
Lyman Mill soil	RES-11-328-03	D01424	0	1	0.13	0.08	0.00	0.03	0.22	0.10	0.10	0.15	0.02	0.15	0.04	0.14	0.70	0.37	0.01	0.00	1.50	3.73	40%
Lyman Mill soil	RES-11-396-02	D01404	0	1	0.42	0.30	0.02	0.18	1.55	0.36	0.56	0.60	0.03	1.90	0.28	0.81	4.15	2.22	0.03	0.00	49.10	62.51	79%
Lyman Mill soil	RES-11-396-03	D01405	0	1	0.18	0.09	0.00	0.09	0.43	0.19	0.20	0.26	0.02	0.89	0.15	0.24	1.65	1.04	0.01	0.00	3.80	9.24	41%
Lyman Mill soil	RES-11-419-01	D01467	0	1	2.17	0.61	0.02	0.31	0.81	0.98	0.57	0.95	0.07	1.25	0.07	0.49	2.05	0.74	0.18	0.01	585.00	596.27	98%
Lyman Mill soil	RES-11-419-02	D01468	0	1	0.74	0.19	0.01	0.11	0.19	0.16	0.09	0.32	0.02	0.99	0.04	0.19	0.53	0.14	0.07	0.00	144.00	147.78	97%
Lyman Mill soil	RES-11-419-03	D01469	0	1	0.07	0.02	0.01	0.04	0.07	0.04	-	0.04	0.02	0.50	0.02	0.03	0.15	0.04	0.02	0.00	1.10	2.16	51%
Lyman Mill soil	RES-11-420-01	D01393	0	1	0.18	0.03	0.00	0.04	0.06	0.07	0.03	0.07	0.00	0.36	0.03	0.07	0.27	0.06	0.01	0.00	10.00	11.27	89%
Lyman Mill soil	RES-11-420-02	D01394	0	1	1.02	0.26	0.01	0.16	0.13	0.23	0.14	0.21	0.01	0.93	0.07	0.21	0.25	0.08	0.14	0.01	2.40	6.24	38%
Lyman Mill soil	RES-11-420-03	D01391	0	1	0.17	0.03	0.01	0.05	0.11	0.08	0.05	0.08	0.01	0.63	0.08	0.17	0.35	0.15	0.01	0.00	0.32	2.27	14%
Lyman Mill soil	RES-11-420-03	D01395	0	1	0.19	0.07	0.00	0.02	0.22	0.11	0.10	0.12	0.02	0.15	0.02	0.17	0.65	0.27	0.01	0.00	0.15	2.27	7%
Lyman Mill soil	RES-11-420-04	D01396	0	1	2.36	0.68	0.04	0.51	0.81	1.17	0.40	1.11	0.02	2.60	0.14	0.51	1.65	0.81	0.15	0.02	103.00	115.98	89%
Lyman Mill soil	RES-11-422-01	D01399	0	1	0.50	0.11	0.01	0.08	0.21	0.24	0.10	0.20	0.02	0.15	0.05	0.13	0.48	0.17	0.04	0.00	37.60	40.08	94%
Lyman Mill soil	RES-11-422-02	D01400	0	1	0.25	0.07	0.00	0.04	0.17	0.13	0.06	0.12	0.01	0.50	0.04	0.09	0.39	0.14	0.02	0.00	4.80	6.84	70%
Lyman Mill soil	RES-11-422-03	D01406	0	1	0.19	0.06	0.01	0.03	0.16	0.10	0.06	0.09	0.02	0.30	0.01	0.07	0.10	0.12	0.02	0.00	3.10	4.43	70%
Lyman Mill soil	RES-11-423-01	D01085	0	1	0.05	0.01	0.00	0.03	0.02	0.03	0.02	0.03	0.02	0.25	0.01	0.02	0.08	0.02	0.00	0.00	13.10	13.68	96%
Lyman Mill soil	RES-11-423-02	D01091	0	1	0.04	0.01	0.00	0.02	0.02	0.02	0.01	0.02	0.02	0.15	0.01	0.01	0.05	0.01	0.01	0.00	0.43	0.81	53%
Lyman Mill soil	RES-11-423-03	D01087	0	1	0.09	0.01	0.00	0.02	0.04	0.02	0.02	0.02	0.02	0.20	0.01	0.02	0.10	0.04	0.01	0.00	0.31	0.92	34%
Lyman Mill soil	RES-11-424-01	D01076	0	1	0.49	0.40	0.04	0.18	1.38	0.68	2.01	0.50	0.12	2.00	0.03	4.80	7.45	1.10	0.02	0.00	21.70	42.90	51%
Lyman Mill soil	RES-11-424-02	D01077	0	1	0.26	0.42	0.04	0.12	1.54	0.21	3.25	0.37	0.03	1.80	0.19	8.34	11.40	1.13	0.01	0.00	5.20	34.31	15%
Lyman Mill soil	RES-11-424-03	D01079	0	1	0.27	0.12	0.00	0.04	0.43	0.10	0.32	0.10	0.02	0.15	0.01	0.80	1.80	0.28	0.01	0.00	24.10	28.55	84%
Lyman Mill soil	RES-11-425-02	D01094	0	1	0.08	0.01	0.00	0.01	0.04	0.04	0.02	0.02	0.01	0.10	0.01	0.03	0.10	0.07	0.01	0.00	9.90	10.45	95%
Lyman Mill soil	RES-11-425-03	D01080	0	1	0.03	0.01	0.00	0.03	0.04	0.03	0.02	0.03	0.02	0.15	0.01	0.04	0.05	0.04	0.00	0.00	1.90	2.38	80%
Lyman Mill soil	RES-11-425-03	D01095	0	1	0.02	0.01	0.00	0.01	0.05	0.01	0.03	0.01	0.01	0.10	0.02	0.05	0.15	0.04	0.00	0.00	0.68	1.18	57%
Lyman Mill soil	RES-11-426-01	D01380	0	1	0.06	0.02	0.00	0.02	0.05	0.09	4.24	0.06	0.01	0.10	0.02	0.06	0.25	0.06	0.01	0.00	31.90	36.94	86%
Lyman Mill soil	RES-11-426-02	D01381	0	1	0.02	0.01	0.00	0.02	0.04	0.07	0.01	0.02	0.02	0.15	0.01	0.02	0.19	0.08	0.00	0.00	1.30	1.95	67%
Lyman Mill soil	RES-11-426-03	D01382	0	1	0.02	0.01	0.00	0.02	0.07	0.03	0.03	0.03	0.01	0.15	0.01	0.01	0.21	0.07	0.00	0.00	0.15	0.81	19%
Lyman Mill soil	RES-11-427-01	D01088	0	1	0.10	0.06	0.00	0.01	0.04	0.07	0.03	0.06	0.01	0.05	0.05	0.03	0.13	0.06	0.01	0.00	0.26	0.96	27%
Lyman Mill soil	RES-11-427-02	D01089	0	1	0.11	0.08	0.00	0.02	0.06	0.05	0.03	0.09	0.02	0.15	0.02	0.04	0.12	0.11	0.01	0.00	0.32	1.21	26%
Lyman Mill soil	RES-11-427-03	D01090	0	1	0.11	0.09	0.00	0.02	0.08	0.04	0.06	0.04	0.02	0.15	0.11	0.05	0.21	0.07	0.01	0.00	0.15	1.21	12%
Lyman Mill soil	RES-11-428-01	D01383	0	1	0.64	0.02	0.00	0.09	0.10	0.15	0.04	0.16	0.02	0.20	0.05	0.08	0.33	0.16	0.04	0.00	3.00	5.06	59%
Lyman Mill soil	RES-11-428-02	D01388	0	1	0.06	0.01	0.00	0.01	0.04	0.05	0.02	0.04	0.01	0.10	0.02	0.05	0.13	0.06	0.01	0.00	2.80	3.41	82%
Lyman Mill soil	RES-11-428-03	D01092	0	1	0.27	0.06	0.00	0.02	0.09	0.06	0.04	0.06	0.02	0.15	0.02	0.05	0.25	0.14	0.02	0.00	2.20	3.43	64%
Lyman Mill soil	RES-11-428-03	D01385	0	1	0.19	0.02	0.00	0.03	0.11	0.12	0.04	0.06	0.02	0.20	0.04	0.10	0.40	0.12	0.01	0.00	1.60	3.07	52%
Lyman Mill soil	RES-11-428-G	D01386	0	1	0.20	0.03	0.01	0.04	0.06	0.06	0.02	0.06	0.01	0.10	0.03	0.06	0.36	0.08	0.02	0.00	0.28	1.40	20%
Lyman Mill soil	RES-11-429-01	D01096	0	1	0.42	0.27	0.02	0.08	1.44	0.37	0.49	0.28	0.03	0.62	0.16	0.47	1.60	0.47	0.02	0.00	11.30	18.03	63%
Lyman Mill soil	RES-11-429-02	D01387	0	1	0.25	0.04	0.02	0.20	0.11	0.16	0.09	0.13	0.16	1.90	0.11	0.21	0.60	0.11	0.02	0.00	4.10	8.19	50%
Lyman Mill soil	RES-11-430-01	D01098	0	1	0.02	0.01	0.00	0.02	0.06	0.03	0.02	0.04	0.02	0.15	0.01	0.04	0.10	0.04	0.00	0.00	1.00	1.55	64%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Lyman Mill soil	RES-11-430-02	D01099	0	1	0.29	0.10	0.01	0.08	0.14	0.10	0.07	0.14	0.02	0.43	0.05	0.13	0.30	0.14	0.02	0.00	6.30	8.29	76%
Lyman Mill soil	RES-11-430-03	D01376	0	1	0.31	0.04	0.01	0.04	0.10	0.08	0.05	0.07	0.01	0.38	0.06	0.13	0.50	0.14	0.03	0.00	0.64	2.58	25%
Lyman Mill soil	RES-11-431-01	D01377	0	1	0.32	0.16	0.02	0.12	0.84	0.17	0.14	0.19	0.01	0.69	0.13	0.43	0.90	1.20	0.01	0.00	30.40	35.72	85%
Lyman Mill soil	RES-11-431-02	D01378	0	1	0.29	0.09	0.01	0.09	0.24	0.11	0.09	0.12	0.02	0.96	0.10	0.22	0.68	0.22	0.02	0.00	26.90	30.14	89%
Lyman Mill soil	RES-11-431-03	D01379	0	1	0.06	0.03	0.02	0.18	0.18	0.21	0.10	0.12	0.16	1.30	0.06	0.27	0.63	0.13	0.01	0.00	1.10	4.55	24%
Lyman Mill soil	RES-11-432-01	D01398	0	1	2.70	1.89	0.18	0.75	8.45	1.82	2.75	2.58	0.19	5.10	0.61	4.81	13.25	5.39	0.18	0.02	118.00	168.66	70%
Lyman Mill soil	RES-11-432-01	D01407	0	1	2.73	2.10	0.33	0.86	9.14	2.06	3.75	3.27	0.21	7.10	0.74	5.71	18.10	7.38	0.15	0.02	65.50	129.15	51%
Lyman Mill soil	RES-11-432-02	D01410	0	1	0.20	0.08	0.01	0.05	0.31	0.04	0.14	0.05	0.04	0.50	0.01	0.18	0.55	0.32	0.02	0.00	2.70	5.20	52%
Lyman Mill soil	RES-11-432-03	D01411	0	1	0.48	0.15	0.02	0.07	0.42	0.17	0.16	0.23	0.03	0.25	0.06	0.22	0.60	0.37	0.04	0.00	5.10	8.37	61%
Lyman Mill soil	RES-11-433-01	D01414	0	1	25.20	29.20	6.94	16.70	172.00	28.40	79.70	58.00	5.18	112.00	11.95	126.00	372.50	81.10	0.32	0.22	46.10	1171.51	4%
Lyman Mill soil	RES-11-433-02	D01416	0	1	4.55	3.05	0.44	1.50	13.80	2.86	4.25	4.52	0.38	7.40	0.67	8.12	15.70	4.61	0.26	0.02	72.80	144.92	50%
Lyman Mill soil	RES-11-433-03	D01418	0	1	2.12	0.69	0.07	0.30	2.67	0.97	0.90	1.14	0.07	2.00	0.25	1.52	3.85	1.50	0.12	0.01	11.40	29.57	39%
Lyman Mill soil	RES-11-486-01	D01408	0	1	4.33	1.29	0.10	0.71	1.57	2.10	0.95	1.89	0.07	4.50	0.23	1.35	3.65	1.47	0.26	0.03	27.30	51.80	53%
Lyman Mill soil	RES-11-486-01	D01419	0	1	4.10	1.30	0.10	0.72	1.32	2.16	0.86	1.94	0.11	3.90	0.13	1.29	3.35	1.53	0.26	0.03	23.90	46.99	51%
Lyman Mill soil	RES-11-486-02	D01420	0	1	1.08	0.39	0.04	0.28	1.09	0.77	0.62	0.78	0.09	2.70	0.01	1.12	3.70	1.50	0.09	0.01	60.00	74.26	81%
Lyman Mill soil	RES-11-486-03	D01421	0	1	1.07	1.00	0.14	0.58	6.51	1.51	2.98	2.03	0.29	9.00	0.01	4.48	18.60	8.71	0.05	0.01	9.50	66.46	14%
Lyman Mill soil	RES-11-497-01	D01159	0	1	0.09	0.01	0.00	0.02	0.03	0.04	0.02	0.04	0.02	0.15	0.02	0.01	0.11	0.01	0.01	0.00	7.00	7.59	92%
Lyman Mill soil	RES-11-497-02	D01160	0	1	0.15	0.05	0.02	0.16	0.11	0.10	0.09	0.11	0.13	0.70	0.04	0.17	0.40	0.07	0.01	0.00	4.10	6.39	64%
Lyman Mill soil	RES-11-497-03	D01161	0	1	0.15	0.08	0.02	0.19	0.17	0.12	0.23	0.12	0.13	0.80	0.14	0.27	0.65	0.13	0.01	0.00	2.20	5.39	41%
Lyman Mill soil	RES-11-577-01	D01425	0	1	0.81	0.35	0.03	0.34	2.51	0.73	0.70	1.01	0.04	3.50	0.50	0.90	5.10	3.01	0.05	0.00	305.00	324.59	94%
Lyman Mill soil	RES-11-577-01	D01429	0	1	0.75	0.31	0.03	0.28	1.95	0.57	0.58	0.93	0.06	3.40	0.41	0.78	4.60	2.51	0.04	0.00	401.00	418.20	96%
Lyman Mill soil	RES-11-577-02	D01430	0	1	0.53	0.46	0.04	0.37	4.06	0.81	1.07	1.11	-	5.60	0.77	1.38	8.55	4.59	0.02	0.00	41.70	71.05	59%
Lyman Mill soil	RES-11-577-03	D01431	0	1	0.23	0.19	0.08	0.11	1.89	0.23	0.40	0.43	0.07	1.80	0.22	1.44	3.25	1.55	0.01	0.00	8.40	20.30	41%
Lyman Mill soil	RES-12-556-01	D01083	0	1	0.99	0.39	0.02	0.21	1.44	0.53	0.60	0.61	0.04	2.30	0.35	0.74	4.65	1.58	0.11	0.01	24.90	39.48	63%
Lyman Mill soil	RES-12-556-02	D01084	0	1	1.82	0.52	0.04	0.26	1.14	0.64	0.56	0.59	0.04	2.40	0.38	0.64	3.55	0.81	0.21	0.02	6.00	19.61	31%
Lyman Mill soil	SS-99-21	SS99-21	0	0.25	0.02	0.02	0.00	0.03	0.04	0.09	0.03	0.04	0.03	0.08	0.01	0.02	0.03	0.01	0.01	0.00	0.23	0.68	34%
Lyman Mill soil	SS-99-22	SS99-22	0	0.25	0.05	0.02	0.01	0.05	0.02	0.03	0.04	0.02	0.04	0.94	0.01	0.03	0.11	0.01	0.01	0.00	0.09	1.51	6%
Lyman Mill soil	SS-99-23	SS99-23	0	0.25	0.08	0.04	0.01	0.05	0.06	0.22	0.06	0.22	0.05	1.86	0.03	0.06	0.27	0.13	0.01	0.00	0.39	3.53	11%
Lyman Mill soil	SS-99-24	SS99-24	0	0.25	0.21	0.06	0.01	0.10	0.10	0.11	0.18	0.10	0.04	0.77	0.05	0.07	0.48	0.11	0.02	0.00	1.18	3.58	33%
Lyman Mill soil	SS-99-25	SS99-25	0	0.25	0.94	0.13	0.02	0.27	0.16	0.15	0.15	0.18	0.05	0.75	0.05	0.18	0.44	0.10	0.08	0.00	1.11	4.74	23%
Oxbow Area soil	LPX-SD-4401	D00002	0	0.5	1.75	0.44	0.02	0.39	1.28	0.76	0.76	0.63	0.22	3.93	1.59	0.97	5.55	1.93	0.13	0.01	3140.00	3160.36	99%
Oxbow Area soil	LPX-SD-4402	D00006	0	0.5	0.38	0.15	0.01	0.13	0.25	0.21	0.18	0.17	0.09	1.50	0.28	0.21	0.92	0.33	0.02	0.00	400.00	404.84	99%
Oxbow Area soil	LPX-SD-4402	D00008	0	0.5	0.44	0.14	0.00	0.13	0.25	0.27	0.17	0.21	0.09	1.23	2.62	0.13	0.51	0.29	0.03	0.00	789.00	795.49	99%
Oxbow Area soil	LPX-SD-4403	D00003	0	0.5	0.21	0.09	0.00	0.06	0.17	0.13	0.13	0.03	0.01	0.71	0.19	0.15	0.97	0.16	0.01	0.00	521.00	524.03	99%
Oxbow Area soil	LPX-SD-4404	D00001	0	0.5	34.40	31.90	0.94	5.75	9.82	50.40	10.20	21.30	6.23	52.10	1.22	21.20	86.50	2.05	0.41	0.18	12.20	346.79	4%
Oxbow Area soil	LPX-SD-4405	D00007	0	0.5	2.13	0.89	0.05	0.62	1.17	1.28	0.86	0.88	0.27	6.91	0.47	1.18	3.15	0.75	0.14	0.01	4270.00	4290.76	100%
Oxbow Area soil	LPX-SD-4406	D00004	0	0.5	2.29	0.72	0.05	0.39	0.83	0.97	1.43	0.84	0.43	4.19	11.35	0.71	5.90	0.67	0.16	0.01	1800.00	1830.93	98%
Oxbow Area soil	LPX-SD-4407	D00005	0	0.5	2.24	0.75	0.06	0.62	1.90	1.19	1.23	0.91	0.39	7.74	2.70	1.13	8.70	2.39	0.15	0.01	2070.00	2102.11	98%
Oxbow Area soil	SD_G-01	SD_G-01-SD1	0	1	12.30	4.68	0.23	2.34	3.83	6.04	4.77	4.67	0.32	39.50	0.75	4.82	12.45	6.11	0.93	0.07	14600.00	14703.81	99%
Oxbow Area soil	SD_G-01	SD_G-01-CR1A	1	2	1.34	3.68	0.22	0.34	3.47	0.87	5.74	0.62	0.29	3.76	0.95	2.95	5.10	2.99	0.09	0.04	603.00	635.44	95%
Oxbow Area soil	SD_G-01	SD_G-01-CR1B	2	3	0.36	0.22	0.01	0.08	0.18	0.19	0.25	0.13	0.04	0.86	0.04	0.20	0.37	0.18	0.03	0.00	272.00	275.15	99%
Oxbow Area soil	SD_G-02	SD_G-02-SD1	0	1	11.10	3.89	0.20	1.94	2.33	5.07	2.93	3.64	0.12	13.00	0.39	3.16	4.74	1.68	0.98	0.06	4990.00	5045.23	99%
Oxbow Area soil	SD_G-03	SD_G-03-SD1	0	1	3.54	1.31	0.07	0.66	0.93	1.88	1.13	1.26	0.15	5.00	0.17	1.36	9.55	0.91	0.31	0.02	3190.00	3218.26	99%
Oxbow Area soil	SD_G-03	SD_G-03-CR1A	1	2	0.27	0.11	0.01	0.04	0.18	0.08	0.18	0.07	0.06	0.17	0.01	0.24	0.94	0.24	0.03	0.00	12.00	14.62	82%
Oxbow Area soil	SD_G-03	SD_G-03-CR1B	2	3	0.76	1.24	0.03	0.23	0.63	0.61	0.92	0.32	0.07	1.47	0.10	1.20	2.63	0.30	0.05	0.01	7.19	17.76	40%
Oxbow Area soil	SD_G-04	SD_G-04-SD1	0	1	0.55	0.86	0.05	0.15	0.95	0.41	1.47	0.23	0.03	0.54	0.26	0.85	4.48	0.50	0.04	0.01	1640.00	1651.37	99%
Oxbow Area soil	SD_G-04	SD_G-04-CR1A	1	2	0.03	0.22	0.01	0.03	0.37	0.03	0.45	0.05	0.01	0.40	0.16	0.28	1.47	1.60	0.00	0.00	1.20	6.31	19%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Oxbow Area soil	SD_G-04	SD_G-04-CR1B	2	3	0.02	0.00	0.00	0.02	0.01	0.02	0.01	0.02	0.01	0.10	0.00	0.01	0.05	0.01	0.00	0.00	4.05	4.34	93%
Oxbow Area soil	SD_G-05	SD_G-05-SD1	0	1	2.53	3.05	0.08	0.52	1.20	1.54	1.41	0.92	0.12	4.85	0.08	1.76	12.35	0.77	0.22	0.02	4170.00	4201.42	99%
Oxbow Area soil	SD_G-05	SD_G-05-CR1A	1	2	1.42	6.72	0.20	0.35	5.03	1.34	7.55	0.67	0.90	3.84	1.32	3.99	21.50	1.64	0.08	0.03	2590.00	2646.58	98%
Oxbow Area soil	SD_G-05	SD_G-05-CR1B	2	3	0.56	0.50	0.02	0.12	0.31	0.38	0.39	0.22	0.09	1.43	0.06	0.46	3.59	0.26	0.04	0.00	798.00	806.42	99%
Oxbow Area soil	SD_G-06	SD_G-06-SD1	0	1	0.19	0.07	0.00	0.05	0.06	0.03	0.07	0.07	0.02	0.10	0.00	0.07	0.38	0.04	0.02	0.00	75.00	76.18	98%
Oxbow Area soil	SD_G-07	SD_G-07-SD1	0	1	1.35	0.96	0.04	0.27	0.65	0.79	0.89	0.48	0.19	2.04	0.14	0.97	7.85	0.45	0.10	0.01	625.00	642.16	97%
Oxbow Area soil	SD_G-07	SD_G-07-CR1A	1	2	2.12	8.53	0.23	0.54	3.24	1.83	4.71	1.01	0.88	4.69	0.57	4.39	27.50	1.02	0.11	0.05	400.00	461.41	87%
Oxbow Area soil	SD_G-07	SD_G-07-CR1B	2	3	1.20	2.91	0.13	0.31	2.64	0.87	4.02	0.56	0.29	3.07	0.59	2.32	13.10	1.25	0.07	0.02	951.00	984.35	97%
Oxbow Area soil	SD_G-09	SD_G-09-SD1	0	1	5.89	3.19	0.16	1.40	2.11	3.65	2.88	2.09	0.13	8.45	0.42	2.42	13.40	1.61	0.46	0.04	5150.00	5198.30	99%
Oxbow Area soil	SD_G-09	SD_G-09-CR1A	1	2	0.60	1.96	0.09	0.18	1.43	0.49	2.31	0.38	0.27	0.59	0.36	1.11	4.71	0.76	0.03	0.01	131.00	146.27	90%
Oxbow Area soil	SD_G-10	SD_G-10-SD1	0	1	0.86	0.36	0.02	0.18	0.28	0.59	0.32	0.37	0.02	1.38	0.02	0.40	0.71	0.16	0.06	0.01	546.00	551.73	99%
Oxbow Area soil	SD_G-10	SD_G-10-CR1A	1	2	0.02	0.01	0.00	0.02	0.01	0.02	0.01	0.02	0.01	0.06	0.00	0.01	0.04	0.00	0.00	0.00	13.70	13.93	98%
Oxbow Area soil	SD_G-11	SD_G-11-SD1	0	1	0.80	0.80	0.07	0.19	2.04	0.47	0.98	0.31	0.07	6.19	0.19	0.74	2.37	0.63	0.06	0.01	8760.00	8775.90	100%
Oxbow Area soil	SD_G-11	SD_G-11-SD1D	0	1	0.77	0.87	0.08	0.27	2.50	0.91	1.13	0.46	0.10	3.02	0.22	0.95	3.12	0.38	0.04	0.01	7300.00	7314.83	100%
Oxbow Area soil	SD_G-11	SD_G-11-CR1A	1	2	1.03	0.49	0.03	0.22	0.34	0.56	0.45	0.41	0.03	1.50	0.08	0.41	1.06	0.21	0.08	0.01	651.00	657.89	99%
Oxbow Area soil	SD_G-11	SD_G-11-CR1B	2	3	0.39	0.15	0.01	0.11	0.15	0.33	0.19	0.15	0.02	0.79	0.02	0.22	1.57	0.19	0.03	0.00	2100.00	2104.30	100%
Oxbow Area soil	SD_G-12	SD_G-12-SD1	0	1	0.43	0.18	0.01	0.09	0.15	0.24	0.16	0.15	0.01	0.77	0.03	0.20	1.42	0.14	0.03	0.00	754.00	758.01	99%
Oxbow Area soil	SD_G-12	SD_G-12-CR1A	2	3	0.00	0.00	0.00	0.02	0.01	0.02	0.01	0.02	0.01	0.13	0.01	0.01	0.05	0.01	0.00	0.00	4.20	4.50	93%
Oxbow Area soil	SD_G-17	SD-G-17-SD1	0	1	1.73	0.82	0.04	0.31	0.58	0.90	0.74	0.65	0.05	2.27	0.13	0.72	3.84	0.50	0.13	0.01	1120.00	1133.43	99%
Oxbow Area soil	SD_G-17	SD-G-17-CR1A	1	2	0.05	0.02	0.00	0.03	0.02	0.01	0.02	0.00	0.01	0.10	0.01	0.03	0.03	0.02	0.00	0.00	30.70	31.07	99%
Oxbow Area soil	SS_G-01	SS_G-01-SS1	0	1	1.04	0.31	0.03	0.39	0.39	0.40	0.37	0.48	0.34	3.66	0.10	0.46	0.97	0.31	0.08	0.00	11500.00	11509.31	100%
Oxbow Area soil	SS_G-01	SS_G-01-SS1D	0	1	0.75	0.27	0.03	0.59	0.32	0.59	0.26	0.73	0.32	2.22	0.11	0.31	1.06	0.26	0.05	0.00	2080.00	2087.87	100%
Oxbow Area soil	SS_G-01	SS_G-01-SS1DRe	0	1	0.89	0.29	0.01	0.16	0.38	0.52	0.35	0.36	0.06	2.44	0.09	0.18	3.22	0.25	0.07	0.00	2600.00	2609.26	100%
Oxbow Area soil	SS_G-01	SS_G-01-SS1Re	0	1	1.11	0.33	0.02	0.28	0.50	0.54	0.56	0.33	0.22	3.43	0.10	0.67	4.43	0.47	0.07	0.01	2470.00	2483.06	99%
Oxbow Area soil	SS_G-01	SS_G-01-CR1A	1	2	0.10	0.03	0.00	0.02	0.04	0.06	0.04	0.01	0.01	0.32	0.01	0.05	0.14	0.04	0.01	0.00	329.00	329.89	100%
Oxbow Area soil	SS_G-01-01	SS_G-01-SS5	0	1	2.18	0.94	0.04	0.43	0.90	1.21	0.89	0.78	0.10	4.94	0.21	1.05	4.72	0.76	0.17	0.01	4870.00	4889.32	100%
Oxbow Area soil	SS_G-01-02	SS_G-01-SS2	0	1	1.50	0.45	0.02	0.26	0.49	0.70	0.46	0.55	0.03	3.77	0.10	0.55	1.67	0.48	0.11	0.01	3470.00	3481.14	100%
Oxbow Area soil	SS_G-01-03	SS_G-01-SS3	0	1	4.24	1.15	0.06	0.83	1.36	1.82	1.20	1.38	0.08	14.70	0.28	1.39	4.30	1.22	0.30	0.02	14600.00	14634.33	100%
Oxbow Area soil	SS_G-01-04	SS_G-01-SS4	0	1	0.10	0.05	0.00	0.03	0.07	0.08	0.06	0.06	0.01	0.41	0.02	0.08	0.33	0.11	0.01	0.00	14.80	16.21	91%
Oxbow Area soil	SS_G-02	SS_G-02-SS1	0	1	1.13	0.29	0.02	0.20	0.21	0.46	0.19	0.41	0.01	1.07	0.05	0.24	0.77	0.20	0.07	0.00	3.12	8.45	37%
Oxbow Area soil	SS_G-03	SS_G-03-SS1	0	1	0.16	0.08	0.00	0.05	0.15	0.09	0.12	0.02	0.01	0.64	0.05	0.13	0.82	0.24	0.01	0.00	233.00	235.57	99%
Oxbow Area soil	SS_G-04	SS_G-04-SS1	0	1	5.55	1.50	0.09	1.11	0.97	2.38	1.10	1.82	0.22	6.07	0.21	1.24	2.52	0.57	0.37	0.03	491.00	516.74	95%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Oxbow Area soil	SS_G-05	SS_G-05-SS1	0	1	0.08	0.04	0.00	0.01	0.07	0.05	0.05	0.04	0.01	0.06	0.02	0.06	0.28	0.09	0.01	0.00	44.60	45.48	98%
Oxbow Area soil	SS_G-05	SS_G-05-CR1A	1	2	0.03	0.02	0.00	0.01	0.03	0.01	0.02	0.01	0.01	0.06	0.00	0.00	0.02	0.04	0.00	0.00	10.30	10.57	97%
Oxbow Area soil	SS_G-06	SS_G-06-SS1	0	1	0.08	0.04	0.00	0.04	0.10	0.10	0.08	0.11	0.01	0.32	0.03	0.09	0.38	0.12	0.00	0.00	7.95	9.45	84%
Oxbow Area soil	SS_G-07	SS_G-07-SS1	0	1	1.18	0.44	0.02	0.20	0.08	0.21	0.57	0.26	0.15	3.35	0.25	0.64	3.21	1.25	0.09	0.01	2060.00	2071.90	99%
Oxbow Area soil	SS_G-08	SS_G-08-SS1	0	1	0.91	0.38	0.02	0.17	0.40	0.45	0.37	0.33	0.04	1.35	0.12	0.39	2.00	0.47	0.07	0.01	585.00	592.48	99%
Oxbow Area soil	SS_G-09	SS_G-09-SS1	0	1	2.23	0.67	0.04	0.25	1.15	0.83	0.78	0.32	0.18	3.95	0.32	1.03	4.42	1.41	0.17	0.01	2270.00	2287.75	99%
Oxbow Area soil	SS_G-10	SS_G-10-SS1	0	1	0.39	0.10	0.01	0.17	0.11	0.01	0.11	0.11	0.01	0.38	0.03	0.21	0.70	0.09	0.04	0.00	6.00	8.46	71%
Oxbow Area soil	SS_G-12	SS_G-12-SS1	0	1	1.34	0.51	0.04	0.20	0.64	0.66	0.65	0.43	0.17	1.71	0.15	0.94	2.72	0.42	0.12	0.01	68.50	79.20	86%
Oxbow Area soil	SS_G-13	SS_G-13-SS1	0	1	1.02	0.26	0.02	0.16	0.38	0.41	0.27	0.22	0.03	2.02	0.12	0.38	1.44	0.49	0.10	0.01	571.00	578.31	99%
Oxbow Area soil	SS_G-13	SS_G-13-SS1D	0	1	1.08	0.27	0.02	0.14	0.40	0.48	0.30	0.23	0.03	2.12	0.11	0.37	1.30	0.47	0.10	0.01	641.00	648.44	99%
Oxbow Area soil	SS_G-14	SS_G-14-SS1	0	1	0.58	0.23	0.01	0.17	0.44	0.28	0.33	0.25	0.01	1.15	0.14	0.39	2.06	0.29	0.04	0.00	390.00	396.37	98%
Oxbow Area soil	SS_G-15	SS_G-15-SS1	0	1	0.77	0.25	0.01	0.16	0.36	0.33	0.30	0.24	0.01	1.13	0.09	0.33	1.37	0.30	0.06	0.00	392.00	397.70	99%
Oxbow Area soil	SS_G-18	SS_G-18-SS1	0	1	1.83	0.78	0.02	0.28	0.95	0.91	0.86	0.36	0.28	2.32	0.07	0.95	5.65	1.00	0.13	0.01	1190.00	1206.40	99%
Oxbow Area soil	SS_G-23	SS_G-23-SS1	0	1	2.76	0.90	0.05	0.24	0.12	0.25	0.14	0.60	0.25	4.55	0.17	0.93	2.51	0.14	0.23	0.02	1000.00	1013.85	99%
Oxbow Area soil	SS_G-26	SS_G-26-SS1	0	1	0.83	0.26	0.02	0.14	0.21	0.33	0.22	0.23	0.02	0.93	0.04	0.26	0.76	0.15	0.06	0.00	590.00	594.46	99%
Oxbow Area soil	SS_G-26	SS_G-26-CR1A	1	2	0.02	0.01	0.00	0.01	0.01	0.01	0.01	0.01	0.01	0.07	0.00	0.00	0.02	0.00	0.00	0.00	14.90	15.10	99%
Oxbow Area soil	SS_G-29	SS_G-29-SS1	0	1	3.71	1.05	0.08	0.28	1.08	1.51	0.91	0.35	0.19	5.77	0.20	1.30	3.46	0.85	0.28	0.02	5130.00	5151.02	100%
Oxbow Area soil	SS_G-29-01	SS_G-29-SS3	0	1	8.26	2.65	0.14	1.40	1.74	4.05	2.09	2.77	0.17	9.57	0.35	2.44	4.79	1.17	0.65	0.05	12600.00	12642.28	100%
Oxbow Area soil	SS_G-29-02	SS_G-29-SS2	0	1	0.65	0.24	0.03	0.16	0.62	0.94	0.36	0.47	0.16	2.02	0.05	0.41	1.02	0.13	0.05	0.00	794.00	801.31	99%
Oxbow Area soil	SS_G-30	SS_G-30-SS1	0	1	0.67	0.74	0.04	0.02	1.33	0.49	1.17	0.38	0.35	2.00	0.29	1.68	6.20	0.59	0.04	0.00	1.21	17.21	7%
Oxbow Area soil	SS_G-31	SS_G-31-SS1	0	1	5.92	2.41	0.17	0.88	4.13	2.87	3.04	1.72	0.86	6.30	0.87	3.14	19.30	1.27	0.42	0.06	2.44	55.80	4%
Oxbow Area soil	SS_G-32	SS_G-32-SS1	0	1	1.42	0.60	0.04	0.20	0.44	0.75	0.74	0.58	0.21	1.86	0.19	0.88	2.36	0.35	0.11	0.01	132.00	142.74	92%
Oxbow Area soil	SS_G-33	SS_G-33-SS1	0	1	0.20	0.09	0.00	0.04	0.05	0.09	0.05	0.06	0.01	0.07	0.01	0.08	0.24	0.01	0.01	0.00	0.06	1.07	5%
Oxbow Area soil	SS_H-01	SS_H-01-SS1	0	1	0.06	0.13	0.01	0.03	0.46	0.07	0.12	0.04	0.01	0.36	0.05	0.12	0.93	0.21	0.00	0.00	3.69	6.28	59%
Oxbow Area soil	SS_H-03	SS_H-03-SS1	0	1	0.03	0.02	0.00	0.02	0.06	0.03	0.04	0.01	0.01	0.15	0.00	0.06	0.38	0.10	0.00	0.00	0.72	1.64	44%
Oxbow Area soil	SS_H-06	SS_H-06-SS1	0	1	0.06	0.04	0.00	0.02	0.08	0.04	0.06	0.04	0.01	0.22	0.03	0.08	0.45	0.15	0.00	0.00	1.96	3.24	60%
Oxbow Area soil	SS_H-07	SS_H-07-SS1	0	1	0.05	0.03	0.00	0.02	0.07	0.04	0.05	0.04	0.01	0.06	0.02	0.06	0.37	0.12	0.00	0.00	1.92	2.85	67%
Oxbow Area soil	SS_H-10	SS_H-10-SS1	0	1	0.06	0.04	0.00	0.03	0.10	0.05	0.07	0.03	0.01	0.23	0.03	0.10	0.55	0.15	0.00	0.00	1.25	2.71	46%
Oxbow Area soil	SS_H-13	SS_H-13-SS1	0	1	0.05	0.03	0.00	0.02	0.08	0.04	0.05	0.01	0.01	0.06	0.03	0.06	0.41	0.15	0.00	0.00	7.90	8.90	89%
Oxbow Area soil	SS_H-16	SS_H-16-SS1	0	1	0.05	0.06	0.00	0.02	0.07	0.04	0.06	0.03	0.01	0.18	0.02	0.08	0.36	0.08	0.00	0.00	1.89	2.96	64%
Oxbow Area soil	SS_H-18	SS_H-18-SS1	0	1	0.05	0.03	0.00	0.03	0.07	0.04	0.05	0.04	0.01	0.19	0.02	0.06	0.37	0.04	0.00	0.00	3.62	4.62	78%
Oxbow Area soil	SS_H-18	SS_H-18-SS1D	0	1	0.05	0.03	0.00	0.02	0.06	0.04	0.04	0.03	0.01	0.15	0.02	0.06	0.30	0.04	0.00	0.00	5.39	6.24	86%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Oxbow Area soil	SS_H-19	SS_H-19-SS1	0	1	0.10	0.09	0.00	0.01	0.18	0.07	0.12	0.07	0.01	0.35	0.05	0.20	0.93	0.15	0.01	0.00	2.20	4.54	48%
Oxbow Area soil	SS_H-22	SS_H-22-SS1	0	1	0.04	0.43	0.00	0.01	0.06	0.08	0.04	0.01	0.01	0.37	0.02	0.06	0.27	0.08	0.00	0.00	1.67	3.17	53%
Manton sediment	Manton Dam	27709A	0	0.33	1.61	1.27	0.06	0.48	0.27	1.44	0.27	1.55	0.27	2.14	0.07	0.27	0.67	0.09	0.16	0.02	444.00	454.63	98%
Manton sediment	Manton Dam	27710A	0	0.33	2.23	1.32	0.06	0.49	0.27	1.65	0.27	1.55	0.27	2.16	0.07	0.27	5.45	0.09	0.19	0.02	466.00	482.35	97%
Manton sediment	MAP-SD-2058	D02193	0	0.5	6.22	2.33	0.06	0.10	0.95	1.22	0.44	0.61	0.05	0.84	0.06	0.70	1.35	1.12	1.23	0.13	982.00	999.41	98%
Manton sediment	MAP-SD-2059	D02303	0	0.5	0.31	0.08	0.00	0.01	0.05	0.05	0.02	0.04	0.01	0.05	0.00	0.04	0.13	0.14	0.03	0.00	190.00	190.96	99%
Manton sediment	MAP-SD-2060	D02301	0	0.5	0.16	0.04	0.00	0.00	0.01	0.03	0.01	0.03	0.00	0.08	0.00	0.02	0.09	0.09	0.01	0.00	109.00	109.57	99%
Manton sediment	MAP-SD-2061	D02191	0	0.5	0.68	0.48	0.01	0.05	1.43	0.30	0.53	0.19	0.05	0.50	0.14	0.68	2.95	1.49	0.04	0.01	115.00	124.52	92%
Manton sediment	MAP-SD-2061	D02192	0	0.5	0.33	0.51	0.01	0.05	2.10	0.15	0.72	0.13	0.03	0.39	0.19	0.76	3.35	1.36	0.03	0.00	57.60	67.70	85%
Manton Sediment	MAP-SD-3001	MAP-SD-3001-0005-01	0	0.5	0.87	0.21	0.01	0.08	0.10	0.20	0.08	0.17	0.02	0.50	0.01	0.05	0.19	0.06	0.06	0.00	95.67	98.29	97%
Manton Sediment	MAP-SD-3002	MAP-SD-3002-0005-01	0	0.5	0.50	0.20	0.01	0.07	0.14	0.14	0.11	0.14	0.09	0.58	0.02	0.07	0.32	0.27	0.04	0.00	121.59	124.28	98%
Manton Sediment	MAP-SD-3003	MAP-SD-3003-0005-01	0	0.5	0.12	0.04	0.00	0.02	0.03	0.03	0.02	0.03	0.00	0.11	0.00	0.02	0.06	0.05	0.01	0.00	16.10	16.64	97%
Manton Sediment	MAP-SD-3004	MAP-SD-3004-0005-01	0	0.5	0.19	0.06	0.00	0.02	0.04	0.06	0.02	0.05	0.00	0.17	0.00	0.02	0.11	0.03	0.01	0.00	27.94	28.72	97%
Manton Sediment	MAP-SD-3005	MAP-SD-3005-0005-01	0	0.5	0.28	0.10	0.00	0.04	0.08	0.08	0.06	0.09	0.03	0.37	0.01	0.04	0.21	0.05	0.02	0.00	48.68	50.14	97%
Manton sediment	WRM-SD-2054	D01142	0	0.5	4.16	2.05	0.17	0.85	4.10	2.64	2.22	2.83	0.10	12.70	1.06	2.89	9.35	3.35	0.24	0.02	2620.00	2668.72	98%
Manton sediment	WRM-SD-2055	D02304	0	0.5	9.21	2.51	0.14	0.88	2.42	3.19	1.56	2.65	0.30	3.70	0.17	1.69	2.35	1.68	0.70	0.05	678.00	711.19	95%
Manton sediment	WRM-SD-2056	D02179	0	0.5	0.05	0.01	0.00	0.00	0.01	0.02	0.00	0.01	0.00	0.01	0.00	0.00	0.01	0.02	0.01	0.00	24.00	24.14	99%
Manton sediment	WRM-SD-2056	D02187	0	0.5	0.06	0.02	0.01	0.08	0.05	0.08	0.05	0.08	0.07	0.70	0.08	0.05	0.25	0.04	0.00	0.00	23.30	24.90	94%
Manton sediment	WRM-SD-2057	D02305	0	0.5	6.90	3.05	0.07	0.88	3.63	3.18	2.17	3.17	0.22	17.30	0.25	2.63	9.35	6.42	0.05	0.03	586.00	645.30	91%
Manton sediment	WRM-SD-2062	D02188	0	0.5	3.00	0.46	0.05	0.29	0.29	1.05	0.22	0.81	0.02	1.80	0.01	0.32	0.08	0.14	0.21	0.03	6.40	15.18	42%
Downstream of Manton sediment	Dyerville Dam	27713A	0	0.33	4.16	2.70	0.06	0.52	4.63	3.58	3.29	4.10	0.29	2.31	0.31	0.29	12.15	5.36	0.15	0.02	1.37	45.28	3%
Downstream of Manton sediment	DYP-SD-2065	D02185	0	0.5	0.58	0.16	0.02	0.10	0.28	0.34	0.17	0.25	0.02	1.60	0.01	0.25	0.70	0.47	0.04	0.00	129.00	133.97	96%
Downstream of Manton sediment	DYP-SD-2066	D02186	0	0.5	1.30	0.50	0.03	0.18	0.41	0.63	0.32	0.60	0.02	1.60	0.01	0.40	0.90	0.67	0.07	0.01	144.00	151.64	95%
Downstream of Manton sediment	Lonigan Dam	6205-SD	0	0.33	3.73	2.06	-	-	-	-	1.20	-	-	-	-	-	-	-	0.46	0.05	138.00	145.50	95%
Downstream of Manton sediment	Lonigin Dam	27716A	0	0.33	3.73	2.06	0.05	0.42	0.23	0.42	1.20	0.42	0.23	1.86	0.06	0.23	0.58	0.08	0.46	0.05	138.00	150.08	92%
Downstream of Manton sediment	Olneyville Dam	27714A	0	0.33	6.31	1.92	0.05	0.47	0.26	4.61	0.26	4.91	0.26	2.07	0.06	0.26	3.25	0.09	0.63	0.04	302.00	327.45	92%
Downstream of Manton sediment	SD-01	AAL24007	0	0.5	2.15	0.79	0.03	0.31	-	0.76	0.53	0.76	-	3.75	0.23	0.51	1.86	0.93	0.07	0.01	119.77	132.44	90%
Downstream of Manton sediment	SD-02	AAL24008	0	0.25	0.44	0.02	0.01	0.05	-	0.32	-	0.44	-	0.89	-	-	0.14	0.41	0.02	-	86.81	89.55	97%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Table 2.1-1: Contribution of 2,3,7,8-TCDD TEQ to Total TEQ (continued)

RI SAMPLE GROUP	BORING	EPASAMNO	TOP OF SAMPLE	BOTTOM OF SAMPLE	1,2,3,4,6,7,8-HpCDD	1,2,3,4,6,7,8-HpCDF	1,2,3,4,7,8,9-HpCDF	1,2,3,4,7,8-HxCDD	1,2,3,4,7,8-HxCDF	1,2,3,6,7,8-HxCDD	1,2,3,6,7,8-HxCDF	1,2,3,7,8,9-HxCDD	1,2,3,7,8,9-HxCDF	1,2,3,7,8-PeCDD	1,2,3,7,8-PeCDF	2,3,4,6,7,8-HxCDF	2,3,4,7,8-PeCDF	2,3,7,8-TCDF	OCDD	OCDF	2,3,7,8-TCDD	Total TEQ	2,3,7,8 TCDD TEQ %
Downstream of Manton sediment	SD-03	AAL24009	0	0.25	0.22	0.22	0.01	0.01	0.28	0.23	0.15	0.23	-	0.52	0.04	0.12	0.58	0.39	0.01	0.00	31.91	34.92	91%
Downstream of Manton sediment	SD-04	AAL24010	0	0.5	3.41	0.28	0.01	0.60	0.51	1.64	0.33	1.58	-	3.16	0.09	0.24	1.18	2.02	0.09	0.00	404.87	420.02	96%
Downstream of Manton sediment	SD-05	AAL24011	0	0.5	0.08	0.00	0.01	0.04	0.13	-	-	0.04	-	1.07	-	-	0.24	0.13	0.01	0.00	18.12	19.86	91%
Downstream of Manton sediment	SD-06	AAL24012	0	0.5	0.23	0.18	0.02	0.03	0.47	0.25	0.20	0.15	-	0.37	-	0.10	0.20	0.50	0.01	0.00	16.52	19.22	86%
Downstream of Manton sediment	SD-07	AAL24013	0	0.5	0.06	0.01	0.01	0.02	0.22	-	0.19	0.09	-	0.41	0.08	0.10	0.73	5.16	0.00	-	48.47	55.54	87%
Downstream of Manton sediment	SD-08	AAL24014	0	0.25	1.90	0.51	0.00	0.32	0.51	0.97	0.41	1.07	-	1.99	0.10	0.25	1.28	1.91	0.09	0.00	194.88	206.19	95%
Downstream of Manton sediment	SD-09	AAL24015	0	0.5	0.10	0.00	0.00	0.03	-	0.09	0.13	0.17	-	0.27	0.03	0.11	0.46	0.02	0.01	0.00	28.63	30.04	95%
Downstream of Manton sediment	WRD-SD-2063	D02302	0	0.5	5.31	26.70	1.05	1.90	59.20	3.42	17.80	6.26	0.77	8.50	1.86	22.30	46.45	10.10	0.27	0.13	260.00	472.01	55%

Note: All concentrations are TEQ (ng/kg)
Nondetects are presented at half of the detection limit.

Appendix 2.2
Tables of Sampling Results for In-Situ Waste Analysis, Thiessen Polygons with Sample ID Designations

Table 2.2-1: Allendale and Lyman Mill Sediment

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
AD-01	0-1	2,3,7,8-TCDD	DIOXIN	93,000.0	15	6,326.5	483.2	483.2
AD-01	0-1	Arsenic	M	0.0	3,900,000		2,045.2	2,045.2
AD-01	0-1	Barium	M	209,000,000.0	134,000,000	1.6	2,045.2	2,045.2
AD-01	0-1	Selenium	M	0.0	1,100,000		2,045.2	2,045.2
AD-01	0-1	Benzo(a)pyrene	PAH	2,900,000.0	1,400,000	2.1	2,045.2	2,045.2
AD-01	0-1	Dibenzo(a,h)anthracene	PAH	820,000.0	970,000		2,045.2	2,045.2
AD-01	0-1	Aroclor 1254	PCB	9,100,000.0	150,000	60.7	483.2	483.2
AD-01	0-1	4,4'-DDD	PEST	0.0	8,400		823.6	823.6
AD-01	0-1	4,4'-DDE	PEST	160,000.0	6,000	26.7	823.6	823.6
AD-01	0-1	Dieldrin	PEST	72,000.0	2,600	27.7	823.6	823.6
AD-01	0-1	Technical Chlordane	PEST	24,000.0	400,000		823.6	823.6
AD-02	0-1	2,3,7,8-TCDD	DIOXIN	0.7	15		1,013.3	1,013.3
AD-02	0-1	Arsenic	M	0.0	3,900,000		1,484.7	1,484.7
AD-02	0-1	Barium	M	21,400,000.0	134,000,000		1,484.7	1,484.7
AD-02	0-1	Selenium	M	0.0	1,100,000		1,484.7	1,484.7
AD-02	0-1	Benzo(a)pyrene	PAH	0.0	1,400,000		1,484.7	1,484.7
AD-02	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		1,484.7	1,484.7
AD-02	0-1	Aroclor 1254	PCB	0.0	150,000		1,013.3	1,013.3
AD-02	0-1	4,4'-DDD	PEST	0.0	8,400		1,013.3	1,013.3
AD-02	0-1	4,4'-DDE	PEST	0.0	6,000		1,013.3	1,013.3
AD-02	0-1	Dieldrin	PEST	0.0	2,600		1,013.3	1,013.3
AD-02	0-1	Technical Chlordane	PEST	0.0	400,000		1,013.3	1,013.3
AD-03	0-1	2,3,7,8-TCDD	DIOXIN	14.0	15		1,938.8	1,938.8
AD-03	0-1	Arsenic	M	0.0	3,900,000		3,538.4	3,538.4
AD-03	0-1	Barium	M	27,900,000.0	134,000,000		3,538.4	3,538.4
AD-03	0-1	Selenium	M	0.0	1,100,000		3,538.4	3,538.4
AD-03	0-1	Benzo(a)pyrene	PAH	70,000.0	1,400,000		3,538.4	3,538.4
AD-03	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		3,538.4	3,538.4
AD-03	0-1	Aroclor 1254	PCB	14,000.0	150,000		1,938.8	1,938.8
AD-03	0-1	4,4'-DDD	PEST	0.0	8,400		1,938.8	1,938.8
AD-03	0-1	4,4'-DDE	PEST	0.0	6,000		1,938.8	1,938.8
AD-03	0-1	Dieldrin	PEST	0.0	2,600		1,938.8	1,938.8
AD-03	0-1	Technical Chlordane	PEST	0.0	400,000		1,938.8	1,938.8

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
AD-03	6-7	2,3,7,8-TCDD	DIOXIN	0.0	15		1,938.8	1,938.8
AD-03	6-7	Arsenic	M	0.0	3,900,000		3,538.4	3,538.4
AD-03	6-7	Barium	M	37,400,000.0	134,000,000		3,538.4	3,538.4
AD-03	6-7	Selenium	M	0.0	1,100,000	-	3,538.4	3,538.4
AD-03	6-7	Benzo(a)pyrene	PAH	0.0	1,400,000	-	3,538.4	3,538.4
AD-03	6-7	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	3,538.4	3,538.4
AD-03	6-7	4,4'-DDD	PEST	0.0	8,400	-	1,938.8	1,938.8
AD-03	6-7	4,4'-DDE	PEST	0.0	6,000	-	1,938.8	1,938.8
AD-03	6-7	Dieldrin	PEST	0.0	2,600	-	1,938.8	1,938.8
AD-03	6-7	Technical Chlordane	PEST	0.0	400,000	-	1,938.8	1,938.8
AD-04	0-1	2,3,7,8-TCDD	DIOXIN	34,200.0	15	- 2,326.5	2,081.8	2,081.8
AD-04	0-1	Arsenic	M	0.0	3,900,000	-	3,432.4	3,432.4
AD-04	0-1	Barium	M	212,000,000.0	134,000,000	- 1.6	3,432.4	3,432.4
AD-04	0-1	Selenium	M	0.0	1,100,000		3,432.4	3,432.4
AD-04	0-1	Benzo(a)pyrene	PAH	2,800,000.0	1,400,000	- 2.0	3,432.4	3,432.4
AD-04	0-1	Dibenzo(a,h)anthracene	PAH	700,000.0	970,000		3,432.4	3,432.4
AD-04	0-1	Aroclor 1254	PCB	9,100,000.0	150,000	- 60.7	2,017.1	2,017.1
AD-04	0-1	4,4'-DDD	PEST	0.0	8,400		2,862.7	2,862.7
AD-04	0-1	4,4'-DDE	PEST	170,000.0	6,000	- 28.3	2,862.7	2,862.7
AD-04	0-1	Dieldrin	PEST	170,000.0	2,600	65.4	2,862.7	2,862.7
AD-04	0-1	Technical Chlordane	PEST	30,000.0	400,000	-	2,862.7	2,862.7
AD-04	2-3	2,3,7,8-TCDD	DIOXIN	570.0	15	38.8	2,081.8	2,081.8
AD-04	2-3	Arsenic	M	0.0	3,900,000		3,432.4	3,432.4
AD-04	2-3	Barium	M	28,800,000.0	134,000,000	-	3,432.4	3,432.4
AD-04	2-3	Selenium	M	0.0	1,100,000		3,432.4	3,432.4
AD-04	2-3	Benzo(a)pyrene	PAH	120,000.0	1,400,000	-	3,432.4	3,432.4
AD-04	2-3	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	3,432.4	3,432.4
AD-04	2-3	Aroclor 1254	PCB	200,000.0	150,000	- 1.3	2,017.1	2,017.1
AD-04	2-3	4,4'-DDD	PEST	0.0	8,400	-	2,862.7	2,862.7
AD-04	2-3	4,4'-DDE	PEST	3,500.0	6,000	-	2,862.7	2,862.7
AD-04	2-3	Dieldrin	PEST	1,400.0	2,600		2,862.7	2,862.7
AD-04	2-3	Technical Chlordane	PEST	490.0	400,000	-	2,862.7	2,862.7
Allendale Dam	0-0.33	2,3,7,8-TCDD	DIOXIN	4,170.0	15	- 283.7	1,451.6	479.0
						-		
						-		

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
Allendale Dam	0-0.33	Aluminum	M	11,100,000,000.0	8,210,000,000	1.4	6,812.3	2,248.1
Allendale Dam	0-0.33	Arsenic	M	0.0	3,900,000		6,812.3	2,248.1
Allendale Dam	0-0.33	Barium	M	218,000,000.0	134,000,000	1.6	6,812.3	2,248.1
Allendale Dam	0-0.33	Selenium	M	0.0	1,100,000		6,812.3	2,248.1
Allendale Dam	0-0.33	Vanadium	M	33,000,000.0	37,600,000	-	6,812.3	2,248.1
Allendale Dam	0-0.33	Zinc	M	568,000,000.0	221,000,000	2.6	6,812.3	2,248.1
Allendale Dam	0-0.33	Benzo(a)pyrene	PAH	5,400,000.0	1,400,000	- 3.9	6,812.3	2,248.1
Allendale Dam	0-0.33	Dibenzo(a,h)anthracene	PAH	700,000.0	970,000	-	6,812.3	2,248.1
Allendale Dam	0-0.33	Aroclor 1254	PCB	590,000.0	150,000	3.9	1,409.6	465.2
Allendale Dam	0-0.33	Aroclor 1268	PCB	120,000.0	140,000		1,409.6	465.2
Allendale Dam	0-0.33	PCB TEQ	PCB	0.1	25	-	1,409.6	465.2
Allendale Dam	0-0.33	4,4'-DDD	PEST	16,000.0	8,400	1.9	6,146.5	2,028.3
Allendale Dam	0-0.33	4,4'-DDE	PEST	25,000.0	6,000	- 4.2	6,146.5	2,028.3
Allendale Dam	0-0.33	Dieldrin	PEST	11,000.0	2,600	- 4.2	6,146.5	2,028.3
Allendale Dam	0-0.33	Technical Chlordane	PEST	0.0	400,000		6,146.5	2,028.3
APB-BK-2003	0-0.5	2,3,7,8-TCDD	DIOXIN	173.0	15	11.8	1,466.2	733.1
APB-BK-2003	0-0.5	Aluminum	M	5,530,000,000.0	8,210,000,000		1,326.7	663.4
APB-BK-2003	0-0.5	Arsenic	M	10,500,000.0	3,900,000	- 2.7	1,326.7	663.4
APB-BK-2003	0-0.5	Barium	M	262,000,000.0	134,000,000	2.0	1,326.7	663.4
APB-BK-2003	0-0.5	Selenium	M	0.0	1,100,000	-	1,326.7	663.4
APB-BK-2003	0-0.5	Vanadium	M	55,100,000.0	37,600,000	1.5	1,326.7	663.4
APB-BK-2003	0-0.5	Zinc	M	144,000,000.0	221,000,000		1,326.7	663.4
APB-BK-2003	0-0.5	Benzo(a)pyrene	PAH	3,400,000.0	1,400,000	- 2.4	1,326.7	663.4
APB-BK-2003	0-0.5	Dibenzo(a,h)anthracene	PAH	960,000.0	970,000		1,326.7	663.4
APB-BK-2003	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	1,326.7	663.4
APB-BK-2003	0-0.5	Aroclor 1254	PCB	50,000.0	150,000		1,242.7	621.3
APB-BK-2003	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	1,242.7	621.3
APB-BK-2003	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	1,242.7	621.3
APB-BK-2003	0-0.5	Dieldrin	PEST	13,000.0	2,600	- 5.0	1,242.7	621.3
APB-FP-2028	0-0.5	Aluminum	M	14,500,000,000.0	8,210,000,000	- 1.8	10,904.4	5,452.2
APB-FP-2028	0-0.5	Arsenic	M	8,700,000.0	3,900,000	- 2.2	10,904.4	5,452.2
APB-FP-2028	0-0.5	Barium	M	236,000,000.0	134,000,000	1.8	10,904.4	5,452.2
APB-FP-2028	0-0.5	Selenium	M	0.0	1,100,000		10,904.4	5,452.2

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APB-FP-2028	0-0.5	Vanadium	M	40,700,000.0	37,600,000	1.1	10,904.4	5,452.2
APB-FP-2028	0-0.5	Zinc	M	429,000,000.0	221,000,000	1.9	10,904.4	5,452.2
APB-FP-2028	0-0.5	Benzo(a)pyrene	PAH	640,000.0	1,400,000		10,904.4	5,452.2
APB-FP-2028	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		10,904.4	5,452.2
APB-FP-2028	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		10,904.4	5,452.2
APB-FP-2028	0-0.5	Aroclor 1254	PCB	250,000.0	150,000	1.7	7,213.9	3,606.9
APB-FP-2028	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	10,904.4	5,452.2
APB-FP-2028	0-0.5	4,4'-DDE	PEST	5,200.0	6,000	-	10,904.4	5,452.2
APB-FP-2028	0-0.5	Dieldrin	PEST	22,000.0	2,600	8.5	10,904.4	5,452.2
APB-FP-2028	0.5-2	2,3,7,8-TCDD	DIOXIN	153.0	15	10.4	6,697.6	10,046.5
APB-FP-2028	0.5-2	Aluminum	M	10,000,000,000.0	8,210,000,000	1.2	10,904.4	16,356.6
APB-FP-2028	0.5-2	Arsenic	M	3,400,000.0	3,900,000		10,904.4	16,356.6
APB-FP-2028	0.5-2	Barium	M	77,600,000.0	134,000,000		10,904.4	16,356.6
APB-FP-2028	0.5-2	Selenium	M	1,300,000.0	1,100,000	1.2	10,904.4	16,356.6
APB-FP-2028	0.5-2	Vanadium	M	14,200,000.0	37,600,000	-	10,904.4	16,356.6
APB-FP-2028	0.5-2	Zinc	M	182,000,000.0	221,000,000	-	10,904.4	16,356.6
APB-FP-2028	0.5-2	Benzo(a)pyrene	PAH	0.0	1,400,000		10,904.4	16,356.6
APB-FP-2028	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	10,904.4	16,356.6
APB-FP-2028	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	10,904.4	16,356.6
APB-FP-2028	0.5-2	Aroclor 1254	PCB	0.0	150,000	-	7,213.9	10,820.8
APB-FP-2028	0.5-2	4,4'-DDD	PEST	0.0	8,400	-	10,904.4	16,356.6
APB-FP-2028	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	10,904.4	16,356.6
APB-FP-2028	0.5-2	Dieldrin	PEST	0.0	2,600	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	2,3,7,8-TCDD	DIOXIN	27.7	15	1.9	6,697.6	10,046.5
APB-FP-2028	2-3.5	Aluminum	M	5,850,000,000.0	8,210,000,000	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	Arsenic	M	1,100,000.0	3,900,000	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	Barium	M	35,900,000.0	134,000,000		10,904.4	16,356.6
APB-FP-2028	2-3.5	Selenium	M	0.0	1,100,000	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	Vanadium	M	9,100,000.0	37,600,000	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	Zinc	M	62,600,000.0	221,000,000	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	Benzo(a)pyrene	PAH	0.0	1,400,000	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	10,904.4	16,356.6
APB-FP-2028	2-3.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	10,904.4	16,356.6
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APB-FP-2028	2-3.5	Aroclor 1254	PCB	0.0	150,000		7,213.9	10,820.8
APB-FP-2028	2-3.5	4,4'-DDD	PEST	0.0	8,400		10,904.4	16,356.6
APB-FP-2028	2-3.5	4,4'-DDE	PEST	0.0	6,000		10,904.4	16,356.6
APB-FP-2028	2-3.5	Dieldrin	PEST	0.0	2,600	-	10,904.4	16,356.6
APB-FP-2030	0-0.5	Aluminum	M	6,440,000,000.0	8,210,000,000	-	43,393.4	21,696.7
APB-FP-2030	0-0.5	Arsenic	M	4,000,000.0	3,900,000	- 1.0	43,393.4	21,696.7
APB-FP-2030	0-0.5	Barium	M	120,000,000.0	134,000,000	-	43,393.4	21,696.7
APB-FP-2030	0-0.5	Selenium	M	0.0	1,100,000	-	43,393.4	21,696.7
APB-FP-2030	0-0.5	Vanadium	M	32,500,000.0	37,600,000		43,393.4	21,696.7
APB-FP-2030	0-0.5	Zinc	M	154,000,000.0	221,000,000	-	43,393.4	21,696.7
APB-FP-2030	0-0.5	Benzo(a)pyrene	PAH	2,600,000.0	1,400,000	- 1.9	46,416.4	23,208.2
APB-FP-2030	0-0.5	Dibenzo(a,h)anthracene	PAH	570,000.0	970,000	-	46,416.4	23,208.2
APB-FP-2030	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	46,416.4	23,208.2
APB-FP-2030	0-0.5	Aroclor 1254	PCB	160,000.0	150,000	1.1	14,002.7	7,001.3
APB-FP-2030	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	43,393.4	21,696.7
APB-FP-2030	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	43,393.4	21,696.7
APB-FP-2030	0-0.5	Dieldrin	PEST	0.0	2,600		43,393.4	21,696.7
APB-FP-2031	0-0.5	Aluminum	M	13,300,000,000.0	8,210,000,000	- 1.6	23,397.0	11,698.5
APB-FP-2031	0-0.5	Arsenic	M	6,500,000.0	3,900,000	- 1.7	23,397.0	11,698.5
APB-FP-2031	0-0.5	Barium	M	244,000,000.0	134,000,000	- 1.8	23,397.0	11,698.5
APB-FP-2031	0-0.5	Selenium	M	0.0	1,100,000		23,397.0	11,698.5
APB-FP-2031	0-0.5	Vanadium	M	44,900,000.0	37,600,000	1.2	23,397.0	11,698.5
APB-FP-2031	0-0.5	Zinc	M	553,000,000.0	221,000,000	2.5	23,397.0	11,698.5
APB-FP-2031	0-0.5	Benzo(a)pyrene	PAH	380,000.0	1,400,000	-	38,185.4	19,092.7
APB-FP-2031	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		38,185.4	19,092.7
APB-FP-2031	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		38,185.4	19,092.7
APB-FP-2031	0-0.5	Aroclor 1254	PCB	130,000.0	150,000	-	4,902.1	2,451.0
APB-FP-2031	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	23,932.1	11,966.1
APB-FP-2031	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	23,932.1	11,966.1
APB-FP-2031	0-0.5	Dieldrin	PEST	13,000.0	2,600	- 5.0	23,932.1	11,966.1
APB-FP-2032	0-0.5	Aluminum	M	13,500,000,000.0	8,210,000,000	- 1.6	45,672.2	22,836.1
APB-FP-2032	0-0.5	Arsenic	M	6,900,000.0	3,900,000	- 1.8	45,672.2	22,836.1
APB-FP-2032	0-0.5	Barium	M	210,000,000.0	134,000,000	1.6	45,672.2	22,836.1

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APB-FP-2032	0-0.5	Selenium	M	0.0	1,100,000		45,672.2	22,836.1
APB-FP-2032	0-0.5	Vanadium	M	52,000,000.0	37,600,000	1.4	45,672.2	22,836.1
APB-FP-2032	0-0.5	Zinc	M	520,000,000.0	221,000,000	2.4	45,672.2	22,836.1
APB-FP-2032	0-0.5	Benzo(a)pyrene	PAH	900,000.0	1,400,000	-	52,161.2	26,080.6
APB-FP-2032	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		52,161.2	26,080.6
APB-FP-2032	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		52,161.2	26,080.6
APB-FP-2032	0-0.5	Aroclor 1254	PCB	480,000.0	150,000	- 3.2	5,394.7	2,697.4
APB-FP-2032	0-0.5	4,4'-DDD	PEST	5,600.0	8,400	-	45,672.2	22,836.1
APB-FP-2032	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	45,672.2	22,836.1
APB-FP-2032	0-0.5	Dieldrin	PEST	47,000.0	2,600	18.1	45,672.2	22,836.1
APB-FP-2033	0-0.5	2,3,7,8-TCDD	DIOXIN	4,060.0	15	- 276.2	4,247.0	2,123.5
APB-FP-2033	0-0.5	Aluminum	M	15,400,000,000.0	8,210,000,000	- 1.9	5,969.8	2,984.9
APB-FP-2033	0-0.5	Arsenic	M	5,300,000.0	3,900,000	1.4	5,969.8	2,984.9
APB-FP-2033	0-0.5	Barium	M	207,000,000.0	134,000,000	1.5	5,969.8	2,984.9
APB-FP-2033	0-0.5	Selenium	M	0.0	1,100,000		5,969.8	2,984.9
APB-FP-2033	0-0.5	Vanadium	M	49,200,000.0	37,600,000	1.3	5,969.8	2,984.9
APB-FP-2033	0-0.5	Zinc	M	517,000,000.0	221,000,000	2.3	5,969.8	2,984.9
APB-FP-2033	0-0.5	Benzo(a)pyrene	PAH	0.0	1,400,000	-	5,969.8	2,984.9
APB-FP-2033	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		5,969.8	2,984.9
APB-FP-2033	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		5,969.8	2,984.9
APB-FP-2033	0-0.5	Aroclor 1254	PCB	150,000.0	150,000	- 1.0	5,295.2	2,647.6
APB-FP-2033	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	5,969.8	2,984.9
APB-FP-2033	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	5,969.8	2,984.9
APB-FP-2033	0-0.5	Dieldrin	PEST	23,000.0	2,600	8.8	5,969.8	2,984.9
APB-FP-2033	0.5-2	2,3,7,8-TCDD	DIOXIN	3,950.0	15	- 268.7	4,247.0	6,370.4
APB-FP-2033	0.5-2	Aluminum	M	15,100,000,000.0	8,210,000,000	- 1.8	5,969.8	8,954.6
APB-FP-2033	0.5-2	Arsenic	M	9,400,000.0	3,900,000	2.4	5,969.8	8,954.6
APB-FP-2033	0.5-2	Barium	M	186,000,000.0	134,000,000	1.4	5,969.8	8,954.6
APB-FP-2033	0.5-2	Selenium	M	0.0	1,100,000		5,969.8	8,954.6
APB-FP-2033	0.5-2	Vanadium	M	57,000,000.0	37,600,000	1.5	5,969.8	8,954.6
APB-FP-2033	0.5-2	Zinc	M	1,270,000,000.0	221,000,000	5.7	5,969.8	8,954.6
APB-FP-2033	0.5-2	Benzo(a)pyrene	PAH	1,200,000.0	1,400,000	-	5,969.8	8,954.6
APB-FP-2033	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000		5,969.8	8,954.6

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APB-FP-2033	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000		5,969.8	8,954.6
APB-FP-2033	0.5-2	Aroclor 1254	PCB	1,500,000.0	150,000	10.0	5,295.2	7,942.8
APB-FP-2033	0.5-2	4,4'-DDD	PEST	40,000.0	8,400	4.8	5,969.8	8,954.6
APB-FP-2033	0.5-2	4,4'-DDE	PEST	43,000.0	6,000	7.2	5,969.8	8,954.6
APB-FP-2033	0.5-2	Dieldrin	PEST	100,000.0	2,600	38.5	5,969.8	8,954.6
APB-SD-2029	0-0.5	2,3,7,8-TCDD	DIOXIN	326.0	15	22.2	4,707.9	2,354.0
APB-SD-2029	0-0.5	Aluminum	M	3,770,000,000.0	8,210,000,000		16,753.1	8,376.6
APB-SD-2029	0-0.5	Arsenic	M	0.0	3,900,000		16,753.1	8,376.6
APB-SD-2029	0-0.5	Barium	M	27,600,000.0	134,000,000		16,753.1	8,376.6
APB-SD-2029	0-0.5	Selenium	M	0.0	1,100,000	-	16,753.1	8,376.6
APB-SD-2029	0-0.5	Vanadium	M	8,500,000.0	37,600,000	-	16,753.1	8,376.6
APB-SD-2029	0-0.5	Zinc	M	57,600,000.0	221,000,000	-	16,753.1	8,376.6
APB-SD-2029	0-0.5	Benzo(a)pyrene	PAH	140,000.0	1,400,000	-	22,137.2	11,068.6
APB-SD-2029	0-0.5	Dibenzo(a,h)anthracene	PAH	71,000.0	970,000	-	22,137.2	11,068.6
APB-SD-2029	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	22,137.2	11,068.6
APB-SD-2029	0-0.5	Aroclor 1254	PCB	24,000.0	150,000	-	14,758.6	7,379.3
APB-SD-2029	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	16,753.1	8,376.6
APB-SD-2029	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	16,753.1	8,376.6
APB-SD-2029	0-0.5	Dieldrin	PEST	5,400.0	2,600	- 2.1	16,753.1	8,376.6
APB-SD-2029	0.5-2	2,3,7,8-TCDD	DIOXIN	56.7	15	- 3.9	4,707.9	7,061.9
APB-SD-2029	0.5-2	Aluminum	M	2,810,000,000.0	8,210,000,000	-	16,753.1	25,129.7
APB-SD-2029	0.5-2	Arsenic	M	0.0	3,900,000		16,753.1	25,129.7
APB-SD-2029	0.5-2	Barium	M	18,400,000.0	134,000,000		16,753.1	25,129.7
APB-SD-2029	0.5-2	Selenium	M	0.0	1,100,000	-	16,753.1	25,129.7
APB-SD-2029	0.5-2	Vanadium	M	6,500,000.0	37,600,000	-	16,753.1	25,129.7
APB-SD-2029	0.5-2	Zinc	M	0.0	221,000,000	-	16,753.1	25,129.7
APB-SD-2029	0.5-2	Benzo(a)pyrene	PAH	83,000.0	1,400,000	-	22,137.2	33,205.8
APB-SD-2029	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	22,137.2	33,205.8
APB-SD-2029	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	22,137.2	33,205.8
APB-SD-2029	0.5-2	Aroclor 1254	PCB	0.0	150,000	-	14,758.6	22,137.9
APB-SD-2029	0.5-2	4,4'-DDD	PEST	0.0	8,400	-	16,753.1	25,129.7
APB-SD-2029	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	16,753.1	25,129.7
APB-SD-2029	0.5-2	Dieldrin	PEST	0.0	2,600	-	16,753.1	25,129.7
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APB-SD-2029	2-3	2,3,7,8-TCDD	DIOXIN	36.4	15	2.5	4,707.9	4,707.9
APB-SD-2029	2-3	Aluminum	M	2,150,000,000.0	8,210,000,000		16,753.1	16,753.1
APB-SD-2029	2-3	Arsenic	M	0.0	3,900,000		16,753.1	16,753.1
APB-SD-2029	2-3	Barium	M	10,500,000.0	134,000,000		16,753.1	16,753.1
APB-SD-2029	2-3	Selenium	M	0.0	1,100,000	-	16,753.1	16,753.1
APB-SD-2029	2-3	Vanadium	M	5,200,000.0	37,600,000	-	16,753.1	16,753.1
APB-SD-2029	2-3	Zinc	M	0.0	221,000,000	-	16,753.1	16,753.1
APB-SD-2029	2-3	Benzo(a)pyrene	PAH	0.0	1,400,000	-	22,137.2	22,137.2
APB-SD-2029	2-3	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	22,137.2	22,137.2
APB-SD-2029	2-3	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	22,137.2	22,137.2
APB-SD-2029	2-3	Aroclor 1254	PCB	0.0	150,000	-	14,758.6	14,758.6
APB-SD-2029	2-3	4,4'-DDD	PEST	0.0	8,400	-	16,753.1	16,753.1
APB-SD-2029	2-3	4,4'-DDE	PEST	0.0	6,000	-	16,753.1	16,753.1
APB-SD-2029	2-3	Dieldrin	PEST	0.0	2,600	-	16,753.1	16,753.1
APB-SD-2034	0-0.5	2,3,7,8-TCDD	DIOXIN	2,010.0	15	- 136.7	3,429.4	1,714.7
APB-SD-2034	0-0.5	Aluminum	M	15,100,000,000.0	8,210,000,000	- 1.8	20,141.7	10,070.8
APB-SD-2034	0-0.5	Arsenic	M	8,900,000.0	3,900,000	- 2.3	20,141.7	10,070.8
APB-SD-2034	0-0.5	Barium	M	266,000,000.0	134,000,000	2.0	20,141.7	10,070.8
APB-SD-2034	0-0.5	Selenium	M	2,100,000.0	1,100,000	1.9	20,141.7	10,070.8
APB-SD-2034	0-0.5	Vanadium	M	55,500,000.0	37,600,000	1.5	20,141.7	10,070.8
APB-SD-2034	0-0.5	Zinc	M	711,000,000.0	221,000,000	3.2	20,141.7	10,070.8
APB-SD-2034	0-0.5	Benzo(a)pyrene	PAH	1,200,000.0	1,400,000		20,141.7	10,070.8
APB-SD-2034	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		20,141.7	10,070.8
APB-SD-2034	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		20,141.7	10,070.8
APB-SD-2034	0-0.5	Aroclor 1254	PCB	120,000.0	150,000	-	2,811.0	1,405.5
APB-SD-2034	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	20,079.2	10,039.6
APB-SD-2034	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	20,079.2	10,039.6
APB-SD-2034	0-0.5	Dieldrin	PEST	0.0	2,600	-	20,079.2	10,039.6
APB-SD-2037	0-0.5	Aluminum	M	14,000,000,000.0	8,210,000,000	- 1.7	1,813.2	906.6
APB-SD-2037	0-0.5	Arsenic	M	5,000,000.0	3,900,000	- 1.3	1,813.2	906.6
APB-SD-2037	0-0.5	Barium	M	145,000,000.0	134,000,000	- 1.1	1,813.2	906.6
APB-SD-2037	0-0.5	Selenium	M	1,600,000.0	1,100,000	1.5	1,813.2	906.6
APB-SD-2037	0-0.5	Vanadium	M	39,400,000.0	37,600,000	1.0	1,813.2	906.6

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APB-SD-2037	0-0.5	Zinc	M	237,000,000.0	221,000,000	1.1	1,813.2	906.6
APB-SD-2037	0-0.5	Benzo(a)pyrene	PAH	430,000.0	1,400,000		1,813.2	906.6
APB-SD-2037	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		1,813.2	906.6
APB-SD-2037	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		1,813.2	906.6
APB-SD-2037	0-0.5	Aroclor 1254	PCB	1,200,000.0	150,000	- 8.0	1,804.2	902.1
APB-SD-2037	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	1,804.2	902.1
APB-SD-2037	0-0.5	4,4'-DDE	PEST	31,000.0	6,000	- 5.2	1,804.2	902.1
APB-SD-2037	0-0.5	Dieldrin	PEST	0.0	2,600		1,804.2	902.1
APB-SD-4008	0-0.5	Aluminum	M	22,168,000,000.0	8,210,000,000	- 2.7	6,696.5	3,348.2
APB-SD-4008	0-0.5	Arsenic	M	5,380,000.0	3,900,000	1.4	6,696.5	3,348.2
APB-SD-4008	0-0.5	Barium	M	292,000,000.0	134,000,000	- 2.2	6,696.5	3,348.2
APB-SD-4008	0-0.5	Selenium	M	806,000.0	1,100,000		6,696.5	3,348.2
APB-SD-4008	0-0.5	Vanadium	M	56,400,000.0	37,600,000	1.5	6,696.5	3,348.2
APB-SD-4008	0-0.5	Zinc	M	1,123,000,000.0	221,000,000	5.1	6,696.5	3,348.2
APB-SD-4008	0-0.5	Benzo(a)pyrene	PAH	2,633,030.0	1,400,000	- 1.9	6,696.5	3,348.2
APB-SD-4008	0-0.5	Dibenzo(a,h)anthracene	PAH	628,430.0	970,000		6,696.5	3,348.2
APB-SD-4008	0-0.5	Aroclor 1254	PCB	653,230.0	150,000	4.4	3,311.2	1,655.6
APB-SD-4008	0-0.5	Aroclor 1268	PCB	156,420.0	140,000	1.1	3,311.2	1,655.6
APB-SD-4008	0-0.5	4,4'-DDD	PEST	17,810.0	8,400	- 2.1	4,853.6	2,426.8
APB-SD-4008	0-0.5	4,4'-DDE	PEST	19,040.0	6,000	3.2	4,853.6	2,426.8
APB-SD-4008	0-0.5	Dieldrin	PEST	4,970.0	2,600	1.9	4,853.6	2,426.8
APB-SD-4008	0-0.5	Technical Chlordane	PEST	751,050.0	400,000	1.9	4,853.6	2,426.8
APB-SD-4009	0-0.5	Aluminum	M	16,155,000,000.0	8,210,000,000	2.0	950.7	475.4
APB-SD-4009	0-0.5	Arsenic	M	3,780,000.0	3,900,000		950.7	475.4
APB-SD-4009	0-0.5	Barium	M	223,000,000.0	134,000,000	1.7	950.7	475.4
APB-SD-4009	0-0.5	Selenium	M	0.0	1,100,000		950.7	475.4
APB-SD-4009	0-0.5	Vanadium	M	45,900,000.0	37,600,000	- 1.2	950.7	475.4
APB-SD-4009	0-0.5	Zinc	M	548,000,000.0	221,000,000	2.5	950.7	475.4
APB-SD-4009	0-0.5	Benzo(a)pyrene	PAH	4,315,760.0	1,400,000	- 3.1	950.7	475.4
APB-SD-4009	0-0.5	Dibenzo(a,h)anthracene	PAH	819,430.0	970,000		950.7	475.4
APB-SD-4009	0-0.5	Aroclor 1254	PCB	1,466,650.0	150,000	9.8	756.4	378.2
APB-SD-4009	0-0.5	Aroclor 1268	PCB	123,300.0	140,000		756.4	378.2
APB-SD-4009	0-0.5	4,4'-DDD	PEST	19,750.0	8,400	- 2.4	779.2	389.6

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APB-SD-4009	0-0.5	4,4'-DDE	PEST	14,770.0	6,000	2.5	779.2	389.6
APB-SD-4009	0-0.5	Dieldrin	PEST	8,130.0	2,600	3.1	779.2	389.6
APB-SD-4009	0-0.5	Technical Chlordane	PEST	671,590.0	400,000	1.7	779.2	389.6
APB-SD-4010	0-0.5	Aluminum	M	5,759,000,000.0	8,210,000,000		225.9	113.0
APB-SD-4010	0-0.5	Arsenic	M	1,400,000.0	3,900,000		225.9	113.0
APB-SD-4010	0-0.5	Barium	M	39,500,000.0	134,000,000		225.9	113.0
APB-SD-4010	0-0.5	Selenium	M	0.0	1,100,000	-	225.9	113.0
APB-SD-4010	0-0.5	Vanadium	M	17,400,000.0	37,600,000	-	225.9	113.0
APB-SD-4010	0-0.5	Zinc	M	131,000,000.0	221,000,000	-	225.9	113.0
APB-SD-4010	0-0.5	Benzo(a)pyrene	PAH	1,179,660.0	1,400,000	-	225.9	113.0
APB-SD-4010	0-0.5	Dibenzo(a,h)anthracene	PAH	196,260.0	970,000	-	225.9	113.0
APB-SD-4010	0-0.5	Aroclor 1254	PCB	3,211,480.0	150,000	- 21.4	225.9	113.0
APB-SD-4010	0-0.5	Aroclor 1268	PCB	40,360.0	140,000	-	225.9	113.0
APB-SD-4010	0-0.5	4,4'-DDD	PEST	16,760.0	8,400	- 2.0	225.9	113.0
APB-SD-4010	0-0.5	4,4'-DDE	PEST	16,040.0	6,000	2.7	225.9	113.0
APB-SD-4010	0-0.5	Dieldrin	PEST	112,970.0	2,600	- 43.5	225.9	113.0
APB-SD-4010	0-0.5	Technical Chlordane	PEST	406,480.0	400,000	1.0	225.9	113.0
APC-SD-2035	0-0.5	2,3,7,8-TCDD	DIOXIN	3,110.0	15	211.6	5,438.3	2,719.2
APC-SD-2035	0-0.5	Aluminum	M	11,700,000,000.0	8,210,000,000	1.4	29,351.1	14,675.5
APC-SD-2035	0-0.5	Arsenic	M	5,700,000.0	3,900,000	1.5	29,351.1	14,675.5
APC-SD-2035	0-0.5	Barium	M	204,000,000.0	134,000,000	1.5	29,351.1	14,675.5
APC-SD-2035	0-0.5	Selenium	M	1,100,000.0	1,100,000	1.0	29,351.1	14,675.5
APC-SD-2035	0-0.5	Vanadium	M	43,300,000.0	37,600,000	1.2	29,351.1	14,675.5
APC-SD-2035	0-0.5	Zinc	M	364,000,000.0	221,000,000	1.6	29,351.1	14,675.5
APC-SD-2035	0-0.5	Benzo(a)pyrene	PAH	1,300,000.0	1,400,000		29,351.1	14,675.5
APC-SD-2035	0-0.5	Dibenzo(a,h)anthracene	PAH	820,000.0	970,000		29,351.1	14,675.5
APC-SD-2035	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		29,351.1	14,675.5
APC-SD-2035	0-0.5	Aroclor 1254	PCB	180,000.0	150,000	- 1.2	5,438.3	2,719.2
APC-SD-2035	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	27,888.3	13,944.1
APC-SD-2035	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	27,888.3	13,944.1
APC-SD-2035	0-0.5	Dieldrin	PEST	0.0	2,600		27,888.3	13,944.1
APC-SD-2035	0.5-2	2,3,7,8-TCDD	DIOXIN	690.0	15	- 46.9	5,438.3	8,157.5
APC-SD-2035	0.5-2	Aluminum	M	10,800,000,000.0	8,210,000,000	- 1.3	29,351.1	44,026.6
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APC-SD-2035	0.5-2	Arsenic	M	5,600,000.0	3,900,000	1.4	29,351.1	44,026.6
APC-SD-2035	0.5-2	Barium	M	117,000,000.0	134,000,000		29,351.1	44,026.6
APC-SD-2035	0.5-2	Selenium	M	940,000.0	1,100,000		29,351.1	44,026.6
APC-SD-2035	0.5-2	Vanadium	M	27,700,000.0	37,600,000		29,351.1	44,026.6
APC-SD-2035	0.5-2	Zinc	M	316,000,000.0	221,000,000	- 1.4	29,351.1	44,026.6
APC-SD-2035	0.5-2	Benzo(a)pyrene	PAH	1,100,000.0	1,400,000	-	29,351.1	44,026.6
APC-SD-2035	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	29,351.1	44,026.6
APC-SD-2035	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000		29,351.1	44,026.6
APC-SD-2035	0.5-2	Aroclor 1254	PCB	300,000.0	150,000	- 2.0	5,438.3	8,157.5
APC-SD-2035	0.5-2	4,4'-DDD	PEST	0.0	8,400	-	27,888.3	41,832.4
APC-SD-2035	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	27,888.3	41,832.4
APC-SD-2035	0.5-2	Dieldrin	PEST	0.0	2,600		27,888.3	41,832.4
APC-SD-2035	2-4	2,3,7,8-TCDD	DIOXIN	41.8	15	- 2.8	5,438.3	10,876.7
APC-SD-2035	2-4	Aluminum	M	9,250,000,000.0	8,210,000,000	- 1.1	29,351.1	58,702.2
APC-SD-2035	2-4	Arsenic	M	2,300,000.0	3,900,000	-	29,351.1	58,702.2
APC-SD-2035	2-4	Barium	M	0.0	134,000,000		29,351.1	58,702.2
APC-SD-2035	2-4	Selenium	M	0.0	1,100,000		29,351.1	58,702.2
APC-SD-2035	2-4	Vanadium	M	20,600,000.0	37,600,000	-	29,351.1	58,702.2
APC-SD-2035	2-4	Zinc	M	67,000,000.0	221,000,000	-	29,351.1	58,702.2
APC-SD-2035	2-4	Benzo(a)pyrene	PAH	0.0	1,400,000	-	29,351.1	58,702.2
APC-SD-2035	2-4	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	29,351.1	58,702.2
APC-SD-2035	2-4	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	29,351.1	58,702.2
APC-SD-2035	2-4	Aroclor 1254	PCB	22,000.0	150,000	-	5,438.3	10,876.7
APC-SD-2035	2-4	4,4'-DDD	PEST	0.0	8,400	-	27,888.3	55,776.5
APC-SD-2035	2-4	4,4'-DDE	PEST	0.0	6,000	-	27,888.3	55,776.5
APC-SD-2035	2-4	Dieldrin	PEST	0.0	2,600	-	27,888.3	55,776.5
APC-SD-2035	4-5	2,3,7,8-TCDD	DIOXIN	46.8	15	- 3.2	5,438.3	5,438.3
APC-SD-2035	4-5	Aluminum	M	4,720,000,000.0	8,210,000,000	-	29,351.1	29,351.1
APC-SD-2035	4-5	Arsenic	M	810,000.0	3,900,000	-	29,351.1	29,351.1
APC-SD-2035	4-5	Barium	M	0.0	134,000,000		29,351.1	29,351.1
APC-SD-2035	4-5	Selenium	M	0.0	1,100,000	-	29,351.1	29,351.1
APC-SD-2035	4-5	Vanadium	M	10,900,000.0	37,600,000	-	29,351.1	29,351.1
APC-SD-2035	4-5	Zinc	M	0.0	221,000,000	-	29,351.1	29,351.1

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
APC-SD-2035	4-5	Benzo(a)pyrene	PAH	0.0	1,400,000		29,351.1	29,351.1
APC-SD-2035	4-5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		29,351.1	29,351.1
APC-SD-2035	4-5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		29,351.1	29,351.1
APC-SD-2035	4-5	Aroclor 1254	PCB	25,000.0	150,000	-	5,438.3	5,438.3
APC-SD-2035	4-5	4,4'-DDD	PEST	0.0	8,400	-	27,888.3	27,888.3
APC-SD-2035	4-5	4,4'-DDE	PEST	0.0	6,000	-	27,888.3	27,888.3
APC-SD-2035	4-5	Dieldrin	PEST	0.0	2,600	-	27,888.3	27,888.3
APC-SD-2036	0-0.5	2,3,7,8-TCDD	DIOXIN	3,270.0	15	- 222.4	4,127.0	2,063.5
APC-SD-2036	0-0.5	Aluminum	M	16,200,000,000.0	8,210,000,000	- 2.0	14,942.9	7,471.4
APC-SD-2036	0-0.5	Arsenic	M	9,700,000.0	3,900,000	- 2.5	14,942.9	7,471.4
APC-SD-2036	0-0.5	Barium	M	326,000,000.0	134,000,000	2.4	14,942.9	7,471.4
APC-SD-2036	0-0.5	Selenium	M	1,900,000.0	1,100,000	1.7	14,942.9	7,471.4
APC-SD-2036	0-0.5	Vanadium	M	55,400,000.0	37,600,000	1.5	14,942.9	7,471.4
APC-SD-2036	0-0.5	Zinc	M	943,000,000.0	221,000,000	4.3	14,942.9	7,471.4
APC-SD-2036	0-0.5	Benzo(a)pyrene	PAH	2,200,000.0	1,400,000	1.6	14,942.9	7,471.4
APC-SD-2036	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		14,942.9	7,471.4
APC-SD-2036	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		14,942.9	7,471.4
APC-SD-2036	0-0.5	Aroclor 1254	PCB	160,000.0	150,000	1.1	4,977.6	2,488.8
APC-SD-2036	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	10,766.0	5,383.0
APC-SD-2036	0-0.5	4,4'-DDE	PEST	4,900.0	6,000	-	10,766.0	5,383.0
APC-SD-2036	0-0.5	Dieldrin	PEST	0.0	2,600		10,766.0	5,383.0
CMS-020	0-0.25	2,3,7,8-TCDD	DIOXIN	233.0	15	- 15.9	4,036.7	1,009.2
CMS-021	0-0.25	2,3,7,8-TCDD	DIOXIN	2,130.0	15	- 144.9	3,563.7	890.9
CMS-021	0-1	2,3,7,8-TCDD	DIOXIN	180.0	15	- 12.2	3,563.7	3,563.7
CMS-021	1-2	2,3,7,8-TCDD	DIOXIN	100.0	15	6.8	3,563.7	3,563.7
CMS-021	2-3	2,3,7,8-TCDD	DIOXIN	0.0	15		3,563.7	3,563.7
CMS-021	3-4	2,3,7,8-TCDD	DIOXIN	0.0	15		3,563.7	3,563.7
CMS-021	4-5	2,3,7,8-TCDD	DIOXIN	38.0	15	2.6	3,563.7	3,563.7
CMS-021	5-6	2,3,7,8-TCDD	DIOXIN	0.0	15	-	3,563.7	3,563.7
CMS-022	0-0.25	2,3,7,8-TCDD	DIOXIN	1,480.0	15	- 100.7	2,918.3	729.6
CMS-022	0-1	2,3,7,8-TCDD	DIOXIN	73,000.0	15	4,966.0	2,918.3	2,918.3
CMS-022	1-2	2,3,7,8-TCDD	DIOXIN	7,300.0	15	- 496.6	2,918.3	2,918.3
CMS-022	2-3	2,3,7,8-TCDD	DIOXIN	15,000.0	15	1,020.4	2,918.3	2,918.3

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-022	3-4	2,3,7,8-TCDD	DIOXIN	12,000.0	15	816.3	2,918.3	2,918.3
CMS-023	0-0.25	2,3,7,8-TCDD	DIOXIN	2,480.0	15	168.7	3,933.9	983.5
CMS-023	0-1	2,3,7,8-TCDD	DIOXIN	52,000.0	15	3,537.4	3,933.9	3,933.9
CMS-023	1-2	2,3,7,8-TCDD	DIOXIN	28,090.0	15	1,910.9	3,933.9	3,933.9
CMS-023	2-3	2,3,7,8-TCDD	DIOXIN	1,200.0	15	81.6	3,933.9	3,933.9
CMS-024	0-0.25	2,3,7,8-TCDD	DIOXIN	1,600.0	15	108.8	4,791.7	1,197.9
CMS-024	0-1	2,3,7,8-TCDD	DIOXIN	360.0	15	24.5	4,791.7	4,791.7
CMS-024	1-2	2,3,7,8-TCDD	DIOXIN	75,000.0	15	5,102.0	4,791.7	4,791.7
CMS-025	0-0.25	2,3,7,8-TCDD	DIOXIN	1,030.0	15	70.1	7,662.8	1,915.7
CMS-025	0-1	2,3,7,8-TCDD	DIOXIN	33,000.0	15	2,244.9	7,662.8	7,662.8
CMS-025	1-2	2,3,7,8-TCDD	DIOXIN	350.0	15	23.8	7,662.8	7,662.8
CMS-174	0-0.25	2,3,7,8-TCDD	DIOXIN	30.8	15	2.1	2,486.4	621.6
CMS-176	0-0.25	2,3,7,8-TCDD	DIOXIN	141.0	15	9.6	4,863.8	1,215.9
CMS-177	0-0.25	2,3,7,8-TCDD	DIOXIN	2,530.0	15	172.1	0.0	0.0
CMS-177	0-1	2,3,7,8-TCDD	DIOXIN	22,600.0	15	1,537.4	0.0	0.0
CMS-177	0-1	Aroclor 1254	PCB	3,500,000.0	150,000	23.3	8.8	8.8
CMS-178	0-0.25	2,3,7,8-TCDD	DIOXIN	769.0	15	52.3	1,937.3	484.3
CMS-179	0-0.25	2,3,7,8-TCDD	DIOXIN	21.7	15	1.5	736.8	184.2
CMS-180	0-0.25	2,3,7,8-TCDD	DIOXIN	11.2	15		380.8	95.2
CMS-181	0-0.25	2,3,7,8-TCDD	DIOXIN	826.0	15	56.2	6,934.3	1,733.6
CMS-182	0-0.25	2,3,7,8-TCDD	DIOXIN	1,440.0	15	98.0	3,755.1	938.8
CMS-182	0-1	2,3,7,8-TCDD	DIOXIN	400.0	15	- 27.2	3,755.1	3,755.1
CMS-183	0-0.25	2,3,7,8-TCDD	DIOXIN	729.0	15	49.6	1,694.6	423.7
CMS-186	0-0.25	2,3,7,8-TCDD	DIOXIN	2,500.0	15	170.1	6,174.7	1,543.7
CMS-186	0-1	2,3,7,8-TCDD	DIOXIN	33,000.0	15	2,244.9	6,174.7	6,174.7
CMS-186	1-2	2,3,7,8-TCDD	DIOXIN	1,400.0	15	95.2	6,174.7	6,174.7
CMS-187	0-0.25	2,3,7,8-TCDD	DIOXIN	8,200.0	15	557.8	4,570.9	1,142.7
CMS-187	0-1	2,3,7,8-TCDD	DIOXIN	2,100.0	15	142.9	4,570.9	4,570.9
CMS-187	1-2	2,3,7,8-TCDD	DIOXIN	290.0	15	19.7	4,570.9	4,570.9
CMS-188	0-0.25	2,3,7,8-TCDD	DIOXIN	3,460.0	15	235.4	7,296.5	1,824.1
CMS-188	0-0.5	2,3,7,8-TCDD	DIOXIN	4,718.3	15	321.0	7,296.5	3,648.2
CMS-188	0-1	2,3,7,8-TCDD	DIOXIN	1,600.0	15	108.8	7,296.5	7,296.5
CMS-188	0-0.5	Aluminum	M	8,643,000,000.0	8,210,000,000	1.1	5,227.6	2,613.8

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-188	0-0.5	Arsenic	M	4,270,000.0	3,900,000	1.1	5,227.6	2,613.8
CMS-188	0-0.5	Barium	M	87,500,000.0	134,000,000		5,227.6	2,613.8
CMS-188	0-0.5	Selenium	M	0.0	1,100,000		5,227.6	2,613.8
CMS-188	0-0.5	Vanadium	M	40,300,000.0	37,600,000	1.1	5,227.6	2,613.8
CMS-188	0-0.5	Zinc	M	91,100,000.0	221,000,000	-	5,227.6	2,613.8
CMS-188	0-0.5	Benzo(a)pyrene	PAH	3,024,190.0	1,400,000	- 2.2	5,227.6	2,613.8
CMS-188	0-0.5	Dibenzo(a,h)anthracene	PAH	617,880.0	970,000		5,227.6	2,613.8
CMS-188	0-0.5	Aroclor 1254	PCB	1,297,670.0	150,000	- 8.7	5,227.6	2,613.8
CMS-188	0-0.5	Aroclor 1268	PCB	46,490.0	140,000		5,227.6	2,613.8
CMS-188	0-0.5	4,4'-DDD	PEST	17,450.0	8,400	- 2.1	5,227.6	2,613.8
CMS-188	0-0.5	4,4'-DDE	PEST	15,830.0	6,000	2.6	5,227.6	2,613.8
CMS-188	0-0.5	Dieldrin	PEST	19,460.0	2,600	- 7.5	5,227.6	2,613.8
CMS-188	0-0.5	Technical Chlordane	PEST	851,810.0	400,000	2.1	5,227.6	2,613.8
CMS-190	0-0.25	2,3,7,8-TCDD	DIOXIN	1,410.0	15	95.9	6,554.5	1,638.6
CMS-191	0-0.25	2,3,7,8-TCDD	DIOXIN	1,380.0	15	93.9	5,635.2	1,408.8
CMS-191	0-1	2,3,7,8-TCDD	DIOXIN	25,900.0	15	1,761.9	5,635.2	5,635.2
CMS-192	0-0.25	2,3,7,8-TCDD	DIOXIN	21,800.0	15	1,483.0	6,296.3	1,574.1
CMS-192	0-1	2,3,7,8-TCDD	DIOXIN	1,700.0	15	115.6	6,296.3	6,296.3
CMS-192	0-1	Aluminum	M	13,900,000,000.0	8,210,000,000	1.7	9,421.3	9,421.3
CMS-192	0-1	Arsenic	M	18,000,000.0	3,900,000	4.6	9,421.3	9,421.3
CMS-192	0-1	Barium	M	301,000,000.0	134,000,000	2.2	9,421.3	9,421.3
CMS-192	0-1	Selenium	M	2,800,000.0	1,100,000	2.5	9,421.3	9,421.3
CMS-192	0-1	Vanadium	M	55,800,000.0	37,600,000	1.5	9,421.3	9,421.3
CMS-192	0-1	Zinc	M	421,000,000.0	221,000,000	1.9	9,421.3	9,421.3
CMS-192	0-1	Benzo(a)pyrene	PAH	2,400,000.0	1,400,000	1.7	9,421.3	9,421.3
CMS-192	0-1	Dibenzo(a,h)anthracene	PAH	540,000.0	970,000		9,421.3	9,421.3
CMS-192	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		9,421.3	9,421.3
CMS-192	0-1	Aroclor 1254	PCB	840,000.0	150,000	5.6	9,421.3	9,421.3
CMS-192	0-1	4,4'-DDD	PEST	0.0	8,400	-	9,421.3	9,421.3
CMS-192	0-1	4,4'-DDE	PEST	18,000.0	6,000	- 3.0	9,421.3	9,421.3
CMS-192	0-1	Dieldrin	PEST	0.0	2,600		9,421.3	9,421.3
CMS-192	0-1	Technical Chlordane	PEST	0.0	400,000	-	9,421.3	9,421.3
CMS-194	0-0.25	2,3,7,8-TCDD	DIOXIN	660.0	15	44.9	3,459.1	864.8

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-195	0-0.25	2,3,7,8-TCDD	DIOXIN	8,330.0	15	566.7	5,556.1	1,389.0
CMS-195	0-1	2,3,7,8-TCDD	DIOXIN	12,000.0	15	816.3	5,556.1	5,556.1
CMS-195	1-2	2,3,7,8-TCDD	DIOXIN	2,300.0	15	156.5	5,556.1	5,556.1
CMS-196	0-0.25	2,3,7,8-TCDD	DIOXIN	7,840.0	15	533.3	6,789.1	1,697.3
CMS-196	0-1	2,3,7,8-TCDD	DIOXIN	7,700.0	15	523.8	6,789.1	6,789.1
CMS-199	0-0.25	2,3,7,8-TCDD	DIOXIN	679.0	15	46.2	6,466.3	1,616.6
CMS-200	0-0.25	2,3,7,8-TCDD	DIOXIN	2,350.0	15	159.9	4,877.2	1,219.3
CMS-200	0-1	2,3,7,8-TCDD	DIOXIN	1,400.0	15	95.2	4,877.2	4,877.2
CMS-201	0-0.25	2,3,7,8-TCDD	DIOXIN	877.0	15	59.7	5,564.3	1,391.1
CMS-202	0-0.25	2,3,7,8-TCDD	DIOXIN	2,530.0	15	172.1	2,876.9	719.2
CMS-202	0-1	2,3,7,8-TCDD	DIOXIN	2,000.0	15	136.1	2,876.9	2,876.9
CMS-203	0-0.25	2,3,7,8-TCDD	DIOXIN	2,530.0	15	172.1	6,536.9	1,634.2
CMS-203	0-1	2,3,7,8-TCDD	DIOXIN	21,000.0	15	1,428.6	6,536.9	6,536.9
CMS-204	0-0.25	2,3,7,8-TCDD	DIOXIN	3,390.0	15	230.6	6,547.8	1,636.9
CMS-204	0-1	2,3,7,8-TCDD	DIOXIN	1,600.0	15	108.8	6,547.8	6,547.8
CMS-208	0-0.25	2,3,7,8-TCDD	DIOXIN	1,950.0	15	132.7	4,655.4	1,163.8
CMS-208	0-1	2,3,7,8-TCDD	DIOXIN	10,000.0	15	680.3	4,655.4	4,655.4
CMS-208	1-2	2,3,7,8-TCDD	DIOXIN	110,000.0	15	7,483.0	4,655.4	4,655.4
CMS-209	0-0.25	2,3,7,8-TCDD	DIOXIN	11,900.0	15	809.5	5,220.1	1,305.0
CMS-209	0-1	2,3,7,8-TCDD	DIOXIN	630.0	15	42.9	5,220.1	5,220.1
CMS-210	0-0.25	2,3,7,8-TCDD	DIOXIN	6,190.0	15	421.1	7,828.6	1,957.1
CMS-210	0-1	2,3,7,8-TCDD	DIOXIN	410.0	15	27.9	7,828.6	7,828.6
CMS-210	1-2	2,3,7,8-TCDD	DIOXIN	0.0	15		7,828.6	7,828.6
CMS-211	0-0.25	2,3,7,8-TCDD	DIOXIN	864.0	15	58.8	7,023.2	1,755.8
CMS-212	0-0.25	2,3,7,8-TCDD	DIOXIN	2,740.0	15	186.4	3,537.3	884.3
CMS-212	0-1	2,3,7,8-TCDD	DIOXIN	140.0	15	- 9.5	3,537.3	3,537.3
CMS-213	0-0.25	2,3,7,8-TCDD	DIOXIN	7,820.0	15	532.0	4,369.4	1,092.4
CMS-213	0-1	2,3,7,8-TCDD	DIOXIN	4,300.0	15	292.5	4,369.4	4,369.4
CMS-213	1-2	2,3,7,8-TCDD	DIOXIN	730.0	15	49.7	4,369.4	4,369.4
CMS-214	0-0.25	2,3,7,8-TCDD	DIOXIN	5,040.0	15	342.9	5,741.2	1,435.3
CMS-214	0-1	2,3,7,8-TCDD	DIOXIN	4,600.0	15	312.9	5,741.2	5,741.2
CMS-214	1-2	2,3,7,8-TCDD	DIOXIN	391.0	15	26.6	5,741.2	5,741.2
CMS-215	0-0.25	2,3,7,8-TCDD	DIOXIN	10,200.0	15	693.9	9,125.1	2,281.3

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-215	0-1	2,3,7,8-TCDD	DIOXIN	2,900.0	15	197.3	9,125.1	9,125.1
CMS-215	0-1	Aluminum	M	16,100,000,000.0	8,210,000,000	2.0	27,593.2	27,593.2
CMS-215	0-1	Arsenic	M	9,900,000.0	3,900,000	2.5	27,593.2	27,593.2
CMS-215	0-1	Barium	M	251,000,000.0	134,000,000	1.9	27,593.2	27,593.2
CMS-215	0-1	Selenium	M	2,200,000.0	1,100,000	2.0	27,593.2	27,593.2
CMS-215	0-1	Vanadium	M	52,900,000.0	37,600,000	1.4	27,593.2	27,593.2
CMS-215	0-1	Zinc	M	762,000,000.0	221,000,000	3.4	27,593.2	27,593.2
CMS-215	0-1	Benzo(a)pyrene	PAH	1,700,000.0	1,400,000	1.2	44,568.6	44,568.6
CMS-215	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		44,568.6	44,568.6
CMS-215	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		44,568.6	44,568.6
CMS-215	0-1	Aroclor 1254	PCB	650,000.0	150,000	4.3	10,326.5	10,326.5
CMS-215	0-1	4,4'-DDD	PEST	0.0	8,400	-	27,593.2	27,593.2
CMS-215	0-1	4,4'-DDE	PEST	44,000.0	6,000	- 7.3	27,593.2	27,593.2
CMS-215	0-1	Dieldrin	PEST	24,000.0	2,600	9.2	27,593.2	27,593.2
CMS-215	0-1	Technical Chlordane	PEST	0.0	400,000	-	27,593.2	27,593.2
CMS-215	1-2	2,3,7,8-TCDD	DIOXIN	890.0	15	60.5	9,125.1	9,125.1
CMS-215	2-3	2,3,7,8-TCDD	DIOXIN	22.0	15	1.5	9,125.1	9,125.1
CMS-215	3-4	2,3,7,8-TCDD	DIOXIN	290.0	15	- 19.7	9,125.1	9,125.1
CMS-216e	0-0.25	2,3,7,8-TCDD	DIOXIN	10,500.0	15	714.3	1,506.7	376.7
CMS-224	0-0.25	2,3,7,8-TCDD	DIOXIN	1.2	15		902.3	225.6
CMS-465	0-1	2,3,7,8-TCDD	DIOXIN	135.0	15	9.2	1,061.3	1,061.3
CMS-467	0-1	2,3,7,8-TCDD	DIOXIN	2,680.0	15	182.3	1,792.6	1,792.6
CMS-470	0-1	2,3,7,8-TCDD	DIOXIN	27,500.0	15	- 1,870.7	1,319.8	1,319.8
CMS-470	1-2	2,3,7,8-TCDD	DIOXIN	13,200.0	15	898.0	1,319.8	1,319.8
CMS-471	0-1	2,3,7,8-TCDD	DIOXIN	2,120.0	15	144.2	3,056.0	3,056.0
CMS-471	1-2	2,3,7,8-TCDD	DIOXIN	4,020.0	15	273.5	3,056.0	3,056.0
CMS-471	2-3	2,3,7,8-TCDD	DIOXIN	321.0	15	21.8	3,056.0	3,056.0
CMS-472	0-1	2,3,7,8-TCDD	DIOXIN	1,430.0	15	97.3	4,485.6	4,485.6
CMS-477	0-1	2,3,7,8-TCDD	DIOXIN	5,150.0	15	350.3	3,095.1	3,095.1
CMS-477	1-2	2,3,7,8-TCDD	DIOXIN	240.0	15	16.3	3,095.1	3,095.1
CMS-477	2-3	2,3,7,8-TCDD	DIOXIN	8,800.0	15	598.6	3,095.1	3,095.1
CMS-484	0-1	2,3,7,8-TCDD	DIOXIN	0.0	15		2,713.1	2,713.1
CMS-484	1-2	2,3,7,8-TCDD	DIOXIN	3.6	15		2,713.1	2,713.1

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-484	2-3	2,3,7,8-TCDD	DIOXIN	4.4	15		2,713.1	2,713.1
CMS-487	0-1	2,3,7,8-TCDD	DIOXIN	44,900.0	15	3,054.4	430.2	430.2
CMS-487	1-2	2,3,7,8-TCDD	DIOXIN	22,800.0	15	1,551.0	430.2	430.2
CMS-487	2-3	2,3,7,8-TCDD	DIOXIN	6,870.0	15	467.3	430.2	430.2
CMS-489	0-1	2,3,7,8-TCDD	DIOXIN	16,200.0	15	1,102.0	2,157.8	2,157.8
CMS-490	0-1	2,3,7,8-TCDD	DIOXIN	728.0	15	49.5	3,073.4	3,073.4
CMS-490	1-2	2,3,7,8-TCDD	DIOXIN	450.0	15	30.6	3,073.4	3,073.4
CMS-493	0-1	2,3,7,8-TCDD	DIOXIN	693.0	15	47.1	4,225.8	4,225.8
CMS-493	1-2	2,3,7,8-TCDD	DIOXIN	1,370.0	15	93.2	4,225.8	4,225.8
CMS-493	2-3	2,3,7,8-TCDD	DIOXIN	654.0	15	44.5	4,225.8	4,225.8
CMS-494	0-1	2,3,7,8-TCDD	DIOXIN	4,130.0	15	281.0	2,756.1	2,756.1
CMS-495	0-1	2,3,7,8-TCDD	DIOXIN	7,560.0	15	514.3	1,107.3	1,107.3
CMS-496	0-1	2,3,7,8-TCDD	DIOXIN	574.0	15	39.0	1,780.9	1,780.9
CMS-600	0-0.5	2,3,7,8-TCDD	DIOXIN	870.0	15	59.2	2,711.1	1,355.6
CMS-600	0-0.5	Aroclor 1254	PCB	1,400,000.0	150,000	9.3	3,626.4	1,813.2
CMS-601	0-0.5	2,3,7,8-TCDD	DIOXIN	4,700.0	15	319.7	1,178.5	589.2
CMS-601	0-0.5	Aroclor 1254	PCB	3,000,000.0	150,000	20.0	2,732.4	1,366.2
CMS-602	0-0.5	2,3,7,8-TCDD	DIOXIN	3,800.0	15	258.5	10,660.6	5,330.3
CMS-602	0-0.5	Aroclor 1254	PCB	13,000,000.0	150,000	86.7	11,987.2	5,993.6
CMS-603	0-0.5	2,3,7,8-TCDD	DIOXIN	2,700.0	15	183.7	6,293.7	3,146.9
CMS-603	0-0.5	Aroclor 1254	PCB	560,000.0	150,000	3.7	9,278.4	4,639.2
CMS-604	0-0.5	2,3,7,8-TCDD	DIOXIN	130.0	15	8.8	7,094.5	3,547.3
CMS-604	0-0.5	Aroclor 1254	PCB	11,000.0	150,000		13,896.5	6,948.3
CMS-605	0-1	2,3,7,8-TCDD	DIOXIN	46,000.0	15	3,129.3	7,107.8	7,107.8
CMS-605	0-1	Aroclor 1254	PCB	13,000,000.0	150,000	86.7	13,170.0	13,170.0
CMS-605	1-2	2,3,7,8-TCDD	DIOXIN	130.0	15	8.8	7,107.8	7,107.8
CMS-605	1-2	Aroclor 1254	PCB	190,000.0	150,000	1.3	13,170.0	13,170.0
CMS-605	2-3	2,3,7,8-TCDD	DIOXIN	130.0	15	8.8	7,107.8	7,107.8
CMS-605	2-3	Aroclor 1254	PCB	800,000.0	150,000	5.3	13,170.0	13,170.0
CMS-605	3-4	2,3,7,8-TCDD	DIOXIN	51.0	15	3.5	7,107.8	7,107.8
CMS-605	3-4	Aroclor 1254	PCB	110,000.0	150,000		13,170.0	13,170.0
CMS-605	4-5	2,3,7,8-TCDD	DIOXIN	410.0	15	27.9	7,107.8	7,107.8
CMS-605	4-5	Aroclor 1254	PCB	2,700,000.0	150,000	18.0	13,170.0	13,170.0

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-606	0-0.5	2,3,7,8-TCDD	DIOXIN	17,000.0	15	1,156.5	7,110.6	3,555.3
CMS-606	0-0.5	Aroclor 1254	PCB	27,000,000.0	150,000	180.0	6,475.2	3,237.6
CMS-607	0-0.5	2,3,7,8-TCDD	DIOXIN	9,500.0	15	646.3	9,771.0	4,885.5
CMS-607	0-0.5	Aroclor 1254	PCB	28,000,000.0	150,000	186.7	6,037.0	3,018.5
CMS-608	0-0.5	2,3,7,8-TCDD	DIOXIN	9,400.0	15	639.5	11,626.9	5,813.4
CMS-608	0-0.5	Aroclor 1254	PCB	7,300,000.0	150,000	48.7	11,580.5	5,790.2
CMS-609	0-0.5	2,3,7,8-TCDD	DIOXIN	130.0	15	8.8	8,290.9	4,145.5
CMS-609	0-0.5	Aroclor 1254	PCB	220,000.0	150,000	1.5	8,302.9	4,151.5
CMS-610	0-0.5	2,3,7,8-TCDD	DIOXIN	2,500.0	15	170.1	5,919.8	2,959.9
CMS-610	0-0.5	Aroclor 1254	PCB	290,000.0	150,000	1.9	7,874.6	3,937.3
CMS-611	0-0.5	2,3,7,8-TCDD	DIOXIN	2,000.0	15	136.1	8,899.2	4,449.6
CMS-611	0-0.5	Aroclor 1254	PCB	1,700,000.0	150,000	11.3	8,562.0	4,281.0
CMS-612	0-0.5	2,3,7,8-TCDD	DIOXIN	2,500.0	15	170.1	8,835.6	4,417.8
CMS-612	0-0.5	Aroclor 1254	PCB	190,000.0	150,000	1.3	8,835.6	4,417.8
CMS-613	0-0.5	2,3,7,8-TCDD	DIOXIN	1,100.0	15	74.8	11,077.9	5,538.9
CMS-613	0-0.5	Aroclor 1254	PCB	330,000.0	150,000	2.2	11,077.9	5,538.9
CMS-614	0-0.5	2,3,7,8-TCDD	DIOXIN	390.0	15	26.5	6,038.6	3,019.3
CMS-614	0-0.5	Aroclor 1254	PCB	280,000.0	150,000	1.9	6,021.0	3,010.5
CMS-615	0-1	2,3,7,8-TCDD	DIOXIN	650.0	15	44.2	7,604.0	7,604.0
CMS-615	0-1	Aroclor 1254	PCB	1,200,000.0	150,000	8.0	9,520.3	9,520.3
CMS-615	1-1.5	2,3,7,8-TCDD	DIOXIN	61.0	15	4.1	7,604.0	3,802.0
CMS-615	1-1.5	Aroclor 1254	PCB	36,000.0	150,000		9,520.3	4,760.2
CMS-616	0-0.5	2,3,7,8-TCDD	DIOXIN	24,000.0	15	1,632.7	10,677.5	5,338.8
CMS-616	0-0.5	Aroclor 1254	PCB	9,200,000.0	150,000	61.3	6,932.5	3,466.2
CMS-617	0-0.5	2,3,7,8-TCDD	DIOXIN	12,000.0	15	816.3	9,320.0	4,660.0
CMS-617	0-0.5	Aroclor 1254	PCB	3,000,000.0	150,000	20.0	9,335.9	4,668.0
CMS-618	0-0.5	2,3,7,8-TCDD	DIOXIN	10,000.0	15	680.3	3,352.7	1,676.3
CMS-618	0-0.5	Aroclor 1254	PCB	1,700,000.0	150,000	11.3	5,419.0	2,709.5
CMS-619	0-0.5	2,3,7,8-TCDD	DIOXIN	27,000.0	15	1,836.7	4,887.6	2,443.8
CMS-619	0-0.5	Aroclor 1254	PCB	11,000,000.0	150,000	73.3	4,887.6	2,443.8
CMS-620	0-0.5	2,3,7,8-TCDD	DIOXIN	540.0	15	36.7	7,302.7	3,651.4
CMS-620	0-0.5	Aroclor 1254	PCB	47,000.0	150,000		11,012.9	5,506.5
CMS-621	0-0.5	2,3,7,8-TCDD	DIOXIN	2,300.0	15	156.5	5,451.4	2,725.7

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-621	0-0.5	Aroclor 1254	PCB	230,000.0	150,000	1.5	5,612.2	2,806.1
CMS-622	0-0.5	2,3,7,8-TCDD	DIOXIN	4,900.0	15	333.3	8,366.5	4,183.3
CMS-622	0-0.5	Aroclor 1254	PCB	280,000.0	150,000	1.9	8,459.0	4,229.5
CMS-623	0-0.5	2,3,7,8-TCDD	DIOXIN	750.0	15	51.0	6,076.9	3,038.5
CMS-623	0-0.5	Aroclor 1254	PCB	460,000.0	150,000	3.1	9,046.3	4,523.2
CMS-624	0-0.5	2,3,7,8-TCDD	DIOXIN	4,000.0	15	272.1	777.6	388.8
CMS-624	0-0.5	Aroclor 1254	PCB	590,000.0	150,000	3.9	777.6	388.8
CMS-625	0-0.5	2,3,7,8-TCDD	DIOXIN	1,500.0	15	102.0	8,868.4	4,434.2
CMS-625	0-0.5	Aroclor 1254	PCB	540,000.0	150,000	3.6	9,526.7	4,763.4
CMS-626	0-0.5	2,3,7,8-TCDD	DIOXIN	1,400.0	15	95.2	6,295.8	3,147.9
CMS-626	0-0.5	Aroclor 1254	PCB	760,000.0	150,000	5.1	6,295.8	3,147.9
CMS-627	0-0.5	2,3,7,8-TCDD	DIOXIN	5,000.0	15	340.1	7,649.0	3,824.5
CMS-627	0-0.5	Aroclor 1254	PCB	150,000.0	150,000	1.0	7,947.9	3,973.9
CMS-628	0-1	2,3,7,8-TCDD	DIOXIN	2,700.0	15	183.7	2,752.6	2,752.6
CMS-628	0-1	Aroclor 1254	PCB	510,000.0	150,000	3.4	3,473.6	3,473.6
CMS-628	1-2	Aroclor 1254	PCB	49,000.0	150,000		3,473.6	3,473.6
CMS-628	2-3	Aroclor 1254	PCB	16,000.0	150,000		3,473.6	3,473.6
CMS-628	3-4	Aroclor 1254	PCB	10,000.0	150,000		3,473.6	3,473.6
CMS-629	0-0.5	2,3,7,8-TCDD	DIOXIN	3,000.0	15	- 204.1	1,377.5	688.8
CMS-629	0-0.5	Aroclor 1254	PCB	830,000.0	150,000	- 5.5	1,258.4	629.2
CMS-630	0-0.5	2,3,7,8-TCDD	DIOXIN	1,800.0	15	- 122.4	6,814.7	3,407.3
CMS-630	0-0.5	Aroclor 1254	PCB	320,000.0	150,000	2.1	5,724.4	2,862.2
CMS-631	0-0.5	2,3,7,8-TCDD	DIOXIN	16,000.0	15	1,088.4	9,649.8	4,824.9
CMS-631	0-0.5	Aroclor 1254	PCB	660,000.0	150,000	4.4	10,212.9	5,106.5
CMS-632	0-0.5	2,3,7,8-TCDD	DIOXIN	4,700.0	15	319.7	1,034.4	517.2
CMS-632	0-0.5	Aroclor 1254	PCB	350,000.0	150,000	2.3	415.0	207.5
CMS-633	0-0.5	2,3,7,8-TCDD	DIOXIN	190.0	15	12.9	1,775.2	887.6
CMS-633	0-0.5	Aroclor 1254	PCB	93,000.0	150,000		2,006.0	1,003.0
CMS-634	0-0.5	2,3,7,8-TCDD	DIOXIN	14,000.0	15	952.4	4,603.6	2,301.8
CMS-634	0-0.5	Aroclor 1254	PCB	8,900,000.0	150,000	59.3	5,134.7	2,567.4
CMS-FP-4001	0-0.5	2,3,7,8-TCDD	DIOXIN	1,582.7	15	- 107.7	1,935.2	967.6
CMS-FP-4001	0-0.5	Aluminum	M	10,832,000,000.0	8,210,000,000	1.3	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Arsenic	M	3,940,000.0	3,900,000	1.0	3,138.7	1,569.3

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-FP-4001	0-0.5	Barium	M	128,000,000.0	134,000,000		3,138.7	1,569.3
CMS-FP-4001	0-0.5	Selenium	M	0.0	1,100,000		3,138.7	1,569.3
CMS-FP-4001	0-0.5	Vanadium	M	39,100,000.0	37,600,000	1.0	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Zinc	M	217,000,000.0	221,000,000	-	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Benzo(a)pyrene	PAH	9,617,880.0	1,400,000	- 6.9	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Dibenzo(a,h)anthracene	PAH	1,746,720.0	970,000	1.8	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Aroclor 1254	PCB	685,380.0	150,000	- 4.6	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Aroclor 1268	PCB	45,080.0	140,000		3,138.7	1,569.3
CMS-FP-4001	0-0.5	PCB TEQ	PCB	147.2	25	5.9	3,138.7	1,569.3
CMS-FP-4001	0-0.5	4,4'-DDD	PEST	15,610.0	8,400	1.9	3,138.7	1,569.3
CMS-FP-4001	0-0.5	4,4'-DDE	PEST	10,430.0	6,000	- 1.7	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Dieldrin	PEST	18,400.0	2,600	7.1	3,138.7	1,569.3
CMS-FP-4001	0-0.5	Technical Chlordane	PEST	965,660.0	400,000	2.4	3,138.7	1,569.3
CMS-FP-4003	0-0.5	2,3,7,8-TCDD	DIOXIN	2,383.0	15	162.1	5,055.9	2,527.9
CMS-FP-4003	0-0.5	Aluminum	M	12,558,000,000.0	8,210,000,000	1.5	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Arsenic	M	5,010,000.0	3,900,000	1.3	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Barium	M	172,000,000.0	134,000,000	1.3	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Selenium	M	0.0	1,100,000		14,475.4	7,237.7
CMS-FP-4003	0-0.5	Vanadium	M	46,100,000.0	37,600,000	1.2	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Zinc	M	272,000,000.0	221,000,000	1.2	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Benzo(a)pyrene	PAH	6,288,840.0	1,400,000	- 4.5	17,849.6	8,924.8
CMS-FP-4003	0-0.5	Dibenzo(a,h)anthracene	PAH	1,266,600.0	970,000	1.3	17,849.6	8,924.8
CMS-FP-4003	0-0.5	Aroclor 1254	PCB	629,780.0	150,000	4.2	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Aroclor 1268	PCB	36,780.0	140,000		14,475.4	7,237.7
CMS-FP-4003	0-0.5	4,4'-DDD	PEST	11,540.0	8,400	1.4	14,475.4	7,237.7
CMS-FP-4003	0-0.5	4,4'-DDE	PEST	6,360.0	6,000	1.1	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Dieldrin	PEST	12,360.0	2,600	- 4.8	14,475.4	7,237.7
CMS-FP-4003	0-0.5	Technical Chlordane	PEST	525,840.0	400,000	1.3	14,475.4	7,237.7
CMS-FP-4005	0-0.5	2,3,7,8-TCDD	DIOXIN	634.3	15	43.1	242.9	121.5
CMS-FP-4005	0-0.5	Aluminum	M	13,135,000,000.0	8,210,000,000	1.6	3,150.5	1,575.3
CMS-FP-4005	0-0.5	Arsenic	M	4,640,000.0	3,900,000	1.2	3,150.5	1,575.3
CMS-FP-4005	0-0.5	Barium	M	161,000,000.0	134,000,000	1.2	3,150.5	1,575.3
CMS-FP-4005	0-0.5	Selenium	M	0.0	1,100,000		3,150.5	1,575.3

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-FP-4005	0-0.5	Vanadium	M	41,500,000.0	37,600,000	1.1	3,150.5	1,575.3
CMS-FP-4005	0-0.5	Zinc	M	371,000,000.0	221,000,000	1.7	3,150.5	1,575.3
CMS-FP-4005	0-0.5	Benzo(a)pyrene	PAH	7,236,580.0	1,400,000	5.2	4,371.2	2,185.6
CMS-FP-4005	0-0.5	Dibenzo(a,h)anthracene	PAH	1,394,460.0	970,000	1.4	4,371.2	2,185.6
CMS-FP-4005	0-0.5	Aroclor 1254	PCB	588,350.0	150,000	3.9	3,051.7	1,525.9
CMS-FP-4005	0-0.5	Aroclor 1268	PCB	33,930.0	140,000		3,051.7	1,525.9
CMS-FP-4005	0-0.5	4,4'-DDD	PEST	14,420.0	8,400	1.7	3,051.7	1,525.9
CMS-FP-4005	0-0.5	4,4'-DDE	PEST	8,120.0	6,000	1.4	3,051.7	1,525.9
CMS-FP-4005	0-0.5	Dieldrin	PEST	14,880.0	2,600	- 5.7	3,051.7	1,525.9
CMS-FP-4005	0-0.5	Technical Chlordane	PEST	799,290.0	400,000	2.0	3,051.7	1,525.9
CMS-SD-4003	0-0.5	2,3,7,8-TCDD	DIOXIN	327.9	15	22.3	3,737.8	1,868.9
CMS-SD-4003	0-0.5	Aluminum	M	8,367,000,000.0	8,210,000,000	1.0	13,779.6	6,889.8
CMS-SD-4003	0-0.5	Arsenic	M	3,390,000.0	3,900,000		13,779.6	6,889.8
CMS-SD-4003	0-0.5	Barium	M	88,600,000.0	134,000,000		13,779.6	6,889.8
CMS-SD-4003	0-0.5	Selenium	M	0.0	1,100,000		13,779.6	6,889.8
CMS-SD-4003	0-0.5	Vanadium	M	35,600,000.0	37,600,000	-	13,779.6	6,889.8
CMS-SD-4003	0-0.5	Zinc	M	175,000,000.0	221,000,000	-	13,779.6	6,889.8
CMS-SD-4003	0-0.5	Aroclor 1254	PCB	172,090.0	150,000	- 1.1	10,634.8	5,317.4
CMS-SD-4003	0-0.5	Aroclor 1268	PCB	101,770.0	140,000	-	10,634.8	5,317.4
CMS-SD-4003	0-0.5	4,4'-DDD	PEST	12,190.0	8,400	- 1.5	10,634.8	5,317.4
CMS-SD-4003	0-0.5	4,4'-DDE	PEST	2,620.0	6,000		10,634.8	5,317.4
CMS-SD-4003	0-0.5	Dieldrin	PEST	5,460.0	2,600	- 2.1	10,634.8	5,317.4
CMS-SD-4003	0-0.5	Technical Chlordane	PEST	299,460.0	400,000		10,634.8	5,317.4
CMS-SD-4006	0-0.5	2,3,7,8-TCDD	DIOXIN	3,199.3	15	- 217.6	3,221.4	1,610.7
CMS-SD-4006	0-0.5	Aluminum	M	11,211,000,000.0	8,210,000,000	1.4	13,935.9	6,968.0
CMS-SD-4006	0-0.5	Arsenic	M	4,010,000.0	3,900,000	- 1.0	13,935.9	6,968.0
CMS-SD-4006	0-0.5	Barium	M	189,000,000.0	134,000,000	1.4	13,935.9	6,968.0
CMS-SD-4006	0-0.5	Selenium	M	0.0	1,100,000		13,935.9	6,968.0
CMS-SD-4006	0-0.5	Vanadium	M	36,900,000.0	37,600,000		13,935.9	6,968.0
CMS-SD-4006	0-0.5	Zinc	M	1,363,000,000.0	221,000,000	6.2	13,935.9	6,968.0
CMS-SD-4006	0-0.5	Aroclor 1254	PCB	436,660.0	150,000	- 2.9	13,935.9	6,968.0
CMS-SD-4006	0-0.5	Aroclor 1268	PCB	93,720.0	140,000	-	13,935.9	6,968.0
CMS-SD-4006	0-0.5	4,4'-DDD	PEST	20.0	8,400		13,935.9	6,968.0

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-SD-4006	0-0.5	4,4'-DDE	PEST	9,150.0	6,000	1.5	13,935.9	6,968.0
CMS-SD-4006	0-0.5	Dieldrin	PEST	4,530.0	2,600	1.7	13,935.9	6,968.0
CMS-SD-4006	0-0.5	Technical Chlordane	PEST	494,310.0	400,000	1.2	13,935.9	6,968.0
CMS-SD-4007	0-0.5	2,3,7,8-TCDD	DIOXIN	381.4	15	25.9	5,235.3	2,617.7
CMS-SD-4007	0-0.5	Aluminum	M	17,343,000,000.0	8,210,000,000	2.1	41,275.8	20,637.9
CMS-SD-4007	0-0.5	Arsenic	M	11,200,000.0	3,900,000	2.9	41,275.8	20,637.9
CMS-SD-4007	0-0.5	Barium	M	151,000,000.0	134,000,000	1.1	41,275.8	20,637.9
CMS-SD-4007	0-0.5	Selenium	M	986,000.0	1,100,000		41,275.8	20,637.9
CMS-SD-4007	0-0.5	Vanadium	M	41,200,000.0	37,600,000	1.1	41,275.8	20,637.9
CMS-SD-4007	0-0.5	Zinc	M	2,088,000,000.0	221,000,000	9.4	41,275.8	20,637.9
CMS-SD-4007	0-0.5	Aroclor 1254	PCB	1,465,940.0	150,000	- 9.8	5,235.3	2,617.7
CMS-SD-4007	0-0.5	Aroclor 1268	PCB	77,440.0	140,000		5,235.3	2,617.7
CMS-SD-4007	0-0.5	4,4'-DDD	PEST	20,830.0	8,400	2.5	41,275.8	20,637.9
CMS-SD-4007	0-0.5	4,4'-DDE	PEST	13,640.0	6,000	2.3	41,275.8	20,637.9
CMS-SD-4007	0-0.5	Dieldrin	PEST	3,890.0	2,600	- 1.5	41,275.8	20,637.9
CMS-SD-4007	0-0.5	Technical Chlordane	PEST	281,400.0	400,000		41,275.8	20,637.9
CMS-SD-4204	0.05-0.1	2,3,7,8-TCDD	DIOXIN	2,990.0	15	203.4	6,285.1	314.3
CMS-SD-4204	0.55-0.6	2,3,7,8-TCDD	DIOXIN	1,622.8	15	110.4	6,285.1	314.3
CMS-SD-4204	2-2.1	2,3,7,8-TCDD	DIOXIN	1.8	15	-	6,285.1	628.5
CMS-SD-4206	0.35-0.45	2,3,7,8-TCDD	DIOXIN	2,741.6	15	186.5	5,435.7	543.6
CMS-SD-4206	1.05-1.15	2,3,7,8-TCDD	DIOXIN	5,451.7	15	370.9	5,435.7	543.6
CMS-SD-4206	1.4-1.45	2,3,7,8-TCDD	DIOXIN	216.4	15	- 14.7	5,435.7	271.8
CMS-SD-4209	0.35-0.4	2,3,7,8-TCDD	DIOXIN	3,479.1	15	236.7	3,127.0	156.3
CMS-SD-4209	0.65-0.7	2,3,7,8-TCDD	DIOXIN	15,755.5	15	1,071.8	3,127.0	156.3
CMS-SD-4209	1.6-1.7	2,3,7,8-TCDD	DIOXIN	12.6	15		3,127.0	312.7
CMS-SD-4210	0.3-0.4	2,3,7,8-TCDD	DIOXIN	1,666.2	15	113.3	4,963.3	496.3
CMS-SD-4210	0.8-0.9	2,3,7,8-TCDD	DIOXIN	3,723.8	15	253.3	4,963.3	496.3
CMS-SD-4210	2-2.1	2,3,7,8-TCDD	DIOXIN	26.4	15	- 1.8	4,963.3	496.3
CMS-SD-4212	0-0.1	2,3,7,8-TCDD	DIOXIN	8,933.9	15	607.7	4,568.9	456.9
CMS-SD-4212	0.55-0.65	2,3,7,8-TCDD	DIOXIN	15,962.1	15	1,085.9	4,568.9	456.9
CMS-SD-4212	1.25-1.35	2,3,7,8-TCDD	DIOXIN	150.9	15	10.3	4,568.9	456.9
CMS-SD-4213	0.35-0.45	2,3,7,8-TCDD	DIOXIN	6,522.1	15	443.7	3,521.0	352.1
CMS-SD-4213	0.55-0.65	2,3,7,8-TCDD	DIOXIN	52,828.5	15	3,593.8	3,521.0	352.1

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMS-SD-4213	1.15-1.25	2,3,7,8-TCDD	DIOXIN	119.4	15	8.1	3,521.0	352.1
CMS-SD-4218	0.35-0.45	2,3,7,8-TCDD	DIOXIN	703.0	15	47.8	2,180.1	218.0
CMS-SD-4218	0.7-0.8	2,3,7,8-TCDD	DIOXIN	6,040.9	15	410.9	2,180.1	218.0
CMS-SD-4218	1.5-1.6	2,3,7,8-TCDD	DIOXIN	25.4	15	1.7	2,180.1	218.0
CMS-SD-4219	0.35-0.45	2,3,7,8-TCDD	DIOXIN	5,339.3	15	363.2	7,248.7	724.9
CMS-SD-4219	0.75-0.85	2,3,7,8-TCDD	DIOXIN	48.9	15	3.3	7,248.7	724.9
CMS-SD-4219	1.45-1.55	2,3,7,8-TCDD	DIOXIN	7.8	15		7,248.7	724.9
CMS-SD-4220	0.3-0.4	2,3,7,8-TCDD	DIOXIN	8,373.2	15	569.6	5,934.6	593.5
CMS-SD-4220	0.6-0.7	2,3,7,8-TCDD	DIOXIN	653.2	15	44.4	5,934.6	593.5
CMS-SD-4220	1.2-1.3	2,3,7,8-TCDD	DIOXIN	33.4	15	- 2.3	5,934.6	593.5
CMS-SD-4222	0.25-0.35	2,3,7,8-TCDD	DIOXIN	6,620.0	15	450.3	1,882.2	188.2
CMS-SD-4222	0.85-0.95	2,3,7,8-TCDD	DIOXIN	1,045.7	15	71.1	1,882.2	188.2
CMS-SD-4222	1.25-1.35	2,3,7,8-TCDD	DIOXIN	29.8	15	2.0	1,882.2	188.2
CMW-FP-2026	0-0.5	2,3,7,8-TCDD	DIOXIN	16,380.0	15	1,114.3	5,011.8	2,505.9
CMW-FP-2026	0-0.5	Aluminum	M	11,500,000,000.0	8,210,000,000	1.4	21,765.6	10,882.8
CMW-FP-2026	0-0.5	Arsenic	M	11,600,000.0	3,900,000	3.0	21,765.6	10,882.8
CMW-FP-2026	0-0.5	Barium	M	155,000,000.0	134,000,000	1.2	21,765.6	10,882.8
CMW-FP-2026	0-0.5	Selenium	M	0.0	1,100,000		21,765.6	10,882.8
CMW-FP-2026	0-0.5	Vanadium	M	111,000,000.0	37,600,000	3.0	21,765.6	10,882.8
CMW-FP-2026	0-0.5	Zinc	M	164,000,000.0	221,000,000		21,765.6	10,882.8
CMW-FP-2026	0-0.5	Benzo(a)pyrene	PAH	780,000.0	1,400,000	-	21,765.6	10,882.8
CMW-FP-2026	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		21,765.6	10,882.8
CMW-FP-2026	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	21,765.6	10,882.8
CMW-FP-2026	0-0.5	Aroclor 1254	PCB	270,000.0	150,000	- 1.8	21,765.6	10,882.8
CMW-FP-2026	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	21,765.6	10,882.8
CMW-FP-2026	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	21,765.6	10,882.8
CMW-FP-2026	0-0.5	Dieldrin	PEST	23,000.0	2,600	8.8	21,765.6	10,882.8
CMW-FP-2026	0.5-2	2,3,7,8-TCDD	DIOXIN	352.0	15	- 23.9	5,011.8	7,517.6
CMW-FP-2026	0.5-2	Aluminum	M	12,600,000,000.0	8,210,000,000	- 1.5	21,765.6	32,648.3
CMW-FP-2026	0.5-2	Arsenic	M	13,300,000.0	3,900,000	3.4	21,765.6	32,648.3
CMW-FP-2026	0.5-2	Barium	M	139,000,000.0	134,000,000	1.0	21,765.6	32,648.3
CMW-FP-2026	0.5-2	Selenium	M	1,800,000.0	1,100,000	1.6	21,765.6	32,648.3
CMW-FP-2026	0.5-2	Vanadium	M	37,600,000.0	37,600,000	1.0	21,765.6	32,648.3

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMW-FP-2026	0.5-2	Zinc	M	304,000,000.0	221,000,000	1.4	21,765.6	32,648.3
CMW-FP-2026	0.5-2	Benzo(a)pyrene	PAH	810,000.0	1,400,000		21,765.6	32,648.3
CMW-FP-2026	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000		21,765.6	32,648.3
CMW-FP-2026	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000		21,765.6	32,648.3
CMW-FP-2026	0.5-2	Aroclor 1254	PCB	22,000.0	150,000	-	21,765.6	32,648.3
CMW-FP-2026	0.5-2	4,4'-DDD	PEST	0.0	8,400	-	21,765.6	32,648.3
CMW-FP-2026	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	21,765.6	32,648.3
CMW-FP-2026	0.5-2	Dieldrin	PEST	0.0	2,600	-	21,765.6	32,648.3
CMW-FP-2026	2-4	2,3,7,8-TCDD	DIOXIN	24.7	15	- 1.7	5,011.8	10,023.5
CMW-FP-2026	2-4	Aluminum	M	3,370,000,000.0	8,210,000,000	-	21,765.6	43,531.1
CMW-FP-2026	2-4	Arsenic	M	0.0	3,900,000	-	21,765.6	43,531.1
CMW-FP-2026	2-4	Barium	M	15,500,000.0	134,000,000		21,765.6	43,531.1
CMW-FP-2026	2-4	Selenium	M	0.0	1,100,000	-	21,765.6	43,531.1
CMW-FP-2026	2-4	Vanadium	M	6,800,000.0	37,600,000	-	21,765.6	43,531.1
CMW-FP-2026	2-4	Zinc	M	186,000,000.0	221,000,000	-	21,765.6	43,531.1
CMW-FP-2026	2-4	Benzo(a)pyrene	PAH	0.0	1,400,000	-	21,765.6	43,531.1
CMW-FP-2026	2-4	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	21,765.6	43,531.1
CMW-FP-2026	2-4	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	21,765.6	43,531.1
CMW-FP-2027	0-0.5	2,3,7,8-TCDD	DIOXIN	4,960.0	15	- 337.4	7,089.0	3,544.5
CMW-FP-2027	0-0.5	Aluminum	M	8,030,000,000.0	8,210,000,000	-	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Arsenic	M	3,300,000.0	3,900,000	-	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Barium	M	156,000,000.0	134,000,000	1.2	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Selenium	M	0.0	1,100,000	-	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Vanadium	M	38,300,000.0	37,600,000	- 1.0	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Zinc	M	199,000,000.0	221,000,000		20,308.3	10,154.2
CMW-FP-2027	0-0.5	Benzo(a)pyrene	PAH	1,000,000.0	1,400,000	-	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		20,308.3	10,154.2
CMW-FP-2027	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Aroclor 1254	PCB	400,000.0	150,000	- 2.7	20,308.3	10,154.2
CMW-FP-2027	0-0.5	4,4'-DDD	PEST	5,600.0	8,400	-	20,308.3	10,154.2
CMW-FP-2027	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	20,308.3	10,154.2
CMW-FP-2027	0-0.5	Dieldrin	PEST	41,000.0	2,600	15.8	20,308.3	10,154.2
CMW-SD-2023	0-0.5	2,3,7,8-TCDD	DIOXIN	20.9	15	- 1.4	1,938.6	969.3
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMW-SD-2023	0-0.5	Aluminum	M	4,340,000,000.0	8,210,000,000		4,176.3	2,088.1
CMW-SD-2023	0-0.5	Arsenic	M	3,300,000.0	3,900,000		4,176.3	2,088.1
CMW-SD-2023	0-0.5	Barium	M	45,600,000.0	134,000,000		4,176.3	2,088.1
CMW-SD-2023	0-0.5	Selenium	M	0.0	1,100,000	-	4,176.3	2,088.1
CMW-SD-2023	0-0.5	Vanadium	M	11,300,000.0	37,600,000	-	4,176.3	2,088.1
CMW-SD-2023	0-0.5	Zinc	M	118,000,000.0	221,000,000	-	4,176.3	2,088.1
CMW-SD-2023	0-0.5	Benzo(a)pyrene	PAH	2,900,000.0	1,400,000	- 2.1	4,176.3	2,088.1
CMW-SD-2023	0-0.5	Dibenzo(a,h)anthracene	PAH	740,000.0	970,000	-	4,176.3	2,088.1
CMW-SD-2023	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	4,176.3	2,088.1
CMW-SD-2023	0-0.5	Aroclor 1254	PCB	0.0	150,000		3,170.4	1,585.2
CMW-SD-2023	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	3,170.4	1,585.2
CMW-SD-2023	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	3,170.4	1,585.2
CMW-SD-2023	0-0.5	Dieldrin	PEST	0.0	2,600	-	3,170.4	1,585.2
CMW-SD-2024	0-0.5	2,3,7,8-TCDD	DIOXIN	747.0	15	- 50.8	0.0	0.0
CMW-SD-2024	0-0.5	Aluminum	M	3,970,000,000.0	8,210,000,000	-	14,797.0	7,398.5
CMW-SD-2024	0-0.5	Arsenic	M	2,400,000.0	3,900,000	-	14,797.0	7,398.5
CMW-SD-2024	0-0.5	Barium	M	48,900,000.0	134,000,000		14,797.0	7,398.5
CMW-SD-2024	0-0.5	Selenium	M	0.0	1,100,000	-	14,797.0	7,398.5
CMW-SD-2024	0-0.5	Vanadium	M	16,800,000.0	37,600,000	-	14,797.0	7,398.5
CMW-SD-2024	0-0.5	Zinc	M	261,000,000.0	221,000,000	- 1.2	14,797.0	7,398.5
CMW-SD-2024	0-0.5	Benzo(a)pyrene	PAH	1,300,000.0	1,400,000	-	18,566.3	9,283.1
CMW-SD-2024	0-0.5	Dibenzo(a,h)anthracene	PAH	400,000.0	970,000	-	18,566.3	9,283.1
CMW-SD-2024	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		18,566.3	9,283.1
CMW-SD-2024	0-0.5	Aroclor 1254	PCB	230,000.0	150,000	- 1.5	0.0	0.0
CMW-SD-2024	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	0.0	0.0
CMW-SD-2024	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	0.0	0.0
CMW-SD-2024	0-0.5	Dieldrin	PEST	0.0	2,600		0.0	0.0
CMW-SD-2025	0-0.5	2,3,7,8-TCDD	DIOXIN	939.0	15	- 63.9	3,861.2	1,930.6
CMW-SD-2025	0-0.5	Aluminum	M	8,410,000,000.0	8,210,000,000	- 1.0	5,060.6	2,530.3
CMW-SD-2025	0-0.5	Arsenic	M	4,400,000.0	3,900,000	- 1.1	5,060.6	2,530.3
CMW-SD-2025	0-0.5	Barium	M	91,300,000.0	134,000,000		5,060.6	2,530.3
CMW-SD-2025	0-0.5	Selenium	M	0.0	1,100,000		5,060.6	2,530.3
CMW-SD-2025	0-0.5	Vanadium	M	31,000,000.0	37,600,000		5,060.6	2,530.3

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
CMW-SD-2025	0-0.5	Zinc	M	446,000,000.0	221,000,000	2.0	5,060.6	2,530.3
CMW-SD-2025	0-0.5	Benzo(a)pyrene	PAH	2,900,000.0	1,400,000	2.1	5,060.6	2,530.3
CMW-SD-2025	0-0.5	Dibenzo(a,h)anthracene	PAH	970,000.0	970,000	1.0	5,060.6	2,530.3
CMW-SD-2025	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		5,060.6	2,530.3
CMW-SD-2025	0-0.5	Aroclor 1254	PCB	300,000.0	150,000	2.0	5,060.6	2,530.3
CMW-SD-2025	0-0.5	4,4'-DDD	PEST	0.0	8,400		5,060.6	2,530.3
CMW-SD-2025	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	5,060.6	2,530.3
CMW-SD-2025	0-0.5	Dieldrin	PEST	0.0	2,600		5,060.6	2,530.3
CMW-SD-2025	0.5-2	2,3,7,8-TCDD	DIOXIN	135.0	15	- 9.2	3,861.2	5,791.8
CMW-SD-2025	0.5-2	Aluminum	M	4,180,000,000.0	8,210,000,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Arsenic	M	2,000,000.0	3,900,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Barium	M	33,000,000.0	134,000,000		5,060.6	7,590.8
CMW-SD-2025	0.5-2	Selenium	M	0.0	1,100,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Vanadium	M	11,600,000.0	37,600,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Zinc	M	116,000,000.0	221,000,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Benzo(a)pyrene	PAH	2,000,000.0	1,400,000	- 1.4	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Aroclor 1254	PCB	200,000.0	150,000	1.3	5,060.6	7,590.8
CMW-SD-2025	0.5-2	4,4'-DDD	PEST	0.0	8,400	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	5,060.6	7,590.8
CMW-SD-2025	0.5-2	Dieldrin	PEST	0.0	2,600		5,060.6	7,590.8
LPX-SD-2045	0-0.5	2,3,7,8-TCDD	DIOXIN	7,610.0	15	- 517.7	16,740.7	8,370.3
LPX-SD-2045	0-0.5	Aluminum	M	13,400,000,000.0	8,210,000,000	- 1.6	16,740.7	8,370.3
LPX-SD-2045	0-0.5	Arsenic	M	8,300,000.0	3,900,000	- 2.1	16,740.7	8,370.3
LPX-SD-2045	0-0.5	Barium	M	220,000,000.0	134,000,000	1.6	16,740.7	8,370.3
LPX-SD-2045	0-0.5	Selenium	M	1,500,000.0	1,100,000	1.4	16,740.7	8,370.3
LPX-SD-2045	0-0.5	Vanadium	M	46,100,000.0	37,600,000	1.2	16,740.7	8,370.3
LPX-SD-2045	0-0.5	Zinc	M	745,000,000.0	221,000,000	3.4	16,740.7	8,370.3
LPX-SD-2045	0-0.5	Benzo(a)pyrene	PAH	450,000.0	1,400,000		16,740.7	8,370.3
LPX-SD-2045	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		16,740.7	8,370.3
LPX-SD-2045	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		16,740.7	8,370.3
LPX-SD-2045	0-0.5	Aroclor 1254	PCB	130,000.0	150,000	-	25,005.6	12,502.8

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-2045	0-0.5	4,4'-DDD	PEST	0.0	8,400		25,005.6	12,502.8
LPX-SD-2045	0-0.5	4,4'-DDE	PEST	0.0	6,000		25,005.6	12,502.8
LPX-SD-2045	0-0.5	Dieldrin	PEST	0.0	2,600		25,005.6	12,502.8
LPX-SD-2045B	0-0.3	2,3,7,8-TCDD	DIOXIN	715.0	15	48.6	8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Aluminum	M	9,200,000,000.0	8,210,000,000	1.1	8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Arsenic	M	4,000,000.0	3,900,000	1.0	8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Barium	M	110,000,000.0	134,000,000		8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Selenium	M	1,800,000.0	1,100,000	1.6	8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Vanadium	M	27,800,000.0	37,600,000		8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Zinc	M	429,000,000.0	221,000,000	1.9	8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Benzo(a)pyrene	PAH	1,300,000.0	1,400,000		8,543.4	2,563.0
LPX-SD-2045B	0-0.3	Dibenzo(a,h)anthracene	PAH	240,000.0	970,000		8,543.4	2,563.0
LPX-SD-2047	0-0.5	2,3,7,8-TCDD	DIOXIN	4,130.0	15	281.0	30,452.7	15,226.3
LPX-SD-2047	0-0.5	Aluminum	M	11,100,000,000.0	8,210,000,000	1.4	40,777.8	20,388.9
LPX-SD-2047	0-0.5	Arsenic	M	4,400,000.0	3,900,000	1.1	40,777.8	20,388.9
LPX-SD-2047	0-0.5	Barium	M	201,000,000.0	134,000,000	1.5	40,777.8	20,388.9
LPX-SD-2047	0-0.5	Selenium	M	0.0	1,100,000		40,777.8	20,388.9
LPX-SD-2047	0-0.5	Vanadium	M	30,200,000.0	37,600,000		40,777.8	20,388.9
LPX-SD-2047	0-0.5	Zinc	M	479,000,000.0	221,000,000	2.2	40,777.8	20,388.9
LPX-SD-2047	0-0.5	Benzo(a)pyrene	PAH	390,000.0	1,400,000		40,777.8	20,388.9
LPX-SD-2047	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		40,777.8	20,388.9
LPX-SD-2047	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		40,777.8	20,388.9
LPX-SD-2047	0-0.5	Aroclor 1254	PCB	56,000.0	150,000		40,777.8	20,388.9
LPX-SD-2047	0-0.5	4,4'-DDD	PEST	0.0	8,400		40,777.8	20,388.9
LPX-SD-2047	0-0.5	4,4'-DDE	PEST	0.0	6,000		40,777.8	20,388.9
LPX-SD-2047	0-0.5	Dieldrin	PEST	0.0	2,600		40,777.8	20,388.9
LPX-SD-2048	0-0.5	2,3,7,8-TCDD	DIOXIN	374.0	15	25.4	15,917.1	7,958.6
LPX-SD-2048	0-0.5	Aluminum	M	7,280,000,000.0	8,210,000,000		15,917.1	7,958.6
LPX-SD-2048	0-0.5	Arsenic	M	2,000,000.0	3,900,000		15,917.1	7,958.6
LPX-SD-2048	0-0.5	Barium	M	94,000,000.0	134,000,000		15,917.1	7,958.6
LPX-SD-2048	0-0.5	Selenium	M	0.0	1,100,000		15,917.1	7,958.6
LPX-SD-2048	0-0.5	Vanadium	M	23,300,000.0	37,600,000		15,917.1	7,958.6
LPX-SD-2048	0-0.5	Zinc	M	297,000,000.0	221,000,000	1.3	15,917.1	7,958.6

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-2048	0-0.5	Benzo(a)pyrene	PAH	1,900,000.0	1,400,000	1.4	22,695.2	11,347.6
LPX-SD-2048	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		22,695.2	11,347.6
LPX-SD-2048	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		22,695.2	11,347.6
LPX-SD-2048	0-0.5	Aroclor 1254	PCB	180,000.0	150,000	1.2	15,917.1	7,958.6
LPX-SD-2048	0-0.5	4,4'-DDD	PEST	6,200.0	8,400	-	15,917.1	7,958.6
LPX-SD-2048	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	15,917.1	7,958.6
LPX-SD-2048	0-0.5	Dieldrin	PEST	0.0	2,600		15,917.1	7,958.6
LPX-SD-2048	0.5-2	2,3,7,8-TCDD	DIOXIN	440.0	15	29.9	15,917.1	23,875.7
LPX-SD-2048	0.5-2	Aluminum	M	4,400,000,000.0	8,210,000,000	-	15,917.1	23,875.7
LPX-SD-2048	0.5-2	Arsenic	M	2,200,000.0	3,900,000	-	15,917.1	23,875.7
LPX-SD-2048	0.5-2	Barium	M	40,600,000.0	134,000,000		15,917.1	23,875.7
LPX-SD-2048	0.5-2	Selenium	M	0.0	1,100,000	-	15,917.1	23,875.7
LPX-SD-2048	0.5-2	Vanadium	M	12,600,000.0	37,600,000	-	15,917.1	23,875.7
LPX-SD-2048	0.5-2	Zinc	M	138,000,000.0	221,000,000	-	15,917.1	23,875.7
LPX-SD-2048	0.5-2	Benzo(a)pyrene	PAH	1,800,000.0	1,400,000	- 1.3	22,695.2	34,042.8
LPX-SD-2048	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	22,695.2	34,042.8
LPX-SD-2048	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	22,695.2	34,042.8
LPX-SD-2048	0.5-2	Aroclor 1254	PCB	150,000.0	150,000	1.0	15,917.1	23,875.7
LPX-SD-2048	0.5-2	4,4'-DDD	PEST	15,000.0	8,400	- 1.8	15,917.1	23,875.7
LPX-SD-2048	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	15,917.1	23,875.7
LPX-SD-2048	0.5-2	Dieldrin	PEST	0.0	2,600		15,917.1	23,875.7
LPX-SD-2048	2-4	2,3,7,8-TCDD	DIOXIN	382.0	15	26.0	15,917.1	31,834.2
LPX-SD-2048	2-4	Aluminum	M	11,800,000,000.0	8,210,000,000	- 1.4	15,917.1	31,834.2
LPX-SD-2048	2-4	Arsenic	M	7,000,000.0	3,900,000	- 1.8	15,917.1	31,834.2
LPX-SD-2048	2-4	Barium	M	103,000,000.0	134,000,000		15,917.1	31,834.2
LPX-SD-2048	2-4	Selenium	M	1,700,000.0	1,100,000	1.5	15,917.1	31,834.2
LPX-SD-2048	2-4	Vanadium	M	30,300,000.0	37,600,000		15,917.1	31,834.2
LPX-SD-2048	2-4	Zinc	M	665,000,000.0	221,000,000	- 3.0	15,917.1	31,834.2
LPX-SD-2048	2-4	Benzo(a)pyrene	PAH	820,000.0	1,400,000		22,695.2	45,390.4
LPX-SD-2048	2-4	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	22,695.2	45,390.4
LPX-SD-2048	2-4	N-nitroso-di-n-propylamine	PAH	0.0	456,000		22,695.2	45,390.4
LPX-SD-2048	2-4	Aroclor 1254	PCB	170,000.0	150,000	- 1.1	15,917.1	31,834.2
LPX-SD-2048	2-4	4,4'-DDD	PEST	0.0	8,400	-	15,917.1	31,834.2

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-2048	2-4	4,4'-DDE	PEST	0.0	6,000		15,917.1	31,834.2
LPX-SD-2048	2-4	Dieldrin	PEST	0.0	2,600		15,917.1	31,834.2
LPX-SD-2049	0-0.5	2,3,7,8-TCDD	DIOXIN	28.7	15	2.0	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Aluminum	M	10,800,000,000.0	8,210,000,000	- 1.3	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Arsenic	M	3,400,000.0	3,900,000	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Barium	M	71,500,000.0	134,000,000		19,792.1	9,896.1
LPX-SD-2049	0-0.5	Selenium	M	1,400,000.0	1,100,000	1.3	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Vanadium	M	17,200,000.0	37,600,000	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Zinc	M	44,900,000.0	221,000,000	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Benzo(a)pyrene	PAH	0.0	1,400,000		19,792.1	9,896.1
LPX-SD-2049	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Aroclor 1254	PCB	0.0	150,000	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	19,792.1	9,896.1
LPX-SD-2049	0-0.5	Dieldrin	PEST	0.0	2,600	-	19,792.1	9,896.1
LPX-SD-2050	0-0.5	2,3,7,8-TCDD	DIOXIN	6,190.0	15	- 421.1	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Aluminum	M	14,500,000,000.0	8,210,000,000	- 1.8	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Arsenic	M	10,000,000.0	3,900,000	- 2.6	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Barium	M	262,000,000.0	134,000,000	2.0	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Selenium	M	2,700,000.0	1,100,000	2.5	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Vanadium	M	50,400,000.0	37,600,000	1.3	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Zinc	M	976,000,000.0	221,000,000	4.4	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Benzo(a)pyrene	PAH	330,000.0	1,400,000		30,685.7	15,342.8
LPX-SD-2050	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		30,685.7	15,342.8
LPX-SD-2050	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		30,685.7	15,342.8
LPX-SD-2050	0-0.5	Aroclor 1254	PCB	73,000.0	150,000	-	19,564.4	9,782.2
LPX-SD-2050	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	19,564.4	9,782.2
LPX-SD-2050	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	19,564.4	9,782.2
LPX-SD-2050	0-0.5	Dieldrin	PEST	0.0	2,600	-	19,564.4	9,782.2
LPX-SD-2051	0-0.5	2,3,7,8-TCDD	DIOXIN	4,030.0	15	- 274.1	29,555.7	14,777.9
LPX-SD-2051	0-0.5	Aluminum	M	8,820,000,000.0	8,210,000,000	- 1.1	29,555.7	14,777.9
LPX-SD-2051	0-0.5	Arsenic	M	4,800,000.0	3,900,000	- 1.2	29,555.7	14,777.9

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-2051	0-0.5	Barium	M	137,000,000.0	134,000,000	1.0	29,555.7	14,777.9
LPX-SD-2051	0-0.5	Selenium	M	1,200,000.0	1,100,000	1.1	29,555.7	14,777.9
LPX-SD-2051	0-0.5	Vanadium	M	29,100,000.0	37,600,000		29,555.7	14,777.9
LPX-SD-2051	0-0.5	Zinc	M	481,000,000.0	221,000,000	2.2	29,555.7	14,777.9
LPX-SD-2051	0-0.5	Benzo(a)pyrene	PAH	0.0	1,400,000		29,555.7	14,777.9
LPX-SD-2051	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	29,555.7	14,777.9
LPX-SD-2051	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		29,555.7	14,777.9
LPX-SD-2051	0-0.5	Aroclor 1254	PCB	50,000.0	150,000	-	29,555.7	14,777.9
LPX-SD-2051	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	29,555.7	14,777.9
LPX-SD-2051	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	29,555.7	14,777.9
LPX-SD-2051	0-0.5	Dieldrin	PEST	0.0	2,600	-	29,555.7	14,777.9
LPX-SD-2052	0-0.5	2,3,7,8-TCDD	DIOXIN	4,350.0	15	- 295.9	15,146.5	7,573.2
LPX-SD-2052	0-0.5	Aluminum	M	18,000,000,000.0	8,210,000,000	- 2.2	11,356.0	5,678.0
LPX-SD-2052	0-0.5	Arsenic	M	7,700,000.0	3,900,000	- 2.0	11,356.0	5,678.0
LPX-SD-2052	0-0.5	Barium	M	342,000,000.0	134,000,000	2.6	11,356.0	5,678.0
LPX-SD-2052	0-0.5	Selenium	M	0.0	1,100,000		11,356.0	5,678.0
LPX-SD-2052	0-0.5	Vanadium	M	48,300,000.0	37,600,000	1.3	11,356.0	5,678.0
LPX-SD-2052	0-0.5	Zinc	M	937,000,000.0	221,000,000	4.2	11,356.0	5,678.0
LPX-SD-2052	0-0.5	Benzo(a)pyrene	PAH	1,100,000.0	1,400,000	-	31,206.0	15,603.0
LPX-SD-2052	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		31,206.0	15,603.0
LPX-SD-2052	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		31,206.0	15,603.0
LPX-SD-2052	0-0.5	Aroclor 1254	PCB	81,000.0	150,000	-	11,356.0	5,678.0
LPX-SD-2052	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	11,356.0	5,678.0
LPX-SD-2052	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	11,356.0	5,678.0
LPX-SD-2052	0-0.5	Dieldrin	PEST	0.0	2,600	-	11,356.0	5,678.0
LPX-SD-2052	0.5-4	2,3,7,8-TCDD	DIOXIN	365.0	15	- 24.8	15,146.5	53,012.6
LPX-SD-2052	0.5-4	Aluminum	M	7,110,000,000.0	8,210,000,000	-	11,356.0	39,745.8
LPX-SD-2052	0.5-4	Arsenic	M	6,000,000.0	3,900,000	- 1.5	11,356.0	39,745.8
LPX-SD-2052	0.5-4	Barium	M	75,500,000.0	134,000,000		11,356.0	39,745.8
LPX-SD-2052	0.5-4	Selenium	M	0.0	1,100,000	-	11,356.0	39,745.8
LPX-SD-2052	0.5-4	Vanadium	M	16,700,000.0	37,600,000		11,356.0	39,745.8
LPX-SD-2052	0.5-4	Zinc	M	219,000,000.0	221,000,000	-	11,356.0	39,745.8
LPX-SD-2052	0.5-4	Benzo(a)pyrene	PAH	250,000.0	1,400,000	-	31,206.0	109,221.1

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-2052	0.5-4	Dibenzo(a,h)anthracene	PAH	0.0	970,000		31,206.0	109,221.1
LPX-SD-2052	0.5-4	N-nitroso-di-n-propylamine	PAH	0.0	456,000		31,206.0	109,221.1
LPX-SD-2052	0.5-4	Aroclor 1254	PCB	42,000.0	150,000		11,356.0	39,745.8
LPX-SD-2052	0.5-4	4,4'-DDD	PEST	0.0	8,400	-	11,356.0	39,745.8
LPX-SD-2052	0.5-4	4,4'-DDE	PEST	0.0	6,000	-	11,356.0	39,745.8
LPX-SD-2052	0.5-4	Dieldrin	PEST	0.0	2,600	-	11,356.0	39,745.8
LPX-SD-2053	0-0.5	2,3,7,8-TCDD	DIOXIN	756.0	15	- 51.4	8,860.9	4,430.4
LPX-SD-2053	0-0.5	Aluminum	M	12,400,000,000.0	8,210,000,000	- 1.5	27,707.6	13,853.8
LPX-SD-2053	0-0.5	Arsenic	M	7,800,000.0	3,900,000	- 2.0	27,707.6	13,853.8
LPX-SD-2053	0-0.5	Barium	M	163,000,000.0	134,000,000	1.2	27,707.6	13,853.8
LPX-SD-2053	0-0.5	Selenium	M	0.0	1,100,000		27,707.6	13,853.8
LPX-SD-2053	0-0.5	Vanadium	M	32,600,000.0	37,600,000		27,707.6	13,853.8
LPX-SD-2053	0-0.5	Zinc	M	421,000,000.0	221,000,000	1.9	27,707.6	13,853.8
LPX-SD-2053	0-0.5	Benzo(a)pyrene	PAH	1,100,000.0	1,400,000	-	27,707.6	13,853.8
LPX-SD-2053	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	27,707.6	13,853.8
LPX-SD-2053	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		27,707.6	13,853.8
LPX-SD-2053	0-0.5	Aroclor 1254	PCB	130,000.0	150,000	-	27,707.6	13,853.8
LPX-SD-2053	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	27,707.6	13,853.8
LPX-SD-2053	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	27,707.6	13,853.8
LPX-SD-2053	0-0.5	Dieldrin	PEST	0.0	2,600	-	27,707.6	13,853.8
LPX-SD-2053	0.5-2	2,3,7,8-TCDD	DIOXIN	89.3	15	- 6.1	8,860.9	13,291.3
LPX-SD-2053	0.5-2	Aluminum	M	3,660,000,000.0	8,210,000,000	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	Arsenic	M	6,400,000.0	3,900,000	- 1.6	27,707.6	41,561.4
LPX-SD-2053	0.5-2	Barium	M	25,300,000.0	134,000,000		27,707.6	41,561.4
LPX-SD-2053	0.5-2	Selenium	M	0.0	1,100,000	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	Vanadium	M	9,300,000.0	37,600,000		27,707.6	41,561.4
LPX-SD-2053	0.5-2	Zinc	M	74,500,000.0	221,000,000	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	Benzo(a)pyrene	PAH	720,000.0	1,400,000	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	Aroclor 1254	PCB	0.0	150,000	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	4,4'-DDD	PEST	0.0	8,400	-	27,707.6	41,561.4
LPX-SD-2053	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	27,707.6	41,561.4

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-2053	0.5-2	Dieldrin	PEST	0.0	2,600		27,707.6	41,561.4
LPX-SD-2053	2-4	2,3,7,8-TCDD	DIOXIN	489.0	15	33.3	8,860.9	17,721.7
LPX-SD-2053	2-4	Aluminum	M	7,120,000,000.0	8,210,000,000		27,707.6	55,415.2
LPX-SD-2053	2-4	Arsenic	M	14,800,000.0	3,900,000	- 3.8	27,707.6	55,415.2
LPX-SD-2053	2-4	Barium	M	61,900,000.0	134,000,000		27,707.6	55,415.2
LPX-SD-2053	2-4	Selenium	M	0.0	1,100,000	-	27,707.6	55,415.2
LPX-SD-2053	2-4	Vanadium	M	21,300,000.0	37,600,000		27,707.6	55,415.2
LPX-SD-2053	2-4	Zinc	M	401,000,000.0	221,000,000	- 1.8	27,707.6	55,415.2
LPX-SD-2053	2-4	Benzo(a)pyrene	PAH	800,000.0	1,400,000	-	27,707.6	55,415.2
LPX-SD-2053	2-4	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	27,707.6	55,415.2
LPX-SD-2053	2-4	N-nitroso-di-n-propylamine	PAH	0.0	456,000		27,707.6	55,415.2
LPX-SD-2053	2-4	Aroclor 1254	PCB	120,000.0	150,000	-	27,707.6	55,415.2
LPX-SD-2053	2-4	4,4'-DDD	PEST	0.0	8,400	-	27,707.6	55,415.2
LPX-SD-2053	2-4	4,4'-DDE	PEST	0.0	6,000	-	27,707.6	55,415.2
LPX-SD-2053	2-4	Dieldrin	PEST	0.0	2,600	-	27,707.6	55,415.2
LPX-SD-4001	0-0.5	2,3,7,8-TCDD	DIOXIN	4,556.8	15	- 310.0	20,509.8	10,254.9
LPX-SD-4001	0-0.5	Aluminum	M	15,413,000,000.0	8,210,000,000	- 1.9	39,281.6	19,640.8
LPX-SD-4001	0-0.5	Arsenic	M	0.0	3,900,000	-	39,281.6	19,640.8
LPX-SD-4001	0-0.5	Barium	M	240,000,000.0	134,000,000	1.8	39,281.6	19,640.8
LPX-SD-4001	0-0.5	Selenium	M	773,000.0	1,100,000		39,281.6	19,640.8
LPX-SD-4001	0-0.5	Vanadium	M	42,200,000.0	37,600,000	- 1.1	39,281.6	19,640.8
LPX-SD-4001	0-0.5	Zinc	M	570,000,000.0	221,000,000	2.6	39,281.6	19,640.8
LPX-SD-4001	0-0.5	Aroclor 1254	PCB	873,880.0	150,000	- 5.8	28,875.5	14,437.7
LPX-SD-4001	0-0.5	Aroclor 1268	PCB	161,790.0	140,000	1.2	28,875.5	14,437.7
LPX-SD-4001	0-0.5	PCB TEQ	PCB	34.5	25	1.4	28,875.5	14,437.7
LPX-SD-4001	0-0.5	4,4'-DDD	PEST	27,610.0	8,400	3.3	28,875.5	14,437.7
LPX-SD-4001	0-0.5	4,4'-DDE	PEST	20,840.0	6,000	3.5	28,875.5	14,437.7
LPX-SD-4001	0-0.5	Dieldrin	PEST	7,070.0	2,600	2.7	28,875.5	14,437.7
LPX-SD-4001	0-0.5	Technical Chlordane	PEST	701,210.0	400,000	1.8	28,875.5	14,437.7
LPX-SD-4002	0-0.5	2,3,7,8-TCDD	DIOXIN	216.2	15	14.7	11,597.2	5,798.6
LPX-SD-4002	0-0.5	Aluminum	M	14,793,000,000.0	8,210,000,000	1.8	11,597.2	5,798.6
LPX-SD-4002	0-0.5	Arsenic	M	3,590,000.0	3,900,000		11,597.2	5,798.6
LPX-SD-4002	0-0.5	Barium	M	170,000,000.0	134,000,000	1.3	11,597.2	5,798.6

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4002	0-0.5	Selenium	M	0.0	1,100,000		11,597.2	5,798.6
LPX-SD-4002	0-0.5	Vanadium	M	41,100,000.0	37,600,000	1.1	11,597.2	5,798.6
LPX-SD-4002	0-0.5	Zinc	M	449,000,000.0	221,000,000	2.0	11,597.2	5,798.6
LPX-SD-4002	0-0.5	Aroclor 1254	PCB	124,510.0	150,000	-	11,597.2	5,798.6
LPX-SD-4002	0-0.5	Aroclor 1268	PCB	37,910.0	140,000		11,597.2	5,798.6
LPX-SD-4002	0-0.5	4,4'-DDD	PEST	35,020.0	8,400	4.2	11,597.2	5,798.6
LPX-SD-4002	0-0.5	4,4'-DDE	PEST	17,710.0	6,000	- 3.0	11,597.2	5,798.6
LPX-SD-4002	0-0.5	Dieldrin	PEST	6,180.0	2,600	- 2.4	11,597.2	5,798.6
LPX-SD-4002	0-0.5	Technical Chlordane	PEST	1,617,730.0	400,000	4.0	11,597.2	5,798.6
LPX-SD-4004	0-0.5	2,3,7,8-TCDD	DIOXIN	2,072.7	15	141.0	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Aluminum	M	24,263,000,000.0	8,210,000,000	3.0	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Arsenic	M	6,930,000.0	3,900,000	1.8	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Barium	M	380,000,000.0	134,000,000	2.8	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Selenium	M	934,000.0	1,100,000		27,484.5	13,742.2
LPX-SD-4004	0-0.5	Vanadium	M	60,100,000.0	37,600,000	1.6	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Zinc	M	923,000,000.0	221,000,000	4.2	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Aroclor 1254	PCB	312,310.0	150,000	- 2.1	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Aroclor 1268	PCB	47,090.0	140,000		27,484.5	13,742.2
LPX-SD-4004	0-0.5	PCB TEQ	PCB	64.9	25	2.6	27,484.5	13,742.2
LPX-SD-4004	0-0.5	4,4'-DDD	PEST	48,760.0	8,400	5.8	27,484.5	13,742.2
LPX-SD-4004	0-0.5	4,4'-DDE	PEST	28,490.0	6,000	- 4.7	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Dieldrin	PEST	7,870.0	2,600	3.0	27,484.5	13,742.2
LPX-SD-4004	0-0.5	Technical Chlordane	PEST	2,212,730.0	400,000	5.5	27,484.5	13,742.2
LPX-SD-4011	0-0.5	Aluminum	M	27,773,000,000.0	8,210,000,000	3.4	8,616.2	4,308.1
LPX-SD-4011	0-0.5	Arsenic	M	6,130,000.0	3,900,000	1.6	8,616.2	4,308.1
LPX-SD-4011	0-0.5	Barium	M	373,000,000.0	134,000,000	2.8	8,616.2	4,308.1
LPX-SD-4011	0-0.5	Selenium	M	815,000.0	1,100,000		8,616.2	4,308.1
LPX-SD-4011	0-0.5	Vanadium	M	62,000,000.0	37,600,000	1.6	8,616.2	4,308.1
LPX-SD-4011	0-0.5	Zinc	M	917,000,000.0	221,000,000	4.1	8,616.2	4,308.1
LPX-SD-4011	0-0.5	Benzo(a)pyrene	PAH	2,656,830.0	1,400,000	- 1.9	7,847.5	3,923.8
LPX-SD-4011	0-0.5	Dibenzo(a,h)anthracene	PAH	522,200.0	970,000		7,847.5	3,923.8
LPX-SD-4011	0-0.5	Aroclor 1254	PCB	2,047,820.0	150,000	13.7	7,847.5	3,923.8
LPX-SD-4011	0-0.5	Aroclor 1268	PCB	189,280.0	140,000	1.4	7,847.5	3,923.8

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4011	0-0.5	4,4'-DDD	PEST	35,890.0	8,400	4.3	7,847.5	3,923.8
LPX-SD-4011	0-0.5	4,4'-DDE	PEST	42,930.0	6,000	7.2	7,847.5	3,923.8
LPX-SD-4011	0-0.5	Dieldrin	PEST	6,790.0	2,600	2.6	7,847.5	3,923.8
LPX-SD-4011	0-0.5	Technical Chlordane	PEST	1,029,150.0	400,000	2.6	7,847.5	3,923.8
LPX-SD-4012	0-0.5	Aluminum	M	25,502,000,000.0	8,210,000,000	3.1	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Arsenic	M	13,200,000.0	3,900,000	3.4	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Barium	M	162,000,000.0	134,000,000	1.2	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Selenium	M	1,570,000.0	1,100,000	1.4	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Vanadium	M	91,700,000.0	37,600,000	2.4	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Zinc	M	1,662,000,000.0	221,000,000	7.5	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Benzo(a)pyrene	PAH	6,177,110.0	1,400,000	4.4	34,972.3	17,486.2
LPX-SD-4012	0-0.5	Dibenzo(a,h)anthracene	PAH	1,069,400.0	970,000	1.1	34,972.3	17,486.2
LPX-SD-4012	0-0.5	Aroclor 1254	PCB	242,900.0	150,000	1.6	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Aroclor 1268	PCB	53,890.0	140,000		10,316.7	5,158.4
LPX-SD-4012	0-0.5	4,4'-DDD	PEST	34,320.0	8,400	4.1	10,316.7	5,158.4
LPX-SD-4012	0-0.5	4,4'-DDE	PEST	27,140.0	6,000	4.5	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Dieldrin	PEST	6,100.0	2,600	- 2.3	10,316.7	5,158.4
LPX-SD-4012	0-0.5	Technical Chlordane	PEST	1,781,670.0	400,000	4.5	10,316.7	5,158.4
LPX-SD-4013	0-0.5	2,3,7,8-TCDD	DIOXIN	478.5	15	32.6	5,871.3	2,935.6
LPX-SD-4013	0-0.5	Aluminum	M	19,322,000,000.0	8,210,000,000	2.4	13,360.2	6,680.1
LPX-SD-4013	0-0.5	Arsenic	M	4,200,000.0	3,900,000	1.1	13,360.2	6,680.1
LPX-SD-4013	0-0.5	Barium	M	191,000,000.0	134,000,000	1.4	13,360.2	6,680.1
LPX-SD-4013	0-0.5	Selenium	M	0.0	1,100,000		13,360.2	6,680.1
LPX-SD-4013	0-0.5	Vanadium	M	51,000,000.0	37,600,000	1.4	13,360.2	6,680.1
LPX-SD-4013	0-0.5	Zinc	M	482,000,000.0	221,000,000	2.2	13,360.2	6,680.1
LPX-SD-4013	0-0.5	Benzo(a)pyrene	PAH	7,040,300.0	1,400,000	- 5.0	23,270.9	11,635.5
LPX-SD-4013	0-0.5	Dibenzo(a,h)anthracene	PAH	1,237,920.0	970,000	1.3	23,270.9	11,635.5
LPX-SD-4013	0-0.5	Aroclor 1254	PCB	1,287,610.0	150,000	8.6	13,360.2	6,680.1
LPX-SD-4013	0-0.5	Aroclor 1268	PCB	313,790.0	140,000	2.2	13,360.2	6,680.1
LPX-SD-4013	0-0.5	PCB TEQ	PCB	19.3	25		13,360.2	6,680.1
LPX-SD-4013	0-0.5	4,4'-DDD	PEST	50,190.0	8,400	6.0	13,360.2	6,680.1
LPX-SD-4013	0-0.5	4,4'-DDE	PEST	36,720.0	6,000	6.1	13,360.2	6,680.1
LPX-SD-4013	0-0.5	Dieldrin	PEST	6,260.0	2,600	- 2.4	13,360.2	6,680.1

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4013	0-0.5	Technical Chlordane	PEST	1,475,630.0	400,000	3.7	13,360.2	6,680.1
LPX-SD-4201	0.35-0.45	2,3,7,8-TCDD	DIOXIN	7,475.4	15	508.5	23,131.2	2,313.1
LPX-SD-4201	0.95-1.05	2,3,7,8-TCDD	DIOXIN	12.9	15		23,131.2	2,313.1
LPX-SD-4201	1.25-1.35	2,3,7,8-TCDD	DIOXIN	11.8	15		23,131.2	2,313.1
LPX-SD-4204	0.3-0.4	2,3,7,8-TCDD	DIOXIN	5,688.3	15	387.0	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Aluminum	M	4,030,000,000.0	8,210,000,000	-	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Arsenic	M	0.0	3,900,000	-	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Barium	M	74,000,000.0	134,000,000		40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Selenium	M	0.0	1,100,000	-	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Vanadium	M	11,000,000.0	37,600,000	-	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Zinc	M	201,000,000.0	221,000,000	-	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Benzo(a)pyrene	PAH	2,576,860.0	1,400,000	- 1.8	40,529.2	4,052.9
LPX-SD-4204	0.3-0.4	Aroclor 1254	PCB	1,289,390.0	150,000	- 8.6	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Aroclor 1268	PCB	0.0	140,000	-	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	4,4'-DDD	PEST	12,510.0	8,400	1.5	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	4,4'-DDE	PEST	20,220.0	6,000	3.4	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Dieldrin	PEST	0.0	2,600	-	40,320.8	4,032.1
LPX-SD-4204	0.3-0.4	Technical Chlordane	PEST	208,580.0	400,000		40,320.8	4,032.1
LPX-SD-4204	1.1-1.2	2,3,7,8-TCDD	DIOXIN	70.2	15	4.8	40,320.8	4,032.1
LPX-SD-4204	2.35-2.45	2,3,7,8-TCDD	DIOXIN	0.0	15	-	40,320.8	4,032.1
LPX-SD-4205	0.4-0.5	2,3,7,8-TCDD	DIOXIN	5,772.7	15	- 392.7	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Aluminum	M	10,900,000,000.0	8,210,000,000	1.3	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Arsenic	M	6,200,000.0	3,900,000	- 1.6	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Barium	M	249,000,000.0	134,000,000	1.9	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Selenium	M	0.0	1,100,000		41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Vanadium	M	31,000,000.0	37,600,000		41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Zinc	M	602,000,000.0	221,000,000	2.7	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Benzo(a)pyrene	PAH	4,437,508.0	1,400,000	- 3.2	42,468.8	4,246.9
LPX-SD-4205	0.4-0.5	Aroclor 1254	PCB	2,048,232.2	150,000	- 13.7	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Aroclor 1268	PCB	0.0	140,000		41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	4,4'-DDD	PEST	23,344.0	8,400	2.8	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	4,4'-DDE	PEST	32,087.3	6,000	5.3	41,788.1	4,178.8
LPX-SD-4205	0.4-0.5	Dieldrin	PEST	0.0	2,600	-	41,788.1	4,178.8

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4205	0.4-0.5	Technical Chlordane	PEST	387,657.1	400,000		41,788.1	4,178.8
LPX-SD-4205	1.3-1.4	2,3,7,8-TCDD	DIOXIN	19,084.3	15	1,298.3	41,788.1	4,178.8
LPX-SD-4205	2.4-2.5	2,3,7,8-TCDD	DIOXIN	49,420.7	15	3,361.9	41,788.1	4,178.8
LPX-SD-4207	0-0.1	2,3,7,8-TCDD	DIOXIN	778.5	15	53.0	15,843.1	1,584.3
LPX-SD-4207	1.1-1.2	2,3,7,8-TCDD	DIOXIN	1,410.1	15	95.9	15,843.1	1,584.3
LPX-SD-4208	0-0.1	2,3,7,8-TCDD	DIOXIN	4,312.0	15	293.3	40,600.9	4,060.1
LPX-SD-4208	1.2-1.3	2,3,7,8-TCDD	DIOXIN	3,749.6	15	255.1	40,600.9	4,060.1
LPX-SD-4208	1.9-2	2,3,7,8-TCDD	DIOXIN	13.9	15		40,600.9	4,060.1
LPX-SD-4209	0-0.1	2,3,7,8-TCDD	DIOXIN	4,174.3	15	284.0	46,513.3	4,651.3
LPX-SD-4209	1.45-1.55	2,3,7,8-TCDD	DIOXIN	1,331.0	15	90.5	46,513.3	4,651.3
LPX-SD-4209	2.45-2.55	2,3,7,8-TCDD	DIOXIN	54.3	15	3.7	46,513.3	4,651.3
LPX-SD-4501	0-0.5	2,3,7,8-TCDD	DIOXIN	5,268.1	15	358.4	60,048.4	30,024.2
LPX-SD-4501	0-0.5	Aluminum	M	8,680,000,000.0	8,210,000,000	1.1	64,332.9	32,166.4
LPX-SD-4501	0-0.5	Arsenic	M	0.0	3,900,000		64,332.9	32,166.4
LPX-SD-4501	0-0.5	Barium	M	159,000,000.0	134,000,000	1.2	64,332.9	32,166.4
LPX-SD-4501	0-0.5	Selenium	M	0.0	1,100,000		64,332.9	32,166.4
LPX-SD-4501	0-0.5	Vanadium	M	20,300,000.0	37,600,000		64,332.9	32,166.4
LPX-SD-4501	0-0.5	Zinc	M	471,000,000.0	221,000,000	2.1	64,332.9	32,166.4
LPX-SD-4501	0-0.5	Benzo(a)pyrene	PAH	3,164,812.2	1,400,000	2.3	64,332.9	32,166.4
LPX-SD-4501	0-0.5	Aroclor 1254	PCB	1,653,928.9	150,000	11.0	64,332.9	32,166.4
LPX-SD-4501	0-0.5	Aroclor 1268	PCB	0.0	140,000		64,332.9	32,166.4
LPX-SD-4501	0-0.5	4,4'-DDD	PEST	17,695.4	8,400	2.1	64,332.9	32,166.4
LPX-SD-4501	0-0.5	4,4'-DDE	PEST	41,198.0	6,000	6.9	64,332.9	32,166.4
LPX-SD-4501	0-0.5	Dieldrin	PEST	0.0	2,600		64,332.9	32,166.4
LPX-SD-4501	0-0.5	Technical Chlordane	PEST	236,883.2	400,000		64,332.9	32,166.4
LPX-SD-4501	1.2-1.3	2,3,7,8-TCDD	DIOXIN	408.0	15	27.8	60,048.4	6,004.8
LPX-SD-4501	2.4-2.5	2,3,7,8-TCDD	DIOXIN	0.4	15		60,048.4	6,004.8
LPX-SD-4502	0-0.5	2,3,7,8-TCDD	DIOXIN	3,072.5	15	209.0	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Aluminum	M	12,200,000,000.0	8,210,000,000	1.5	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Arsenic	M	0.0	3,900,000		55,680.9	27,840.5
LPX-SD-4502	0-0.5	Barium	M	157,000,000.0	134,000,000	1.2	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Selenium	M	0.0	1,100,000		55,680.9	27,840.5
LPX-SD-4502	0-0.5	Vanadium	M	29,600,000.0	37,600,000		55,680.9	27,840.5

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4502	0-0.5	Zinc	M	320,000,000.0	221,000,000	1.4	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Benzo(a)pyrene	PAH	1,928,660.0	1,400,000	1.4	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Aroclor 1254	PCB	968,920.0	150,000	6.5	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Aroclor 1268	PCB	0.0	140,000		55,680.9	27,840.5
LPX-SD-4502	0-0.5	4,4'-DDD	PEST	10,020.0	8,400	1.2	55,680.9	27,840.5
LPX-SD-4502	0-0.5	4,4'-DDE	PEST	17,580.0	6,000	2.9	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Dieldrin	PEST	0.0	2,600	-	55,680.9	27,840.5
LPX-SD-4502	0-0.5	Technical Chlordane	PEST	135,000.0	400,000		55,680.9	27,840.5
LPX-SD-4502	1.2-1.3	2,3,7,8-TCDD	DIOXIN	2,490.9	15	169.4	55,680.9	5,568.1
LPX-SD-4502	2.4-2.5	2,3,7,8-TCDD	DIOXIN	30.4	15	- 2.1	55,680.9	5,568.1
LPX-SD-4503	0-0.5	2,3,7,8-TCDD	DIOXIN	3,902.8	15	- 265.5	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Aluminum	M	10,000,000,000.0	8,210,000,000	1.2	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Arsenic	M	0.0	3,900,000		34,948.3	17,474.2
LPX-SD-4503	0-0.5	Barium	M	183,000,000.0	134,000,000	1.4	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Selenium	M	0.0	1,100,000		34,948.3	17,474.2
LPX-SD-4503	0-0.5	Vanadium	M	24,200,000.0	37,600,000	-	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Zinc	M	439,000,000.0	221,000,000	2.0	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Benzo(a)pyrene	PAH	2,838,320.0	1,400,000	- 2.0	35,182.9	17,591.5
LPX-SD-4503	0-0.5	Aroclor 1254	PCB	1,443,800.0	150,000	- 9.6	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Aroclor 1268	PCB	0.0	140,000		34,948.3	17,474.2
LPX-SD-4503	0-0.5	4,4'-DDD	PEST	15,260.0	8,400	1.8	34,948.3	17,474.2
LPX-SD-4503	0-0.5	4,4'-DDE	PEST	26,880.0	6,000	4.5	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Dieldrin	PEST	0.0	2,600	-	34,948.3	17,474.2
LPX-SD-4503	0-0.5	Technical Chlordane	PEST	188,350.0	400,000		34,948.3	17,474.2
LPX-SD-4503	1.2-1.3	2,3,7,8-TCDD	DIOXIN	3,273.6	15	222.7	34,948.3	3,494.8
LPX-SD-4503	2.4-2.5	2,3,7,8-TCDD	DIOXIN	31.7	15	- 2.2	34,948.3	3,494.8
LPX-SD-4504	0-0.5	2,3,7,8-TCDD	DIOXIN	5,678.7	15	- 386.3	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Aluminum	M	11,912,153,300.0	8,210,000,000	1.5	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Arsenic	M	7,932,600.0	3,900,000	2.0	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Barium	M	313,000,000.0	134,000,000	2.3	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Selenium	M	0.0	1,100,000		25,486.1	12,743.1
LPX-SD-4504	0-0.5	Vanadium	M	31,567,900.0	37,600,000		25,486.1	12,743.1
LPX-SD-4504	0-0.5	Zinc	M	535,664,700.0	221,000,000	2.4	25,486.1	12,743.1

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4504	0-0.5	Benzo(a)pyrene	PAH	3,075,130.0	1,400,000	2.2	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Aroclor 1254	PCB	1,316,140.0	150,000	8.8	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Aroclor 1268	PCB	0.0	140,000		25,486.1	12,743.1
LPX-SD-4504	0-0.5	4,4'-DDD	PEST	19,840.0	8,400	2.4	25,486.1	12,743.1
LPX-SD-4504	0-0.5	4,4'-DDE	PEST	45,040.0	6,000	7.5	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Dieldrin	PEST	0.0	2,600	-	25,486.1	12,743.1
LPX-SD-4504	0-0.5	Technical Chlordane	PEST	229,580.0	400,000		25,486.1	12,743.1
LPX-SD-4504	1.2-1.3	2,3,7,8-TCDD	DIOXIN	4,339.5	15	295.2	25,486.1	2,548.6
LPX-SD-4504	2.4-2.5	2,3,7,8-TCDD	DIOXIN	41.0	15	- 2.8	25,486.1	2,548.6
LPX-SD-4505	0-0.5	2,3,7,8-TCDD	DIOXIN	4,588.8	15	- 312.2	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Aluminum	M	11,300,000,000.0	8,210,000,000	1.4	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Arsenic	M	0.0	3,900,000		31,336.5	15,668.2
LPX-SD-4505	0-0.5	Barium	M	222,000,000.0	134,000,000	1.7	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Selenium	M	0.0	1,100,000		31,336.5	15,668.2
LPX-SD-4505	0-0.5	Vanadium	M	30,800,000.0	37,600,000	-	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Zinc	M	613,000,000.0	221,000,000	2.8	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Benzo(a)pyrene	PAH	2,655,290.0	1,400,000	- 1.9	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Aroclor 1254	PCB	2,058,090.0	150,000	- 13.7	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Aroclor 1268	PCB	0.0	140,000		31,336.5	15,668.2
LPX-SD-4505	0-0.5	4,4'-DDD	PEST	15,180.0	8,400	1.8	31,336.5	15,668.2
LPX-SD-4505	0-0.5	4,4'-DDE	PEST	32,200.0	6,000	5.4	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Dieldrin	PEST	0.0	2,600	-	31,336.5	15,668.2
LPX-SD-4505	0-0.5	Technical Chlordane	PEST	244,360.0	400,000		31,336.5	15,668.2
LPX-SD-4505	1.2-1.3	2,3,7,8-TCDD	DIOXIN	5,399.3	15	367.3	31,336.5	3,133.6
LPX-SD-4505	2.4-2.5	2,3,7,8-TCDD	DIOXIN	3,767.8	15	- 256.3	31,336.5	3,133.6
LPX-SD-4506	0-0.5	2,3,7,8-TCDD	DIOXIN	12,352.6	15	- 840.3	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Aluminum	M	8,190,000,000.0	8,210,000,000		35,679.4	17,839.7
LPX-SD-4506	0-0.5	Arsenic	M	0.0	3,900,000		35,679.4	17,839.7
LPX-SD-4506	0-0.5	Barium	M	170,000,000.0	134,000,000	1.3	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Selenium	M	0.0	1,100,000	-	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Vanadium	M	22,100,000.0	37,600,000	-	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Zinc	M	360,000,000.0	221,000,000	1.6	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Benzo(a)pyrene	PAH	2,477,650.0	1,400,000	- 1.8	35,679.4	17,839.7
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4506	0-0.5	Aroclor 1254	PCB	1,394,730.0	150,000	9.3	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Aroclor 1268	PCB	0.0	140,000		35,679.4	17,839.7
LPX-SD-4506	0-0.5	4,4'-DDD	PEST	24,290.0	8,400	2.9	35,679.4	17,839.7
LPX-SD-4506	0-0.5	4,4'-DDE	PEST	46,160.0	6,000	7.7	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Dieldrin	PEST	0.0	2,600	-	35,679.4	17,839.7
LPX-SD-4506	0-0.5	Technical Chlordane	PEST	191,330.0	400,000		35,679.4	17,839.7
LPX-SD-4506	1.2-1.3	2,3,7,8-TCDD	DIOXIN	3,314.4	15	225.5	35,679.4	3,567.9
LPX-SD-4506	2.4-2.5	2,3,7,8-TCDD	DIOXIN	0.0	15	-	35,679.4	3,567.9
LPX-SD-4507	0-0.5	2,3,7,8-TCDD	DIOXIN	2,148.7	15	- 146.2	36,757.9	18,379.0
LPX-SD-4507	0-0.5	Aluminum	M	11,500,000,000.0	8,210,000,000	1.4	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Arsenic	M	14,300,000.0	3,900,000	- 3.7	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Barium	M	151,000,000.0	134,000,000	1.1	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Selenium	M	0.0	1,100,000		57,934.3	28,967.2
LPX-SD-4507	0-0.5	Vanadium	M	33,400,000.0	37,600,000		57,934.3	28,967.2
LPX-SD-4507	0-0.5	Zinc	M	311,000,000.0	221,000,000	1.4	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Benzo(a)pyrene	PAH	1,855,610.0	1,400,000	- 1.3	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Aroclor 1254	PCB	998,850.0	150,000	- 6.7	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Aroclor 1268	PCB	0.0	140,000		57,934.3	28,967.2
LPX-SD-4507	0-0.5	4,4'-DDD	PEST	7,970.0	8,400		57,934.3	28,967.2
LPX-SD-4507	0-0.5	4,4'-DDE	PEST	12,590.0	6,000	2.1	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Dieldrin	PEST	0.0	2,600	-	57,934.3	28,967.2
LPX-SD-4507	0-0.5	Technical Chlordane	PEST	136,090.0	400,000	-	57,934.3	28,967.2
LPX-SD-4507	1.2-1.3	2,3,7,8-TCDD	DIOXIN	5,246.3	15	356.9	36,757.9	3,675.8
LPX-SD-4507	2.4-2.5	2,3,7,8-TCDD	DIOXIN	7.7	15	-	36,757.9	3,675.8
LPX-SD-4508	0-0.5	2,3,7,8-TCDD	DIOXIN	1,143.8	15	- 77.8	16,596.0	8,298.0
LPX-SD-4508	0-0.5	Aluminum	M	5,450,000,000.0	8,210,000,000		23,844.8	11,922.4
LPX-SD-4508	0-0.5	Arsenic	M	0.0	3,900,000	-	23,844.8	11,922.4
LPX-SD-4508	0-0.5	Barium	M	80,700,000.0	134,000,000		23,844.8	11,922.4
LPX-SD-4508	0-0.5	Selenium	M	0.0	1,100,000	-	23,844.8	11,922.4
LPX-SD-4508	0-0.5	Vanadium	M	13,400,000.0	37,600,000	-	23,844.8	11,922.4
LPX-SD-4508	0-0.5	Zinc	M	220,000,000.0	221,000,000	-	23,844.8	11,922.4
LPX-SD-4508	0-0.5	Benzo(a)pyrene	PAH	4,770,770.0	1,400,000	- 3.4	23,844.8	11,922.4
LPX-SD-4508	0-0.5	Aroclor 1254	PCB	496,310.0	150,000	- 3.3	23,844.8	11,922.4
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4508	0-0.5	Aroclor 1268	PCB	0.0	140,000		23,844.8	11,922.4
LPX-SD-4508	0-0.5	4,4'-DDD	PEST	14,760.0	8,400	1.8	23,844.8	11,922.4
LPX-SD-4508	0-0.5	4,4'-DDE	PEST	17,710.0	6,000	3.0	23,844.8	11,922.4
LPX-SD-4508	0-0.5	Dieldrin	PEST	0.0	2,600	-	23,844.8	11,922.4
LPX-SD-4508	0-0.5	Technical Chlordane	PEST	428,800.0	400,000	1.1	23,844.8	11,922.4
LPX-SD-4508	1.2-1.3	2,3,7,8-TCDD	DIOXIN	142.5	15	9.7	16,596.0	1,659.6
LPX-SD-4508	2.4-2.5	2,3,7,8-TCDD	DIOXIN	0.6	15	-	16,596.0	1,659.6
LPX-SD-4509	0-0.5	2,3,7,8-TCDD	DIOXIN	10,117.5	15	688.3	49,563.4	24,781.7
LPX-SD-4509	0-0.5	Aluminum	M	11,500,000,000.0	8,210,000,000	1.4	92,489.0	46,244.5
LPX-SD-4509	0-0.5	Arsenic	M	0.0	3,900,000	-	92,489.0	46,244.5
LPX-SD-4509	0-0.5	Barium	M	255,000,000.0	134,000,000	1.9	92,489.0	46,244.5
LPX-SD-4509	0-0.5	Selenium	M	0.0	1,100,000		92,489.0	46,244.5
LPX-SD-4509	0-0.5	Vanadium	M	39,000,000.0	37,600,000	- 1.0	92,489.0	46,244.5
LPX-SD-4509	0-0.5	Zinc	M	754,000,000.0	221,000,000	3.4	92,489.0	46,244.5
LPX-SD-4509	0-0.5	Benzo(a)pyrene	PAH	3,354,690.0	1,400,000	- 2.4	74,631.4	37,315.7
LPX-SD-4509	0-0.5	Aroclor 1254	PCB	2,574,340.0	150,000	17.2	74,542.8	37,271.4
LPX-SD-4509	0-0.5	Aroclor 1268	PCB	0.0	140,000		74,542.8	37,271.4
LPX-SD-4509	0-0.5	4,4'-DDD	PEST	26,450.0	8,400	3.1	74,542.8	37,271.4
LPX-SD-4509	0-0.5	4,4'-DDE	PEST	33,550.0	6,000	5.6	74,542.8	37,271.4
LPX-SD-4509	0-0.5	Dieldrin	PEST	0.0	2,600	-	74,542.8	37,271.4
LPX-SD-4509	0-0.5	Technical Chlordane	PEST	249,990.0	400,000		74,542.8	37,271.4
LPX-SD-4509	1.2-1.3	2,3,7,8-TCDD	DIOXIN	184.3	15	12.5	49,563.4	4,956.3
LPX-SD-4509	2.4-2.5	2,3,7,8-TCDD	DIOXIN	1.4	15	-	49,563.4	4,956.3
LPX-SD-4510	0-0.5	2,3,7,8-TCDD	DIOXIN	45,673.1	15	- 3,107.0	35,249.3	17,624.6
LPX-SD-4510	0-0.5	Aluminum	M	7,740,000,000.0	8,210,000,000		32,256.0	16,128.0
LPX-SD-4510	0-0.5	Arsenic	M	0.0	3,900,000	-	32,256.0	16,128.0
LPX-SD-4510	0-0.5	Barium	M	178,000,000.0	134,000,000	1.3	32,256.0	16,128.0
LPX-SD-4510	0-0.5	Selenium	M	0.0	1,100,000	-	32,256.0	16,128.0
LPX-SD-4510	0-0.5	Vanadium	M	20,800,000.0	37,600,000	-	32,256.0	16,128.0
LPX-SD-4510	0-0.5	Zinc	M	462,000,000.0	221,000,000	2.1	32,256.0	16,128.0
LPX-SD-4510	0-0.5	Benzo(a)pyrene	PAH	3,655,680.0	1,400,000	- 2.6	32,255.9	16,128.0
LPX-SD-4510	0-0.5	Aroclor 1254	PCB	2,026,850.0	150,000	- 13.5	32,534.4	16,267.2
LPX-SD-4510	0-0.5	Aroclor 1268	PCB	0.0	140,000		32,534.4	16,267.2

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
LPX-SD-4510	0-0.5	4,4'-DDD	PEST	17,630.0	8,400	2.1	32,534.4	16,267.2
LPX-SD-4510	0-0.5	4,4'-DDE	PEST	25,820.0	6,000	4.3	32,534.4	16,267.2
LPX-SD-4510	0-0.5	Dieldrin	PEST	0.0	2,600		32,534.4	16,267.2
LPX-SD-4510	0-0.5	Technical Chlordane	PEST	266,220.0	400,000		32,534.4	16,267.2
LPX-SD-4510	1.2-1.3	2,3,7,8-TCDD	DIOXIN	23,636.5	15	1,607.9	35,249.3	3,524.9
LPX-SD-4510	2.4-2.5	2,3,7,8-TCDD	DIOXIN	0.0	15	-	35,249.3	3,524.9
Lymansville Dam	0-0.33	2,3,7,8-TCDD	DIOXIN	5,970.0	15	- 406.1	38,164.4	12,594.3
Lymansville Dam	0-0.33	Aluminum	M	18,300,000,000.0	8,210,000,000	2.2	38,157.6	12,592.0
Lymansville Dam	0-0.33	Arsenic	M	0.0	3,900,000	-	38,157.6	12,592.0
Lymansville Dam	0-0.33	Barium	M	310,000,000.0	134,000,000	2.3	38,157.6	12,592.0
Lymansville Dam	0-0.33	Selenium	M	0.0	1,100,000		38,157.6	12,592.0
Lymansville Dam	0-0.33	Vanadium	M	47,600,000.0	37,600,000	- 1.3	38,157.6	12,592.0
Lymansville Dam	0-0.33	Zinc	M	757,000,000.0	221,000,000	3.4	38,157.6	12,592.0
Lymansville Dam	0-0.33	Benzo(a)pyrene	PAH	3,500,000.0	1,400,000	- 2.5	45,583.6	15,042.6
Lymansville Dam	0-0.33	Dibenzo(a,h)anthracene	PAH	560,000.0	970,000		45,583.6	15,042.6
Lymansville Dam	0-0.33	Aroclor 1254	PCB	1,100,000.0	150,000	7.3	38,157.6	12,592.0
Lymansville Dam	0-0.33	Aroclor 1268	PCB	91,000.0	140,000		38,157.6	12,592.0
Lymansville Dam	0-0.33	PCB TEQ	PCB	0.2	25	-	38,157.6	12,592.0
Lymansville Dam	0-0.33	4,4'-DDD	PEST	19,000.0	8,400	2.3	38,157.6	12,592.0
Lymansville Dam	0-0.33	4,4'-DDE	PEST	35,000.0	6,000	- 5.8	38,157.6	12,592.0
Lymansville Dam	0-0.33	Dieldrin	PEST	8,600.0	2,600	- 3.3	38,157.6	12,592.0
Lymansville Dam	0-0.33	Technical Chlordane	PEST	0.0	400,000		38,157.6	12,592.0
RES-10-053-01	0-1	2,3,7,8-TCDD	DIOXIN	32.7	15	2.2	12,036.6	12,036.6
RES-10-053-01	0-1	Arsenic	M	3,200,000.0	3,900,000		12,036.6	12,036.6
RES-10-053-01	0-1	Selenium	M	0.0	1,100,000	-	12,036.6	12,036.6
RES-10-053-01	0-1	Zinc	M	92,500,000.0	221,000,000		12,036.6	12,036.6
RES-10-053-01	0-1	Aroclor 1254	PCB	42,000.0	150,000	-	12,036.6	12,036.6
RES-10-053-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	12,036.6	12,036.6
RES-10-053-01	0-1	Dieldrin	PEST	0.0	2,600	-	12,036.6	12,036.6
RES-11-497-01	0-1	2,3,7,8-TCDD	DIOXIN	7.0	15	-	4,165.6	4,165.6
RES-11-497-01	0-1	Arsenic	M	3,000,000.0	3,900,000	-	5,091.5	5,091.5
RES-11-497-01	0-1	Selenium	M	0.0	1,100,000	-	5,091.5	5,091.5
RES-11-497-01	0-1	Zinc	M	99,700,000.0	221,000,000	-	5,091.5	5,091.5
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-11-497-01	0-1	Aroclor 1254	PCB	30,000.0	150,000		5,091.5	5,091.5
RES-11-497-01	0-1	4,4'-DDE	PEST	0.0	6,000		5,091.5	5,091.5
RES-11-497-01	0-1	Dieldrin	PEST	0.0	2,600		5,091.5	5,091.5
RES-12-239-01	0-1	Aluminum	M	5,140,000,000.0	8,210,000,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Arsenic	M	2,200,000.0	3,900,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Barium	M	65,700,000.0	134,000,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Selenium	M	0.0	1,100,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Vanadium	M	18,100,000.0	37,600,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Zinc	M	175,000,000.0	221,000,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Benzo(a)pyrene	PAH	3,800,000.0	1,400,000	- 2.7	5,707.3	5,707.3
RES-12-239-01	0-1	Dibenzo(a,h)anthracene	PAH	840,000.0	970,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Aroclor 1254	PCB	60,000.0	150,000		4,911.7	4,911.7
RES-12-239-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	5,707.3	5,707.3
RES-12-239-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	5,707.3	5,707.3
RES-12-239-01	0-1	Dieldrin	PEST	6,300.0	2,600	- 2.4	5,707.3	5,707.3
RES-12-240-01	0-1	2,3,7,8-TCDD	DIOXIN	15,050.0	15	- 1,023.8	3,705.3	3,705.3
RES-12-240-01	0-1	Aluminum	M	15,800,000,000.0	8,210,000,000	- 1.9	9,640.8	9,640.8
RES-12-240-01	0-1	Arsenic	M	5,100,000.0	3,900,000	1.3	9,640.8	9,640.8
RES-12-240-01	0-1	Barium	M	175,000,000.0	134,000,000	1.3	9,640.8	9,640.8
RES-12-240-01	0-1	Selenium	M	4,700,000.0	1,100,000	4.3	9,640.8	9,640.8
RES-12-240-01	0-1	Vanadium	M	51,900,000.0	37,600,000	1.4	9,640.8	9,640.8
RES-12-240-01	0-1	Zinc	M	475,000,000.0	221,000,000	2.1	9,640.8	9,640.8
RES-12-240-01	0-1	Benzo(a)pyrene	PAH	970,000.0	1,400,000		9,640.8	9,640.8
RES-12-240-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		9,640.8	9,640.8
RES-12-240-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		9,640.8	9,640.8
RES-12-240-01	0-1	Aroclor 1254	PCB	620,000.0	150,000	- 4.1	4,715.5	4,715.5
RES-12-240-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	9,691.5	9,691.5
RES-12-240-01	0-1	4,4'-DDE	PEST	37,000.0	6,000	- 6.2	9,691.5	9,691.5
RES-12-240-01	0-1	Dieldrin	PEST	81,000.0	2,600	31.2	9,691.5	9,691.5
RES-12-240-02	0-1	2,3,7,8-TCDD	DIOXIN	10,590.0	15	- 720.4	573.6	573.6
RES-12-550-01	0-1	Aluminum	M	12,100,000,000.0	8,210,000,000	1.5	17,485.1	17,485.1
RES-12-550-01	0-1	Arsenic	M	10,000,000.0	3,900,000	2.6	17,485.1	17,485.1

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-12-550-01	0-1	Barium	M	184,000,000.0	134,000,000	1.4	17,485.1	17,485.1
RES-12-550-01	0-1	Selenium	M	2,600,000.0	1,100,000	2.4	17,485.1	17,485.1
RES-12-550-01	0-1	Vanadium	M	34,800,000.0	37,600,000		17,485.1	17,485.1
RES-12-550-01	0-1	Zinc	M	175,000,000.0	221,000,000		17,485.1	17,485.1
RES-12-550-01	0-1	Benzo(a)pyrene	PAH	960,000.0	1,400,000		17,485.1	17,485.1
RES-12-550-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	17,485.1	17,485.1
RES-12-550-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	17,485.1	17,485.1
RES-12-550-01	0-1	Aroclor 1254	PCB	860,000.0	150,000	- 5.7	4,979.6	4,979.6
RES-12-550-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	17,485.1	17,485.1
RES-12-550-01	0-1	4,4'-DDE	PEST	35,000.0	6,000	- 5.8	17,485.1	17,485.1
RES-12-550-01	0-1	Dieldrin	PEST	0.0	2,600		17,485.1	17,485.1
RES-12-551-01	0-1	Aluminum	M	11,800,000,000.0	8,210,000,000	- 1.4	18,533.3	18,533.3
RES-12-551-01	0-1	Arsenic	M	11,600,000.0	3,900,000	3.0	18,533.3	18,533.3
RES-12-551-01	0-1	Barium	M	219,000,000.0	134,000,000	- 1.6	18,533.3	18,533.3
RES-12-551-01	0-1	Selenium	M	2,700,000.0	1,100,000	2.5	18,533.3	18,533.3
RES-12-551-01	0-1	Vanadium	M	79,300,000.0	37,600,000	2.1	18,533.3	18,533.3
RES-12-551-01	0-1	Zinc	M	156,000,000.0	221,000,000		18,533.3	18,533.3
RES-12-551-01	0-1	Benzo(a)pyrene	PAH	1,200,000.0	1,400,000		18,533.3	18,533.3
RES-12-551-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		18,533.3	18,533.3
RES-12-551-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	18,533.3	18,533.3
RES-12-551-01	0-1	Aroclor 1254	PCB	4,300,000.0	150,000	- 28.7	8,626.4	8,626.4
RES-12-551-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	16,934.0	16,934.0
RES-12-551-01	0-1	4,4'-DDE	PEST	200,000.0	6,000	- 33.3	16,934.0	16,934.0
RES-12-551-01	0-1	Dieldrin	PEST	0.0	2,600		16,934.0	16,934.0
RES-12-552-01	0-1	Aluminum	M	3,700,000,000.0	8,210,000,000	-	13,352.9	13,352.9
RES-12-552-01	0-1	Arsenic	M	4,000,000.0	3,900,000	1.0	13,352.9	13,352.9
RES-12-552-01	0-1	Barium	M	72,500,000.0	134,000,000	-	13,352.9	13,352.9
RES-12-552-01	0-1	Selenium	M	0.0	1,100,000	-	13,352.9	13,352.9
RES-12-552-01	0-1	Vanadium	M	12,200,000.0	37,600,000		13,352.9	13,352.9
RES-12-552-01	0-1	Zinc	M	70,100,000.0	221,000,000	-	13,352.9	13,352.9
RES-12-552-01	0-1	Benzo(a)pyrene	PAH	550,000.0	1,400,000	-	13,352.9	13,352.9
RES-12-552-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	13,352.9	13,352.9
RES-12-552-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	13,352.9	13,352.9

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-12-552-01	0-1	Aroclor 1254	PCB	340,000.0	150,000	2.3	5,051.9	5,051.9
RES-12-552-01	0-1	4,4'-DDD	PEST	0.0	8,400		5,051.9	5,051.9
RES-12-552-01	0-1	4,4'-DDE	PEST	10,000.0	6,000	1.7	5,051.9	5,051.9
RES-12-552-01	0-1	Dieldrin	PEST	0.0	2,600		5,051.9	5,051.9
RES-12-553-01	0-1	Aluminum	M	2,160,000,000.0	8,210,000,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	Arsenic	M	2,100,000.0	3,900,000		7,977.8	7,977.8
RES-12-553-01	0-1	Barium	M	25,600,000.0	134,000,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	Selenium	M	0.0	1,100,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	Vanadium	M	10,700,000.0	37,600,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	Zinc	M	42,300,000.0	221,000,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	Benzo(a)pyrene	PAH	740,000.0	1,400,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	7,977.8	7,977.8
RES-12-553-01	0-1	Aroclor 1254	PCB	490,000.0	150,000	- 3.3	6,059.2	6,059.2
RES-12-553-01	0-1	4,4'-DDD	PEST	4,400.0	8,400	-	7,868.3	7,868.3
RES-12-553-01	0-1	4,4'-DDE	PEST	22,000.0	6,000	- 3.7	7,868.3	7,868.3
RES-12-553-01	0-1	Dieldrin	PEST	0.0	2,600		7,868.3	7,868.3
RES-12-554-01	0-1	Aluminum	M	13,000,000,000.0	8,210,000,000	- 1.6	6,054.4	6,054.4
RES-12-554-01	0-1	Arsenic	M	4,000,000.0	3,900,000	1.0	6,054.4	6,054.4
RES-12-554-01	0-1	Barium	M	60,900,000.0	134,000,000	-	6,054.4	6,054.4
RES-12-554-01	0-1	Selenium	M	0.0	1,100,000		6,054.4	6,054.4
RES-12-554-01	0-1	Vanadium	M	27,900,000.0	37,600,000		6,054.4	6,054.4
RES-12-554-01	0-1	Zinc	M	83,300,000.0	221,000,000	-	6,054.4	6,054.4
RES-12-554-01	0-1	Benzo(a)pyrene	PAH	360,000.0	1,400,000	-	6,054.4	6,054.4
RES-12-554-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	6,054.4	6,054.4
RES-12-554-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	6,054.4	6,054.4
RES-12-554-01	0-1	Aroclor 1254	PCB	400,000.0	150,000	- 2.7	5,123.1	5,123.1
RES-12-554-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	6,054.4	6,054.4
RES-12-554-01	0-1	4,4'-DDE	PEST	12,000.0	6,000	- 2.0	6,054.4	6,054.4
RES-12-554-01	0-1	Dieldrin	PEST	0.0	2,600		6,054.4	6,054.4
RES-12-555-01	0-1	2,3,7,8-TCDD	DIOXIN	3,180.0	15	- 216.3	2,684.2	2,684.2
RES-12-555-01	0-1	Aluminum	M	5,010,000,000.0	8,210,000,000		1,046.7	1,046.7
RES-12-555-01	0-1	Arsenic	M	13,100,000.0	3,900,000	- 3.4	1,046.7	1,046.7

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-12-555-01	0-1	Barium	M	120,000,000.0	134,000,000		1,046.7	1,046.7
RES-12-555-01	0-1	Selenium	M	2,900,000.0	1,100,000	2.6	1,046.7	1,046.7
RES-12-555-01	0-1	Vanadium	M	45,100,000.0	37,600,000	1.2	1,046.7	1,046.7
RES-12-555-01	0-1	Zinc	M	152,000,000.0	221,000,000	-	1,046.7	1,046.7
RES-12-555-01	0-1	Benzo(a)pyrene	PAH	800,000.0	1,400,000		1,046.7	1,046.7
RES-12-555-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		1,046.7	1,046.7
RES-12-555-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	1,046.7	1,046.7
RES-12-555-01	0-1	Aroclor 1254	PCB	4,100,000.0	150,000	- 27.3	1,046.7	1,046.7
RES-12-555-01	0-1	4,4'-DDD	PEST	12,000.0	8,400	- 1.4	1,046.7	1,046.7
RES-12-555-01	0-1	4,4'-DDE	PEST	230,000.0	6,000	- 38.3	1,046.7	1,046.7
RES-12-555-01	0-1	Dieldrin	PEST	0.0	2,600		1,046.7	1,046.7
RES-14-334-01	0-1	Aluminum	M	5,620,000,000.0	8,210,000,000		2,623.4	2,623.4
RES-14-334-01	0-1	Arsenic	M	3,100,000.0	3,900,000		2,623.4	2,623.4
RES-14-334-01	0-1	Barium	M	76,500,000.0	134,000,000	-	2,623.4	2,623.4
RES-14-334-01	0-1	Selenium	M	0.0	1,100,000	-	2,623.4	2,623.4
RES-14-334-01	0-1	Vanadium	M	20,800,000.0	37,600,000	-	2,623.4	2,623.4
RES-14-334-01	0-1	Zinc	M	247,000,000.0	221,000,000	- 1.1	2,623.4	2,623.4
RES-14-334-01	0-1	Benzo(a)pyrene	PAH	9,200,000.0	1,400,000	- 6.6	2,623.4	2,623.4
RES-14-334-01	0-1	Dibenzo(a,h)anthracene	PAH	2,600,000.0	970,000	- 2.7	2,623.4	2,623.4
RES-14-334-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		2,623.4	2,623.4
RES-14-334-01	0-1	Aroclor 1254	PCB	540,000.0	150,000	3.6	2,240.2	2,240.2
RES-14-334-01	0-1	4,4'-DDD	PEST	23,000.0	8,400	2.7	2,240.2	2,240.2
RES-14-334-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	2,240.2	2,240.2
RES-14-334-01	0-1	Dieldrin	PEST	0.0	2,600		2,240.2	2,240.2
RES-14-365-01	0-1	2,3,7,8-TCDD	DIOXIN	8.5	15		1,118.3	1,118.3
RES-14-365-01	0-1	Aluminum	M	11,600,000,000.0	8,210,000,000	- 1.4	2,110.7	2,110.7
RES-14-365-01	0-1	Arsenic	M	5,800,000.0	3,900,000	- 1.5	2,110.7	2,110.7
RES-14-365-01	0-1	Barium	M	76,600,000.0	134,000,000	-	2,110.7	2,110.7
RES-14-365-01	0-1	Selenium	M	0.0	1,100,000		2,110.7	2,110.7
RES-14-365-01	0-1	Vanadium	M	32,600,000.0	37,600,000		2,110.7	2,110.7
RES-14-365-01	0-1	Zinc	M	345,000,000.0	221,000,000	- 1.6	2,110.7	2,110.7
RES-14-365-01	0-1	Benzo(a)pyrene	PAH	2,500,000.0	1,400,000	- 1.8	2,110.7	2,110.7
RES-14-365-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	2,110.7	2,110.7

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-14-365-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		2,110.7	2,110.7
RES-14-365-01	0-1	Aroclor 1254	PCB	80,000.0	150,000		2,110.6	2,110.6
RES-14-365-01	0-1	4,4'-DDD	PEST	8,500.0	8,400	1.0	2,110.6	2,110.6
RES-14-365-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	2,110.6	2,110.6
RES-14-365-01	0-1	Dieldrin	PEST	0.0	2,600	-	2,110.6	2,110.6
RES-14-366-01	0-1	2,3,7,8-TCDD	DIOXIN	567.0	15	38.6	1,447.5	1,447.5
RES-14-366-01	0-1	Aluminum	M	3,410,000,000.0	8,210,000,000	-	2,782.3	2,782.3
RES-14-366-01	0-1	Arsenic	M	2,700,000.0	3,900,000	-	2,782.3	2,782.3
RES-14-366-01	0-1	Barium	M	45,800,000.0	134,000,000		2,782.3	2,782.3
RES-14-366-01	0-1	Selenium	M	0.0	1,100,000	-	2,782.3	2,782.3
RES-14-366-01	0-1	Vanadium	M	13,500,000.0	37,600,000	-	2,782.3	2,782.3
RES-14-366-01	0-1	Zinc	M	136,000,000.0	221,000,000	-	2,782.3	2,782.3
RES-14-366-01	0-1	Benzo(a)pyrene	PAH	7,600,000.0	1,400,000	- 5.4	2,782.3	2,782.3
RES-14-366-01	0-1	Dibenzo(a,h)anthracene	PAH	1,600,000.0	970,000	- 1.6	2,782.3	2,782.3
RES-14-366-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	2,782.3	2,782.3
RES-14-366-01	0-1	Aroclor 1254	PCB	380,000.0	150,000	2.5	2,782.3	2,782.3
RES-14-366-01	0-1	4,4'-DDD	PEST	7,200.0	8,400		2,782.3	2,782.3
RES-14-366-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	2,782.3	2,782.3
RES-14-366-01	0-1	Dieldrin	PEST	0.0	2,600		2,782.3	2,782.3
RES-14-366-02	0-1	2,3,7,8-TCDD	DIOXIN	5,350.0	15	- 363.9	1,600.8	1,600.8
RES-14-398-01	0-1	Aluminum	M	9,140,000,000.0	8,210,000,000	- 1.1	2,536.9	2,536.9
RES-14-398-01	0-1	Arsenic	M	7,500,000.0	3,900,000	- 1.9	2,536.9	2,536.9
RES-14-398-01	0-1	Barium	M	144,000,000.0	134,000,000	1.1	2,536.9	2,536.9
RES-14-398-01	0-1	Selenium	M	2,900,000.0	1,100,000	2.6	2,536.9	2,536.9
RES-14-398-01	0-1	Vanadium	M	42,900,000.0	37,600,000	1.1	2,536.9	2,536.9
RES-14-398-01	0-1	Zinc	M	163,000,000.0	221,000,000		2,536.9	2,536.9
RES-14-398-01	0-1	Benzo(a)pyrene	PAH	2,800,000.0	1,400,000	2.0	2,536.9	2,536.9
RES-14-398-01	0-1	Dibenzo(a,h)anthracene	PAH	750,000.0	970,000		2,536.9	2,536.9
RES-14-398-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	2,536.9	2,536.9
RES-14-398-01	0-1	Aroclor 1254	PCB	1,500,000.0	150,000	10.0	2,536.9	2,536.9
RES-14-398-01	0-1	4,4'-DDD	PEST	14,000.0	8,400	- 1.7	2,536.9	2,536.9
RES-14-398-01	0-1	4,4'-DDE	PEST	55,000.0	6,000	- 9.2	2,536.9	2,536.9
RES-14-398-01	0-1	Dieldrin	PEST	0.0	2,600		2,536.9	2,536.9

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-14-399-01	0-1	2,3,7,8-TCDD	DIOXIN	446.0	15	30.3	2,502.1	2,502.1
RES-14-399-01	0-1	Aluminum	M	7,420,000,000.0	8,210,000,000		4,964.1	4,964.1
RES-14-399-01	0-1	Arsenic	M	4,400,000.0	3,900,000	1.1	4,964.1	4,964.1
RES-14-399-01	0-1	Barium	M	93,500,000.0	134,000,000		4,964.1	4,964.1
RES-14-399-01	0-1	Selenium	M	0.0	1,100,000	-	4,964.1	4,964.1
RES-14-399-01	0-1	Vanadium	M	27,000,000.0	37,600,000		4,964.1	4,964.1
RES-14-399-01	0-1	Zinc	M	194,000,000.0	221,000,000	-	4,964.1	4,964.1
RES-14-399-01	0-1	Benzo(a)pyrene	PAH	3,000,000.0	1,400,000	- 2.1	4,964.1	4,964.1
RES-14-399-01	0-1	Dibenzo(a,h)anthracene	PAH	950,000.0	970,000	-	4,964.1	4,964.1
RES-14-399-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	4,964.1	4,964.1
RES-14-399-01	0-1	Aroclor 1254	PCB	520,000.0	150,000	3.5	4,964.1	4,964.1
RES-14-399-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	4,964.1	4,964.1
RES-14-399-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	4,964.1	4,964.1
RES-14-399-01	0-1	Dieldrin	PEST	0.0	2,600		4,964.1	4,964.1
RES-14-419-01	0-1	Aluminum	M	8,460,000,000.0	8,210,000,000	- 1.0	4,475.5	4,475.5
RES-14-419-01	0-1	Arsenic	M	12,500,000.0	3,900,000	- 3.2	4,475.5	4,475.5
RES-14-419-01	0-1	Barium	M	131,000,000.0	134,000,000	-	4,475.5	4,475.5
RES-14-419-01	0-1	Selenium	M	2,200,000.0	1,100,000	2.0	4,475.5	4,475.5
RES-14-419-01	0-1	Vanadium	M	47,700,000.0	37,600,000	1.3	4,475.5	4,475.5
RES-14-419-01	0-1	Zinc	M	136,000,000.0	221,000,000	-	4,475.5	4,475.5
RES-14-419-01	0-1	Benzo(a)pyrene	PAH	1,300,000.0	1,400,000		8,895.8	8,895.8
RES-14-419-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		8,895.8	8,895.8
RES-14-419-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	8,895.8	8,895.8
RES-14-419-01	0-1	Aroclor 1254	PCB	4,700,000.0	150,000	- 31.3	4,475.5	4,475.5
RES-14-419-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	4,475.5	4,475.5
RES-14-419-01	0-1	4,4'-DDE	PEST	150,000.0	6,000	- 25.0	4,475.5	4,475.5
RES-14-419-01	0-1	Dieldrin	PEST	0.0	2,600		4,475.5	4,475.5
RES-14-420-01	0-1	Aluminum	M	6,680,000,000.0	8,210,000,000	-	8,574.4	8,574.4
RES-14-420-01	0-1	Arsenic	M	1,900,000.0	3,900,000		8,574.4	8,574.4
RES-14-420-01	0-1	Barium	M	39,300,000.0	134,000,000	-	8,574.4	8,574.4
RES-14-420-01	0-1	Selenium	M	580,000.0	1,100,000	-	8,574.4	8,574.4
RES-14-420-01	0-1	Vanadium	M	10,300,000.0	37,600,000	-	8,574.4	8,574.4
RES-14-420-01	0-1	Zinc	M	78,400,000.0	221,000,000	-	8,574.4	8,574.4

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-14-420-01	0-1	Benzo(a)pyrene	PAH	0.0	1,400,000		8,574.4	8,574.4
RES-14-420-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000		8,574.4	8,574.4
RES-14-420-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		8,574.4	8,574.4
RES-14-420-01	0-1	Aroclor 1254	PCB	160,000.0	150,000	- 1.1	7,483.8	7,483.8
RES-14-420-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	8,574.4	8,574.4
RES-14-420-01	0-1	4,4'-DDE	PEST	6,800.0	6,000	- 1.1	8,574.4	8,574.4
RES-14-420-01	0-1	Dieldrin	PEST	0.0	2,600		8,574.4	8,574.4
RES-14-422-01	0-1	2,3,7,8-TCDD	DIOXIN	87.9	15	- 6.0	6,442.8	6,442.8
RES-14-422-01	0-1	Aluminum	M	10,700,000,000.0	8,210,000,000	1.3	14,688.5	14,688.5
RES-14-422-01	0-1	Arsenic	M	6,600,000.0	3,900,000	- 1.7	14,688.5	14,688.5
RES-14-422-01	0-1	Barium	M	99,200,000.0	134,000,000		14,688.5	14,688.5
RES-14-422-01	0-1	Selenium	M	0.0	1,100,000		14,688.5	14,688.5
RES-14-422-01	0-1	Vanadium	M	29,200,000.0	37,600,000		14,688.5	14,688.5
RES-14-422-01	0-1	Zinc	M	186,000,000.0	221,000,000	-	14,688.5	14,688.5
RES-14-422-01	0-1	Benzo(a)pyrene	PAH	640,000.0	1,400,000	-	14,688.5	14,688.5
RES-14-422-01	0-1	Dibenzo(a,h)anthracene	PAH	77,000.0	970,000	-	14,688.5	14,688.5
RES-14-422-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	14,688.5	14,688.5
RES-14-422-01	0-1	Aroclor 1254	PCB	280,000.0	150,000	- 1.9	9,929.9	9,929.9
RES-14-422-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	14,688.5	14,688.5
RES-14-422-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	14,688.5	14,688.5
RES-14-422-01	0-1	Dieldrin	PEST	0.0	2,600		14,688.5	14,688.5
RES-14-424-01	0-1	2,3,7,8-TCDD	DIOXIN	31.4	15	- 2.1	6,742.8	6,742.8
RES-14-424-01	0-1	Aluminum	M	16,500,000,000.0	8,210,000,000	- 2.0	10,051.4	10,051.4
RES-14-424-01	0-1	Arsenic	M	4,100,000.0	3,900,000	- 1.1	10,051.4	10,051.4
RES-14-424-01	0-1	Barium	M	103,000,000.0	134,000,000		10,051.4	10,051.4
RES-14-424-01	0-1	Selenium	M	0.0	1,100,000		10,051.4	10,051.4
RES-14-424-01	0-1	Vanadium	M	35,700,000.0	37,600,000		10,051.4	10,051.4
RES-14-424-01	0-1	Zinc	M	214,000,000.0	221,000,000	-	10,051.4	10,051.4
RES-14-424-01	0-1	Benzo(a)pyrene	PAH	64,000.0	1,400,000	-	10,051.4	10,051.4
RES-14-424-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	10,051.4	10,051.4
RES-14-424-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	10,051.4	10,051.4
RES-14-424-01	0-1	Aroclor 1254	PCB	260,000.0	150,000	- 1.7	9,881.0	9,881.0
RES-14-424-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	10,051.4	10,051.4

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-14-424-01	0-1	4,4'-DDE	PEST	0.0	6,000		10,051.4	10,051.4
RES-14-424-01	0-1	Dieldrin	PEST	0.0	2,600		10,051.4	10,051.4
RES-14-424-02	0-1	2,3,7,8-TCDD	DIOXIN	1,640.0	15	111.6	2,085.9	2,085.9
RES-14-425-01	0-1	2,3,7,8-TCDD	DIOXIN	1,910.0	15	- 129.9	3,920.9	3,920.9
RES-14-425-01	0-1	Aluminum	M	19,100,000,000.0	8,210,000,000	- 2.3	4,071.6	4,071.6
RES-14-425-01	0-1	Arsenic	M	8,000,000.0	3,900,000	2.1	4,071.6	4,071.6
RES-14-425-01	0-1	Barium	M	213,000,000.0	134,000,000	1.6	4,071.6	4,071.6
RES-14-425-01	0-1	Selenium	M	0.0	1,100,000		4,071.6	4,071.6
RES-14-425-01	0-1	Vanadium	M	33,500,000.0	37,600,000		4,071.6	4,071.6
RES-14-425-01	0-1	Zinc	M	319,000,000.0	221,000,000	1.4	4,071.6	4,071.6
RES-14-425-01	0-1	Benzo(a)pyrene	PAH	720,000.0	1,400,000	-	4,071.6	4,071.6
RES-14-425-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	4,071.6	4,071.6
RES-14-425-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		4,071.6	4,071.6
RES-14-425-01	0-1	Aroclor 1254	PCB	570,000.0	150,000	- 3.8	4,071.6	4,071.6
RES-14-425-01	0-1	4,4'-DDD	PEST	0.0	8,400	-	4,071.6	4,071.6
RES-14-425-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	4,071.6	4,071.6
RES-14-425-01	0-1	Dieldrin	PEST	0.0	2,600		4,071.6	4,071.6
RES-14-430-01	0-1	Aluminum	M	7,220,000,000.0	8,210,000,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Arsenic	M	3,200,000.0	3,900,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Barium	M	94,900,000.0	134,000,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Selenium	M	0.0	1,100,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Vanadium	M	17,500,000.0	37,600,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Zinc	M	175,000,000.0	221,000,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Benzo(a)pyrene	PAH	860,000.0	1,400,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	4,746.9	4,746.9
RES-14-430-01	0-1	Aroclor 1254	PCB	360,000.0	150,000	- 2.4	1,825.7	1,825.7
RES-14-430-01	0-1	4,4'-DDD	PEST	6,000.0	8,400	-	4,746.9	4,746.9
RES-14-430-01	0-1	4,4'-DDE	PEST	17,000.0	6,000	- 2.8	4,746.9	4,746.9
RES-14-430-01	0-1	Dieldrin	PEST	0.0	2,600		4,746.9	4,746.9
RES-14-448-01	0-1	2,3,7,8-TCDD	DIOXIN	10,530.0	15	- 716.3	1,988.6	1,988.6
RES-14-448-01	0-1	Aluminum	M	16,800,000,000.0	8,210,000,000	2.0	6,068.7	6,068.7
RES-14-448-01	0-1	Arsenic	M	10,900,000.0	3,900,000	- 2.8	6,068.7	6,068.7

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
RES-14-448-01	0-1	Barium	M	265,000,000.0	134,000,000	2.0	6,068.7	6,068.7
RES-14-448-01	0-1	Vanadium	M	53,600,000.0	37,600,000	1.4	6,068.7	6,068.7
RES-14-448-01	0-1	Zinc	M	826,000,000.0	221,000,000	3.7	6,068.7	6,068.7
RES-14-448-01	0-1	Benzo(a)pyrene	PAH	1,700,000.0	1,400,000	1.2	6,068.7	6,068.7
RES-14-448-01	0-1	Aroclor 1254	PCB	4,600,000.0	150,000	30.7	4,735.3	4,735.3
RES-14-448-01	0-1	4,4'-DDE	PEST	160,000.0	6,000	26.7	11,540.5	11,540.5
RES-14-449-01	0-1	2,3,7,8-TCDD	DIOXIN	2,880.0	15	195.9	363.0	363.0
RES-14-449-01	0-1	Aluminum	M	15,100,000,000.0	8,210,000,000	1.8	6,057.7	6,057.7
RES-14-449-01	0-1	Arsenic	M	14,700,000.0	3,900,000	3.8	6,057.7	6,057.7
RES-14-449-01	0-1	Barium	M	320,000,000.0	134,000,000	2.4	6,057.7	6,057.7
RES-14-449-01	0-1	Selenium	M	3,800,000.0	1,100,000	3.5	6,057.7	6,057.7
RES-14-449-01	0-1	Vanadium	M	54,100,000.0	37,600,000	1.4	6,057.7	6,057.7
RES-14-449-01	0-1	Zinc	M	340,000,000.0	221,000,000	1.5	6,057.7	6,057.7
RES-14-449-01	0-1	Benzo(a)pyrene	PAH	1,500,000.0	1,400,000	1.1	6,057.7	6,057.7
RES-14-449-01	0-1	Dibenzo(a,h)anthracene	PAH	530,000.0	970,000		6,057.7	6,057.7
RES-14-449-01	0-1	Aroclor 1254	PCB	2,400,000.0	150,000	16.0	1,388.2	1,388.2
RES-14-449-02	0-1	2,3,7,8-TCDD	DIOXIN	6,670.0	15	453.7	572.4	572.4
RES-14-449-03	0-1	2,3,7,8-TCDD	DIOXIN	57,310.0	15	3,898.6	346.5	346.5
SD-10	0-0.5	2,3,7,8-TCDD	DIOXIN	160.9	15	10.9	4,818.9	2,409.4
SD-10	0-0.5	Benzo(a)pyrene	PAH	190,000.0	1,400,000		768.6	384.3
SD-10	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		768.6	384.3
SD-10	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		768.6	384.3
SD-10	0-0.5	Aroclor 1254	PCB	0.0	150,000	-	768.6	384.3
SD-10	0-0.5	4,4'-DDD	PEST	1,900.0	8,400	-	768.6	384.3
SD-10	0-0.5	4,4'-DDE	PEST	1,700.0	6,000	-	768.6	384.3
SD-10	0-0.5	Dieldrin	PEST	0.0	2,600	-	768.6	384.3
SD-12	0-1	2,3,7,8-TCDD	DIOXIN	19.2	15	1.3	13,228.7	13,228.7
SD-12	0-1	Benzo(a)pyrene	PAH	0.0	1,400,000	-	32,483.6	32,483.6
SD-12	0-1	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	32,483.6	32,483.6
SD-12	0-1	N-nitroso-di-n-propylamine	PAH	0.0	456,000		32,483.6	32,483.6
SD-12	0-1	Aroclor 1254	PCB	0.0	150,000	-	28,352.4	28,352.4
SD-12	0-1	4,4'-DDD	PEST	0.0	8,400	-	28,352.4	28,352.4
SD-12	0-1	4,4'-DDE	PEST	0.0	6,000	-	28,352.4	28,352.4
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
SD-12	0-1	Dieldrin	PEST	1,400.0	2,600		28,352.4	28,352.4
SD-20	0-0.25	2,3,7,8-TCDD	DIOXIN	3,534.2	15	240.4	1,858.1	464.5
SD-20	0-0.25	Aroclor 1254	PCB	200,000.0	150,000	1.3	1,858.1	464.5
SD-20	0-0.25	4,4'-DDE	PEST	4,200.0	6,000	-	2,557.6	639.4
SD-21	0.5-2	2,3,7,8-TCDD	DIOXIN	4,099.0	15	278.8	2,086.6	3,129.9
SD-21	0.5-2	Aroclor 1254	PCB	140,000.0	150,000		2,086.6	3,129.9
SD-21	0.5-2	4,4'-DDD	PEST	2,400.0	8,400	-	2,095.3	3,143.0
SD-21	0.5-2	4,4'-DDE	PEST	2,800.0	6,000		2,095.3	3,143.0
SD-21	0.5-2	Dieldrin	PEST	0.0	2,600	-	2,095.3	3,143.0
SD-22	0-0.25	2,3,7,8-TCDD	DIOXIN	7,468.1	15	- 508.0	1,292.4	323.1
SD-22	0-0.25	Aroclor 1254	PCB	440,000.0	150,000	- 2.9	750.1	187.5
SD-22	0-0.25	4,4'-DDD	PEST	0.0	8,400	-	750.1	187.5
SD-22	0-0.25	4,4'-DDE	PEST	9,500.0	6,000	1.6	750.1	187.5
SD-22	0-0.25	Dieldrin	PEST	0.0	2,600		750.1	187.5
SD-23	0-0.25	2,3,7,8-TCDD	DIOXIN	10,050.8	15	- 683.7	2,971.7	742.9
SD-23	0-0.25	Aroclor 1254	PCB	320,000.0	150,000	2.1	3,724.2	931.0
SD-23	0-0.25	4,4'-DDE	PEST	9,300.0	6,000	- 1.6	5,481.4	1,370.3
SD-24	0-0.25	2,3,7,8-TCDD	DIOXIN	5,788.1	15	393.8	5,311.9	1,328.0
SD-24	0-0.25	Aroclor 1254	PCB	260,000.0	150,000	1.7	6,514.3	1,628.6
SD-24	0-0.25	4,4'-DDE	PEST	5,100.0	6,000		11,463.1	2,865.8
SD-25	0-0.25	2,3,7,8-TCDD	DIOXIN	5,178.9	15	352.3	1,401.3	350.3
SD-25	0-0.25	Aroclor 1254	PCB	170,000.0	150,000	1.1	7,597.4	1,899.3
SD-25	0-0.25	4,4'-DDE	PEST	3,700.0	6,000	-	7,604.3	1,901.1
SD-26	0-0.5	2,3,7,8-TCDD	DIOXIN	92.2	15	6.3	9,697.0	4,848.5
SD-26	0-0.5	Aroclor 1254	PCB	33,000.0	150,000		13,583.0	6,791.5
SD-26	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	13,584.9	6,792.4
SD-26	0-0.5	4,4'-DDE	PEST	0.0	6,000		13,584.9	6,792.4
SD-26	0-0.5	Dieldrin	PEST	0.0	2,600	-	13,584.9	6,792.4
SD-27	0-0.5	2,3,7,8-TCDD	DIOXIN	1,333.0	15	- 90.7	4,441.5	2,220.8
SD-27	0-0.5	Aroclor 1254	PCB	140,000.0	150,000	-	10,070.7	5,035.4
SD-27	0-0.5	4,4'-DDE	PEST	5,200.0	6,000	-	10,070.7	5,035.4
SD-27	0-0.5	Dieldrin	PEST	12,000.0	2,600	4.6	10,070.7	5,035.4
SD-28	0-0.5	2,3,7,8-TCDD	DIOXIN	0.0	15	-	249.3	124.7

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
SD-28	0-0.5	Aroclor 1254	PCB	48,000.0	150,000		249.3	124.7
SD-28	0-0.5	4,4'-DDD	PEST	0.0	8,400		249.3	124.7
SD-28	0-0.5	4,4'-DDE	PEST	380.0	6,000		249.3	124.7
SD-28	0-0.5	Dieldrin	PEST	0.0	2,600	-	249.3	124.7
SD-29	0-0.5	2,3,7,8-TCDD	DIOXIN	54.6	15	- 3.7	1,161.5	580.8
SD-29	0-0.5	Aroclor 1254	PCB	65,000.0	150,000	-	1,389.1	694.6
SD-29	0-0.5	4,4'-DDD	PEST	3,700.0	8,400	-	1,389.1	694.6
SD-29	0-0.5	4,4'-DDE	PEST	0.0	6,000		1,389.1	694.6
SD-29	0-0.5	Dieldrin	PEST	0.0	2,600	-	1,389.1	694.6
WRC-SD-2009	0-0.5	2,3,7,8-TCDD	DIOXIN	6.3	15	-	7,545.5	3,772.8
WRC-SD-2009	0-0.5	Aluminum	M	2,260,000,000.0	8,210,000,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Arsenic	M	1,100,000.0	3,900,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Barium	M	0.0	134,000,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Selenium	M	0.0	1,100,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Vanadium	M	10,200,000.0	37,600,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Zinc	M	100,000,000.0	221,000,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Benzo(a)pyrene	PAH	1,600,000.0	1,400,000	- 1.1	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Dibenzo(a,h)anthracene	PAH	800,000.0	970,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	7,794.9	3,897.4
WRC-SD-2009	0-0.5	Aroclor 1254	PCB	190,000.0	150,000	1.3	7,545.5	3,772.8
WRC-SD-2009	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	7,545.5	3,772.8
WRC-SD-2009	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	7,545.5	3,772.8
WRC-SD-2009	0-0.5	Dieldrin	PEST	0.0	2,600		7,545.5	3,772.8
WRC-SD-2010	0-0.5	2,3,7,8-TCDD	DIOXIN	194.0	15	- 13.2	10,142.3	5,071.1
WRC-SD-2010	0-0.5	Aluminum	M	2,680,000,000.0	8,210,000,000	-	11,099.6	5,549.8
WRC-SD-2010	0-0.5	Arsenic	M	2,500,000.0	3,900,000	-	11,099.6	5,549.8
WRC-SD-2010	0-0.5	Barium	M	0.0	134,000,000		11,099.6	5,549.8
WRC-SD-2010	0-0.5	Selenium	M	0.0	1,100,000	-	11,099.6	5,549.8
WRC-SD-2010	0-0.5	Vanadium	M	9,800,000.0	37,600,000	-	11,099.6	5,549.8
WRC-SD-2010	0-0.5	Zinc	M	86,500,000.0	221,000,000	-	11,099.6	5,549.8
WRC-SD-2010	0-0.5	Benzo(a)pyrene	PAH	1,400,000.0	1,400,000	- 1.0	11,099.6	5,549.8
WRC-SD-2010	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	11,099.6	5,549.8
WRC-SD-2010	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	11,099.6	5,549.8

Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
WRC-SD-2010	0-0.5	Aroclor 1254	PCB	110,000.0	150,000		10,142.3	5,071.1
WRC-SD-2010	0-0.5	4,4'-DDD	PEST	4,600.0	8,400		10,142.3	5,071.1
WRC-SD-2010	0-0.5	4,4'-DDE	PEST	4,600.0	6,000		10,142.3	5,071.1
WRC-SD-2010	0-0.5	Dieldrin	PEST	4,600.0	2,600	- 1.8	10,142.3	5,071.1
WRC-SD-2011	0-0.5	2,3,7,8-TCDD	DIOXIN	210.0	15	- 14.3	5,531.1	2,765.5
WRC-SD-2011	0-0.5	Aluminum	M	1,860,000,000.0	8,210,000,000	-	15,393.8	7,696.9
WRC-SD-2011	0-0.5	Arsenic	M	1,100,000.0	3,900,000		15,393.8	7,696.9
WRC-SD-2011	0-0.5	Barium	M	0.0	134,000,000		15,393.8	7,696.9
WRC-SD-2011	0-0.5	Selenium	M	0.0	1,100,000	-	15,393.8	7,696.9
WRC-SD-2011	0-0.5	Vanadium	M	9,700,000.0	37,600,000	-	15,393.8	7,696.9
WRC-SD-2011	0-0.5	Zinc	M	0.6	221,000,000	-	15,393.8	7,696.9
WRC-SD-2011	0-0.5	Benzo(a)pyrene	PAH	4,800,000.0	1,400,000	- 3.4	12,381.1	6,190.5
WRC-SD-2011	0-0.5	Dibenzo(a,h)anthracene	PAH	1,700,000.0	970,000	- 1.8	12,381.1	6,190.5
WRC-SD-2011	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	12,381.1	6,190.5
WRC-SD-2011	0-0.5	Aroclor 1254	PCB	280,000.0	150,000	1.9	6,858.5	3,429.3
WRC-SD-2011	0-0.5	4,4'-DDD	PEST	0.0	8,400		10,351.3	5,175.6
WRC-SD-2011	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	10,351.3	5,175.6
WRC-SD-2011	0-0.5	Dieldrin	PEST	0.0	2,600		10,351.3	5,175.6
WRC-SD-2011	0.5-1.5	2,3,7,8-TCDD	DIOXIN	313.0	15	- 21.3	5,531.1	5,531.1
WRC-SD-2011	0.5-1.5	Aluminum	M	1,790,000,000.0	8,210,000,000	-	15,393.8	15,393.8
WRC-SD-2011	0.5-1.5	Arsenic	M	1,400,000.0	3,900,000	-	15,393.8	15,393.8
WRC-SD-2011	0.5-1.5	Barium	M	0.0	134,000,000		15,393.8	15,393.8
WRC-SD-2011	0.5-1.5	Selenium	M	0.0	1,100,000	-	15,393.8	15,393.8
WRC-SD-2011	0.5-1.5	Vanadium	M	7,900,000.0	37,600,000	-	15,393.8	15,393.8
WRC-SD-2011	0.5-1.5	Zinc	M	0.0	221,000,000	-	15,393.8	15,393.8
WRC-SD-2011	0.5-1.5	Benzo(a)pyrene	PAH	1,200,000.0	1,400,000	-	12,381.1	12,381.1
WRC-SD-2011	0.5-1.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	12,381.1	12,381.1
WRC-SD-2011	0.5-1.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	12,381.1	12,381.1
WRC-SD-2011	0.5-1.5	Aroclor 1254	PCB	210,000.0	150,000	- 1.4	6,858.5	6,858.5
WRC-SD-2011	0.5-1.5	4,4'-DDD	PEST	0.0	8,400	-	10,351.3	10,351.3
WRC-SD-2011	0.5-1.5	4,4'-DDE	PEST	0.0	6,000	-	10,351.3	10,351.3
WRC-SD-2011	0.5-1.5	Dieldrin	PEST	0.0	2,600		10,351.3	10,351.3
WRC-SD-2012	0-0.5	2,3,7,8-TCDD	DIOXIN	407.0	15	- 27.7	7,470.5	3,735.2

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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
WRC-SD-2012	0-0.5	Aluminum	M	4,310,000,000.0	8,210,000,000		7,470.5	3,735.2
WRC-SD-2012	0-0.5	Arsenic	M	1,700,000.0	3,900,000		7,470.5	3,735.2
WRC-SD-2012	0-0.5	Barium	M	0.0	134,000,000		7,470.5	3,735.2
WRC-SD-2012	0-0.5	Selenium	M	0.0	1,100,000	-	7,470.5	3,735.2
WRC-SD-2012	0-0.5	Vanadium	M	19,100,000.0	37,600,000	-	7,470.5	3,735.2
WRC-SD-2012	0-0.5	Zinc	M	533,000,000.0	221,000,000	- 2.4	7,470.5	3,735.2
WRC-SD-2012	0-0.5	Benzo(a)pyrene	PAH	600,000.0	1,400,000	-	7,470.5	3,735.2
WRC-SD-2012	0-0.5	Dibenzo(a,h)anthracene	PAH	130,000.0	970,000	-	7,470.5	3,735.2
WRC-SD-2012	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		7,470.5	3,735.2
WRC-SD-2012	0-0.5	Aroclor 1254	PCB	180,000.0	150,000	- 1.2	7,470.5	3,735.2
WRC-SD-2013	0-0.5	2,3,7,8-TCDD	DIOXIN	58.6	15	- 4.0	10,157.2	5,078.6
WRC-SD-2013	0-0.5	Aluminum	M	4,990,000,000.0	8,210,000,000	-	13,305.6	6,652.8
WRC-SD-2013	0-0.5	Arsenic	M	0.0	3,900,000		13,305.6	6,652.8
WRC-SD-2013	0-0.5	Barium	M	0.0	134,000,000		13,305.6	6,652.8
WRC-SD-2013	0-0.5	Selenium	M	0.0	1,100,000	-	13,305.6	6,652.8
WRC-SD-2013	0-0.5	Vanadium	M	8,700,000.0	37,600,000	-	13,305.6	6,652.8
WRC-SD-2013	0-0.5	Zinc	M	61,200,000.0	221,000,000	-	13,305.6	6,652.8
WRC-SD-2013	0-0.5	Benzo(a)pyrene	PAH	84,000.0	1,400,000	-	13,305.6	6,652.8
WRC-SD-2013	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	13,305.6	6,652.8
WRC-SD-2013	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000	-	13,305.6	6,652.8
WRC-SD-2013	0-0.5	Aroclor 1254	PCB	0.0	150,000	-	10,157.2	5,078.6
WRC-SD-2013	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	14,134.9	7,067.5
WRC-SD-2013	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	14,134.9	7,067.5
WRC-SD-2013	0-0.5	Dieldrin	PEST	0.0	2,600	-	14,134.9	7,067.5
WRC-SD-2014	0-0.5	2,3,7,8-TCDD	DIOXIN	8,300.0	15	- 564.6	2,675.8	1,337.9
WRC-SD-2014	0-0.5	Aluminum	M	1,960,000,000.0	8,210,000,000	-	12,427.5	6,213.7
WRC-SD-2014	0-0.5	Arsenic	M	0.0	3,900,000	-	12,427.5	6,213.7
WRC-SD-2014	0-0.5	Barium	M	0.0	134,000,000		12,427.5	6,213.7
WRC-SD-2014	0-0.5	Selenium	M	0.0	1,100,000	-	12,427.5	6,213.7
WRC-SD-2014	0-0.5	Vanadium	M	6,300,000.0	37,600,000	-	12,427.5	6,213.7
WRC-SD-2014	0-0.5	Zinc	M	0.3	221,000,000	-	12,427.5	6,213.7
WRC-SD-2014	0-0.5	Benzo(a)pyrene	PAH	360,000.0	1,400,000	-	21,217.2	10,608.6
WRC-SD-2014	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000	-	21,217.2	10,608.6
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Table 2.2-1: Allendale and Lyman Mill Sediment (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft^3)
WRC-SD-2014	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		21,217.2	10,608.6
WRC-SD-2014	0-0.5	Aroclor 1254	PCB	63,000.0	150,000		12,427.5	6,213.7
WRC-SD-2014	0-0.5	4,4'-DDD	PEST	0.0	8,400		12,427.5	6,213.7
WRC-SD-2014	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	12,427.5	6,213.7
WRC-SD-2014	0-0.5	Dieldrin	PEST	0.0	2,600	-	12,427.5	6,213.7
WRC-SD-2015	0-0.5	2,3,7,8-TCDD	DIOXIN	7,300.0	15	- 496.6	3,793.3	1,896.6
WRC-SD-2015	0-0.5	Aluminum	M	7,020,000,000.0	8,210,000,000	-	26,935.2	13,467.6
WRC-SD-2015	0-0.5	Arsenic	M	4,900,000.0	3,900,000	- 1.3	26,935.2	13,467.6
WRC-SD-2015	0-0.5	Barium	M	181,000,000.0	134,000,000	1.4	26,935.2	13,467.6
WRC-SD-2015	0-0.5	Selenium	M	1,100,000.0	1,100,000	- 1.0	26,935.2	13,467.6
WRC-SD-2015	0-0.5	Vanadium	M	89,300,000.0	37,600,000	2.4	26,935.2	13,467.6
WRC-SD-2015	0-0.5	Zinc	M	705,000,000.0	221,000,000	3.2	26,935.2	13,467.6
WRC-SD-2015	0-0.5	Benzo(a)pyrene	PAH	3,000,000.0	1,400,000	2.1	27,692.6	13,846.3
WRC-SD-2015	0-0.5	Dibenzo(a,h)anthracene	PAH	0.0	970,000		27,692.6	13,846.3
WRC-SD-2015	0-0.5	N-nitroso-di-n-propylamine	PAH	0.0	456,000		27,692.6	13,846.3
WRC-SD-2015	0-0.5	Aroclor 1254	PCB	2,000,000.0	150,000	13.3	26,935.2	13,467.6
WRC-SD-2015	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	26,935.2	13,467.6
WRC-SD-2015	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	26,935.2	13,467.6

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Table 2.2-2: Allendale Floodplain Soil

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
AP-DEL-05	0-1	2,3,7,8-TCDD	DIOXIN	440.0	17	25.9	3,391.5	3,391.5
AP-DEL-05	1-2	2,3,7,8-TCDD	DIOXIN	5.9	17		3,391.5	3,391.5
AP-DEL-06	0-1	2,3,7,8-TCDD	DIOXIN	1.0	17		499.9	499.9
AP-DEL-06	1-2	2,3,7,8-TCDD	DIOXIN	5.3	17		499.9	499.9
AP-DEL-07	0-1	2,3,7,8-TCDD	DIOXIN	97.0	17	- 5.7	1,415.3	1,415.3
AP-DEL-07	1-2	2,3,7,8-TCDD	DIOXIN	120.0	17	- 7.1	1,415.3	1,415.3
AP-DEL-13	0-1	2,3,7,8-TCDD	DIOXIN	130.0	17	- 7.6	783.4	783.4
AP-DEL-13	1-2	2,3,7,8-TCDD	DIOXIN	2.4	17		783.4	783.4
AP-DEL-14	0-1	2,3,7,8-TCDD	DIOXIN	42.0	17	2.5	4,656.5	4,656.5
AP-DEL-14	1-2	2,3,7,8-TCDD	DIOXIN	52.0	17	3.1	4,656.5	4,656.5
AP-DEL-15	0-1	2,3,7,8-TCDD	DIOXIN	110.0	17	- 6.5	17.6	17.6
AP-DEL-15	1-2	2,3,7,8-TCDD	DIOXIN	3.0	17		17.6	17.6
AP-DEL-16	0-1	2,3,7,8-TCDD	DIOXIN	2.4	17		545.6	545.6
AP-DEL-16	1-2	2,3,7,8-TCDD	DIOXIN	0.0	17		545.6	545.6
AP-DEL-17	0-1	2,3,7,8-TCDD	DIOXIN	840.0	17	- 49.4	2,733.7	2,733.7
AP-DEL-18	0-1	2,3,7,8-TCDD	DIOXIN	230.0	17	- 13.5	1,767.7	1,767.7
AP-DEL-18	1-2	2,3,7,8-TCDD	DIOXIN	730.0	17	- 42.9	1,767.7	1,767.7
CMS-005	0-0.25	2,3,7,8-TCDD	DIOXIN	322.0	17	18.9	685.6	171.4
CMS-006	0-0.25	2,3,7,8-TCDD	DIOXIN	14.6	17		1,042.0	260.5
CMS-007	0-0.25	2,3,7,8-TCDD	DIOXIN	485.0	17	28.5	990.9	247.7
CMS-008	0-0.25	2,3,7,8-TCDD	DIOXIN	14.9	17		1,050.5	262.6
CMS-009	0-0.25	2,3,7,8-TCDD	DIOXIN	32.2	17	- 1.9	1,101.4	275.3
CMS-010	0-0.25	2,3,7,8-TCDD	DIOXIN	18.9	17	1.1	1,036.1	259.0
CMS-011	0-0.25	2,3,7,8-TCDD	DIOXIN	200.0	17	- 11.8	945.0	236.3
CMS-012	0-0.25	2,3,7,8-TCDD	DIOXIN	151.0	17	8.9	1,133.9	283.5
CMS-013	0-0.25	2,3,7,8-TCDD	DIOXIN	236.0	17	13.9	1,295.2	323.8
CMS-014	0-0.25	2,3,7,8-TCDD	DIOXIN	25.6	17	1.5	1,423.7	355.9
CMS-015	0-0.25	2,3,7,8-TCDD	DIOXIN	45.5	17	2.7	1,478.7	369.7
CMS-016	0-0.25	2,3,7,8-TCDD	DIOXIN	815.0	17	47.9	1,338.7	334.7
CMS-017	0-0.25	2,3,7,8-TCDD	DIOXIN	302.0	17	17.8	7,284.0	1,821.0
CMS-018	0-0.25	2,3,7,8-TCDD	DIOXIN	38.1	17	2.2	3,310.6	827.6
CMS-019	0-0.25	2,3,7,8-TCDD	DIOXIN	1,510.0	17	88.8	2,220.8	555.2
CMS-019	0-1	2,3,7,8-TCDD	DIOXIN	34.0	17	2.0	2,220.8	2,220.8

Table 2.2-2: Allendale Floodplain Soil (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-019	1-2	2,3,7,8-TCDD	DIOXIN	33.0	17	1.9	2,220.8	2,220.8
CMS-019	2-3	2,3,7,8-TCDD	DIOXIN	0.0	17		2,220.8	2,220.8
CMS-019	3-4	2,3,7,8-TCDD	DIOXIN	0.0	17		2,220.8	2,220.8
CMS-019	5-6	2,3,7,8-TCDD	DIOXIN	1,400.0	17	82.4	2,220.8	2,220.8
CMS-019	6-7	2,3,7,8-TCDD	DIOXIN	210.0	17	- 12.4	2,220.8	2,220.8
CMS-184	0-0.25	2,3,7,8-TCDD	DIOXIN	88.3	17	- 5.2	13,305.1	3,326.3
CMS-185	0-0.25	2,3,7,8-TCDD	DIOXIN	61.6	17	3.6	1,088.7	272.2
CMS-189	0-0.25	2,3,7,8-TCDD	DIOXIN	153.0	17	9.0	195.2	48.8
CMS-197	0-0.25	2,3,7,8-TCDD	DIOXIN	616.0	17	36.2	1,418.3	354.6
CMS-418	0-1	2,3,7,8-TCDD	DIOXIN	240.0	17	14.1	578.7	578.7
CMS-418	0-1	Arsenic	M	1,500,000.0	7,700,000		0.0	0.0
CMS-418	0-1	Cadmium	M	160,000.0	3,800,000		0.0	0.0
CMS-418	0-1	Lead	M	89,400,000.0	450,000,000		0.0	0.0
CMS-418	0-1	Selenium	M	0.0	700,000	-	0.0	0.0
CMS-418	0-1	Zinc	M	44,800,000.0	320,000,000	-	0.0	0.0
CMS-418	0-1	Aroclor 1254	PCB	210,000.0	820,000	-	0.0	0.0
CMS-418	0-1	4,4'-DDE	PEST	2,000.0	16,000	-	0.0	0.0
CMS-418	0-1	Dieldrin	PEST	0.0	40,000	-	0.0	0.0
CMS-418	1-2	2,3,7,8-TCDD	DIOXIN	210.0	17	- 12.4	578.7	578.7
CMS-418	1-2	Arsenic	M	1,300,000.0	7,700,000	-	0.0	0.0
CMS-418	1-2	Cadmium	M	160,000.0	3,800,000	-	0.0	0.0
CMS-418	1-2	Lead	M	220,000,000.0	450,000,000		0.0	0.0
CMS-418	1-2	Selenium	M	0.0	700,000	-	0.0	0.0
CMS-418	1-2	Zinc	M	56,000,000.0	320,000,000	-	0.0	0.0
CMS-418	1-2	Aroclor 1254	PCB	200,000.0	820,000	-	0.0	0.0
CMS-418	1-2	4,4'-DDE	PEST	730.0	16,000	-	0.0	0.0
CMS-418	1-2	Dieldrin	PEST	980.0	40,000	-	0.0	0.0
CMS-446	0-1	2,3,7,8-TCDD	DIOXIN	60.0	17	- 3.5	805.4	805.4
CMS-460	0-1	2,3,7,8-TCDD	DIOXIN	4.5	17	-	280.4	280.4
CMS-461	0-1	2,3,7,8-TCDD	DIOXIN	24.4	17	- 1.4	919.7	919.7
CMS-469	0-1	2,3,7,8-TCDD	DIOXIN	5.8	17		795.1	795.1
CMS-497	0-1	2,3,7,8-TCDD	DIOXIN	78.4	17	- 4.6	630.1	630.1
CMS-498	0-1	2,3,7,8-TCDD	DIOXIN	84.9	17	5.0	904.6	904.6

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Table 2.2-2: Allendale Floodplain Soil (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-499	0-1	2,3,7,8-TCDD	DIOXIN	90.3	17	5.3	1,905.9	1,905.9
RES-14-210-02	0-1	2,3,7,8-TCDD	DIOXIN	12.1	17		221.0	221.0
RES-14-365-02	0-1	2,3,7,8-TCDD	DIOXIN	55.0	17	3.2	3,828.4	3,828.4
RES-14-365-03	0-1	2,3,7,8-TCDD	DIOXIN	96.6	17	5.7	1,754.8	1,754.8
RES-14-366-03	0-1	2,3,7,8-TCDD	DIOXIN	9.8	17	-	1,943.1	1,943.1

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Table 2.2-3: Lyman Mill Stream Sediment Excavation

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
AD-05	0-1	2,3,7,8-TCDD	DIOXIN	2,800.0	15	190.5	8,491.7	8,491.7
AD-05	0-1	Arsenic	M	0.0	3,900,000		8,491.7	8,491.7
AD-05	0-1	Barium	M	65,900,000.0	134,000,000		8,491.7	8,491.7
AD-05	0-1	Selenium	M	0.0	1,100,000		8,491.7	8,491.7
AD-05	0-1	Benzo(a)pyrene	SVOC	1,400,000.0	1,400,000	- 1.0	13,149.0	13,149.0
AD-05	0-1	Dibenzo(a,h)anthracene	SVOC	260,000.0	970,000	-	13,149.0	13,149.0
AD-05	0-1	Aroclor 1254	PCB	910,000.0	150,000	- 6.1	8,491.7	8,491.7
AD-05	0-1	4,4'-DDD	PEST	0.0	8,400		8,491.7	8,491.7
AD-05	0-1	4,4'-DDE	PEST	18,000.0	6,000	- 3.0	8,491.7	8,491.7
AD-05	0-1	Dieldrin	PEST	0.0	2,600		8,491.7	8,491.7
AD-05	0-1	Technical Chlordane	PEST	17,000.0	400,000	-	8,491.7	8,491.7
CMS-458	0-1	2,3,7,8-TCDD	DIOXIN	720.0	15	49.0	5,480.1	5,480.1
LPX-FP-4004	0-0.5	2,3,7,8-TCDD	DIOXIN	1,130.1	15	- 76.9	3,181.7	1,590.9
LPX-FP-4004	0-0.5	Arsenic	M	4,250,000.0	3,900,000	- 1.1	3,181.7	1,590.9
LPX-FP-4004	0-0.5	Selenium	M	779,000.0	1,100,000		3,181.7	1,590.9
LPX-FP-4004	0-0.5	Zinc	M	97,500,000.0	221,000,000		3,181.7	1,590.9
LPX-FP-4004	0-0.5	Aroclor 1254	PCB	746,140.0	150,000	5.0	3,181.7	1,590.9
LPX-FP-4004	0-0.5	4,4'-DDE	PEST	36,330.0	6,000	- 6.1	3,181.7	1,590.9
LPX-FP-4004	0-0.5	Dieldrin	PEST	13,130.0	2,600	- 5.1	3,181.7	1,590.9
LPX-SD-4405	0-0.5	2,3,7,8-TCDD	DIOXIN	4,270.0	15	290.5	1,324.2	662.1
RES-11-419-02	0-1	2,3,7,8-TCDD	DIOXIN	144.0	15	9.8	3,680.5	3,680.5
RES-12-560-01	0-1	Arsenic	M	5,800,000.0	3,900,000	1.5	5,764.6	5,764.6
RES-12-560-01	0-1	Selenium	M	0.0	1,100,000		5,764.6	5,764.6
RES-12-560-01	0-1	Zinc	M	83,100,000.0	221,000,000		5,764.6	5,764.6
RES-12-560-01	0-1	Aroclor 1254	PCB	0.0	150,000		5,762.2	5,762.2
RES-12-560-01	0-1	4,4'-DDE	PEST	5,200.0	6,000	-	5,762.2	5,762.2
RES-12-560-01	0-1	Dieldrin	PEST	0.0	2,600	-	5,762.2	5,762.2
SD_G-01	0-1	2,3,7,8-TCDD	DIOXIN	14,600.0	15	- 993.2	23,211.8	23,211.8
SD_G-01	0-1	Arsenic	M	9,300,000.0	3,900,000	- 2.4	23,211.8	23,211.8
SD_G-01	0-1	Selenium	M	1,600,000.0	1,100,000	- 1.5	23,211.8	23,211.8
SD_G-01	0-1	Zinc	M	899,000,000.0	221,000,000	4.1	23,211.8	23,211.8
SD_G-01	0-1	Aroclor 1254	PCB	1,700,000.0	150,000	11.3	23,211.8	23,211.8
SD_G-01	0-1	4,4'-DDE	PEST	0.0	6,000		23,211.8	23,211.8

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Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SD_G-01	0-1	Dieldrin	PEST	0.0	2,600		23,211.8	23,211.8
SD_G-01	1-2	2,3,7,8-TCDD	DIOXIN	603.0	15	41.0	23,211.8	23,211.8
SD_G-01	1-2	Arsenic	M	15,300,000.0	3,900,000	3.9	23,211.8	23,211.8
SD_G-01	1-2	Selenium	M	1,900,000.0	1,100,000	1.7	23,211.8	23,211.8
SD_G-01	1-2	Zinc	M	1,090,000,000.0	221,000,000	4.9	23,211.8	23,211.8
SD_G-01	1-2	Aroclor 1254	PCB	88,000.0	150,000		23,211.8	23,211.8
SD_G-01	1-2	4,4'-DDE	PEST	0.0	6,000		23,211.8	23,211.8
SD_G-01	1-2	Dieldrin	PEST	0.0	2,600		23,211.8	23,211.8
SD_G-01	2-3	2,3,7,8-TCDD	DIOXIN	272.0	15	18.5	23,211.8	23,211.8
SD_G-02	0-1	2,3,7,8-TCDD	DIOXIN	4,990.0	15	339.5	24,035.8	24,035.8
SD_G-02	0-1	Arsenic	M	7,100,000.0	3,900,000	1.8	24,035.8	24,035.8
SD_G-02	0-1	Selenium	M	2,000,000.0	1,100,000	1.8	24,035.8	24,035.8
SD_G-02	0-1	Zinc	M	331,000,000.0	221,000,000	1.5	24,035.8	24,035.8
SD_G-02	0-1	Aroclor 1254	PCB	280,000.0	150,000	1.9	24,035.8	24,035.8
SD_G-02	0-1	4,4'-DDE	PEST	6,700.0	6,000	1.1	24,035.8	24,035.8
SD_G-02	0-1	Dieldrin	PEST	0.0	2,600		24,035.8	24,035.8
SD_G-03	0-1	2,3,7,8-TCDD	DIOXIN	3,190.0	15	217.0	16,378.9	16,378.9
SD_G-03	0-1	Arsenic	M	4,200,000.0	3,900,000	1.1	16,378.9	16,378.9
SD_G-03	0-1	Selenium	M	700,000.0	1,100,000		16,378.9	16,378.9
SD_G-03	0-1	Zinc	M	271,000,000.0	221,000,000	1.2	16,378.9	16,378.9
SD_G-03	0-1	Aroclor 1254	PCB	540,000.0	150,000	3.6	16,378.9	16,378.9
SD_G-03	0-1	4,4'-DDE	PEST	0.0	6,000		16,378.9	16,378.9
SD_G-03	0-1	Dieldrin	PEST	0.0	2,600		16,378.9	16,378.9
SD_G-03	1-2	2,3,7,8-TCDD	DIOXIN	12.0	15		16,378.9	16,378.9
SD_G-03	1-2	Arsenic	M	2,400,000.0	3,900,000		16,378.9	16,378.9
SD_G-03	1-2	Selenium	M	0.0	1,100,000		16,378.9	16,378.9
SD_G-03	1-2	Zinc	M	138,000,000.0	221,000,000		16,378.9	16,378.9
SD_G-03	1-2	Aroclor 1254	PCB	280,000.0	150,000	1.9	16,378.9	16,378.9
SD_G-03	1-2	4,4'-DDE	PEST	0.0	6,000		16,378.9	16,378.9
SD_G-03	1-2	Dieldrin	PEST	0.0	2,600		16,378.9	16,378.9
SD_G-03	2-3	2,3,7,8-TCDD	DIOXIN	7.2	15		16,378.9	16,378.9
SD_G-05	0-1	2,3,7,8-TCDD	DIOXIN	4,170.0	15	283.7	24,459.9	24,459.9
SD_G-05	0-1	Arsenic	M	2,900,000.0	3,900,000		24,459.9	24,459.9

Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SD_G-05	0-1	Selenium	M	700,000.0	1,100,000		24,459.9	24,459.9
SD_G-05	0-1	Zinc	M	200,000,000.0	221,000,000		24,459.9	24,459.9
SD_G-05	0-1	Aroclor 1254	PCB	380,000.0	150,000	2.5	24,459.9	24,459.9
SD_G-05	0-1	4,4'-DDE	PEST	0.0	6,000	-	24,459.9	24,459.9
SD_G-05	0-1	Dieldrin	PEST	22,000.0	2,600	8.5	24,459.9	24,459.9
SD_G-05	1-2	2,3,7,8-TCDD	DIOXIN	2,590.0	15	176.2	24,459.9	24,459.9
SD_G-05	1-2	Arsenic	M	4,600,000.0	3,900,000	1.2	24,459.9	24,459.9
SD_G-05	1-2	Selenium	M	600,000.0	1,100,000		24,459.9	24,459.9
SD_G-05	1-2	Zinc	M	353,000,000.0	221,000,000	1.6	24,459.9	24,459.9
SD_G-05	1-2	Aroclor 1254	PCB	310,000.0	150,000	2.1	24,459.9	24,459.9
SD_G-05	1-2	4,4'-DDE	PEST	4,300.0	6,000	-	24,459.9	24,459.9
SD_G-05	1-2	Dieldrin	PEST	18,000.0	2,600	6.9	24,459.9	24,459.9
SD_G-05	2-3	2,3,7,8-TCDD	DIOXIN	798.0	15	54.3	24,459.9	24,459.9
SD_G-07	0-1	2,3,7,8-TCDD	DIOXIN	625.0	15	42.5	8,957.4	8,957.4
SD_G-07	0-1	Arsenic	M	2,900,000.0	3,900,000		8,957.4	8,957.4
SD_G-07	0-1	Selenium	M	500,000.0	1,100,000		8,957.4	8,957.4
SD_G-07	0-1	Zinc	M	138,000,000.0	221,000,000		8,957.4	8,957.4
SD_G-07	0-1	Aroclor 1254	PCB	120,000.0	150,000	-	8,957.4	8,957.4
SD_G-07	0-1	4,4'-DDE	PEST	3,600.0	6,000	-	8,957.4	8,957.4
SD_G-07	0-1	Dieldrin	PEST	0.0	2,600	-	8,957.4	8,957.4
SD_G-07	1-2	2,3,7,8-TCDD	DIOXIN	400.0	15	27.2	8,957.4	8,957.4
SD_G-07	1-2	Arsenic	M	6,500,000.0	3,900,000	1.7	8,957.4	8,957.4
SD_G-07	1-2	Selenium	M	700,000.0	1,100,000	-	8,957.4	8,957.4
SD_G-07	1-2	Zinc	M	318,000,000.0	221,000,000	1.4	8,957.4	8,957.4
SD_G-07	1-2	Aroclor 1254	PCB	110,000.0	150,000		8,957.4	8,957.4
SD_G-07	1-2	4,4'-DDE	PEST	2,000.0	6,000	-	8,957.4	8,957.4
SD_G-07	1-2	Dieldrin	PEST	0.0	2,600		8,957.4	8,957.4
SD_G-07	2-3	2,3,7,8-TCDD	DIOXIN	951.0	15	64.7	8,957.4	8,957.4
SD_G-11	0-1	2,3,7,8-TCDD	DIOXIN	8,760.0	15	595.9	5,352.8	5,352.8
SD_G-11	0-1	Arsenic	M	2,600,000.0	3,900,000	-	5,352.8	5,352.8
SD_G-11	0-1	Selenium	M	0.0	1,100,000		5,352.8	5,352.8
SD_G-11	0-1	Zinc	M	64,100,000.0	221,000,000		5,352.8	5,352.8
SD_G-11	0-1	Aroclor 1254	PCB	54,000.0	150,000	-	5,352.8	5,352.8

Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SD_G-11	0-1	4,4'-DDE	PEST	1,800.0	6,000		5,352.8	5,352.8
SD_G-11	0-1	Dieldrin	PEST	0.0	2,600		5,352.8	5,352.8
SD_G-11	1-2	2,3,7,8-TCDD	DIOXIN	651.0	15	44.3	5,352.8	5,352.8
SD_G-11	1-2	Arsenic	M	0.0	3,900,000	-	5,352.8	5,352.8
SD_G-11	1-2	Selenium	M	0.0	1,100,000	-	5,352.8	5,352.8
SD_G-11	1-2	Zinc	M	58,900,000.0	221,000,000		5,352.8	5,352.8
SD_G-11	1-2	Aroclor 1254	PCB	79,000.0	150,000	-	5,352.8	5,352.8
SD_G-11	1-2	4,4'-DDE	PEST	1,500.0	6,000	-	5,352.8	5,352.8
SD_G-11	1-2	Dieldrin	PEST	5,900.0	2,600	- 2.3	5,352.8	5,352.8
SD_G-11	2-3	2,3,7,8-TCDD	DIOXIN	2,100.0	15	- 142.9	5,352.8	5,352.8
SD-18	0-0.25	2,3,7,8-TCDD	DIOXIN	7,987.0	15	- 543.3	5,686.5	1,421.6
SD-18	0-0.25	Aroclor 1254	PCB	120,000.0	150,000		5,686.5	1,421.6
SD-18	0-0.25	4,4'-DDD	PEST	0.0	8,400		5,686.5	1,421.6
SD-18	0-0.25	4,4'-DDE	PEST	2,800.0	6,000		5,686.5	1,421.6
SD-18	0-0.25	Dieldrin	PEST	0.0	2,600	-	5,686.5	1,421.6
SD-19	0-0.25	2,3,7,8-TCDD	DIOXIN	18.1	15	- 1.2	7,056.6	1,764.2
SD-19	0-0.25	Aroclor 1254	PCB	0.0	150,000	-	7,056.0	1,764.0
SD-19	0-0.25	4,4'-DDD	PEST	0.0	8,400	-	7,056.0	1,764.0
SD-19	0-0.25	4,4'-DDE	PEST	1,300.0	6,000		7,056.0	1,764.0
SD-19	0-0.25	Dieldrin	PEST	0.0	2,600	-	7,056.0	1,764.0
SS_G-01	0-1	2,3,7,8-TCDD	DIOXIN	11,500.0	15	- 782.3	2,052.5	2,052.5
SS_G-01	0-1	Arsenic	M	3,900,000.0	3,900,000	- 1.0	3,113.7	3,113.7
SS_G-01	0-1	Selenium	M	400,000.0	1,100,000	-	3,113.7	3,113.7
SS_G-01	0-1	Zinc	M	40,000,000.0	221,000,000		3,113.7	3,113.7
SS_G-01	0-1	Aroclor 1254	PCB	340,000.0	150,000	2.3	3,113.7	3,113.7
SS_G-01	0-1	4,4'-DDE	PEST	0.0	6,000	-	3,113.7	3,113.7
SS_G-01	0-1	Dieldrin	PEST	7,500.0	2,600	- 2.9	3,113.7	3,113.7
SS_G-01	1-2	2,3,7,8-TCDD	DIOXIN	329.0	15	22.4	2,052.5	2,052.5
SS_G-01	1-2	Arsenic	M	3,000,000.0	3,900,000	-	3,113.7	3,113.7
SS_G-01	1-2	Selenium	M	300,000.0	1,100,000		3,113.7	3,113.7
SS_G-01	1-2	Zinc	M	24,200,000.0	221,000,000		3,113.7	3,113.7
SS_G-01	1-2	Aroclor 1254	PCB	27,000.0	150,000	-	3,113.7	3,113.7
SS_G-01	1-2	4,4'-DDE	PEST	0.0	6,000	-	3,113.7	3,113.7

Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS_G-01	1-2	Dieldrin	PEST	400.0	2,600		3,113.7	3,113.7
SS_G-01-01	0-1	2,3,7,8-TCDD	DIOXIN	4,870.0	15	331.3	10,239.7	10,239.7
SS_G-01-01	0-1	Arsenic	M	8,600,000.0	3,900,000	2.2	10,471.3	10,471.3
SS_G-01-01	0-1	Selenium	M	2,200,000.0	1,100,000	- 2.0	10,471.3	10,471.3
SS_G-01-01	0-1	Zinc	M	69,500,000.0	221,000,000		10,471.3	10,471.3
SS_G-01-01	0-1	Aroclor 1254	PCB	220,000.0	150,000	1.5	10,471.3	10,471.3
SS_G-01-01	0-1	4,4'-DDE	PEST	7,300.0	6,000	1.2	10,471.3	10,471.3
SS_G-01-01	0-1	Dieldrin	PEST	0.0	2,600	-	10,471.3	10,471.3
SS_G-01-02	0-1	2,3,7,8-TCDD	DIOXIN	3,470.0	15	236.1	4,883.0	4,883.0
SS_G-01-02	0-1	Arsenic	M	5,200,000.0	3,900,000	1.3	4,883.0	4,883.0
SS_G-01-02	0-1	Selenium	M	1,100,000.0	1,100,000	- 1.0	4,883.0	4,883.0
SS_G-01-02	0-1	Zinc	M	51,000,000.0	221,000,000		4,883.0	4,883.0
SS_G-01-02	0-1	Aroclor 1254	PCB	270,000.0	150,000	1.8	4,883.0	4,883.0
SS_G-01-02	0-1	4,4'-DDE	PEST	1,000.0	6,000		4,883.0	4,883.0
SS_G-01-02	0-1	Dieldrin	PEST	6,700.0	2,600	- 2.6	4,883.0	4,883.0
SS_G-01-03	0-1	2,3,7,8-TCDD	DIOXIN	14,600.0	15	993.2	1,595.4	1,595.4
SS_G-01-03	0-1	Arsenic	M	6,200,000.0	3,900,000	- 1.6	1,626.7	1,626.7
SS_G-01-03	0-1	Selenium	M	1,200,000.0	1,100,000	1.1	1,626.7	1,626.7
SS_G-01-03	0-1	Zinc	M	166,000,000.0	221,000,000		1,626.7	1,626.7
SS_G-01-03	0-1	Aroclor 1254	PCB	570,000.0	150,000	3.8	1,626.7	1,626.7
SS_G-01-03	0-1	4,4'-DDE	PEST	0.0	6,000		1,626.7	1,626.7
SS_G-01-03	0-1	Dieldrin	PEST	17,000.0	2,600	- 6.5	1,626.7	1,626.7
SS_G-18	0-1	2,3,7,8-TCDD	DIOXIN	1,190.0	15	81.0	11,027.7	11,027.7
SS_G-18	0-1	Arsenic	M	4,900,000.0	3,900,000	- 1.3	11,054.2	11,054.2
SS_G-18	0-1	Selenium	M	700,000.0	1,100,000		11,054.2	11,054.2
SS_G-18	0-1	Zinc	M	64,500,000.0	221,000,000		11,054.2	11,054.2
SS_G-18	0-1	Aroclor 1254	PCB	0.0	150,000		11,027.7	11,027.7
SS_G-18	0-1	4,4'-DDE	PEST	6,500.0	6,000	- 1.1	11,027.7	11,027.7
SS_G-18	0-1	Dieldrin	PEST	0.0	2,600	-	11,027.7	11,027.7
SS_G-23	0-1	2,3,7,8-TCDD	DIOXIN	1,000.0	15	- 68.0	3,558.5	3,558.5
SS_G-23	0-1	Arsenic	M	4,800,000.0	3,900,000	1.2	3,558.5	3,558.5
SS_G-23	0-1	Selenium	M	500,000.0	1,100,000	-	3,558.5	3,558.5
SS_G-23	0-1	Zinc	M	118,000,000.0	221,000,000		3,558.5	3,558.5

Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS_G-23	0-1	Aroclor 1254	PCB	100,000.0	150,000		3,558.5	3,558.5
SS_G-23	0-1	4,4'-DDE	PEST	5,300.0	6,000		3,558.5	3,558.5
SS_G-23	0-1	Dieldrin	PEST	0.0	2,600		3,558.5	3,558.5
SS_G-26	0-1	2,3,7,8-TCDD	DIOXIN	590.0	15	- 40.1	7,057.1	7,057.1
SS_G-26	0-1	Arsenic	M	3,100,000.0	3,900,000	-	7,185.9	7,185.9
SS_G-26	0-1	Selenium	M	100,000.0	1,100,000	-	7,185.9	7,185.9
SS_G-26	0-1	Zinc	M	53,800,000.0	221,000,000		7,185.9	7,185.9
SS_G-26	0-1	Aroclor 1254	PCB	40,000.0	150,000	-	7,057.1	7,057.1
SS_G-26	0-1	4,4'-DDE	PEST	2,600.0	6,000	-	7,057.1	7,057.1
SS_G-26	0-1	Dieldrin	PEST	0.0	2,600	-	7,057.1	7,057.1
SS_G-26	1-2	2,3,7,8-TCDD	DIOXIN	14.9	15	- 1.0	7,057.1	7,057.1
SS_G-26	1-2	Arsenic	M	2,000,000.0	3,900,000	-	7,185.9	7,185.9
SS_G-26	1-2	Selenium	M	0.0	1,100,000	-	7,185.9	7,185.9
SS_G-26	1-2	Zinc	M	34,600,000.0	221,000,000		7,185.9	7,185.9
SS_G-26	1-2	Aroclor 1254	PCB	0.0	150,000	-	7,057.1	7,057.1
SS_G-26	1-2	4,4'-DDE	PEST	260.0	6,000	-	7,057.1	7,057.1
SS_G-26	1-2	Dieldrin	PEST	0.0	2,600	-	7,057.1	7,057.1
SS_G-29	0-1	2,3,7,8-TCDD	DIOXIN	5,130.0	15	- 349.0	8,228.5	8,228.5
SS_G-29	0-1	Arsenic	M	2,100,000.0	3,900,000	-	8,228.5	8,228.5
SS_G-29	0-1	Selenium	M	400,000.0	1,100,000	-	8,228.5	8,228.5
SS_G-29	0-1	Zinc	M	90,300,000.0	221,000,000		8,228.5	8,228.5
SS_G-29	0-1	Aroclor 1254	PCB	360,000.0	150,000	- 2.4	8,228.5	8,228.5
SS_G-29	0-1	4,4'-DDE	PEST	5,200.0	6,000	-	8,228.5	8,228.5
SS_G-29	0-1	Dieldrin	PEST	0.0	2,600	-	8,228.5	8,228.5
SS_G-29-01	0-1	2,3,7,8-TCDD	DIOXIN	12,600.0	15	857.1	2,163.4	2,163.4
SS_G-29-01	0-1	Arsenic	M	18,400,000.0	3,900,000	- 4.7	2,163.4	2,163.4
SS_G-29-01	0-1	Selenium	M	1,500,000.0	1,100,000	- 1.4	2,163.4	2,163.4
SS_G-29-01	0-1	Zinc	M	199,000,000.0	221,000,000		2,163.4	2,163.4
SS_G-29-01	0-1	Aroclor 1254	PCB	310,000.0	150,000	2.1	2,163.4	2,163.4
SS_G-29-01	0-1	4,4'-DDE	PEST	11,000.0	6,000	1.8	2,163.4	2,163.4
SS_G-29-01	0-1	Dieldrin	PEST	0.0	2,600	-	2,163.4	2,163.4
SS_G-29-02	0-1	2,3,7,8-TCDD	DIOXIN	794.0	15	54.0	6,831.4	6,831.4
SS_G-29-02	0-1	Arsenic	M	0.0	3,900,000		6,831.4	6,831.4

Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS_G-29-02	0-1	Selenium	M	0.0	1,100,000		6,831.4	6,831.4
SS_G-29-02	0-1	Zinc	M	35,500,000.0	221,000,000		6,831.4	6,831.4
SS_G-29-02	0-1	Aroclor 1254	PCB	50,000.0	150,000		6,831.4	6,831.4
SS_G-29-02	0-1	4,4'-DDE	PEST	2,400.0	6,000	-	6,831.4	6,831.4
SS_G-29-02	0-1	Dieldrin	PEST	0.0	2,600	-	6,831.4	6,831.4
SS_H-01	0-1	2,3,7,8-TCDD	DIOXIN	3.7	15	-	8,656.2	8,656.2
SS_H-01	0-1	Arsenic	M	2,400,000.0	3,900,000	-	8,900.3	8,900.3
SS_H-01	0-1	Selenium	M	400,000.0	1,100,000	-	8,900.3	8,900.3
SS_H-01	0-1	Zinc	M	24,300,000.0	221,000,000	-	8,900.3	8,900.3
SS_H-01	0-1	Aroclor 1254	PCB	0.0	150,000	-	5,673.5	5,673.5
SS_H-01	0-1	4,4'-DDE	PEST	2,200.0	6,000	-	5,673.5	5,673.5
SS_H-01	0-1	Dieldrin	PEST	220.0	2,600	-	5,673.5	5,673.5
WRL-BK-2004	0-0.5	2,3,7,8-TCDD	DIOXIN	7,110.0	15	- 483.7	5,873.3	2,936.6
WRL-BK-2004	0-0.5	Aluminum	M	12,200,000,000.0	8,210,000,000	- 1.5	6,754.5	3,377.3
WRL-BK-2004	0-0.5	Arsenic	M	5,400,000.0	3,900,000	- 1.4	6,754.5	3,377.3
WRL-BK-2004	0-0.5	Barium	M	235,000,000.0	134,000,000	1.8	6,754.5	3,377.3
WRL-BK-2004	0-0.5	Selenium	M	970,000.0	1,100,000		6,754.5	3,377.3
WRL-BK-2004	0-0.5	Vanadium	M	56,100,000.0	37,600,000	1.5	6,754.5	3,377.3
WRL-BK-2004	0-0.5	Zinc	M	662,000,000.0	221,000,000	3.0	6,754.5	3,377.3
WRL-BK-2004	0-0.5	Benzo(a)pyrene	SVOC	580,000.0	1,400,000	-	18,334.6	9,167.3
WRL-BK-2004	0-0.5	Dibenzo(a,h)anthracene	SVOC	0.0	970,000		18,334.6	9,167.3
WRL-BK-2004	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000		18,334.6	9,167.3
WRL-BK-2004	0-0.5	Aroclor 1254	PCB	160,000.0	150,000	- 1.1	6,754.5	3,377.3
WRL-BK-2004	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	6,754.5	3,377.3
WRL-BK-2004	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	6,754.5	3,377.3
WRL-BK-2004	0-0.5	Dieldrin	PEST	17,000.0	2,600	6.5	6,754.5	3,377.3
WRL-BK-2004	0.5-2	2,3,7,8-TCDD	DIOXIN	2,060.0	15	- 140.1	5,873.3	8,809.9
WRL-BK-2004	0.5-2	Aluminum	M	14,200,000,000.0	8,210,000,000	- 1.7	6,754.5	10,131.8
WRL-BK-2004	0.5-2	Arsenic	M	7,300,000.0	3,900,000	1.9	6,754.5	10,131.8
WRL-BK-2004	0.5-2	Barium	M	139,000,000.0	134,000,000	1.0	6,754.5	10,131.8
WRL-BK-2004	0.5-2	Selenium	M	0.0	1,100,000		6,754.5	10,131.8
WRL-BK-2004	0.5-2	Vanadium	M	55,500,000.0	37,600,000	1.5	6,754.5	10,131.8
WRL-BK-2004	0.5-2	Zinc	M	1,250,000,000.0	221,000,000	5.7	6,754.5	10,131.8

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Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
WRL-BK-2004	0.5-2	Benzo(a)pyrene	SVOC	1,100,000.0	1,400,000		18,334.6	27,501.9
WRL-BK-2004	0.5-2	Dibenzo(a,h)anthracene	SVOC	0.0	970,000		18,334.6	27,501.9
WRL-BK-2004	0.5-2	N-nitroso-di-n-propylamine	SVOC	0.0	456,000		18,334.6	27,501.9
WRL-BK-2004	0.5-2	Aroclor 1254	PCB	2,600,000.0	150,000	- 17.3	6,754.5	10,131.8
WRL-BK-2004	0.5-2	4,4'-DDD	PEST	0.0	8,400	-	6,754.5	10,131.8
WRL-BK-2004	0.5-2	4,4'-DDE	PEST	0.0	6,000	-	6,754.5	10,131.8
WRL-BK-2004	0.5-2	Dieldrin	PEST	6,800.0	2,600	2.6	6,754.5	10,131.8
WRL-BK-2004	2-4	2,3,7,8-TCDD	DIOXIN	14.6	15	-	5,873.3	11,746.5
WRL-BK-2004	2-4	Aluminum	M	8,580,000,000.0	8,210,000,000	- 1.0	6,754.5	13,509.1
WRL-BK-2004	2-4	Arsenic	M	3,600,000.0	3,900,000		6,754.5	13,509.1
WRL-BK-2004	2-4	Barium	M	31,700,000.0	134,000,000	-	6,754.5	13,509.1
WRL-BK-2004	2-4	Selenium	M	0.0	1,100,000		6,754.5	13,509.1
WRL-BK-2004	2-4	Vanadium	M	14,500,000.0	37,600,000	-	6,754.5	13,509.1
WRL-BK-2004	2-4	Zinc	M	17,900,000.0	221,000,000	-	6,754.5	13,509.1
WRL-BK-2004	2-4	Benzo(a)pyrene	SVOC	270,000.0	1,400,000	-	18,334.6	36,669.3
WRL-BK-2004	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	970,000	-	18,334.6	36,669.3
WRL-BK-2004	2-4	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	18,334.6	36,669.3
WRL-BK-2004	2-4	Aroclor 1254	PCB	0.0	150,000	-	6,754.5	13,509.1
WRL-BK-2004	2-4	4,4'-DDD	PEST	0.0	8,400	-	6,754.5	13,509.1
WRL-BK-2004	2-4	4,4'-DDE	PEST	0.0	6,000	-	6,754.5	13,509.1
WRL-BK-2004	2-4	Dieldrin	PEST	0.0	2,600	-	6,754.5	13,509.1
WRL-BK-2005	0-0.5	2,3,7,8-TCDD	DIOXIN	945.0	15	- 64.3	8,548.0	4,274.0
WRL-BK-2005	0-0.5	Aluminum	M	3,780,000,000.0	8,210,000,000	-	12,374.8	6,187.4
WRL-BK-2005	0-0.5	Arsenic	M	2,800,000.0	3,900,000	-	12,374.8	6,187.4
WRL-BK-2005	0-0.5	Barium	M	40,700,000.0	134,000,000		12,374.8	6,187.4
WRL-BK-2005	0-0.5	Selenium	M	0.0	1,100,000	-	12,374.8	6,187.4
WRL-BK-2005	0-0.5	Vanadium	M	23,000,000.0	37,600,000	-	12,374.8	6,187.4
WRL-BK-2005	0-0.5	Zinc	M	82,000,000.0	221,000,000	-	12,374.8	6,187.4
WRL-BK-2005	0-0.5	Benzo(a)pyrene	SVOC	700,000.0	1,400,000	-	15,459.7	7,729.8
WRL-BK-2005	0-0.5	Dibenzo(a,h)anthracene	SVOC	0.0	970,000	-	15,459.7	7,729.8
WRL-BK-2005	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	15,459.7	7,729.8
WRL-BK-2005	0-0.5	Aroclor 1254	PCB	60,000.0	150,000	-	8,548.0	4,274.0
WRL-BK-2005	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	8,548.0	4,274.0
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Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
WRL-BK-2005	0-0.5	4,4'-DDE	PEST	4,900.0	6,000		8,548.0	4,274.0
WRL-BK-2005	0-0.5	Dieldrin	PEST	4,400.0	2,600	1.7	8,548.0	4,274.0
WRL-SD-2038	0-0.5	2,3,7,8-TCDD	DIOXIN	611.0	15	41.6	2,458.4	1,229.2
WRL-SD-2038	0-0.5	Aluminum	M	4,140,000,000.0	8,210,000,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	Arsenic	M	1,200,000.0	3,900,000		7,710.1	3,855.1
WRL-SD-2038	0-0.5	Barium	M	66,600,000.0	134,000,000		7,710.1	3,855.1
WRL-SD-2038	0-0.5	Selenium	M	0.0	1,100,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	Vanadium	M	19,200,000.0	37,600,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	Zinc	M	114,000,000.0	221,000,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	Benzo(a)pyrene	SVOC	1,200,000.0	1,400,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	Dibenzo(a,h)anthracene	SVOC	0.0	970,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	Aroclor 1254	PCB	130,000.0	150,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	7,710.1	3,855.1
WRL-SD-2038	0-0.5	Dieldrin	PEST	0.0	2,600	-	7,710.1	3,855.1
WRL-SD-2039	0-0.5	2,3,7,8-TCDD	DIOXIN	2,840.0	15	- 193.2	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Aluminum	M	2,670,000,000.0	8,210,000,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Arsenic	M	4,700,000.0	3,900,000	- 1.2	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Barium	M	48,900,000.0	134,000,000		2,903.0	1,451.5
WRL-SD-2039	0-0.5	Selenium	M	0.0	1,100,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Vanadium	M	10,600,000.0	37,600,000		2,903.0	1,451.5
WRL-SD-2039	0-0.5	Zinc	M	159,000,000.0	221,000,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Benzo(a)pyrene	SVOC	440,000.0	1,400,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Dibenzo(a,h)anthracene	SVOC	120,000.0	970,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Aroclor 1254	PCB	40,000.0	150,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	2,903.0	1,451.5
WRL-SD-2039	0-0.5	Dieldrin	PEST	0.0	2,600	-	2,903.0	1,451.5
WRL-SD-2040	0-0.5	2,3,7,8-TCDD	DIOXIN	80.8	15	- 5.5	6,316.7	3,158.4
WRL-SD-2040	0-0.5	Aluminum	M	2,260,000,000.0	8,210,000,000	-	6,565.4	3,282.7
WRL-SD-2040	0-0.5	Arsenic	M	0.0	3,900,000	-	6,565.4	3,282.7

Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
WRL-SD-2040	0-0.5	Barium	M	22,600,000.0	134,000,000		6,565.4	3,282.7
WRL-SD-2040	0-0.5	Selenium	M	0.0	1,100,000		6,565.4	3,282.7
WRL-SD-2040	0-0.5	Vanadium	M	7,300,000.0	37,600,000		6,565.4	3,282.7
WRL-SD-2040	0-0.5	Zinc	M	61,800,000.0	221,000,000	-	6,565.4	3,282.7
WRL-SD-2040	0-0.5	Benzo(a)pyrene	SVOC	310,000.0	1,400,000	-	29,052.8	14,526.4
WRL-SD-2040	0-0.5	Dibenzo(a,h)anthracene	SVOC	0.0	970,000	-	29,052.8	14,526.4
WRL-SD-2040	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	29,052.8	14,526.4
WRL-SD-2040	0-0.5	Aroclor 1254	PCB	31,000.0	150,000	-	6,565.4	3,282.7
WRL-SD-2040	0-0.5	4,4'-DDD	PEST	0.0	8,400	-	6,565.4	3,282.7
WRL-SD-2040	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	6,565.4	3,282.7
WRL-SD-2040	0-0.5	Dieldrin	PEST	0.0	2,600	-	6,565.4	3,282.7
WRL-SD-2041	0-0.2	2,3,7,8-TCDD	DIOXIN	2,020.0	15	- 137.4	10,424.0	2,084.8
WRL-SD-2041	0-0.5	2,3,7,8-TCDD	DIOXIN	3,150.0	15	- 214.3	10,424.0	5,212.0
WRL-SD-2041	0-0.2	Aluminum	M	6,400,000,000.0	8,210,000,000	-	15,955.2	3,191.0
WRL-SD-2041	0-0.5	Aluminum	M	5,960,000,000.0	8,210,000,000		15,955.2	7,977.6
WRL-SD-2041	0-0.2	Arsenic	M	4,000,000.0	3,900,000	1.0	15,955.2	3,191.0
WRL-SD-2041	0-0.5	Arsenic	M	6,500,000.0	3,900,000	- 1.7	15,955.2	7,977.6
WRL-SD-2041	0-0.2	Barium	M	111,000,000.0	134,000,000	-	15,955.2	3,191.0
WRL-SD-2041	0-0.5	Barium	M	82,900,000.0	134,000,000		15,955.2	7,977.6
WRL-SD-2041	0-0.2	Selenium	M	0.0	1,100,000		15,955.2	3,191.0
WRL-SD-2041	0-0.5	Selenium	M	0.0	1,100,000	-	15,955.2	7,977.6
WRL-SD-2041	0-0.2	Vanadium	M	27,900,000.0	37,600,000	-	15,955.2	3,191.0
WRL-SD-2041	0-0.5	Vanadium	M	23,600,000.0	37,600,000	-	15,955.2	7,977.6
WRL-SD-2041	0-0.2	Zinc	M	256,000,000.0	221,000,000	- 1.2	15,955.2	3,191.0
WRL-SD-2041	0-0.5	Zinc	M	260,000,000.0	221,000,000	- 1.2	15,955.2	7,977.6
WRL-SD-2041	0-0.2	Benzo(a)pyrene	SVOC	3,500,000.0	1,400,000	- 2.5	31,212.7	6,242.5
WRL-SD-2041	0-0.5	Benzo(a)pyrene	SVOC	1,300,000.0	1,400,000		31,212.7	15,606.4
WRL-SD-2041	0-0.2	Dibenzo(a,h)anthracene	SVOC	680,000.0	970,000		31,212.7	6,242.5
WRL-SD-2041	0-0.5	Dibenzo(a,h)anthracene	SVOC	340,000.0	970,000		31,212.7	15,606.4
WRL-SD-2041	0-0.2	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	31,212.7	6,242.5
WRL-SD-2041	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	31,212.7	15,606.4
WRL-SD-2041	0-0.2	Aroclor 1254	PCB	430,000.0	150,000	- 2.9	10,424.0	2,084.8
WRL-SD-2041	0-0.5	Aroclor 1254	PCB	210,000.0	150,000	- 1.4	10,424.0	5,212.0
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Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
WRL-SD-2041	0-0.2	4,4'-DDD	PEST	0.0	8,400		10,424.0	2,084.8
WRL-SD-2041	0-0.5	4,4'-DDD	PEST	0.0	8,400		10,424.0	5,212.0
WRL-SD-2041	0-0.2	4,4'-DDE	PEST	9,000.0	6,000	1.5	10,424.0	2,084.8
WRL-SD-2041	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	10,424.0	5,212.0
WRL-SD-2041	0-0.2	Dieldrin	PEST	0.0	2,600	-	10,424.0	2,084.8
WRL-SD-2041	0-0.5	Dieldrin	PEST	0.0	2,600		10,424.0	5,212.0
WRL-SD-2042	0-0.3	2,3,7,8-TCDD	DIOXIN	1,720.0	15	- 117.0	1,884.2	565.3
WRL-SD-2042	0-0.5	2,3,7,8-TCDD	DIOXIN	2,010.0	15	- 136.7	1,884.2	942.1
WRL-SD-2042	0-0.3	Aluminum	M	7,970,000,000.0	8,210,000,000	-	1,884.2	565.3
WRL-SD-2042	0-0.5	Aluminum	M	8,740,000,000.0	8,210,000,000	1.1	1,884.2	942.1
WRL-SD-2042	0-0.3	Arsenic	M	3,800,000.0	3,900,000		1,884.2	565.3
WRL-SD-2042	0-0.5	Arsenic	M	3,900,000.0	3,900,000	- 1.0	1,884.2	942.1
WRL-SD-2042	0-0.3	Barium	M	86,900,000.0	134,000,000		1,884.2	565.3
WRL-SD-2042	0-0.5	Barium	M	99,500,000.0	134,000,000	-	1,884.2	942.1
WRL-SD-2042	0-0.3	Selenium	M	1,300,000.0	1,100,000	1.2	1,884.2	565.3
WRL-SD-2042	0-0.5	Selenium	M	0.0	1,100,000	-	1,884.2	942.1
WRL-SD-2042	0-0.3	Vanadium	M	31,800,000.0	37,600,000	-	1,884.2	565.3
WRL-SD-2042	0-0.5	Vanadium	M	33,700,000.0	37,600,000		1,884.2	942.1
WRL-SD-2042	0-0.3	Zinc	M	200,000,000.0	221,000,000	-	1,884.2	565.3
WRL-SD-2042	0-0.5	Zinc	M	191,000,000.0	221,000,000	-	1,884.2	942.1
WRL-SD-2042	0-0.3	Benzo(a)pyrene	SVOC	4,000,000.0	1,400,000	- 2.9	28,321.8	8,496.6
WRL-SD-2042	0-0.5	Benzo(a)pyrene	SVOC	2,400,000.0	1,400,000	- 1.7	28,321.8	14,160.9
WRL-SD-2042	0-0.3	Dibenzo(a,h)anthracene	SVOC	790,000.0	970,000	-	28,321.8	8,496.6
WRL-SD-2042	0-0.5	Dibenzo(a,h)anthracene	SVOC	920,000.0	970,000		28,321.8	14,160.9
WRL-SD-2042	0-0.3	N-nitroso-di-n-propylamine	SVOC	0.0	456,000		28,321.8	8,496.6
WRL-SD-2042	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	28,321.8	14,160.9
WRL-SD-2042	0-0.3	Aroclor 1254	PCB	380,000.0	150,000	- 2.5	1,884.2	565.3
WRL-SD-2042	0-0.5	Aroclor 1254	PCB	330,000.0	150,000	- 2.2	1,884.2	942.1
WRL-SD-2042	0-0.3	4,4'-DDD	PEST	11,000.0	8,400	- 1.3	1,884.2	565.3
WRL-SD-2042	0-0.5	4,4'-DDD	PEST	0.0	8,400		1,884.2	942.1
WRL-SD-2042	0-0.3	4,4'-DDE	PEST	0.0	6,000		1,884.2	565.3
WRL-SD-2042	0-0.5	4,4'-DDE	PEST	0.0	6,000		1,884.2	942.1
WRL-SD-2042	0-0.3	Dieldrin	PEST	0.0	2,600	-	1,884.2	565.3

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Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
WRL-SD-2042	0-0.5	Dieldrin	PEST	0.0	2,600		1,884.2	942.1
WRL-SD-2043	0-0.2	2,3,7,8-TCDD	DIOXIN	1,190.0	15	81.0	15,524.5	3,104.9
WRL-SD-2043	0-0.5	2,3,7,8-TCDD	DIOXIN	3,230.0	15	219.7	15,524.5	7,762.3
WRL-SD-2043	0-0.2	Aluminum	M	4,320,000,000.0	8,210,000,000	-	15,524.5	3,104.9
WRL-SD-2043	0-0.5	Aluminum	M	7,820,000,000.0	8,210,000,000		15,524.5	7,762.3
WRL-SD-2043	0-0.2	Arsenic	M	2,000,000.0	3,900,000		15,524.5	3,104.9
WRL-SD-2043	0-0.5	Arsenic	M	3,000,000.0	3,900,000	-	15,524.5	7,762.3
WRL-SD-2043	0-0.2	Barium	M	56,500,000.0	134,000,000	-	15,524.5	3,104.9
WRL-SD-2043	0-0.5	Barium	M	107,000,000.0	134,000,000	-	15,524.5	7,762.3
WRL-SD-2043	0-0.2	Selenium	M	0.0	1,100,000	-	15,524.5	3,104.9
WRL-SD-2043	0-0.5	Selenium	M	0.0	1,100,000	-	15,524.5	7,762.3
WRL-SD-2043	0-0.2	Vanadium	M	15,800,000.0	37,600,000	-	15,524.5	3,104.9
WRL-SD-2043	0-0.5	Vanadium	M	30,300,000.0	37,600,000	-	15,524.5	7,762.3
WRL-SD-2043	0-0.2	Zinc	M	125,000,000.0	221,000,000	-	15,524.5	3,104.9
WRL-SD-2043	0-0.5	Zinc	M	300,000,000.0	221,000,000	- 1.4	15,524.5	7,762.3
WRL-SD-2043	0-0.2	Benzo(a)pyrene	SVOC	3,000,000.0	1,400,000	- 2.1	118,429.6	23,685.9
WRL-SD-2043	0-0.5	Benzo(a)pyrene	SVOC	1,700,000.0	1,400,000	- 1.2	118,429.6	59,214.8
WRL-SD-2043	0-0.2	Dibenzo(a,h)anthracene	SVOC	690,000.0	970,000		118,429.6	23,685.9
WRL-SD-2043	0-0.5	Dibenzo(a,h)anthracene	SVOC	0.0	970,000		118,429.6	59,214.8
WRL-SD-2043	0-0.2	N-nitroso-di-n-propylamine	SVOC	0.0	456,000		118,429.6	23,685.9
WRL-SD-2043	0-0.5	N-nitroso-di-n-propylamine	SVOC	0.0	456,000	-	118,429.6	59,214.8
WRL-SD-2043	0-0.2	Aroclor 1254	PCB	220,000.0	150,000	- 1.5	15,524.5	3,104.9
WRL-SD-2043	0-0.5	Aroclor 1254	PCB	260,000.0	150,000	- 1.7	15,524.5	7,762.3
WRL-SD-2043	0-0.2	4,4'-DDD	PEST	7,000.0	8,400	-	15,524.5	3,104.9
WRL-SD-2043	0-0.5	4,4'-DDD	PEST	0.0	8,400		15,524.5	7,762.3
WRL-SD-2043	0-0.2	4,4'-DDE	PEST	0.0	6,000		15,524.5	3,104.9
WRL-SD-2043	0-0.5	4,4'-DDE	PEST	0.0	6,000	-	15,524.5	7,762.3
WRL-SD-2043	0-0.2	Dieldrin	PEST	0.0	2,600	-	15,524.5	3,104.9
WRL-SD-2043	0-0.5	Dieldrin	PEST	0.0	2,600	-	15,524.5	7,762.3
WRL-SD-4005	0-0.5	2,3,7,8-TCDD	DIOXIN	751.8	15	- 51.1	7,049.9	3,525.0
WRL-SD-4005	0-0.5	Aluminum	M	8,335,000,000.0	8,210,000,000	- 1.0	7,049.9	3,525.0
WRL-SD-4005	0-0.5	Arsenic	M	3,230,000.0	3,900,000	-	7,049.9	3,525.0
WRL-SD-4005	0-0.5	Barium	M	92,900,000.0	134,000,000		7,049.9	3,525.0

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Table 2.2-3: Lyman Mill Stream Sediment Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
WRL-SD-4005	0-0.5	Selenium	M	0.0	1,100,000		7,049.9	3,525.0
WRL-SD-4005	0-0.5	Vanadium	M	53,100,000.0	37,600,000	1.4	7,049.9	3,525.0
WRL-SD-4005	0-0.5	Zinc	M	204,000,000.0	221,000,000		7,049.9	3,525.0
WRL-SD-4005	0-0.5	Aroclor 1254	PCB	154,900.0	150,000	- 1.0	7,049.9	3,525.0
WRL-SD-4005	0-0.5	Aroclor 1268	PCB	36,990.0	140,000		7,049.9	3,525.0
WRL-SD-4005	0-0.5	4,4'-DDD	PEST	6,420.0	8,400	-	7,049.9	3,525.0
WRL-SD-4005	0-0.5	4,4'-DDE	PEST	4,960.0	6,000		7,049.9	3,525.0
WRL-SD-4005	0-0.5	Dieldrin	PEST	10,020.0	2,600	- 3.9	7,049.9	3,525.0
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Table 2.2-4: Lyman Mill/Oxbow Floodplain Soil Excavation

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
LPX-SD-4406	0-0.5	2,3,7,8-TCDD	DIOXIN	1,800.0	17	105.9	17,845.6	8,922.8
LPX-SD-4407	0-0.5	2,3,7,8-TCDD	DIOXIN	2,070.0	17	121.8	22,697.4	11,348.7
LPX-SD-4407	0-0.5	Antimony	M	2,800,000.0	620,000	4.5	25,548.2	12,774.1
LPX-SD-4407	0-0.5	Arsenic	M	2,610,000.0	7,700,000		25,548.2	12,774.1
LPX-SD-4407	0-0.5	Cadmium	M	3,770,000.0	3,800,000		25,548.2	12,774.1
LPX-SD-4407	0-0.5	Lead	M	246,000,000.0	450,000,000		25,548.2	12,774.1
LPX-SD-4407	0-0.5	Selenium	M	1,780,000.0	700,000	2.5	25,548.2	12,774.1
LPX-SD-4407	0-0.5	Zinc	M	454,000,000.0	320,000,000	1.4	25,548.2	12,774.1
LPX-SD-4407	0-0.5	Aroclor 1254	PCB	637,830.0	820,000		25,548.2	12,774.1
LPX-SD-4407	0-0.5	4,4'-DDE	PEST	42,360.0	16,000	2.6	25,548.2	12,774.1
LPX-SD-4407	0-0.5	Dieldrin	PEST	2,510.0	40,000		25,548.2	12,774.1
RES-10-042-01	0-1	2,3,7,8-TCDD	DIOXIN	161.0	17	9.5	3,310.5	3,310.5
RES-10-042-01	0-1	Antimony	M	38,200,000.0	620,000	61.6	9,847.2	9,847.2
RES-10-042-01	0-1	Arsenic	M	55,600,000.0	7,700,000	7.2	9,847.2	9,847.2
RES-10-042-01	0-1	Cadmium	M	5,000,000.0	3,800,000	1.3	9,847.2	9,847.2
RES-10-042-01	0-1	Lead	M	368,000,000.0	450,000,000		9,847.2	9,847.2
RES-10-042-01	0-1	Selenium	M	0.0	700,000		9,847.2	9,847.2
RES-10-042-01	0-1	Zinc	M	808,000,000.0	320,000,000	2.5	9,847.2	9,847.2
RES-10-042-01	0-1	Aroclor 1254	PCB	0.0	820,000		9,847.2	9,847.2
RES-10-042-01	0-1	4,4'-DDE	PEST	0.0	16,000		9,847.2	9,847.2
RES-10-042-01	0-1	Dieldrin	PEST	0.0	40,000		9,847.2	9,847.2
RES-10-042-02	0-1	2,3,7,8-TCDD	DIOXIN	2.0	17		4,123.8	4,123.8
RES-10-042-03	0-1	2,3,7,8-TCDD	DIOXIN	2.0	17		2,412.9	2,412.9
RES-11-432-01	0-1	2,3,7,8-TCDD	DIOXIN	118.0	17	6.9	1,461.9	1,461.9
RES-11-432-01	0-1	Antimony	M	3,100,000.0	620,000	5.0	2,953.6	2,953.6
RES-11-432-01	0-1	Arsenic	M	2,600,000.0	7,700,000		2,953.6	2,953.6
RES-11-432-01	0-1	Cadmium	M	530,000.0	3,800,000		2,953.6	2,953.6
RES-11-432-01	0-1	Lead	M	79,700,000.0	450,000,000		2,953.6	2,953.6
RES-11-432-01	0-1	Selenium	M	0.0	700,000		2,953.6	2,953.6
RES-11-432-01	0-1	Zinc	M	136,000,000.0	320,000,000		2,953.6	2,953.6
RES-11-432-01	0-1	Aroclor 1254	PCB	0.0	820,000		7,405.9	7,405.9
RES-11-432-01	0-1	4,4'-DDE	PEST	0.0	16,000		7,405.9	7,405.9
RES-11-432-01	0-1	Dieldrin	PEST	0.0	40,000		7,405.9	7,405.9

Table 2.2-4: Lyman Mill/Oxbow Floodplain Soil Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-11-432-02	0-1	2,3,7,8-TCDD	DIOXIN	2.7	17		18.5	18.5
RES-11-432-03	0-1	2,3,7,8-TCDD	DIOXIN	5.1	17		2,052.0	2,052.0
RES-11-433-01	0-1	2,3,7,8-TCDD	DIOXIN	46.1	17	2.7	1,829.9	1,829.9
RES-11-433-01	0-1	Antimony	M	17,000,000.0	620,000	27.4	4,452.3	4,452.3
RES-11-433-01	0-1	Arsenic	M	9,600,000.0	7,700,000	1.2	4,452.3	4,452.3
RES-11-433-01	0-1	Cadmium	M	5,200,000.0	3,800,000	1.4	4,452.3	4,452.3
RES-11-433-01	0-1	Lead	M	342,000,000.0	450,000,000		4,452.3	4,452.3
RES-11-433-01	0-1	Zinc	M	1,110,000,000.0	320,000,000	3.5	4,452.3	4,452.3
RES-11-433-02	0-1	2,3,7,8-TCDD	DIOXIN	72.8	17	4.3	252.1	252.1
RES-11-433-03	0-1	2,3,7,8-TCDD	DIOXIN	11.4	17		1,791.6	1,791.6
SS_G-07	0-1	2,3,7,8-TCDD	DIOXIN	2,060.0	17	121.2	12,311.4	12,311.4
SS_G-07	0-1	Antimony	M	638,000.0	620,000	1.0	13,193.3	13,193.3
SS_G-07	0-1	Arsenic	M	4,500,000.0	7,700,000		13,193.3	13,193.3
SS_G-07	0-1	Cadmium	M	160,000.0	3,800,000		13,193.3	13,193.3
SS_G-07	0-1	Lead	M	334,000,000.0	450,000,000		13,193.3	13,193.3
SS_G-07	0-1	Selenium	M	700,000.0	700,000	1.0	13,193.3	13,193.3
SS_G-07	0-1	Zinc	M	54,000,000.0	320,000,000		13,193.3	13,193.3
SS_G-07	0-1	Aroclor 1254	PCB	110,000.0	820,000		13,193.3	13,193.3
SS_G-07	0-1	4,4'-DDE	PEST	12,000.0	16,000		13,193.3	13,193.3
SS_G-07	0-1	Dieldrin	PEST	0.0	40,000		13,193.3	13,193.3
SS_G-08	0-1	2,3,7,8-TCDD	DIOXIN	585.0	17	34.4	11,284.3	11,284.3
SS_G-08	0-1	Antimony	M	636,000.0	620,000	1.0	25,397.2	25,397.2
SS_G-08	0-1	Arsenic	M	4,200,000.0	7,700,000		25,397.2	25,397.2
SS_G-08	0-1	Cadmium	M	80,000.0	3,800,000		25,397.2	25,397.2
SS_G-08	0-1	Lead	M	73,800,000.0	450,000,000		25,397.2	25,397.2
SS_G-08	0-1	Selenium	M	700,000.0	700,000	1.0	25,397.2	25,397.2
SS_G-08	0-1	Zinc	M	54,000,000.0	320,000,000		25,397.2	25,397.2
SS_G-08	0-1	Aroclor 1254	PCB	58,000.0	820,000		25,397.2	25,397.2
SS_G-08	0-1	4,4'-DDE	PEST	6,300.0	16,000		25,397.2	25,397.2
SS_G-08	0-1	Dieldrin	PEST	0.0	40,000		25,397.2	25,397.2
SS_G-09	0-1	2,3,7,8-TCDD	DIOXIN	2,270.0	17	133.5	11,443.7	11,443.7
SS_G-09	0-1	Antimony	M	1,330,000.0	620,000	2.1	11,443.7	11,443.7
SS_G-09	0-1	Arsenic	M	6,100,000.0	7,700,000		11,443.7	11,443.7

Table 2.2-4: Lyman Mill/Oxbow Floodplain Soil Excavation (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS_G-09	0-1	Cadmium	M	0.0	3,800,000		11,443.7	11,443.7
SS_G-09	0-1	Lead	M	161,000,000.0	450,000,000		11,443.7	11,443.7
SS_G-09	0-1	Selenium	M	800,000.0	700,000	1.1	11,443.7	11,443.7
SS_G-09	0-1	Zinc	M	41,500,000.0	320,000,000	-	11,443.7	11,443.7
SS_G-09	0-1	Aroclor 1254	PCB	96,000.0	820,000	-	11,443.7	11,443.7
SS_G-09	0-1	4,4'-DDE	PEST	14,000.0	16,000		11,443.7	11,443.7
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Table 2.2-5: Oxbow Floodplain Soil Cap

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
LPX-FP-4007	0-0.5	2,3,7,8-TCDD	DIOXIN	0.0	17		2,034.2	1,017.1
LPX-FP-4007	0-0.5	Antimony	M	213,000.0	620,000		2,762.7	1,381.3
LPX-FP-4007	0-0.5	Arsenic	M	4,930,000.0	7,700,000		2,762.7	1,381.3
LPX-FP-4007	0-0.5	Cadmium	M	1,760,000.0	3,800,000	-	2,762.7	1,381.3
LPX-FP-4007	0-0.5	Lead	M	248,000,000.0	450,000,000	-	2,762.7	1,381.3
LPX-FP-4007	0-0.5	Selenium	M	0.0	700,000	-	2,762.7	1,381.3
LPX-FP-4007	0-0.5	Zinc	M	218,000,000.0	320,000,000	-	2,762.7	1,381.3
LPX-FP-4007	0-0.5	Aroclor 1254	PCB	85,280.0	820,000	-	2,762.7	1,381.3
LPX-FP-4007	0-0.5	4,4'-DDE	PEST	31,590.0	16,000	- 2.0	2,762.7	1,381.3
LPX-FP-4007	0-0.5	Dieldrin	PEST	5,400.0	40,000	-	2,762.7	1,381.3
LPX-SD-2072	0-0.5	2,3,7,8-TCDD	DIOXIN	487.0	17	- 28.6	27,777.3	13,888.7
LPX-SD-2072	0-0.5	Arsenic	M	5,000,000.0	7,700,000		27,777.3	13,888.7
LPX-SD-2072	0-0.5	Selenium	M	1,300,000.0	700,000	- 1.9	27,777.3	13,888.7
LPX-SD-2072	0-0.5	Zinc	M	490,000,000.0	320,000,000	1.5	27,777.3	13,888.7
LPX-SD-2072	0-0.5	Aroclor 1254	PCB	400,000.0	820,000	-	27,777.3	13,888.7
LPX-SD-4401	0-0.5	2,3,7,8-TCDD	DIOXIN	3,140.0	17	184.7	28,286.4	14,143.2
LPX-SD-4401	0-0.5	Antimony	M	2,630,000.0	620,000	4.2	28,286.4	14,143.2
LPX-SD-4401	0-0.5	Arsenic	M	2,990,000.0	7,700,000	-	28,286.4	14,143.2
LPX-SD-4401	0-0.5	Cadmium	M	2,870,000.0	3,800,000		28,286.4	14,143.2
LPX-SD-4401	0-0.5	Lead	M	453,000,000.0	450,000,000	1.0	28,286.4	14,143.2
LPX-SD-4401	0-0.5	Selenium	M	1,520,000.0	700,000	- 2.2	28,286.4	14,143.2
LPX-SD-4401	0-0.5	Zinc	M	149,000,000.0	320,000,000	-	28,286.4	14,143.2
LPX-SD-4402	0-0.5	2,3,7,8-TCDD	DIOXIN	789.0	17	46.4	17,106.6	8,553.3
LPX-SD-4402	0-0.5	Antimony	M	922,000.0	620,000	1.5	28,751.5	14,375.8
LPX-SD-4402	0-0.5	Arsenic	M	3,160,000.0	7,700,000	-	28,751.5	14,375.8
LPX-SD-4402	0-0.5	Cadmium	M	1,190,000.0	3,800,000		28,751.5	14,375.8
LPX-SD-4402	0-0.5	Lead	M	44,400,000.0	450,000,000		28,751.5	14,375.8
LPX-SD-4402	0-0.5	Selenium	M	0.0	700,000	-	28,751.5	14,375.8
LPX-SD-4402	0-0.5	Zinc	M	109,000,000.0	320,000,000	-	28,751.5	14,375.8
LPX-SD-4402	0-0.5	Aroclor 1254	PCB	3,583,300.0	820,000	- 4.4	28,751.5	14,375.8
LPX-SD-4402	0-0.5	4,4'-DDE	PEST	5,950.0	16,000	-	28,752.5	14,376.3
LPX-SD-4402	0-0.5	Dieldrin	PEST	63,380.0	40,000	- 1.6	28,752.5	14,376.3
LPX-SD-4403	0-0.5	2,3,7,8-TCDD	DIOXIN	521.0	17	30.6	35,577.3	17,788.7

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Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-10-044-01	0-1	2,3,7,8-TCDD	DIOXIN	496.0	17	29.2	1,866.0	1,866.0
RES-10-044-01	0-1	Antimony	M	5,200,000.0	620,000	8.4	5,969.3	5,969.3
RES-10-044-01	0-1	Arsenic	M	14,800,000.0	7,700,000	1.9	5,969.3	5,969.3
RES-10-044-01	0-1	Cadmium	M	1,700,000.0	3,800,000		5,969.3	5,969.3
RES-10-044-01	0-1	Lead	M	509,000,000.0	450,000,000	1.1	5,969.3	5,969.3
RES-10-044-01	0-1	Selenium	M	1,300,000.0	700,000	1.9	5,969.3	5,969.3
RES-10-044-01	0-1	Zinc	M	504,000,000.0	320,000,000	- 1.6	5,969.3	5,969.3
RES-10-044-01	0-1	Aroclor 1254	PCB	240,000.0	820,000		5,969.3	5,969.3
RES-10-044-01	0-1	4,4'-DDE	PEST	39,000.0	16,000	2.4	5,969.3	5,969.3
RES-10-044-01	0-1	Dieldrin	PEST	0.0	40,000		5,969.3	5,969.3
RES-10-044-02	0-1	2,3,7,8-TCDD	DIOXIN	58.6	17	- 3.4	1,230.7	1,230.7
RES-10-044-03	0-1	2,3,7,8-TCDD	DIOXIN	8.4	17		3,180.3	3,180.3
RES-10-604-01	0-1	2,3,7,8-TCDD	DIOXIN	241.0	17	- 14.2	1,288.8	1,288.8
RES-10-604-01	0-1	Antimony	M	0.0	620,000		9,420.4	9,420.4
RES-10-604-01	0-1	Arsenic	M	4,000,000.0	7,700,000	-	9,420.4	9,420.4
RES-10-604-01	0-1	Cadmium	M	0.0	3,800,000		9,420.4	9,420.4
RES-10-604-01	0-1	Lead	M	177,000,000.0	450,000,000	-	9,420.4	9,420.4
RES-10-604-01	0-1	Selenium	M	0.0	700,000	-	9,420.4	9,420.4
RES-10-604-01	0-1	Zinc	M	157,000,000.0	320,000,000	-	9,420.4	9,420.4
RES-10-604-01	0-1	Aroclor 1254	PCB	73,000.0	820,000	-	9,420.4	9,420.4
RES-10-604-01	0-1	4,4'-DDE	PEST	13,000.0	16,000	-	9,420.4	9,420.4
RES-10-604-01	0-1	Dieldrin	PEST	0.0	40,000	-	9,420.4	9,420.4
RES-10-604-02	0-1	2,3,7,8-TCDD	DIOXIN	49.7	17	- 2.9	10,432.7	10,432.7
RES-10-604-03	0-1	2,3,7,8-TCDD	DIOXIN	1.7	17	-	838.3	838.3
RES-11-011-01	0-1	2,3,7,8-TCDD	DIOXIN	5.7	17	-	12,164.5	12,164.5
RES-11-011-01	0-1	Antimony	M	0.0	620,000		16,634.9	16,634.9
RES-11-011-01	0-1	Arsenic	M	3,900,000.0	7,700,000	-	16,634.9	16,634.9
RES-11-011-01	0-1	Cadmium	M	320,000.0	3,800,000	-	16,634.9	16,634.9
RES-11-011-01	0-1	Lead	M	162,000,000.0	450,000,000	-	16,634.9	16,634.9
RES-11-011-01	0-1	Selenium	M	0.0	700,000	-	16,634.9	16,634.9
RES-11-011-01	0-1	Zinc	M	189,000,000.0	320,000,000	-	16,634.9	16,634.9
RES-11-011-01	0-1	Aroclor 1254	PCB	0.0	820,000	-	16,634.9	16,634.9
RES-11-011-01	0-1	4,4'-DDE	PEST	0.0	16,000	-	16,634.9	16,634.9
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Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-11-011-01	0-1	Dieldrin	PEST	0.0	40,000		16,634.9	16,634.9
RES-11-012-01	0-1	2,3,7,8-TCDD	DIOXIN	7.7	17		775.8	775.8
RES-11-012-01	0-1	Antimony	M	2,500,000.0	620,000	4.0	775.8	775.8
RES-11-012-01	0-1	Arsenic	M	7,800,000.0	7,700,000	1.0	775.8	775.8
RES-11-012-01	0-1	Cadmium	M	1,600,000.0	3,800,000	-	775.8	775.8
RES-11-012-01	0-1	Lead	M	2,460,000,000.0	450,000,000	5.5	775.8	775.8
RES-11-012-01	0-1	Selenium	M	0.0	700,000		775.8	775.8
RES-11-012-01	0-1	Zinc	M	574,000,000.0	320,000,000	1.8	775.8	775.8
RES-11-012-01	0-1	Aroclor 1254	PCB	150,000.0	820,000		775.8	775.8
RES-11-012-01	0-1	4,4'-DDE	PEST	21,000.0	16,000	1.3	775.8	775.8
RES-11-012-01	0-1	Dieldrin	PEST	0.0	40,000		775.8	775.8
RES-11-431-01	0-1	2,3,7,8-TCDD	DIOXIN	30.4	17	1.8	448.1	448.1
RES-11-431-01	0-1	Antimony	M	2,300,000.0	620,000	3.7	1,897.3	1,897.3
RES-11-431-01	0-1	Arsenic	M	1,700,000.0	7,700,000	-	1,897.3	1,897.3
RES-11-431-01	0-1	Cadmium	M	490,000.0	3,800,000		1,897.3	1,897.3
RES-11-431-01	0-1	Lead	M	78,400,000.0	450,000,000		1,897.3	1,897.3
RES-11-431-01	0-1	Selenium	M	0.0	700,000	-	1,897.3	1,897.3
RES-11-431-01	0-1	Zinc	M	195,000,000.0	320,000,000	-	1,897.3	1,897.3
RES-11-431-01	0-1	Aroclor 1254	PCB	64,000.0	820,000	-	1,897.3	1,897.3
RES-11-431-01	0-1	4,4'-DDE	PEST	0.0	16,000	-	1,897.3	1,897.3
RES-11-431-01	0-1	Dieldrin	PEST	0.0	40,000	-	1,897.3	1,897.3
RES-11-431-02	0-1	2,3,7,8-TCDD	DIOXIN	26.9	17	1.6	235.0	235.0
RES-11-431-03	0-1	2,3,7,8-TCDD	DIOXIN	1.1	17	-	1,214.3	1,214.3
RES-12-556-01	0-1	2,3,7,8-TCDD	DIOXIN	24.9	17	1.5	5,724.6	5,724.6
RES-12-556-01	0-1	Antimony	M	3,100,000.0	620,000	5.0	1,178.5	1,178.5
RES-12-556-01	0-1	Arsenic	M	9,300,000.0	7,700,000	1.2	1,178.5	1,178.5
RES-12-556-01	0-1	Cadmium	M	1,100,000.0	3,800,000		1,178.5	1,178.5
RES-12-556-01	0-1	Lead	M	500,000,000.0	450,000,000	1.1	1,178.5	1,178.5
RES-12-556-01	0-1	Selenium	M	2,400,000.0	700,000	3.4	1,178.5	1,178.5
RES-12-556-01	0-1	Zinc	M	315,000,000.0	320,000,000	-	1,178.5	1,178.5
RES-12-556-01	0-1	Aroclor 1254	PCB	0.0	820,000		1,178.5	1,178.5
RES-12-556-01	0-1	4,4'-DDE	PEST	1,000,000.0	16,000	62.5	1,178.5	1,178.5
RES-12-556-01	0-1	Dieldrin	PEST	0.0	40,000	-	1,178.5	1,178.5

Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-12-560-02	0-1	Antimony	M	0.0	620,000		18,767.0	18,767.0
RES-12-560-02	0-1	Arsenic	M	10,900,000.0	7,700,000	1.4	18,767.0	18,767.0
RES-12-560-02	0-1	Cadmium	M	0.0	3,800,000		18,767.0	18,767.0
RES-12-560-02	0-1	Lead	M	192,000,000.0	450,000,000	-	18,767.0	18,767.0
RES-12-560-02	0-1	Selenium	M	0.0	700,000		18,767.0	18,767.0
RES-12-560-02	0-1	Zinc	M	163,000,000.0	320,000,000	-	18,767.0	18,767.0
RES-12-560-02	0-1	Aroclor 1254	PCB	0.0	820,000	-	18,767.0	18,767.0
RES-12-560-02	0-1	4,4'-DDE	PEST	5,400.0	16,000	-	23,470.9	23,470.9
RES-12-560-02	0-1	Dieldrin	PEST	0.0	40,000	-	23,470.9	23,470.9
SD_G-04	0-1	2,3,7,8-TCDD	DIOXIN	1,640.0	17	- 96.5	29,879.0	29,879.0
SD_G-04	0-1	Antimony	M	1,870,000.0	620,000	- 3.0	29,879.0	29,879.0
SD_G-04	0-1	Arsenic	M	3,300,000.0	7,700,000	-	29,879.0	29,879.0
SD_G-04	0-1	Cadmium	M	490,000.0	3,800,000		29,879.0	29,879.0
SD_G-04	0-1	Lead	M	83,000,000.0	450,000,000		29,879.0	29,879.0
SD_G-04	0-1	Selenium	M	0.0	700,000	-	29,879.0	29,879.0
SD_G-04	0-1	Zinc	M	135,000,000.0	320,000,000	-	29,879.0	29,879.0
SD_G-04	0-1	Aroclor 1254	PCB	100,000.0	820,000	-	29,879.0	29,879.0
SD_G-04	0-1	4,4'-DDE	PEST	0.0	16,000	-	35,818.5	35,818.5
SD_G-04	0-1	Dieldrin	PEST	9,200.0	40,000	-	35,818.5	35,818.5
SD_G-06	0-1	2,3,7,8-TCDD	DIOXIN	75.0	17	- 4.4	23,244.3	23,244.3
SD_G-06	0-1	Antimony	M	0.0	620,000	-	23,244.3	23,244.3
SD_G-06	0-1	Arsenic	M	0.0	7,700,000	-	23,244.3	23,244.3
SD_G-06	0-1	Cadmium	M	120,000.0	3,800,000		23,244.3	23,244.3
SD_G-06	0-1	Lead	M	18,000,000.0	450,000,000	-	23,244.3	23,244.3
SD_G-06	0-1	Selenium	M	500,000.0	700,000	-	23,244.3	23,244.3
SD_G-06	0-1	Zinc	M	27,900,000.0	320,000,000	-	23,244.3	23,244.3
SD_G-06	0-1	Aroclor 1254	PCB	14,000.0	820,000	-	23,244.3	23,244.3
SD_G-06	0-1	4,4'-DDE	PEST	500.0	16,000	-	23,600.7	23,600.7
SD_G-06	0-1	Dieldrin	PEST	0.0	40,000	-	23,600.7	23,600.7
SD_G-09	0-1	2,3,7,8-TCDD	DIOXIN	5,150.0	17	- 302.9	23,646.8	23,646.8
SD_G-09	0-1	Antimony	M	3,750,000.0	620,000	- 6.0	23,646.8	23,646.8
SD_G-09	0-1	Arsenic	M	8,400,000.0	7,700,000	- 1.1	23,646.8	23,646.8
SD_G-09	0-1	Cadmium	M	2,880,000.0	3,800,000		23,646.8	23,646.8

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Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SD_G-09	0-1	Lead	M	223,000,000.0	450,000,000		23,646.8	23,646.8
SD_G-09	0-1	Selenium	M	1,900,000.0	700,000	2.7	23,646.8	23,646.8
SD_G-09	0-1	Zinc	M	528,000,000.0	320,000,000	1.7	23,646.8	23,646.8
SD_G-09	0-1	Aroclor 1254	PCB	360,000.0	820,000	-	23,646.8	23,646.8
SD_G-09	0-1	4,4'-DDE	PEST	8,900.0	16,000		23,646.8	23,646.8
SD_G-09	0-1	Dieldrin	PEST	27,000.0	40,000		23,646.8	23,646.8
SD_G-10	0-1	2,3,7,8-TCDD	DIOXIN	546.0	17	- 32.1	57,475.8	57,475.8
SD_G-10	0-1	Antimony	M	643,000.0	620,000	- 1.0	57,475.8	57,475.8
SD_G-10	0-1	Arsenic	M	5,300,000.0	7,700,000	-	57,475.8	57,475.8
SD_G-10	0-1	Cadmium	M	590,000.0	3,800,000		57,475.8	57,475.8
SD_G-10	0-1	Lead	M	42,000,000.0	450,000,000		57,475.8	57,475.8
SD_G-10	0-1	Selenium	M	800,000.0	700,000	- 1.1	57,475.8	57,475.8
SD_G-10	0-1	Zinc	M	130,000,000.0	320,000,000	-	57,475.8	57,475.8
SD_G-10	0-1	Aroclor 1254	PCB	100,000.0	820,000	-	57,475.8	57,475.8
SD_G-10	0-1	4,4'-DDE	PEST	3,800.0	16,000		57,475.8	57,475.8
SD_G-10	0-1	Dieldrin	PEST	0.0	40,000	-	57,475.8	57,475.8
SD_G-12	0-1	2,3,7,8-TCDD	DIOXIN	754.0	17	- 44.4	45,441.2	45,441.2
SD_G-12	0-1	Antimony	M	0.0	620,000	-	58,792.9	58,792.9
SD_G-12	0-1	Arsenic	M	3,700,000.0	7,700,000	-	58,792.9	58,792.9
SD_G-12	0-1	Cadmium	M	240,000.0	3,800,000		58,792.9	58,792.9
SD_G-12	0-1	Lead	M	22,000,000.0	450,000,000	-	58,792.9	58,792.9
SD_G-12	0-1	Selenium	M	700,000.0	700,000	- 1.0	58,792.9	58,792.9
SD_G-12	0-1	Zinc	M	59,100,000.0	320,000,000	-	58,792.9	58,792.9
SD_G-12	0-1	Aroclor 1254	PCB	62,000.0	820,000	-	58,792.9	58,792.9
SD_G-12	0-1	4,4'-DDE	PEST	1,300.0	16,000		58,792.9	58,792.9
SD_G-12	0-1	Dieldrin	PEST	0.0	40,000	-	58,792.9	58,792.9
SD_G-17	0-1	2,3,7,8-TCDD	DIOXIN	1,120.0	17	- 65.9	21,917.5	21,917.5
SD_G-17	0-1	Antimony	M	1,560,000.0	620,000	- 2.5	21,917.5	21,917.5
SD_G-17	0-1	Arsenic	M	4,100,000.0	7,700,000	-	21,917.5	21,917.5
SD_G-17	0-1	Cadmium	M	1,000,000.0	3,800,000		21,917.5	21,917.5
SD_G-17	0-1	Lead	M	81,400,000.0	450,000,000		21,917.5	21,917.5
SD_G-17	0-1	Selenium	M	1,800,000.0	700,000	- 2.6	21,917.5	21,917.5
SD_G-17	0-1	Zinc	M	185,000,000.0	320,000,000	-	21,917.5	21,917.5

Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SD_G-17	0-1	Aroclor 1254	PCB	150,000.0	820,000		21,917.5	21,917.5
SD_G-17	0-1	4,4'-DDE	PEST	10,000.0	16,000		21,917.5	21,917.5
SD_G-17	0-1	Dieldrin	PEST	0.0	40,000		21,917.5	21,917.5
SS_G-02	0-1	2,3,7,8-TCDD	DIOXIN	3.1	17	-	37,305.6	37,305.6
SS_G-02	0-1	Antimony	M	273,000.0	620,000	-	37,305.6	37,305.6
SS_G-02	0-1	Arsenic	M	13,300,000.0	7,700,000	- 1.7	37,305.6	37,305.6
SS_G-02	0-1	Cadmium	M	140,000.0	3,800,000	-	37,305.6	37,305.6
SS_G-02	0-1	Lead	M	67,000,000.0	450,000,000	-	37,305.6	37,305.6
SS_G-02	0-1	Selenium	M	800,000.0	700,000	1.1	37,305.6	37,305.6
SS_G-02	0-1	Zinc	M	85,500,000.0	320,000,000	-	37,305.6	37,305.6
SS_G-02	0-1	Aroclor 1254	PCB	0.0	820,000	-	47,451.8	47,451.8
SS_G-02	0-1	4,4'-DDE	PEST	1,800.0	16,000		47,451.8	47,451.8
SS_G-02	0-1	Dieldrin	PEST	0.0	40,000	-	47,451.8	47,451.8
SS_G-03	0-1	2,3,7,8-TCDD	DIOXIN	233.0	17	- 13.7	32,945.2	32,945.2
SS_G-03	0-1	Antimony	M	235,000.0	620,000	-	32,945.2	32,945.2
SS_G-03	0-1	Arsenic	M	10,000,000.0	7,700,000	- 1.3	32,945.2	32,945.2
SS_G-03	0-1	Cadmium	M	240,000.0	3,800,000		32,945.2	32,945.2
SS_G-03	0-1	Lead	M	48,500,000.0	450,000,000	-	32,945.2	32,945.2
SS_G-03	0-1	Selenium	M	1,400,000.0	700,000	2.0	32,945.2	32,945.2
SS_G-03	0-1	Zinc	M	59,000,000.0	320,000,000	-	32,945.2	32,945.2
SS_G-03	0-1	Aroclor 1254	PCB	7,700.0	820,000	-	32,945.2	32,945.2
SS_G-03	0-1	4,4'-DDE	PEST	1,700.0	16,000		32,945.2	32,945.2
SS_G-03	0-1	Dieldrin	PEST	0.0	40,000	-	32,945.2	32,945.2
SS_G-04	0-1	2,3,7,8-TCDD	DIOXIN	491.0	17	- 28.9	74,777.6	74,777.6
SS_G-04	0-1	Antimony	M	965,000.0	620,000	- 1.6	74,777.6	74,777.6
SS_G-04	0-1	Arsenic	M	9,200,000.0	7,700,000	- 1.2	74,777.6	74,777.6
SS_G-04	0-1	Cadmium	M	1,050,000.0	3,800,000		74,777.6	74,777.6
SS_G-04	0-1	Lead	M	93,000,000.0	450,000,000		74,777.6	74,777.6
SS_G-04	0-1	Selenium	M	1,200,000.0	700,000	1.7	74,777.6	74,777.6
SS_G-04	0-1	Zinc	M	156,000,000.0	320,000,000	-	74,777.6	74,777.6
SS_G-04	0-1	Aroclor 1254	PCB	49,000.0	820,000	-	79,329.1	79,329.1
SS_G-04	0-1	4,4'-DDE	PEST	5,800.0	16,000		79,329.1	79,329.1
SS_G-04	0-1	Dieldrin	PEST	0.0	40,000	-	79,329.1	79,329.1

Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS_G-05	0-1	2,3,7,8-TCDD	DIOXIN	44.6	17	2.6	24,941.6	24,941.6
SS_G-05	0-1	Antimony	M	0.0	620,000		24,941.6	24,941.6
SS_G-05	0-1	Arsenic	M	7,700,000.0	7,700,000	1.0	24,941.6	24,941.6
SS_G-05	0-1	Cadmium	M	110,000.0	3,800,000		24,941.6	24,941.6
SS_G-05	0-1	Lead	M	26,000,000.0	450,000,000	-	24,941.6	24,941.6
SS_G-05	0-1	Selenium	M	1,200,000.0	700,000	1.7	24,941.6	24,941.6
SS_G-05	0-1	Zinc	M	47,000,000.0	320,000,000	-	24,941.6	24,941.6
SS_G-05	0-1	Aroclor 1254	PCB	0.0	820,000	-	37,521.8	37,521.8
SS_G-05	0-1	4,4'-DDE	PEST	1,200.0	16,000		37,521.8	37,521.8
SS_G-05	0-1	Dieldrin	PEST	0.0	40,000	-	37,521.8	37,521.8
SS_G-06	0-1	2,3,7,8-TCDD	DIOXIN	8.0	17	-	55,600.1	55,600.1
SS_G-06	0-1	Antimony	M	0.0	620,000	-	63,047.3	63,047.3
SS_G-06	0-1	Arsenic	M	3,300,000.0	7,700,000	-	63,047.3	63,047.3
SS_G-06	0-1	Cadmium	M	170,000.0	3,800,000	-	63,047.3	63,047.3
SS_G-06	0-1	Lead	M	32,300,000.0	450,000,000	-	63,047.3	63,047.3
SS_G-06	0-1	Selenium	M	700,000.0	700,000	- 1.0	63,047.3	63,047.3
SS_G-06	0-1	Zinc	M	27,100,000.0	320,000,000	-	63,047.3	63,047.3
SS_G-06	0-1	Aroclor 1254	PCB	0.0	820,000	-	63,047.3	63,047.3
SS_G-06	0-1	4,4'-DDE	PEST	1,000.0	16,000		77,121.9	77,121.9
SS_G-06	0-1	Dieldrin	PEST	0.0	40,000	-	77,121.9	77,121.9
SS_G-12	0-1	2,3,7,8-TCDD	DIOXIN	68.5	17	- 4.0	10,043.0	10,043.0
SS_G-12	0-1	Antimony	M	820,000.0	620,000	- 1.3	10,043.0	10,043.0
SS_G-12	0-1	Arsenic	M	10,600,000.0	7,700,000	- 1.4	10,043.0	10,043.0
SS_G-12	0-1	Cadmium	M	2,100,000.0	3,800,000		10,043.0	10,043.0
SS_G-12	0-1	Lead	M	408,000,000.0	450,000,000		10,043.0	10,043.0
SS_G-12	0-1	Selenium	M	900,000.0	700,000	1.3	10,043.0	10,043.0
SS_G-12	0-1	Zinc	M	296,000,000.0	320,000,000	-	10,043.0	10,043.0
SS_G-12	0-1	Aroclor 1254	PCB	0.0	820,000	-	10,043.0	10,043.0
SS_G-12	0-1	4,4'-DDE	PEST	0.0	16,000		10,043.0	10,043.0
SS_G-12	0-1	Dieldrin	PEST	0.0	40,000	-	10,043.0	10,043.0
SS_G-13	0-1	2,3,7,8-TCDD	DIOXIN	641.0	17	- 37.7	28,348.3	28,348.3
SS_G-13	0-1	Antimony	M	490,000.0	620,000	-	28,348.3	28,348.3
SS_G-13	0-1	Arsenic	M	7,000,000.0	7,700,000	-	28,348.3	28,348.3

Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS_G-13	0-1	Cadmium	M	900,000.0	3,800,000		28,348.3	28,348.3
SS_G-13	0-1	Lead	M	792,000,000.0	450,000,000	1.8	28,348.3	28,348.3
SS_G-13	0-1	Selenium	M	900,000.0	700,000	1.3	28,348.3	28,348.3
SS_G-13	0-1	Zinc	M	354,000,000.0	320,000,000	- 1.1	28,348.3	28,348.3
SS_G-13	0-1	Aroclor 1254	PCB	81,000.0	820,000		28,949.2	28,949.2
SS_G-13	0-1	4,4'-DDE	PEST	2,400.0	16,000		28,949.2	28,949.2
SS_G-13	0-1	Dieldrin	PEST	0.0	40,000		28,949.2	28,949.2
SS_G-14	0-1	2,3,7,8-TCDD	DIOXIN	390.0	17	- 22.9	36,427.6	36,427.6
SS_G-14	0-1	Antimony	M	488,000.0	620,000	-	36,427.6	36,427.6
SS_G-14	0-1	Arsenic	M	4,500,000.0	7,700,000	-	36,427.6	36,427.6
SS_G-14	0-1	Cadmium	M	80,000.0	3,800,000		36,427.6	36,427.6
SS_G-14	0-1	Lead	M	118,000,000.0	450,000,000	-	36,427.6	36,427.6
SS_G-14	0-1	Selenium	M	1,100,000.0	700,000	- 1.6	36,427.6	36,427.6
SS_G-14	0-1	Zinc	M	22,500,000.0	320,000,000	-	36,427.6	36,427.6
SS_G-14	0-1	Aroclor 1254	PCB	0.0	820,000	-	36,835.2	36,835.2
SS_G-14	0-1	4,4'-DDE	PEST	1,900.0	16,000		36,835.2	36,835.2
SS_G-14	0-1	Dieldrin	PEST	520.0	40,000	-	36,835.2	36,835.2
SS_G-15	0-1	2,3,7,8-TCDD	DIOXIN	392.0	17	- 23.1	22,910.8	22,910.8
SS_G-15	0-1	Antimony	M	402,000.0	620,000	-	23,717.5	23,717.5
SS_G-15	0-1	Arsenic	M	3,400,000.0	7,700,000	-	23,717.5	23,717.5
SS_G-15	0-1	Cadmium	M	40,000.0	3,800,000		23,717.5	23,717.5
SS_G-15	0-1	Lead	M	83,000,000.0	450,000,000	-	23,717.5	23,717.5
SS_G-15	0-1	Selenium	M	500,000.0	700,000	-	23,717.5	23,717.5
SS_G-15	0-1	Zinc	M	16,000,000.0	320,000,000	-	23,717.5	23,717.5
SS_G-15	0-1	Aroclor 1254	PCB	0.0	820,000	-	23,717.5	23,717.5
SS_G-15	0-1	4,4'-DDE	PEST	1,700.0	16,000	-	52,231.7	52,231.7
SS_G-15	0-1	Dieldrin	PEST	1,200.0	40,000	-	52,231.7	52,231.7
SS_G-30	0-1	2,3,7,8-TCDD	DIOXIN	1.2	17	-	7,787.8	7,787.8
SS_G-30	0-1	Antimony	M	3,180,000.0	620,000	- 5.1	10,325.2	10,325.2
SS_G-30	0-1	Arsenic	M	6,300,000.0	7,700,000	-	10,325.2	10,325.2
SS_G-30	0-1	Cadmium	M	2,430,000.0	3,800,000	-	10,325.2	10,325.2
SS_G-30	0-1	Lead	M	337,000,000.0	450,000,000		10,325.2	10,325.2
SS_G-30	0-1	Selenium	M	400,000.0	700,000	-	10,325.2	10,325.2

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Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS_G-30	0-1	Zinc	M	188,000,000.0	320,000,000		10,325.2	10,325.2
SS_G-30	0-1	Aroclor 1254	PCB	26,000.0	820,000		10,325.2	10,325.2
SS_G-30	0-1	4,4'-DDE	PEST	36,000.0	16,000	2.3	10,325.2	10,325.2
SS_G-30	0-1	Dieldrin	PEST	0.0	40,000	-	10,325.2	10,325.2
SS_G-31	0-1	2,3,7,8-TCDD	DIOXIN	2.4	17	-	63,232.4	63,232.4
SS_G-31	0-1	Antimony	M	1,380,000.0	620,000	2.2	63,413.7	63,413.7
SS_G-31	0-1	Arsenic	M	5,300,000.0	7,700,000	-	63,413.7	63,413.7
SS_G-31	0-1	Cadmium	M	830,000.0	3,800,000	-	63,413.7	63,413.7
SS_G-31	0-1	Lead	M	213,000,000.0	450,000,000		63,413.7	63,413.7
SS_G-31	0-1	Selenium	M	4,500,000.0	700,000	- 6.4	63,413.7	63,413.7
SS_G-31	0-1	Zinc	M	190,000,000.0	320,000,000	-	63,413.7	63,413.7
SS_G-31	0-1	Aroclor 1254	PCB	250,000.0	820,000	-	63,413.7	63,413.7
SS_G-31	0-1	4,4'-DDE	PEST	8,500.0	16,000		63,413.7	63,413.7
SS_G-31	0-1	Dieldrin	PEST	0.0	40,000	-	63,413.7	63,413.7
SS_G-32	0-1	2,3,7,8-TCDD	DIOXIN	132.0	17	- 7.8	14,822.3	14,822.3
SS_G-32	0-1	Antimony	M	249,000.0	620,000	-	14,822.3	14,822.3
SS_G-32	0-1	Arsenic	M	13,700,000.0	7,700,000	- 1.8	14,822.3	14,822.3
SS_G-32	0-1	Cadmium	M	440,000.0	3,800,000		14,822.3	14,822.3
SS_G-32	0-1	Lead	M	93,000,000.0	450,000,000	-	14,822.3	14,822.3
SS_G-32	0-1	Selenium	M	600,000.0	700,000		14,822.3	14,822.3
SS_G-32	0-1	Zinc	M	127,000,000.0	320,000,000	-	14,822.3	14,822.3
SS_G-32	0-1	Aroclor 1254	PCB	51,000.0	820,000	-	14,822.3	14,822.3
SS_G-32	0-1	4,4'-DDE	PEST	8,800.0	16,000	-	15,353.6	15,353.6
SS_G-32	0-1	Dieldrin	PEST	0.0	40,000	-	15,353.6	15,353.6
SS-99-09	0-0.25	2,3,7,8-TCDD	DIOXIN	0.0	17	-	17,822.1	4,455.5
WRL-SD-2044	0-0.5	2,3,7,8-TCDD	DIOXIN	3,350.0	17	- 197.1	29,339.1	14,669.5
WRL-SD-2044	0-0.5	Arsenic	M	11,400,000.0	7,700,000	- 1.5	29,339.1	14,669.5
WRL-SD-2044	0-0.5	Selenium	M	0.0	700,000	-	29,339.1	14,669.5
WRL-SD-2044	0-0.5	Zinc	M	1,550,000,000.0	320,000,000	4.8	29,339.1	14,669.5
WRL-SD-2044	0-0.5	Aroclor 1254	PCB	74,000.0	820,000		29,339.1	14,669.5
WRL-SD-2044	0-0.5	4,4'-DDE	PEST	0.0	16,000	-	50,289.2	25,144.6
WRL-SD-2044	0-0.5	Dieldrin	PEST	0.0	40,000		50,289.2	25,144.6
WRL-SD-2071	0-0.2	2,3,7,8-TCDD	DIOXIN	1,730.0	17	- 101.8	45,836.2	9,167.2
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Table 2.2-5: Oxbow Floodplain Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
WRL-SD-2071	0-0.2	Arsenic	M	6,000,000.0	7,700,000		47,293.8	9,458.8
WRL-SD-2071	0-0.2	Selenium	M	1,400,000.0	700,000	2.0	47,293.8	9,458.8
WRL-SD-2071	0-0.2	Zinc	M	353,000,000.0	320,000,000	1.1	47,293.8	9,458.8

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Table 2.2-6: Source Area Soil Cap

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-050	0-0.25	TEQ	DIOXIN	54.5	1,000		2,182.4	545.6
CMS-052	0-0.25	TEQ	DIOXIN	44.5	1,000		1,691.6	422.9
CMS-053	0-0.25	TEQ	DIOXIN	3.1	1,000		1,004.0	251.0
CMS-054	0-0.25	TEQ	DIOXIN	1.4	1,000	-	2,099.7	524.9
CMS-056	0-0.25	TEQ	DIOXIN	249.0	1,000	-	3,197.7	799.4
CMS-058	0-0.25	TEQ	DIOXIN	185.0	1,000	-	3,059.4	764.9
CMS-059	0-0.25	TEQ	DIOXIN	42.1	1,000	-	1,535.1	383.8
CMS-061	0-0.25	TEQ	DIOXIN	222.0	1,000	-	2,573.9	643.5
CMS-062	0-0.25	TEQ	DIOXIN	12.0	1,000	-	1,941.7	485.4
CMS-063	0-0.25	TEQ	DIOXIN	4,460.0	1,000	- 4.5	2,270.4	567.6
CMS-063	0-1	TEQ	DIOXIN	9,800.0	1,000	- 9.8	2,270.4	2,270.4
CMS-063	1-2	TEQ	DIOXIN	57,000.0	1,000	- 57.0	2,270.4	2,270.4
CMS-064	0-0.25	TEQ	DIOXIN	699.0	1,000		1,782.1	445.5
CMS-065	0-0.25	TEQ	DIOXIN	1.5	1,000		703.3	175.8
CMS-065	0-10	Naphthalene	SVOC	0.0	54,000,000		714.5	7,145.0
CMS-065	0-10	1,2-dichloroethane	VOC	0.0	900,000	-	623.3	6,232.7
CMS-065	0-10	Benzene	VOC	0.0	2,500,000	-	623.3	6,232.7
CMS-065	0-10	Chlorobenzene	VOC	0.0	100,000,000	-	623.3	6,232.7
CMS-065	0-10	Cis-1,2-dichloroethene	VOC	22,000,000.0	60,000,000	-	623.3	6,232.7
CMS-065	0-10	Ethylbenzene	VOC	0.0	62,000,000	-	623.3	6,232.7
CMS-065	0-10	Tetrachloroethene	VOC	3,700,000.0	4,200,000	-	623.3	6,232.7
CMS-065	0-10	Toluene	VOC	0.0	54,000,000	-	623.3	6,232.7
CMS-065	0-10	Trichloroethene	VOC	1,900,000.0	13,000,000	-	623.3	6,232.7
CMS-065	0-10	Vinyl chloride	VOC	0.0	20,000	-	623.3	6,232.7
CMS-066	0-0.25	TEQ	DIOXIN	76.3	1,000	-	2,329.1	582.3
CMS-067	0-0.25	TEQ	DIOXIN	118.0	1,000	-	1,002.2	250.6
CMS-068	0-0.25	TEQ	DIOXIN	8.5	1,000	-	1,190.9	297.7
CMS-069	0-0.25	TEQ	DIOXIN	2,430.0	1,000	- 2.4	1,442.4	360.6
CMS-069	0-1	TEQ	DIOXIN	520.0	1,000	-	1,442.4	1,442.4
CMS-069	1-2	TEQ	DIOXIN	271.0	1,000	-	1,442.4	1,442.4
CMS-069	2-3	TEQ	DIOXIN	390.0	1,000		1,442.4	1,442.4
CMS-069	3-4	TEQ	DIOXIN	10.5	1,000	-	1,442.4	1,442.4
CMS-069	4-5	TEQ	DIOXIN	670.0	1,000	-	1,442.4	1,442.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-069	5-6	TEQ	DIOXIN	96.0	1,000		1,442.4	1,442.4
CMS-069	6-7	TEQ	DIOXIN	960.0	1,000		1,442.4	1,442.4
CMS-070	0-0.25	TEQ	DIOXIN	0.7	1,000		2,120.0	530.0
CMS-071	0-0.25	TEQ	DIOXIN	1.8	1,000	-	1,425.1	356.3
CMS-072	0-0.25	TEQ	DIOXIN	4.0	1,000	-	2,883.6	720.9
CMS-073	0-0.25	TEQ	DIOXIN	28.0	1,000	-	1,523.5	380.9
CMS-074	0-0.25	TEQ	DIOXIN	1,750.0	1,000	- 1.8	1,289.8	322.4
CMS-074	0-1	TEQ	DIOXIN	190.0	1,000	-	1,289.8	1,289.8
CMS-074	1-2	TEQ	DIOXIN	83.0	1,000	-	1,289.8	1,289.8
CMS-074	2-3	TEQ	DIOXIN	33.0	1,000		1,289.8	1,289.8
CMS-075	0-0.25	TEQ	DIOXIN	8,750.0	1,000	- 8.8	1,793.6	448.4
CMS-075	0-1	TEQ	DIOXIN	170.0	1,000	-	1,793.6	1,793.6
CMS-075	1-2	TEQ	DIOXIN	290.0	1,000	-	1,793.6	1,793.6
CMS-075	2-3	TEQ	DIOXIN	290.0	1,000		1,793.6	1,793.6
CMS-075	3-4	TEQ	DIOXIN	8.5	1,000	-	1,793.6	1,793.6
CMS-076	0-0.25	TEQ	DIOXIN	2,030.0	1,000	- 2.0	2,868.4	717.1
CMS-076	0-1	TEQ	DIOXIN	7.0	1,000	-	2,868.4	2,868.4
CMS-076	1-2	TEQ	DIOXIN	3.6	1,000	-	2,868.4	2,868.4
CMS-076	2-3	TEQ	DIOXIN	17.0	1,000		2,868.4	2,868.4
CMS-078	0-0.25	TEQ	DIOXIN	9.3	1,000	-	965.0	241.3
CMS-079	0-0.25	TEQ	DIOXIN	35.8	1,000	-	325.0	81.3
CMS-080	0-0.25	TEQ	DIOXIN	394.0	1,000	-	1,164.2	291.1
CMS-081	0-0.25	TEQ	DIOXIN	1,020.0	1,000	- 1.0	1,377.2	344.3
CMS-081	0-1	TEQ	DIOXIN	3.1	1,000	-	1,377.2	1,377.2
CMS-081	1-2	TEQ	DIOXIN	5.5	1,000	-	1,377.2	1,377.2
CMS-082	0-0.25	TEQ	DIOXIN	1,250.0	1,000	1.3	2,795.4	698.8
CMS-082	0-1	TEQ	DIOXIN	1.3	1,000	-	2,795.4	2,795.4
CMS-082	1-2	TEQ	DIOXIN	6.0	1,000	-	2,795.4	2,795.4
CMS-084	0-0.25	TEQ	DIOXIN	746.0	1,000		1,266.7	316.7
CMS-085	0-0.25	TEQ	DIOXIN	329.0	1,000	-	271.7	67.9
CMS-086	0-0.25	TEQ	DIOXIN	240.0	1,000	-	783.7	195.9
CMS-087	0-0.25	TEQ	DIOXIN	684.0	1,000	-	907.9	227.0
CMS-088	0-0.25	TEQ	DIOXIN	134.0	1,000	-	1,087.0	271.8
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-089	0-0.25	TEQ	DIOXIN	4,470.0	1,000	4.5	2,439.5	609.9
CMS-089	0-1	TEQ	DIOXIN	100.0	1,000		2,439.5	2,439.5
CMS-089	0-1	Antimony	M	0.0	10,000,000		15,761.5	15,761.5
CMS-089	0-1	Arsenic	M	3,500,000.0	7,000,000		15,761.5	15,761.5
CMS-089	0-1	Beryllium	M	700,000.0	400,000	- 1.8	15,761.5	15,761.5
CMS-089	0-1	Cadmium	M	0.0	39,000,000	-	15,761.5	15,761.5
CMS-089	0-1	Lead	M	48,500,000.0	150,000,000	-	15,761.5	15,761.5
CMS-089	0-1	Manganese	M	132,000,000.0	390,000,000		15,761.5	15,761.5
CMS-089	0-1	Thallium	M	0.0	5,500,000	-	15,761.5	15,761.5
CMS-089	0-1	Benzo(a)anthracene	SVOC	2,200,000.0	900,000	- 2.4	12,228.4	12,228.4
CMS-089	0-1	Benzo(a)pyrene	SVOC	2,400,000.0	400,000	- 6.0	12,228.4	12,228.4
CMS-089	0-1	Benzo(b)fluoranthene	SVOC	5,200,000.0	900,000	- 5.8	12,228.4	12,228.4
CMS-089	0-1	Benzo(g,h,i)perylene	SVOC	940,000.0	800,000	1.2	12,228.4	12,228.4
CMS-089	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000		12,228.4	12,228.4
CMS-089	0-1	Bis(2-ethylhexyl)phthalate	SVOC	280,000.0	46,000,000		12,228.4	12,228.4
CMS-089	0-1	Chrysene	SVOC	2,700,000.0	400,000	6.8	12,228.4	12,228.4
CMS-089	0-1	Dibenzo(a,h)anthracene	SVOC	350,000.0	400,000	-	12,228.4	12,228.4
CMS-089	0-1	Fluoranthene	SVOC	4,700,000.0	20,000,000	-	12,228.4	12,228.4
CMS-089	0-1	Indeno(1,2,3-cd)pyrene	SVOC	1,100,000.0	900,000	1.2	12,228.4	12,228.4
CMS-089	0-1	Naphthalene	SVOC	0.0	54,000,000	-	12,228.4	12,228.4
CMS-089	0-1	Pyrene	SVOC	4,500,000.0	13,000,000	-	12,228.4	12,228.4
CMS-089	0-1	Aroclor, Total	PCB	250,000.0	10,000,000		5,648.5	5,648.5
CMS-089	0-1	Dieldrin	PEST	27,000.0	40,000	-	12,227.3	12,227.3
CMS-089	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	12,227.3	12,227.3
CMS-089	0-1	Technical Chlordane	PEST	6,100.0	500,000	-	12,227.3	12,227.3
CMS-089	0-1	1,2-dichloroethane	VOC	0.0	900,000	-	17,422.0	17,422.0
CMS-089	0-1	Benzene	VOC	0.0	2,500,000	-	17,422.0	17,422.0
CMS-089	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	17,422.0	17,422.0
CMS-089	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	17,422.0	17,422.0
CMS-089	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	17,422.0	17,422.0
CMS-089	0-1	Tetrachloroethene	VOC	0.0	4,200,000	-	17,422.0	17,422.0
CMS-089	0-1	Toluene	VOC	0.0	54,000,000	-	17,422.0	17,422.0
CMS-089	0-1	Total Xylenes	VOC	0.0	110,000,000	-	17,422.0	17,422.0

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-089	0-1	Trichloroethene	VOC	0.0	13,000,000		17,422.0	17,422.0
CMS-089	0-1	Vinyl chloride	VOC	0.0	20,000		17,422.0	17,422.0
CMS-089	1-2	TEQ	DIOXIN	1,300.0	1,000	1.3	2,439.5	2,439.5
CMS-089	1-2	Antimony	M	1,300,000.0	10,000,000	-	15,761.5	15,761.5
CMS-089	1-2	Arsenic	M	3,600,000.0	7,000,000	-	15,761.5	15,761.5
CMS-089	1-2	Beryllium	M	360,000.0	400,000		15,761.5	15,761.5
CMS-089	1-2	Cadmium	M	2,100,000.0	39,000,000	-	15,761.5	15,761.5
CMS-089	1-2	Lead	M	93,000,000.0	150,000,000	-	15,761.5	15,761.5
CMS-089	1-2	Manganese	M	185,000,000.0	390,000,000	-	15,761.5	15,761.5
CMS-089	1-2	Thallium	M	0.0	5,500,000	-	15,761.5	15,761.5
CMS-089	1-2	Benzo(a)anthracene	SVOC	610,000.0	900,000	-	12,228.4	12,228.4
CMS-089	1-2	Benzo(a)pyrene	SVOC	610,000.0	400,000	- 1.5	12,228.4	12,228.4
CMS-089	1-2	Benzo(b)fluoranthene	SVOC	1,200,000.0	900,000	- 1.3	12,228.4	12,228.4
CMS-089	1-2	Benzo(g,h,i)perylene	SVOC	360,000.0	800,000	-	12,228.4	12,228.4
CMS-089	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		12,228.4	12,228.4
CMS-089	1-2	Bis(2-ethylhexyl)phthalate	SVOC	1,700,000.0	46,000,000		12,228.4	12,228.4
CMS-089	1-2	Chrysene	SVOC	660,000.0	400,000	- 1.7	12,228.4	12,228.4
CMS-089	1-2	Dibenzo(a,h)anthracene	SVOC	120,000.0	400,000	-	12,228.4	12,228.4
CMS-089	1-2	Fluoranthene	SVOC	1,500,000.0	20,000,000	-	12,228.4	12,228.4
CMS-089	1-2	Indeno(1,2,3-cd)pyrene	SVOC	340,000.0	900,000		12,228.4	12,228.4
CMS-089	1-2	Naphthalene	SVOC	3,300.0	54,000,000	-	12,228.4	12,228.4
CMS-089	1-2	Pyrene	SVOC	1,200,000.0	13,000,000	-	12,228.4	12,228.4
CMS-089	1-2	Aroclor, Total	PCB	12,900,000.0	10,000,000	- 1.3	5,648.5	5,648.5
CMS-089	1-2	Dieldrin	PEST	400,000.0	40,000	- 10.0	12,227.3	12,227.3
CMS-089	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	12,227.3	12,227.3
CMS-089	1-2	Technical Chlordane	PEST	100,000.0	500,000		12,227.3	12,227.3
CMS-089	1-2	1,2-dichloroethane	VOC	0.0	900,000		17,422.0	17,422.0
CMS-089	1-2	Benzene	VOC	0.0	2,500,000	-	17,422.0	17,422.0
CMS-089	1-2	Chlorobenzene	VOC	0.0	100,000,000	-	17,422.0	17,422.0
CMS-089	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	17,422.0	17,422.0
CMS-089	1-2	Ethylbenzene	VOC	0.0	62,000,000	-	17,422.0	17,422.0
CMS-089	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	17,422.0	17,422.0
CMS-089	1-2	Toluene	VOC	0.0	54,000,000	-	17,422.0	17,422.0

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-089	1-2	Total Xylenes	VOC	0.0	110,000,000		17,422.0	17,422.0
CMS-089	1-2	Trichloroethene	VOC	0.0	13,000,000		17,422.0	17,422.0
CMS-089	1-2	Vinyl chloride	VOC	0.0	20,000		17,422.0	17,422.0
CMS-089	2-3	TEQ	DIOXIN	210.0	1,000	-	2,439.5	2,439.5
CMS-089	2-3	Antimony	M	460,000.0	10,000,000	-	15,761.5	15,761.5
CMS-089	2-3	Arsenic	M	3,900,000.0	7,000,000	-	15,761.5	15,761.5
CMS-089	2-3	Beryllium	M	380,000.0	400,000	-	15,761.5	15,761.5
CMS-089	2-3	Cadmium	M	3,100,000.0	39,000,000	-	15,761.5	15,761.5
CMS-089	2-3	Lead	M	59,400,000.0	150,000,000	-	15,761.5	15,761.5
CMS-089	2-3	Manganese	M	78,300,000.0	390,000,000	-	15,761.5	15,761.5
CMS-089	2-3	Thallium	M	0.0	5,500,000	-	15,761.5	15,761.5
CMS-089	2-3	Benzo(a)anthracene	SVOC	0.0	900,000	-	12,228.4	12,228.4
CMS-089	2-3	Benzo(a)pyrene	SVOC	110,000.0	400,000	-	12,228.4	12,228.4
CMS-089	2-3	Benzo(b)fluoranthene	SVOC	230,000.0	900,000	-	12,228.4	12,228.4
CMS-089	2-3	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	12,228.4	12,228.4
CMS-089	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	12,228.4	12,228.4
CMS-089	2-3	Bis(2-ethylhexyl)phthalate	SVOC	500,000.0	46,000,000	-	12,228.4	12,228.4
CMS-089	2-3	Chrysene	SVOC	140,000.0	400,000	-	12,228.4	12,228.4
CMS-089	2-3	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	12,228.4	12,228.4
CMS-089	2-3	Fluoranthene	SVOC	90,000.0	20,000,000	-	12,228.4	12,228.4
CMS-089	2-3	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	12,228.4	12,228.4
CMS-089	2-3	Naphthalene	SVOC	0.0	54,000,000	-	12,228.4	12,228.4
CMS-089	2-3	Pyrene	SVOC	190,000.0	13,000,000	-	12,228.4	12,228.4
CMS-089	2-3	Aroclor, Total	PCB	31,200,000.0	10,000,000	- 3.1	5,648.5	5,648.5
CMS-089	2-3	Dieldrin	PEST	31,000.0	40,000	-	12,227.3	12,227.3
CMS-089	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	12,227.3	12,227.3
CMS-089	2-3	Technical Chlordane	PEST	2,200.0	500,000		12,227.3	12,227.3
CMS-089	2-3	1,2-dichloroethane	VOC	0.0	900,000	-	17,422.0	17,422.0
CMS-089	2-3	Benzene	VOC	0.0	2,500,000	-	17,422.0	17,422.0
CMS-089	2-3	Chlorobenzene	VOC	0.0	100,000,000	-	17,422.0	17,422.0
CMS-089	2-3	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	17,422.0	17,422.0
CMS-089	2-3	Ethylbenzene	VOC	0.0	62,000,000	-	17,422.0	17,422.0
CMS-089	2-3	Tetrachloroethene	VOC	0.0	4,200,000	-	17,422.0	17,422.0
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-089	2-3	Toluene	VOC	0.0	54,000,000		17,422.0	17,422.0
CMS-089	2-3	Total Xylenes	VOC	0.0	110,000,000		17,422.0	17,422.0
CMS-089	2-3	Trichloroethene	VOC	0.0	13,000,000		17,422.0	17,422.0
CMS-089	2-3	Vinyl chloride	VOC	0.0	20,000	-	17,422.0	17,422.0
CMS-089	3-4	TEQ	DIOXIN	280.0	1,000	-	2,439.5	2,439.5
CMS-089	3-4	Antimony	M	900,000.0	10,000,000	-	15,761.5	15,761.5
CMS-089	3-4	Arsenic	M	3,700,000.0	7,000,000	-	15,761.5	15,761.5
CMS-089	3-4	Beryllium	M	450,000.0	400,000	- 1.1	15,761.5	15,761.5
CMS-089	3-4	Cadmium	M	1,200,000.0	39,000,000	-	15,761.5	15,761.5
CMS-089	3-4	Lead	M	73,700,000.0	150,000,000	-	15,761.5	15,761.5
CMS-089	3-4	Manganese	M	146,000,000.0	390,000,000		15,761.5	15,761.5
CMS-089	3-4	Thallium	M	0.0	5,500,000	-	15,761.5	15,761.5
CMS-089	3-4	Benzo(a)anthracene	SVOC	2,800,000.0	900,000	- 3.1	12,228.4	12,228.4
CMS-089	3-4	Benzo(a)pyrene	SVOC	2,700,000.0	400,000	- 6.8	12,228.4	12,228.4
CMS-089	3-4	Benzo(b)fluoranthene	SVOC	5,200,000.0	900,000	- 5.8	12,228.4	12,228.4
CMS-089	3-4	Benzo(g,h,i)perylene	SVOC	1,500,000.0	800,000	1.9	12,228.4	12,228.4
CMS-089	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000		12,228.4	12,228.4
CMS-089	3-4	Bis(2-ethylhexyl)phthalate	SVOC	1,600,000.0	46,000,000		12,228.4	12,228.4
CMS-089	3-4	Chrysene	SVOC	3,000,000.0	400,000	7.5	12,228.4	12,228.4
CMS-089	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	12,228.4	12,228.4
CMS-089	3-4	Fluoranthene	SVOC	7,900,000.0	20,000,000	-	12,228.4	12,228.4
CMS-089	3-4	Indeno(1,2,3-cd)pyrene	SVOC	1,600,000.0	900,000	1.8	12,228.4	12,228.4
CMS-089	3-4	Naphthalene	SVOC	0.0	54,000,000	-	12,228.4	12,228.4
CMS-089	3-4	Pyrene	SVOC	5,200,000.0	13,000,000	-	12,228.4	12,228.4
CMS-089	3-4	Aroclor, Total	PCB	2,200,000.0	10,000,000		5,648.5	5,648.5
CMS-089	3-4	Dieldrin	PEST	32,000.0	40,000	-	12,227.3	12,227.3
CMS-089	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	12,227.3	12,227.3
CMS-089	3-4	Technical Chlordane	PEST	7,600.0	500,000	-	12,227.3	12,227.3
CMS-089	3-4	1,2-dichloroethane	VOC	0.0	900,000	-	17,422.0	17,422.0
CMS-089	3-4	Benzene	VOC	0.0	2,500,000	-	17,422.0	17,422.0
CMS-089	3-4	Chlorobenzene	VOC	0.0	100,000,000	-	17,422.0	17,422.0
CMS-089	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	17,422.0	17,422.0
CMS-089	3-4	Ethylbenzene	VOC	0.0	62,000,000	-	17,422.0	17,422.0
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-089	3-4	Tetrachloroethene	VOC	0.0	4,200,000		17,422.0	17,422.0
CMS-089	3-4	Toluene	VOC	0.0	54,000,000		17,422.0	17,422.0
CMS-089	3-4	Total Xylenes	VOC	0.0	110,000,000		17,422.0	17,422.0
CMS-089	3-4	Trichloroethene	VOC	0.0	13,000,000	-	17,422.0	17,422.0
CMS-089	3-4	Vinyl chloride	VOC	0.0	20,000	-	17,422.0	17,422.0
CMS-090	0-0.25	TEQ	DIOXIN	13.3	1,000	-	1,985.9	496.5
CMS-091	0-0.25	TEQ	DIOXIN	225.0	1,000	-	1,286.8	321.7
CMS-092	0-0.25	TEQ	DIOXIN	153.0	1,000	-	693.2	173.3
CMS-093	0-0.25	TEQ	DIOXIN	1,830.0	1,000	- 1.8	983.9	246.0
CMS-093	0-1	TEQ	DIOXIN	850.0	1,000	-	983.9	983.9
CMS-094	0-0.25	TEQ	DIOXIN	2,620.0	1,000	- 2.6	1,521.1	380.3
CMS-094	0-1	TEQ	DIOXIN	71.0	1,000		1,521.1	1,521.1
CMS-095	0-0.25	TEQ	DIOXIN	115.0	1,000	-	2,232.5	558.1
CMS-096	0-0.25	TEQ	DIOXIN	38.5	1,000		839.8	210.0
CMS-098	0-0.25	TEQ	DIOXIN	28,100.0	1,000	- 28.1	1,456.2	364.1
CMS-098	0-1	TEQ	DIOXIN	2,500.0	1,000	- 2.5	1,456.2	1,456.2
CMS-098	0-1	Antimony	M	590,000.0	10,000,000	-	5,575.4	5,575.4
CMS-098	0-1	Arsenic	M	3,300,000.0	7,000,000		5,575.4	5,575.4
CMS-098	0-1	Beryllium	M	740,000.0	400,000	1.9	5,575.4	5,575.4
CMS-098	0-1	Cadmium	M	0.0	39,000,000	-	5,575.4	5,575.4
CMS-098	0-1	Lead	M	59,700,000.0	150,000,000	-	5,575.4	5,575.4
CMS-098	0-1	Manganese	M	353,000,000.0	390,000,000		5,575.4	5,575.4
CMS-098	0-1	Thallium	M	0.0	5,500,000	-	5,575.4	5,575.4
CMS-098	0-1	Benzo(a)anthracene	SVOC	200,000.0	900,000	-	5,575.4	5,575.4
CMS-098	0-1	Benzo(a)pyrene	SVOC	210,000.0	400,000	-	5,575.4	5,575.4
CMS-098	0-1	Benzo(b)fluoranthene	SVOC	480,000.0	900,000	-	5,575.4	5,575.4
CMS-098	0-1	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	5,575.4	5,575.4
CMS-098	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	5,575.4	5,575.4
CMS-098	0-1	Bis(2-ethylhexyl)phthalate	SVOC	170,000.0	46,000,000	-	5,575.4	5,575.4
CMS-098	0-1	Chrysene	SVOC	250,000.0	400,000	-	5,575.4	5,575.4
CMS-098	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	5,575.4	5,575.4
CMS-098	0-1	Fluoranthene	SVOC	420,000.0	20,000,000	-	5,575.4	5,575.4
CMS-098	0-1	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	5,575.4	5,575.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-098	0-1	Naphthalene	SVOC	0.0	54,000,000		5,575.4	5,575.4
CMS-098	0-1	Pyrene	SVOC	420,000.0	13,000,000		5,575.4	5,575.4
CMS-098	0-1	Aroclor, Total	PCB	490,000.0	10,000,000		4,115.2	4,115.2
CMS-098	0-1	Dieldrin	PEST	13,000.0	40,000	-	5,575.4	5,575.4
CMS-098	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	5,575.4	5,575.4
CMS-098	0-1	Technical Chlordane	PEST	0.0	500,000	-	5,575.4	5,575.4
CMS-098	0-1	1,2-dichloroethane	VOC	0.0	900,000	-	7,233.8	7,233.8
CMS-098	0-1	Benzene	VOC	0.0	2,500,000	-	7,233.8	7,233.8
CMS-098	0-1	Chlorobenzene	VOC	53,000.0	100,000,000	-	7,233.8	7,233.8
CMS-098	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,233.8	7,233.8
CMS-098	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	7,233.8	7,233.8
CMS-098	0-1	Tetrachloroethene	VOC	0.0	4,200,000	-	7,233.8	7,233.8
CMS-098	0-1	Toluene	VOC	0.0	54,000,000	-	7,233.8	7,233.8
CMS-098	0-1	Total Xylenes	VOC	0.0	110,000,000	-	7,233.8	7,233.8
CMS-098	0-1	Trichloroethene	VOC	0.0	13,000,000	-	7,233.8	7,233.8
CMS-098	0-1	Vinyl chloride	VOC	0.0	20,000	-	7,233.8	7,233.8
CMS-099	0-0.25	TEQ	DIOXIN	767.0	1,000	-	754.4	188.6
CMS-100	0-0.25	TEQ	DIOXIN	12.4	1,000	-	725.5	181.4
CMS-101	0-0.25	TEQ	DIOXIN	118.0	1,000	-	1,618.5	404.6
CMS-102	0-0.25	TEQ	DIOXIN	2,760.0	1,000	- 2.8	2,124.5	531.1
CMS-102	0-1	TEQ	DIOXIN	220.0	1,000	-	2,124.5	2,124.5
CMS-103	0-0.25	TEQ	DIOXIN	164.0	1,000	-	2,491.4	622.8
CMS-104	0-0.25	TEQ	DIOXIN	53.1	1,000		1,674.4	418.6
CMS-107	0-0.25	TEQ	DIOXIN	1,810.0	1,000	- 1.8	1,086.7	271.7
CMS-109	0-0.25	TEQ	DIOXIN	1,090.0	1,000	- 1.1	1,518.5	379.6
CMS-109	0-1	TEQ	DIOXIN	1,200.0	1,000	- 1.2	1,518.5	1,518.5
CMS-110	0-0.25	TEQ	DIOXIN	605.0	1,000		2,455.5	613.9
CMS-111	0-0.25	TEQ	DIOXIN	112.0	1,000		2,480.1	620.0
CMS-112	0-0.25	TEQ	DIOXIN	220.0	1,000		1,635.2	408.8
CMS-114	0-0.25	TEQ	DIOXIN	23.5	1,000	-	1,866.1	466.5
CMS-115	0-0.25	TEQ	DIOXIN	463.0	1,000	-	1,376.0	344.0
CMS-117	0-0.25	TEQ	DIOXIN	6,550.0	1,000	- 6.6	1,362.8	340.7
CMS-117	0-1	TEQ	DIOXIN	130.0	1,000	-	1,362.8	1,362.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-118	0-0.25	TEQ	DIOXIN	2,530.0	1,000	2.5	1,983.4	495.8
CMS-118	0-1	TEQ	DIOXIN	1,700.0	1,000	1.7	1,983.4	1,983.4
CMS-118	0-1	Arsenic	M	5,000,000.0	7,000,000		32,108.8	32,108.8
CMS-118	0-1	Beryllium	M	610,000.0	400,000	1.5	32,108.8	32,108.8
CMS-118	0-1	Cadmium	M	530,000.0	39,000,000		32,108.8	32,108.8
CMS-118	0-1	Lead	M	69,800,000.0	150,000,000	-	32,108.8	32,108.8
CMS-118	0-1	Manganese	M	172,000,000.0	390,000,000		32,108.8	32,108.8
CMS-118	0-1	Thallium	M	0.0	5,500,000	-	32,108.8	32,108.8
CMS-118	0-1	Benzo(a)anthracene	SVOC	1,100,000.0	900,000	- 1.2	32,108.8	32,108.8
CMS-118	0-1	Benzo(a)pyrene	SVOC	1,000,000.0	400,000	- 2.5	32,108.8	32,108.8
CMS-118	0-1	Benzo(b)fluoranthene	SVOC	2,100,000.0	900,000	- 2.3	32,108.8	32,108.8
CMS-118	0-1	Benzo(g,h,i)perylene	SVOC	380,000.0	800,000		32,108.8	32,108.8
CMS-118	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000		32,108.8	32,108.8
CMS-118	0-1	Bis(2-ethylhexyl)phthalate	SVOC	480,000.0	46,000,000		32,108.8	32,108.8
CMS-118	0-1	Chrysene	SVOC	1,100,000.0	400,000	- 2.8	32,108.8	32,108.8
CMS-118	0-1	Dibenzo(a,h)anthracene	SVOC	140,000.0	400,000	-	32,108.8	32,108.8
CMS-118	0-1	Fluoranthene	SVOC	2,500,000.0	20,000,000	-	32,108.8	32,108.8
CMS-118	0-1	Indeno(1,2,3-cd)pyrene	SVOC	390,000.0	900,000		32,108.8	32,108.8
CMS-118	0-1	Naphthalene	SVOC	0.0	54,000,000	-	32,108.8	32,108.8
CMS-118	0-1	Pyrene	SVOC	2,100,000.0	13,000,000	-	32,108.8	32,108.8
CMS-118	0-1	Aroclor, Total	PCB	700,000.0	10,000,000	-	5,556.7	5,556.7
CMS-118	0-1	Dieldrin	PEST	6,000.0	40,000	-	32,108.8	32,108.8
CMS-118	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	32,108.8	32,108.8
CMS-118	0-1	Technical Chlordane	PEST	0.0	500,000	-	32,108.8	32,108.8
CMS-118	0-1	1,2-dichloroethane	VOC	0.0	900,000	-	33,445.5	33,445.5
CMS-118	0-1	Benzene	VOC	0.0	2,500,000	-	33,445.5	33,445.5
CMS-118	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	33,445.5	33,445.5
CMS-118	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	33,445.5	33,445.5
CMS-118	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	33,445.5	33,445.5
CMS-118	0-1	Tetrachloroethene	VOC	0.0	4,200,000	-	33,445.5	33,445.5
CMS-118	0-1	Toluene	VOC	0.0	54,000,000	-	33,445.5	33,445.5
CMS-118	0-1	Total Xylenes	VOC	0.0	110,000,000	-	33,445.5	33,445.5
CMS-118	0-1	Trichloroethene	VOC	0.0	13,000,000	-	33,445.5	33,445.5

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-118	0-1	Vinyl chloride	VOC	0.0	20,000		33,445.5	33,445.5
CMS-118	1-2	TEQ	DIOXIN	1,800.0	1,000	1.8	1,983.4	1,983.4
CMS-118	1-2	Antimony	M	460,000.0	10,000,000		32,108.8	32,108.8
CMS-118	1-2	Arsenic	M	6,800,000.0	7,000,000	-	32,108.8	32,108.8
CMS-118	1-2	Beryllium	M	610,000.0	400,000	1.5	32,108.8	32,108.8
CMS-118	1-2	Cadmium	M	880,000.0	39,000,000	-	32,108.8	32,108.8
CMS-118	1-2	Lead	M	88,200,000.0	150,000,000	-	32,108.8	32,108.8
CMS-118	1-2	Manganese	M	197,000,000.0	390,000,000		32,108.8	32,108.8
CMS-118	1-2	Thallium	M	580,000.0	5,500,000	-	32,108.8	32,108.8
CMS-118	1-2	Benzo(a)anthracene	SVOC	1,500,000.0	900,000	- 1.7	32,108.8	32,108.8
CMS-118	1-2	Benzo(a)pyrene	SVOC	1,200,000.0	400,000	- 3.0	32,108.8	32,108.8
CMS-118	1-2	Benzo(b)fluoranthene	SVOC	1,900,000.0	900,000	- 2.1	32,108.8	32,108.8
CMS-118	1-2	Benzo(g,h,i)perylene	SVOC	620,000.0	800,000		32,108.8	32,108.8
CMS-118	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		32,108.8	32,108.8
CMS-118	1-2	Bis(2-ethylhexyl)phthalate	SVOC	570,000.0	46,000,000		32,108.8	32,108.8
CMS-118	1-2	Chrysene	SVOC	1,300,000.0	400,000	- 3.3	32,108.8	32,108.8
CMS-118	1-2	Dibenzo(a,h)anthracene	SVOC	200,000.0	400,000	-	32,108.8	32,108.8
CMS-118	1-2	Fluoranthene	SVOC	3,300,000.0	20,000,000	-	32,108.8	32,108.8
CMS-118	1-2	Indeno(1,2,3-cd)pyrene	SVOC	590,000.0	900,000		32,108.8	32,108.8
CMS-118	1-2	Naphthalene	SVOC	120,000.0	54,000,000	-	32,108.8	32,108.8
CMS-118	1-2	Pyrene	SVOC	3,100,000.0	13,000,000	-	32,108.8	32,108.8
CMS-118	1-2	Aroclor, Total	PCB	1,100,000.0	10,000,000	-	5,556.7	5,556.7
CMS-118	1-2	Dieldrin	PEST	22,000.0	40,000	-	32,108.8	32,108.8
CMS-118	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	32,108.8	32,108.8
CMS-118	1-2	Technical Chlordane	PEST	0.0	500,000	-	32,108.8	32,108.8
CMS-118	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	33,445.5	33,445.5
CMS-118	1-2	Benzene	VOC	0.0	2,500,000	-	33,445.5	33,445.5
CMS-118	1-2	Chlorobenzene	VOC	0.0	100,000,000	-	33,445.5	33,445.5
CMS-118	1-2	Cis-1,2-dichloroethene	VOC	1,600.0	60,000,000	-	33,445.5	33,445.5
CMS-118	1-2	Ethylbenzene	VOC	0.0	62,000,000	-	33,445.5	33,445.5
CMS-118	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	33,445.5	33,445.5
CMS-118	1-2	Toluene	VOC	0.0	54,000,000	-	33,445.5	33,445.5
CMS-118	1-2	Total Xylenes	VOC	0.0	110,000,000	-	33,445.5	33,445.5

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-118	1-2	Trichloroethene	VOC	3,800.0	13,000,000		33,445.5	33,445.5
CMS-118	1-2	Vinyl chloride	VOC	0.0	20,000		33,445.5	33,445.5
CMS-118	2-3	TEQ	DIOXIN	6,300.0	1,000	6.3	1,983.4	1,983.4
CMS-118	2-3	Antimony	M	780,000.0	10,000,000	-	32,108.8	32,108.8
CMS-118	2-3	Arsenic	M	49,300,000.0	7,000,000	- 7.0	32,108.8	32,108.8
CMS-118	2-3	Beryllium	M	2,100,000.0	400,000	5.3	32,108.8	32,108.8
CMS-118	2-3	Cadmium	M	1,700,000.0	39,000,000	-	32,108.8	32,108.8
CMS-118	2-3	Lead	M	204,000,000.0	150,000,000	1.4	32,108.8	32,108.8
CMS-118	2-3	Manganese	M	543,000,000.0	390,000,000	1.4	32,108.8	32,108.8
CMS-118	2-3	Thallium	M	2,600,000.0	5,500,000	-	32,108.8	32,108.8
CMS-118	2-3	Benzo(a)anthracene	SVOC	360,000.0	900,000		32,108.8	32,108.8
CMS-118	2-3	Benzo(a)pyrene	SVOC	340,000.0	400,000		32,108.8	32,108.8
CMS-118	2-3	Benzo(b)fluoranthene	SVOC	630,000.0	900,000	-	32,108.8	32,108.8
CMS-118	2-3	Benzo(g,h,i)perylene	SVOC	200,000.0	800,000	-	32,108.8	32,108.8
CMS-118	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	32,108.8	32,108.8
CMS-118	2-3	Bis(2-ethylhexyl)phthalate	SVOC	270,000.0	46,000,000	-	32,108.8	32,108.8
CMS-118	2-3	Chrysene	SVOC	380,000.0	400,000	-	32,108.8	32,108.8
CMS-118	2-3	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	32,108.8	32,108.8
CMS-118	2-3	Fluoranthene	SVOC	820,000.0	20,000,000	-	32,108.8	32,108.8
CMS-118	2-3	Indeno(1,2,3-cd)pyrene	SVOC	180,000.0	900,000	-	32,108.8	32,108.8
CMS-118	2-3	Naphthalene	SVOC	0.0	54,000,000	-	32,108.8	32,108.8
CMS-118	2-3	Pyrene	SVOC	660,000.0	13,000,000	-	32,108.8	32,108.8
CMS-118	2-3	Aroclor, Total	PCB	3,700,000.0	10,000,000	-	5,556.7	5,556.7
CMS-118	2-3	Dieldrin	PEST	97,000.0	40,000	- 2.4	32,108.8	32,108.8
CMS-118	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	32,108.8	32,108.8
CMS-118	2-3	Technical Chlordane	PEST	0.0	500,000	-	32,108.8	32,108.8
CMS-118	2-3	1,2-dichloroethane	VOC	0.0	900,000		33,445.5	33,445.5
CMS-118	2-3	Benzene	VOC	0.0	2,500,000	-	33,445.5	33,445.5
CMS-118	2-3	Chlorobenzene	VOC	0.0	100,000,000	-	33,445.5	33,445.5
CMS-118	2-3	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	33,445.5	33,445.5
CMS-118	2-3	Ethylbenzene	VOC	0.0	62,000,000	-	33,445.5	33,445.5
CMS-118	2-3	Tetrachloroethene	VOC	0.0	4,200,000	-	33,445.5	33,445.5
CMS-118	2-3	Toluene	VOC	0.0	54,000,000	-	33,445.5	33,445.5

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-118	2-3	Total Xylenes	VOC	0.0	110,000,000		33,445.5	33,445.5
CMS-118	2-3	Trichloroethene	VOC	0.0	13,000,000		33,445.5	33,445.5
CMS-118	2-3	Vinyl chloride	VOC	0.0	20,000		33,445.5	33,445.5
CMS-118	3-4	TEQ	DIOXIN	470.0	1,000	-	1,983.4	1,983.4
CMS-118	3-4	Antimony	M	340,000.0	10,000,000	-	32,108.8	32,108.8
CMS-118	3-4	Arsenic	M	7,400,000.0	7,000,000	- 1.1	32,108.8	32,108.8
CMS-118	3-4	Beryllium	M	1,100,000.0	400,000	- 2.8	32,108.8	32,108.8
CMS-118	3-4	Cadmium	M	460,000.0	39,000,000	-	32,108.8	32,108.8
CMS-118	3-4	Lead	M	182,000,000.0	150,000,000	1.2	32,108.8	32,108.8
CMS-118	3-4	Manganese	M	596,000,000.0	390,000,000	1.5	32,108.8	32,108.8
CMS-118	3-4	Thallium	M	0.0	5,500,000	-	32,108.8	32,108.8
CMS-118	3-4	Benzo(a)anthracene	SVOC	95,000.0	900,000		32,108.8	32,108.8
CMS-118	3-4	Benzo(a)pyrene	SVOC	88,000.0	400,000		32,108.8	32,108.8
CMS-118	3-4	Benzo(b)fluoranthene	SVOC	180,000.0	900,000	-	32,108.8	32,108.8
CMS-118	3-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	32,108.8	32,108.8
CMS-118	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	32,108.8	32,108.8
CMS-118	3-4	Bis(2-ethylhexyl)phthalate	SVOC	130,000.0	46,000,000	-	32,108.8	32,108.8
CMS-118	3-4	Chrysene	SVOC	100,000.0	400,000	-	32,108.8	32,108.8
CMS-118	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	32,108.8	32,108.8
CMS-118	3-4	Fluoranthene	SVOC	150,000.0	20,000,000	-	32,108.8	32,108.8
CMS-118	3-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	32,108.8	32,108.8
CMS-118	3-4	Naphthalene	SVOC	0.0	54,000,000	-	32,108.8	32,108.8
CMS-118	3-4	Pyrene	SVOC	150,000.0	13,000,000	-	32,108.8	32,108.8
CMS-118	3-4	Aroclor, Total	PCB	240,000.0	10,000,000	-	5,556.7	5,556.7
CMS-118	3-4	Dieldrin	PEST	27,000.0	40,000	-	32,108.8	32,108.8
CMS-118	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	32,108.8	32,108.8
CMS-118	3-4	Technical Chlordane	PEST	0.0	500,000	-	32,108.8	32,108.8
CMS-118	3-4	1,2-dichloroethane	VOC	0.0	900,000	-	33,445.5	33,445.5
CMS-118	3-4	Benzene	VOC	0.0	2,500,000	-	33,445.5	33,445.5
CMS-118	3-4	Chlorobenzene	VOC	0.0	100,000,000	-	33,445.5	33,445.5
CMS-118	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	33,445.5	33,445.5
CMS-118	3-4	Ethylbenzene	VOC	0.0	62,000,000	-	33,445.5	33,445.5
CMS-118	3-4	Tetrachloroethene	VOC	0.0	4,200,000	-	33,445.5	33,445.5
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-118	3-4	Toluene	VOC	0.0	54,000,000		33,445.5	33,445.5
CMS-118	3-4	Total Xylenes	VOC	0.0	110,000,000		33,445.5	33,445.5
CMS-118	3-4	Trichloroethene	VOC	0.0	13,000,000		33,445.5	33,445.5
CMS-118	3-4	Vinyl chloride	VOC	0.0	20,000	-	33,445.5	33,445.5
CMS-118	4-5	TEQ	DIOXIN	340.0	1,000	-	1,983.4	1,983.4
CMS-118	4-5	Arsenic	M	2,300,000.0	7,000,000	-	32,108.8	32,108.8
CMS-118	4-5	Beryllium	M	680,000.0	400,000	- 1.7	32,108.8	32,108.8
CMS-118	4-5	Cadmium	M	190,000.0	39,000,000	-	32,108.8	32,108.8
CMS-118	4-5	Lead	M	22,500,000.0	150,000,000	-	32,108.8	32,108.8
CMS-118	4-5	Manganese	M	195,000,000.0	390,000,000		32,108.8	32,108.8
CMS-118	4-5	Thallium	M	0.0	5,500,000	-	32,108.8	32,108.8
CMS-118	4-5	Benzo(a)anthracene	SVOC	69,000.0	900,000	-	32,108.8	32,108.8
CMS-118	4-5	Benzo(a)pyrene	SVOC	0.0	400,000	-	32,108.8	32,108.8
CMS-118	4-5	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	32,108.8	32,108.8
CMS-118	4-5	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	32,108.8	32,108.8
CMS-118	4-5	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	32,108.8	32,108.8
CMS-118	4-5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	32,108.8	32,108.8
CMS-118	4-5	Chrysene	SVOC	0.0	400,000	-	32,108.8	32,108.8
CMS-118	4-5	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	32,108.8	32,108.8
CMS-118	4-5	Fluoranthene	SVOC	140,000.0	20,000,000	-	32,108.8	32,108.8
CMS-118	4-5	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	32,108.8	32,108.8
CMS-118	4-5	Naphthalene	SVOC	0.0	54,000,000	-	32,108.8	32,108.8
CMS-118	4-5	Pyrene	SVOC	0.0	13,000,000	-	32,108.8	32,108.8
CMS-118	4-5	Aroclor, Total	PCB	38,000.0	10,000,000	-	5,556.7	5,556.7
CMS-118	4-5	Dieldrin	PEST	1,500.0	40,000	-	32,108.8	32,108.8
CMS-118	4-5	Pentachlorophenol	PEST	0.0	5,300,000	-	32,108.8	32,108.8
CMS-118	4-5	Technical Chlordane	PEST	0.0	500,000	-	32,108.8	32,108.8
CMS-118	4-5	1,2-dichloroethane	VOC	0.0	900,000	-	33,445.5	33,445.5
CMS-118	4-5	Benzene	VOC	0.0	2,500,000	-	33,445.5	33,445.5
CMS-118	4-5	Chlorobenzene	VOC	0.0	100,000,000	-	33,445.5	33,445.5
CMS-118	4-5	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	33,445.5	33,445.5
CMS-118	4-5	Ethylbenzene	VOC	0.0	62,000,000	-	33,445.5	33,445.5
CMS-118	4-5	Tetrachloroethene	VOC	0.0	4,200,000	-	33,445.5	33,445.5

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-118	4-5	Toluene	VOC	0.0	54,000,000		33,445.5	33,445.5
CMS-118	4-5	Total Xylenes	VOC	0.0	110,000,000		33,445.5	33,445.5
CMS-118	4-5	Trichloroethene	VOC	0.0	13,000,000		33,445.5	33,445.5
CMS-118	4-5	Vinyl chloride	VOC	0.0	20,000	-	33,445.5	33,445.5
CMS-119	0-0.25	TEQ	DIOXIN	22.9	1,000	-	1,592.1	398.0
CMS-121	0-0.25	TEQ	DIOXIN	280.0	1,000	-	2,040.8	510.2
CMS-124	0-0.25	TEQ	DIOXIN	213.0	1,000	-	804.2	201.1
CMS-125	0-0.25	TEQ	DIOXIN	31.9	1,000	-	987.4	246.8
CMS-126	0-0.25	TEQ	DIOXIN	44.4	1,000	-	990.1	247.5
CMS-127	0-0.25	TEQ	DIOXIN	39.0	1,000	-	1,940.6	485.1
CMS-128	0-0.25	TEQ	DIOXIN	17.8	1,000	-	1,745.4	436.4
CMS-131	0-0.25	TEQ	DIOXIN	3,320.0	1,000	- 3.3	1,668.1	417.0
CMS-131	0-1	TEQ	DIOXIN	12,000.0	1,000	- 12.0	1,668.1	1,668.1
CMS-131	0-1	Aroclor, Total	PCB	1,100,000.0	10,000,000	-	2,359.8	2,359.8
CMS-131	1-2	TEQ	DIOXIN	54,000.0	1,000	54.0	1,668.1	1,668.1
CMS-131	1-2	Aroclor, Total	PCB	2,300,000.0	10,000,000		2,359.8	2,359.8
CMS-131	2-3	TEQ	DIOXIN	11,000.0	1,000	- 11.0	1,668.1	1,668.1
CMS-131	2-3	Aroclor, Total	PCB	500,000.0	10,000,000		2,359.8	2,359.8
CMS-131	3-4	TEQ	DIOXIN	7,600.0	1,000	- 7.6	1,668.1	1,668.1
CMS-131	3-4	Aroclor, Total	PCB	98,000.0	10,000,000		2,359.8	2,359.8
CMS-132	0-0.25	TEQ	DIOXIN	19.4	1,000	-	1,089.4	272.3
CMS-133	0-0.25	TEQ	DIOXIN	729.0	1,000		2,669.0	667.3
CMS-134	0-0.25	TEQ	DIOXIN	15,600.0	1,000	- 15.6	2,465.0	616.2
CMS-134	0-1	TEQ	DIOXIN	3,200.0	1,000	- 3.2	2,465.0	2,465.0
CMS-134	0-1	Aroclor, Total	PCB	1,200,000.0	10,000,000	-	5,700.3	5,700.3
CMS-135	0-0.25	TEQ	DIOXIN	20,600.0	1,000	20.6	1,822.2	455.6
CMS-135	0-1	TEQ	DIOXIN	690.0	1,000		1,822.2	1,822.2
CMS-136	0-0.25	TEQ	DIOXIN	14.2	1,000	-	1,740.8	435.2
CMS-138	0-0.25	TEQ	DIOXIN	98.8	1,000		1,645.5	411.4
CMS-141	0-0.25	TEQ	DIOXIN	35,500.0	1,000	- 35.5	3,026.5	756.6
CMS-141	0-1	TEQ	DIOXIN	270.0	1,000	-	3,026.5	3,026.5
CMS-141	0-1	Aroclor, Total	PCB	1,100,000.0	10,000,000	-	3,353.6	3,353.6
CMS-142	0-0.25	TEQ	DIOXIN	8,070.0	1,000	8.1	2,389.7	597.4
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-142	0-1	TEQ	DIOXIN	2,050.0	1,000	2.1	2,389.7	2,389.7
CMS-142	0-1	Antimony	M	610,000.0	10,000,000		13,374.7	13,374.7
CMS-142	0-1	Arsenic	M	4,400,000.0	7,000,000		13,374.7	13,374.7
CMS-142	0-1	Beryllium	M	550,000.0	400,000	1.4	13,374.7	13,374.7
CMS-142	0-1	Cadmium	M	0.0	39,000,000	-	13,374.7	13,374.7
CMS-142	0-1	Lead	M	95,800,000.0	150,000,000	-	13,374.7	13,374.7
CMS-142	0-1	Manganese	M	82,900,000.0	390,000,000		13,374.7	13,374.7
CMS-142	0-1	Thallium	M	0.0	5,500,000	-	13,374.7	13,374.7
CMS-142	0-1	Benzo(a)anthracene	SVOC	270,000.0	900,000	-	13,374.7	13,374.7
CMS-142	0-1	Benzo(a)pyrene	SVOC	250,000.0	400,000	-	13,374.7	13,374.7
CMS-142	0-1	Benzo(b)fluoranthene	SVOC	520,000.0	900,000	-	13,374.7	13,374.7
CMS-142	0-1	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	13,374.7	13,374.7
CMS-142	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	13,374.7	13,374.7
CMS-142	0-1	Bis(2-ethylhexyl)phthalate	SVOC	280,000.0	46,000,000	-	13,374.7	13,374.7
CMS-142	0-1	Chrysene	SVOC	290,000.0	400,000	-	13,374.7	13,374.7
CMS-142	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	13,374.7	13,374.7
CMS-142	0-1	Fluoranthene	SVOC	530,000.0	20,000,000	-	13,374.7	13,374.7
CMS-142	0-1	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	13,374.7	13,374.7
CMS-142	0-1	Naphthalene	SVOC	0.0	54,000,000	-	13,374.7	13,374.7
CMS-142	0-1	Pyrene	SVOC	580,000.0	13,000,000	-	13,374.7	13,374.7
CMS-142	0-1	Aroclor, Total	PCB	760,000.0	10,000,000	-	4,164.7	4,164.7
CMS-142	0-1	Dieldrin	PEST	81,000.0	40,000	- 2.0	13,118.4	13,118.4
CMS-142	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	13,118.4	13,118.4
CMS-142	0-1	Technical Chlordane	PEST	0.0	500,000	-	13,118.4	13,118.4
CMS-142	0-1	1,2-dichloroethane	VOC	0.0	900,000		21,721.0	21,721.0
CMS-142	0-1	Benzene	VOC	0.0	2,500,000	-	21,721.0	21,721.0
CMS-142	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	21,721.0	21,721.0
CMS-142	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	21,721.0	21,721.0
CMS-142	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	21,721.0	21,721.0
CMS-142	0-1	Tetrachloroethene	VOC	0.0	4,200,000	-	21,721.0	21,721.0
CMS-142	0-1	Toluene	VOC	0.0	54,000,000	-	21,721.0	21,721.0
CMS-142	0-1	Total Xylenes	VOC	0.0	110,000,000	-	21,721.0	21,721.0
CMS-142	0-1	Trichloroethene	VOC	0.0	13,000,000	-	21,721.0	21,721.0

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-142	0-1	Vinyl chloride	VOC	0.0	20,000		21,721.0	21,721.0
CMS-143	0-0.25	TEQ	DIOXIN	186.0	1,000		1,505.5	376.4
CMS-144	0-0.25	TEQ	DIOXIN	75.2	1,000		307.1	76.8
CMS-145	0-0.25	TEQ	DIOXIN	2,750.0	1,000	- 2.8	954.3	238.6
CMS-148	0-0.25	TEQ	DIOXIN	15,300.0	1,000	- 15.3	1,746.5	436.6
CMS-148	0-1	TEQ	DIOXIN	640.0	1,000	-	1,746.5	1,746.5
CMS-148	0-1	Aroclor, Total	PCB	9,300,000.0	10,000,000		4,686.2	4,686.2
CMS-149	0-0.25	TEQ	DIOXIN	22,700.0	1,000	22.7	2,426.0	606.5
CMS-149	0-1	TEQ	DIOXIN	310.0	1,000	-	2,426.0	2,426.0
CMS-150	0-0.25	TEQ	DIOXIN	22,100.0	1,000	- 22.1	2,001.9	500.5
CMS-150	0-1	TEQ	DIOXIN	611.0	1,000		2,001.9	2,001.9
CMS-150	1-2	TEQ	DIOXIN	17.0	1,000	-	2,001.9	2,001.9
CMS-151	0-0.25	TEQ	DIOXIN	22.4	1,000		684.5	171.1
CMS-152	0-0.25	TEQ	DIOXIN	1,400.0	1,000	- 1.4	1,193.7	298.4
CMS-152	0-1	TEQ	DIOXIN	640.0	1,000	-	1,193.7	1,193.7
CMS-152	0-1	Aroclor, Total	PCB	9,500,000.0	10,000,000	-	2,360.2	2,360.2
CMS-152	1-2	TEQ	DIOXIN	4.9	1,000		1,193.7	1,193.7
CMS-152	1-2	Aroclor, Total	PCB	1,900,000.0	10,000,000	-	2,360.2	2,360.2
CMS-152	2-3	TEQ	DIOXIN	18.5	1,000	-	1,193.7	1,193.7
CMS-152	2-3	Aroclor, Total	PCB	13,000,000.0	10,000,000	- 1.3	2,360.2	2,360.2
CMS-157	0-0.25	TEQ	DIOXIN	12,600.0	1,000	- 12.6	2,674.3	668.6
CMS-157	0-1	TEQ	DIOXIN	420.0	1,000	-	2,674.3	2,674.3
CMS-158	0-0.25	TEQ	DIOXIN	10,200.0	1,000	10.2	2,470.0	617.5
CMS-158	0-1	TEQ	DIOXIN	470.0	1,000		2,470.0	2,470.0
CMS-159	0-0.25	TEQ	DIOXIN	3,380.0	1,000	- 3.4	1,907.2	476.8
CMS-159	0-1	TEQ	DIOXIN	3,000.0	1,000	3.0	1,907.2	1,907.2
CMS-159	0-1	Antimony	M	830,000.0	10,000,000	-	4,667.7	4,667.7
CMS-159	0-1	Arsenic	M	8,100,000.0	7,000,000	1.2	4,667.7	4,667.7
CMS-159	0-1	Beryllium	M	650,000.0	400,000	1.6	4,667.7	4,667.7
CMS-159	0-1	Cadmium	M	3,100,000.0	39,000,000	-	4,667.7	4,667.7
CMS-159	0-1	Lead	M	620,000,000.0	150,000,000	4.1	4,667.7	4,667.7
CMS-159	0-1	Manganese	M	362,000,000.0	390,000,000		4,667.7	4,667.7
CMS-159	0-1	Thallium	M	0.0	5,500,000	-	4,667.7	4,667.7

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-159	0-1	Benzo(a)anthracene	SVOC	1,800,000.0	900,000	2.0	4,667.7	4,667.7
CMS-159	0-1	Benzo(a)pyrene	SVOC	2,000,000.0	400,000	5.0	4,667.7	4,667.7
CMS-159	0-1	Benzo(b)fluoranthene	SVOC	0.0	900,000		4,667.7	4,667.7
CMS-159	0-1	Benzo(g,h,i)perylene	SVOC	1,100,000.0	800,000	1.4	4,667.7	4,667.7
CMS-159	0-1	Benzo(k)fluoranthene	SVOC	3,800,000.0	900,000	4.2	4,667.7	4,667.7
CMS-159	0-1	Bis(2-ethylhexyl)phthalate	SVOC	20,000,000.0	46,000,000	-	4,667.7	4,667.7
CMS-159	0-1	Chrysene	SVOC	2,200,000.0	400,000	5.5	4,667.7	4,667.7
CMS-159	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000		4,667.7	4,667.7
CMS-159	0-1	Fluoranthene	SVOC	4,200,000.0	20,000,000	-	4,667.7	4,667.7
CMS-159	0-1	Indeno(1,2,3-cd)pyrene	SVOC	1,100,000.0	900,000	1.2	4,667.7	4,667.7
CMS-159	0-1	Naphthalene	SVOC	0.0	54,000,000	-	4,667.7	4,667.7
CMS-159	0-1	Pyrene	SVOC	3,600,000.0	13,000,000	-	4,667.7	4,667.7
CMS-159	0-1	Aroclor, Total	PCB	4,100,000.0	10,000,000		4,391.9	4,391.9
CMS-159	0-1	Dieldrin	PEST	9,700.0	40,000	-	4,667.7	4,667.7
CMS-159	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	4,667.7	4,667.7
CMS-159	0-1	1,2-dichloroethane	VOC	0.0	900,000	-	9,402.2	9,402.2
CMS-159	0-1	Benzene	VOC	0.0	2,500,000	-	9,402.2	9,402.2
CMS-159	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	9,402.2	9,402.2
CMS-159	0-1	Cis-1,2-dichloroethene	VOC	7,300.0	60,000,000	-	9,402.2	9,402.2
CMS-159	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	9,402.2	9,402.2
CMS-159	0-1	Tetrachloroethene	VOC	100,000.0	4,200,000	-	9,402.2	9,402.2
CMS-159	0-1	Toluene	VOC	0.0	54,000,000	-	9,402.2	9,402.2
CMS-159	0-1	Total Xylenes	VOC	0.0	110,000,000	-	9,402.2	9,402.2
CMS-159	0-1	Trichloroethene	VOC	7,700.0	13,000,000	-	9,402.2	9,402.2
CMS-159	0-1	Vinyl chloride	VOC	0.0	20,000	-	9,402.2	9,402.2
CMS-160	0-0.25	TEQ	DIOXIN	12,600.0	1,000	- 12.6	1,162.7	290.7
CMS-160	0-1	TEQ	DIOXIN	1,100.0	1,000	- 1.1	1,162.7	1,162.7
CMS-160	0-1	Aroclor, Total	PCB	860,000.0	10,000,000	-	1,162.7	1,162.7
CMS-160	1-2	TEQ	DIOXIN	62.0	1,000		1,162.7	1,162.7
CMS-160	1-2	Aroclor, Total	PCB	35,000.0	10,000,000		1,162.7	1,162.7
CMS-160	2-3	TEQ	DIOXIN	79.0	1,000	-	1,162.7	1,162.7
CMS-160	2-3	Aroclor, Total	PCB	290,000.0	10,000,000	-	1,162.7	1,162.7
CMS-166	0-0.25	TEQ	DIOXIN	9,620.0	1,000	- 9.6	3,044.2	761.1
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-166	0-1	TEQ	DIOXIN	10,000.0	1,000	10.0	3,044.2	3,044.2
CMS-167	0-0.25	TEQ	DIOXIN	2,140.0	1,000	2.1	673.5	168.4
CMS-167	0-1	TEQ	DIOXIN	3,000.0	1,000	3.0	673.5	673.5
CMS-168	0-0.25	TEQ	DIOXIN	11,600.0	1,000	11.6	644.5	161.1
CMS-168	0-1	TEQ	DIOXIN	31,000.0	1,000	31.0	644.5	644.5
CMS-168	0-1	Aroclor, Total	PCB	1,700,000.0	10,000,000		644.5	644.5
CMS-168	1-2	TEQ	DIOXIN	10,000.0	1,000	10.0	644.5	644.5
CMS-168	1-2	Aroclor, Total	PCB	500,000.0	10,000,000		644.5	644.5
CMS-168	2-3	TEQ	DIOXIN	6,100.0	1,000	6.1	644.5	644.5
CMS-168	2-3	Aroclor, Total	PCB	250,000.0	10,000,000		644.5	644.5
CMS-169	0-0.25	TEQ	DIOXIN	35,100.0	1,000	35.1	1,411.3	352.8
CMS-169	0-1	TEQ	DIOXIN	2,000.0	1,000	2.0	1,411.3	1,411.3
CMS-169	0-1	Aroclor, Total	PCB	490,000.0	10,000,000		2,250.3	2,250.3
CMS-171	0-0.25	TEQ	DIOXIN	5,290.0	1,000	5.3	3,648.6	912.1
CMS-171	0-1	TEQ	DIOXIN	5,800.0	1,000	5.8	3,648.6	3,648.6
CMS-171	0-1	Aroclor, Total	PCB	1,800,000.0	10,000,000		5,149.8	5,149.8
CMS-172	0-0.25	TEQ	DIOXIN	9,990.0	1,000	10.0	3,934.4	983.6
CMS-172	0-1	TEQ	DIOXIN	460.0	1,000		3,934.4	3,934.4
CMS-173	0-0.25	TEQ	DIOXIN	17,500.0	1,000	17.5	3,530.1	882.5
CMS-173	0-1	TEQ	DIOXIN	1,200.0	1,000	1.2	3,530.1	3,530.1
CMS-173	0-1	Antimony	M	3,800,000.0	10,000,000		9,877.9	9,877.9
CMS-173	0-1	Arsenic	M	8,300,000.0	7,000,000	1.2	9,877.9	9,877.9
CMS-173	0-1	Beryllium	M	1,900,000.0	400,000	4.8	9,877.9	9,877.9
CMS-173	0-1	Cadmium	M	1,700,000.0	39,000,000		9,877.9	9,877.9
CMS-173	0-1	Lead	M	243,000,000.0	150,000,000	1.6	9,877.9	9,877.9
CMS-173	0-1	Manganese	M	186,000,000.0	390,000,000		9,877.9	9,877.9
CMS-173	0-1	Thallium	M	0.0	5,500,000		9,877.9	9,877.9
CMS-173	0-1	Benzo(a)anthracene	SVOC	480,000.0	900,000		7,194.6	7,194.6
CMS-173	0-1	Benzo(a)pyrene	SVOC	530,000.0	400,000	1.3	7,194.6	7,194.6
CMS-173	0-1	Benzo(b)fluoranthene	SVOC	970,000.0	900,000	1.1	7,194.6	7,194.6
CMS-173	0-1	Benzo(g,h,i)perylene	SVOC	0.0	800,000		7,194.6	7,194.6
CMS-173	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000		7,194.6	7,194.6
CMS-173	0-1	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000		7,194.6	7,194.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-173	0-1	Chrysene	SVOC	490,000.0	400,000	1.2	7,194.6	7,194.6
CMS-173	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000		7,194.6	7,194.6
CMS-173	0-1	Fluoranthene	SVOC	740,000.0	20,000,000		7,194.6	7,194.6
CMS-173	0-1	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000		7,194.6	7,194.6
CMS-173	0-1	Naphthalene	SVOC	0.0	54,000,000	-	7,194.6	7,194.6
CMS-173	0-1	Pyrene	SVOC	890,000.0	13,000,000	-	7,194.6	7,194.6
CMS-173	0-1	Aroclor, Total	PCB	380,000.0	10,000,000	-	5,343.1	5,343.1
CMS-173	0-1	Dieldrin	PEST	0.0	40,000	-	7,194.6	7,194.6
CMS-173	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	7,194.6	7,194.6
CMS-173	0-1	Technical Chlordane	PEST	0.0	500,000	-	7,194.6	7,194.6
CMS-173	0-1	1,2-dichloroethane	VOC	0.0	900,000	-	10,218.3	10,218.3
CMS-173	0-1	Benzene	VOC	98,000.0	2,500,000	-	10,218.3	10,218.3
CMS-173	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	10,218.3	10,218.3
CMS-173	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	10,218.3	10,218.3
CMS-173	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	10,218.3	10,218.3
CMS-173	0-1	Tetrachloroethene	VOC	170,000.0	4,200,000	-	10,218.3	10,218.3
CMS-173	0-1	Toluene	VOC	0.0	54,000,000	-	10,218.3	10,218.3
CMS-173	0-1	Total Xylenes	VOC	19,000.0	110,000,000	-	10,218.3	10,218.3
CMS-173	0-1	Trichloroethene	VOC	28,000.0	13,000,000	-	10,218.3	10,218.3
CMS-173	0-1	Vinyl chloride	VOC	0.0	20,000	-	10,218.3	10,218.3
CMS-173	1-2	TEQ	DIOXIN	720.0	1,000	-	3,530.1	3,530.1
CMS-173	1-2	Antimony	M	0.0	10,000,000	-	9,877.9	9,877.9
CMS-173	1-2	Arsenic	M	1,500,000.0	7,000,000	-	9,877.9	9,877.9
CMS-173	1-2	Beryllium	M	1,300,000.0	400,000	- 3.3	9,877.9	9,877.9
CMS-173	1-2	Cadmium	M	640,000.0	39,000,000	-	9,877.9	9,877.9
CMS-173	1-2	Lead	M	11,900,000.0	150,000,000	-	9,877.9	9,877.9
CMS-173	1-2	Manganese	M	108,000,000.0	390,000,000		9,877.9	9,877.9
CMS-173	1-2	Thallium	M	0.0	5,500,000	-	9,877.9	9,877.9
CMS-173	1-2	Benzo(a)anthracene	SVOC	0.0	900,000	-	7,194.6	7,194.6
CMS-173	1-2	Benzo(a)pyrene	SVOC	0.0	400,000	-	7,194.6	7,194.6
CMS-173	1-2	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	7,194.6	7,194.6
CMS-173	1-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	7,194.6	7,194.6
CMS-173	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	7,194.6	7,194.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-173	1-2	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000		7,194.6	7,194.6
CMS-173	1-2	Chrysene	SVOC	0.0	400,000		7,194.6	7,194.6
CMS-173	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000		7,194.6	7,194.6
CMS-173	1-2	Fluoranthene	SVOC	0.0	20,000,000	-	7,194.6	7,194.6
CMS-173	1-2	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	7,194.6	7,194.6
CMS-173	1-2	Naphthalene	SVOC	0.0	54,000,000	-	7,194.6	7,194.6
CMS-173	1-2	Pyrene	SVOC	0.0	13,000,000	-	7,194.6	7,194.6
CMS-173	1-2	Aroclor, Total	PCB	0.0	10,000,000	-	5,343.1	5,343.1
CMS-173	1-2	Dieldrin	PEST	0.0	40,000	-	7,194.6	7,194.6
CMS-173	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	7,194.6	7,194.6
CMS-173	1-2	Technical Chlordane	PEST	0.0	500,000	-	7,194.6	7,194.6
CMS-173	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	10,218.3	10,218.3
CMS-173	1-2	Benzene	VOC	0.0	2,500,000	-	10,218.3	10,218.3
CMS-173	1-2	Chlorobenzene	VOC	3,600.0	100,000,000	-	10,218.3	10,218.3
CMS-173	1-2	Cis-1,2-dichloroethene	VOC	6,600.0	60,000,000	-	10,218.3	10,218.3
CMS-173	1-2	Ethylbenzene	VOC	0.0	62,000,000	-	10,218.3	10,218.3
CMS-173	1-2	Tetrachloroethene	VOC	190,000.0	4,200,000	-	10,218.3	10,218.3
CMS-173	1-2	Toluene	VOC	0.0	54,000,000	-	10,218.3	10,218.3
CMS-173	1-2	Total Xylenes	VOC	0.0	110,000,000	-	10,218.3	10,218.3
CMS-173	1-2	Trichloroethene	VOC	66,000.0	13,000,000	-	10,218.3	10,218.3
CMS-173	1-2	Vinyl chloride	VOC	0.0	20,000	-	10,218.3	10,218.3
CMS-227	0-0.25	TEQ	DIOXIN	1,910.0	1,000	- 1.9	335.3	83.8
CMS-229	0-0.25	TEQ	DIOXIN	1.0	1,000	-	235.7	58.9
CMS-230	0-0.25	TEQ	DIOXIN	5.3	1,000	-	907.5	226.9
CMS-231	0-0.25	TEQ	DIOXIN	193.0	1,000		1,246.6	311.7
CMS-232	0-0.25	TEQ	DIOXIN	2,200.0	1,000	- 2.2	528.1	132.0
CMS-232	0-1	TEQ	DIOXIN	4.3	1,000	-	528.1	528.1
CMS-232	1-2	TEQ	DIOXIN	5.5	1,000	-	528.1	528.1
CMS-233	0-0.25	TEQ	DIOXIN	841.0	1,000		808.4	202.1
CMS-234	0-0.25	TEQ	DIOXIN	278.0	1,000	-	820.4	205.1
CMS-235	0-0.25	TEQ	DIOXIN	781.0	1,000	-	852.0	213.0
CMS-240	0-0.25	TEQ	DIOXIN	5,110.0	1,000	- 5.1	607.2	151.8
CMS-240	0-1	TEQ	DIOXIN	140,000.0	1,000	- 140.0	607.2	607.2
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-240	0-1	Aroclor, Total	PCB	16,000,000.0	10,000,000	1.6	607.2	607.2
CMS-410	0-1	TEQ	DIOXIN	600.0	1,000		1,145.0	1,145.0
CMS-410	0-1	Aroclor, Total	PCB	230,000,000.0	10,000,000	23.0	3,766.9	3,766.9
CMS-410	1-2	TEQ	DIOXIN	920.0	1,000		1,145.0	1,145.0
CMS-410	1-2	Aroclor, Total	PCB	9,600,000.0	10,000,000	-	3,766.9	3,766.9
CMS-410	2-3	TEQ	DIOXIN	1,350.0	1,000	1.4	1,145.0	1,145.0
CMS-410	2-3	Aroclor, Total	PCB	180,000,000.0	10,000,000	- 18.0	3,766.9	3,766.9
CMS-410	3-4	TEQ	DIOXIN	180.0	1,000	-	1,145.0	1,145.0
CMS-410	3-4	Aroclor, Total	PCB	29,000,000.0	10,000,000	2.9	3,766.9	3,766.9
CMS-410	4-5	TEQ	DIOXIN	449.0	1,000		1,145.0	1,145.0
CMS-410	4-5	Aroclor, Total	PCB	32,000,000.0	10,000,000	- 3.2	3,766.9	3,766.9
CMS-410	5-6	TEQ	DIOXIN	24.5	1,000		1,145.0	1,145.0
CMS-410	5-6	Aroclor, Total	PCB	2,200,000.0	10,000,000	-	3,766.9	3,766.9
CMS-4101	1-1.9	TEQ	DIOXIN	10.7	1,000		1,353.6	1,218.2
CMS-4101	3-4.2	TEQ	DIOXIN	60.3	1,000	-	1,353.6	1,624.3
CMS-4102	0-0.8	TEQ	DIOXIN	76.3	1,000	-	620.1	496.1
CMS-4102	1-1.9	TEQ	DIOXIN	61.2	1,000	-	620.1	558.1
CMS-4102	3-3.8	TEQ	DIOXIN	67.4	1,000	-	620.1	496.1
CMS-4103	0-1	TEQ	DIOXIN	160.5	1,000	-	406.2	406.2
CMS-4104	0-1	TEQ	DIOXIN	5,780.4	1,000	- 5.8	556.6	556.6
CMS-4105	0-1	Antimony	M	815,000.0	10,000,000	-	2,759.6	2,759.6
CMS-4105	0-1	Arsenic	M	17,300,000.0	7,000,000	- 2.5	2,759.6	2,759.6
CMS-4105	0-1	Beryllium	M	1,030,000.0	400,000	2.6	2,759.6	2,759.6
CMS-4105	0-1	Cadmium	M	12,600,000.0	39,000,000	-	2,759.6	2,759.6
CMS-4105	0-1	Lead	M	1,110,000,000.0	150,000,000	7.4	2,759.6	2,759.6
CMS-4105	0-1	Manganese	M	480,000,000.0	390,000,000	1.2	2,759.6	2,759.6
CMS-4105	0-1	Thallium	M	215,000.0	5,500,000	-	2,759.6	2,759.6
CMS-4105	0-1	1,1'-biphenyl	SVOC	1,607,346.1	800,000	2.0	2,759.6	2,759.6
CMS-4105	0-1	Benzo(a)anthracene	SVOC	7,074,341.3	900,000	7.9	2,759.6	2,759.6
CMS-4105	0-1	Benzo(a)pyrene	SVOC	5,843,289.2	400,000	- 14.6	2,759.6	2,759.6
CMS-4105	0-1	Benzo(b)fluoranthene	SVOC	6,381,910.6	900,000	7.1	2,759.6	2,759.6
CMS-4105	0-1	Benzo(g,h,i)perylene	SVOC	4,367,743.7	800,000	5.5	2,759.6	2,759.6
CMS-4105	0-1	Benzo(k)fluoranthene	SVOC	7,142,038.1	900,000	7.9	2,759.6	2,759.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-4105	0-1	Bis(2-ethylhexyl)phthalate	SVOC	33,000,000.0	46,000,000		2,759.6	2,759.6
CMS-4105	0-1	Chrysene	SVOC	9,274,741.3	400,000	23.2	2,759.6	2,759.6
CMS-4105	0-1	Dibenzo(a,h)anthracene	SVOC	1,501,632.9	400,000	3.8	2,759.6	2,759.6
CMS-4105	0-1	Fluoranthene	SVOC	17,911,910.9	20,000,000	-	2,759.6	2,759.6
CMS-4105	0-1	Indeno(1,2,3-cd)pyrene	SVOC	4,190,029.7	900,000	4.7	2,759.6	2,759.6
CMS-4105	0-1	Naphthalene	SVOC	471,124.6	54,000,000		2,759.6	2,759.6
CMS-4105	0-1	Pyrene	SVOC	16,728,308.7	13,000,000	- 1.3	2,759.6	2,759.6
CMS-4105	0-1	Aroclor, Total	PCB	18,936,521.8	10,000,000	1.9	2,759.6	2,759.6
CMS-4105	0-1	Dieldrin	PEST	151,126.7	40,000	- 3.8	2,759.6	2,759.6
CMS-4105	0-1	Pentachlorophenol	PEST	0.0	5,300,000		2,759.6	2,759.6
CMS-4105	0-1	Technical Chlordane	PEST	10,600,524.8	500,000	21.2	2,759.6	2,759.6
CMS-4105	1-1.5	TEQ	DIOXIN	42.9	1,000		983.4	491.7
CMS-4105	3-4	TEQ	DIOXIN	229.0	1,000	-	983.4	983.4
CMS-4106	0-1	TEQ	DIOXIN	969.0	1,000		934.0	934.0
CMS-4106	1-1.6	TEQ	DIOXIN	2,406.8	1,000	- 2.4	934.0	560.4
CMS-4106	3-3.6	TEQ	DIOXIN	351.1	1,000	-	934.0	560.4
CMS-4107	1-3	TEQ	DIOXIN	77.1	1,000	-	1,644.5	3,289.0
CMS-4107	3-4	TEQ	DIOXIN	20.3	1,000		1,644.5	1,644.5
CMS-4108	0-1	TEQ	DIOXIN	68.5	1,000	-	2,712.9	2,712.9
CMS-4108	1-3	TEQ	DIOXIN	114.1	1,000	-	2,712.9	5,425.8
CMS-4108	3-4	TEQ	DIOXIN	23.6	1,000	-	2,712.9	2,712.9
CMS-4109	0-1	TEQ	DIOXIN	2,296.8	1,000	- 2.3	1,137.4	1,137.4
CMS-4109	1-1.4	TEQ	DIOXIN	90.8	1,000	-	1,137.4	454.9
CMS-4109	3-3.8	TEQ	DIOXIN	146.4	1,000	-	1,137.4	909.9
CMS-411	0-1	TEQ	DIOXIN	5.5	1,000		2,777.7	2,777.7
CMS-411	0-1	Aroclor, Total	PCB	51,000.0	10,000,000	-	2,792.2	2,792.2
CMS-411	1-2	TEQ	DIOXIN	5.0	1,000	-	2,777.7	2,777.7
CMS-411	1-2	Aroclor, Total	PCB	0.0	10,000,000	-	2,792.2	2,792.2
CMS-411	2-3	TEQ	DIOXIN	70.0	1,000	-	2,777.7	2,777.7
CMS-411	2-3	Aroclor, Total	PCB	3,200,000.0	10,000,000	-	2,792.2	2,792.2
CMS-411	3-4	TEQ	DIOXIN	7.5	1,000	-	2,777.7	2,777.7
CMS-411	3-4	Aroclor, Total	PCB	950,000.0	10,000,000	-	2,792.2	2,792.2
CMS-411	4-5	TEQ	DIOXIN	7.0	1,000	-	2,777.7	2,777.7

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-411	4-5	Aroclor, Total	PCB	0.0	10,000,000		2,792.2	2,792.2
CMS-4110	0-1	TEQ	DIOXIN	4,159.7	1,000	4.2	2,988.8	2,988.8
CMS-4110	0-1	Antimony	M	387,000.0	10,000,000		3,137.0	3,137.0
CMS-4110	0-1	Arsenic	M	4,930,000.0	7,000,000	-	3,137.0	3,137.0
CMS-4110	0-1	Beryllium	M	950,000.0	400,000	2.4	3,137.0	3,137.0
CMS-4110	0-1	Cadmium	M	4,230,000.0	39,000,000	-	3,137.0	3,137.0
CMS-4110	0-1	Lead	M	761,000,000.0	150,000,000	- 5.1	3,137.0	3,137.0
CMS-4110	0-1	Manganese	M	423,000,000.0	390,000,000	1.1	3,137.0	3,137.0
CMS-4110	0-1	Thallium	M	200,000.0	5,500,000	-	3,137.0	3,137.0
CMS-4110	0-1	1,1'-biphenyl	SVOC	337,926.5	800,000		3,137.0	3,137.0
CMS-4110	0-1	Benzo(a)anthracene	SVOC	2,980,337.7	900,000	3.3	3,137.0	3,137.0
CMS-4110	0-1	Benzo(a)pyrene	SVOC	2,321,767.3	400,000	- 5.8	3,137.0	3,137.0
CMS-4110	0-1	Benzo(b)fluoranthene	SVOC	3,219,090.1	900,000	- 3.6	3,137.0	3,137.0
CMS-4110	0-1	Benzo(g,h,i)perylene	SVOC	1,794,481.2	800,000	2.2	3,137.0	3,137.0
CMS-4110	0-1	Benzo(k)fluoranthene	SVOC	3,050,311.9	900,000	3.4	3,137.0	3,137.0
CMS-4110	0-1	Bis(2-ethylhexyl)phthalate	SVOC	35,000,000.0	46,000,000		3,137.0	3,137.0
CMS-4110	0-1	Chrysene	SVOC	4,664,314.7	400,000	11.7	3,137.0	3,137.0
CMS-4110	0-1	Dibenzo(a,h)anthracene	SVOC	672,809.5	400,000	1.7	3,137.0	3,137.0
CMS-4110	0-1	Fluoranthene	SVOC	9,359,540.3	20,000,000	-	3,137.0	3,137.0
CMS-4110	0-1	Indeno(1,2,3-cd)pyrene	SVOC	1,559,231.4	900,000	1.7	3,137.0	3,137.0
CMS-4110	0-1	Naphthalene	SVOC	449,129.8	54,000,000		3,137.0	3,137.0
CMS-4110	0-1	Pyrene	SVOC	8,675,021.4	13,000,000	-	3,137.0	3,137.0
CMS-4110	0-1	Aroclor, Total	PCB	10,969,427.0	10,000,000	1.1	3,137.0	3,137.0
CMS-4110	0-1	Dieldrin	PEST	54,304.1	40,000	- 1.4	3,137.0	3,137.0
CMS-4110	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	3,137.0	3,137.0
CMS-4110	0-1	Technical Chlordane	PEST	6,359,699.5	500,000	12.7	3,137.0	3,137.0
CMS-4110	1-1.5	TEQ	DIOXIN	798.1	1,000		2,988.8	1,494.4
CMS-4110	3.7-3.9	TEQ	DIOXIN	16.9	1,000	-	2,988.8	597.8
CMS-4111	0-0.9	TEQ	DIOXIN	311.4	1,000		1,534.7	1,381.2
CMS-4111	1-2.8	TEQ	DIOXIN	3,992.1	1,000	- 4.0	1,534.7	2,762.4
CMS-4111	3-4.5	TEQ	DIOXIN	21.8	1,000	-	1,534.7	2,302.0
CMS-412	0-1	TEQ	DIOXIN	39.0	1,000	-	3,313.3	3,313.3
CMS-412	0-1	Aroclor, Total	PCB	87,000.0	10,000,000		4,397.1	4,397.1

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-412	1-2	TEQ	DIOXIN	51.0	1,000		3,313.3	3,313.3
CMS-412	1-2	Aroclor, Total	PCB	4,900,000.0	10,000,000		4,397.1	4,397.1
CMS-412	2-3	TEQ	DIOXIN	4.7	1,000		3,313.3	3,313.3
CMS-412	2-3	Aroclor, Total	PCB	0.0	10,000,000	-	4,397.1	4,397.1
CMS-412	3-4	TEQ	DIOXIN	5.5	1,000	-	3,313.3	3,313.3
CMS-412	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	4,397.1	4,397.1
CMS-413	0-1	TEQ	DIOXIN	54.0	1,000	-	1,481.7	1,481.7
CMS-413	0-1	Aroclor, Total	PCB	2,900,000.0	10,000,000	-	2,983.0	2,983.0
CMS-413	1-2	TEQ	DIOXIN	300.0	1,000	-	1,481.7	1,481.7
CMS-413	1-2	Aroclor, Total	PCB	2,100,000.0	10,000,000	-	2,983.0	2,983.0
CMS-413	2-3	TEQ	DIOXIN	11.5	1,000	-	1,481.7	1,481.7
CMS-413	2-3	Aroclor, Total	PCB	1,600,000.0	10,000,000	-	2,983.0	2,983.0
CMS-414	0-1	TEQ	DIOXIN	740.0	1,000	-	2,674.4	2,674.4
CMS-414	0-1	Aroclor, Total	PCB	1,700,000.0	10,000,000	-	2,676.4	2,676.4
CMS-414	1-2	TEQ	DIOXIN	7.0	1,000	-	2,674.4	2,674.4
CMS-414	1-2	Aroclor, Total	PCB	22,000.0	10,000,000	-	2,676.4	2,676.4
CMS-414	2-3	TEQ	DIOXIN	9.5	1,000	-	2,674.4	2,674.4
CMS-414	2-3	Aroclor, Total	PCB	480,000.0	10,000,000	-	2,676.4	2,676.4
CMS-414	3-4	TEQ	DIOXIN	19.0	1,000	-	2,674.4	2,674.4
CMS-414	3-4	Aroclor, Total	PCB	550,000.0	10,000,000	-	2,676.4	2,676.4
CMS-415	0-1	TEQ	DIOXIN	260.0	1,000	-	1,655.7	1,655.7
CMS-415	0-1	Aroclor, Total	PCB	770,000.0	10,000,000	-	2,493.4	2,493.4
CMS-415	1-2	TEQ	DIOXIN	15.0	1,000	-	1,655.7	1,655.7
CMS-415	1-2	Aroclor, Total	PCB	220,000.0	10,000,000	-	2,493.4	2,493.4
CMS-415	2-3	TEQ	DIOXIN	7.5	1,000	-	1,655.7	1,655.7
CMS-415	2-3	Aroclor, Total	PCB	82,000.0	10,000,000	-	2,493.4	2,493.4
CMS-415	3-4	TEQ	DIOXIN	20.0	1,000	-	1,655.7	1,655.7
CMS-415	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	2,493.4	2,493.4
CMS-416	0-1	TEQ	DIOXIN	200.0	1,000	-	2,389.3	2,389.3
CMS-416	0-1	Aroclor, Total	PCB	3,600,000.0	10,000,000	-	8,134.1	8,134.1
CMS-416	1-2	TEQ	DIOXIN	1,600.0	1,000	- 1.6	2,389.3	2,389.3
CMS-416	1-2	Aroclor, Total	PCB	56,000,000.0	10,000,000	- 5.6	8,134.1	8,134.1
CMS-416	2-3	TEQ	DIOXIN	59.0	1,000	-	2,389.3	2,389.3

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-416	2-3	Aroclor, Total	PCB	21,000,000.0	10,000,000	2.1	8,134.1	8,134.1
CMS-416	3-4	TEQ	DIOXIN	3.0	1,000		2,389.3	2,389.3
CMS-416	3-4	Aroclor, Total	PCB	56,000.0	10,000,000		8,134.1	8,134.1
CMS-417	0-1	TEQ	DIOXIN	2,700.0	1,000	2.7	1,354.2	1,354.2
CMS-417	0-1	Antimony	M	27,800,000.0	10,000,000	- 2.8	1,930.3	1,930.3
CMS-417	0-1	Arsenic	M	6,500,000.0	7,000,000	-	1,930.3	1,930.3
CMS-417	0-1	Beryllium	M	200,000.0	400,000		1,930.3	1,930.3
CMS-417	0-1	Cadmium	M	14,700,000.0	39,000,000		1,930.3	1,930.3
CMS-417	0-1	Lead	M	805,000,000.0	150,000,000	- 5.4	1,930.3	1,930.3
CMS-417	0-1	Manganese	M	123,000,000.0	390,000,000	-	1,930.3	1,930.3
CMS-417	0-1	Thallium	M	0.0	5,500,000	-	1,930.3	1,930.3
CMS-417	0-1	Benzo(a)anthracene	SVOC	0.0	900,000		3,532.7	3,532.7
CMS-417	0-1	Benzo(a)pyrene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	0-1	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	0-1	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,532.7	3,532.7
CMS-417	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	0-1	Bis(2-ethylhexyl)phthalate	SVOC	460,000,000.0	46,000,000	- 10.0	3,532.7	3,532.7
CMS-417	0-1	Chrysene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	0-1	Fluoranthene	SVOC	3,900,000.0	20,000,000		3,532.7	3,532.7
CMS-417	0-1	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	0-1	Naphthalene	SVOC	47,000,000.0	54,000,000	-	3,532.7	3,532.7
CMS-417	0-1	Pyrene	SVOC	16,000,000.0	13,000,000	- 1.2	3,532.7	3,532.7
CMS-417	0-1	Aroclor, Total	PCB	324,000,000.0	10,000,000	- 32.4	1,930.3	1,930.3
CMS-417	0-1	Dieldrin	PEST	1,900,000.0	40,000	- 47.5	4,344.2	4,344.2
CMS-417	0-1	Pentachlorophenol	PEST	0.0	5,300,000		4,344.2	4,344.2
CMS-417	0-1	Technical Chlordane	PEST	0.0	500,000		4,344.2	4,344.2
CMS-417	0-1	1,2-dichloroethane	VOC	0.0	900,000		1,378.6	1,378.6
CMS-417	0-1	Benzene	VOC	0.0	2,500,000	-	1,378.6	1,378.6
CMS-417	0-1	Chlorobenzene	VOC	360,000,000.0	100,000,000	- 3.6	1,378.6	1,378.6
CMS-417	0-1	Cis-1,2-dichloroethene	VOC	180,000,000.0	60,000,000	- 3.0	1,378.6	1,378.6
CMS-417	0-1	Ethylbenzene	VOC	35,000,000.0	62,000,000	-	1,378.6	1,378.6
CMS-417	0-1	Tetrachloroethene	VOC	820,000,000.0	4,200,000	195.2	1,378.6	1,378.6

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-417	0-1	Toluene	VOC	140,000,000.0	54,000,000	2.6	1,378.6	1,378.6
CMS-417	0-1	Total Xylenes	VOC	160,000,000.0	110,000,000	1.5	1,378.6	1,378.6
CMS-417	0-1	Trichloroethene	VOC	630,000,000.0	13,000,000	48.5	1,378.6	1,378.6
CMS-417	0-1	Vinyl chloride	VOC	0.0	20,000		1,378.6	1,378.6
CMS-417	1-2	TEQ	DIOXIN	1,400.0	1,000	1.4	1,354.2	1,354.2
CMS-417	1-2	Antimony	M	17,700,000.0	10,000,000	1.8	1,930.3	1,930.3
CMS-417	1-2	Arsenic	M	10,200,000.0	7,000,000	- 1.5	1,930.3	1,930.3
CMS-417	1-2	Beryllium	M	440,000.0	400,000	1.1	1,930.3	1,930.3
CMS-417	1-2	Cadmium	M	180,000,000.0	39,000,000	4.6	1,930.3	1,930.3
CMS-417	1-2	Lead	M	444,000,000.0	150,000,000	3.0	1,930.3	1,930.3
CMS-417	1-2	Manganese	M	220,000,000.0	390,000,000		1,930.3	1,930.3
CMS-417	1-2	Thallium	M	0.0	5,500,000		1,930.3	1,930.3
CMS-417	1-2	Benzo(a)anthracene	SVOC	0.0	900,000		3,532.7	3,532.7
CMS-417	1-2	Benzo(a)pyrene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	1-2	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	1-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,532.7	3,532.7
CMS-417	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	1-2	Bis(2-ethylhexyl)phthalate	SVOC	36,000,000.0	46,000,000	-	3,532.7	3,532.7
CMS-417	1-2	Chrysene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	1-2	Fluoranthene	SVOC	0.0	20,000,000	-	3,532.7	3,532.7
CMS-417	1-2	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	1-2	Naphthalene	SVOC	84,000,000.0	54,000,000	- 1.6	3,532.7	3,532.7
CMS-417	1-2	Pyrene	SVOC	0.0	13,000,000	-	3,532.7	3,532.7
CMS-417	1-2	Aroclor, Total	PCB	27,000,000.0	10,000,000	- 2.7	1,930.3	1,930.3
CMS-417	1-2	Dieldrin	PEST	9,900,000.0	40,000	247.5	4,344.2	4,344.2
CMS-417	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	4,344.2	4,344.2
CMS-417	1-2	Technical Chlordane	PEST	0.0	500,000		4,344.2	4,344.2
CMS-417	1-2	1,2-dichloroethane	VOC	0.0	900,000		1,378.6	1,378.6
CMS-417	1-2	Benzene	VOC	0.0	2,500,000	-	1,378.6	1,378.6
CMS-417	1-2	Chlorobenzene	VOC	1,000,000,000.0	100,000,000	- 10.0	1,378.6	1,378.6
CMS-417	1-2	Cis-1,2-dichloroethene	VOC	500,000,000.0	60,000,000	- 8.3	1,378.6	1,378.6
CMS-417	1-2	Ethylbenzene	VOC	81,000,000.0	62,000,000	- 1.3	1,378.6	1,378.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-417	1-2	Tetrachloroethene	VOC	1,700,000,000.0	4,200,000	404.8	1,378.6	1,378.6
CMS-417	1-2	Toluene	VOC	430,000,000.0	54,000,000	8.0	1,378.6	1,378.6
CMS-417	1-2	Total Xylenes	VOC	380,000,000.0	110,000,000	3.5	1,378.6	1,378.6
CMS-417	1-2	Trichloroethene	VOC	2,400,000,000.0	13,000,000	184.6	1,378.6	1,378.6
CMS-417	1-2	Vinyl chloride	VOC	0.0	20,000		1,378.6	1,378.6
CMS-417	2-3	TEQ	DIOXIN	1,900.0	1,000	1.9	1,354.2	1,354.2
CMS-417	2-3	Antimony	M	330,000.0	10,000,000		1,930.3	1,930.3
CMS-417	2-3	Arsenic	M	6,200,000.0	7,000,000	-	1,930.3	1,930.3
CMS-417	2-3	Beryllium	M	490,000.0	400,000	1.2	1,930.3	1,930.3
CMS-417	2-3	Cadmium	M	260,000.0	39,000,000	-	1,930.3	1,930.3
CMS-417	2-3	Lead	M	374,000,000.0	150,000,000	- 2.5	1,930.3	1,930.3
CMS-417	2-3	Manganese	M	158,000,000.0	390,000,000		1,930.3	1,930.3
CMS-417	2-3	Thallium	M	0.0	5,500,000	-	1,930.3	1,930.3
CMS-417	2-3	Benzo(a)anthracene	SVOC	0.0	900,000		3,532.7	3,532.7
CMS-417	2-3	Benzo(a)pyrene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	2-3	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	2-3	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,532.7	3,532.7
CMS-417	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	2-3	Bis(2-ethylhexyl)phthalate	SVOC	9,600,000.0	46,000,000	-	3,532.7	3,532.7
CMS-417	2-3	Chrysene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	2-3	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	2-3	Fluoranthene	SVOC	0.0	20,000,000	-	3,532.7	3,532.7
CMS-417	2-3	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	2-3	Naphthalene	SVOC	4,300,000.0	54,000,000	-	3,532.7	3,532.7
CMS-417	2-3	Pyrene	SVOC	0.0	13,000,000	-	3,532.7	3,532.7
CMS-417	2-3	Aroclor, Total	PCB	13,000,000.0	10,000,000	- 1.3	1,930.3	1,930.3
CMS-417	2-3	Dieldrin	PEST	2,500,000.0	40,000	- 62.5	4,344.2	4,344.2
CMS-417	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	4,344.2	4,344.2
CMS-417	2-3	Technical Chlordane	PEST	0.0	500,000		4,344.2	4,344.2
CMS-417	2-3	1,2-dichloroethane	VOC	0.0	900,000		1,378.6	1,378.6
CMS-417	2-3	Benzene	VOC	0.0	2,500,000	-	1,378.6	1,378.6
CMS-417	2-3	Chlorobenzene	VOC	220,000,000.0	100,000,000	- 2.2	1,378.6	1,378.6
CMS-417	2-3	Cis-1,2-dichloroethene	VOC	490,000,000.0	60,000,000	- 8.2	1,378.6	1,378.6
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-417	2-3	Ethylbenzene	VOC	5,200,000.0	62,000,000		1,378.6	1,378.6
CMS-417	2-3	Tetrachloroethene	VOC	9,400,000.0	4,200,000	2.2	1,378.6	1,378.6
CMS-417	2-3	Toluene	VOC	110,000,000.0	54,000,000	2.0	1,378.6	1,378.6
CMS-417	2-3	Total Xylenes	VOC	19,000,000.0	110,000,000	-	1,378.6	1,378.6
CMS-417	2-3	Trichloroethene	VOC	34,000,000.0	13,000,000	2.6	1,378.6	1,378.6
CMS-417	2-3	Vinyl chloride	VOC	0.0	20,000		1,378.6	1,378.6
CMS-417	3-4	TEQ	DIOXIN	1,600.0	1,000	- 1.6	1,354.2	1,354.2
CMS-417	3-4	Antimony	M	310,000.0	10,000,000		1,930.3	1,930.3
CMS-417	3-4	Arsenic	M	7,500,000.0	7,000,000	- 1.1	1,930.3	1,930.3
CMS-417	3-4	Beryllium	M	710,000.0	400,000	1.8	1,930.3	1,930.3
CMS-417	3-4	Cadmium	M	230,000.0	39,000,000	-	1,930.3	1,930.3
CMS-417	3-4	Lead	M	66,700,000.0	150,000,000		1,930.3	1,930.3
CMS-417	3-4	Manganese	M	150,000,000.0	390,000,000		1,930.3	1,930.3
CMS-417	3-4	Thallium	M	0.0	5,500,000	-	1,930.3	1,930.3
CMS-417	3-4	Benzo(a)anthracene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	3-4	Benzo(a)pyrene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	3-4	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	3-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,532.7	3,532.7
CMS-417	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	3-4	Bis(2-ethylhexyl)phthalate	SVOC	550,000.0	46,000,000	-	3,532.7	3,532.7
CMS-417	3-4	Chrysene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,532.7	3,532.7
CMS-417	3-4	Fluoranthene	SVOC	0.0	20,000,000	-	3,532.7	3,532.7
CMS-417	3-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,532.7	3,532.7
CMS-417	3-4	Naphthalene	SVOC	340,000.0	54,000,000	-	3,532.7	3,532.7
CMS-417	3-4	Pyrene	SVOC	0.0	13,000,000	-	3,532.7	3,532.7
CMS-417	3-4	Aroclor, Total	PCB	46,000,000.0	10,000,000	- 4.6	1,930.3	1,930.3
CMS-417	3-4	Dieldrin	PEST	0.0	40,000	-	4,344.2	4,344.2
CMS-417	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	4,344.2	4,344.2
CMS-417	3-4	Technical Chlordane	PEST	0.0	500,000		4,344.2	4,344.2
CMS-417	3-4	1,2-dichloroethane	VOC	0.0	900,000	-	1,378.6	1,378.6
CMS-417	3-4	Benzene	VOC	0.0	2,500,000	-	1,378.6	1,378.6
CMS-417	3-4	Chlorobenzene	VOC	10,000,000.0	100,000,000	-	1,378.6	1,378.6

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-417	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000		1,378.6	1,378.6
CMS-417	3-4	Ethylbenzene	VOC	210,000.0	62,000,000		1,378.6	1,378.6
CMS-417	3-4	Tetrachloroethene	VOC	120,000.0	4,200,000		1,378.6	1,378.6
CMS-417	3-4	Toluene	VOC	430,000.0	54,000,000	-	1,378.6	1,378.6
CMS-417	3-4	Total Xylenes	VOC	2,300,000.0	110,000,000	-	1,378.6	1,378.6
CMS-417	3-4	Trichloroethene	VOC	580,000.0	13,000,000	-	1,378.6	1,378.6
CMS-417	3-4	Vinyl chloride	VOC	0.0	20,000	-	1,378.6	1,378.6
CMS-419	0-1	TEQ	DIOXIN	95.0	1,000	-	2,306.3	2,306.3
CMS-419	0-1	Aroclor, Total	PCB	27,000,000.0	10,000,000	- 2.7	3,628.6	3,628.6
CMS-419	1-2	TEQ	DIOXIN	77.0	1,000	-	2,306.3	2,306.3
CMS-419	1-2	Antimony	M	21,400,000.0	10,000,000	- 2.1	8,540.4	8,540.4
CMS-419	1-2	Arsenic	M	8,300,000.0	7,000,000	1.2	8,540.4	8,540.4
CMS-419	1-2	Beryllium	M	430,000.0	400,000	- 1.1	8,540.4	8,540.4
CMS-419	1-2	Cadmium	M	35,900,000.0	39,000,000		8,540.4	8,540.4
CMS-419	1-2	Lead	M	2,010,000,000.0	150,000,000	13.4	8,540.4	8,540.4
CMS-419	1-2	Manganese	M	351,000,000.0	390,000,000		8,540.4	8,540.4
CMS-419	1-2	Thallium	M	0.0	5,500,000	-	8,540.4	8,540.4
CMS-419	1-2	Benzo(a)anthracene	SVOC	0.0	900,000		8,540.4	8,540.4
CMS-419	1-2	Benzo(a)pyrene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	1-2	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	1-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	8,540.4	8,540.4
CMS-419	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	1-2	Bis(2-ethylhexyl)phthalate	SVOC	390,000,000.0	46,000,000	- 8.5	8,540.4	8,540.4
CMS-419	1-2	Chrysene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	1-2	Fluoranthene	SVOC	14,000,000.0	20,000,000		8,540.4	8,540.4
CMS-419	1-2	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	1-2	Naphthalene	SVOC	39,000,000.0	54,000,000	-	8,540.4	8,540.4
CMS-419	1-2	Pyrene	SVOC	0.0	13,000,000	-	8,540.4	8,540.4
CMS-419	1-2	Aroclor, Total	PCB	490,000,000.0	10,000,000	- 49.0	3,628.6	3,628.6
CMS-419	1-2	Dieldrin	PEST	22,000.0	40,000	-	8,540.4	8,540.4
CMS-419	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	8,540.4	8,540.4
CMS-419	1-2	Technical Chlordane	PEST	0.0	500,000		8,540.4	8,540.4

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-419	1-2	1,2-dichloroethane	VOC	0.0	900,000		8,540.4	8,540.4
CMS-419	1-2	Benzene	VOC	0.0	2,500,000		8,540.4	8,540.4
CMS-419	1-2	Chlorobenzene	VOC	300,000,000.0	100,000,000	3.0	8,540.4	8,540.4
CMS-419	1-2	Cis-1,2-dichloroethene	VOC	73,000,000.0	60,000,000	1.2	8,540.4	8,540.4
CMS-419	1-2	Ethylbenzene	VOC	68,000,000.0	62,000,000	1.1	8,540.4	8,540.4
CMS-419	1-2	Tetrachloroethene	VOC	40,000,000.0	4,200,000	9.5	8,540.4	8,540.4
CMS-419	1-2	Toluene	VOC	75,000,000.0	54,000,000	1.4	8,540.4	8,540.4
CMS-419	1-2	Total Xylenes	VOC	250,000,000.0	110,000,000	2.3	8,540.4	8,540.4
CMS-419	1-2	Trichloroethene	VOC	16,000,000.0	13,000,000	1.2	8,540.4	8,540.4
CMS-419	1-2	Vinyl chloride	VOC	0.0	20,000		8,540.4	8,540.4
CMS-419	2-3	TEQ	DIOXIN	80.0	1,000		2,306.3	2,306.3
CMS-419	2-3	Aroclor, Total	PCB	58,000,000.0	10,000,000	5.8	3,628.6	3,628.6
CMS-419	3-4	TEQ	DIOXIN	15.0	1,000	-	2,306.3	2,306.3
CMS-419	3-4	Antimony	M	0.0	10,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Arsenic	M	7,200,000.0	7,000,000	1.0	8,540.4	8,540.4
CMS-419	3-4	Beryllium	M	1,000,000.0	400,000	2.5	8,540.4	8,540.4
CMS-419	3-4	Cadmium	M	0.0	39,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Lead	M	27,100,000.0	150,000,000		8,540.4	8,540.4
CMS-419	3-4	Manganese	M	348,000,000.0	390,000,000		8,540.4	8,540.4
CMS-419	3-4	Thallium	M	0.0	5,500,000	-	8,540.4	8,540.4
CMS-419	3-4	Benzo(a)anthracene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	3-4	Benzo(a)pyrene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	3-4	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	3-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	8,540.4	8,540.4
CMS-419	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	3-4	Bis(2-ethylhexyl)phthalate	SVOC	810,000.0	46,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Chrysene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	3-4	Fluoranthene	SVOC	69,000.0	20,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	3-4	Naphthalene	SVOC	310,000.0	54,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Pyrene	SVOC	0.0	13,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Aroclor, Total	PCB	250,000.0	10,000,000	-	3,628.6	3,628.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-419	3-4	Pentachlorophenol	PEST	0.0	5,300,000		8,540.4	8,540.4
CMS-419	3-4	1,2-dichloroethane	VOC	0.0	900,000		8,540.4	8,540.4
CMS-419	3-4	Benzene	VOC	0.0	2,500,000		8,540.4	8,540.4
CMS-419	3-4	Chlorobenzene	VOC	950,000.0	100,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Ethylbenzene	VOC	140,000.0	62,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Tetrachloroethene	VOC	0.0	4,200,000	-	8,540.4	8,540.4
CMS-419	3-4	Toluene	VOC	0.0	54,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Total Xylenes	VOC	510,000.0	110,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Trichloroethene	VOC	0.0	13,000,000	-	8,540.4	8,540.4
CMS-419	3-4	Vinyl chloride	VOC	0.0	20,000	-	8,540.4	8,540.4
CMS-419	4-5	TEQ	DIOXIN	6.5	1,000	-	2,306.3	2,306.3
CMS-419	4-5	Aroclor, Total	PCB	800,000.0	10,000,000	-	3,628.6	3,628.6
CMS-419	5-6	TEQ	DIOXIN	2.3	1,000	-	2,306.3	2,306.3
CMS-419	5-6	Antimony	M	1,600,000.0	10,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Arsenic	M	5,700,000.0	7,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Beryllium	M	1,400,000.0	400,000	- 3.5	8,540.4	8,540.4
CMS-419	5-6	Cadmium	M	0.0	39,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Lead	M	4,800,000.0	150,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Manganese	M	6,420,000,000.0	390,000,000	16.5	8,540.4	8,540.4
CMS-419	5-6	Thallium	M	6,200,000.0	5,500,000	- 1.1	8,540.4	8,540.4
CMS-419	5-6	Benzo(a)anthracene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	5-6	Benzo(a)pyrene	SVOC	0.0	400,000		8,540.4	8,540.4
CMS-419	5-6	Benzo(b)fluoranthene	SVOC	0.0	900,000		8,540.4	8,540.4
CMS-419	5-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	8,540.4	8,540.4
CMS-419	5-6	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	5-6	Bis(2-ethylhexyl)phthalate	SVOC	210,000.0	46,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Chrysene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	5-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	8,540.4	8,540.4
CMS-419	5-6	Fluoranthene	SVOC	0.0	20,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	5-6	Naphthalene	SVOC	0.0	54,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Pyrene	SVOC	0.0	13,000,000	-	8,540.4	8,540.4
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-419	5-6	Aroclor, Total	PCB	62,000.0	10,000,000		3,628.6	3,628.6
CMS-419	5-6	Dieldrin	PEST	0.0	40,000		8,540.4	8,540.4
CMS-419	5-6	Pentachlorophenol	PEST	0.0	5,300,000		8,540.4	8,540.4
CMS-419	5-6	Technical Chlordane	PEST	0.0	500,000	-	8,540.4	8,540.4
CMS-419	5-6	1,2-dichloroethane	VOC	0.0	900,000	-	8,540.4	8,540.4
CMS-419	5-6	Benzene	VOC	0.0	2,500,000	-	8,540.4	8,540.4
CMS-419	5-6	Chlorobenzene	VOC	18,000.0	100,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Ethylbenzene	VOC	0.0	62,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Tetrachloroethene	VOC	0.0	4,200,000	-	8,540.4	8,540.4
CMS-419	5-6	Toluene	VOC	0.0	54,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Total Xylenes	VOC	3,300.0	110,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Trichloroethene	VOC	0.0	13,000,000	-	8,540.4	8,540.4
CMS-419	5-6	Vinyl chloride	VOC	0.0	20,000	-	8,540.4	8,540.4
CMS-419	6-7	TEQ	DIOXIN	48.0	1,000	-	2,306.3	2,306.3
CMS-419	6-7	Aroclor, Total	PCB	4,500,000.0	10,000,000	-	3,628.6	3,628.6
CMS-420	0-1	TEQ	DIOXIN	15.5	1,000	-	1,921.1	1,921.1
CMS-420	0-1	Aroclor, Total	PCB	380,000.0	10,000,000	-	3,374.0	3,374.0
CMS-420	1-2	TEQ	DIOXIN	9.5	1,000	-	1,921.1	1,921.1
CMS-420	1-2	Aroclor, Total	PCB	980,000.0	10,000,000	-	3,374.0	3,374.0
CMS-420	2-3	TEQ	DIOXIN	1,450.0	1,000	- 1.5	1,921.1	1,921.1
CMS-420	2-3	Aroclor, Total	PCB	75,000,000.0	10,000,000	- 7.5	3,374.0	3,374.0
CMS-420	3-4	TEQ	DIOXIN	3,400.0	1,000	- 3.4	1,921.1	1,921.1
CMS-420	3-4	Aroclor, Total	PCB	860,000,000.0	10,000,000	86.0	3,374.0	3,374.0
CMS-421	0-1	TEQ	DIOXIN	2.4	1,000		1,824.2	1,824.2
CMS-421	0-1	Aroclor, Total	PCB	1,100,000.0	10,000,000		1,824.2	1,824.2
CMS-421	1-2	TEQ	DIOXIN	105.0	1,000		1,824.2	1,824.2
CMS-421	1-2	Aroclor, Total	PCB	36,000,000.0	10,000,000	- 3.6	1,824.2	1,824.2
CMS-421	2-3	TEQ	DIOXIN	160.0	1,000	-	1,824.2	1,824.2
CMS-421	2-3	Aroclor, Total	PCB	19,000,000.0	10,000,000	- 1.9	1,824.2	1,824.2
CMS-421	3-4	TEQ	DIOXIN	4.5	1,000		1,824.2	1,824.2
CMS-421	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	1,824.2	1,824.2
CMS-421	4-5	TEQ	DIOXIN	1.7	1,000		1,824.2	1,824.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-421	4-5	Aroclor, Total	PCB	0.0	10,000,000		1,824.2	1,824.2
CMS-421	5-6	TEQ	DIOXIN	2.7	1,000		1,824.2	1,824.2
CMS-421	5-6	Aroclor, Total	PCB	0.0	10,000,000		1,824.2	1,824.2
CMS-421	6-7	TEQ	DIOXIN	9.0	1,000	-	1,824.2	1,824.2
CMS-421	6-7	Aroclor, Total	PCB	0.0	10,000,000	-	1,824.2	1,824.2
CMS-422	0-1	TEQ	DIOXIN	30.5	1,000	-	1,848.6	1,848.6
CMS-422	0-1	Aroclor, Total	PCB	260,000.0	10,000,000	-	3,880.6	3,880.6
CMS-422	1-2	TEQ	DIOXIN	410.0	1,000	-	1,848.6	1,848.6
CMS-422	1-2	Aroclor, Total	PCB	160,000,000.0	10,000,000	- 16.0	3,880.6	3,880.6
CMS-422	2-3	TEQ	DIOXIN	3.4	1,000	-	1,848.6	1,848.6
CMS-422	2-3	Aroclor, Total	PCB	3,300,000.0	10,000,000	-	3,880.6	3,880.6
CMS-422	3-4	TEQ	DIOXIN	16.5	1,000		1,848.6	1,848.6
CMS-422	3-4	Aroclor, Total	PCB	2,900,000.0	10,000,000	-	3,880.6	3,880.6
CMS-423	0-1	TEQ	DIOXIN	6.0	1,000	-	3,375.6	3,375.6
CMS-423	0-1	Aroclor, Total	PCB	67,000.0	10,000,000	-	3,518.0	3,518.0
CMS-423	1-2	TEQ	DIOXIN	39.0	1,000	-	3,375.6	3,375.6
CMS-423	1-2	Antimony	M	0.0	10,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Arsenic	M	3,400,000.0	7,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Beryllium	M	390,000.0	400,000	-	7,275.7	7,275.7
CMS-423	1-2	Cadmium	M	4,000,000.0	39,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Lead	M	24,100,000.0	150,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Manganese	M	209,000,000.0	390,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Thallium	M	0.0	5,500,000	-	7,275.7	7,275.7
CMS-423	1-2	Benzo(a)anthracene	SVOC	210,000.0	900,000	-	7,275.7	7,275.7
CMS-423	1-2	Benzo(a)pyrene	SVOC	210,000.0	400,000	-	7,275.7	7,275.7
CMS-423	1-2	Benzo(b)fluoranthene	SVOC	440,000.0	900,000	-	7,275.7	7,275.7
CMS-423	1-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	7,275.7	7,275.7
CMS-423	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	7,275.7	7,275.7
CMS-423	1-2	Bis(2-ethylhexyl)phthalate	SVOC	720,000.0	46,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Chrysene	SVOC	270,000.0	400,000	-	7,275.7	7,275.7
CMS-423	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	7,275.7	7,275.7
CMS-423	1-2	Fluoranthene	SVOC	600,000.0	20,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Indeno(1,2,3-cd)pyrene	SVOC	120,000.0	900,000	-	7,275.7	7,275.7

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-423	1-2	Naphthalene	SVOC	0.0	54,000,000		7,275.7	7,275.7
CMS-423	1-2	Pyrene	SVOC	570,000.0	13,000,000		7,275.7	7,275.7
CMS-423	1-2	Aroclor, Total	PCB	3,300,000.0	10,000,000		3,518.0	3,518.0
CMS-423	1-2	Dieldrin	PEST	4,200.0	40,000	-	7,275.7	7,275.7
CMS-423	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	7,275.7	7,275.7
CMS-423	1-2	Technical Chlordane	PEST	0.0	500,000	-	7,275.7	7,275.7
CMS-423	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	7,275.7	7,275.7
CMS-423	1-2	Benzene	VOC	0.0	2,500,000	-	7,275.7	7,275.7
CMS-423	1-2	Chlorobenzene	VOC	0.0	100,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Ethylbenzene	VOC	0.0	62,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	7,275.7	7,275.7
CMS-423	1-2	Toluene	VOC	0.0	54,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Total Xylenes	VOC	6,200.0	110,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Trichloroethene	VOC	0.0	13,000,000	-	7,275.7	7,275.7
CMS-423	1-2	Vinyl chloride	VOC	0.0	20,000	-	7,275.7	7,275.7
CMS-423	2-3	TEQ	DIOXIN	2.6	1,000	-	3,375.6	3,375.6
CMS-423	2-3	Aroclor, Total	PCB	94,000.0	10,000,000	-	3,518.0	3,518.0
CMS-423	3-4	TEQ	DIOXIN	120.0	1,000	-	3,375.6	3,375.6
CMS-423	3-4	Antimony	M	0.0	10,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Arsenic	M	5,600,000.0	7,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Beryllium	M	730,000.0	400,000	- 1.8	7,275.7	7,275.7
CMS-423	3-4	Cadmium	M	4,100,000.0	39,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Lead	M	101,000,000.0	150,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Manganese	M	274,000,000.0	390,000,000		7,275.7	7,275.7
CMS-423	3-4	Thallium	M	0.0	5,500,000	-	7,275.7	7,275.7
CMS-423	3-4	Benzo(a)anthracene	SVOC	230,000.0	900,000	-	7,275.7	7,275.7
CMS-423	3-4	Benzo(a)pyrene	SVOC	280,000.0	400,000	-	7,275.7	7,275.7
CMS-423	3-4	Benzo(b)fluoranthene	SVOC	520,000.0	900,000	-	7,275.7	7,275.7
CMS-423	3-4	Benzo(g,h,i)perylene	SVOC	170,000.0	800,000	-	7,275.7	7,275.7
CMS-423	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	7,275.7	7,275.7
CMS-423	3-4	Bis(2-ethylhexyl)phthalate	SVOC	2,300,000.0	46,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Chrysene	SVOC	280,000.0	400,000	-	7,275.7	7,275.7

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-423	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000		7,275.7	7,275.7
CMS-423	3-4	Fluoranthene	SVOC	460,000.0	20,000,000		7,275.7	7,275.7
CMS-423	3-4	Indeno(1,2,3-cd)pyrene	SVOC	140,000.0	900,000		7,275.7	7,275.7
CMS-423	3-4	Naphthalene	SVOC	58,000.0	54,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Pyrene	SVOC	520,000.0	13,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Aroclor, Total	PCB	12,000,000.0	10,000,000	- 1.2	3,518.0	3,518.0
CMS-423	3-4	Dieldrin	PEST	41,000.0	40,000	- 1.0	7,275.7	7,275.7
CMS-423	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	7,275.7	7,275.7
CMS-423	3-4	Technical Chlordane	PEST	0.0	500,000		7,275.7	7,275.7
CMS-423	3-4	1,2-dichloroethane	VOC	0.0	900,000		7,275.7	7,275.7
CMS-423	3-4	Benzene	VOC	0.0	2,500,000	-	7,275.7	7,275.7
CMS-423	3-4	Chlorobenzene	VOC	0.0	100,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Ethylbenzene	VOC	0.0	62,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Tetrachloroethene	VOC	0.0	4,200,000	-	7,275.7	7,275.7
CMS-423	3-4	Toluene	VOC	0.0	54,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Total Xylenes	VOC	4,900.0	110,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Trichloroethene	VOC	0.0	13,000,000	-	7,275.7	7,275.7
CMS-423	3-4	Vinyl chloride	VOC	0.0	20,000	-	7,275.7	7,275.7
CMS-423	4-5	TEQ	DIOXIN	3.8	1,000	-	3,375.6	3,375.6
CMS-423	4-5	Aroclor, Total	PCB	7,400.0	10,000,000	-	3,518.0	3,518.0
CMS-423	5-6	TEQ	DIOXIN	4.9	1,000	-	3,375.6	3,375.6
CMS-423	5-6	Antimony	M	0.0	10,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Arsenic	M	3,600,000.0	7,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Beryllium	M	640,000.0	400,000	- 1.6	7,275.7	7,275.7
CMS-423	5-6	Cadmium	M	370,000.0	39,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Lead	M	20,100,000.0	150,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Manganese	M	247,000,000.0	390,000,000		7,275.7	7,275.7
CMS-423	5-6	Thallium	M	0.0	5,500,000	-	7,275.7	7,275.7
CMS-423	5-6	Benzo(a)anthracene	SVOC	180,000.0	900,000	-	7,275.7	7,275.7
CMS-423	5-6	Benzo(a)pyrene	SVOC	140,000.0	400,000	-	7,275.7	7,275.7
CMS-423	5-6	Benzo(b)fluoranthene	SVOC	330,000.0	900,000	-	7,275.7	7,275.7
CMS-423	5-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	7,275.7	7,275.7

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-423	5-6	Benzo(k)fluoranthene	SVOC	0.0	900,000		7,275.7	7,275.7
CMS-423	5-6	Bis(2-ethylhexyl)phthalate	SVOC	2,100,000.0	46,000,000		7,275.7	7,275.7
CMS-423	5-6	Chrysene	SVOC	240,000.0	400,000		7,275.7	7,275.7
CMS-423	5-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	7,275.7	7,275.7
CMS-423	5-6	Fluoranthene	SVOC	740,000.0	20,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	7,275.7	7,275.7
CMS-423	5-6	Naphthalene	SVOC	0.0	54,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Pyrene	SVOC	610,000.0	13,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Aroclor, Total	PCB	1,100,000.0	10,000,000	-	3,518.0	3,518.0
CMS-423	5-6	Dieldrin	PEST	22,000.0	40,000	-	7,275.7	7,275.7
CMS-423	5-6	Pentachlorophenol	PEST	0.0	5,300,000	-	7,275.7	7,275.7
CMS-423	5-6	Technical Chlordane	PEST	0.0	500,000	-	7,275.7	7,275.7
CMS-423	5-6	1,2-dichloroethane	VOC	0.0	900,000	-	7,275.7	7,275.7
CMS-423	5-6	Benzene	VOC	0.0	2,500,000	-	7,275.7	7,275.7
CMS-423	5-6	Chlorobenzene	VOC	0.0	100,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Ethylbenzene	VOC	0.0	62,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Tetrachloroethene	VOC	0.0	4,200,000	-	7,275.7	7,275.7
CMS-423	5-6	Toluene	VOC	0.0	54,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Total Xylenes	VOC	4,600.0	110,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Trichloroethene	VOC	0.0	13,000,000	-	7,275.7	7,275.7
CMS-423	5-6	Vinyl chloride	VOC	0.0	20,000	-	7,275.7	7,275.7
CMS-423	6-7	TEQ	DIOXIN	5.5	1,000	-	3,375.6	3,375.6
CMS-423	6-7	Aroclor, Total	PCB	71,000.0	10,000,000	-	3,518.0	3,518.0
CMS-424	0-1	TEQ	DIOXIN	4.1	1,000	-	1,958.5	1,958.5
CMS-424	0-1	Aroclor, Total	PCB	120,000.0	10,000,000	-	2,533.6	2,533.6
CMS-424	1-2	TEQ	DIOXIN	12.0	1,000	-	1,958.5	1,958.5
CMS-424	1-2	Aroclor, Total	PCB	1,200,000.0	10,000,000	-	2,533.6	2,533.6
CMS-424	2-3	TEQ	DIOXIN	10.0	1,000	-	1,958.5	1,958.5
CMS-424	2-3	Aroclor, Total	PCB	130,000.0	10,000,000	-	2,533.6	2,533.6
CMS-424	3-4	TEQ	DIOXIN	3.4	1,000	-	1,958.5	1,958.5
CMS-424	3-4	Aroclor, Total	PCB	89,000.0	10,000,000	-	2,533.6	2,533.6
CMS-424	4-5	TEQ	DIOXIN	4.0	1,000	-	1,958.5	1,958.5
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-424	4-5	Aroclor, Total	PCB	0.0	10,000,000		2,533.6	2,533.6
CMS-424	5-6	TEQ	DIOXIN	4.3	1,000		1,958.5	1,958.5
CMS-424	5-6	Aroclor, Total	PCB	120,000.0	10,000,000		2,533.6	2,533.6
CMS-424	6-7	TEQ	DIOXIN	7.0	1,000	-	1,958.5	1,958.5
CMS-424	6-7	Aroclor, Total	PCB	0.0	10,000,000	-	2,533.6	2,533.6
CMS-425	0-1	TEQ	DIOXIN	370.0	1,000	-	1,449.0	1,449.0
CMS-425	0-1	Aroclor, Total	PCB	7,100,000.0	10,000,000	-	1,449.0	1,449.0
CMS-425	1-2	TEQ	DIOXIN	860.0	1,000	-	1,449.0	1,449.0
CMS-425	1-2	Aroclor, Total	PCB	1,660,000.0	10,000,000	-	1,449.0	1,449.0
CMS-425	2-3	TEQ	DIOXIN	65.0	1,000	-	1,449.0	1,449.0
CMS-425	2-3	Aroclor, Total	PCB	33,300,000.0	10,000,000	- 3.3	1,449.0	1,449.0
CMS-425	3-4	TEQ	DIOXIN	27.5	1,000	-	1,449.0	1,449.0
CMS-425	3-4	Aroclor, Total	PCB	1,830,000.0	10,000,000	-	1,449.0	1,449.0
CMS-425	4-5	TEQ	DIOXIN	16,300.0	1,000	16.3	1,449.0	1,449.0
CMS-425	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	1,449.0	1,449.0
CMS-425	5-6	TEQ	DIOXIN	15.0	1,000	-	1,449.0	1,449.0
CMS-425	5-6	Aroclor, Total	PCB	0.0	10,000,000		1,449.0	1,449.0
CMS-425	6-7	TEQ	DIOXIN	9.5	1,000	-	1,449.0	1,449.0
CMS-425	6-7	Aroclor, Total	PCB	0.0	10,000,000	-	1,449.0	1,449.0
CMS-426	0-1	TEQ	DIOXIN	94.0	1,000	-	1,848.8	1,848.8
CMS-426	0-1	Aroclor, Total	PCB	4,000,000.0	10,000,000	-	1,849.4	1,849.4
CMS-426	1-2	TEQ	DIOXIN	8,400.0	1,000	- 8.4	1,848.8	1,848.8
CMS-426	1-2	Aroclor, Total	PCB	30,700,000.0	10,000,000	- 3.1	1,849.4	1,849.4
CMS-426	2-3	TEQ	DIOXIN	8,200.0	1,000	- 8.2	1,848.8	1,848.8
CMS-426	2-3	Aroclor, Total	PCB	18,600,000.0	10,000,000	1.9	1,849.4	1,849.4
CMS-426	3-4	TEQ	DIOXIN	190.0	1,000		1,848.8	1,848.8
CMS-426	3-4	Aroclor, Total	PCB	700,000.0	10,000,000		1,849.4	1,849.4
CMS-426	4-5	TEQ	DIOXIN	37.0	1,000		1,848.8	1,848.8
CMS-426	4-5	Aroclor, Total	PCB	320,000.0	10,000,000	-	1,849.4	1,849.4
CMS-426	5-6	TEQ	DIOXIN	38.0	1,000	-	1,848.8	1,848.8
CMS-426	5-6	Aroclor, Total	PCB	0.0	10,000,000	-	1,849.4	1,849.4
CMS-426	6-7	TEQ	DIOXIN	210.0	1,000	-	1,848.8	1,848.8
CMS-426	6-7	Aroclor, Total	PCB	1,160,000.0	10,000,000	-	1,849.4	1,849.4
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-427	0-1	TEQ	DIOXIN	380.0	1,000		1,806.2	1,806.2
CMS-427	0-1	Aroclor, Total	PCB	7,700,000.0	10,000,000		2,308.1	2,308.1
CMS-427	1-2	TEQ	DIOXIN	600.0	1,000		1,806.2	1,806.2
CMS-427	1-2	Antimony	M	1,300,000.0	10,000,000	-	7,343.9	7,343.9
CMS-427	1-2	Arsenic	M	3,200,000.0	7,000,000	-	7,343.9	7,343.9
CMS-427	1-2	Beryllium	M	490,000.0	400,000	- 1.2	7,343.9	7,343.9
CMS-427	1-2	Cadmium	M	3,300,000.0	39,000,000	-	7,343.9	7,343.9
CMS-427	1-2	Lead	M	169,000,000.0	150,000,000	- 1.1	7,343.9	7,343.9
CMS-427	1-2	Manganese	M	251,000,000.0	390,000,000		7,343.9	7,343.9
CMS-427	1-2	Thallium	M	0.0	5,500,000	-	7,343.9	7,343.9
CMS-427	1-2	Benzo(a)anthracene	SVOC	1,000,000.0	900,000	1.1	7,343.9	7,343.9
CMS-427	1-2	Benzo(a)pyrene	SVOC	840,000.0	400,000	- 2.1	7,343.9	7,343.9
CMS-427	1-2	Benzo(b)fluoranthene	SVOC	1,400,000.0	900,000	- 1.6	7,343.9	7,343.9
CMS-427	1-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000		7,343.9	7,343.9
CMS-427	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		7,343.9	7,343.9
CMS-427	1-2	Bis(2-ethylhexyl)phthalate	SVOC	27,000,000.0	46,000,000		7,343.9	7,343.9
CMS-427	1-2	Chrysene	SVOC	980,000.0	400,000	- 2.5	7,343.9	7,343.9
CMS-427	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	7,343.9	7,343.9
CMS-427	1-2	Fluoranthene	SVOC	2,100,000.0	20,000,000	-	7,343.9	7,343.9
CMS-427	1-2	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000		7,343.9	7,343.9
CMS-427	1-2	Naphthalene	SVOC	0.0	54,000,000	-	7,343.9	7,343.9
CMS-427	1-2	Pyrene	SVOC	2,300,000.0	13,000,000	-	7,343.9	7,343.9
CMS-427	1-2	Aroclor, Total	PCB	17,200,000.0	10,000,000	- 1.7	2,308.1	2,308.1
CMS-427	1-2	Dieldrin	PEST	59,000.0	40,000	- 1.5	7,343.9	7,343.9
CMS-427	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	7,343.9	7,343.9
CMS-427	1-2	Technical Chlordane	PEST	0.0	500,000		7,343.9	7,343.9
CMS-427	1-2	1,2-dichloroethane	VOC	0.0	900,000		7,624.5	7,624.5
CMS-427	1-2	Benzene	VOC	0.0	2,500,000	-	7,624.5	7,624.5
CMS-427	1-2	Chlorobenzene	VOC	3,400.0	100,000,000	-	7,624.5	7,624.5
CMS-427	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,624.5	7,624.5
CMS-427	1-2	Ethylbenzene	VOC	2,800.0	62,000,000	-	7,624.5	7,624.5
CMS-427	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	7,624.5	7,624.5
CMS-427	1-2	Toluene	VOC	0.0	54,000,000	-	7,624.5	7,624.5

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-427	1-2	Total Xylenes	VOC	4,500.0	110,000,000		7,624.5	7,624.5
CMS-427	1-2	Trichloroethene	VOC	0.0	13,000,000		7,624.5	7,624.5
CMS-427	1-2	Vinyl chloride	VOC	0.0	20,000		7,624.5	7,624.5
CMS-427	2-3	TEQ	DIOXIN	2.4	1,000	-	1,806.2	1,806.2
CMS-427	2-3	Aroclor, Total	PCB	83,000.0	10,000,000	-	2,308.1	2,308.1
CMS-427	3-4	TEQ	DIOXIN	470.0	1,000	-	1,806.2	1,806.2
CMS-427	3-4	Antimony	M	0.0	10,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Arsenic	M	1,900,000.0	7,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Beryllium	M	430,000.0	400,000	- 1.1	7,343.9	7,343.9
CMS-427	3-4	Cadmium	M	470,000.0	39,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Lead	M	13,800,000.0	150,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Manganese	M	204,000,000.0	390,000,000		7,343.9	7,343.9
CMS-427	3-4	Thallium	M	0.0	5,500,000	-	7,343.9	7,343.9
CMS-427	3-4	Benzo(a)anthracene	SVOC	0.0	900,000	-	7,343.9	7,343.9
CMS-427	3-4	Benzo(a)pyrene	SVOC	0.0	400,000	-	7,343.9	7,343.9
CMS-427	3-4	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	7,343.9	7,343.9
CMS-427	3-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	7,343.9	7,343.9
CMS-427	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	7,343.9	7,343.9
CMS-427	3-4	Bis(2-ethylhexyl)phthalate	SVOC	800,000.0	46,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Chrysene	SVOC	0.0	400,000	-	7,343.9	7,343.9
CMS-427	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	7,343.9	7,343.9
CMS-427	3-4	Fluoranthene	SVOC	0.0	20,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	7,343.9	7,343.9
CMS-427	3-4	Naphthalene	SVOC	69,000.0	54,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Pyrene	SVOC	0.0	13,000,000	-	7,343.9	7,343.9
CMS-427	3-4	Aroclor, Total	PCB	410,000.0	10,000,000	-	2,308.1	2,308.1
CMS-427	3-4	Dieldrin	PEST	330,000.0	40,000	- 8.3	7,343.9	7,343.9
CMS-427	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	7,343.9	7,343.9
CMS-427	3-4	Technical Chlordane	PEST	0.0	500,000	-	7,343.9	7,343.9
CMS-427	3-4	1,2-dichloroethane	VOC	0.0	900,000		7,624.5	7,624.5
CMS-427	3-4	Benzene	VOC	17,000.0	2,500,000	-	7,624.5	7,624.5
CMS-427	3-4	Chlorobenzene	VOC	86,000.0	100,000,000	-	7,624.5	7,624.5
CMS-427	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,624.5	7,624.5

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-427	3-4	Ethylbenzene	VOC	240,000.0	62,000,000		7,624.5	7,624.5
CMS-427	3-4	Tetrachloroethene	VOC	12,000.0	4,200,000		7,624.5	7,624.5
CMS-427	3-4	Toluene	VOC	130,000.0	54,000,000		7,624.5	7,624.5
CMS-427	3-4	Total Xylenes	VOC	380,000.0	110,000,000	-	7,624.5	7,624.5
CMS-427	3-4	Trichloroethene	VOC	2,100.0	13,000,000	-	7,624.5	7,624.5
CMS-427	3-4	Vinyl chloride	VOC	0.0	20,000	-	7,624.5	7,624.5
CMS-427	4-5	TEQ	DIOXIN	215.0	1,000	-	1,806.2	1,806.2
CMS-427	4-5	Aroclor, Total	PCB	23,000,000.0	10,000,000	- 2.3	2,308.1	2,308.1
CMS-427	5-6	TEQ	DIOXIN	63.0	1,000	-	1,806.2	1,806.2
CMS-427	5-6	Antimony	M	0.0	10,000,000	-	7,343.9	7,343.9
CMS-427	5-6	Arsenic	M	2,700,000.0	7,000,000		7,343.9	7,343.9
CMS-427	5-6	Beryllium	M	660,000.0	400,000	- 1.7	7,343.9	7,343.9
CMS-427	5-6	Cadmium	M	700,000.0	39,000,000	-	7,343.9	7,343.9
CMS-427	5-6	Lead	M	24,800,000.0	150,000,000	-	7,343.9	7,343.9
CMS-427	5-6	Manganese	M	186,000,000.0	390,000,000		7,343.9	7,343.9
CMS-427	5-6	Thallium	M	0.0	5,500,000	-	7,343.9	7,343.9
CMS-427	5-6	Benzo(a)anthracene	SVOC	570,000.0	900,000	-	7,343.9	7,343.9
CMS-427	5-6	Benzo(a)pyrene	SVOC	0.0	400,000	-	7,343.9	7,343.9
CMS-427	5-6	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	7,343.9	7,343.9
CMS-427	5-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	7,343.9	7,343.9
CMS-427	5-6	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	7,343.9	7,343.9
CMS-427	5-6	Bis(2-ethylhexyl)phthalate	SVOC	26,000,000.0	46,000,000	-	7,343.9	7,343.9
CMS-427	5-6	Chrysene	SVOC	650,000.0	400,000	- 1.6	7,343.9	7,343.9
CMS-427	5-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	7,343.9	7,343.9
CMS-427	5-6	Fluoranthene	SVOC	1,700,000.0	20,000,000	-	7,343.9	7,343.9
CMS-427	5-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000		7,343.9	7,343.9
CMS-427	5-6	Naphthalene	SVOC	210,000.0	54,000,000	-	7,343.9	7,343.9
CMS-427	5-6	Pyrene	SVOC	1,600,000.0	13,000,000	-	7,343.9	7,343.9
CMS-427	5-6	Aroclor, Total	PCB	23,100,000.0	10,000,000	- 2.3	2,308.1	2,308.1
CMS-427	5-6	Dieldrin	PEST	1,300.0	40,000	-	7,343.9	7,343.9
CMS-427	5-6	Pentachlorophenol	PEST	0.0	5,300,000	-	7,343.9	7,343.9
CMS-427	5-6	1,2-dichloroethane	VOC	0.0	900,000		7,624.5	7,624.5
CMS-427	5-6	Benzene	VOC	0.0	2,500,000	-	7,624.5	7,624.5

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-427	5-6	Chlorobenzene	VOC	75,000.0	100,000,000		7,624.5	7,624.5
CMS-427	5-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000		7,624.5	7,624.5
CMS-427	5-6	Ethylbenzene	VOC	410,000.0	62,000,000		7,624.5	7,624.5
CMS-427	5-6	Tetrachloroethene	VOC	0.0	4,200,000	-	7,624.5	7,624.5
CMS-427	5-6	Toluene	VOC	0.0	54,000,000	-	7,624.5	7,624.5
CMS-427	5-6	Total Xylenes	VOC	420,000.0	110,000,000	-	7,624.5	7,624.5
CMS-427	5-6	Trichloroethene	VOC	0.0	13,000,000	-	7,624.5	7,624.5
CMS-427	5-6	Vinyl chloride	VOC	0.0	20,000	-	7,624.5	7,624.5
CMS-427	6-7	TEQ	DIOXIN	6.0	1,000	-	1,806.2	1,806.2
CMS-427	6-7	Aroclor, Total	PCB	440,000.0	10,000,000	-	2,308.1	2,308.1
CMS-428	0-1	TEQ	DIOXIN	48.5	1,000	-	1,058.4	1,058.4
CMS-428	0-1	Aroclor, Total	PCB	14,000,000.0	10,000,000	- 1.4	5,193.7	5,193.7
CMS-428	1-2	TEQ	DIOXIN	9.0	1,000	-	1,058.4	1,058.4
CMS-428	1-2	Antimony	M	0.0	10,000,000	-	5,206.3	5,206.3
CMS-428	1-2	Arsenic	M	3,500,000.0	7,000,000		5,206.3	5,206.3
CMS-428	1-2	Beryllium	M	790,000.0	400,000	- 2.0	5,206.3	5,206.3
CMS-428	1-2	Cadmium	M	540,000.0	39,000,000	-	5,206.3	5,206.3
CMS-428	1-2	Lead	M	6,800,000.0	150,000,000	-	5,206.3	5,206.3
CMS-428	1-2	Manganese	M	567,000,000.0	390,000,000	1.5	5,206.3	5,206.3
CMS-428	1-2	Thallium	M	0.0	5,500,000	-	5,206.3	5,206.3
CMS-428	1-2	Benzo(a)anthracene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	1-2	Benzo(a)pyrene	SVOC	0.0	400,000		5,903.3	5,903.3
CMS-428	1-2	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	1-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	5,903.3	5,903.3
CMS-428	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	1-2	Bis(2-ethylhexyl)phthalate	SVOC	81,000.0	46,000,000	-	5,903.3	5,903.3
CMS-428	1-2	Chrysene	SVOC	0.0	400,000	-	5,903.3	5,903.3
CMS-428	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	5,903.3	5,903.3
CMS-428	1-2	Fluoranthene	SVOC	0.0	20,000,000	-	5,903.3	5,903.3
CMS-428	1-2	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	1-2	Naphthalene	SVOC	0.0	54,000,000	-	5,903.3	5,903.3
CMS-428	1-2	Pyrene	SVOC	0.0	13,000,000	-	5,903.3	5,903.3
CMS-428	1-2	Aroclor, Total	PCB	0.0	10,000,000	-	5,193.7	5,193.7

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-428	1-2	Dieldrin	PEST	0.0	40,000		5,909.8	5,909.8
CMS-428	1-2	Pentachlorophenol	PEST	0.0	5,300,000		5,909.8	5,909.8
CMS-428	1-2	1,2-dichloroethane	VOC	0.0	900,000		7,402.8	7,402.8
CMS-428	1-2	Benzene	VOC	0.0	2,500,000	-	7,402.8	7,402.8
CMS-428	1-2	Chlorobenzene	VOC	0.0	100,000,000	-	7,402.8	7,402.8
CMS-428	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,402.8	7,402.8
CMS-428	1-2	Ethylbenzene	VOC	0.0	62,000,000	-	7,402.8	7,402.8
CMS-428	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	7,402.8	7,402.8
CMS-428	1-2	Toluene	VOC	0.0	54,000,000	-	7,402.8	7,402.8
CMS-428	1-2	Total Xylenes	VOC	0.0	110,000,000	-	7,402.8	7,402.8
CMS-428	1-2	Trichloroethene	VOC	0.0	13,000,000	-	7,402.8	7,402.8
CMS-428	1-2	Vinyl chloride	VOC	0.0	20,000	-	7,402.8	7,402.8
CMS-428	2-3	TEQ	DIOXIN	18.5	1,000	-	1,058.4	1,058.4
CMS-428	2-3	Aroclor, Total	PCB	680,000.0	10,000,000	-	5,193.7	5,193.7
CMS-428	3-4	TEQ	DIOXIN	22.5	1,000	-	1,058.4	1,058.4
CMS-428	3-4	Antimony	M	0.0	10,000,000	-	5,206.3	5,206.3
CMS-428	3-4	Arsenic	M	4,100,000.0	7,000,000	-	5,206.3	5,206.3
CMS-428	3-4	Beryllium	M	740,000.0	400,000	- 1.9	5,206.3	5,206.3
CMS-428	3-4	Cadmium	M	280,000.0	39,000,000	-	5,206.3	5,206.3
CMS-428	3-4	Lead	M	5,600,000.0	150,000,000	-	5,206.3	5,206.3
CMS-428	3-4	Manganese	M	258,000,000.0	390,000,000		5,206.3	5,206.3
CMS-428	3-4	Thallium	M	0.0	5,500,000	-	5,206.3	5,206.3
CMS-428	3-4	Benzo(a)anthracene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	3-4	Benzo(a)pyrene	SVOC	0.0	400,000	-	5,903.3	5,903.3
CMS-428	3-4	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	3-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	5,903.3	5,903.3
CMS-428	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	3-4	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	5,903.3	5,903.3
CMS-428	3-4	Chrysene	SVOC	0.0	400,000	-	5,903.3	5,903.3
CMS-428	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	5,903.3	5,903.3
CMS-428	3-4	Fluoranthene	SVOC	0.0	20,000,000	-	5,903.3	5,903.3
CMS-428	3-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	3-4	Naphthalene	SVOC	0.0	54,000,000	-	5,903.3	5,903.3
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-428	3-4	Pyrene	SVOC	0.0	13,000,000		5,903.3	5,903.3
CMS-428	3-4	Aroclor, Total	PCB	17,000.0	10,000,000		5,193.7	5,193.7
CMS-428	3-4	Dieldrin	PEST	0.0	40,000		5,909.8	5,909.8
CMS-428	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	5,909.8	5,909.8
CMS-428	3-4	1,2-dichloroethane	VOC	0.0	900,000	-	7,402.8	7,402.8
CMS-428	3-4	Benzene	VOC	0.0	2,500,000	-	7,402.8	7,402.8
CMS-428	3-4	Chlorobenzene	VOC	0.0	100,000,000	-	7,402.8	7,402.8
CMS-428	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,402.8	7,402.8
CMS-428	3-4	Ethylbenzene	VOC	0.0	62,000,000	-	7,402.8	7,402.8
CMS-428	3-4	Tetrachloroethene	VOC	0.0	4,200,000	-	7,402.8	7,402.8
CMS-428	3-4	Toluene	VOC	0.0	54,000,000	-	7,402.8	7,402.8
CMS-428	3-4	Total Xylenes	VOC	0.0	110,000,000	-	7,402.8	7,402.8
CMS-428	3-4	Trichloroethene	VOC	0.0	13,000,000	-	7,402.8	7,402.8
CMS-428	3-4	Vinyl chloride	VOC	0.0	20,000	-	7,402.8	7,402.8
CMS-428	4-5	TEQ	DIOXIN	13.5	1,000	-	1,058.4	1,058.4
CMS-428	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	5,193.7	5,193.7
CMS-428	5-6	TEQ	DIOXIN	21.0	1,000	-	1,058.4	1,058.4
CMS-428	5-6	Antimony	M	0.0	10,000,000	-	5,206.3	5,206.3
CMS-428	5-6	Arsenic	M	3,100,000.0	7,000,000	-	5,206.3	5,206.3
CMS-428	5-6	Beryllium	M	510,000.0	400,000	- 1.3	5,206.3	5,206.3
CMS-428	5-6	Cadmium	M	270,000.0	39,000,000	-	5,206.3	5,206.3
CMS-428	5-6	Lead	M	3,600,000.0	150,000,000	-	5,206.3	5,206.3
CMS-428	5-6	Manganese	M	571,000,000.0	390,000,000	1.5	5,206.3	5,206.3
CMS-428	5-6	Thallium	M	0.0	5,500,000	-	5,206.3	5,206.3
CMS-428	5-6	Benzo(a)anthracene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	5-6	Benzo(a)pyrene	SVOC	0.0	400,000		5,903.3	5,903.3
CMS-428	5-6	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	5-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	5,903.3	5,903.3
CMS-428	5-6	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	5,903.3	5,903.3
CMS-428	5-6	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	5,903.3	5,903.3
CMS-428	5-6	Chrysene	SVOC	0.0	400,000	-	5,903.3	5,903.3
CMS-428	5-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	5,903.3	5,903.3
CMS-428	5-6	Fluoranthene	SVOC	0.0	20,000,000	-	5,903.3	5,903.3

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-428	5-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000		5,903.3	5,903.3
CMS-428	5-6	Naphthalene	SVOC	0.0	54,000,000		5,903.3	5,903.3
CMS-428	5-6	Pyrene	SVOC	0.0	13,000,000		5,903.3	5,903.3
CMS-428	5-6	Aroclor, Total	PCB	0.0	10,000,000	-	5,193.7	5,193.7
CMS-428	5-6	Dieldrin	PEST	0.0	40,000	-	5,909.8	5,909.8
CMS-428	5-6	Pentachlorophenol	PEST	0.0	5,300,000	-	5,909.8	5,909.8
CMS-428	5-6	1,2-dichloroethane	VOC	0.0	900,000	-	7,402.8	7,402.8
CMS-428	5-6	Benzene	VOC	0.0	2,500,000	-	7,402.8	7,402.8
CMS-428	5-6	Chlorobenzene	VOC	0.0	100,000,000	-	7,402.8	7,402.8
CMS-428	5-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,402.8	7,402.8
CMS-428	5-6	Ethylbenzene	VOC	0.0	62,000,000	-	7,402.8	7,402.8
CMS-428	5-6	Tetrachloroethene	VOC	0.0	4,200,000	-	7,402.8	7,402.8
CMS-428	5-6	Toluene	VOC	0.0	54,000,000	-	7,402.8	7,402.8
CMS-428	5-6	Total Xylenes	VOC	0.0	110,000,000	-	7,402.8	7,402.8
CMS-428	5-6	Trichloroethene	VOC	0.0	13,000,000	-	7,402.8	7,402.8
CMS-428	5-6	Vinyl chloride	VOC	0.0	20,000	-	7,402.8	7,402.8
CMS-429	0-1	TEQ	DIOXIN	2.1	1,000	-	2,562.9	2,562.9
CMS-429	0-1	Aroclor, Total	PCB	160,000.0	10,000,000	-	4,226.1	4,226.1
CMS-429	1-2	TEQ	DIOXIN	9.0	1,000	-	2,562.9	2,562.9
CMS-429	1-2	Aroclor, Total	PCB	1,100,000.0	10,000,000	-	4,226.1	4,226.1
CMS-429	2-3	TEQ	DIOXIN	6.0	1,000	-	2,562.9	2,562.9
CMS-429	2-3	Aroclor, Total	PCB	0.0	10,000,000	-	4,226.1	4,226.1
CMS-429	3-4	TEQ	DIOXIN	7.5	1,000	-	2,562.9	2,562.9
CMS-429	3-4	Aroclor, Total	PCB	130,000.0	10,000,000	-	4,226.1	4,226.1
CMS-429	4-5	TEQ	DIOXIN	4.8	1,000	-	2,562.9	2,562.9
CMS-429	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	4,226.1	4,226.1
CMS-429	5-6	TEQ	DIOXIN	30.5	1,000	-	2,562.9	2,562.9
CMS-429	5-6	Aroclor, Total	PCB	710,000.0	10,000,000	-	4,226.1	4,226.1
CMS-429	6-7	TEQ	DIOXIN	16.0	1,000	-	2,562.9	2,562.9
CMS-429	6-7	Aroclor, Total	PCB	0.0	10,000,000	-	4,226.1	4,226.1
CMS-430	0-1	TEQ	DIOXIN	170.0	1,000	-	1,192.4	1,192.4
CMS-430	0-1	Aroclor, Total	PCB	5,900,000.0	10,000,000	-	6,554.9	6,554.9
CMS-430	1-2	TEQ	DIOXIN	265.0	1,000	-	1,192.4	1,192.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-430	1-2	Aroclor, Total	PCB	7,000,000.0	10,000,000		6,554.9	6,554.9
CMS-430	2-3	TEQ	DIOXIN	15.5	1,000		1,192.4	1,192.4
CMS-430	2-3	Aroclor, Total	PCB	0.0	10,000,000		6,554.9	6,554.9
CMS-431	0-1	TEQ	DIOXIN	350.0	1,000	-	1,872.0	1,872.0
CMS-431	0-1	Aroclor, Total	PCB	1,600,000.0	10,000,000	-	2,183.3	2,183.3
CMS-431	1-2	TEQ	DIOXIN	230.0	1,000	-	1,872.0	1,872.0
CMS-431	1-2	Aroclor, Total	PCB	2,540,000.0	10,000,000	-	2,183.3	2,183.3
CMS-431	2-3	TEQ	DIOXIN	90.0	1,000	-	1,872.0	1,872.0
CMS-431	2-3	Aroclor, Total	PCB	2,900,000.0	10,000,000	-	2,183.3	2,183.3
CMS-432	0-1	TEQ	DIOXIN	720.0	1,000	-	1,667.8	1,667.8
CMS-432	0-1	Aroclor, Total	PCB	570,000.0	10,000,000	-	3,843.5	3,843.5
CMS-432	1-2	TEQ	DIOXIN	87.0	1,000	-	1,667.8	1,667.8
CMS-432	1-2	Aroclor, Total	PCB	2,600,000.0	10,000,000	-	3,843.5	3,843.5
CMS-432	2-3	TEQ	DIOXIN	28.1	1,000	-	1,667.8	1,667.8
CMS-432	2-3	Aroclor, Total	PCB	204,000.0	10,000,000	-	3,843.5	3,843.5
CMS-432	3-4	TEQ	DIOXIN	400.0	1,000	-	1,667.8	1,667.8
CMS-432	3-4	Aroclor, Total	PCB	280,000,000.0	10,000,000	- 28.0	3,843.5	3,843.5
CMS-432	4-5	TEQ	DIOXIN	7.0	1,000	-	1,667.8	1,667.8
CMS-432	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	3,843.5	3,843.5
CMS-433	0-1	TEQ	DIOXIN	135.0	1,000		1,282.2	1,282.2
CMS-433	0-1	Aroclor, Total	PCB	6,600,000.0	10,000,000	-	2,768.3	2,768.3
CMS-433	1-2	TEQ	DIOXIN	17.0	1,000	-	1,282.2	1,282.2
CMS-433	1-2	Aroclor, Total	PCB	0.0	10,000,000	-	2,768.3	2,768.3
CMS-433	2-3	TEQ	DIOXIN	1,800.0	1,000	- 1.8	1,282.2	1,282.2
CMS-433	2-3	Aroclor, Total	PCB	15,600,000.0	10,000,000	- 1.6	2,768.3	2,768.3
CMS-433	3-4	TEQ	DIOXIN	150.0	1,000	-	1,282.2	1,282.2
CMS-433	3-4	Aroclor, Total	PCB	1,900,000.0	10,000,000		2,768.3	2,768.3
CMS-435	0-1	TEQ	DIOXIN	56.6	1,000		792.7	792.7
CMS-436	0-1	TEQ	DIOXIN	40.0	1,000	-	1,098.1	1,098.1
CMS-436	1-2	TEQ	DIOXIN	13.5	1,000	-	1,098.1	1,098.1
CMS-437	0-1	TEQ	DIOXIN	37.0	1,000	-	602.0	602.0
CMS-437	1-2	TEQ	DIOXIN	13.5	1,000	-	602.0	602.0
CMS-437	2-3	TEQ	DIOXIN	880.0	1,000	-	602.0	602.0
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-437	3-4	TEQ	DIOXIN	100.0	1,000		602.0	602.0
CMS-438	0-1	TEQ	DIOXIN	57.0	1,000		1,363.7	1,363.7
CMS-438	1-2	TEQ	DIOXIN	16.5	1,000		1,363.7	1,363.7
CMS-439	0-1	TEQ	DIOXIN	6.0	1,000	-	768.6	768.6
CMS-439	1-2	TEQ	DIOXIN	6.0	1,000	-	768.6	768.6
CMS-440	0-1	TEQ	DIOXIN	23.0	1,000	-	817.8	817.8
CMS-442	0-1	TEQ	DIOXIN	10.5	1,000	-	1,211.2	1,211.2
CMS-443	0-1	TEQ	DIOXIN	83.0	1,000	-	952.8	952.8
CMS-445	0-1	TEQ	DIOXIN	96.0	1,000	-	735.0	735.0
CMS-448	3-4	TEQ	DIOXIN	12.0	1,000	-	1,972.6	1,972.6
CMS-448	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	1,995.8	1,995.8
CMS-448	4-5	TEQ	DIOXIN	16.5	1,000	-	1,972.6	1,972.6
CMS-448	4-5	Aroclor, Total	PCB	17,000.0	10,000,000	-	1,995.8	1,995.8
CMS-448	5-6	TEQ	DIOXIN	135.0	1,000	-	1,972.6	1,972.6
CMS-448	5-6	Aroclor, Total	PCB	46,000.0	10,000,000	-	1,995.8	1,995.8
CMS-448	6-7	TEQ	DIOXIN	120.0	1,000	-	1,972.6	1,972.6
CMS-448	6-7	Aroclor, Total	PCB	73,000.0	10,000,000	-	1,995.8	1,995.8
CMS-449	4-5	TEQ	DIOXIN	110.0	1,000	-	2,176.2	2,176.2
CMS-449	4-5	Aroclor, Total	PCB	93,000.0	10,000,000	-	4,365.7	4,365.7
CMS-449	5-6	TEQ	DIOXIN	65.0	1,000	-	2,176.2	2,176.2
CMS-449	5-6	Antimony	M	0.0	10,000,000	-	10,304.4	10,304.4
CMS-449	5-6	Arsenic	M	1,700,000.0	7,000,000	-	10,304.4	10,304.4
CMS-449	5-6	Beryllium	M	280,000.0	400,000	-	10,304.4	10,304.4
CMS-449	5-6	Cadmium	M	0.0	39,000,000	-	10,304.4	10,304.4
CMS-449	5-6	Lead	M	15,400,000.0	150,000,000	-	10,304.4	10,304.4
CMS-449	5-6	Manganese	M	116,000,000.0	390,000,000	-	10,304.4	10,304.4
CMS-449	5-6	Thallium	M	0.0	5,500,000	-	10,304.4	10,304.4
CMS-449	5-6	Benzo(a)anthracene	SVOC	180,000.0	900,000	-	9,341.1	9,341.1
CMS-449	5-6	Benzo(a)pyrene	SVOC	160,000.0	400,000	-	9,341.1	9,341.1
CMS-449	5-6	Benzo(b)fluoranthene	SVOC	310,000.0	900,000	-	9,341.1	9,341.1
CMS-449	5-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	9,341.1	9,341.1
CMS-449	5-6	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	9,341.1	9,341.1
CMS-449	5-6	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	9,341.1	9,341.1

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-449	5-6	Chrysene	SVOC	180,000.0	400,000		9,341.1	9,341.1
CMS-449	5-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000		9,341.1	9,341.1
CMS-449	5-6	Fluoranthene	SVOC	360,000.0	20,000,000		9,341.1	9,341.1
CMS-449	5-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	9,341.1	9,341.1
CMS-449	5-6	Naphthalene	SVOC	0.0	54,000,000	-	9,341.1	9,341.1
CMS-449	5-6	Pyrene	SVOC	370,000.0	13,000,000	-	9,341.1	9,341.1
CMS-449	5-6	Aroclor, Total	PCB	18,000.0	10,000,000	-	4,365.7	4,365.7
CMS-449	5-6	Dieldrin	PEST	0.0	40,000	-	10,176.6	10,176.6
CMS-449	5-6	Pentachlorophenol	PEST	0.0	5,300,000	-	10,176.6	10,176.6
CMS-449	5-6	1,2-dichloroethane	VOC	0.0	900,000	-	10,938.8	10,938.8
CMS-449	5-6	Benzene	VOC	0.0	2,500,000	-	10,938.8	10,938.8
CMS-449	5-6	Chlorobenzene	VOC	0.0	100,000,000	-	10,938.8	10,938.8
CMS-449	5-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	10,938.8	10,938.8
CMS-449	5-6	Ethylbenzene	VOC	170,000.0	62,000,000	-	10,938.8	10,938.8
CMS-449	5-6	Tetrachloroethene	VOC	0.0	4,200,000	-	10,938.8	10,938.8
CMS-449	5-6	Toluene	VOC	100,000.0	54,000,000	-	10,938.8	10,938.8
CMS-449	5-6	Total Xylenes	VOC	1,700,000.0	110,000,000	-	10,938.8	10,938.8
CMS-449	5-6	Trichloroethene	VOC	360,000.0	13,000,000	-	10,938.8	10,938.8
CMS-449	5-6	Vinyl chloride	VOC	0.0	20,000	-	10,938.8	10,938.8
CMS-449	6-7	TEQ	DIOXIN	55.0	1,000	-	2,176.2	2,176.2
CMS-449	6-7	Aroclor, Total	PCB	34,000.0	10,000,000	-	4,365.7	4,365.7
CMS-450	3-4	TEQ	DIOXIN	390.0	1,000	-	2,913.3	2,913.3
CMS-450	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	6,865.1	6,865.1
CMS-450	4-5	TEQ	DIOXIN	84.0	1,000	-	2,913.3	2,913.3
CMS-450	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	6,865.1	6,865.1
CMS-450	5-6	TEQ	DIOXIN	4,800.0	1,000	- 4.8	2,913.3	2,913.3
CMS-450	5-6	Aroclor, Total	PCB	460,000.0	10,000,000	-	6,865.1	6,865.1
CMS-450	6-7	TEQ	DIOXIN	280.0	1,000	-	2,913.3	2,913.3
CMS-450	6-7	Aroclor, Total	PCB	180,000.0	10,000,000		6,865.1	6,865.1
CMS-454	1-2	TEQ	DIOXIN	870.0	1,000	-	3,522.3	3,522.3
CMS-454	1-2	Aroclor, Total	PCB	160,000.0	10,000,000	-	5,714.3	5,714.3
CMS-454	2-3	TEQ	DIOXIN	18.5	1,000	-	3,522.3	3,522.3
CMS-454	2-3	Aroclor, Total	PCB	500,000.0	10,000,000	-	5,714.3	5,714.3

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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-454	3-4	TEQ	DIOXIN	81.0	1,000		3,522.3	3,522.3
CMS-454	3-4	Aroclor, Total	PCB	5,000,000.0	10,000,000		5,714.3	5,714.3
CMS-454	4-5	TEQ	DIOXIN	130.0	1,000		3,522.3	3,522.3
CMS-454	4-5	Aroclor, Total	PCB	730,000.0	10,000,000	-	5,714.3	5,714.3
CMS-454	5-6	TEQ	DIOXIN	14.0	1,000	-	3,522.3	3,522.3
CMS-454	5-6	Aroclor, Total	PCB	43,000.0	10,000,000	-	5,714.3	5,714.3
CMS-455	2-3	TEQ	DIOXIN	48.5	1,000	-	1,202.0	1,202.0
CMS-455	2-3	Antimony	M	280,000.0	10,000,000	-	3,639.0	3,639.0
CMS-455	2-3	Arsenic	M	9,300,000.0	7,000,000	- 1.3	3,639.0	3,639.0
CMS-455	2-3	Beryllium	M	1,500,000.0	400,000	- 3.8	3,639.0	3,639.0
CMS-455	2-3	Cadmium	M	420,000.0	39,000,000	-	3,639.0	3,639.0
CMS-455	2-3	Lead	M	62,300,000.0	150,000,000		3,639.0	3,639.0
CMS-455	2-3	Manganese	M	184,000,000.0	390,000,000		3,639.0	3,639.0
CMS-455	2-3	Thallium	M	0.0	5,500,000	-	3,639.0	3,639.0
CMS-455	2-3	Benzo(a)anthracene	SVOC	1,000,000.0	900,000	- 1.1	4,030.6	4,030.6
CMS-455	2-3	Benzo(a)pyrene	SVOC	930,000.0	400,000	- 2.3	4,030.6	4,030.6
CMS-455	2-3	Benzo(b)fluoranthene	SVOC	1,500,000.0	900,000	- 1.7	4,030.6	4,030.6
CMS-455	2-3	Benzo(g,h,i)perylene	SVOC	370,000.0	800,000		4,030.6	4,030.6
CMS-455	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000		4,030.6	4,030.6
CMS-455	2-3	Bis(2-ethylhexyl)phthalate	SVOC	61,000.0	46,000,000		4,030.6	4,030.6
CMS-455	2-3	Chrysene	SVOC	990,000.0	400,000	- 2.5	4,030.6	4,030.6
CMS-455	2-3	Dibenzo(a,h)anthracene	SVOC	150,000.0	400,000	-	4,030.6	4,030.6
CMS-455	2-3	Fluoranthene	SVOC	1,500,000.0	20,000,000	-	4,030.6	4,030.6
CMS-455	2-3	Indeno(1,2,3-cd)pyrene	SVOC	380,000.0	900,000		4,030.6	4,030.6
CMS-455	2-3	Naphthalene	SVOC	0.0	54,000,000	-	4,030.6	4,030.6
CMS-455	2-3	Pyrene	SVOC	2,300,000.0	13,000,000	-	4,030.6	4,030.6
CMS-455	2-3	Aroclor, Total	PCB	84,000.0	10,000,000	-	3,584.1	3,584.1
CMS-455	2-3	Dieldrin	PEST	20,000.0	40,000	-	4,338.1	4,338.1
CMS-455	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	4,338.1	4,338.1
CMS-455	2-3	1,2-dichloroethane	VOC	0.0	900,000	-	3,582.1	3,582.1
CMS-455	2-3	Benzene	VOC	0.0	2,500,000	-	3,582.1	3,582.1
CMS-455	2-3	Chlorobenzene	VOC	250,000.0	100,000,000	-	3,582.1	3,582.1
CMS-455	2-3	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	3,582.1	3,582.1

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-455	2-3	Ethylbenzene	VOC	0.0	62,000,000		3,582.1	3,582.1
CMS-455	2-3	Tetrachloroethene	VOC	260,000.0	4,200,000		3,582.1	3,582.1
CMS-455	2-3	Toluene	VOC	0.0	54,000,000		3,582.1	3,582.1
CMS-455	2-3	Total Xylenes	VOC	0.0	110,000,000	-	3,582.1	3,582.1
CMS-455	2-3	Trichloroethene	VOC	94,000.0	13,000,000	-	3,582.1	3,582.1
CMS-455	2-3	Vinyl chloride	VOC	0.0	20,000	-	3,582.1	3,582.1
CMS-455	3-4	TEQ	DIOXIN	14.0	1,000	-	1,202.0	1,202.0
CMS-455	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	3,584.1	3,584.1
CMS-455	4-5	TEQ	DIOXIN	60.0	1,000	-	1,202.0	1,202.0
CMS-455	4-5	Antimony	M	0.0	10,000,000	-	3,639.0	3,639.0
CMS-455	4-5	Arsenic	M	3,100,000.0	7,000,000	-	3,639.0	3,639.0
CMS-455	4-5	Beryllium	M	840,000.0	400,000	- 2.1	3,639.0	3,639.0
CMS-455	4-5	Cadmium	M	210,000.0	39,000,000	-	3,639.0	3,639.0
CMS-455	4-5	Lead	M	8,800,000.0	150,000,000	-	3,639.0	3,639.0
CMS-455	4-5	Manganese	M	179,000,000.0	390,000,000		3,639.0	3,639.0
CMS-455	4-5	Thallium	M	0.0	5,500,000	-	3,639.0	3,639.0
CMS-455	4-5	Benzo(a)anthracene	SVOC	0.0	900,000	-	4,030.6	4,030.6
CMS-455	4-5	Benzo(a)pyrene	SVOC	0.0	400,000	-	4,030.6	4,030.6
CMS-455	4-5	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	4,030.6	4,030.6
CMS-455	4-5	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	4,030.6	4,030.6
CMS-455	4-5	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	4,030.6	4,030.6
CMS-455	4-5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	4,030.6	4,030.6
CMS-455	4-5	Chrysene	SVOC	0.0	400,000	-	4,030.6	4,030.6
CMS-455	4-5	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	4,030.6	4,030.6
CMS-455	4-5	Fluoranthene	SVOC	0.0	20,000,000	-	4,030.6	4,030.6
CMS-455	4-5	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	4,030.6	4,030.6
CMS-455	4-5	Naphthalene	SVOC	0.0	54,000,000	-	4,030.6	4,030.6
CMS-455	4-5	Pyrene	SVOC	0.0	13,000,000	-	4,030.6	4,030.6
CMS-455	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	3,584.1	3,584.1
CMS-455	4-5	Dieldrin	PEST	0.0	40,000	-	4,338.1	4,338.1
CMS-455	4-5	Pentachlorophenol	PEST	0.0	5,300,000	-	4,338.1	4,338.1
CMS-455	4-5	Technical Chlordane	PEST	270,000.0	500,000	-	4,338.1	4,338.1
CMS-455	4-5	1,2-dichloroethane	VOC	0.0	900,000	-	3,582.1	3,582.1
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-455	4-5	Benzene	VOC	1,700.0	2,500,000		3,582.1	3,582.1
CMS-455	4-5	Chlorobenzene	VOC	0.0	100,000,000		3,582.1	3,582.1
CMS-455	4-5	Cis-1,2-dichloroethene	VOC	0.0	60,000,000		3,582.1	3,582.1
CMS-455	4-5	Ethylbenzene	VOC	0.0	62,000,000	-	3,582.1	3,582.1
CMS-455	4-5	Tetrachloroethene	VOC	0.0	4,200,000	-	3,582.1	3,582.1
CMS-455	4-5	Toluene	VOC	0.0	54,000,000	-	3,582.1	3,582.1
CMS-455	4-5	Total Xylenes	VOC	0.0	110,000,000	-	3,582.1	3,582.1
CMS-455	4-5	Trichloroethene	VOC	0.0	13,000,000	-	3,582.1	3,582.1
CMS-455	4-5	Vinyl chloride	VOC	0.0	20,000	-	3,582.1	3,582.1
CMS-455	5-6	TEQ	DIOXIN	146.0	1,000	-	1,202.0	1,202.0
CMS-455	5-6	Antimony	M	0.0	10,000,000	-	3,639.0	3,639.0
CMS-455	5-6	Arsenic	M	3,900,000.0	7,000,000	-	3,639.0	3,639.0
CMS-455	5-6	Beryllium	M	1,300,000.0	400,000	- 3.3	3,639.0	3,639.0
CMS-455	5-6	Cadmium	M	400,000.0	39,000,000	-	3,639.0	3,639.0
CMS-455	5-6	Lead	M	38,300,000.0	150,000,000	-	3,639.0	3,639.0
CMS-455	5-6	Manganese	M	204,000,000.0	390,000,000		3,639.0	3,639.0
CMS-455	5-6	Thallium	M	0.0	5,500,000	-	3,639.0	3,639.0
CMS-455	5-6	Benzo(a)anthracene	SVOC	320,000.0	900,000	-	4,030.6	4,030.6
CMS-455	5-6	Benzo(a)pyrene	SVOC	260,000.0	400,000	-	4,030.6	4,030.6
CMS-455	5-6	Benzo(b)fluoranthene	SVOC	510,000.0	900,000	-	4,030.6	4,030.6
CMS-455	5-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	4,030.6	4,030.6
CMS-455	5-6	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	4,030.6	4,030.6
CMS-455	5-6	Bis(2-ethylhexyl)phthalate	SVOC	810,000.0	46,000,000	-	4,030.6	4,030.6
CMS-455	5-6	Chrysene	SVOC	300,000.0	400,000	-	4,030.6	4,030.6
CMS-455	5-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	4,030.6	4,030.6
CMS-455	5-6	Fluoranthene	SVOC	750,000.0	20,000,000	-	4,030.6	4,030.6
CMS-455	5-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	4,030.6	4,030.6
CMS-455	5-6	Naphthalene	SVOC	0.0	54,000,000	-	4,030.6	4,030.6
CMS-455	5-6	Pyrene	SVOC	770,000.0	13,000,000	-	4,030.6	4,030.6
CMS-455	5-6	Aroclor, Total	PCB	910,000.0	10,000,000	-	3,584.1	3,584.1
CMS-455	5-6	Dieldrin	PEST	50,000.0	40,000	- 1.3	4,338.1	4,338.1
CMS-455	5-6	Pentachlorophenol	PEST	0.0	5,300,000	-	4,338.1	4,338.1
CMS-455	5-6	1,2-dichloroethane	VOC	0.0	900,000	-	3,582.1	3,582.1

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-455	5-6	Benzene	VOC	0.0	2,500,000		3,582.1	3,582.1
CMS-455	5-6	Chlorobenzene	VOC	1,400.0	100,000,000		3,582.1	3,582.1
CMS-455	5-6	Cis-1,2-dichloroethene	VOC	1,600.0	60,000,000		3,582.1	3,582.1
CMS-455	5-6	Ethylbenzene	VOC	0.0	62,000,000	-	3,582.1	3,582.1
CMS-455	5-6	Tetrachloroethene	VOC	0.0	4,200,000	-	3,582.1	3,582.1
CMS-455	5-6	Toluene	VOC	0.0	54,000,000	-	3,582.1	3,582.1
CMS-455	5-6	Total Xylenes	VOC	0.0	110,000,000	-	3,582.1	3,582.1
CMS-455	5-6	Trichloroethene	VOC	0.0	13,000,000	-	3,582.1	3,582.1
CMS-455	5-6	Vinyl chloride	VOC	0.0	20,000	-	3,582.1	3,582.1
CMS-455	6-7	TEQ	DIOXIN	14.5	1,000	-	1,202.0	1,202.0
CMS-455	6-7	Aroclor, Total	PCB	0.0	10,000,000	-	3,584.1	3,584.1
CMS-456	0-1	TEQ	DIOXIN	480.0	1,000	-	138.8	138.8
CMS-456	0-1	Antimony	M	1,100,000.0	10,000,000	-	4,217.6	4,217.6
CMS-456	0-1	Arsenic	M	2,800,000.0	7,000,000	-	4,217.6	4,217.6
CMS-456	0-1	Beryllium	M	410,000.0	400,000	- 1.0	4,217.6	4,217.6
CMS-456	0-1	Cadmium	M	910,000.0	39,000,000	-	4,217.6	4,217.6
CMS-456	0-1	Lead	M	175,000,000.0	150,000,000	- 1.2	4,217.6	4,217.6
CMS-456	0-1	Manganese	M	1,700,000,000.0	390,000,000	4.4	4,217.6	4,217.6
CMS-456	0-1	Thallium	M	0.0	5,500,000	-	4,217.6	4,217.6
CMS-456	0-1	Benzo(a)anthracene	SVOC	1,800,000.0	900,000	2.0	4,217.6	4,217.6
CMS-456	0-1	Benzo(a)pyrene	SVOC	1,700,000.0	400,000	4.3	4,217.6	4,217.6
CMS-456	0-1	Benzo(b)fluoranthene	SVOC	3,300,000.0	900,000	- 3.7	4,217.6	4,217.6
CMS-456	0-1	Benzo(g,h,i)perylene	SVOC	950,000.0	800,000	1.2	4,217.6	4,217.6
CMS-456	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000		4,217.6	4,217.6
CMS-456	0-1	Bis(2-ethylhexyl)phthalate	SVOC	2,900,000.0	46,000,000		4,217.6	4,217.6
CMS-456	0-1	Chrysene	SVOC	2,100,000.0	400,000	5.3	4,217.6	4,217.6
CMS-456	0-1	Dibenzo(a,h)anthracene	SVOC	320,000.0	400,000	-	4,217.6	4,217.6
CMS-456	0-1	Fluoranthene	SVOC	4,100,000.0	20,000,000	-	4,217.6	4,217.6
CMS-456	0-1	Indeno(1,2,3-cd)pyrene	SVOC	910,000.0	900,000	1.0	4,217.6	4,217.6
CMS-456	0-1	Naphthalene	SVOC	0.0	54,000,000	-	4,217.6	4,217.6
CMS-456	0-1	Pyrene	SVOC	4,600,000.0	13,000,000	-	4,217.6	4,217.6
CMS-456	0-1	Aroclor, Total	PCB	1,440,000.0	10,000,000		2,218.5	2,218.5
CMS-456	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	4,217.6	4,217.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-456	0-1	1,2-dichloroethane	VOC	0.0	900,000		7,404.4	7,404.4
CMS-456	0-1	Benzene	VOC	0.0	2,500,000		7,404.4	7,404.4
CMS-456	0-1	Chlorobenzene	VOC	3,100.0	100,000,000		7,404.4	7,404.4
CMS-456	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	7,404.4	7,404.4
CMS-456	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	7,404.4	7,404.4
CMS-456	0-1	Tetrachloroethene	VOC	0.0	4,200,000	-	7,404.4	7,404.4
CMS-456	0-1	Toluene	VOC	2,200.0	54,000,000	-	7,404.4	7,404.4
CMS-456	0-1	Total Xylenes	VOC	0.0	110,000,000	-	7,404.4	7,404.4
CMS-456	0-1	Trichloroethene	VOC	0.0	13,000,000	-	7,404.4	7,404.4
CMS-456	0-1	Vinyl chloride	VOC	0.0	20,000	-	7,404.4	7,404.4
CMS-456	1-2	TEQ	DIOXIN	2,100.0	1,000	- 2.1	138.8	138.8
CMS-456	1-2	Antimony	M	980,000.0	10,000,000	-	4,217.6	4,217.6
CMS-456	1-2	Arsenic	M	3,100,000.0	7,000,000	-	4,217.6	4,217.6
CMS-456	1-2	Beryllium	M	630,000.0	400,000	1.6	4,217.6	4,217.6
CMS-456	1-2	Cadmium	M	3,700,000.0	39,000,000	-	4,217.6	4,217.6
CMS-456	1-2	Lead	M	448,000,000.0	150,000,000	- 3.0	4,217.6	4,217.6
CMS-456	1-2	Manganese	M	244,000,000.0	390,000,000		4,217.6	4,217.6
CMS-456	1-2	Thallium	M	0.0	5,500,000	-	4,217.6	4,217.6
CMS-456	1-2	Benzo(a)anthracene	SVOC	1,800,000.0	900,000	2.0	4,217.6	4,217.6
CMS-456	1-2	Benzo(a)pyrene	SVOC	1,600,000.0	400,000	- 4.0	4,217.6	4,217.6
CMS-456	1-2	Benzo(b)fluoranthene	SVOC	2,900,000.0	900,000	- 3.2	4,217.6	4,217.6
CMS-456	1-2	Benzo(g,h,i)perylene	SVOC	1,000,000.0	800,000	1.3	4,217.6	4,217.6
CMS-456	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		4,217.6	4,217.6
CMS-456	1-2	Bis(2-ethylhexyl)phthalate	SVOC	14,000,000.0	46,000,000		4,217.6	4,217.6
CMS-456	1-2	Chrysene	SVOC	2,000,000.0	400,000	5.0	4,217.6	4,217.6
CMS-456	1-2	Dibenzo(a,h)anthracene	SVOC	360,000.0	400,000	-	4,217.6	4,217.6
CMS-456	1-2	Fluoranthene	SVOC	3,500,000.0	20,000,000	-	4,217.6	4,217.6
CMS-456	1-2	Indeno(1,2,3-cd)pyrene	SVOC	900,000.0	900,000	1.0	4,217.6	4,217.6
CMS-456	1-2	Naphthalene	SVOC	100,000.0	54,000,000	-	4,217.6	4,217.6
CMS-456	1-2	Pyrene	SVOC	4,500,000.0	13,000,000	-	4,217.6	4,217.6
CMS-456	1-2	Aroclor, Total	PCB	7,000,000.0	10,000,000		2,218.5	2,218.5
CMS-456	1-2	Dieldrin	PEST	110,000.0	40,000	- 2.8	4,217.6	4,217.6
CMS-456	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	4,217.6	4,217.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-456	1-2	1,2-dichloroethane	VOC	0.0	900,000		7,404.4	7,404.4
CMS-456	1-2	Benzene	VOC	0.0	2,500,000		7,404.4	7,404.4
CMS-456	1-2	Chlorobenzene	VOC	8,200.0	100,000,000		7,404.4	7,404.4
CMS-456	1-2	Cis-1,2-dichloroethene	VOC	93,000.0	60,000,000	-	7,404.4	7,404.4
CMS-456	1-2	Ethylbenzene	VOC	2,900.0	62,000,000	-	7,404.4	7,404.4
CMS-456	1-2	Tetrachloroethene	VOC	120,000.0	4,200,000	-	7,404.4	7,404.4
CMS-456	1-2	Toluene	VOC	4,200.0	54,000,000	-	7,404.4	7,404.4
CMS-456	1-2	Total Xylenes	VOC	4,500.0	110,000,000	-	7,404.4	7,404.4
CMS-456	1-2	Trichloroethene	VOC	39,000.0	13,000,000	-	7,404.4	7,404.4
CMS-456	1-2	Vinyl chloride	VOC	70,000.0	20,000	- 3.5	7,404.4	7,404.4
CMS-481	0-1	TEQ	DIOXIN	98.5	1,000	-	1,147.3	1,147.3
CMS-703	0-1	TEQ	DIOXIN	3,200.0	1,000	- 3.2	755.7	755.7
CMS-703	0-2	Antimony	M	0.0	10,000,000		1,415.4	2,830.8
CMS-703	0-2	Arsenic	M	0.0	7,000,000	-	1,415.4	2,830.8
CMS-703	0-2	Beryllium	M	400,000.0	400,000	1.0	1,415.4	2,830.8
CMS-703	0-2	Cadmium	M	0.0	39,000,000	-	1,415.4	2,830.8
CMS-703	0-2	Lead	M	84,900,000.0	150,000,000	-	1,415.4	2,830.8
CMS-703	0-2	Manganese	M	255,000,000.0	390,000,000		1,415.4	2,830.8
CMS-703	0-2	Thallium	M	0.0	5,500,000	-	1,415.4	2,830.8
CMS-703	0-2	Benzo(a)anthracene	SVOC	630,000.0	900,000	-	1,335.7	2,671.4
CMS-703	0-2	Benzo(a)pyrene	SVOC	0.0	400,000	-	1,335.7	2,671.4
CMS-703	0-2	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	1,335.7	2,671.4
CMS-703	0-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	1,335.7	2,671.4
CMS-703	0-2	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	1,335.7	2,671.4
CMS-703	0-2	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	1,335.7	2,671.4
CMS-703	0-2	Chrysene	SVOC	0.0	400,000	-	1,335.7	2,671.4
CMS-703	0-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	1,335.7	2,671.4
CMS-703	0-2	Fluoranthene	SVOC	1,100,000.0	20,000,000	-	1,335.7	2,671.4
CMS-703	0-2	Indeno(1,2,3-cd)pyrene	SVOC	490,000.0	900,000	-	1,335.7	2,671.4
CMS-703	0-1	Naphthalene	SVOC	66,000.0	54,000,000	-	1,335.7	1,335.7
CMS-703	0-2	Naphthalene	SVOC	0.0	54,000,000	-	1,335.7	2,671.4
CMS-703	0-2	Pyrene	SVOC	1,300,000.0	13,000,000	-	1,335.7	2,671.4
CMS-703	0-1	Aroclor, Total	PCB	300,000.0	10,000,000	-	1,192.7	1,192.7
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Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-703	0-2	Dieldrin	PEST	0.0	40,000		1,415.4	2,830.8
CMS-703	0-2	Pentachlorophenol	PEST	0.0	5,300,000		1,415.4	2,830.8
CMS-703	0-1	1,2-dichloroethane	VOC	0.0	900,000		1,235.3	1,235.3
CMS-703	0-1	Benzene	VOC	0.0	2,500,000	-	1,235.3	1,235.3
CMS-703	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	1,235.3	1,235.3
CMS-703	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	1,235.3	1,235.3
CMS-703	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	1,235.3	1,235.3
CMS-703	0-1	Tetrachloroethene	VOC	28,000.0	4,200,000	-	1,235.3	1,235.3
CMS-703	0-1	Toluene	VOC	0.0	54,000,000	-	1,235.3	1,235.3
CMS-703	0-1	Trichloroethene	VOC	0.0	13,000,000	-	1,235.3	1,235.3
CMS-703	0-1	Vinyl chloride	VOC	0.0	20,000	-	1,235.3	1,235.3
CMS-703	1-2	TEQ	DIOXIN	1,300.0	1,000	- 1.3	755.7	755.7
CMS-703	1-2	Aroclor, Total	PCB	160,000.0	10,000,000	-	1,192.7	1,192.7
CMW-SD-2016	0-0.5	TEQ	DIOXIN	4.6	1,000	-	434.9	217.5
CMW-SD-2016	0-0.5	Antimony	M	0.0	10,000,000		5,933.9	2,967.0
CMW-SD-2016	0-0.5	Arsenic	M	2,400,000.0	7,000,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Beryllium	M	0.0	400,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Cadmium	M	0.0	39,000,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Lead	M	91,900,000.0	150,000,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Manganese	M	128,000,000.0	390,000,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Thallium	M	0.0	5,500,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Benzo(a)anthracene	SVOC	1,800,000.0	900,000	- 2.0	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Benzo(a)pyrene	SVOC	1,700,000.0	400,000	- 4.3	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Benzo(b)fluoranthene	SVOC	1,900,000.0	900,000	- 2.1	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Benzo(g,h,i)perylene	SVOC	1,000,000.0	800,000	1.3	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Benzo(k)fluoranthene	SVOC	1,400,000.0	900,000	1.6	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000		5,933.9	2,967.0
CMW-SD-2016	0-0.5	Chrysene	SVOC	2,200,000.0	400,000	5.5	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Dibenzo(a,h)anthracene	SVOC	390,000.0	400,000		5,933.9	2,967.0
CMW-SD-2016	0-0.5	Fluoranthene	SVOC	4,500,000.0	20,000,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Indeno(1,2,3-cd)pyrene	SVOC	1,000,000.0	900,000	1.1	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Naphthalene	SVOC	0.0	54,000,000	-	5,933.9	2,967.0
CMW-SD-2016	0-0.5	Pyrene	SVOC	4,000,000.0	13,000,000	-	5,933.9	2,967.0

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMW-SD-2016	0-0.5	Aroclor, Total	PCB	0.0	10,000,000		2,478.4	1,239.2
CMW-SD-2016	0-0.5	Dieldrin	PEST	0.0	40,000		2,478.4	1,239.2
CMW-SD-2016	0-0.5	Pentachlorophenol	PEST	0.0	5,300,000		2,478.4	1,239.2
CMW-SD-2017	0-0.5	TEQ	DIOXIN	24.3	1,000	-	1,059.7	529.8
CMW-SD-2017	0-0.5	Antimony	M	0.0	10,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Arsenic	M	1,800,000.0	7,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Beryllium	M	0.0	400,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Cadmium	M	0.0	39,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Lead	M	146,000,000.0	150,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Manganese	M	376,000,000.0	390,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Thallium	M	0.0	5,500,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Benzo(a)anthracene	SVOC	1,400,000.0	900,000	- 1.6	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Benzo(a)pyrene	SVOC	1,600,000.0	400,000	- 4.0	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Benzo(b)fluoranthene	SVOC	1,700,000.0	900,000	- 1.9	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Benzo(g,h,i)perylene	SVOC	990,000.0	800,000	1.2	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Benzo(k)fluoranthene	SVOC	1,600,000.0	900,000	1.8	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000		4,328.8	2,164.4
CMW-SD-2017	0-0.5	Chrysene	SVOC	2,200,000.0	400,000	5.5	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Dibenzo(a,h)anthracene	SVOC	540,000.0	400,000	1.4	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Fluoranthene	SVOC	4,200,000.0	20,000,000	- -	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Indeno(1,2,3-cd)pyrene	SVOC	1,400,000.0	900,000	1.6	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Naphthalene	SVOC	0.0	54,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Pyrene	SVOC	3,200,000.0	13,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Aroclor, Total	PCB	0.0	10,000,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Dieldrin	PEST	0.0	40,000	-	4,328.8	2,164.4
CMW-SD-2017	0-0.5	Pentachlorophenol	PEST	0.0	5,300,000	-	4,328.8	2,164.4
CMW-SD-2018	0-0.5	TEQ	DIOXIN	28.7	1,000	-	490.9	245.4
CMW-SD-2018	0-0.5	Antimony	M	0.0	10,000,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Arsenic	M	0.0	7,000,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Beryllium	M	0.0	400,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Cadmium	M	0.0	39,000,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Lead	M	41,900,000.0	150,000,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Manganese	M	39,100,000.0	390,000,000	-	963.2	481.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMW-SD-2018	0-0.5	Thallium	M	0.0	5,500,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Benzo(a)anthracene	SVOC	8,500,000.0	900,000	9.4	963.2	481.6
CMW-SD-2018	0-0.5	Benzo(a)pyrene	SVOC	8,900,000.0	400,000	22.3	963.2	481.6
CMW-SD-2018	0-0.5	Benzo(b)fluoranthene	SVOC	7,800,000.0	900,000	8.7	963.2	481.6
CMW-SD-2018	0-0.5	Benzo(g,h,i)perylene	SVOC	5,300,000.0	800,000	6.6	963.2	481.6
CMW-SD-2018	0-0.5	Benzo(k)fluoranthene	SVOC	8,800,000.0	900,000	9.8	963.2	481.6
CMW-SD-2018	0-0.5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Chrysene	SVOC	11,000,000.0	400,000	27.5	963.2	481.6
CMW-SD-2018	0-0.5	Dibenzo(a,h)anthracene	SVOC	2,200,000.0	400,000	5.5	963.2	481.6
CMW-SD-2018	0-0.5	Fluoranthene	SVOC	24,000,000.0	20,000,000	1.2	963.2	481.6
CMW-SD-2018	0-0.5	Indeno(1,2,3-cd)pyrene	SVOC	5,300,000.0	900,000	5.9	963.2	481.6
CMW-SD-2018	0-0.5	Naphthalene	SVOC	0.0	54,000,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Pyrene	SVOC	23,000,000.0	13,000,000	1.8	963.2	481.6
CMW-SD-2018	0-0.5	Aroclor, Total	PCB	26,000.0	10,000,000	-	950.2	475.1
CMW-SD-2018	0-0.5	Dieldrin	PEST	0.0	40,000	-	963.2	481.6
CMW-SD-2018	0-0.5	Pentachlorophenol	PEST	0.0	5,300,000	-	963.2	481.6
CMW-SD-2019	0-0.5	TEQ	DIOXIN	8,405.7	1,000	8.4	1,318.5	659.2
CMW-SD-2019	0-0.5	Antimony	M	0.0	10,000,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Arsenic	M	10,400,000.0	7,000,000	1.5	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Beryllium	M	1,000,000.0	400,000	2.5	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Cadmium	M	5,200,000.0	39,000,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Lead	M	561,000,000.0	150,000,000	3.7	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Manganese	M	381,000,000.0	390,000,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Thallium	M	0.0	5,500,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Benzo(a)anthracene	SVOC	520,000.0	900,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Benzo(a)pyrene	SVOC	600,000.0	400,000	1.5	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Benzo(b)fluoranthene	SVOC	820,000.0	900,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Benzo(g,h,i)perylene	SVOC	490,000.0	800,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Benzo(k)fluoranthene	SVOC	540,000.0	900,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Chrysene	SVOC	850,000.0	400,000	2.1	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Dibenzo(a,h)anthracene	SVOC	180,000.0	400,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Fluoranthene	SVOC	1,600,000.0	20,000,000	-	4,633.8	2,316.9

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMW-SD-2019	0-0.5	Indeno(1,2,3-cd)pyrene	SVOC	460,000.0	900,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Naphthalene	SVOC	0.0	54,000,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Pyrene	SVOC	1,400,000.0	13,000,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Aroclor, Total	PCB	5,200,000.0	10,000,000	-	3,948.5	1,974.3
CMW-SD-2019	0-0.5	Dieldrin	PEST	16,000.0	40,000	-	4,633.8	2,316.9
CMW-SD-2019	0-0.5	Pentachlorophenol	PEST	0.0	5,300,000	-	4,633.8	2,316.9
CMW-SD-2020	0-0.5	TEQ	DIOXIN	4,739.8	1,000	4.7	1,683.6	841.8
CMW-SD-2020	0-0.5	Antimony	M	0.0	10,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Arsenic	M	3,300,000.0	7,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Beryllium	M	0.0	400,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Cadmium	M	1,200,000.0	39,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Lead	M	287,000,000.0	150,000,000	1.9	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Manganese	M	214,000,000.0	390,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Thallium	M	0.0	5,500,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Benzo(a)anthracene	SVOC	240,000.0	900,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Benzo(a)pyrene	SVOC	250,000.0	400,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Benzo(b)fluoranthene	SVOC	230,000.0	900,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Benzo(g,h,i)perylene	SVOC	190,000.0	800,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Benzo(k)fluoranthene	SVOC	300,000.0	900,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Chrysene	SVOC	380,000.0	400,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Dibenzo(a,h)anthracene	SVOC	70,000.0	400,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Fluoranthene	SVOC	710,000.0	20,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Indeno(1,2,3-cd)pyrene	SVOC	160,000.0	900,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Naphthalene	SVOC	0.0	54,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Pyrene	SVOC	570,000.0	13,000,000	-	11,157.5	5,578.8
CMW-SD-2020	0-0.5	Aroclor, Total	PCB	2,490,000.0	10,000,000	-	2,629.5	1,314.8
CMW-SD-2020	0-0.5	Dieldrin	PEST	7,200.0	40,000	-	8,345.4	4,172.7
CMW-SD-2020	0-0.5	Pentachlorophenol	PEST	0.0	5,300,000	-	8,345.4	4,172.7
CMW-SD-2021	0-0.5	TEQ	DIOXIN	2,086.3	1,000	2.1	1,078.4	539.2
CMW-SD-2021	0-0.5	Antimony	M	0.0	10,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Arsenic	M	5,600,000.0	7,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Beryllium	M	870,000.0	400,000	2.2	4,308.1	2,154.0

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMW-SD-2021	0-0.5	Cadmium	M	2,600,000.0	39,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Lead	M	558,000,000.0	150,000,000	3.7	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Manganese	M	269,000,000.0	390,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Thallium	M	0.0	5,500,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Benzo(a)anthracene	SVOC	2,000,000.0	900,000	2.2	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Benzo(a)pyrene	SVOC	2,200,000.0	400,000	5.5	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Benzo(b)fluoranthene	SVOC	2,700,000.0	900,000	3.0	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Benzo(g,h,i)perylene	SVOC	1,700,000.0	800,000	2.1	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Benzo(k)fluoranthene	SVOC	2,400,000.0	900,000	2.7	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Chrysene	SVOC	3,400,000.0	400,000	8.5	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Dibenzo(a,h)anthracene	SVOC	640,000.0	400,000	1.6	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Fluoranthene	SVOC	5,500,000.0	20,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Indeno(1,2,3-cd)pyrene	SVOC	1,600,000.0	900,000	1.8	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Naphthalene	SVOC	0.0	54,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Pyrene	SVOC	4,800,000.0	13,000,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Aroclor, Total	PCB	870,000.0	10,000,000	-	4,057.6	2,028.8
CMW-SD-2021	0-0.5	Dieldrin	PEST	0.0	40,000	-	4,308.1	2,154.0
CMW-SD-2021	0-0.5	Pentachlorophenol	PEST	0.0	5,300,000	-	4,308.1	2,154.0
CMW-SD-2022	0.5-2	TEQ	DIOXIN	217.5	1,000	-	903.3	1,354.9
CMW-SD-2022	0.5-2	Antimony	M	0.0	10,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Arsenic	M	2,200,000.0	7,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Beryllium	M	0.0	400,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Cadmium	M	510,000.0	39,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Lead	M	138,000,000.0	150,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Manganese	M	52,100,000.0	390,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Thallium	M	0.0	5,500,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Benzo(a)anthracene	SVOC	2,200,000.0	900,000	2.4	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Benzo(a)pyrene	SVOC	1,900,000.0	400,000	4.8	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Benzo(b)fluoranthene	SVOC	1,800,000.0	900,000	2.0	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Benzo(g,h,i)perylene	SVOC	1,200,000.0	800,000	1.5	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Benzo(k)fluoranthene	SVOC	2,000,000.0	900,000	2.2	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,358.8	5,038.3

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMW-SD-2022	0.5-2	Chrysene	SVOC	2,900,000.0	400,000	7.3	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Dibenzo(a,h)anthracene	SVOC	590,000.0	400,000	1.5	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Fluoranthene	SVOC	4,300,000.0	20,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Indeno(1,2,3-cd)pyrene	SVOC	1,300,000.0	900,000	1.4	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Naphthalene	SVOC	0.0	54,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Pyrene	SVOC	5,000,000.0	13,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Aroclor, Total	PCB	2,070,000.0	10,000,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Dieldrin	PEST	0.0	40,000	-	3,358.8	5,038.3
CMW-SD-2022	0.5-2	Pentachlorophenol	PEST	0.0	5,300,000	-	3,358.8	5,038.3
CMW-SD-2022	2-2.5	TEQ	DIOXIN	12.5	1,000	-	903.3	451.6
CMW-SD-2022	2-2.5	Antimony	M	0.0	10,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Arsenic	M	1,300,000.0	7,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Beryllium	M	0.0	400,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Cadmium	M	0.0	39,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Lead	M	32,600,000.0	150,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Manganese	M	35,700,000.0	390,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Thallium	M	0.0	5,500,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Benzo(a)anthracene	SVOC	1,000,000.0	900,000	1.1	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Benzo(a)pyrene	SVOC	1,200,000.0	400,000	3.0	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Benzo(b)fluoranthene	SVOC	620,000.0	900,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Benzo(g,h,i)perylene	SVOC	590,000.0	800,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Benzo(k)fluoranthene	SVOC	930,000.0	900,000	1.0	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Chrysene	SVOC	1,100,000.0	400,000	2.8	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Dibenzo(a,h)anthracene	SVOC	220,000.0	400,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Fluoranthene	SVOC	1,500,000.0	20,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Indeno(1,2,3-cd)pyrene	SVOC	550,000.0	900,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Naphthalene	SVOC	0.0	54,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Pyrene	SVOC	2,500,000.0	13,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Aroclor, Total	PCB	237,000.0	10,000,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Dieldrin	PEST	0.0	40,000	-	3,358.8	1,679.4
CMW-SD-2022	2-2.5	Pentachlorophenol	PEST	0.0	5,300,000	-	3,358.8	1,679.4
GEC-2	5-7	Benzo(a)anthracene	SVOC	1,200,000.0	900,000	1.3	2,016.6	4,033.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
GEC-2	5-7	Benzo(b)fluoranthene	SVOC	790,000.0	900,000	-	2,016.6	4,033.2
GEC-2	5-7	Benzo(g,h,i)perylene	SVOC	530,000.0	800,000	-	2,016.6	4,033.2
GEC-2	5-7	Benzo(k)fluoranthene	SVOC	980,000.0	900,000	1.1	2,016.6	4,033.2
GEC-2	5-7	Chrysene	SVOC	1,300,000.0	400,000	3.3	2,016.6	4,033.2
GEC-2	5-7	Fluoranthene	SVOC	3,300,000.0	20,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Indeno(1,2,3-cd)pyrene	SVOC	590,000.0	900,000	-	2,016.6	4,033.2
GEC-2	5-7	Naphthalene	SVOC	340,000.0	54,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Pyrene	SVOC	2,500,000.0	13,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Benzene	VOC	0.0	2,500,000	-	2,016.6	4,033.2
GEC-2	5-7	Chlorobenzene	VOC	0.0	100,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Ethylbenzene	VOC	0.0	62,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Tetrachloroethene	VOC	21,000.0	4,200,000	-	2,016.6	4,033.2
GEC-2	5-7	Toluene	VOC	0.0	54,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Trichloroethene	VOC	0.0	13,000,000	-	2,016.6	4,033.2
GEC-2	5-7	Vinyl chloride	VOC	0.0	20,000	-	2,016.6	4,033.2
GEC-5	5-7	Benzene	VOC	0.0	2,500,000	-	5,413.1	10,826.2
GEC-5	5-7	Chlorobenzene	VOC	0.0	100,000,000	-	5,413.1	10,826.2
GEC-5	5-7	Cis-1,2-dichloroethene	VOC	98,000.0	60,000,000	-	5,413.1	10,826.2
GEC-5	5-7	Ethylbenzene	VOC	0.0	62,000,000	-	5,413.1	10,826.2
GEC-5	5-7	Tetrachloroethene	VOC	330,000.0	4,200,000	-	5,413.1	10,826.2
GEC-5	5-7	Toluene	VOC	0.0	54,000,000	-	5,413.1	10,826.2
GEC-5	5-7	Trichloroethene	VOC	320,000.0	13,000,000	-	5,413.1	10,826.2
GEC-5	5-7	Vinyl chloride	VOC	0.0	20,000	-	5,413.1	10,826.2
GEC-6	2.5-4.5	Benzo(a)anthracene	SVOC	0.0	900,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Chrysene	SVOC	0.0	400,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Fluoranthene	SVOC	0.0	20,000,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Naphthalene	SVOC	0.0	54,000,000	-	6,035.9	12,071.9
GEC-6	2.5-4.5	Pyrene	SVOC	0.0	13,000,000	-	6,035.9	12,071.9

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
GEC-6	2.5-4.5	Benzene	VOC	120,000.0	2,500,000	-	3,158.1	6,316.3
GEC-6	2.5-4.5	Chlorobenzene	VOC	370,000.0	100,000,000	-	3,158.1	6,316.3
GEC-6	2.5-4.5	Cis-1,2-dichloroethene	VOC	2,100,000.0	60,000,000	-	3,158.1	6,316.3
GEC-6	2.5-4.5	Ethylbenzene	VOC	98,000.0	62,000,000	-	3,158.1	6,316.3
GEC-6	2.5-4.5	Tetrachloroethene	VOC	300,000.0	4,200,000	-	3,158.1	6,316.3
GEC-6	2.5-4.5	Toluene	VOC	180,000.0	54,000,000	-	3,158.1	6,316.3
GEC-6	2.5-4.5	Trichloroethene	VOC	1,200,000.0	13,000,000	-	3,158.1	6,316.3
GEC-6	2.5-4.5	Vinyl chloride	VOC	2,300,000.0	20,000	115.0	3,158.1	6,316.3
GEC-7	2.5-4.5	Arsenic	M	4,400,000.0	7,000,000	-	5,036.0	10,072.0
GEC-7	2.5-4.5	Cadmium	M	0.0	39,000,000	-	5,036.0	10,072.0
GEC-7	2.5-4.5	Lead	M	95,000,000.0	150,000,000	-	5,036.0	10,072.0
GEC-7	2.5-4.5	Aroclor, Total	PCB	0.0	10,000,000	-	2,848.4	5,696.7
GEC-7	2.5-4.5	Benzene	VOC	0.0	2,500,000	-	4,453.5	8,907.1
GEC-7	2.5-4.5	Chlorobenzene	VOC	0.0	100,000,000	-	4,453.5	8,907.1
GEC-7	2.5-4.5	Cis-1,2-dichloroethene	VOC	40,000.0	60,000,000	-	4,453.5	8,907.1
GEC-7	2.5-4.5	Ethylbenzene	VOC	0.0	62,000,000	-	4,453.5	8,907.1
GEC-7	2.5-4.5	Tetrachloroethene	VOC	0.0	4,200,000	-	4,453.5	8,907.1
GEC-7	2.5-4.5	Toluene	VOC	46,000.0	54,000,000	-	4,453.5	8,907.1
GEC-7	2.5-4.5	Trichloroethene	VOC	49,000.0	13,000,000	-	4,453.5	8,907.1
GEC-7	2.5-4.5	Vinyl chloride	VOC	0.0	20,000	-	4,453.5	8,907.1
MW01S	1-2	TEQ	DIOXIN	9.2	1,000	-	1,413.3	1,413.3
MW01S	1-2	Antimony	M	0.0	10,000,000	-	5,178.8	5,178.8
MW01S	1-2	Arsenic	M	2,700,000.0	7,000,000	-	5,178.8	5,178.8
MW01S	1-2	Beryllium	M	0.0	400,000	-	5,178.8	5,178.8
MW01S	1-2	Cadmium	M	640,000.0	39,000,000	-	5,178.8	5,178.8
MW01S	1-2	Lead	M	118,000,000.0	150,000,000	-	5,178.8	5,178.8
MW01S	1-2	Manganese	M	197,000,000.0	390,000,000	-	5,178.8	5,178.8
MW01S	1-2	Thallium	M	0.0	5,500,000	-	5,178.8	5,178.8
MW01S	1-2	1,1'-biphenyl	SVOC	0.0	800,000	-	5,178.8	5,178.8
MW01S	1-2	Benzo(a)anthracene	SVOC	850,000.0	900,000	-	5,178.8	5,178.8
MW01S	1-2	Benzo(a)pyrene	SVOC	900,000.0	400,000	2.3	5,178.8	5,178.8
MW01S	1-2	Benzo(b)fluoranthene	SVOC	1,800,000.0	900,000	2.0	5,178.8	5,178.8
MW01S	1-2	Benzo(g,h,i)perylene	SVOC	190,000.0	800,000	-	5,178.8	5,178.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW01S	1-2	Benzo(k)fluoranthene	SVOC	1,600,000.0	900,000	1.8	5,178.8	5,178.8
MW01S	1-2	Bis(2-ethylhexyl)phthalate	SVOC	86,000.0	46,000,000	-	5,178.8	5,178.8
MW01S	1-2	Chrysene	SVOC	900,000.0	400,000	2.3	5,178.8	5,178.8
MW01S	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	5,178.8	5,178.8
MW01S	1-2	Fluoranthene	SVOC	2,000,000.0	20,000,000	-	5,178.8	5,178.8
MW01S	1-2	Indeno(1,2,3-cd)pyrene	SVOC	260,000.0	900,000	-	5,178.8	5,178.8
MW01S	1-2	Naphthalene	SVOC	0.0	54,000,000	-	5,178.8	5,178.8
MW01S	1-2	Pyrene	SVOC	1,500,000.0	13,000,000	-	5,178.8	5,178.8
MW01S	1-2	Aroclor, Total	PCB	110,000.0	10,000,000	-	2,288.0	2,288.0
MW01S	1-2	Dieldrin	PEST	4,800.0	40,000	-	5,178.8	5,178.8
MW01S	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	5,178.8	5,178.8
MW01S	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	6,701.3	6,701.3
MW01S	1-2	Benzene	VOC	0.0	2,500,000	-	6,701.3	6,701.3
MW01S	1-2	Chlorobenzene	VOC	0.0	100,000,000	-	6,701.3	6,701.3
MW01S	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	6,701.3	6,701.3
MW01S	1-2	Ethylbenzene	VOC	0.0	62,000,000	-	6,701.3	6,701.3
MW01S	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	6,701.3	6,701.3
MW01S	1-2	Toluene	VOC	0.0	54,000,000	-	6,701.3	6,701.3
MW01S	1-2	Total Xylenes	VOC	0.0	110,000,000	-	6,701.3	6,701.3
MW01S	1-2	Trichloroethene	VOC	0.0	13,000,000	-	6,701.3	6,701.3
MW01S	1-2	Vinyl chloride	VOC	0.0	20,000	-	6,701.3	6,701.3
MW01S	2-4	TEQ	DIOXIN	1,073.6	1,000	1.1	1,413.3	2,826.6
MW01S	2-4	1,1'-biphenyl	SVOC	0.0	800,000	-	5,178.8	10,357.6
MW01S	2-4	Benzo(a)anthracene	SVOC	770,000.0	900,000	-	5,178.8	10,357.6
MW01S	2-4	Benzo(a)pyrene	SVOC	750,000.0	400,000	1.9	5,178.8	10,357.6
MW01S	2-4	Benzo(b)fluoranthene	SVOC	750,000.0	900,000	-	5,178.8	10,357.6
MW01S	2-4	Benzo(g,h,i)perylene	SVOC	300,000.0	800,000	-	5,178.8	10,357.6
MW01S	2-4	Benzo(k)fluoranthene	SVOC	540,000.0	900,000	-	5,178.8	10,357.6
MW01S	2-4	Bis(2-ethylhexyl)phthalate	SVOC	470,000.0	46,000,000	-	5,178.8	10,357.6
MW01S	2-4	Chrysene	SVOC	930,000.0	400,000	2.3	5,178.8	10,357.6
MW01S	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	5,178.8	10,357.6
MW01S	2-4	Fluoranthene	SVOC	1,600,000.0	20,000,000	-	5,178.8	10,357.6
MW01S	2-4	Indeno(1,2,3-cd)pyrene	SVOC	340,000.0	900,000	-	5,178.8	10,357.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW01S	2-4	Naphthalene	SVOC	0.0	54,000,000	-	5,178.8	10,357.6
MW01S	2-4	Pyrene	SVOC	1,400,000.0	13,000,000	-	5,178.8	10,357.6
MW01S	2-4	Aroclor, Total	PCB	390,000.0	10,000,000	-	2,288.0	4,575.9
MW01S	2-4	Dieldrin	PEST	16,000.0	40,000	-	5,178.8	10,357.6
MW01S	2-4	Pentachlorophenol	PEST	0.0	5,300,000	-	5,178.8	10,357.6
MW01S	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	6,701.3	13,402.6
MW01S	2-4	Benzene	VOC	0.0	2,500,000	-	6,701.3	13,402.6
MW01S	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	6,701.3	13,402.6
MW01S	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	6,701.3	13,402.6
MW01S	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	6,701.3	13,402.6
MW01S	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	6,701.3	13,402.6
MW01S	2-4	Toluene	VOC	0.0	54,000,000	-	6,701.3	13,402.6
MW01S	2-4	Total Xylenes	VOC	0.0	110,000,000	-	6,701.3	13,402.6
MW01S	2-4	Trichloroethene	VOC	0.0	13,000,000	-	6,701.3	13,402.6
MW01S	2-4	Vinyl chloride	VOC	0.0	20,000	-	6,701.3	13,402.6
MW01S	4-6	TEQ	DIOXIN	6.0	1,000	-	1,413.3	2,826.6
MW01S	4-6	Antimony	M	0.0	10,000,000	-	5,178.8	10,357.6
MW01S	4-6	Arsenic	M	0.0	7,000,000	-	5,178.8	10,357.6
MW01S	4-6	Beryllium	M	0.0	400,000	-	5,178.8	10,357.6
MW01S	4-6	Cadmium	M	0.0	39,000,000	-	5,178.8	10,357.6
MW01S	4-6	Lead	M	38,200,000.0	150,000,000	-	5,178.8	10,357.6
MW01S	4-6	Manganese	M	76,900,000.0	390,000,000	-	5,178.8	10,357.6
MW01S	4-6	Thallium	M	0.0	5,500,000	-	5,178.8	10,357.6
MW01S	4-6	1,1'-biphenyl	SVOC	0.0	800,000	-	5,178.8	10,357.6
MW01S	4-6	Benzo(a)anthracene	SVOC	810,000.0	900,000	-	5,178.8	10,357.6
MW01S	4-6	Benzo(a)pyrene	SVOC	770,000.0	400,000	1.9	5,178.8	10,357.6
MW01S	4-6	Benzo(b)fluoranthene	SVOC	750,000.0	900,000	-	5,178.8	10,357.6
MW01S	4-6	Benzo(g,h,i)perylene	SVOC	310,000.0	800,000	-	5,178.8	10,357.6
MW01S	4-6	Benzo(k)fluoranthene	SVOC	650,000.0	900,000	-	5,178.8	10,357.6
MW01S	4-6	Bis(2-ethylhexyl)phthalate	SVOC	480,000.0	46,000,000	-	5,178.8	10,357.6
MW01S	4-6	Chrysene	SVOC	970,000.0	400,000	2.4	5,178.8	10,357.6
MW01S	4-6	Dibenzo(a,h)anthracene	SVOC	140,000.0	400,000	-	5,178.8	10,357.6
MW01S	4-6	Fluoranthene	SVOC	1,900,000.0	20,000,000	-	5,178.8	10,357.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW01S	4-6	Indeno(1,2,3-cd)pyrene	SVOC	480,000.0	900,000	-	5,178.8	10,357.6
MW01S	4-6	Naphthalene	SVOC	0.0	54,000,000	-	5,178.8	10,357.6
MW01S	4-6	Pyrene	SVOC	1,700,000.0	13,000,000	-	5,178.8	10,357.6
MW01S	4-6	Aroclor, Total	PCB	470,000.0	10,000,000	-	2,288.0	4,575.9
MW01S	4-6	Dieldrin	PEST	4,600.0	40,000	-	5,178.8	10,357.6
MW01S	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	5,178.8	10,357.6
MW01S	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	6,701.3	13,402.6
MW01S	4-6	Benzene	VOC	0.0	2,500,000	-	6,701.3	13,402.6
MW01S	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	6,701.3	13,402.6
MW01S	4-6	Cis-1,2-dichloroethene	VOC	50,000.0	60,000,000	-	6,701.3	13,402.6
MW01S	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	6,701.3	13,402.6
MW01S	4-6	Tetrachloroethene	VOC	520,000.0	4,200,000	-	6,701.3	13,402.6
MW01S	4-6	Toluene	VOC	0.0	54,000,000	-	6,701.3	13,402.6
MW01S	4-6	Total Xylenes	VOC	0.0	110,000,000	-	6,701.3	13,402.6
MW01S	4-6	Trichloroethene	VOC	260,000.0	13,000,000	-	6,701.3	13,402.6
MW01S	4-6	Vinyl chloride	VOC	0.0	20,000	-	6,701.3	13,402.6
MW01S	6-8	TEQ	DIOXIN	5.0	1,000	-	1,413.3	2,826.6
MW01S	6-8	Antimony	M	0.0	10,000,000	-	5,178.8	10,357.6
MW01S	6-8	Arsenic	M	0.0	7,000,000	-	5,178.8	10,357.6
MW01S	6-8	Beryllium	M	0.0	400,000	-	5,178.8	10,357.6
MW01S	6-8	Cadmium	M	0.0	39,000,000	-	5,178.8	10,357.6
MW01S	6-8	Lead	M	18,300,000.0	150,000,000	-	5,178.8	10,357.6
MW01S	6-8	Manganese	M	83,200,000.0	390,000,000	-	5,178.8	10,357.6
MW01S	6-8	Thallium	M	0.0	5,500,000	-	5,178.8	10,357.6
MW01S	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	5,178.8	10,357.6
MW01S	6-8	Benzo(a)anthracene	SVOC	88,000.0	900,000	-	5,178.8	10,357.6
MW01S	6-8	Benzo(a)pyrene	SVOC	91,000.0	400,000	-	5,178.8	10,357.6
MW01S	6-8	Benzo(b)fluoranthene	SVOC	93,000.0	900,000	-	5,178.8	10,357.6
MW01S	6-8	Benzo(g,h,i)perylene	SVOC	44,000.0	800,000	-	5,178.8	10,357.6
MW01S	6-8	Benzo(k)fluoranthene	SVOC	83,000.0	900,000	-	5,178.8	10,357.6
MW01S	6-8	Bis(2-ethylhexyl)phthalate	SVOC	230,000.0	46,000,000	-	5,178.8	10,357.6
MW01S	6-8	Chrysene	SVOC	120,000.0	400,000	-	5,178.8	10,357.6
MW01S	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	5,178.8	10,357.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW01S	6-8	Fluoranthene	SVOC	170,000.0	20,000,000	-	5,178.8	10,357.6
MW01S	6-8	Indeno(1,2,3-cd)pyrene	SVOC	67,000.0	900,000	-	5,178.8	10,357.6
MW01S	6-8	Naphthalene	SVOC	0.0	54,000,000	-	5,178.8	10,357.6
MW01S	6-8	Pyrene	SVOC	170,000.0	13,000,000	-	5,178.8	10,357.6
MW01S	6-8	Aroclor, Total	PCB	180,000.0	10,000,000	-	2,288.0	4,575.9
MW01S	6-8	Dieldrin	PEST	1,600.0	40,000	-	5,178.8	10,357.6
MW01S	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	5,178.8	10,357.6
MW01S	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	6,701.3	13,402.6
MW01S	6-8	Benzene	VOC	0.0	2,500,000	-	6,701.3	13,402.6
MW01S	6-8	Chlorobenzene	VOC	69,000.0	100,000,000	-	6,701.3	13,402.6
MW01S	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	6,701.3	13,402.6
MW01S	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	6,701.3	13,402.6
MW01S	6-8	Tetrachloroethene	VOC	140,000.0	4,200,000	-	6,701.3	13,402.6
MW01S	6-8	Toluene	VOC	0.0	54,000,000	-	6,701.3	13,402.6
MW01S	6-8	Total Xylenes	VOC	0.0	110,000,000	-	6,701.3	13,402.6
MW01S	6-8	Trichloroethene	VOC	0.0	13,000,000	-	6,701.3	13,402.6
MW01S	6-8	Vinyl chloride	VOC	0.0	20,000	-	6,701.3	13,402.6
MW02S	2-4	TEQ	DIOXIN	12.6	1,000	-	1,269.7	2,539.3
MW02S	2-4	Antimony	M	880,000.0	10,000,000	-	3,666.4	7,332.8
MW02S	2-4	Arsenic	M	5,100,000.0	7,000,000	-	3,666.4	7,332.8
MW02S	2-4	Beryllium	M	0.0	400,000	-	3,666.4	7,332.8
MW02S	2-4	Cadmium	M	0.0	39,000,000	-	3,666.4	7,332.8
MW02S	2-4	Lead	M	13,800,000.0	150,000,000	-	3,666.4	7,332.8
MW02S	2-4	Manganese	M	101,000,000.0	390,000,000	-	3,666.4	7,332.8
MW02S	2-4	Thallium	M	8,400,000.0	5,500,000	1.5	3,666.4	7,332.8
MW02S	2-4	1,1'-biphenyl	SVOC	0.0	800,000	-	3,666.4	7,332.8
MW02S	2-4	Benzo(a)anthracene	SVOC	46,000.0	900,000	-	3,666.4	7,332.8
MW02S	2-4	Benzo(a)pyrene	SVOC	39,000.0	400,000	-	3,666.4	7,332.8
MW02S	2-4	Benzo(b)fluoranthene	SVOC	53,000.0	900,000	-	3,666.4	7,332.8
MW02S	2-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,666.4	7,332.8
MW02S	2-4	Benzo(k)fluoranthene	SVOC	41,000.0	900,000	-	3,666.4	7,332.8
MW02S	2-4	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,666.4	7,332.8
MW02S	2-4	Chrysene	SVOC	66,000.0	400,000	-	3,666.4	7,332.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW02S	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,666.4	7,332.8
MW02S	2-4	Fluoranthene	SVOC	99,000.0	20,000,000	-	3,666.4	7,332.8
MW02S	2-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,666.4	7,332.8
MW02S	2-4	Naphthalene	SVOC	0.0	54,000,000	-	3,666.4	7,332.8
MW02S	2-4	Pyrene	SVOC	120,000.0	13,000,000	-	3,666.4	7,332.8
MW02S	2-4	Aroclor, Total	PCB	185,000.0	10,000,000	-	3,259.2	6,518.5
MW02S	2-4	Dieldrin	PEST	2,000.0	40,000	-	3,271.9	6,543.8
MW02S	2-4	Pentachlorophenol	PEST	0.0	5,300,000	-	3,271.9	6,543.8
MW02S	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	15,923.0	31,846.1
MW02S	2-4	Benzene	VOC	0.0	2,500,000	-	15,923.0	31,846.1
MW02S	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	15,923.0	31,846.1
MW02S	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	15,923.0	31,846.1
MW02S	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	15,923.0	31,846.1
MW02S	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	15,923.0	31,846.1
MW02S	2-4	Toluene	VOC	0.0	54,000,000	-	15,923.0	31,846.1
MW02S	2-4	Total Xylenes	VOC	0.0	110,000,000	-	15,923.0	31,846.1
MW02S	2-4	Trichloroethene	VOC	0.0	13,000,000	-	15,923.0	31,846.1
MW02S	2-4	Vinyl chloride	VOC	0.0	20,000	-	15,923.0	31,846.1
MW02S	4-6	TEQ	DIOXIN	87.8	1,000	-	1,269.7	2,539.3
MW02S	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	15,923.0	31,846.1
MW02S	4-6	Benzene	VOC	0.0	2,500,000	-	15,923.0	31,846.1
MW02S	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	15,923.0	31,846.1
MW02S	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	15,923.0	31,846.1
MW02S	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	15,923.0	31,846.1
MW02S	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	15,923.0	31,846.1
MW02S	4-6	Toluene	VOC	0.0	54,000,000	-	15,923.0	31,846.1
MW02S	4-6	Total Xylenes	VOC	0.0	110,000,000	-	15,923.0	31,846.1
MW02S	4-6	Trichloroethene	VOC	0.0	13,000,000	-	15,923.0	31,846.1
MW02S	4-6	Vinyl chloride	VOC	0.0	20,000	-	15,923.0	31,846.1
MW02S	6-8	TEQ	DIOXIN	68.5	1,000	-	1,269.7	2,539.3
MW02S	6-8	Antimony	M	0.0	10,000,000	-	3,666.4	7,332.8
MW02S	6-8	Arsenic	M	2,900,000.0	7,000,000	-	3,666.4	7,332.8
MW02S	6-8	Beryllium	M	0.0	400,000	-	3,666.4	7,332.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW02S	6-8	Cadmium	M	0.0	39,000,000	-	3,666.4	7,332.8
MW02S	6-8	Lead	M	35,100,000.0	150,000,000	-	3,666.4	7,332.8
MW02S	6-8	Manganese	M	45,000,000.0	390,000,000	-	3,666.4	7,332.8
MW02S	6-8	Thallium	M	7,100,000.0	5,500,000	1.3	3,666.4	7,332.8
MW02S	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	3,666.4	7,332.8
MW02S	6-8	Benzo(a)anthracene	SVOC	590,000.0	900,000	-	3,666.4	7,332.8
MW02S	6-8	Benzo(a)pyrene	SVOC	630,000.0	400,000	1.6	3,666.4	7,332.8
MW02S	6-8	Benzo(b)fluoranthene	SVOC	680,000.0	900,000	-	3,666.4	7,332.8
MW02S	6-8	Benzo(g,h,i)perylene	SVOC	220,000.0	800,000	-	3,666.4	7,332.8
MW02S	6-8	Benzo(k)fluoranthene	SVOC	640,000.0	900,000	-	3,666.4	7,332.8
MW02S	6-8	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,666.4	7,332.8
MW02S	6-8	Chrysene	SVOC	760,000.0	400,000	1.9	3,666.4	7,332.8
MW02S	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,666.4	7,332.8
MW02S	6-8	Fluoranthene	SVOC	1,000,000.0	20,000,000	-	3,666.4	7,332.8
MW02S	6-8	Indeno(1,2,3-cd)pyrene	SVOC	200,000.0	900,000	-	3,666.4	7,332.8
MW02S	6-8	Naphthalene	SVOC	41,000.0	54,000,000	-	3,666.4	7,332.8
MW02S	6-8	Pyrene	SVOC	1,800,000.0	13,000,000	-	3,666.4	7,332.8
MW02S	6-8	Aroclor, Total	PCB	246,000.0	10,000,000	-	3,259.2	6,518.5
MW02S	6-8	Dieldrin	PEST	5,000.0	40,000	-	3,271.9	6,543.8
MW02S	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	15,923.0	31,846.1
MW02S	6-8	Benzene	VOC	0.0	2,500,000	-	15,923.0	31,846.1
MW02S	6-8	Chlorobenzene	VOC	0.0	100,000,000	-	15,923.0	31,846.1
MW02S	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	15,923.0	31,846.1
MW02S	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	15,923.0	31,846.1
MW02S	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	15,923.0	31,846.1
MW02S	6-8	Toluene	VOC	0.0	54,000,000	-	15,923.0	31,846.1
MW02S	6-8	Total Xylenes	VOC	0.0	110,000,000	-	15,923.0	31,846.1
MW02S	6-8	Trichloroethene	VOC	0.0	13,000,000	-	15,923.0	31,846.1
MW02S	6-8	Vinyl chloride	VOC	0.0	20,000	-	15,923.0	31,846.1
MW03S	4-6	TEQ	DIOXIN	193.6	1,000	-	930.1	1,860.2
MW03S	4-6	Antimony	M	0.0	10,000,000	-	11,539.1	23,078.2
MW03S	4-6	Arsenic	M	2,200,000.0	7,000,000	-	11,539.1	23,078.2
MW03S	4-6	Beryllium	M	0.0	400,000	-	11,539.1	23,078.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW03S	4-6	Cadmium	M	430,000.0	39,000,000	-	11,539.1	23,078.2
MW03S	4-6	Lead	M	204,000,000.0	150,000,000	1.4	11,539.1	23,078.2
MW03S	4-6	Manganese	M	57,100,000.0	390,000,000	-	11,539.1	23,078.2
MW03S	4-6	Thallium	M	0.0	5,500,000	-	11,539.1	23,078.2
MW03S	4-6	1,1'-biphenyl	SVOC	0.0	800,000	-	11,414.1	22,828.2
MW03S	4-6	Benzo(a)anthracene	SVOC	840,000.0	900,000	-	11,414.1	22,828.2
MW03S	4-6	Benzo(a)pyrene	SVOC	870,000.0	400,000	2.2	11,414.1	22,828.2
MW03S	4-6	Benzo(b)fluoranthene	SVOC	1,300,000.0	900,000	1.4	11,414.1	22,828.2
MW03S	4-6	Benzo(g,h,i)perylene	SVOC	240,000.0	800,000	-	11,414.1	22,828.2
MW03S	4-6	Benzo(k)fluoranthene	SVOC	1,000,000.0	900,000	1.1	11,414.1	22,828.2
MW03S	4-6	Bis(2-ethylhexyl)phthalate	SVOC	900,000.0	46,000,000	-	11,414.1	22,828.2
MW03S	4-6	Chrysene	SVOC	1,100,000.0	400,000	2.8	11,414.1	22,828.2
MW03S	4-6	Dibenzo(a,h)anthracene	SVOC	52,000.0	400,000	-	11,414.1	22,828.2
MW03S	4-6	Fluoranthene	SVOC	2,000,000.0	20,000,000	-	11,414.1	22,828.2
MW03S	4-6	Indeno(1,2,3-cd)pyrene	SVOC	280,000.0	900,000	-	11,414.1	22,828.2
MW03S	4-6	Naphthalene	SVOC	0.0	54,000,000	-	11,414.1	22,828.2
MW03S	4-6	Pyrene	SVOC	1,600,000.0	13,000,000	-	11,414.1	22,828.2
MW03S	4-6	Aroclor, Total	PCB	0.0	10,000,000	-	9,396.5	18,793.1
MW03S	4-6	Dieldrin	PEST	2,500.0	40,000	-	11,524.1	23,048.3
MW03S	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	11,524.1	23,048.3
MW03S	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	12,862.6	25,725.3
MW03S	4-6	Benzene	VOC	0.0	2,500,000	-	12,862.6	25,725.3
MW03S	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	12,862.6	25,725.3
MW03S	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	12,862.6	25,725.3
MW03S	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	12,862.6	25,725.3
MW03S	4-6	Tetrachloroethene	VOC	490,000.0	4,200,000	-	12,862.6	25,725.3
MW03S	4-6	Toluene	VOC	0.0	54,000,000	-	12,862.6	25,725.3
MW03S	4-6	Total Xylenes	VOC	0.0	110,000,000	-	12,862.6	25,725.3
MW03S	4-6	Trichloroethene	VOC	130,000.0	13,000,000	-	12,862.6	25,725.3
MW03S	4-6	Vinyl chloride	VOC	0.0	20,000	-	12,862.6	25,725.3
MW03S	6-8	TEQ	DIOXIN	915.4	1,000	-	930.1	1,860.2
MW03S	6-8	Antimony	M	0.0	10,000,000	-	11,539.1	23,078.2
MW03S	6-8	Arsenic	M	2,400,000.0	7,000,000	-	11,539.1	23,078.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW03S	6-8	Beryllium	M	0.0	400,000	-	11,539.1	23,078.2
MW03S	6-8	Cadmium	M	0.0	39,000,000	-	11,539.1	23,078.2
MW03S	6-8	Lead	M	122,000,000.0	150,000,000	-	11,539.1	23,078.2
MW03S	6-8	Manganese	M	96,300,000.0	390,000,000	-	11,539.1	23,078.2
MW03S	6-8	Thallium	M	0.0	5,500,000	-	11,539.1	23,078.2
MW03S	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	11,414.1	22,828.2
MW03S	6-8	Benzo(a)anthracene	SVOC	840,000.0	900,000	-	11,414.1	22,828.2
MW03S	6-8	Benzo(a)pyrene	SVOC	790,000.0	400,000	2.0	11,414.1	22,828.2
MW03S	6-8	Benzo(b)fluoranthene	SVOC	680,000.0	900,000	-	11,414.1	22,828.2
MW03S	6-8	Benzo(g,h,i)perylene	SVOC	330,000.0	800,000	-	11,414.1	22,828.2
MW03S	6-8	Benzo(k)fluoranthene	SVOC	820,000.0	900,000	-	11,414.1	22,828.2
MW03S	6-8	Bis(2-ethylhexyl)phthalate	SVOC	5,000,000.0	46,000,000	-	11,414.1	22,828.2
MW03S	6-8	Chrysene	SVOC	1,000,000.0	400,000	2.5	11,414.1	22,828.2
MW03S	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	11,414.1	22,828.2
MW03S	6-8	Fluoranthene	SVOC	2,000,000.0	20,000,000	-	11,414.1	22,828.2
MW03S	6-8	Indeno(1,2,3-cd)pyrene	SVOC	530,000.0	900,000	-	11,414.1	22,828.2
MW03S	6-8	Naphthalene	SVOC	0.0	54,000,000	-	11,414.1	22,828.2
MW03S	6-8	Pyrene	SVOC	1,600,000.0	13,000,000	-	11,414.1	22,828.2
MW03S	6-8	Aroclor, Total	PCB	170,000.0	10,000,000	-	9,396.5	18,793.1
MW03S	6-8	Dieldrin	PEST	5,700.0	40,000	-	11,524.1	23,048.3
MW03S	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	11,524.1	23,048.3
MW03S	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	12,862.6	25,725.3
MW03S	6-8	Benzene	VOC	0.0	2,500,000	-	12,862.6	25,725.3
MW03S	6-8	Chlorobenzene	VOC	0.0	100,000,000	-	12,862.6	25,725.3
MW03S	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	12,862.6	25,725.3
MW03S	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	12,862.6	25,725.3
MW03S	6-8	Tetrachloroethene	VOC	160,000.0	4,200,000	-	12,862.6	25,725.3
MW03S	6-8	Toluene	VOC	0.0	54,000,000	-	12,862.6	25,725.3
MW03S	6-8	Total Xylenes	VOC	0.0	110,000,000	-	12,862.6	25,725.3
MW03S	6-8	Trichloroethene	VOC	0.0	13,000,000	-	12,862.6	25,725.3
MW03S	6-8	Vinyl chloride	VOC	0.0	20,000	-	12,862.6	25,725.3
MW04D	2-4	TEQ	DIOXIN	786.4	1,000	-	5,224.2	10,448.4
MW04D	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	11,476.4	22,952.9

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW04D	2-4	Benzene	VOC	0.0	2,500,000	-	11,476.4	22,952.9
MW04D	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	11,476.4	22,952.9
MW04D	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	11,476.4	22,952.9
MW04D	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	11,476.4	22,952.9
MW04D	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	11,476.4	22,952.9
MW04D	2-4	Toluene	VOC	430,000.0	54,000,000	-	11,476.4	22,952.9
MW04D	2-4	Total Xylenes	VOC	0.0	110,000,000	-	11,476.4	22,952.9
MW04D	2-4	Trichloroethene	VOC	0.0	13,000,000	-	11,476.4	22,952.9
MW04D	2-4	Vinyl chloride	VOC	0.0	20,000	-	11,476.4	22,952.9
MW04D	4-6	TEQ	DIOXIN	0.5	1,000	-	5,224.2	10,448.4
MW04D	4-6	Antimony	M	0.0	10,000,000	-	11,476.4	22,952.9
MW04D	4-6	Arsenic	M	7,100,000.0	7,000,000	1.0	11,476.4	22,952.9
MW04D	4-6	Beryllium	M	1,000,000.0	400,000	2.5	11,476.4	22,952.9
MW04D	4-6	Cadmium	M	440,000.0	39,000,000	-	11,476.4	22,952.9
MW04D	4-6	Lead	M	4,600,000.0	150,000,000	-	11,476.4	22,952.9
MW04D	4-6	Manganese	M	226,000,000.0	390,000,000	-	11,476.4	22,952.9
MW04D	4-6	Thallium	M	0.0	5,500,000	-	11,476.4	22,952.9
MW04D	4-6	1,1'-biphenyl	SVOC	0.0	800,000	-	3,092.1	6,184.2
MW04D	4-6	Benzo(a)anthracene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	4-6	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	4-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,092.1	6,184.2
MW04D	4-6	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	4-6	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,092.1	6,184.2
MW04D	4-6	Chrysene	SVOC	0.0	400,000	-	3,092.1	6,184.2
MW04D	4-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,092.1	6,184.2
MW04D	4-6	Fluoranthene	SVOC	0.0	20,000,000	-	3,092.1	6,184.2
MW04D	4-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	4-6	Naphthalene	SVOC	0.0	54,000,000	-	3,092.1	6,184.2
MW04D	4-6	Pyrene	SVOC	0.0	13,000,000	-	3,092.1	6,184.2
MW04D	4-6	Aroclor, Total	PCB	0.0	10,000,000	-	2,773.0	5,546.0
MW04D	4-6	Dieldrin	PEST	0.0	40,000	-	3,092.1	6,184.2
MW04D	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	3,092.1	6,184.2
MW04D	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	11,476.4	22,952.9

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW04D	4-6	Benzene	VOC	0.0	2,500,000	-	11,476.4	22,952.9
MW04D	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	11,476.4	22,952.9
MW04D	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	11,476.4	22,952.9
MW04D	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	11,476.4	22,952.9
MW04D	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	11,476.4	22,952.9
MW04D	4-6	Toluene	VOC	0.0	54,000,000	-	11,476.4	22,952.9
MW04D	4-6	Total Xylenes	VOC	0.0	110,000,000	-	11,476.4	22,952.9
MW04D	4-6	Trichloroethene	VOC	0.0	13,000,000	-	11,476.4	22,952.9
MW04D	4-6	Vinyl chloride	VOC	0.0	20,000	-	11,476.4	22,952.9
MW04D	6-8	TEQ	DIOXIN	0.8	1,000	-	5,224.2	10,448.4
MW04D	6-8	Antimony	M	0.0	10,000,000	-	11,476.4	22,952.9
MW04D	6-8	Arsenic	M	880,000.0	7,000,000	-	11,476.4	22,952.9
MW04D	6-8	Beryllium	M	360,000.0	400,000	-	11,476.4	22,952.9
MW04D	6-8	Cadmium	M	440,000.0	39,000,000	-	11,476.4	22,952.9
MW04D	6-8	Lead	M	5,700,000.0	150,000,000	-	11,476.4	22,952.9
MW04D	6-8	Manganese	M	66,700,000.0	390,000,000	-	11,476.4	22,952.9
MW04D	6-8	Thallium	M	0.0	5,500,000	-	11,476.4	22,952.9
MW04D	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	3,092.1	6,184.2
MW04D	6-8	Benzo(a)anthracene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	6-8	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	6-8	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,092.1	6,184.2
MW04D	6-8	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	6-8	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,092.1	6,184.2
MW04D	6-8	Chrysene	SVOC	0.0	400,000	-	3,092.1	6,184.2
MW04D	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,092.1	6,184.2
MW04D	6-8	Fluoranthene	SVOC	0.0	20,000,000	-	3,092.1	6,184.2
MW04D	6-8	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,092.1	6,184.2
MW04D	6-8	Naphthalene	SVOC	0.0	54,000,000	-	3,092.1	6,184.2
MW04D	6-8	Pyrene	SVOC	0.0	13,000,000	-	3,092.1	6,184.2
MW04D	6-8	Aroclor, Total	PCB	0.0	10,000,000	-	2,773.0	5,546.0
MW04D	6-8	Dieldrin	PEST	0.0	40,000	-	3,092.1	6,184.2
MW04D	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	3,092.1	6,184.2
MW04D	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	11,476.4	22,952.9

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW04D	6-8	Benzene	VOC	0.0	2,500,000	-	11,476.4	22,952.9
MW04D	6-8	Chlorobenzene	VOC	0.0	100,000,000	-	11,476.4	22,952.9
MW04D	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	11,476.4	22,952.9
MW04D	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	11,476.4	22,952.9
MW04D	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	11,476.4	22,952.9
MW04D	6-8	Toluene	VOC	0.0	54,000,000	-	11,476.4	22,952.9
MW04D	6-8	Total Xylenes	VOC	0.0	110,000,000	-	11,476.4	22,952.9
MW04D	6-8	Trichloroethene	VOC	0.0	13,000,000	-	11,476.4	22,952.9
MW04D	6-8	Vinyl chloride	VOC	0.0	20,000	-	11,476.4	22,952.9
MW06S	2-4	TEQ	DIOXIN	284.1	1,000	-	1,240.1	2,480.2
MW06S	2-4	Antimony	M	5,000,000.0	10,000,000	-	14,380.4	28,760.9
MW06S	2-4	Arsenic	M	6,900,000.0	7,000,000	-	14,380.4	28,760.9
MW06S	2-4	Beryllium	M	260,000.0	400,000	-	14,380.4	28,760.9
MW06S	2-4	Cadmium	M	11,100,000.0	39,000,000	-	14,380.4	28,760.9
MW06S	2-4	Lead	M	204,000,000.0	150,000,000	1.4	14,380.4	28,760.9
MW06S	2-4	Manganese	M	176,000,000.0	390,000,000	-	14,380.4	28,760.9
MW06S	2-4	Thallium	M	0.0	5,500,000	-	14,380.4	28,760.9
MW06S	2-4	1,1'-biphenyl	SVOC	490,000.0	800,000	-	14,113.0	28,225.9
MW06S	2-4	Benzo(a)anthracene	SVOC	180,000.0	900,000	-	14,113.0	28,225.9
MW06S	2-4	Benzo(a)pyrene	SVOC	190,000.0	400,000	-	14,113.0	28,225.9
MW06S	2-4	Benzo(b)fluoranthene	SVOC	340,000.0	900,000	-	14,113.0	28,225.9
MW06S	2-4	Benzo(g,h,i)perylene	SVOC	130,000.0	800,000	-	14,113.0	28,225.9
MW06S	2-4	Benzo(k)fluoranthene	SVOC	310,000.0	900,000	-	14,113.0	28,225.9
MW06S	2-4	Bis(2-ethylhexyl)phthalate	SVOC	41,000,000.0	46,000,000	-	14,113.0	28,225.9
MW06S	2-4	Chrysene	SVOC	310,000.0	400,000	-	14,113.0	28,225.9
MW06S	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	14,113.0	28,225.9
MW06S	2-4	Fluoranthene	SVOC	590,000.0	20,000,000	-	14,113.0	28,225.9
MW06S	2-4	Indeno(1,2,3-cd)pyrene	SVOC	170,000.0	900,000	-	14,113.0	28,225.9
MW06S	2-4	Naphthalene	SVOC	110,000.0	54,000,000	-	14,113.0	28,225.9
MW06S	2-4	Pyrene	SVOC	590,000.0	13,000,000	-	14,113.0	28,225.9
MW06S	2-4	Aroclor, Total	PCB	11,900,000.0	10,000,000	1.2	12,273.4	24,546.8
MW06S	2-4	Dieldrin	PEST	520,000.0	40,000	13.0	12,899.9	25,799.9
MW06S	2-4	Pentachlorophenol	PEST	0.0	5,300,000	-	12,899.9	25,799.9

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW06S	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	15,147.2	30,294.4
MW06S	2-4	Benzene	VOC	0.0	2,500,000	-	15,147.2	30,294.4
MW06S	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	15,147.2	30,294.4
MW06S	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	15,147.2	30,294.4
MW06S	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	15,147.2	30,294.4
MW06S	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	15,147.2	30,294.4
MW06S	2-4	Toluene	VOC	590,000.0	54,000,000	-	15,147.2	30,294.4
MW06S	2-4	Total Xylenes	VOC	0.0	110,000,000	-	15,147.2	30,294.4
MW06S	2-4	Trichloroethene	VOC	0.0	13,000,000	-	15,147.2	30,294.4
MW06S	2-4	Vinyl chloride	VOC	0.0	20,000	-	15,147.2	30,294.4
MW06S	4-6	TEQ	DIOXIN	27.5	1,000	-	1,240.1	2,480.2
MW06S	4-6	Antimony	M	0.0	10,000,000	-	14,380.4	28,760.9
MW06S	4-6	Arsenic	M	5,400,000.0	7,000,000	-	14,380.4	28,760.9
MW06S	4-6	Beryllium	M	440,000.0	400,000	1.1	14,380.4	28,760.9
MW06S	4-6	Cadmium	M	7,600,000.0	39,000,000	-	14,380.4	28,760.9
MW06S	4-6	Lead	M	177,000,000.0	150,000,000	1.2	14,380.4	28,760.9
MW06S	4-6	Manganese	M	162,000,000.0	390,000,000	-	14,380.4	28,760.9
MW06S	4-6	Thallium	M	0.0	5,500,000	-	14,380.4	28,760.9
MW06S	4-6	1,1'-biphenyl	SVOC	670,000.0	800,000	-	14,113.0	28,225.9
MW06S	4-6	Benzo(a)anthracene	SVOC	84,000.0	900,000	-	14,113.0	28,225.9
MW06S	4-6	Benzo(a)pyrene	SVOC	72,000.0	400,000	-	14,113.0	28,225.9
MW06S	4-6	Benzo(b)fluoranthene	SVOC	92,000.0	900,000	-	14,113.0	28,225.9
MW06S	4-6	Benzo(g,h,i)perylene	SVOC	53,000.0	800,000	-	14,113.0	28,225.9
MW06S	4-6	Benzo(k)fluoranthene	SVOC	85,000.0	900,000	-	14,113.0	28,225.9
MW06S	4-6	Bis(2-ethylhexyl)phthalate	SVOC	36,000,000.0	46,000,000	-	14,113.0	28,225.9
MW06S	4-6	Chrysene	SVOC	160,000.0	400,000	-	14,113.0	28,225.9
MW06S	4-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	14,113.0	28,225.9
MW06S	4-6	Fluoranthene	SVOC	210,000.0	20,000,000	-	14,113.0	28,225.9
MW06S	4-6	Indeno(1,2,3-cd)pyrene	SVOC	68,000.0	900,000	-	14,113.0	28,225.9
MW06S	4-6	Naphthalene	SVOC	160,000.0	54,000,000	-	14,113.0	28,225.9
MW06S	4-6	Pyrene	SVOC	210,000.0	13,000,000	-	14,113.0	28,225.9
MW06S	4-6	Aroclor, Total	PCB	4,420,000.0	10,000,000	-	12,273.4	24,546.8
MW06S	4-6	Dieldrin	PEST	65,000.0	40,000	1.6	12,899.9	25,799.9

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW06S	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	12,899.9	25,799.9
MW06S	4-6	1,2-dichloroethane	VOC	160,000.0	900,000	-	15,147.2	30,294.4
MW06S	4-6	Benzene	VOC	0.0	2,500,000	-	15,147.2	30,294.4
MW06S	4-6	Chlorobenzene	VOC	3,300,000.0	100,000,000	-	15,147.2	30,294.4
MW06S	4-6	Cis-1,2-dichloroethene	VOC	7,200,000.0	60,000,000	-	15,147.2	30,294.4
MW06S	4-6	Ethylbenzene	VOC	2,300,000.0	62,000,000	-	15,147.2	30,294.4
MW06S	4-6	Tetrachloroethene	VOC	160,000.0	4,200,000	-	15,147.2	30,294.4
MW06S	4-6	Toluene	VOC	2,500,000.0	54,000,000	-	15,147.2	30,294.4
MW06S	4-6	Total Xylenes	VOC	9,800,000.0	110,000,000	-	15,147.2	30,294.4
MW06S	4-6	Trichloroethene	VOC	3,600,000.0	13,000,000	-	15,147.2	30,294.4
MW06S	4-6	Vinyl chloride	VOC	370,000.0	20,000	18.5	15,147.2	30,294.4
MW06S	6-8	TEQ	DIOXIN	13.7	1,000	-	1,240.1	2,480.2
MW06S	6-8	Antimony	M	0.0	10,000,000	-	14,380.4	28,760.9
MW06S	6-8	Arsenic	M	2,500,000.0	7,000,000	-	14,380.4	28,760.9
MW06S	6-8	Beryllium	M	250,000.0	400,000	-	14,380.4	28,760.9
MW06S	6-8	Cadmium	M	370,000.0	39,000,000	-	14,380.4	28,760.9
MW06S	6-8	Lead	M	14,000,000.0	150,000,000	-	14,380.4	28,760.9
MW06S	6-8	Manganese	M	91,400,000.0	390,000,000	-	14,380.4	28,760.9
MW06S	6-8	Thallium	M	0.0	5,500,000	-	14,380.4	28,760.9
MW06S	6-8	1,1'-biphenyl	SVOC	230,000.0	800,000	-	14,113.0	28,225.9
MW06S	6-8	Benzo(a)anthracene	SVOC	49,000.0	900,000	-	14,113.0	28,225.9
MW06S	6-8	Benzo(a)pyrene	SVOC	48,000.0	400,000	-	14,113.0	28,225.9
MW06S	6-8	Benzo(b)fluoranthene	SVOC	62,000.0	900,000	-	14,113.0	28,225.9
MW06S	6-8	Benzo(g,h,i)perylene	SVOC	43,000.0	800,000	-	14,113.0	28,225.9
MW06S	6-8	Benzo(k)fluoranthene	SVOC	47,000.0	900,000	-	14,113.0	28,225.9
MW06S	6-8	Bis(2-ethylhexyl)phthalate	SVOC	11,000,000.0	46,000,000	-	14,113.0	28,225.9
MW06S	6-8	Chrysene	SVOC	74,000.0	400,000	-	14,113.0	28,225.9
MW06S	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	14,113.0	28,225.9
MW06S	6-8	Fluoranthene	SVOC	130,000.0	20,000,000	-	14,113.0	28,225.9
MW06S	6-8	Indeno(1,2,3-cd)pyrene	SVOC	57,000.0	900,000	-	14,113.0	28,225.9
MW06S	6-8	Naphthalene	SVOC	53,000.0	54,000,000	-	14,113.0	28,225.9
MW06S	6-8	Pyrene	SVOC	120,000.0	13,000,000	-	14,113.0	28,225.9
MW06S	6-8	Aroclor, Total	PCB	1,750,000.0	10,000,000	-	12,273.4	24,546.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW06S	6-8	Dieldrin	PEST	28,000.0	40,000	-	12,899.9	25,799.9
MW06S	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	12,899.9	25,799.9
MW06S	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	15,147.2	30,294.4
MW06S	6-8	Benzene	VOC	0.0	2,500,000	-	15,147.2	30,294.4
MW06S	6-8	Chlorobenzene	VOC	350,000.0	100,000,000	-	15,147.2	30,294.4
MW06S	6-8	Cis-1,2-dichloroethene	VOC	42,000.0	60,000,000	-	15,147.2	30,294.4
MW06S	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	15,147.2	30,294.4
MW06S	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	15,147.2	30,294.4
MW06S	6-8	Toluene	VOC	0.0	54,000,000	-	15,147.2	30,294.4
MW06S	6-8	Total Xylenes	VOC	220,000.0	110,000,000	-	15,147.2	30,294.4
MW06S	6-8	Trichloroethene	VOC	0.0	13,000,000	-	15,147.2	30,294.4
MW06S	6-8	Vinyl chloride	VOC	0.0	20,000	-	15,147.2	30,294.4
MW07S	3-4	TEQ	DIOXIN	423.3	1,000	-	596.5	596.5
MW07S	3-4	Antimony	M	0.0	10,000,000	-	11,192.6	11,192.6
MW07S	3-4	Arsenic	M	1,700,000.0	7,000,000	-	11,192.6	11,192.6
MW07S	3-4	Beryllium	M	290,000.0	400,000	-	11,192.6	11,192.6
MW07S	3-4	Cadmium	M	360,000.0	39,000,000	-	11,192.6	11,192.6
MW07S	3-4	Lead	M	44,100,000.0	150,000,000	-	11,192.6	11,192.6
MW07S	3-4	Manganese	M	571,000,000.0	390,000,000	1.5	11,192.6	11,192.6
MW07S	3-4	Thallium	M	0.0	5,500,000	-	11,192.6	11,192.6
MW07S	3-4	1,1'-biphenyl	SVOC	0.0	800,000	-	9,428.6	9,428.6
MW07S	3-4	Benzo(a)anthracene	SVOC	710,000.0	900,000	-	9,428.6	9,428.6
MW07S	3-4	Benzo(a)pyrene	SVOC	680,000.0	400,000	1.7	9,428.6	9,428.6
MW07S	3-4	Benzo(b)fluoranthene	SVOC	810,000.0	900,000	-	9,428.6	9,428.6
MW07S	3-4	Benzo(g,h,i)perylene	SVOC	450,000.0	800,000	-	9,428.6	9,428.6
MW07S	3-4	Benzo(k)fluoranthene	SVOC	590,000.0	900,000	-	9,428.6	9,428.6
MW07S	3-4	Bis(2-ethylhexyl)phthalate	SVOC	20,000,000.0	46,000,000	-	9,428.6	9,428.6
MW07S	3-4	Chrysene	SVOC	820,000.0	400,000	2.1	9,428.6	9,428.6
MW07S	3-4	Dibenzo(a,h)anthracene	SVOC	170,000.0	400,000	-	9,428.6	9,428.6
MW07S	3-4	Fluoranthene	SVOC	1,700,000.0	20,000,000	-	9,428.6	9,428.6
MW07S	3-4	Indeno(1,2,3-cd)pyrene	SVOC	610,000.0	900,000	-	9,428.6	9,428.6
MW07S	3-4	Naphthalene	SVOC	0.0	54,000,000	-	9,428.6	9,428.6
MW07S	3-4	Pyrene	SVOC	1,400,000.0	13,000,000	-	9,428.6	9,428.6

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW07S	3-4	Aroclor, Total	PCB	120,000.0	10,000,000	-	8,320.3	8,320.3
MW07S	3-4	Dieldrin	PEST	2,900.0	40,000	-	9,428.6	9,428.6
MW07S	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	9,428.6	9,428.6
MW07S	3-4	1,2-dichloroethane	VOC	0.0	900,000	-	15,686.4	15,686.4
MW07S	3-4	Benzene	VOC	0.0	2,500,000	-	15,686.4	15,686.4
MW07S	3-4	Chlorobenzene	VOC	0.0	100,000,000	-	15,686.4	15,686.4
MW07S	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	15,686.4	15,686.4
MW07S	3-4	Ethylbenzene	VOC	250,000.0	62,000,000	-	15,686.4	15,686.4
MW07S	3-4	Tetrachloroethene	VOC	0.0	4,200,000	-	15,686.4	15,686.4
MW07S	3-4	Toluene	VOC	6,200,000.0	54,000,000	-	15,686.4	15,686.4
MW07S	3-4	Total Xylenes	VOC	0.0	110,000,000	-	15,686.4	15,686.4
MW07S	3-4	Trichloroethene	VOC	0.0	13,000,000	-	15,686.4	15,686.4
MW07S	3-4	Vinyl chloride	VOC	0.0	20,000	-	15,686.4	15,686.4
MW07S	4-6	TEQ	DIOXIN	41.5	1,000	-	596.5	1,192.9
MW07S	4-6	Antimony	M	0.0	10,000,000	-	11,192.6	22,385.2
MW07S	4-6	Arsenic	M	3,300,000.0	7,000,000	-	11,192.6	22,385.2
MW07S	4-6	Beryllium	M	290,000.0	400,000	-	11,192.6	22,385.2
MW07S	4-6	Cadmium	M	170,000.0	39,000,000	-	11,192.6	22,385.2
MW07S	4-6	Lead	M	35,600,000.0	150,000,000	-	11,192.6	22,385.2
MW07S	4-6	Manganese	M	140,000,000.0	390,000,000	-	11,192.6	22,385.2
MW07S	4-6	Thallium	M	0.0	5,500,000	-	11,192.6	22,385.2
MW07S	4-6	1,1'-biphenyl	SVOC	0.0	800,000	-	9,428.6	18,857.1
MW07S	4-6	Benzo(a)anthracene	SVOC	160,000.0	900,000	-	9,428.6	18,857.1
MW07S	4-6	Benzo(a)pyrene	SVOC	130,000.0	400,000	-	9,428.6	18,857.1
MW07S	4-6	Benzo(b)fluoranthene	SVOC	140,000.0	900,000	-	9,428.6	18,857.1
MW07S	4-6	Benzo(g,h,i)perylene	SVOC	79,000.0	800,000	-	9,428.6	18,857.1
MW07S	4-6	Benzo(k)fluoranthene	SVOC	110,000.0	900,000	-	9,428.6	18,857.1
MW07S	4-6	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	9,428.6	18,857.1
MW07S	4-6	Chrysene	SVOC	160,000.0	400,000	-	9,428.6	18,857.1
MW07S	4-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	9,428.6	18,857.1
MW07S	4-6	Fluoranthene	SVOC	380,000.0	20,000,000	-	9,428.6	18,857.1
MW07S	4-6	Indeno(1,2,3-cd)pyrene	SVOC	110,000.0	900,000	-	9,428.6	18,857.1
MW07S	4-6	Naphthalene	SVOC	52,000.0	54,000,000	-	9,428.6	18,857.1

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW07S	4-6	Pyrene	SVOC	320,000.0	13,000,000	-	9,428.6	18,857.1
MW07S	4-6	Aroclor, Total	PCB	32,000.0	10,000,000	-	8,320.3	16,640.6
MW07S	4-6	Dieldrin	PEST	0.0	40,000	-	9,428.6	18,857.1
MW07S	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	9,428.6	18,857.1
MW07S	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	15,686.4	31,372.7
MW07S	4-6	Benzene	VOC	0.0	2,500,000	-	15,686.4	31,372.7
MW07S	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	15,686.4	31,372.7
MW07S	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	15,686.4	31,372.7
MW07S	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	15,686.4	31,372.7
MW07S	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	15,686.4	31,372.7
MW07S	4-6	Toluene	VOC	0.0	54,000,000	-	15,686.4	31,372.7
MW07S	4-6	Total Xylenes	VOC	0.0	110,000,000	-	15,686.4	31,372.7
MW07S	4-6	Trichloroethene	VOC	0.0	13,000,000	-	15,686.4	31,372.7
MW07S	4-6	Vinyl chloride	VOC	0.0	20,000	-	15,686.4	31,372.7
MW07S	6-8	TEQ	DIOXIN	3.7	1,000	-	596.5	1,192.9
MW07S	6-8	Antimony	M	0.0	10,000,000	-	11,192.6	22,385.2
MW07S	6-8	Arsenic	M	2,500,000.0	7,000,000	-	11,192.6	22,385.2
MW07S	6-8	Beryllium	M	0.0	400,000	-	11,192.6	22,385.2
MW07S	6-8	Cadmium	M	140,000.0	39,000,000	-	11,192.6	22,385.2
MW07S	6-8	Lead	M	2,700,000.0	150,000,000	-	11,192.6	22,385.2
MW07S	6-8	Manganese	M	93,700,000.0	390,000,000	-	11,192.6	22,385.2
MW07S	6-8	Thallium	M	0.0	5,500,000	-	11,192.6	22,385.2
MW07S	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	9,428.6	18,857.1
MW07S	6-8	Benzo(a)anthracene	SVOC	0.0	900,000	-	9,428.6	18,857.1
MW07S	6-8	Benzo(a)pyrene	SVOC	0.0	400,000	-	9,428.6	18,857.1
MW07S	6-8	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	9,428.6	18,857.1
MW07S	6-8	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	9,428.6	18,857.1
MW07S	6-8	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	9,428.6	18,857.1
MW07S	6-8	Bis(2-ethylhexyl)phthalate	SVOC	42,000.0	46,000,000	-	9,428.6	18,857.1
MW07S	6-8	Chrysene	SVOC	0.0	400,000	-	9,428.6	18,857.1
MW07S	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	9,428.6	18,857.1
MW07S	6-8	Fluoranthene	SVOC	0.0	20,000,000	-	9,428.6	18,857.1
MW07S	6-8	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	9,428.6	18,857.1

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW07S	6-8	Naphthalene	SVOC	0.0	54,000,000	-	9,428.6	18,857.1
MW07S	6-8	Pyrene	SVOC	0.0	13,000,000	-	9,428.6	18,857.1
MW07S	6-8	Aroclor, Total	PCB	0.0	10,000,000	-	8,320.3	16,640.6
MW07S	6-8	Dieldrin	PEST	0.0	40,000	-	9,428.6	18,857.1
MW07S	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	9,428.6	18,857.1
MW07S	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	15,686.4	31,372.7
MW07S	6-8	Benzene	VOC	0.0	2,500,000	-	15,686.4	31,372.7
MW07S	6-8	Chlorobenzene	VOC	0.0	100,000,000	-	15,686.4	31,372.7
MW07S	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	15,686.4	31,372.7
MW07S	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	15,686.4	31,372.7
MW07S	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	15,686.4	31,372.7
MW07S	6-8	Toluene	VOC	0.0	54,000,000	-	15,686.4	31,372.7
MW07S	6-8	Total Xylenes	VOC	0.0	110,000,000	-	15,686.4	31,372.7
MW07S	6-8	Trichloroethene	VOC	0.0	13,000,000	-	15,686.4	31,372.7
MW07S	6-8	Vinyl chloride	VOC	0.0	20,000	-	15,686.4	31,372.7
MW09S	4-6	TEQ	DIOXIN	7,155.6	1,000	7.2	996.2	1,992.5
MW09S	4-6	Antimony	M	0.0	10,000,000	-	9,832.1	19,664.3
MW09S	4-6	Arsenic	M	5,200,000.0	7,000,000	-	9,832.1	19,664.3
MW09S	4-6	Beryllium	M	510,000.0	400,000	1.3	9,832.1	19,664.3
MW09S	4-6	Cadmium	M	540,000.0	39,000,000	-	9,832.1	19,664.3
MW09S	4-6	Lead	M	110,000,000.0	150,000,000	-	9,832.1	19,664.3
MW09S	4-6	Manganese	M	232,000,000.0	390,000,000	-	9,832.1	19,664.3
MW09S	4-6	Thallium	M	0.0	5,500,000	-	9,832.1	19,664.3
MW09S	4-6	1,1'-biphenyl	SVOC	0.0	800,000	-	7,064.6	14,129.2
MW09S	4-6	Benzo(a)anthracene	SVOC	360,000.0	900,000	-	7,064.6	14,129.2
MW09S	4-6	Benzo(a)pyrene	SVOC	390,000.0	400,000	-	7,064.6	14,129.2
MW09S	4-6	Benzo(b)fluoranthene	SVOC	410,000.0	900,000	-	7,064.6	14,129.2
MW09S	4-6	Benzo(g,h,i)perylene	SVOC	400,000.0	800,000	-	7,064.6	14,129.2
MW09S	4-6	Benzo(k)fluoranthene	SVOC	350,000.0	900,000	-	7,064.6	14,129.2
MW09S	4-6	Bis(2-ethylhexyl)phthalate	SVOC	110,000.0	46,000,000	-	7,064.6	14,129.2
MW09S	4-6	Chrysene	SVOC	500,000.0	400,000	1.3	7,064.6	14,129.2
MW09S	4-6	Dibenzo(a,h)anthracene	SVOC	110,000.0	400,000	-	7,064.6	14,129.2
MW09S	4-6	Fluoranthene	SVOC	780,000.0	20,000,000	-	7,064.6	14,129.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW09S	4-6	Indeno(1,2,3-cd)pyrene	SVOC	380,000.0	900,000	-	7,064.6	14,129.2
MW09S	4-6	Naphthalene	SVOC	0.0	54,000,000	-	7,064.6	14,129.2
MW09S	4-6	Pyrene	SVOC	650,000.0	13,000,000	-	7,064.6	14,129.2
MW09S	4-6	Aroclor, Total	PCB	150,000.0	10,000,000	-	996.2	1,992.5
MW09S	4-6	Dieldrin	PEST	8,800.0	40,000	-	7,064.6	14,129.2
MW09S	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	7,064.6	14,129.2
MW09S	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	9,832.1	19,664.3
MW09S	4-6	Benzene	VOC	0.0	2,500,000	-	9,832.1	19,664.3
MW09S	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	9,832.1	19,664.3
MW09S	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	9,832.1	19,664.3
MW09S	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	9,832.1	19,664.3
MW09S	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	9,832.1	19,664.3
MW09S	4-6	Toluene	VOC	0.0	54,000,000	-	9,832.1	19,664.3
MW09S	4-6	Total Xylenes	VOC	0.0	110,000,000	-	9,832.1	19,664.3
MW09S	4-6	Trichloroethene	VOC	0.0	13,000,000	-	9,832.1	19,664.3
MW09S	4-6	Vinyl chloride	VOC	0.0	20,000	-	9,832.1	19,664.3
MW14M	1-2	TEQ	DIOXIN	19.3	1,000	-	2,526.2	2,526.2
MW14M	1-2	Antimony	M	0.0	10,000,000	-	7,626.9	7,626.9
MW14M	1-2	Arsenic	M	6,700,000.0	7,000,000	-	7,626.9	7,626.9
MW14M	1-2	Beryllium	M	830,000.0	400,000	2.1	7,626.9	7,626.9
MW14M	1-2	Cadmium	M	1,100,000.0	39,000,000	-	7,626.9	7,626.9
MW14M	1-2	Lead	M	100,000,000.0	150,000,000	-	7,626.9	7,626.9
MW14M	1-2	Manganese	M	175,000,000.0	390,000,000	-	7,626.9	7,626.9
MW14M	1-2	Thallium	M	0.0	5,500,000	-	7,626.9	7,626.9
MW14M	1-2	1,1'-biphenyl	SVOC	41,000.0	800,000	-	3,606.1	3,606.1
MW14M	1-2	Benzo(a)anthracene	SVOC	350,000.0	900,000	-	3,606.1	3,606.1
MW14M	1-2	Benzo(a)pyrene	SVOC	360,000.0	400,000	-	3,606.1	3,606.1
MW14M	1-2	Benzo(b)fluoranthene	SVOC	590,000.0	900,000	-	3,606.1	3,606.1
MW14M	1-2	Benzo(g,h,i)perylene	SVOC	250,000.0	800,000	-	3,606.1	3,606.1
MW14M	1-2	Benzo(k)fluoranthene	SVOC	400,000.0	900,000	-	3,606.1	3,606.1
MW14M	1-2	Bis(2-ethylhexyl)phthalate	SVOC	1,800,000.0	46,000,000	-	3,606.1	3,606.1
MW14M	1-2	Chrysene	SVOC	490,000.0	400,000	1.2	3,606.1	3,606.1
MW14M	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,606.1	3,606.1

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW14M	1-2	Fluoranthene	SVOC	900,000.0	20,000,000	-	3,606.1	3,606.1
MW14M	1-2	Indeno(1,2,3-cd)pyrene	SVOC	190,000.0	900,000	-	3,606.1	3,606.1
MW14M	1-2	Naphthalene	SVOC	93,000.0	54,000,000	-	3,606.1	3,606.1
MW14M	1-2	Pyrene	SVOC	670,000.0	13,000,000	-	3,606.1	3,606.1
MW14M	1-2	Aroclor, Total	PCB	3,800,000.0	10,000,000	-	4,630.2	4,630.2
MW14M	1-2	Dieldrin	PEST	90,000.0	40,000	2.3	8,557.2	8,557.2
MW14M	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	8,557.2	8,557.2
MW14M	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	3,606.1	3,606.1
MW14M	1-2	Benzene	VOC	41,000.0	2,500,000	-	3,606.1	3,606.1
MW14M	1-2	Chlorobenzene	VOC	130,000.0	100,000,000	-	3,606.1	3,606.1
MW14M	1-2	Cis-1,2-dichloroethene	VOC	1,400,000.0	60,000,000	-	3,606.1	3,606.1
MW14M	1-2	Ethylbenzene	VOC	180,000.0	62,000,000	-	3,606.1	3,606.1
MW14M	1-2	Tetrachloroethene	VOC	170,000.0	4,200,000	-	3,606.1	3,606.1
MW14M	1-2	Toluene	VOC	97,000.0	54,000,000	-	3,606.1	3,606.1
MW14M	1-2	Total Xylenes	VOC	950,000.0	110,000,000	-	3,606.1	3,606.1
MW14M	1-2	Trichloroethene	VOC	2,000,000.0	13,000,000	-	3,606.1	3,606.1
MW14M	1-2	Vinyl chloride	VOC	0.0	20,000	-	3,606.1	3,606.1
MW14M	2-4	TEQ	DIOXIN	3.4	1,000	-	2,526.2	5,052.5
MW14M	2-4	Antimony	M	0.0	10,000,000	-	7,626.9	15,253.8
MW14M	2-4	Arsenic	M	6,800,000.0	7,000,000	-	7,626.9	15,253.8
MW14M	2-4	Beryllium	M	640,000.0	400,000	1.6	7,626.9	15,253.8
MW14M	2-4	Cadmium	M	360,000.0	39,000,000	-	7,626.9	15,253.8
MW14M	2-4	Lead	M	138,000,000.0	150,000,000	-	7,626.9	15,253.8
MW14M	2-4	Manganese	M	279,000,000.0	390,000,000	-	7,626.9	15,253.8
MW14M	2-4	Thallium	M	0.0	5,500,000	-	7,626.9	15,253.8
MW14M	2-4	1,1'-biphenyl	SVOC	0.0	800,000	-	3,606.1	7,212.2
MW14M	2-4	Benzo(a)anthracene	SVOC	200,000.0	900,000	-	3,606.1	7,212.2
MW14M	2-4	Benzo(a)pyrene	SVOC	160,000.0	400,000	-	3,606.1	7,212.2
MW14M	2-4	Benzo(b)fluoranthene	SVOC	190,000.0	900,000	-	3,606.1	7,212.2
MW14M	2-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,606.1	7,212.2
MW14M	2-4	Benzo(k)fluoranthene	SVOC	140,000.0	900,000	-	3,606.1	7,212.2
MW14M	2-4	Bis(2-ethylhexyl)phthalate	SVOC	64,000.0	46,000,000	-	3,606.1	7,212.2
MW14M	2-4	Chrysene	SVOC	200,000.0	400,000	-	3,606.1	7,212.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW14M	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,606.1	7,212.2
MW14M	2-4	Fluoranthene	SVOC	320,000.0	20,000,000	-	3,606.1	7,212.2
MW14M	2-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,606.1	7,212.2
MW14M	2-4	Naphthalene	SVOC	0.0	54,000,000	-	3,606.1	7,212.2
MW14M	2-4	Pyrene	SVOC	280,000.0	13,000,000	-	3,606.1	7,212.2
MW14M	2-4	Aroclor, Total	PCB	0.0	10,000,000	-	4,630.2	9,260.5
MW14M	2-4	Dieldrin	PEST	950.0	40,000	-	8,557.2	17,114.4
MW14M	2-4	Pentachlorophenol	PEST	0.0	5,300,000	-	8,557.2	17,114.4
MW14M	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	3,606.1	7,212.2
MW14M	2-4	Benzene	VOC	0.0	2,500,000	-	3,606.1	7,212.2
MW14M	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	3,606.1	7,212.2
MW14M	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	3,606.1	7,212.2
MW14M	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	3,606.1	7,212.2
MW14M	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	3,606.1	7,212.2
MW14M	2-4	Toluene	VOC	0.0	54,000,000	-	3,606.1	7,212.2
MW14M	2-4	Total Xylenes	VOC	0.0	110,000,000	-	3,606.1	7,212.2
MW14M	2-4	Trichloroethene	VOC	0.0	13,000,000	-	3,606.1	7,212.2
MW14M	2-4	Vinyl chloride	VOC	0.0	20,000	-	3,606.1	7,212.2
MW14M	6-8	TEQ	DIOXIN	6.9	1,000	-	2,526.2	5,052.5
MW14M	6-8	Antimony	M	0.0	10,000,000	-	7,626.9	15,253.8
MW14M	6-8	Arsenic	M	6,300,000.0	7,000,000	-	7,626.9	15,253.8
MW14M	6-8	Beryllium	M	1,000,000.0	400,000	2.5	7,626.9	15,253.8
MW14M	6-8	Lead	M	9,000,000.0	150,000,000	-	7,626.9	15,253.8
MW14M	6-8	Manganese	M	1,100,000,000.0	390,000,000	2.8	7,626.9	15,253.8
MW14M	6-8	Thallium	M	0.0	5,500,000	-	7,626.9	15,253.8
MW14M	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	3,606.1	7,212.2
MW14M	6-8	Benzo(a)anthracene	SVOC	0.0	900,000	-	3,606.1	7,212.2
MW14M	6-8	Benzo(a)pyrene	SVOC	0.0	400,000	-	3,606.1	7,212.2
MW14M	6-8	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	3,606.1	7,212.2
MW14M	6-8	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,606.1	7,212.2
MW14M	6-8	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,606.1	7,212.2
MW14M	6-8	Bis(2-ethylhexyl)phthalate	SVOC	53,000.0	46,000,000	-	3,606.1	7,212.2
MW14M	6-8	Chrysene	SVOC	0.0	400,000	-	3,606.1	7,212.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW14M	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,606.1	7,212.2
MW14M	6-8	Fluoranthene	SVOC	0.0	20,000,000	-	3,606.1	7,212.2
MW14M	6-8	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,606.1	7,212.2
MW14M	6-8	Naphthalene	SVOC	0.0	54,000,000	-	3,606.1	7,212.2
MW14M	6-8	Pyrene	SVOC	0.0	13,000,000	-	3,606.1	7,212.2
MW14M	6-8	Aroclor, Total	PCB	0.0	10,000,000	-	4,630.2	9,260.5
MW14M	6-8	Dieldrin	PEST	8,000.0	40,000	-	8,557.2	17,114.4
MW14M	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	8,557.2	17,114.4
MW14M	6-7	1,2-dichloroethane	VOC	0.0	900,000	-	3,606.1	3,606.1
MW14M	6-7	Benzene	VOC	0.0	2,500,000	-	3,606.1	3,606.1
MW14M	6-7	Chlorobenzene	VOC	0.0	100,000,000	-	3,606.1	3,606.1
MW14M	6-7	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	3,606.1	3,606.1
MW14M	6-7	Ethylbenzene	VOC	0.0	62,000,000	-	3,606.1	3,606.1
MW14M	6-7	Tetrachloroethene	VOC	0.0	4,200,000	-	3,606.1	3,606.1
MW14M	6-7	Toluene	VOC	0.0	54,000,000	-	3,606.1	3,606.1
MW14M	6-7	Total Xylenes	VOC	0.0	110,000,000	-	3,606.1	3,606.1
MW14M	6-7	Trichloroethene	VOC	0.0	13,000,000	-	3,606.1	3,606.1
MW14M	6-7	Vinyl chloride	VOC	0.0	20,000	-	3,606.1	3,606.1
MW15D	2-4	TEQ	DIOXIN	80.6	1,000	-	1,961.8	3,923.5
MW15D	2-4	Antimony	M	0.0	10,000,000	-	3,829.8	7,659.5
MW15D	2-4	Arsenic	M	1,400,000.0	7,000,000	-	3,829.8	7,659.5
MW15D	2-4	Beryllium	M	0.0	400,000	-	3,829.8	7,659.5
MW15D	2-4	Cadmium	M	0.0	39,000,000	-	3,829.8	7,659.5
MW15D	2-4	Lead	M	15,200,000.0	150,000,000	-	3,829.8	7,659.5
MW15D	2-4	Manganese	M	75,900,000.0	390,000,000	-	3,829.8	7,659.5
MW15D	2-4	Thallium	M	0.0	5,500,000	-	3,829.8	7,659.5
MW15D	2-4	1,1'-biphenyl	SVOC	0.0	800,000	-	2,609.9	5,219.8
MW15D	2-4	Benzo(a)anthracene	SVOC	140,000.0	900,000	-	2,609.9	5,219.8
MW15D	2-4	Benzo(a)pyrene	SVOC	130,000.0	400,000	-	2,609.9	5,219.8
MW15D	2-4	Benzo(b)fluoranthene	SVOC	190,000.0	900,000	-	2,609.9	5,219.8
MW15D	2-4	Benzo(g,h,i)perylene	SVOC	77,000.0	800,000	-	2,609.9	5,219.8
MW15D	2-4	Benzo(k)fluoranthene	SVOC	79,000.0	900,000	-	2,609.9	5,219.8
MW15D	2-4	Bis(2-ethylhexyl)phthalate	SVOC	490,000.0	46,000,000	-	2,609.9	5,219.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW15D	2-4	Chrysene	SVOC	160,000.0	400,000	-	2,609.9	5,219.8
MW15D	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	2,609.9	5,219.8
MW15D	2-4	Fluoranthene	SVOC	330,000.0	20,000,000	-	2,609.9	5,219.8
MW15D	2-4	Indeno(1,2,3-cd)pyrene	SVOC	94,000.0	900,000	-	2,609.9	5,219.8
MW15D	2-4	Naphthalene	SVOC	0.0	54,000,000	-	2,609.9	5,219.8
MW15D	2-4	Pyrene	SVOC	230,000.0	13,000,000	-	2,609.9	5,219.8
MW15D	2-4	Aroclor, Total	PCB	42,000.0	10,000,000	-	2,560.3	5,120.6
MW15D	2-4	Dieldrin	PEST	0.0	40,000	-	3,829.8	7,659.5
MW15D	2-4	Pentachlorophenol	PEST	0.0	5,300,000	-	3,829.8	7,659.5
MW15D	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	2,609.9	5,219.8
MW15D	2-4	Benzene	VOC	0.0	2,500,000	-	2,609.9	5,219.8
MW15D	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	2,609.9	5,219.8
MW15D	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,609.9	5,219.8
MW15D	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	2,609.9	5,219.8
MW15D	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	2,609.9	5,219.8
MW15D	2-4	Toluene	VOC	0.0	54,000,000	-	2,609.9	5,219.8
MW15D	2-4	Total Xylenes	VOC	0.0	110,000,000	-	2,609.9	5,219.8
MW15D	2-4	Trichloroethene	VOC	0.0	13,000,000	-	2,609.9	5,219.8
MW15D	2-4	Vinyl chloride	VOC	0.0	20,000	-	2,609.9	5,219.8
MW15D	4-6	TEQ	DIOXIN	2,644.9	1,000	2.6	1,961.8	3,923.5
MW15D	4-6	Antimony	M	0.0	10,000,000	-	3,829.8	7,659.5
MW15D	4-6	Arsenic	M	2,600,000.0	7,000,000	-	3,829.8	7,659.5
MW15D	4-6	Beryllium	M	0.0	400,000	-	3,829.8	7,659.5
MW15D	4-6	Cadmium	M	0.0	39,000,000	-	3,829.8	7,659.5
MW15D	4-6	Lead	M	66,000,000.0	150,000,000	-	3,829.8	7,659.5
MW15D	4-6	Manganese	M	160,000,000.0	390,000,000	-	3,829.8	7,659.5
MW15D	4-6	Thallium	M	0.0	5,500,000	-	3,829.8	7,659.5
MW15D	4-6	1,1'-biphenyl	SVOC	350,000.0	800,000	-	2,609.9	5,219.8
MW15D	4-6	Benzo(a)anthracene	SVOC	1,100,000.0	900,000	1.2	2,609.9	5,219.8
MW15D	4-6	Benzo(a)pyrene	SVOC	960,000.0	400,000	2.4	2,609.9	5,219.8
MW15D	4-6	Benzo(b)fluoranthene	SVOC	1,300,000.0	900,000	1.4	2,609.9	5,219.8
MW15D	4-6	Benzo(g,h,i)perylene	SVOC	470,000.0	800,000	-	2,609.9	5,219.8
MW15D	4-6	Benzo(k)fluoranthene	SVOC	790,000.0	900,000	-	2,609.9	5,219.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW15D	4-6	Bis(2-ethylhexyl)phthalate	SVOC	2,100,000.0	46,000,000	-	2,609.9	5,219.8
MW15D	4-6	Chrysene	SVOC	1,300,000.0	400,000	3.3	2,609.9	5,219.8
MW15D	4-6	Dibenzo(a,h)anthracene	SVOC	220,000.0	400,000	-	2,609.9	5,219.8
MW15D	4-6	Fluoranthene	SVOC	2,500,000.0	20,000,000	-	2,609.9	5,219.8
MW15D	4-6	Indeno(1,2,3-cd)pyrene	SVOC	700,000.0	900,000	-	2,609.9	5,219.8
MW15D	4-6	Naphthalene	SVOC	230,000.0	54,000,000	-	2,609.9	5,219.8
MW15D	4-6	Pyrene	SVOC	1,800,000.0	13,000,000	-	2,609.9	5,219.8
MW15D	4-6	Aroclor, Total	PCB	0.0	10,000,000	-	2,560.3	5,120.6
MW15D	4-6	Dieldrin	PEST	0.0	40,000	-	3,829.8	7,659.5
MW15D	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	3,829.8	7,659.5
MW15D	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	2,609.9	5,219.8
MW15D	4-6	Benzene	VOC	0.0	2,500,000	-	2,609.9	5,219.8
MW15D	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	2,609.9	5,219.8
MW15D	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,609.9	5,219.8
MW15D	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	2,609.9	5,219.8
MW15D	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	2,609.9	5,219.8
MW15D	4-6	Toluene	VOC	42,000.0	54,000,000	-	2,609.9	5,219.8
MW15D	4-6	Total Xylenes	VOC	0.0	110,000,000	-	2,609.9	5,219.8
MW15D	4-6	Trichloroethene	VOC	0.0	13,000,000	-	2,609.9	5,219.8
MW15D	4-6	Vinyl chloride	VOC	0.0	20,000	-	2,609.9	5,219.8
MW15D	6-8	TEQ	DIOXIN	24.5	1,000	-	1,961.8	3,923.5
MW15D	6-8	Antimony	M	0.0	10,000,000	-	3,829.8	7,659.5
MW15D	6-8	Arsenic	M	1,800,000.0	7,000,000	-	3,829.8	7,659.5
MW15D	6-8	Beryllium	M	0.0	400,000	-	3,829.8	7,659.5
MW15D	6-8	Cadmium	M	0.0	39,000,000	-	3,829.8	7,659.5
MW15D	6-8	Lead	M	13,100,000.0	150,000,000	-	3,829.8	7,659.5
MW15D	6-8	Manganese	M	156,000,000.0	390,000,000	-	3,829.8	7,659.5
MW15D	6-8	Thallium	M	0.0	5,500,000	-	3,829.8	7,659.5
MW15D	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	2,609.9	5,219.8
MW15D	6-8	Benzo(a)anthracene	SVOC	54,000.0	900,000	-	2,609.9	5,219.8
MW15D	6-8	Benzo(a)pyrene	SVOC	51,000.0	400,000	-	2,609.9	5,219.8
MW15D	6-8	Benzo(b)fluoranthene	SVOC	67,000.0	900,000	-	2,609.9	5,219.8
MW15D	6-8	Benzo(g,h,i)perylene	SVOC	59,000.0	800,000	-	2,609.9	5,219.8

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW15D	6-8	Benzo(k)fluoranthene	SVOC	40,000.0	900,000	-	2,609.9	5,219.8
MW15D	6-8	Bis(2-ethylhexyl)phthalate	SVOC	110,000.0	46,000,000	-	2,609.9	5,219.8
MW15D	6-8	Chrysene	SVOC	62,000.0	400,000	-	2,609.9	5,219.8
MW15D	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	2,609.9	5,219.8
MW15D	6-8	Fluoranthene	SVOC	130,000.0	20,000,000	-	2,609.9	5,219.8
MW15D	6-8	Indeno(1,2,3-cd)pyrene	SVOC	41,000.0	900,000	-	2,609.9	5,219.8
MW15D	6-8	Naphthalene	SVOC	0.0	54,000,000	-	2,609.9	5,219.8
MW15D	6-8	Pyrene	SVOC	95,000.0	13,000,000	-	2,609.9	5,219.8
MW15D	6-8	Aroclor, Total	PCB	0.0	10,000,000	-	2,560.3	5,120.6
MW15D	6-8	Dieldrin	PEST	0.0	40,000	-	3,829.8	7,659.5
MW15D	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	3,829.8	7,659.5
MW15D	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	2,609.9	5,219.8
MW15D	6-8	Benzene	VOC	0.0	2,500,000	-	2,609.9	5,219.8
MW15D	6-8	Chlorobenzene	VOC	0.0	100,000,000	-	2,609.9	5,219.8
MW15D	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,609.9	5,219.8
MW15D	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	2,609.9	5,219.8
MW15D	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	2,609.9	5,219.8
MW15D	6-8	Toluene	VOC	0.0	54,000,000	-	2,609.9	5,219.8
MW15D	6-8	Total Xylenes	VOC	0.0	110,000,000	-	2,609.9	5,219.8
MW15D	6-8	Trichloroethene	VOC	0.0	13,000,000	-	2,609.9	5,219.8
MW15D	6-8	Vinyl chloride	VOC	0.0	20,000	-	2,609.9	5,219.8
RES-14-271-01	0-1	TEQ	DIOXIN	236.9	1,000	-	490.9	490.9
RES-14-271-01	0-1	Antimony	M	0.0	10,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Arsenic	M	2,800,000.0	7,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Beryllium	M	0.0	400,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Cadmium	M	0.0	39,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Lead	M	71,200,000.0	150,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Manganese	M	598,000,000.0	390,000,000	1.5	2,488.2	2,488.2
RES-14-271-01	0-1	Thallium	M	0.0	5,500,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	1,1'-biphenyl	SVOC	0.0	800,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Benzo(a)anthracene	SVOC	800,000.0	900,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Benzo(a)pyrene	SVOC	1,200,000.0	400,000	3.0	2,488.2	2,488.2
RES-14-271-01	0-1	Benzo(b)fluoranthene	SVOC	1,200,000.0	900,000	1.3	2,488.2	2,488.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-14-271-01	0-1	Benzo(g,h,i)perylene	SVOC	1,100,000.0	800,000	1.4	2,488.2	2,488.2
RES-14-271-01	0-1	Benzo(k)fluoranthene	SVOC	1,200,000.0	900,000	1.3	2,488.2	2,488.2
RES-14-271-01	0-1	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Chrysene	SVOC	1,200,000.0	400,000	3.0	2,488.2	2,488.2
RES-14-271-01	0-1	Dibenzo(a,h)anthracene	SVOC	290,000.0	400,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Fluoranthene	SVOC	1,900,000.0	20,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Indeno(1,2,3-cd)pyrene	SVOC	940,000.0	900,000	1.0	2,488.2	2,488.2
RES-14-271-01	0-1	Naphthalene	SVOC	0.0	54,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Pyrene	SVOC	2,000,000.0	13,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Aroclor, Total	PCB	230,000.0	10,000,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Dieldrin	PEST	0.0	40,000	-	2,488.2	2,488.2
RES-14-271-01	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	2,488.2	2,488.2
RES-14-272-01	0-1	Antimony	M	2,000,000.0	10,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Arsenic	M	4,700,000.0	7,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Beryllium	M	0.0	400,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Cadmium	M	320,000.0	39,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Lead	M	359,000,000.0	150,000,000	2.4	8,648.6	8,648.6
RES-14-272-01	0-1	Manganese	M	327,000,000.0	390,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Thallium	M	0.0	5,500,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	1,1'-biphenyl	SVOC	0.0	800,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Benzo(a)anthracene	SVOC	780,000.0	900,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Benzo(a)pyrene	SVOC	830,000.0	400,000	2.1	8,648.6	8,648.6
RES-14-272-01	0-1	Benzo(b)fluoranthene	SVOC	1,200,000.0	900,000	1.3	8,648.6	8,648.6
RES-14-272-01	0-1	Benzo(g,h,i)perylene	SVOC	190,000.0	800,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Benzo(k)fluoranthene	SVOC	950,000.0	900,000	1.1	8,648.6	8,648.6
RES-14-272-01	0-1	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Chrysene	SVOC	990,000.0	400,000	2.5	8,648.6	8,648.6
RES-14-272-01	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Fluoranthene	SVOC	1,900,000.0	20,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Indeno(1,2,3-cd)pyrene	SVOC	210,000.0	900,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Naphthalene	SVOC	0.0	54,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Pyrene	SVOC	1,400,000.0	13,000,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Aroclor, Total	PCB	710,000.0	10,000,000	-	4,385.0	4,385.0

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-14-272-01	0-1	Dieldrin	PEST	0.0	40,000	-	8,648.6	8,648.6
RES-14-272-01	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	8,648.6	8,648.6
RES-14-302-01	0-1	Antimony	M	0.0	10,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Arsenic	M	2,000,000.0	7,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Beryllium	M	360,000.0	400,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Cadmium	M	1,200,000.0	39,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Lead	M	299,000,000.0	150,000,000	2.0	1,819.3	1,819.3
RES-14-302-01	0-1	Manganese	M	386,000,000.0	390,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Thallium	M	0.0	5,500,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	1,1'-biphenyl	SVOC	0.0	800,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Benzo(a)anthracene	SVOC	560,000.0	900,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Benzo(a)pyrene	SVOC	630,000.0	400,000	1.6	1,819.3	1,819.3
RES-14-302-01	0-1	Benzo(b)fluoranthene	SVOC	650,000.0	900,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Benzo(g,h,i)perylene	SVOC	510,000.0	800,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Benzo(k)fluoranthene	SVOC	620,000.0	900,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Bis(2-ethylhexyl)phthalate	SVOC	780,000.0	46,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Chrysene	SVOC	830,000.0	400,000	2.1	1,819.3	1,819.3
RES-14-302-01	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Fluoranthene	SVOC	1,300,000.0	20,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Naphthalene	SVOC	0.0	54,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Pyrene	SVOC	1,100,000.0	13,000,000	-	1,819.3	1,819.3
RES-14-302-01	0-1	Aroclor, Total	PCB	380,000.0	10,000,000	-	1,654.1	1,654.1
RES-14-302-01	0-1	Dieldrin	PEST	16,000.0	40,000	-	1,654.1	1,654.1
RES-14-302-01	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	1,654.1	1,654.1
RES-14-303-01	0-1	TEQ	DIOXIN	4,248.7	1,000	4.2	451.3	451.3
RES-14-303-01	0-1	Antimony	M	0.0	10,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Arsenic	M	6,400,000.0	7,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Beryllium	M	0.0	400,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Cadmium	M	7,900,000.0	39,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Lead	M	946,000,000.0	150,000,000	6.3	2,089.4	2,089.4
RES-14-303-01	0-1	Manganese	M	228,000,000.0	390,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Thallium	M	0.0	5,500,000	-	2,089.4	2,089.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-14-303-01	0-1	1,1'-biphenyl	SVOC	0.0	800,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Benzo(a)anthracene	SVOC	1,400,000.0	900,000	1.6	2,089.4	2,089.4
RES-14-303-01	0-1	Benzo(a)pyrene	SVOC	1,300,000.0	400,000	3.3	2,089.4	2,089.4
RES-14-303-01	0-1	Benzo(b)fluoranthene	SVOC	500,000.0	900,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Benzo(g,h,i)perylene	SVOC	1,000,000.0	800,000	1.3	2,089.4	2,089.4
RES-14-303-01	0-1	Benzo(k)fluoranthene	SVOC	630,000.0	900,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Bis(2-ethylhexyl)phthalate	SVOC	10,000,000.0	46,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Chrysene	SVOC	1,800,000.0	400,000	4.5	2,089.4	2,089.4
RES-14-303-01	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Fluoranthene	SVOC	3,400,000.0	20,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Indeno(1,2,3-cd)pyrene	SVOC	960,000.0	900,000	1.1	2,089.4	2,089.4
RES-14-303-01	0-1	Naphthalene	SVOC	0.0	54,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Pyrene	SVOC	3,400,000.0	13,000,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Aroclor, Total	PCB	48,000,000.0	10,000,000	4.8	2,089.4	2,089.4
RES-14-303-01	0-1	Dieldrin	PEST	0.0	40,000	-	2,089.4	2,089.4
RES-14-303-01	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	2,089.4	2,089.4
RES-14-303-02	0-1	TEQ	DIOXIN	10,608.7	1,000	10.6	521.1	521.1
RES-14-333-01	0-1	TEQ	DIOXIN	1,379.6	1,000	1.4	908.7	908.7
RES-14-333-01	0-1	Antimony	M	0.0	10,000,000	-	1,469.4	1,469.4
RES-14-333-01	0-1	Arsenic	M	12,100,000.0	7,000,000	1.7	1,469.4	1,469.4
RES-14-333-01	0-1	Lead	M	590,000,000.0	150,000,000	3.9	1,469.4	1,469.4
RES-14-333-01	0-1	Manganese	M	1,250,000,000.0	390,000,000	3.2	1,469.4	1,469.4
RES-14-333-01	0-1	Thallium	M	6,800,000.0	5,500,000	1.2	1,469.4	1,469.4
RES-14-333-01	0-1	Benzo(a)anthracene	SVOC	2,300,000.0	900,000	2.6	1,469.4	1,469.4
RES-14-333-01	0-1	Benzo(a)pyrene	SVOC	2,800,000.0	400,000	7.0	1,469.4	1,469.4
RES-14-333-01	0-1	Benzo(b)fluoranthene	SVOC	4,200,000.0	900,000	4.7	1,469.4	1,469.4
RES-14-333-01	0-1	Benzo(g,h,i)perylene	SVOC	2,600,000.0	800,000	3.3	1,469.4	1,469.4
RES-14-333-01	0-1	Benzo(k)fluoranthene	SVOC	3,400,000.0	900,000	3.8	1,469.4	1,469.4
RES-14-333-01	0-1	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	1,469.4	1,469.4
RES-14-333-01	0-1	Chrysene	SVOC	3,400,000.0	400,000	8.5	1,469.4	1,469.4
RES-14-333-01	0-1	Dibenzo(a,h)anthracene	SVOC	760,000.0	400,000	1.9	1,469.4	1,469.4
RES-14-333-01	0-1	Fluoranthene	SVOC	6,200,000.0	20,000,000	-	1,469.4	1,469.4
RES-14-333-01	0-1	Indeno(1,2,3-cd)pyrene	SVOC	2,400,000.0	900,000	2.7	1,469.4	1,469.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
RES-14-333-01	0-1	Pyrene	SVOC	5,600,000.0	13,000,000	-	1,469.4	1,469.4
RES-14-333-01	0-1	Aroclor, Total	PCB	1,490,000.0	10,000,000	-	1,469.4	1,469.4
RES-14-333-01	0-1	Pentachlorophenol	PEST	18,000,000.0	5,300,000	3.4	1,469.4	1,469.4
SB02	2-4	TEQ	DIOXIN	957.8	1,000	-	1,172.3	2,344.5
SB02	2-4	Antimony	M	18,500,000.0	10,000,000	1.9	4,565.2	9,130.4
SB02	2-4	Arsenic	M	6,300,000.0	7,000,000	-	4,565.2	9,130.4
SB02	2-4	Beryllium	M	580,000.0	400,000	1.5	4,565.2	9,130.4
SB02	2-4	Cadmium	M	1,100,000.0	39,000,000	-	4,565.2	9,130.4
SB02	2-4	Lead	M	211,000,000.0	150,000,000	1.4	4,565.2	9,130.4
SB02	2-4	Manganese	M	168,000,000.0	390,000,000	-	4,565.2	9,130.4
SB02	2-4	Thallium	M	11,700,000.0	5,500,000	2.1	4,565.2	9,130.4
SB02	2-4	1,1'-biphenyl	SVOC	0.0	800,000	-	4,565.2	9,130.4
SB02	2-4	Benzo(a)anthracene	SVOC	700,000.0	900,000	-	4,565.2	9,130.4
SB02	2-4	Benzo(a)pyrene	SVOC	550,000.0	400,000	1.4	4,565.2	9,130.4
SB02	2-4	Benzo(b)fluoranthene	SVOC	680,000.0	900,000	-	4,565.2	9,130.4
SB02	2-4	Benzo(g,h,i)perylene	SVOC	270,000.0	800,000	-	4,565.2	9,130.4
SB02	2-4	Benzo(k)fluoranthene	SVOC	450,000.0	900,000	-	4,565.2	9,130.4
SB02	2-4	Bis(2-ethylhexyl)phthalate	SVOC	6,000,000.0	46,000,000	-	4,565.2	9,130.4
SB02	2-4	Chrysene	SVOC	1,000,000.0	400,000	2.5	4,565.2	9,130.4
SB02	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	4,565.2	9,130.4
SB02	2-4	Fluoranthene	SVOC	1,500,000.0	20,000,000	-	4,565.2	9,130.4
SB02	2-4	Indeno(1,2,3-cd)pyrene	SVOC	260,000.0	900,000	-	4,565.2	9,130.4
SB02	2-4	Naphthalene	SVOC	0.0	54,000,000	-	4,565.2	9,130.4
SB02	2-4	Pyrene	SVOC	1,900,000.0	13,000,000	-	4,565.2	9,130.4
SB02	2-4	Aroclor, Total	PCB	8,200,000.0	10,000,000	-	3,969.3	7,938.5
SB02	2-4	Dieldrin	PEST	200,000.0	40,000	5.0	4,565.2	9,130.4
SB02	2-4	Pentachlorophenol	PEST	650,000.0	5,300,000	-	4,565.2	9,130.4
SB02	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	17,121.0	34,242.0
SB02	2-4	Benzene	VOC	0.0	2,500,000	-	17,121.0	34,242.0
SB02	2-4	Chlorobenzene	VOC	630,000.0	100,000,000	-	17,121.0	34,242.0
SB02	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	17,121.0	34,242.0
SB02	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	17,121.0	34,242.0
SB02	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	17,121.0	34,242.0

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SB02	2-4	Toluene	VOC	0.0	54,000,000	-	17,121.0	34,242.0
SB02	2-4	Total Xylenes	VOC	0.0	110,000,000	-	17,121.0	34,242.0
SB02	2-4	Trichloroethene	VOC	0.0	13,000,000	-	17,121.0	34,242.0
SB02	2-4	Vinyl chloride	VOC	0.0	20,000	-	17,121.0	34,242.0
SB02	4-6	TEQ	DIOXIN	985.7	1,000	-	1,172.3	2,344.5
SB02	4-6	Antimony	M	1,000,000.0	10,000,000	-	4,565.2	9,130.4
SB02	4-6	Arsenic	M	5,400,000.0	7,000,000	-	4,565.2	9,130.4
SB02	4-6	Beryllium	M	820,000.0	400,000	2.1	4,565.2	9,130.4
SB02	4-6	Cadmium	M	340,000.0	39,000,000	-	4,565.2	9,130.4
SB02	4-6	Lead	M	88,000,000.0	150,000,000	-	4,565.2	9,130.4
SB02	4-6	Manganese	M	129,000,000.0	390,000,000	-	4,565.2	9,130.4
SB02	4-6	Thallium	M	13,400,000.0	5,500,000	2.4	4,565.2	9,130.4
SB02	4-6	1,1'-biphenyl	SVOC	230,000.0	800,000	-	4,565.2	9,130.4
SB02	4-6	Benzo(a)anthracene	SVOC	390,000.0	900,000	-	4,565.2	9,130.4
SB02	4-6	Benzo(a)pyrene	SVOC	240,000.0	400,000	-	4,565.2	9,130.4
SB02	4-6	Benzo(b)fluoranthene	SVOC	310,000.0	900,000	-	4,565.2	9,130.4
SB02	4-6	Benzo(g,h,i)perylene	SVOC	99,000.0	800,000	-	4,565.2	9,130.4
SB02	4-6	Benzo(k)fluoranthene	SVOC	190,000.0	900,000	-	4,565.2	9,130.4
SB02	4-6	Bis(2-ethylhexyl)phthalate	SVOC	3,500,000.0	46,000,000	-	4,565.2	9,130.4
SB02	4-6	Chrysene	SVOC	530,000.0	400,000	1.3	4,565.2	9,130.4
SB02	4-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	4,565.2	9,130.4
SB02	4-6	Fluoranthene	SVOC	780,000.0	20,000,000	-	4,565.2	9,130.4
SB02	4-6	Indeno(1,2,3-cd)pyrene	SVOC	89,000.0	900,000	-	4,565.2	9,130.4
SB02	4-6	Naphthalene	SVOC	0.0	54,000,000	-	4,565.2	9,130.4
SB02	4-6	Pyrene	SVOC	1,100,000.0	13,000,000	-	4,565.2	9,130.4
SB02	4-6	Aroclor, Total	PCB	4,200,000.0	10,000,000	-	3,969.3	7,938.5
SB02	4-6	Dieldrin	PEST	96,000.0	40,000	2.4	4,565.2	9,130.4
SB02	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	4,565.2	9,130.4
SB02	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	17,121.0	34,242.0
SB02	4-6	Benzene	VOC	0.0	2,500,000	-	17,121.0	34,242.0
SB02	4-6	Chlorobenzene	VOC	1,000,000.0	100,000,000	-	17,121.0	34,242.0
SB02	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	17,121.0	34,242.0
SB02	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	17,121.0	34,242.0

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SB02	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	17,121.0	34,242.0
SB02	4-6	Toluene	VOC	0.0	54,000,000	-	17,121.0	34,242.0
SB02	4-6	Total Xylenes	VOC	0.0	110,000,000	-	17,121.0	34,242.0
SB02	4-6	Trichloroethene	VOC	0.0	13,000,000	-	17,121.0	34,242.0
SB02	4-6	Vinyl chloride	VOC	0.0	20,000	-	17,121.0	34,242.0
SB02	6-8	TEQ	DIOXIN	986.5	1,000	-	1,172.3	2,344.5
SB02	6-8	Antimony	M	1,500,000.0	10,000,000	-	4,565.2	9,130.4
SB02	6-8	Arsenic	M	4,200,000.0	7,000,000	-	4,565.2	9,130.4
SB02	6-8	Beryllium	M	370,000.0	400,000	-	4,565.2	9,130.4
SB02	6-8	Cadmium	M	250,000.0	39,000,000	-	4,565.2	9,130.4
SB02	6-8	Lead	M	53,400,000.0	150,000,000	-	4,565.2	9,130.4
SB02	6-8	Manganese	M	92,500,000.0	390,000,000	-	4,565.2	9,130.4
SB02	6-8	Thallium	M	6,700,000.0	5,500,000	1.2	4,565.2	9,130.4
SB02	6-8	1,1'-biphenyl	SVOC	120,000.0	800,000	-	4,565.2	9,130.4
SB02	6-8	Benzo(a)anthracene	SVOC	330,000.0	900,000	-	4,565.2	9,130.4
SB02	6-8	Benzo(a)pyrene	SVOC	190,000.0	400,000	-	4,565.2	9,130.4
SB02	6-8	Benzo(b)fluoranthene	SVOC	270,000.0	900,000	-	4,565.2	9,130.4
SB02	6-8	Benzo(g,h,i)perylene	SVOC	82,000.0	800,000	-	4,565.2	9,130.4
SB02	6-8	Benzo(k)fluoranthene	SVOC	170,000.0	900,000	-	4,565.2	9,130.4
SB02	6-8	Bis(2-ethylhexyl)phthalate	SVOC	3,100,000.0	46,000,000	-	4,565.2	9,130.4
SB02	6-8	Chrysene	SVOC	400,000.0	400,000	1.0	4,565.2	9,130.4
SB02	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	4,565.2	9,130.4
SB02	6-8	Fluoranthene	SVOC	600,000.0	20,000,000	-	4,565.2	9,130.4
SB02	6-8	Indeno(1,2,3-cd)pyrene	SVOC	75,000.0	900,000	-	4,565.2	9,130.4
SB02	6-8	Naphthalene	SVOC	0.0	54,000,000	-	4,565.2	9,130.4
SB02	6-8	Pyrene	SVOC	910,000.0	13,000,000	-	4,565.2	9,130.4
SB02	6-8	Aroclor, Total	PCB	4,400,000.0	10,000,000	-	3,969.3	7,938.5
SB02	6-8	Dieldrin	PEST	99,000.0	40,000	2.5	4,565.2	9,130.4
SB02	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	4,565.2	9,130.4
SB02	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	17,121.0	34,242.0
SB02	6-8	Benzene	VOC	0.0	2,500,000	-	17,121.0	34,242.0
SB02	6-8	Chlorobenzene	VOC	570,000.0	100,000,000	-	17,121.0	34,242.0
SB02	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	17,121.0	34,242.0

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SB02	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	17,121.0	34,242.0
SB02	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	17,121.0	34,242.0
SB02	6-8	Toluene	VOC	0.0	54,000,000	-	17,121.0	34,242.0
SB02	6-8	Total Xylenes	VOC	0.0	110,000,000	-	17,121.0	34,242.0
SB02	6-8	Trichloroethene	VOC	0.0	13,000,000	-	17,121.0	34,242.0
SB02	6-8	Vinyl chloride	VOC	0.0	20,000	-	17,121.0	34,242.0
SB03	2-4	TEQ	DIOXIN	15.5	1,000	-	1,472.8	2,945.5
SB03	2-4	Antimony	M	0.0	10,000,000	-	1,973.6	3,947.2
SB03	2-4	Arsenic	M	1,900,000.0	7,000,000	-	1,973.6	3,947.2
SB03	2-4	Beryllium	M	0.0	400,000	-	1,973.6	3,947.2
SB03	2-4	Cadmium	M	0.0	39,000,000	-	1,973.6	3,947.2
SB03	2-4	Lead	M	55,600,000.0	150,000,000	-	1,973.6	3,947.2
SB03	2-4	Manganese	M	65,200,000.0	390,000,000	-	1,973.6	3,947.2
SB03	2-4	Thallium	M	5,100,000.0	5,500,000	-	1,973.6	3,947.2
SB03	2-4	1,1'-biphenyl	SVOC	0.0	800,000	-	1,973.6	3,947.2
SB03	2-4	Benzo(a)anthracene	SVOC	3,400,000.0	900,000	3.8	1,973.6	3,947.2
SB03	2-4	Benzo(a)pyrene	SVOC	2,900,000.0	400,000	7.3	1,973.6	3,947.2
SB03	2-4	Benzo(b)fluoranthene	SVOC	3,100,000.0	900,000	3.4	1,973.6	3,947.2
SB03	2-4	Benzo(g,h,i)perylene	SVOC	1,400,000.0	800,000	1.8	1,973.6	3,947.2
SB03	2-4	Benzo(k)fluoranthene	SVOC	2,200,000.0	900,000	2.4	1,973.6	3,947.2
SB03	2-4	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	1,973.6	3,947.2
SB03	2-4	Chrysene	SVOC	3,500,000.0	400,000	8.8	1,973.6	3,947.2
SB03	2-4	Dibenzo(a,h)anthracene	SVOC	640,000.0	400,000	1.6	1,973.6	3,947.2
SB03	2-4	Fluoranthene	SVOC	5,200,000.0	20,000,000	-	1,973.6	3,947.2
SB03	2-4	Indeno(1,2,3-cd)pyrene	SVOC	1,400,000.0	900,000	1.6	1,973.6	3,947.2
SB03	2-4	Naphthalene	SVOC	140,000.0	54,000,000	-	1,973.6	3,947.2
SB03	2-4	Pyrene	SVOC	6,300,000.0	13,000,000	-	1,973.6	3,947.2
SB03	2-4	Aroclor, Total	PCB	0.0	10,000,000	-	1,973.6	3,947.2
SB03	2-4	Dieldrin	PEST	1,600.0	40,000	-	1,973.6	3,947.2
SB03	2-4	Pentachlorophenol	PEST	0.0	5,300,000	-	1,973.6	3,947.2
SB03	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	4,110.2	8,220.4
SB03	2-4	Benzene	VOC	0.0	2,500,000	-	4,110.2	8,220.4
SB03	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	4,110.2	8,220.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SB03	2-4	Cis-1,2-dichloroethene	VOC	320,000.0	60,000,000	-	4,110.2	8,220.4
SB03	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	4,110.2	8,220.4
SB03	2-4	Tetrachloroethene	VOC	430,000.0	4,200,000	-	4,110.2	8,220.4
SB03	2-4	Toluene	VOC	0.0	54,000,000	-	4,110.2	8,220.4
SB03	2-4	Total Xylenes	VOC	0.0	110,000,000	-	4,110.2	8,220.4
SB03	2-4	Trichloroethene	VOC	160,000.0	13,000,000	-	4,110.2	8,220.4
SB03	2-4	Vinyl chloride	VOC	76,000.0	20,000	3.8	4,110.2	8,220.4
SB03	4-6	TEQ	DIOXIN	0.7	1,000	-	1,472.8	2,945.5
SB03	4-6	Antimony	M	0.0	10,000,000	-	1,973.6	3,947.2
SB03	4-6	Arsenic	M	1,100,000.0	7,000,000	-	1,973.6	3,947.2
SB03	4-6	Beryllium	M	0.0	400,000	-	1,973.6	3,947.2
SB03	4-6	Cadmium	M	0.0	39,000,000	-	1,973.6	3,947.2
SB03	4-6	Lead	M	10,000,000.0	150,000,000	-	1,973.6	3,947.2
SB03	4-6	Manganese	M	102,000,000.0	390,000,000	-	1,973.6	3,947.2
SB03	4-6	Thallium	M	5,900,000.0	5,500,000	1.1	1,973.6	3,947.2
SB03	4-6	1,1'-biphenyl	SVOC	0.0	800,000	-	1,973.6	3,947.2
SB03	4-6	Benzo(a)anthracene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	4-6	Benzo(a)pyrene	SVOC	0.0	400,000	-	1,973.6	3,947.2
SB03	4-6	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	4-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	1,973.6	3,947.2
SB03	4-6	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	4-6	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	1,973.6	3,947.2
SB03	4-6	Chrysene	SVOC	0.0	400,000	-	1,973.6	3,947.2
SB03	4-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	1,973.6	3,947.2
SB03	4-6	Fluoranthene	SVOC	0.0	20,000,000	-	1,973.6	3,947.2
SB03	4-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	4-6	Naphthalene	SVOC	0.0	54,000,000	-	1,973.6	3,947.2
SB03	4-6	Pyrene	SVOC	0.0	13,000,000	-	1,973.6	3,947.2
SB03	4-6	Aroclor, Total	PCB	0.0	10,000,000	-	1,973.6	3,947.2
SB03	4-6	Dieldrin	PEST	290.0	40,000	-	1,973.6	3,947.2
SB03	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	1,973.6	3,947.2
SB03	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	4,110.2	8,220.4
SB03	4-6	Benzene	VOC	0.0	2,500,000	-	4,110.2	8,220.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SB03	4-6	Chlorobenzene	VOC	0.0	100,000,000	-	4,110.2	8,220.4
SB03	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	4,110.2	8,220.4
SB03	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	4,110.2	8,220.4
SB03	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	4,110.2	8,220.4
SB03	4-6	Toluene	VOC	0.0	54,000,000	-	4,110.2	8,220.4
SB03	4-6	Total Xylenes	VOC	0.0	110,000,000	-	4,110.2	8,220.4
SB03	4-6	Trichloroethene	VOC	0.0	13,000,000	-	4,110.2	8,220.4
SB03	4-6	Vinyl chloride	VOC	0.0	20,000	-	4,110.2	8,220.4
SB03	6-8	TEQ	DIOXIN	0.4	1,000	-	1,472.8	2,945.5
SB03	6-8	Antimony	M	0.0	10,000,000	-	1,973.6	3,947.2
SB03	6-8	Arsenic	M	780,000.0	7,000,000	-	1,973.6	3,947.2
SB03	6-8	Beryllium	M	0.0	400,000	-	1,973.6	3,947.2
SB03	6-8	Cadmium	M	0.0	39,000,000	-	1,973.6	3,947.2
SB03	6-8	Lead	M	9,000,000.0	150,000,000	-	1,973.6	3,947.2
SB03	6-8	Manganese	M	82,700,000.0	390,000,000	-	1,973.6	3,947.2
SB03	6-8	Thallium	M	5,300,000.0	5,500,000	-	1,973.6	3,947.2
SB03	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	1,973.6	3,947.2
SB03	6-8	Benzo(a)anthracene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	6-8	Benzo(a)pyrene	SVOC	0.0	400,000	-	1,973.6	3,947.2
SB03	6-8	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	6-8	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	1,973.6	3,947.2
SB03	6-8	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	6-8	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	1,973.6	3,947.2
SB03	6-8	Chrysene	SVOC	0.0	400,000	-	1,973.6	3,947.2
SB03	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	1,973.6	3,947.2
SB03	6-8	Fluoranthene	SVOC	0.0	20,000,000	-	1,973.6	3,947.2
SB03	6-8	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	1,973.6	3,947.2
SB03	6-8	Naphthalene	SVOC	0.0	54,000,000	-	1,973.6	3,947.2
SB03	6-8	Pyrene	SVOC	0.0	13,000,000	-	1,973.6	3,947.2
SB03	6-8	Aroclor, Total	PCB	0.0	10,000,000	-	1,973.6	3,947.2
SB03	6-8	Dieldrin	PEST	0.0	40,000	-	1,973.6	3,947.2
SB03	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	1,973.6	3,947.2
SB03	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	4,110.2	8,220.4

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SB03	6-8	Benzene	VOC	0.0	2,500,000	-	4,110.2	8,220.4
SB03	6-8	Chlorobenzene	VOC	0.0	100,000,000	-	4,110.2	8,220.4
SB03	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	4,110.2	8,220.4
SB03	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	4,110.2	8,220.4
SB03	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	4,110.2	8,220.4
SB03	6-8	Toluene	VOC	0.0	54,000,000	-	4,110.2	8,220.4
SB03	6-8	Total Xylenes	VOC	0.0	110,000,000	-	4,110.2	8,220.4
SB03	6-8	Trichloroethene	VOC	0.0	13,000,000	-	4,110.2	8,220.4
SB03	6-8	Vinyl chloride	VOC	0.0	20,000	-	4,110.2	8,220.4
SD-30	0-0.25	TEQ	DIOXIN	9,680.0	1,000	9.7	1,958.8	489.7
SD-30	0-0.5	TEQ	DIOXIN	15,857.1	1,000	15.9	1,958.8	979.4
SD-30	0-0.5	Aroclor, Total	PCB	1,400,000.0	10,000,000	-	1,903.8	951.9
SD-30	0-0.5	Dieldrin	PEST	27,000.0	40,000	-	3,628.2	1,814.1
SD-31	0-0.5	TEQ	DIOXIN	3.3	1,000	-	478.8	239.4
SD-31	0-0.5	Aroclor, Total	PCB	0.0	10,000,000	-	3,698.6	1,849.3
SD-31	0-0.5	Dieldrin	PEST	0.0	40,000	-	3,887.7	1,943.8
SS-01	0-0.25	TEQ	DIOXIN	2,360.0	1,000	2.4	426.0	106.5
SS-01	0-0	Benzo(a)anthracene	SVOC	420,000.0	900,000	-	8,564.1	0.0
SS-01	0-0	Benzo(a)pyrene	SVOC	460,000.0	400,000	1.2	8,564.1	0.0
SS-01	0-0	Benzo(b)fluoranthene	SVOC	650,000.0	900,000	-	8,564.1	0.0
SS-01	0-0	Benzo(g,h,i)perylene	SVOC	260,000.0	800,000	-	8,564.1	0.0
SS-01	0-0	Benzo(k)fluoranthene	SVOC	180,000.0	900,000	-	8,564.1	0.0
SS-01	0-0	Bis(2-ethylhexyl)phthalate	SVOC	130,000.0	46,000,000	-	8,564.1	0.0
SS-01	0-0	Chrysene	SVOC	420,000.0	400,000	1.1	8,564.1	0.0
SS-01	0-0	Dibenzo(a,h)anthracene	SVOC	99,000.0	400,000	-	8,564.1	0.0
SS-01	0-0	Fluoranthene	SVOC	1,000,000.0	20,000,000	-	8,564.1	0.0
SS-01	0-0	Indeno(1,2,3-cd)pyrene	SVOC	300,000.0	900,000	-	8,564.1	0.0
SS-01	0-0	Naphthalene	SVOC	0.0	54,000,000	-	8,564.1	0.0
SS-01	0-0	Pyrene	SVOC	720,000.0	13,000,000	-	8,564.1	0.0
SS-01	0-0	Aroclor, Total	PCB	2,300,000.0	10,000,000	-	6,104.4	0.0
SS-01	0-0	Dieldrin	PEST	0.0	40,000	-	6,200.6	0.0
SS-01	0-0	Pentachlorophenol	PEST	0.0	5,300,000	-	6,200.6	0.0
SS-04	0-1.5	Benzo(a)anthracene	SVOC	2,400,000.0	900,000	2.7	8,714.8	13,072.2

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS-04	0-1.5	Benzo(a)pyrene	SVOC	2,600,000.0	400,000	6.5	8,714.8	13,072.2
SS-04	0-1.5	Benzo(b)fluoranthene	SVOC	3,200,000.0	900,000	3.6	8,714.8	13,072.2
SS-04	0-1.5	Benzo(g,h,i)perylene	SVOC	1,300,000.0	800,000	1.6	8,714.8	13,072.2
SS-04	0-1.5	Benzo(k)fluoranthene	SVOC	960,000.0	900,000	1.1	8,714.8	13,072.2
SS-04	0-1.5	Bis(2-ethylhexyl)phthalate	SVOC	290,000.0	46,000,000	-	8,714.8	13,072.2
SS-04	0-1.5	Chrysene	SVOC	2,200,000.0	400,000	5.5	8,714.8	13,072.2
SS-04	0-1.5	Dibenzo(a,h)anthracene	SVOC	460,000.0	400,000	1.2	8,714.8	13,072.2
SS-04	0-1.5	Fluoranthene	SVOC	4,700,000.0	20,000,000	-	8,714.8	13,072.2
SS-04	0-1.5	Indeno(1,2,3-cd)pyrene	SVOC	1,500,000.0	900,000	1.7	8,714.8	13,072.2
SS-04	0-1.5	Naphthalene	SVOC	110,000.0	54,000,000	-	8,714.8	13,072.2
SS-04	0-1.5	Pyrene	SVOC	3,500,000.0	13,000,000	-	8,714.8	13,072.2
SS-04	0-1.5	Aroclor, Total	PCB	410,000.0	10,000,000	-	4,893.4	7,340.2
SS-04	0-1.5	Pentachlorophenol	PEST	0.0	5,300,000	-	8,714.8	13,072.2
SS-05	0-1.5	Benzo(a)anthracene	SVOC	460,000.0	900,000	-	2,691.6	4,037.4
SS-05	0-1.5	Benzo(a)pyrene	SVOC	500,000.0	400,000	1.3	2,691.6	4,037.4
SS-05	0-1.5	Benzo(b)fluoranthene	SVOC	670,000.0	900,000	-	2,691.6	4,037.4
SS-05	0-1.5	Benzo(g,h,i)perylene	SVOC	310,000.0	800,000	-	2,691.6	4,037.4
SS-05	0-1.5	Benzo(k)fluoranthene	SVOC	260,000.0	900,000	-	2,691.6	4,037.4
SS-05	0-1.5	Bis(2-ethylhexyl)phthalate	SVOC	160,000.0	46,000,000	-	2,691.6	4,037.4
SS-05	0-1.5	Chrysene	SVOC	470,000.0	400,000	1.2	2,691.6	4,037.4
SS-05	0-1.5	Dibenzo(a,h)anthracene	SVOC	120,000.0	400,000	-	2,691.6	4,037.4
SS-05	0-1.5	Fluoranthene	SVOC	1,100,000.0	20,000,000	-	2,691.6	4,037.4
SS-05	0-1.5	Indeno(1,2,3-cd)pyrene	SVOC	350,000.0	900,000	-	2,691.6	4,037.4
SS-05	0-1.5	Naphthalene	SVOC	0.0	54,000,000	-	2,691.6	4,037.4
SS-05	0-1.5	Pyrene	SVOC	750,000.0	13,000,000	-	2,691.6	4,037.4
SS-05	0-1.5	Aroclor, Total	PCB	780,000.0	10,000,000	-	2,443.9	3,665.9
SS-05	0-1.5	Pentachlorophenol	PEST	0.0	5,300,000	-	2,691.6	4,037.4
SS-06	0-2	Benzo(a)anthracene	SVOC	530,000.0	900,000	-	2,428.9	4,857.7
SS-06	0-2	Benzo(a)pyrene	SVOC	690,000.0	400,000	1.7	2,428.9	4,857.7
SS-06	0-2	Benzo(b)fluoranthene	SVOC	870,000.0	900,000	-	2,428.9	4,857.7
SS-06	0-2	Benzo(g,h,i)perylene	SVOC	350,000.0	800,000	-	2,428.9	4,857.7
SS-06	0-2	Benzo(k)fluoranthene	SVOC	360,000.0	900,000	-	2,428.9	4,857.7
SS-06	0-2	Bis(2-ethylhexyl)phthalate	SVOC	450,000.0	46,000,000	-	2,428.9	4,857.7

Table 2.2-6: Source Area Soil Cap (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS-06	0-2	Chrysene	SVOC	710,000.0	400,000	1.8	2,428.9	4,857.7
SS-06	0-2	Dibenzo(a,h)anthracene	SVOC	160,000.0	400,000	-	2,428.9	4,857.7
SS-06	0-2	Fluoranthene	SVOC	980,000.0	20,000,000	-	2,428.9	4,857.7
SS-06	0-2	Indeno(1,2,3-cd)pyrene	SVOC	460,000.0	900,000	-	2,428.9	4,857.7
SS-06	0-2	Naphthalene	SVOC	0.0	54,000,000	-	2,428.9	4,857.7
SS-06	0-2	Pyrene	SVOC	860,000.0	13,000,000	-	2,428.9	4,857.7
SS-06	0-2	Aroclor, Total	PCB	760,000.0	10,000,000	-	2,247.2	4,494.4
SS-06	0-2	Pentachlorophenol	PEST	0.0	5,300,000	-	2,428.9	4,857.7
SS-99-00	0-0.25	TEQ	DIOXIN	198.5	1,000	-	593.4	148.3
SS-99-01	0-0.25	TEQ	DIOXIN	187.5	1,000	-	756.6	189.2
SS-99-02	0-0.25	TEQ	DIOXIN	188.5	1,000	-	439.7	109.9
SS-99-03	0-0.25	TEQ	DIOXIN	4,200.0	1,000	4.2	2,569.7	642.4
SS-99-04	0-0.25	TEQ	DIOXIN	6,640.0	1,000	6.6	1,824.6	456.2
SS-99-05	0-0.25	TEQ	DIOXIN	26,290.0	1,000	26.3	844.3	211.1

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-139	0-0.25	TEQ	DIOXIN	158.0	1,000		1,352.9	338.2
CMS-140	0-0.25	TEQ	DIOXIN	117,000.0	1,000	117.0	1,625.2	406.3
CMS-140	0-1	TEQ	DIOXIN	420.0	1,000		1,625.2	1,625.2
CMS-140	0-1	Aroclor, Total	PCB	190,000,000.0	10,000,000	19.0	1,672.6	1,672.6
CMS-147	0-0.25	TEQ	DIOXIN	6,470.0	1,000	6.5	2,812.1	703.0
CMS-147	0-1	TEQ	DIOXIN	380.0	1,000		2,812.1	2,812.1
CMS-147	0-1	Aroclor, Total	PCB	22,000,000.0	10,000,000	2.2	2,812.1	2,812.1
CMS-147	1-2	TEQ	DIOXIN	115.0	1,000		2,812.1	2,812.1
CMS-147	1-2	Aroclor, Total	PCB	350,000,000.0	10,000,000	35.0	2,812.1	2,812.1
CMS-147	2-3	TEQ	DIOXIN	3,000.0	1,000	3.0	2,812.1	2,812.1
CMS-147	2-3	Aroclor, Total	PCB	1,300,000,000.0	10,000,000	130.0	2,812.1	2,812.1
CMS-153	0-0.25	TEQ	DIOXIN	40.8	1,000		1,061.1	265.3
CMS-153	0-1	TEQ	DIOXIN	300.0	1,000		1,061.1	1,061.1
CMS-153	0-1	Aroclor, Total	PCB	600,000.0	10,000,000		1,542.4	1,542.4
CMS-153	1-2	TEQ	DIOXIN	550.0	1,000		1,061.1	1,061.1
CMS-153	1-2	Aroclor, Total	PCB	580,000.0	10,000,000		1,542.4	1,542.4
CMS-153	2-3	TEQ	DIOXIN	140.0	1,000		1,061.1	1,061.1
CMS-153	2-3	Aroclor, Total	PCB	26,000,000.0	10,000,000	2.6	1,542.4	1,542.4
CMS-153	3-4	TEQ	DIOXIN	41.0	1,000		1,061.1	1,061.1
CMS-153	3-4	Aroclor, Total	PCB	540,000.0	10,000,000		1,542.4	1,542.4
CMS-153	4-5	TEQ	DIOXIN	2.2	1,000		1,061.1	1,061.1
CMS-153	4-5	Aroclor, Total	PCB	0.0	10,000,000		1,542.4	1,542.4
CMS-153	5-5.5	TEQ	DIOXIN	1.1	1,000		1,061.1	530.5
CMS-153	5-5.5	Aroclor, Total	PCB	0.0	10,000,000		1,542.4	771.2
CMS-154	0-0.25	TEQ	DIOXIN	1,300.0	1,000	1.3	1,145.9	286.5
CMS-154	0-1	TEQ	DIOXIN	420.0	1,000		1,145.9	1,145.9
CMS-154	0-1	Aroclor, Total	PCB	44,000,000.0	10,000,000	4.4	1,145.9	1,145.9
CMS-154	1-2	TEQ	DIOXIN	345.0	1,000		1,145.9	1,145.9
CMS-154	1-2	Aroclor, Total	PCB	700,000,000.0	10,000,000	70.0	1,145.9	1,145.9
CMS-154	2-3	TEQ	DIOXIN	24.5	1,000		1,145.9	1,145.9
CMS-154	2-3	Aroclor, Total	PCB	19,000,000.0	10,000,000	1.9	1,145.9	1,145.9
CMS-155	0-0.25	TEQ	DIOXIN	6,810.0	1,000	6.8	1,731.0	432.8
CMS-155	0-1	TEQ	DIOXIN	1,500.0	1,000	1.5	1,731.0	1,731.0

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-155	0-1	Aroclor, Total	PCB	560,000,000.0	10,000,000	56.0	1,735.3	1,735.3
CMS-155	1-2	TEQ	DIOXIN	360.0	1,000		1,731.0	1,731.0
CMS-155	1-2	Aroclor, Total	PCB	28,000,000.0	10,000,000	2.8	1,735.3	1,735.3
CMS-155	3-4	TEQ	DIOXIN	1,800.0	1,000	1.8	1,731.0	1,731.0
CMS-155	3-4	Aroclor, Total	PCB	2,400,000.0	10,000,000	-	1,735.3	1,735.3
CMS-155	4-5	TEQ	DIOXIN	205.0	1,000		1,731.0	1,731.0
CMS-155	4-5	Aroclor, Total	PCB	200,000.0	10,000,000		1,735.3	1,735.3
CMS-155	5-6	TEQ	DIOXIN	325.0	1,000	-	1,731.0	1,731.0
CMS-155	5-6	Aroclor, Total	PCB	1,600,000.0	10,000,000	-	1,735.3	1,735.3
CMS-156	0-0.25	TEQ	DIOXIN	52,900.0	1,000	- 52.9	2,480.3	620.1
CMS-156	0-1	TEQ	DIOXIN	5,900.0	1,000	- 5.9	2,480.3	2,480.3
CMS-156	0-1	Aroclor, Total	PCB	130,000,000.0	10,000,000	- 13.0	2,581.3	2,581.3
CMS-161	0-0.25	TEQ	DIOXIN	2,550.0	1,000	2.6	742.8	185.7
CMS-161	0-1	TEQ	DIOXIN	240.0	1,000		742.8	742.8
CMS-161	0-1	Aroclor, Total	PCB	290,000.0	10,000,000		993.7	993.7
CMS-161	1-2	TEQ	DIOXIN	124.0	1,000		742.8	742.8
CMS-161	1-2	Aroclor, Total	PCB	140,000.0	10,000,000	-	993.7	993.7
CMS-162	0-0.25	TEQ	DIOXIN	311.0	1,000	-	1,512.8	378.2
CMS-162	0-1	TEQ	DIOXIN	980.0	1,000	-	1,512.8	1,512.8
CMS-162	0-1	Aroclor, Total	PCB	3,700,000.0	10,000,000	-	1,516.7	1,516.7
CMS-162	1-2	TEQ	DIOXIN	220.0	1,000	-	1,512.8	1,512.8
CMS-162	1-2	Aroclor, Total	PCB	650,000.0	10,000,000	-	1,516.7	1,516.7
CMS-162	2-3	TEQ	DIOXIN	340.0	1,000	-	1,512.8	1,512.8
CMS-162	2-3	Aroclor, Total	PCB	1,000,000.0	10,000,000	-	1,516.7	1,516.7
CMS-162	3-4	TEQ	DIOXIN	860.0	1,000	-	1,512.8	1,512.8
CMS-162	3-4	Aroclor, Total	PCB	2,100,000.0	10,000,000	-	1,516.7	1,516.7
CMS-163	0-0.25	TEQ	DIOXIN	253.0	1,000	-	1,406.5	351.6
CMS-164	0-0.25	TEQ	DIOXIN	17,500.0	1,000	- 17.5	1,683.3	420.8
CMS-164	0-1	TEQ	DIOXIN	52,000.0	1,000	- 52.0	1,683.3	1,683.3
CMS-164	0-1	Antimony	M	7,700,000.0	10,000,000	-	10,495.1	10,495.1
CMS-164	0-1	Arsenic	M	6,600,000.0	7,000,000		10,495.1	10,495.1
CMS-164	0-1	Beryllium	M	1,900,000.0	400,000	4.8	10,495.1	10,495.1
CMS-164	0-1	Cadmium	M	1,200,000.0	39,000,000	-	10,495.1	10,495.1

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-164	0-1	Lead	M	323,000,000.0	150,000,000	2.2	10,495.1	10,495.1
CMS-164	0-1	Manganese	M	489,000,000.0	390,000,000	1.3	10,495.1	10,495.1
CMS-164	0-1	Thallium	M	0.0	5,500,000		10,495.1	10,495.1
CMS-164	0-1	Benzo(a)anthracene	SVOC	240,000.0	900,000		7,545.2	7,545.2
CMS-164	0-1	Benzo(a)pyrene	SVOC	320,000.0	400,000		7,545.2	7,545.2
CMS-164	0-1	Benzo(b)fluoranthene	SVOC	520,000.0	900,000	-	7,545.2	7,545.2
CMS-164	0-1	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	7,545.2	7,545.2
CMS-164	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	7,545.2	7,545.2
CMS-164	0-1	Bis(2-ethylhexyl)phthalate	SVOC	2,400,000.0	46,000,000	-	7,545.2	7,545.2
CMS-164	0-1	Chrysene	SVOC	420,000.0	400,000	- 1.1	7,545.2	7,545.2
CMS-164	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	7,545.2	7,545.2
CMS-164	0-1	Fluoranthene	SVOC	310,000.0	20,000,000	-	7,545.2	7,545.2
CMS-164	0-1	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000		7,545.2	7,545.2
CMS-164	0-1	Naphthalene	SVOC	0.0	54,000,000	-	7,545.2	7,545.2
CMS-164	0-1	Pyrene	SVOC	450,000.0	13,000,000	-	7,545.2	7,545.2
CMS-164	0-1	Aroclor, Total	PCB	2,800,000.0	10,000,000	-	2,517.9	2,517.9
CMS-164	0-1	Dieldrin	PEST	320,000.0	40,000	- 8.0	7,545.2	7,545.2
CMS-164	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	7,545.2	7,545.2
CMS-164	0-1	Technical Chlordane	PEST	350,000.0	500,000	-	7,545.2	7,545.2
CMS-164	0-1	1,2-dichloroethane	VOC	0.0	900,000		10,495.1	10,495.1
CMS-164	0-1	Benzene	VOC	64,000.0	2,500,000	-	10,495.1	10,495.1
CMS-164	0-1	Chlorobenzene	VOC	10,000.0	100,000,000	-	10,495.1	10,495.1
CMS-164	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	10,495.1	10,495.1
CMS-164	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	10,495.1	10,495.1
CMS-164	0-1	Tetrachloroethene	VOC	8,800.0	4,200,000	-	10,495.1	10,495.1
CMS-164	0-1	Toluene	VOC	0.0	54,000,000	-	10,495.1	10,495.1
CMS-164	0-1	Total Xylenes	VOC	0.0	110,000,000	-	10,495.1	10,495.1
CMS-164	0-1	Trichloroethene	VOC	33,000.0	13,000,000	-	10,495.1	10,495.1
CMS-164	0-1	Vinyl chloride	VOC	0.0	20,000	-	10,495.1	10,495.1
CMS-165	0-0.25	TEQ	DIOXIN	8,580.0	1,000	- 8.6	935.6	233.9
CMS-165	0-1	TEQ	DIOXIN	120.0	1,000	-	935.6	935.6
CMS-170	0-0.25	TEQ	DIOXIN	8,590.0	1,000	- 8.6	1,032.2	258.0
CMS-170	0-1	TEQ	DIOXIN	26,000.0	1,000	26.0	1,032.2	1,032.2
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-170	0-1	Aroclor, Total	PCB	4,000,000.0	10,000,000		899.9	899.9
CMS-170	1-2	TEQ	DIOXIN	7,200.0	1,000	7.2	1,032.2	1,032.2
CMS-170	1-2	Aroclor, Total	PCB	240,000.0	10,000,000		899.9	899.9
CMS-236	0-0.25	TEQ	DIOXIN	830.0	1,000	-	738.1	184.5
CMS-237	0-0.25	TEQ	DIOXIN	2,620.0	1,000	2.6	1,244.0	311.0
CMS-237	0-1	TEQ	DIOXIN	7,100.0	1,000	- 7.1	1,244.0	1,244.0
CMS-237	0-1	Antimony	M	2,800,000.0	10,000,000	-	8,800.5	8,800.5
CMS-237	0-1	Arsenic	M	4,200,000.0	7,000,000		8,800.5	8,800.5
CMS-237	0-1	Beryllium	M	670,000.0	400,000	1.7	8,800.5	8,800.5
CMS-237	0-1	Cadmium	M	8,400,000.0	39,000,000	-	8,800.5	8,800.5
CMS-237	0-1	Lead	M	228,000,000.0	150,000,000	- 1.5	8,800.5	8,800.5
CMS-237	0-1	Manganese	M	153,000,000.0	390,000,000		8,800.5	8,800.5
CMS-237	0-1	Thallium	M	0.0	5,500,000	-	8,800.5	8,800.5
CMS-237	0-1	Benzo(a)anthracene	SVOC	990,000.0	900,000	1.1	6,143.0	6,143.0
CMS-237	0-1	Benzo(a)pyrene	SVOC	980,000.0	400,000	- 2.5	6,143.0	6,143.0
CMS-237	0-1	Benzo(b)fluoranthene	SVOC	1,900,000.0	900,000	- 2.1	6,143.0	6,143.0
CMS-237	0-1	Benzo(g,h,i)perylene	SVOC	610,000.0	800,000		6,143.0	6,143.0
CMS-237	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000		6,143.0	6,143.0
CMS-237	0-1	Bis(2-ethylhexyl)phthalate	SVOC	17,000,000.0	46,000,000		6,143.0	6,143.0
CMS-237	0-1	Chrysene	SVOC	1,200,000.0	400,000	- 3.0	6,143.0	6,143.0
CMS-237	0-1	Dibenzo(a,h)anthracene	SVOC	190,000.0	400,000	-	6,143.0	6,143.0
CMS-237	0-1	Fluoranthene	SVOC	2,300,000.0	20,000,000	-	6,143.0	6,143.0
CMS-237	0-1	Indeno(1,2,3-cd)pyrene	SVOC	530,000.0	900,000		6,143.0	6,143.0
CMS-237	0-1	Naphthalene	SVOC	100,000.0	54,000,000	-	6,143.0	6,143.0
CMS-237	0-1	Pyrene	SVOC	2,400,000.0	13,000,000	-	6,143.0	6,143.0
CMS-237	0-1	Aroclor, Total	PCB	13,000,000.0	10,000,000	- 1.3	1,244.2	1,244.2
CMS-237	0-1	Dieldrin	PEST	140,000.0	40,000	- 3.5	6,143.0	6,143.0
CMS-237	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	6,143.0	6,143.0
CMS-237	0-1	Technical Chlordane	PEST	250,000.0	500,000		6,143.0	6,143.0
CMS-237	0-1	1,2-dichloroethane	VOC	0.0	900,000		8,800.5	8,800.5
CMS-237	0-1	Benzene	VOC	0.0	2,500,000	-	8,800.5	8,800.5
CMS-237	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	8,800.5	8,800.5
CMS-237	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	8,800.5	8,800.5

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-237	0-1	Ethylbenzene	VOC	0.0	62,000,000		8,800.5	8,800.5
CMS-237	0-1	Tetrachloroethene	VOC	7,500.0	4,200,000		8,800.5	8,800.5
CMS-237	0-1	Toluene	VOC	0.0	54,000,000		8,800.5	8,800.5
CMS-237	0-1	Total Xylenes	VOC	0.0	110,000,000	-	8,800.5	8,800.5
CMS-237	0-1	Trichloroethene	VOC	2,700.0	13,000,000	-	8,800.5	8,800.5
CMS-237	0-1	Vinyl chloride	VOC	0.0	20,000	-	8,800.5	8,800.5
CMS-237	1-2	TEQ	DIOXIN	1,200.0	1,000	- 1.2	1,244.0	1,244.0
CMS-237	1-2	Antimony	M	20,300,000.0	10,000,000	- 2.0	8,800.5	8,800.5
CMS-237	1-2	Arsenic	M	12,300,000.0	7,000,000	- 1.8	8,800.5	8,800.5
CMS-237	1-2	Beryllium	M	500,000.0	400,000	1.3	8,800.5	8,800.5
CMS-237	1-2	Cadmium	M	33,700,000.0	39,000,000		8,800.5	8,800.5
CMS-237	1-2	Lead	M	1,450,000,000.0	150,000,000	9.7	8,800.5	8,800.5
CMS-237	1-2	Manganese	M	404,000,000.0	390,000,000	1.0	8,800.5	8,800.5
CMS-237	1-2	Thallium	M	0.0	5,500,000	-	8,800.5	8,800.5
CMS-237	1-2	Benzo(a)anthracene	SVOC	400,000.0	900,000		6,143.0	6,143.0
CMS-237	1-2	Benzo(a)pyrene	SVOC	400,000.0	400,000	1.0	6,143.0	6,143.0
CMS-237	1-2	Benzo(b)fluoranthene	SVOC	780,000.0	900,000	-	6,143.0	6,143.0
CMS-237	1-2	Benzo(g,h,i)perylene	SVOC	200,000.0	800,000	-	6,143.0	6,143.0
CMS-237	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		6,143.0	6,143.0
CMS-237	1-2	Bis(2-ethylhexyl)phthalate	SVOC	6,100,000.0	46,000,000	-	6,143.0	6,143.0
CMS-237	1-2	Chrysene	SVOC	480,000.0	400,000	- 1.2	6,143.0	6,143.0
CMS-237	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	6,143.0	6,143.0
CMS-237	1-2	Fluoranthene	SVOC	760,000.0	20,000,000	-	6,143.0	6,143.0
CMS-237	1-2	Indeno(1,2,3-cd)pyrene	SVOC	180,000.0	900,000		6,143.0	6,143.0
CMS-237	1-2	Naphthalene	SVOC	3,900.0	54,000,000	-	6,143.0	6,143.0
CMS-237	1-2	Pyrene	SVOC	960,000.0	13,000,000	-	6,143.0	6,143.0
CMS-237	1-2	Aroclor, Total	PCB	56,000,000.0	10,000,000	- 5.6	1,244.2	1,244.2
CMS-237	1-2	Dieldrin	PEST	91,000.0	40,000	- 2.3	6,143.0	6,143.0
CMS-237	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	6,143.0	6,143.0
CMS-237	1-2	Technical Chlordane	PEST	0.0	500,000		6,143.0	6,143.0
CMS-237	1-2	1,2-dichloroethane	VOC	0.0	900,000		8,800.5	8,800.5
CMS-237	1-2	Benzene	VOC	6,000.0	2,500,000	-	8,800.5	8,800.5
CMS-237	1-2	Chlorobenzene	VOC	3,200.0	100,000,000	-	8,800.5	8,800.5

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-237	1-2	Cis-1,2-dichloroethene	VOC	23,000.0	60,000,000		8,800.5	8,800.5
CMS-237	1-2	Ethylbenzene	VOC	8,600.0	62,000,000		8,800.5	8,800.5
CMS-237	1-2	Tetrachloroethene	VOC	210,000.0	4,200,000		8,800.5	8,800.5
CMS-237	1-2	Toluene	VOC	15,000.0	54,000,000	-	8,800.5	8,800.5
CMS-237	1-2	Total Xylenes	VOC	28,000.0	110,000,000	-	8,800.5	8,800.5
CMS-237	1-2	Trichloroethene	VOC	41,000.0	13,000,000	-	8,800.5	8,800.5
CMS-237	1-2	Vinyl chloride	VOC	0.0	20,000	-	8,800.5	8,800.5
CMS-237	2-3	TEQ	DIOXIN	350.0	1,000	-	1,244.0	1,244.0
CMS-237	2-3	Antimony	M	7,200,000.0	10,000,000	-	8,800.5	8,800.5
CMS-237	2-3	Arsenic	M	10,700,000.0	7,000,000	- 1.5	8,800.5	8,800.5
CMS-237	2-3	Beryllium	M	1,500,000.0	400,000	- 3.8	8,800.5	8,800.5
CMS-237	2-3	Cadmium	M	12,200,000.0	39,000,000	-	8,800.5	8,800.5
CMS-237	2-3	Lead	M	494,000,000.0	150,000,000	3.3	8,800.5	8,800.5
CMS-237	2-3	Manganese	M	396,000,000.0	390,000,000	1.0	8,800.5	8,800.5
CMS-237	2-3	Thallium	M	0.0	5,500,000	-	8,800.5	8,800.5
CMS-237	2-3	Benzo(a)anthracene	SVOC	1,500,000.0	900,000	1.7	6,143.0	6,143.0
CMS-237	2-3	Benzo(a)pyrene	SVOC	1,500,000.0	400,000	3.8	6,143.0	6,143.0
CMS-237	2-3	Benzo(b)fluoranthene	SVOC	2,700,000.0	900,000	- 3.0	6,143.0	6,143.0
CMS-237	2-3	Benzo(g,h,i)perylene	SVOC	710,000.0	800,000		6,143.0	6,143.0
CMS-237	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000		6,143.0	6,143.0
CMS-237	2-3	Bis(2-ethylhexyl)phthalate	SVOC	2,700,000.0	46,000,000		6,143.0	6,143.0
CMS-237	2-3	Chrysene	SVOC	1,500,000.0	400,000	- 3.8	6,143.0	6,143.0
CMS-237	2-3	Dibenzo(a,h)anthracene	SVOC	250,000.0	400,000	-	6,143.0	6,143.0
CMS-237	2-3	Fluoranthene	SVOC	2,600,000.0	20,000,000	-	6,143.0	6,143.0
CMS-237	2-3	Indeno(1,2,3-cd)pyrene	SVOC	640,000.0	900,000		6,143.0	6,143.0
CMS-237	2-3	Naphthalene	SVOC	0.0	54,000,000	-	6,143.0	6,143.0
CMS-237	2-3	Pyrene	SVOC	3,600,000.0	13,000,000	-	6,143.0	6,143.0
CMS-237	2-3	Aroclor, Total	PCB	8,500,000.0	10,000,000	-	1,244.2	1,244.2
CMS-237	2-3	Dieldrin	PEST	0.0	40,000	-	6,143.0	6,143.0
CMS-237	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	6,143.0	6,143.0
CMS-237	2-3	Technical Chlordane	PEST	0.0	500,000	-	6,143.0	6,143.0
CMS-237	2-3	Benzene	VOC	18,000.0	2,500,000	-	8,800.5	8,800.5
CMS-237	2-3	Chlorobenzene	VOC	7,700.0	100,000,000	-	8,800.5	8,800.5
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-237	2-3	Cis-1,2-dichloroethene	VOC	43,000.0	60,000,000		8,800.5	8,800.5
CMS-237	2-3	Ethylbenzene	VOC	4,800.0	62,000,000		8,800.5	8,800.5
CMS-237	2-3	Tetrachloroethene	VOC	110,000.0	4,200,000		8,800.5	8,800.5
CMS-237	2-3	Toluene	VOC	8,500.0	54,000,000	-	8,800.5	8,800.5
CMS-237	2-3	Total Xylenes	VOC	24,000.0	110,000,000	-	8,800.5	8,800.5
CMS-237	2-3	Trichloroethene	VOC	35,000.0	13,000,000	-	8,800.5	8,800.5
CMS-238	0-0.25	TEQ	DIOXIN	13,500.0	1,000	- 13.5	1,259.3	314.8
CMS-238	0-1	TEQ	DIOXIN	4,200.0	1,000	- 4.2	1,259.3	1,259.3
CMS-238	0-1	Aroclor, Total	PCB	86,000,000.0	10,000,000	- 8.6	1,435.2	1,435.2
CMS-238	1-2	TEQ	DIOXIN	165.0	1,000		1,259.3	1,259.3
CMS-238	1-2	Aroclor, Total	PCB	4,800,000.0	10,000,000		1,435.2	1,435.2
CMS-239	0-0.25	TEQ	DIOXIN	3,490.0	1,000	3.5	1,244.0	311.0
CMS-239	0-1	TEQ	DIOXIN	6,600.0	1,000	- 6.6	1,244.0	1,244.0
CMS-239	0-1	Aroclor, Total	PCB	35,000,000.0	10,000,000	- 3.5	1,552.7	1,552.7
CMS-239	1-2	TEQ	DIOXIN	1,150.0	1,000	1.2	1,244.0	1,244.0
CMS-239	1-2	Aroclor, Total	PCB	32,000,000.0	10,000,000	3.2	1,552.7	1,552.7
CMS-241	0-0.25	TEQ	DIOXIN	6,640.0	1,000	6.6	1,595.3	398.8
CMS-241	0-1	TEQ	DIOXIN	27,000.0	1,000	27.0	1,595.3	1,595.3
CMS-241	0-1	Aroclor, Total	PCB	3,600,000.0	10,000,000		1,260.3	1,260.3
CMS-241	1-2	TEQ	DIOXIN	1,500.0	1,000	1.5	1,595.3	1,595.3
CMS-241	1-2	Aroclor, Total	PCB	190,000.0	10,000,000		1,260.3	1,260.3
CMS-242	0-0.25	TEQ	DIOXIN	20,300.0	1,000	- 20.3	1,139.6	284.9
CMS-242	0-1	TEQ	DIOXIN	6,300.0	1,000	6.3	1,139.6	1,139.6
CMS-242	0-1	Aroclor, Total	PCB	16,000,000.0	10,000,000	- 1.6	1,247.7	1,247.7
CMS-242	1-2	TEQ	DIOXIN	270.0	1,000		1,139.6	1,139.6
CMS-242	1-2	Aroclor, Total	PCB	2,300,000.0	10,000,000		1,247.7	1,247.7
CMS-400	0-1	TEQ	DIOXIN	650.0	1,000		905.6	905.6
CMS-400	0-1	Aroclor, Total	PCB	350,000.0	10,000,000	-	905.6	905.6
CMS-400	1-2	TEQ	DIOXIN	65.0	1,000	-	905.6	905.6
CMS-400	1-2	Aroclor, Total	PCB	6,900,000.0	10,000,000	-	905.6	905.6
CMS-400	2-3	TEQ	DIOXIN	280.0	1,000	-	905.6	905.6
CMS-400	2-3	Aroclor, Total	PCB	6,900,000.0	10,000,000	-	905.6	905.6
CMS-400	3-4	TEQ	DIOXIN	32.5	1,000	-	905.6	905.6

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-400	3-4	Aroclor, Total	PCB	3,100,000.0	10,000,000		905.6	905.6
CMS-400	4-5	TEQ	DIOXIN	15.0	1,000		905.6	905.6
CMS-400	4-5	Aroclor, Total	PCB	0.0	10,000,000		905.6	905.6
CMS-400	5-6	TEQ	DIOXIN	6.5	1,000	-	905.6	905.6
CMS-400	5-6	Aroclor, Total	PCB	0.0	10,000,000	-	905.6	905.6
CMS-401	0-1	TEQ	DIOXIN	6.0	1,000	-	1,064.3	1,064.3
CMS-401	0-1	Aroclor, Total	PCB	0.0	10,000,000	-	1,064.3	1,064.3
CMS-401	1-2	TEQ	DIOXIN	46.0	1,000	-	1,064.3	1,064.3
CMS-401	1-2	Aroclor, Total	PCB	6,000,000.0	10,000,000	-	1,064.3	1,064.3
CMS-401	2-3	TEQ	DIOXIN	235.0	1,000	-	1,064.3	1,064.3
CMS-401	2-3	Aroclor, Total	PCB	330,000.0	10,000,000	-	1,064.3	1,064.3
CMS-401	3-4	TEQ	DIOXIN	32.5	1,000	-	1,064.3	1,064.3
CMS-401	3-4	Aroclor, Total	PCB	480,000.0	10,000,000	-	1,064.3	1,064.3
CMS-402	0-1	TEQ	DIOXIN	8.5	1,000	-	1,351.4	1,351.4
CMS-402	0-1	Aroclor, Total	PCB	350,000.0	10,000,000	-	2,646.5	2,646.5
CMS-402	1-2	TEQ	DIOXIN	5.0	1,000	-	1,351.4	1,351.4
CMS-402	1-2	Aroclor, Total	PCB	27,000.0	10,000,000	-	2,646.5	2,646.5
CMS-402	2-3	TEQ	DIOXIN	2,400.0	1,000	- 2.4	1,351.4	1,351.4
CMS-402	2-3	Aroclor, Total	PCB	420,000,000.0	10,000,000	- 42.0	2,646.5	2,646.5
CMS-402	3-4	TEQ	DIOXIN	110.0	1,000	-	1,351.4	1,351.4
CMS-402	3-4	Aroclor, Total	PCB	4,900,000.0	10,000,000		2,646.5	2,646.5
CMS-402	4-5	TEQ	DIOXIN	4.2	1,000		1,351.4	1,351.4
CMS-402	4-5	Aroclor, Total	PCB	800,000.0	10,000,000	-	2,646.5	2,646.5
CMS-402	5-6	TEQ	DIOXIN	5.5	1,000	-	1,351.4	1,351.4
CMS-402	5-6	Aroclor, Total	PCB	0.0	10,000,000	-	2,646.5	2,646.5
CMS-403	0-1	TEQ	DIOXIN	150.0	1,000	-	2,131.0	2,131.0
CMS-403	0-1	Aroclor, Total	PCB	330,000.0	10,000,000	-	2,131.0	2,131.0
CMS-403	1-2	TEQ	DIOXIN	4.4	1,000	-	2,131.0	2,131.0
CMS-403	1-2	Aroclor, Total	PCB	200,000.0	10,000,000	-	2,131.0	2,131.0
CMS-403	2-3	TEQ	DIOXIN	3.9	1,000	-	2,131.0	2,131.0
CMS-403	2-3	Aroclor, Total	PCB	85,000.0	10,000,000	-	2,131.0	2,131.0
CMS-403	3-4	TEQ	DIOXIN	4.2	1,000	-	2,131.0	2,131.0
CMS-403	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	2,131.0	2,131.0
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-403	4-5	TEQ	DIOXIN	2.9	1,000		2,131.0	2,131.0
CMS-403	4-5	Aroclor, Total	PCB	0.0	10,000,000		2,131.0	2,131.0
CMS-404	0-1	TEQ	DIOXIN	300.0	1,000		982.8	982.8
CMS-404	0-1	Aroclor, Total	PCB	1,800,000.0	10,000,000	-	982.8	982.8
CMS-404	1-2	TEQ	DIOXIN	8.0	1,000	-	982.8	982.8
CMS-404	1-2	Aroclor, Total	PCB	780,000.0	10,000,000	-	982.8	982.8
CMS-404	2-3	TEQ	DIOXIN	3.3	1,000	-	982.8	982.8
CMS-404	2-3	Aroclor, Total	PCB	70,000.0	10,000,000	-	982.8	982.8
CMS-404	3-4	TEQ	DIOXIN	10.0	1,000	-	982.8	982.8
CMS-404	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	982.8	982.8
CMS-404	4-5	TEQ	DIOXIN	3.9	1,000	-	982.8	982.8
CMS-404	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	982.8	982.8
CMS-404	5-6	TEQ	DIOXIN	4.6	1,000	-	982.8	982.8
CMS-404	5-6	Aroclor, Total	PCB	0.0	10,000,000	-	982.8	982.8
CMS-405	0-1	TEQ	DIOXIN	0.9	1,000	-	1,354.9	1,354.9
CMS-405	0-1	Antimony	M	0.0	10,000,000	-	11,150.8	11,150.8
CMS-405	0-1	Arsenic	M	1,200,000.0	7,000,000	-	11,150.8	11,150.8
CMS-405	0-1	Beryllium	M	330,000.0	400,000	-	11,150.8	11,150.8
CMS-405	0-1	Cadmium	M	0.0	39,000,000	-	11,150.8	11,150.8
CMS-405	0-1	Lead	M	4,700,000.0	150,000,000	-	11,150.8	11,150.8
CMS-405	0-1	Manganese	M	211,000,000.0	390,000,000	-	11,150.8	11,150.8
CMS-405	0-1	Thallium	M	0.0	5,500,000	-	11,150.8	11,150.8
CMS-405	0-1	Benzo(a)anthracene	SVOC	1,900,000.0	900,000	- 2.1	11,141.6	11,141.6
CMS-405	0-1	Benzo(a)pyrene	SVOC	1,500,000.0	400,000	- 3.8	11,141.6	11,141.6
CMS-405	0-1	Benzo(b)fluoranthene	SVOC	3,500,000.0	900,000	- 3.9	11,141.6	11,141.6
CMS-405	0-1	Benzo(g,h,i)perylene	SVOC	910,000.0	800,000	1.1	11,141.6	11,141.6
CMS-405	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000		11,141.6	11,141.6
CMS-405	0-1	Bis(2-ethylhexyl)phthalate	SVOC	74,000.0	46,000,000		11,141.6	11,141.6
CMS-405	0-1	Chrysene	SVOC	2,000,000.0	400,000	5.0	11,141.6	11,141.6
CMS-405	0-1	Dibenzo(a,h)anthracene	SVOC	250,000.0	400,000	-	11,141.6	11,141.6
CMS-405	0-1	Fluoranthene	SVOC	4,600,000.0	20,000,000	-	11,141.6	11,141.6
CMS-405	0-1	Indeno(1,2,3-cd)pyrene	SVOC	810,000.0	900,000		11,141.6	11,141.6
CMS-405	0-1	Naphthalene	SVOC	0.0	54,000,000	-	11,141.6	11,141.6

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-405	0-1	Pyrene	SVOC	5,200,000.0	13,000,000		11,141.6	11,141.6
CMS-405	0-1	Aroclor, Total	PCB	83,000.0	10,000,000		1,365.3	1,365.3
CMS-405	0-1	Dieldrin	PEST	0.0	40,000		11,141.6	11,141.6
CMS-405	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	11,141.6	11,141.6
CMS-405	0-1	Technical Chlordane	PEST	0.0	500,000	-	11,141.6	11,141.6
CMS-405	0-1	Benzene	VOC	6,400.0	2,500,000	-	11,150.8	11,150.8
CMS-405	1-2	TEQ	DIOXIN	46.5	1,000	-	1,354.9	1,354.9
CMS-405	1-2	Antimony	M	5,200,000.0	10,000,000	-	11,150.8	11,150.8
CMS-405	1-2	Arsenic	M	12,900,000.0	7,000,000	- 1.8	11,150.8	11,150.8
CMS-405	1-2	Beryllium	M	460,000.0	400,000	- 1.2	11,150.8	11,150.8
CMS-405	1-2	Cadmium	M	11,500,000.0	39,000,000	-	11,150.8	11,150.8
CMS-405	1-2	Lead	M	450,000,000.0	150,000,000	3.0	11,150.8	11,150.8
CMS-405	1-2	Manganese	M	453,000,000.0	390,000,000	1.2	11,150.8	11,150.8
CMS-405	1-2	Thallium	M	0.0	5,500,000	-	11,150.8	11,150.8
CMS-405	1-2	Benzo(a)anthracene	SVOC	5,500,000.0	900,000	6.1	11,141.6	11,141.6
CMS-405	1-2	Benzo(a)pyrene	SVOC	7,100,000.0	400,000	17.8	11,141.6	11,141.6
CMS-405	1-2	Benzo(b)fluoranthene	SVOC	10,000,000.0	900,000	- 11.1	11,141.6	11,141.6
CMS-405	1-2	Benzo(g,h,i)perylene	SVOC	4,200,000.0	800,000	5.3	11,141.6	11,141.6
CMS-405	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		11,141.6	11,141.6
CMS-405	1-2	Bis(2-ethylhexyl)phthalate	SVOC	8,000,000.0	46,000,000		11,141.6	11,141.6
CMS-405	1-2	Chrysene	SVOC	4,200,000.0	400,000	10.5	11,141.6	11,141.6
CMS-405	1-2	Dibenzo(a,h)anthracene	SVOC	1,000,000.0	400,000	- 2.5	11,141.6	11,141.6
CMS-405	1-2	Fluoranthene	SVOC	5,400,000.0	20,000,000	-	11,141.6	11,141.6
CMS-405	1-2	Indeno(1,2,3-cd)pyrene	SVOC	3,300,000.0	900,000	3.7	11,141.6	11,141.6
CMS-405	1-2	Naphthalene	SVOC	870,000.0	54,000,000		11,141.6	11,141.6
CMS-405	1-2	Pyrene	SVOC	8,100,000.0	13,000,000	-	11,141.6	11,141.6
CMS-405	1-2	Aroclor, Total	PCB	19,000,000.0	10,000,000	1.9	1,365.3	1,365.3
CMS-405	1-2	Dieldrin	PEST	0.0	40,000	-	11,141.6	11,141.6
CMS-405	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	11,141.6	11,141.6
CMS-405	1-2	Technical Chlordane	PEST	0.0	500,000		11,141.6	11,141.6
CMS-405	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	11,150.8	11,150.8
CMS-405	1-2	Benzene	VOC	140,000,000.0	2,500,000	- 56.0	11,150.8	11,150.8
CMS-405	1-2	Chlorobenzene	VOC	0.0	100,000,000	-	11,150.8	11,150.8
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-405	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000		11,150.8	11,150.8
CMS-405	1-2	Ethylbenzene	VOC	11,000,000.0	62,000,000		11,150.8	11,150.8
CMS-405	1-2	Tetrachloroethene	VOC	0.0	4,200,000		11,150.8	11,150.8
CMS-405	1-2	Toluene	VOC	3,500,000.0	54,000,000	-	11,150.8	11,150.8
CMS-405	1-2	Total Xylenes	VOC	23,000,000.0	110,000,000	-	11,150.8	11,150.8
CMS-405	1-2	Trichloroethene	VOC	0.0	13,000,000	-	11,150.8	11,150.8
CMS-405	1-2	Vinyl chloride	VOC	0.0	20,000	-	11,150.8	11,150.8
CMS-405	2-3	TEQ	DIOXIN	50.0	1,000	-	1,354.9	1,354.9
CMS-405	2-3	Antimony	M	4,000,000.0	10,000,000	-	11,150.8	11,150.8
CMS-405	2-3	Arsenic	M	14,900,000.0	7,000,000	- 2.1	11,150.8	11,150.8
CMS-405	2-3	Beryllium	M	210,000.0	400,000	-	11,150.8	11,150.8
CMS-405	2-3	Cadmium	M	7,700,000.0	39,000,000	-	11,150.8	11,150.8
CMS-405	2-3	Lead	M	1,080,000,000.0	150,000,000	7.2	11,150.8	11,150.8
CMS-405	2-3	Manganese	M	526,000,000.0	390,000,000	- 1.3	11,150.8	11,150.8
CMS-405	2-3	Thallium	M	0.0	5,500,000	-	11,150.8	11,150.8
CMS-405	2-3	Benzo(a)anthracene	SVOC	370,000.0	900,000		11,141.6	11,141.6
CMS-405	2-3	Benzo(a)pyrene	SVOC	290,000.0	400,000		11,141.6	11,141.6
CMS-405	2-3	Benzo(b)fluoranthene	SVOC	600,000.0	900,000	-	11,141.6	11,141.6
CMS-405	2-3	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	11,141.6	11,141.6
CMS-405	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	11,141.6	11,141.6
CMS-405	2-3	Bis(2-ethylhexyl)phthalate	SVOC	820,000.0	46,000,000	-	11,141.6	11,141.6
CMS-405	2-3	Chrysene	SVOC	390,000.0	400,000	-	11,141.6	11,141.6
CMS-405	2-3	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	11,141.6	11,141.6
CMS-405	2-3	Fluoranthene	SVOC	1,000,000.0	20,000,000	-	11,141.6	11,141.6
CMS-405	2-3	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	11,141.6	11,141.6
CMS-405	2-3	Naphthalene	SVOC	0.0	54,000,000	-	11,141.6	11,141.6
CMS-405	2-3	Pyrene	SVOC	850,000.0	13,000,000	-	11,141.6	11,141.6
CMS-405	2-3	Aroclor, Total	PCB	160,000.0	10,000,000	-	1,365.3	1,365.3
CMS-405	2-3	Dieldrin	PEST	0.0	40,000	-	11,141.6	11,141.6
CMS-405	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	11,141.6	11,141.6
CMS-405	2-3	Technical Chlordane	PEST	0.0	500,000	-	11,141.6	11,141.6
CMS-405	2-3	Benzene	VOC	27,000,000.0	2,500,000	- 10.8	11,150.8	11,150.8
CMS-405	3-4	TEQ	DIOXIN	2.5	1,000	-	1,354.9	1,354.9

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-405	3-4	Antimony	M	6,200,000.0	10,000,000		11,150.8	11,150.8
CMS-405	3-4	Arsenic	M	11,700,000.0	7,000,000	1.7	11,150.8	11,150.8
CMS-405	3-4	Beryllium	M	410,000.0	400,000	1.0	11,150.8	11,150.8
CMS-405	3-4	Cadmium	M	2,800,000.0	39,000,000	-	11,150.8	11,150.8
CMS-405	3-4	Lead	M	3,160,000,000.0	150,000,000	21.1	11,150.8	11,150.8
CMS-405	3-4	Manganese	M	1,060,000,000.0	390,000,000	2.7	11,150.8	11,150.8
CMS-405	3-4	Thallium	M	0.0	5,500,000	-	11,150.8	11,150.8
CMS-405	3-4	Benzo(a)anthracene	SVOC	950,000.0	900,000	1.1	11,141.6	11,141.6
CMS-405	3-4	Benzo(a)pyrene	SVOC	810,000.0	400,000	2.0	11,141.6	11,141.6
CMS-405	3-4	Benzo(b)fluoranthene	SVOC	1,600,000.0	900,000	- 1.8	11,141.6	11,141.6
CMS-405	3-4	Benzo(g,h,i)perylene	SVOC	370,000.0	800,000		11,141.6	11,141.6
CMS-405	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000		11,141.6	11,141.6
CMS-405	3-4	Bis(2-ethylhexyl)phthalate	SVOC	300,000.0	46,000,000		11,141.6	11,141.6
CMS-405	3-4	Chrysene	SVOC	1,000,000.0	400,000	- 2.5	11,141.6	11,141.6
CMS-405	3-4	Dibenzo(a,h)anthracene	SVOC	140,000.0	400,000	-	11,141.6	11,141.6
CMS-405	3-4	Fluoranthene	SVOC	2,400,000.0	20,000,000	-	11,141.6	11,141.6
CMS-405	3-4	Indeno(1,2,3-cd)pyrene	SVOC	330,000.0	900,000		11,141.6	11,141.6
CMS-405	3-4	Naphthalene	SVOC	390,000.0	54,000,000	-	11,141.6	11,141.6
CMS-405	3-4	Pyrene	SVOC	2,700,000.0	13,000,000	-	11,141.6	11,141.6
CMS-405	3-4	Aroclor, Total	PCB	720,000.0	10,000,000	-	1,365.3	1,365.3
CMS-405	3-4	Dieldrin	PEST	0.0	40,000	-	11,141.6	11,141.6
CMS-405	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	11,141.6	11,141.6
CMS-405	3-4	Technical Chlordane	PEST	0.0	500,000	-	11,141.6	11,141.6
CMS-405	3-4	Benzene	VOC	130,000,000.0	2,500,000	- 52.0	11,150.8	11,150.8
CMS-405	4-5	TEQ	DIOXIN	1.2	1,000	-	1,354.9	1,354.9
CMS-405	4-5	Antimony	M	300,000.0	10,000,000	-	11,150.8	11,150.8
CMS-405	4-5	Arsenic	M	2,500,000.0	7,000,000		11,150.8	11,150.8
CMS-405	4-5	Beryllium	M	690,000.0	400,000	- 1.7	11,150.8	11,150.8
CMS-405	4-5	Cadmium	M	200,000.0	39,000,000	-	11,150.8	11,150.8
CMS-405	4-5	Lead	M	38,500,000.0	150,000,000	-	11,150.8	11,150.8
CMS-405	4-5	Manganese	M	81,700,000.0	390,000,000		11,150.8	11,150.8
CMS-405	4-5	Thallium	M	0.0	5,500,000	-	11,150.8	11,150.8
CMS-405	4-5	Benzo(a)anthracene	SVOC	0.0	900,000	-	11,141.6	11,141.6

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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-405	4-5	Benzo(a)pyrene	SVOC	0.0	400,000		11,141.6	11,141.6
CMS-405	4-5	Benzo(b)fluoranthene	SVOC	0.0	900,000		11,141.6	11,141.6
CMS-405	4-5	Benzo(g,h,i)perylene	SVOC	0.0	800,000		11,141.6	11,141.6
CMS-405	4-5	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	11,141.6	11,141.6
CMS-405	4-5	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	11,141.6	11,141.6
CMS-405	4-5	Chrysene	SVOC	0.0	400,000	-	11,141.6	11,141.6
CMS-405	4-5	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	11,141.6	11,141.6
CMS-405	4-5	Fluoranthene	SVOC	72,000.0	20,000,000	-	11,141.6	11,141.6
CMS-405	4-5	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	11,141.6	11,141.6
CMS-405	4-5	Naphthalene	SVOC	0.0	54,000,000	-	11,141.6	11,141.6
CMS-405	4-5	Pyrene	SVOC	0.0	13,000,000	-	11,141.6	11,141.6
CMS-405	4-5	Aroclor, Total	PCB	0.0	10,000,000	-	1,365.3	1,365.3
CMS-405	4-5	Dieldrin	PEST	0.0	40,000	-	11,141.6	11,141.6
CMS-405	4-5	Pentachlorophenol	PEST	0.0	5,300,000	-	11,141.6	11,141.6
CMS-405	4-5	Technical Chlordane	PEST	0.0	500,000	-	11,141.6	11,141.6
CMS-405	4-5	1,2-dichloroethane	VOC	1,700,000.0	900,000	- 1.9	11,150.8	11,150.8
CMS-405	4-5	Benzene	VOC	66,000,000.0	2,500,000	- 26.4	11,150.8	11,150.8
CMS-405	4-5	Chlorobenzene	VOC	0.0	100,000,000	-	11,150.8	11,150.8
CMS-405	4-5	Cis-1,2-dichloroethene	VOC	0.0	60,000,000		11,150.8	11,150.8
CMS-405	4-5	Ethylbenzene	VOC	0.0	62,000,000		11,150.8	11,150.8
CMS-405	4-5	Tetrachloroethene	VOC	0.0	4,200,000	-	11,150.8	11,150.8
CMS-405	4-5	Toluene	VOC	210,000.0	54,000,000	-	11,150.8	11,150.8
CMS-405	4-5	Total Xylenes	VOC	28,000,000.0	110,000,000	-	11,150.8	11,150.8
CMS-405	4-5	Trichloroethene	VOC	0.0	13,000,000	-	11,150.8	11,150.8
CMS-405	4-5	Vinyl chloride	VOC	0.0	20,000	-	11,150.8	11,150.8
CMS-406	0-1	TEQ	DIOXIN	2.8	1,000	-	1,530.4	1,530.4
CMS-406	0-1	Aroclor, Total	PCB	63,000.0	10,000,000	-	1,530.4	1,530.4
CMS-406	1-2	TEQ	DIOXIN	14.5	1,000	-	1,530.4	1,530.4
CMS-406	1-2	Aroclor, Total	PCB	2,300,000.0	10,000,000	-	1,530.4	1,530.4
CMS-406	2-3	TEQ	DIOXIN	40.7	1,000	-	1,530.4	1,530.4
CMS-406	2-3	Aroclor, Total	PCB	630,000.0	10,000,000	-	1,530.4	1,530.4
CMS-406	3-4	TEQ	DIOXIN	9.5	1,000	-	1,530.4	1,530.4
CMS-406	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	1,530.4	1,530.4
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-407	0-1	TEQ	DIOXIN	5.5	1,000		1,100.4	1,100.4
CMS-407	0-1	Antimony	M	0.0	10,000,000		3,209.3	3,209.3
CMS-407	0-1	Arsenic	M	1,300,000.0	7,000,000		3,209.3	3,209.3
CMS-407	0-1	Beryllium	M	370,000.0	400,000	-	3,209.3	3,209.3
CMS-407	0-1	Cadmium	M	0.0	39,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Lead	M	2,800,000.0	150,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Manganese	M	237,000,000.0	390,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Thallium	M	0.0	5,500,000	-	3,209.3	3,209.3
CMS-407	0-1	Benzo(a)anthracene	SVOC	610,000.0	900,000	-	3,209.3	3,209.3
CMS-407	0-1	Benzo(a)pyrene	SVOC	570,000.0	400,000	- 1.4	3,209.3	3,209.3
CMS-407	0-1	Benzo(b)fluoranthene	SVOC	1,200,000.0	900,000	- 1.3	3,209.3	3,209.3
CMS-407	0-1	Benzo(g,h,i)perylene	SVOC	320,000.0	800,000	-	3,209.3	3,209.3
CMS-407	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000		3,209.3	3,209.3
CMS-407	0-1	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000		3,209.3	3,209.3
CMS-407	0-1	Chrysene	SVOC	670,000.0	400,000	- 1.7	3,209.3	3,209.3
CMS-407	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,209.3	3,209.3
CMS-407	0-1	Fluoranthene	SVOC	1,900,000.0	20,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Indeno(1,2,3-cd)pyrene	SVOC	320,000.0	900,000		3,209.3	3,209.3
CMS-407	0-1	Naphthalene	SVOC	0.0	54,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Pyrene	SVOC	1,500,000.0	13,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Aroclor, Total	PCB	0.0	10,000,000	-	1,100.4	1,100.4
CMS-407	0-1	Dieldrin	PEST	0.0	40,000	-	3,209.3	3,209.3
CMS-407	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	3,209.3	3,209.3
CMS-407	0-1	Technical Chlordane	PEST	0.0	500,000	-	3,209.3	3,209.3
CMS-407	0-1	1,2-dichloroethane	VOC	0.0	900,000	-	3,209.3	3,209.3
CMS-407	0-1	Benzene	VOC	0.0	2,500,000	-	3,209.3	3,209.3
CMS-407	0-1	Chlorobenzene	VOC	0.0	100,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Tetrachloroethene	VOC	0.0	4,200,000	-	3,209.3	3,209.3
CMS-407	0-1	Toluene	VOC	0.0	54,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Total Xylenes	VOC	0.0	110,000,000	-	3,209.3	3,209.3
CMS-407	0-1	Trichloroethene	VOC	0.0	13,000,000	-	3,209.3	3,209.3
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-407	0-1	Vinyl chloride	VOC	0.0	20,000		3,209.3	3,209.3
CMS-407	1-2	TEQ	DIOXIN	8.5	1,000		1,100.4	1,100.4
CMS-407	1-2	Antimony	M	0.0	10,000,000		3,209.3	3,209.3
CMS-407	1-2	Arsenic	M	1,500,000.0	7,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Beryllium	M	410,000.0	400,000	- 1.0	3,209.3	3,209.3
CMS-407	1-2	Cadmium	M	720,000.0	39,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Lead	M	14,400,000.0	150,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Manganese	M	316,000,000.0	390,000,000		3,209.3	3,209.3
CMS-407	1-2	Thallium	M	0.0	5,500,000	-	3,209.3	3,209.3
CMS-407	1-2	Benzo(a)anthracene	SVOC	1,200,000.0	900,000	- 1.3	3,209.3	3,209.3
CMS-407	1-2	Benzo(a)pyrene	SVOC	1,100,000.0	400,000	- 2.8	3,209.3	3,209.3
CMS-407	1-2	Benzo(b)fluoranthene	SVOC	2,300,000.0	900,000	- 2.6	3,209.3	3,209.3
CMS-407	1-2	Benzo(g,h,i)perylene	SVOC	530,000.0	800,000		3,209.3	3,209.3
CMS-407	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		3,209.3	3,209.3
CMS-407	1-2	Bis(2-ethylhexyl)phthalate	SVOC	1,400,000.0	46,000,000		3,209.3	3,209.3
CMS-407	1-2	Chrysene	SVOC	1,300,000.0	400,000	- 3.3	3,209.3	3,209.3
CMS-407	1-2	Dibenzo(a,h)anthracene	SVOC	170,000.0	400,000	-	3,209.3	3,209.3
CMS-407	1-2	Fluoranthene	SVOC	3,600,000.0	20,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Indeno(1,2,3-cd)pyrene	SVOC	530,000.0	900,000		3,209.3	3,209.3
CMS-407	1-2	Naphthalene	SVOC	67,000.0	54,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Pyrene	SVOC	2,800,000.0	13,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Aroclor, Total	PCB	1,900,000.0	10,000,000	-	1,100.4	1,100.4
CMS-407	1-2	Dieldrin	PEST	0.0	40,000	-	3,209.3	3,209.3
CMS-407	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	3,209.3	3,209.3
CMS-407	1-2	Technical Chlordane	PEST	0.0	500,000	-	3,209.3	3,209.3
CMS-407	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	3,209.3	3,209.3
CMS-407	1-2	Benzene	VOC	16,000.0	2,500,000	-	3,209.3	3,209.3
CMS-407	1-2	Chlorobenzene	VOC	8,000.0	100,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Cis-1,2-dichloroethene	VOC	18,000.0	60,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Ethylbenzene	VOC	140,000.0	62,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	3,209.3	3,209.3
CMS-407	1-2	Toluene	VOC	41,000.0	54,000,000	-	3,209.3	3,209.3
CMS-407	1-2	Total Xylenes	VOC	820,000.0	110,000,000	-	3,209.3	3,209.3
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-407	1-2	Trichloroethene	VOC	0.0	13,000,000		3,209.3	3,209.3
CMS-407	1-2	Vinyl chloride	VOC	0.0	20,000		3,209.3	3,209.3
CMS-407	2-3	TEQ	DIOXIN	8.0	1,000		1,100.4	1,100.4
CMS-407	2-3	Antimony	M	1,200,000.0	10,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Arsenic	M	7,100,000.0	7,000,000	- 1.0	3,209.3	3,209.3
CMS-407	2-3	Beryllium	M	520,000.0	400,000	- 1.3	3,209.3	3,209.3
CMS-407	2-3	Cadmium	M	0.0	39,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Lead	M	184,000,000.0	150,000,000	1.2	3,209.3	3,209.3
CMS-407	2-3	Manganese	M	356,000,000.0	390,000,000		3,209.3	3,209.3
CMS-407	2-3	Thallium	M	0.0	5,500,000	-	3,209.3	3,209.3
CMS-407	2-3	Benzo(a)anthracene	SVOC	2,000,000.0	900,000	2.2	3,209.3	3,209.3
CMS-407	2-3	Benzo(a)pyrene	SVOC	1,700,000.0	400,000	- 4.3	3,209.3	3,209.3
CMS-407	2-3	Benzo(b)fluoranthene	SVOC	3,200,000.0	900,000	- 3.6	3,209.3	3,209.3
CMS-407	2-3	Benzo(g,h,i)perylene	SVOC	810,000.0	800,000	1.0	3,209.3	3,209.3
CMS-407	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000		3,209.3	3,209.3
CMS-407	2-3	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000		3,209.3	3,209.3
CMS-407	2-3	Chrysene	SVOC	1,800,000.0	400,000	4.5	3,209.3	3,209.3
CMS-407	2-3	Dibenzo(a,h)anthracene	SVOC	280,000.0	400,000	-	3,209.3	3,209.3
CMS-407	2-3	Fluoranthene	SVOC	3,600,000.0	20,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Indeno(1,2,3-cd)pyrene	SVOC	770,000.0	900,000		3,209.3	3,209.3
CMS-407	2-3	Naphthalene	SVOC	0.0	54,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Pyrene	SVOC	3,000,000.0	13,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Aroclor, Total	PCB	0.0	10,000,000	-	1,100.4	1,100.4
CMS-407	2-3	Dieldrin	PEST	0.0	40,000	-	3,209.3	3,209.3
CMS-407	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	3,209.3	3,209.3
CMS-407	2-3	Technical Chlordane	PEST	0.0	500,000	-	3,209.3	3,209.3
CMS-407	2-3	1,2-dichloroethane	VOC	0.0	900,000	-	3,209.3	3,209.3
CMS-407	2-3	Benzene	VOC	11,000.0	2,500,000	-	3,209.3	3,209.3
CMS-407	2-3	Chlorobenzene	VOC	0.0	100,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Cis-1,2-dichloroethene	VOC	12,000.0	60,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Ethylbenzene	VOC	29,000.0	62,000,000	-	3,209.3	3,209.3
CMS-407	2-3	Tetrachloroethene	VOC	0.0	4,200,000	-	3,209.3	3,209.3
CMS-407	2-3	Toluene	VOC	11,000.0	54,000,000	-	3,209.3	3,209.3
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-407	2-3	Total Xylenes	VOC	190,000.0	110,000,000		3,209.3	3,209.3
CMS-407	2-3	Trichloroethene	VOC	0.0	13,000,000		3,209.3	3,209.3
CMS-407	2-3	Vinyl chloride	VOC	0.0	20,000		3,209.3	3,209.3
CMS-407	3-4	TEQ	DIOXIN	90.0	1,000	-	1,100.4	1,100.4
CMS-407	3-4	Antimony	M	700,000.0	10,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Arsenic	M	2,300,000.0	7,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Beryllium	M	540,000.0	400,000	- 1.4	3,209.3	3,209.3
CMS-407	3-4	Cadmium	M	0.0	39,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Lead	M	321,000,000.0	150,000,000	- 2.1	3,209.3	3,209.3
CMS-407	3-4	Manganese	M	201,000,000.0	390,000,000		3,209.3	3,209.3
CMS-407	3-4	Thallium	M	0.0	5,500,000	-	3,209.3	3,209.3
CMS-407	3-4	Benzo(a)anthracene	SVOC	190,000.0	900,000		3,209.3	3,209.3
CMS-407	3-4	Benzo(a)pyrene	SVOC	180,000.0	400,000	-	3,209.3	3,209.3
CMS-407	3-4	Benzo(b)fluoranthene	SVOC	330,000.0	900,000	-	3,209.3	3,209.3
CMS-407	3-4	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,209.3	3,209.3
CMS-407	3-4	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,209.3	3,209.3
CMS-407	3-4	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Chrysene	SVOC	220,000.0	400,000	-	3,209.3	3,209.3
CMS-407	3-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,209.3	3,209.3
CMS-407	3-4	Fluoranthene	SVOC	410,000.0	20,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,209.3	3,209.3
CMS-407	3-4	Naphthalene	SVOC	130,000.0	54,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Pyrene	SVOC	450,000.0	13,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	1,100.4	1,100.4
CMS-407	3-4	Dieldrin	PEST	0.0	40,000	-	3,209.3	3,209.3
CMS-407	3-4	Pentachlorophenol	PEST	0.0	5,300,000	-	3,209.3	3,209.3
CMS-407	3-4	Technical Chlordane	PEST	0.0	500,000	-	3,209.3	3,209.3
CMS-407	3-4	1,2-dichloroethane	VOC	0.0	900,000	-	3,209.3	3,209.3
CMS-407	3-4	Benzene	VOC	0.0	2,500,000	-	3,209.3	3,209.3
CMS-407	3-4	Chlorobenzene	VOC	0.0	100,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Ethylbenzene	VOC	0.0	62,000,000	-	3,209.3	3,209.3
CMS-407	3-4	Tetrachloroethene	VOC	0.0	4,200,000	-	3,209.3	3,209.3

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-407	3-4	Toluene	VOC	0.0	54,000,000		3,209.3	3,209.3
CMS-407	3-4	Total Xylenes	VOC	0.0	110,000,000		3,209.3	3,209.3
CMS-407	3-4	Trichloroethene	VOC	0.0	13,000,000		3,209.3	3,209.3
CMS-407	3-4	Vinyl chloride	VOC	0.0	20,000	-	3,209.3	3,209.3
CMS-408	0-1	TEQ	DIOXIN	7.5	1,000	-	815.0	815.0
CMS-408	0-1	Antimony	M	0.0	10,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Arsenic	M	1,500,000.0	7,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Beryllium	M	340,000.0	400,000	-	3,933.0	3,933.0
CMS-408	0-1	Cadmium	M	0.0	39,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Lead	M	4,100,000.0	150,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Manganese	M	233,000,000.0	390,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Thallium	M	0.0	5,500,000	-	3,933.0	3,933.0
CMS-408	0-1	Benzo(a)anthracene	SVOC	82,000.0	900,000	-	3,933.0	3,933.0
CMS-408	0-1	Benzo(a)pyrene	SVOC	85,000.0	400,000	-	3,933.0	3,933.0
CMS-408	0-1	Benzo(b)fluoranthene	SVOC	190,000.0	900,000	-	3,933.0	3,933.0
CMS-408	0-1	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,933.0	3,933.0
CMS-408	0-1	Benzo(k)fluoranthene	SVOC	0.0	900,000	-	3,933.0	3,933.0
CMS-408	0-1	Bis(2-ethylhexyl)phthalate	SVOC	0.0	46,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Chrysene	SVOC	120,000.0	400,000	-	3,933.0	3,933.0
CMS-408	0-1	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,933.0	3,933.0
CMS-408	0-1	Fluoranthene	SVOC	250,000.0	20,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	3,933.0	3,933.0
CMS-408	0-1	Naphthalene	SVOC	3,300.0	54,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Pyrene	SVOC	250,000.0	13,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Aroclor, Total	PCB	41,000.0	10,000,000	-	815.0	815.0
CMS-408	0-1	Dieldrin	PEST	0.0	40,000	-	3,933.0	3,933.0
CMS-408	0-1	Pentachlorophenol	PEST	0.0	5,300,000	-	3,933.0	3,933.0
CMS-408	0-1	Technical Chlordane	PEST	0.0	500,000	-	3,933.0	3,933.0
CMS-408	0-1	1,2-dichloroethane	VOC	0.0	900,000	-	3,933.0	3,933.0
CMS-408	0-1	Benzene	VOC	14,000.0	2,500,000	-	3,933.0	3,933.0
CMS-408	0-1	Chlorobenzene	VOC	2,700.0	100,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Ethylbenzene	VOC	0.0	62,000,000	-	3,933.0	3,933.0
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-408	0-1	Tetrachloroethene	VOC	0.0	4,200,000		3,933.0	3,933.0
CMS-408	0-1	Toluene	VOC	0.0	54,000,000		3,933.0	3,933.0
CMS-408	0-1	Total Xylenes	VOC	0.0	110,000,000		3,933.0	3,933.0
CMS-408	0-1	Trichloroethene	VOC	0.0	13,000,000	-	3,933.0	3,933.0
CMS-408	0-1	Vinyl chloride	VOC	0.0	20,000	-	3,933.0	3,933.0
CMS-408	1-2	TEQ	DIOXIN	65.0	1,000	-	815.0	815.0
CMS-408	1-2	Antimony	M	9,700,000.0	10,000,000	-	3,933.0	3,933.0
CMS-408	1-2	Arsenic	M	7,600,000.0	7,000,000	- 1.1	3,933.0	3,933.0
CMS-408	1-2	Beryllium	M	520,000.0	400,000	- 1.3	3,933.0	3,933.0
CMS-408	1-2	Cadmium	M	18,000,000.0	39,000,000	-	3,933.0	3,933.0
CMS-408	1-2	Lead	M	716,000,000.0	150,000,000	4.8	3,933.0	3,933.0
CMS-408	1-2	Manganese	M	353,000,000.0	390,000,000		3,933.0	3,933.0
CMS-408	1-2	Thallium	M	0.0	5,500,000	-	3,933.0	3,933.0
CMS-408	1-2	Benzo(a)anthracene	SVOC	830,000.0	900,000		3,933.0	3,933.0
CMS-408	1-2	Benzo(a)pyrene	SVOC	570,000.0	400,000	- 1.4	3,933.0	3,933.0
CMS-408	1-2	Benzo(b)fluoranthene	SVOC	1,200,000.0	900,000	- 1.3	3,933.0	3,933.0
CMS-408	1-2	Benzo(g,h,i)perylene	SVOC	0.0	800,000	-	3,933.0	3,933.0
CMS-408	1-2	Benzo(k)fluoranthene	SVOC	0.0	900,000		3,933.0	3,933.0
CMS-408	1-2	Bis(2-ethylhexyl)phthalate	SVOC	80,000,000.0	46,000,000	1.7	3,933.0	3,933.0
CMS-408	1-2	Chrysene	SVOC	800,000.0	400,000	- 2.0	3,933.0	3,933.0
CMS-408	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,933.0	3,933.0
CMS-408	1-2	Fluoranthene	SVOC	1,500,000.0	20,000,000		3,933.0	3,933.0
CMS-408	1-2	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000		3,933.0	3,933.0
CMS-408	1-2	Naphthalene	SVOC	0.0	54,000,000	-	3,933.0	3,933.0
CMS-408	1-2	Pyrene	SVOC	1,400,000.0	13,000,000	-	3,933.0	3,933.0
CMS-408	1-2	Aroclor, Total	PCB	23,000,000.0	10,000,000	- 2.3	815.0	815.0
CMS-408	1-2	Dieldrin	PEST	0.0	40,000	-	3,933.0	3,933.0
CMS-408	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	3,933.0	3,933.0
CMS-408	1-2	Technical Chlordane	PEST	0.0	500,000		3,933.0	3,933.0
CMS-408	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	3,933.0	3,933.0
CMS-408	1-2	Benzene	VOC	160,000,000.0	2,500,000	- 64.0	3,933.0	3,933.0
CMS-408	1-2	Chlorobenzene	VOC	6,200,000.0	100,000,000	-	3,933.0	3,933.0
CMS-408	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	3,933.0	3,933.0

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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-408	1-2	Ethylbenzene	VOC	23,000,000.0	62,000,000		3,933.0	3,933.0
CMS-408	1-2	Tetrachloroethene	VOC	0.0	4,200,000		3,933.0	3,933.0
CMS-408	1-2	Toluene	VOC	0.0	54,000,000		3,933.0	3,933.0
CMS-408	1-2	Total Xylenes	VOC	110,000,000.0	110,000,000	- 1.0	3,933.0	3,933.0
CMS-408	1-2	Trichloroethene	VOC	0.0	13,000,000	-	3,933.0	3,933.0
CMS-408	1-2	Vinyl chloride	VOC	0.0	20,000	-	3,933.0	3,933.0
CMS-408	2-3	TEQ	DIOXIN	9.5	1,000		815.0	815.0
CMS-408	2-3	Antimony	M	2,400,000.0	10,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Arsenic	M	9,900,000.0	7,000,000	- 1.4	3,933.0	3,933.0
CMS-408	2-3	Beryllium	M	450,000.0	400,000	- 1.1	3,933.0	3,933.0
CMS-408	2-3	Cadmium	M	1,000,000.0	39,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Lead	M	861,000,000.0	150,000,000	5.7	3,933.0	3,933.0
CMS-408	2-3	Manganese	M	195,000,000.0	390,000,000		3,933.0	3,933.0
CMS-408	2-3	Thallium	M	0.0	5,500,000	-	3,933.0	3,933.0
CMS-408	2-3	Benzo(a)anthracene	SVOC	430,000.0	900,000		3,933.0	3,933.0
CMS-408	2-3	Benzo(a)pyrene	SVOC	470,000.0	400,000	- 1.2	3,933.0	3,933.0
CMS-408	2-3	Benzo(b)fluoranthene	SVOC	890,000.0	900,000	-	3,933.0	3,933.0
CMS-408	2-3	Benzo(g,h,i)perylene	SVOC	240,000.0	800,000	-	3,933.0	3,933.0
CMS-408	2-3	Benzo(k)fluoranthene	SVOC	0.0	900,000		3,933.0	3,933.0
CMS-408	2-3	Bis(2-ethylhexyl)phthalate	SVOC	440,000.0	46,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Chrysene	SVOC	590,000.0	400,000	- 1.5	3,933.0	3,933.0
CMS-408	2-3	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	3,933.0	3,933.0
CMS-408	2-3	Fluoranthene	SVOC	1,300,000.0	20,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Indeno(1,2,3-cd)pyrene	SVOC	220,000.0	900,000		3,933.0	3,933.0
CMS-408	2-3	Naphthalene	SVOC	160,000.0	54,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Pyrene	SVOC	1,100,000.0	13,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Aroclor, Total	PCB	1,300,000.0	10,000,000	-	815.0	815.0
CMS-408	2-3	Dieldrin	PEST	0.0	40,000	-	3,933.0	3,933.0
CMS-408	2-3	Pentachlorophenol	PEST	0.0	5,300,000	-	3,933.0	3,933.0
CMS-408	2-3	Technical Chlordane	PEST	0.0	500,000	-	3,933.0	3,933.0
CMS-408	2-3	1,2-dichloroethane	VOC	0.0	900,000	-	3,933.0	3,933.0
CMS-408	2-3	Benzene	VOC	480,000,000.0	2,500,000	- 192.0	3,933.0	3,933.0
CMS-408	2-3	Chlorobenzene	VOC	0.0	100,000,000	-	3,933.0	3,933.0

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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
CMS-408	2-3	Cis-1,2-dichloroethene	VOC	0.0	60,000,000		3,933.0	3,933.0
CMS-408	2-3	Ethylbenzene	VOC	9,500,000.0	62,000,000		3,933.0	3,933.0
CMS-408	2-3	Tetrachloroethene	VOC	0.0	4,200,000		3,933.0	3,933.0
CMS-408	2-3	Toluene	VOC	0.0	54,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Total Xylenes	VOC	39,000,000.0	110,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Trichloroethene	VOC	0.0	13,000,000	-	3,933.0	3,933.0
CMS-408	2-3	Vinyl chloride	VOC	0.0	20,000	-	3,933.0	3,933.0
CMS-409	0-1	TEQ	DIOXIN	2,400.0	1,000	- 2.4	1,330.0	1,330.0
CMS-409	0-1	Aroclor, Total	PCB	1,900,000.0	10,000,000	-	1,335.7	1,335.7
CMS-409	1-2	TEQ	DIOXIN	46.5	1,000	-	1,330.0	1,330.0
CMS-409	1-2	Aroclor, Total	PCB	1,300,000.0	10,000,000		1,335.7	1,335.7
CMS-409	2-3	TEQ	DIOXIN	20.0	1,000	-	1,330.0	1,330.0
CMS-409	2-3	Aroclor, Total	PCB	1,400,000.0	10,000,000	-	1,335.7	1,335.7
CMS-409	3-4	TEQ	DIOXIN	2.5	1,000	-	1,330.0	1,330.0
CMS-409	3-4	Aroclor, Total	PCB	0.0	10,000,000	-	1,335.7	1,335.7
CMS-409	4-5	TEQ	DIOXIN	4.2	1,000	-	1,330.0	1,330.0
CMS-409	4-5	Aroclor, Total	PCB	59,000.0	10,000,000	-	1,335.7	1,335.7
CMS-409	5-6	TEQ	DIOXIN	5.7	1,000	-	1,330.0	1,330.0
CMS-409	5-6	Aroclor, Total	PCB	0.0	10,000,000	-	1,335.7	1,335.7
MW08S	1-2	TEQ	DIOXIN	181.1	1,000	-	498.0	498.0
MW08S	1-2	Antimony	M	6,600,000.0	10,000,000	-	2,217.1	2,217.1
MW08S	1-2	Arsenic	M	8,000,000.0	7,000,000	- 1.1	2,217.1	2,217.1
MW08S	1-2	Beryllium	M	0.0	400,000	-	2,217.1	2,217.1
MW08S	1-2	Cadmium	M	3,500,000.0	39,000,000	-	2,217.1	2,217.1
MW08S	1-2	Lead	M	380,000,000.0	150,000,000	2.5	2,217.1	2,217.1
MW08S	1-2	Manganese	M	334,000,000.0	390,000,000	-	2,217.1	2,217.1
MW08S	1-2	Thallium	M	3,500,000.0	5,500,000	-	2,217.1	2,217.1
MW08S	1-2	1,1'-biphenyl	SVOC	0.0	800,000		2,217.1	2,217.1
MW08S	1-2	Benzo(a)anthracene	SVOC	170,000.0	900,000	-	2,217.1	2,217.1
MW08S	1-2	Benzo(a)pyrene	SVOC	170,000.0	400,000	-	2,217.1	2,217.1
MW08S	1-2	Benzo(b)fluoranthene	SVOC	190,000.0	900,000	-	2,217.1	2,217.1
MW08S	1-2	Benzo(g,h,i)perylene	SVOC	66,000.0	800,000	-	2,217.1	2,217.1
MW08S	1-2	Benzo(k)fluoranthene	SVOC	190,000.0	900,000	-	2,217.1	2,217.1

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW08S	1-2	Bis(2-ethylhexyl)phthalate	SVOC	5,400,000.0	46,000,000		2,217.1	2,217.1
MW08S	1-2	Chrysene	SVOC	220,000.0	400,000		2,217.1	2,217.1
MW08S	1-2	Dibenzo(a,h)anthracene	SVOC	0.0	400,000		2,217.1	2,217.1
MW08S	1-2	Fluoranthene	SVOC	400,000.0	20,000,000	-	2,217.1	2,217.1
MW08S	1-2	Indeno(1,2,3-cd)pyrene	SVOC	91,000.0	900,000	-	2,217.1	2,217.1
MW08S	1-2	Naphthalene	SVOC	130,000.0	54,000,000	-	2,217.1	2,217.1
MW08S	1-2	Pyrene	SVOC	330,000.0	13,000,000	-	2,217.1	2,217.1
MW08S	1-2	Aroclor, Total	PCB	1,800,000.0	10,000,000	-	498.0	498.0
MW08S	1-2	Dieldrin	PEST	20,000.0	40,000	-	2,217.1	2,217.1
MW08S	1-2	Pentachlorophenol	PEST	0.0	5,300,000	-	2,217.1	2,217.1
MW08S	1-2	1,2-dichloroethane	VOC	0.0	900,000	-	2,217.1	2,217.1
MW08S	1-2	Benzene	VOC	220,000.0	2,500,000	-	2,217.1	2,217.1
MW08S	1-2	Chlorobenzene	VOC	130,000.0	100,000,000	-	2,217.1	2,217.1
MW08S	1-2	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,217.1	2,217.1
MW08S	1-2	Ethylbenzene	VOC	1,300,000.0	62,000,000	-	2,217.1	2,217.1
MW08S	1-2	Tetrachloroethene	VOC	0.0	4,200,000	-	2,217.1	2,217.1
MW08S	1-2	Toluene	VOC	580,000.0	54,000,000	-	2,217.1	2,217.1
MW08S	1-2	Total Xylenes	VOC	7,800,000.0	110,000,000	-	2,217.1	2,217.1
MW08S	1-2	Trichloroethene	VOC	0.0	13,000,000	-	2,217.1	2,217.1
MW08S	1-2	Vinyl chloride	VOC	0.0	20,000	-	2,217.1	2,217.1
MW08S	2-4	TEQ	DIOXIN	11.1	1,000	-	498.0	996.0
MW08S	2-4	Antimony	M	0.0	10,000,000	-	2,217.1	4,434.2
MW08S	2-4	Arsenic	M	9,500,000.0	7,000,000	- 1.4	2,217.1	4,434.2
MW08S	2-4	Beryllium	M	0.0	400,000	-	2,217.1	4,434.2
MW08S	2-4	Cadmium	M	2,400,000.0	39,000,000	-	2,217.1	4,434.2
MW08S	2-4	Lead	M	387,000,000.0	150,000,000	2.6	2,217.1	4,434.2
MW08S	2-4	Manganese	M	485,000,000.0	390,000,000	- 1.2	2,217.1	4,434.2
MW08S	2-4	Thallium	M	2,900,000.0	5,500,000	-	2,217.1	4,434.2
MW08S	2-4	1,1'-biphenyl	SVOC	0.0	800,000		2,217.1	4,434.2
MW08S	2-4	Benzo(a)anthracene	SVOC	390,000.0	900,000		2,217.1	4,434.2
MW08S	2-4	Benzo(a)pyrene	SVOC	340,000.0	400,000	-	2,217.1	4,434.2
MW08S	2-4	Benzo(b)fluoranthene	SVOC	300,000.0	900,000	-	2,217.1	4,434.2
MW08S	2-4	Benzo(g,h,i)perylene	SVOC	130,000.0	800,000	-	2,217.1	4,434.2
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW08S	2-4	Benzo(k)fluoranthene	SVOC	350,000.0	900,000		2,217.1	4,434.2
MW08S	2-4	Bis(2-ethylhexyl)phthalate	SVOC	260,000.0	46,000,000		2,217.1	4,434.2
MW08S	2-4	Chrysene	SVOC	400,000.0	400,000	1.0	2,217.1	4,434.2
MW08S	2-4	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	2,217.1	4,434.2
MW08S	2-4	Fluoranthene	SVOC	630,000.0	20,000,000	-	2,217.1	4,434.2
MW08S	2-4	Indeno(1,2,3-cd)pyrene	SVOC	250,000.0	900,000		2,217.1	4,434.2
MW08S	2-4	Naphthalene	SVOC	46,000.0	54,000,000	-	2,217.1	4,434.2
MW08S	2-4	Pyrene	SVOC	590,000.0	13,000,000	-	2,217.1	4,434.2
MW08S	2-4	Aroclor, Total	PCB	130,000.0	10,000,000	-	498.0	996.0
MW08S	2-4	Dieldrin	PEST	2,400.0	40,000	-	2,217.1	4,434.2
MW08S	2-4	Pentachlorophenol	PEST	0.0	5,300,000	-	2,217.1	4,434.2
MW08S	2-4	1,2-dichloroethane	VOC	0.0	900,000	-	2,217.1	4,434.2
MW08S	2-4	Benzene	VOC	0.0	2,500,000	-	2,217.1	4,434.2
MW08S	2-4	Chlorobenzene	VOC	0.0	100,000,000	-	2,217.1	4,434.2
MW08S	2-4	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,217.1	4,434.2
MW08S	2-4	Ethylbenzene	VOC	0.0	62,000,000	-	2,217.1	4,434.2
MW08S	2-4	Tetrachloroethene	VOC	0.0	4,200,000	-	2,217.1	4,434.2
MW08S	2-4	Toluene	VOC	0.0	54,000,000	-	2,217.1	4,434.2
MW08S	2-4	Total Xylenes	VOC	320,000.0	110,000,000	-	2,217.1	4,434.2
MW08S	2-4	Trichloroethene	VOC	0.0	13,000,000	-	2,217.1	4,434.2
MW08S	2-4	Vinyl chloride	VOC	0.0	20,000	-	2,217.1	4,434.2
MW08S	4-6	TEQ	DIOXIN	2.2	1,000	-	498.0	996.0
MW08S	4-6	Antimony	M	0.0	10,000,000	-	2,217.1	4,434.2
MW08S	4-6	Arsenic	M	2,800,000.0	7,000,000	-	2,217.1	4,434.2
MW08S	4-6	Beryllium	M	0.0	400,000	-	2,217.1	4,434.2
MW08S	4-6	Cadmium	M	0.0	39,000,000	-	2,217.1	4,434.2
MW08S	4-6	Lead	M	13,700,000.0	150,000,000	-	2,217.1	4,434.2
MW08S	4-6	Manganese	M	168,000,000.0	390,000,000	-	2,217.1	4,434.2
MW08S	4-6	Thallium	M	0.0	5,500,000	-	2,217.1	4,434.2
MW08S	4-6	1,1'-biphenyl	SVOC	0.0	800,000	-	2,217.1	4,434.2
MW08S	4-6	Benzo(a)anthracene	SVOC	0.0	900,000	-	2,217.1	4,434.2
MW08S	4-6	Benzo(a)pyrene	SVOC	0.0	400,000	-	2,217.1	4,434.2
MW08S	4-6	Benzo(b)fluoranthene	SVOC	0.0	900,000	-	2,217.1	4,434.2

Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW08S	4-6	Benzo(g,h,i)perylene	SVOC	0.0	800,000		2,217.1	4,434.2
MW08S	4-6	Benzo(k)fluoranthene	SVOC	0.0	900,000		2,217.1	4,434.2
MW08S	4-6	Bis(2-ethylhexyl)phthalate	SVOC	130,000.0	46,000,000		2,217.1	4,434.2
MW08S	4-6	Chrysene	SVOC	0.0	400,000	-	2,217.1	4,434.2
MW08S	4-6	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	2,217.1	4,434.2
MW08S	4-6	Fluoranthene	SVOC	76,000.0	20,000,000	-	2,217.1	4,434.2
MW08S	4-6	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	2,217.1	4,434.2
MW08S	4-6	Naphthalene	SVOC	0.0	54,000,000	-	2,217.1	4,434.2
MW08S	4-6	Pyrene	SVOC	69,000.0	13,000,000	-	2,217.1	4,434.2
MW08S	4-6	Aroclor, Total	PCB	0.0	10,000,000	-	498.0	996.0
MW08S	4-6	Dieldrin	PEST	0.0	40,000	-	2,217.1	4,434.2
MW08S	4-6	Pentachlorophenol	PEST	0.0	5,300,000	-	2,217.1	4,434.2
MW08S	4-6	1,2-dichloroethane	VOC	0.0	900,000	-	2,217.1	4,434.2
MW08S	4-6	Benzene	VOC	110,000.0	2,500,000	-	2,217.1	4,434.2
MW08S	4-6	Chlorobenzene	VOC	200,000.0	100,000,000	-	2,217.1	4,434.2
MW08S	4-6	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,217.1	4,434.2
MW08S	4-6	Ethylbenzene	VOC	0.0	62,000,000	-	2,217.1	4,434.2
MW08S	4-6	Tetrachloroethene	VOC	0.0	4,200,000	-	2,217.1	4,434.2
MW08S	4-6	Toluene	VOC	0.0	54,000,000	-	2,217.1	4,434.2
MW08S	4-6	Total Xylenes	VOC	500,000.0	110,000,000	-	2,217.1	4,434.2
MW08S	4-6	Trichloroethene	VOC	0.0	13,000,000	-	2,217.1	4,434.2
MW08S	4-6	Vinyl chloride	VOC	0.0	20,000	-	2,217.1	4,434.2
MW08S	6-8	TEQ	DIOXIN	0.6	1,000	-	498.0	996.0
MW08S	6-8	Antimony	M	0.0	10,000,000	-	2,217.1	4,434.2
MW08S	6-8	Arsenic	M	0.0	7,000,000	-	2,217.1	4,434.2
MW08S	6-8	Beryllium	M	0.0	400,000	-	2,217.1	4,434.2
MW08S	6-8	Cadmium	M	0.0	39,000,000	-	2,217.1	4,434.2
MW08S	6-8	Lead	M	9,500,000.0	150,000,000	-	2,217.1	4,434.2
MW08S	6-8	Manganese	M	113,000,000.0	390,000,000	-	2,217.1	4,434.2
MW08S	6-8	Thallium	M	0.0	5,500,000	-	2,217.1	4,434.2
MW08S	6-8	1,1'-biphenyl	SVOC	0.0	800,000	-	2,217.1	4,434.2
MW08S	6-8	Benzo(a)anthracene	SVOC	0.0	900,000	-	2,217.1	4,434.2
MW08S	6-8	Benzo(a)pyrene	SVOC	0.0	400,000	-	2,217.1	4,434.2
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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
MW08S	6-8	Benzo(b)fluoranthene	SVOC	0.0	900,000		2,217.1	4,434.2
MW08S	6-8	Benzo(g,h,i)perylene	SVOC	0.0	800,000		2,217.1	4,434.2
MW08S	6-8	Benzo(k)fluoranthene	SVOC	0.0	900,000		2,217.1	4,434.2
MW08S	6-8	Bis(2-ethylhexyl)phthalate	SVOC	190,000.0	46,000,000	-	2,217.1	4,434.2
MW08S	6-8	Chrysene	SVOC	0.0	400,000	-	2,217.1	4,434.2
MW08S	6-8	Dibenzo(a,h)anthracene	SVOC	0.0	400,000	-	2,217.1	4,434.2
MW08S	6-8	Fluoranthene	SVOC	0.0	20,000,000	-	2,217.1	4,434.2
MW08S	6-8	Indeno(1,2,3-cd)pyrene	SVOC	0.0	900,000	-	2,217.1	4,434.2
MW08S	6-8	Naphthalene	SVOC	0.0	54,000,000	-	2,217.1	4,434.2
MW08S	6-8	Pyrene	SVOC	0.0	13,000,000	-	2,217.1	4,434.2
MW08S	6-8	Aroclor, Total	PCB	0.0	10,000,000	-	498.0	996.0
MW08S	6-8	Dieldrin	PEST	0.0	40,000	-	2,217.1	4,434.2
MW08S	6-8	Pentachlorophenol	PEST	0.0	5,300,000	-	2,217.1	4,434.2
MW08S	6-8	1,2-dichloroethane	VOC	0.0	900,000	-	2,217.1	4,434.2
MW08S	6-8	Benzene	VOC	0.0	2,500,000	-	2,217.1	4,434.2
MW08S	6-8	Chlorobenzene	VOC	0.0	100,000,000	-	2,217.1	4,434.2
MW08S	6-8	Cis-1,2-dichloroethene	VOC	0.0	60,000,000	-	2,217.1	4,434.2
MW08S	6-8	Ethylbenzene	VOC	0.0	62,000,000	-	2,217.1	4,434.2
MW08S	6-8	Tetrachloroethene	VOC	0.0	4,200,000	-	2,217.1	4,434.2
MW08S	6-8	Toluene	VOC	0.0	54,000,000	-	2,217.1	4,434.2
MW08S	6-8	Total Xylenes	VOC	0.0	110,000,000	-	2,217.1	4,434.2
MW08S	6-8	Trichloroethene	VOC	0.0	13,000,000	-	2,217.1	4,434.2
MW08S	6-8	Vinyl chloride	VOC	0.0	20,000	-	2,217.1	4,434.2
SS-02	0-1.3	Benzo(a)anthracene	SVOC	280,000.0	900,000	-	5,616.7	7,301.7
SS-02	0-1.3	Benzo(a)pyrene	SVOC	290,000.0	400,000	-	5,616.7	7,301.7
SS-02	0-1.3	Benzo(b)fluoranthene	SVOC	540,000.0	900,000	-	5,616.7	7,301.7
SS-02	0-1.3	Benzo(g,h,i)perylene	SVOC	160,000.0	800,000	-	5,616.7	7,301.7
SS-02	0-1.3	Benzo(k)fluoranthene	SVOC	120,000.0	900,000	-	5,616.7	7,301.7
SS-02	0-1.3	Bis(2-ethylhexyl)phthalate	SVOC	4,400,000.0	46,000,000	-	5,616.7	7,301.7
SS-02	0-1.3	Chrysene	SVOC	450,000.0	400,000	- 1.1	5,616.7	7,301.7
SS-02	0-1.3	Dibenzo(a,h)anthracene	SVOC	62,000.0	400,000	-	5,616.7	7,301.7
SS-02	0-1.3	Fluoranthene	SVOC	640,000.0	20,000,000	-	5,616.7	7,301.7
SS-02	0-1.3	Indeno(1,2,3-cd)pyrene	SVOC	250,000.0	900,000		5,616.7	7,301.7

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Table 2.2-7: Source Area Soil Excavation - Prinicipal Threat Waste Area (continued)

BORING	Sample Depth (ft)	Contaminant	CLASS	Concentration (ng/kg)	Remediation Goal (ng/kg)	RG Ratio	Area (ft^2)	Volume (ft3)
SS-02	0-1.3	Naphthalene	SVOC	130,000.0	54,000,000		5,616.7	7,301.7
SS-02	0-1.3	Pyrene	SVOC	560,000.0	13,000,000		5,616.7	7,301.7
SS-02	0-1.3	Aroclor, Total	PCB	9,300,000.0	10,000,000		1,272.9	1,654.8
SS-02	0-1.3	Dieldrin	PEST	140,000.0	40,000	- 3.5	5,616.7	7,301.7
						-		
						-		

1 2

3 4

5 6 7

8 9 10 11

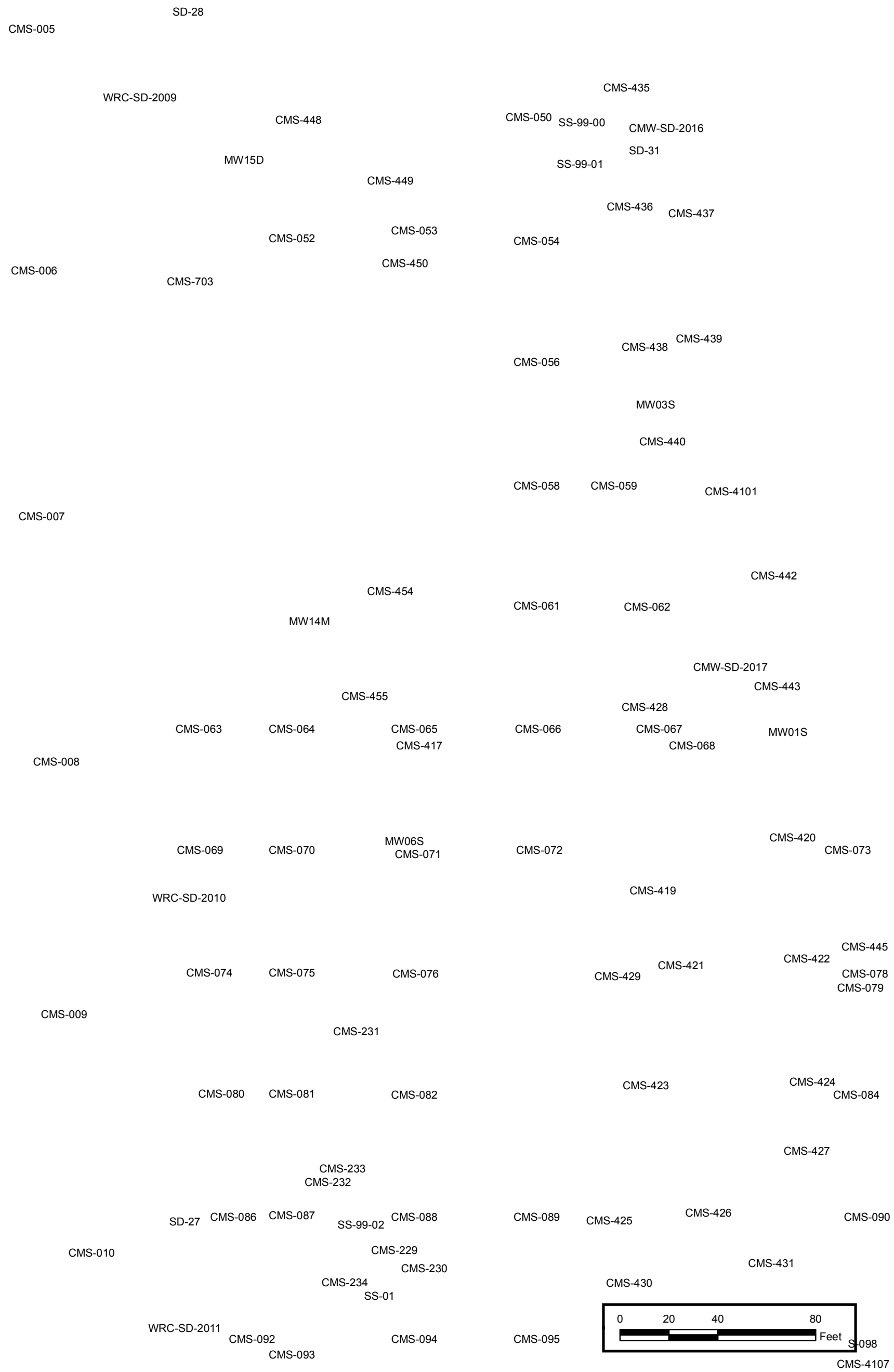
12 13 14

15

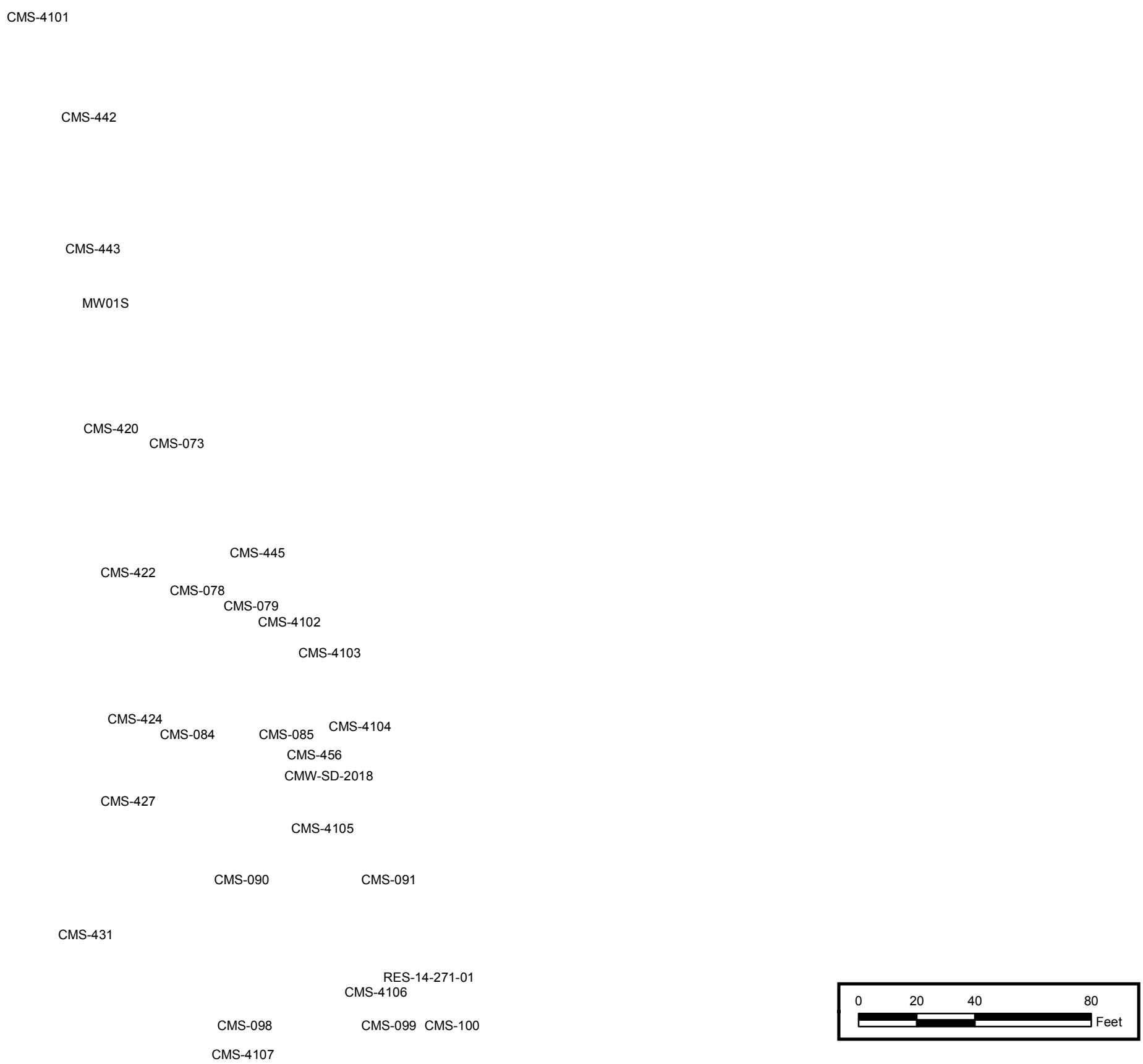
16

0 415 830 1,660
Feet

Polygons for COC Class Dioxin — Index

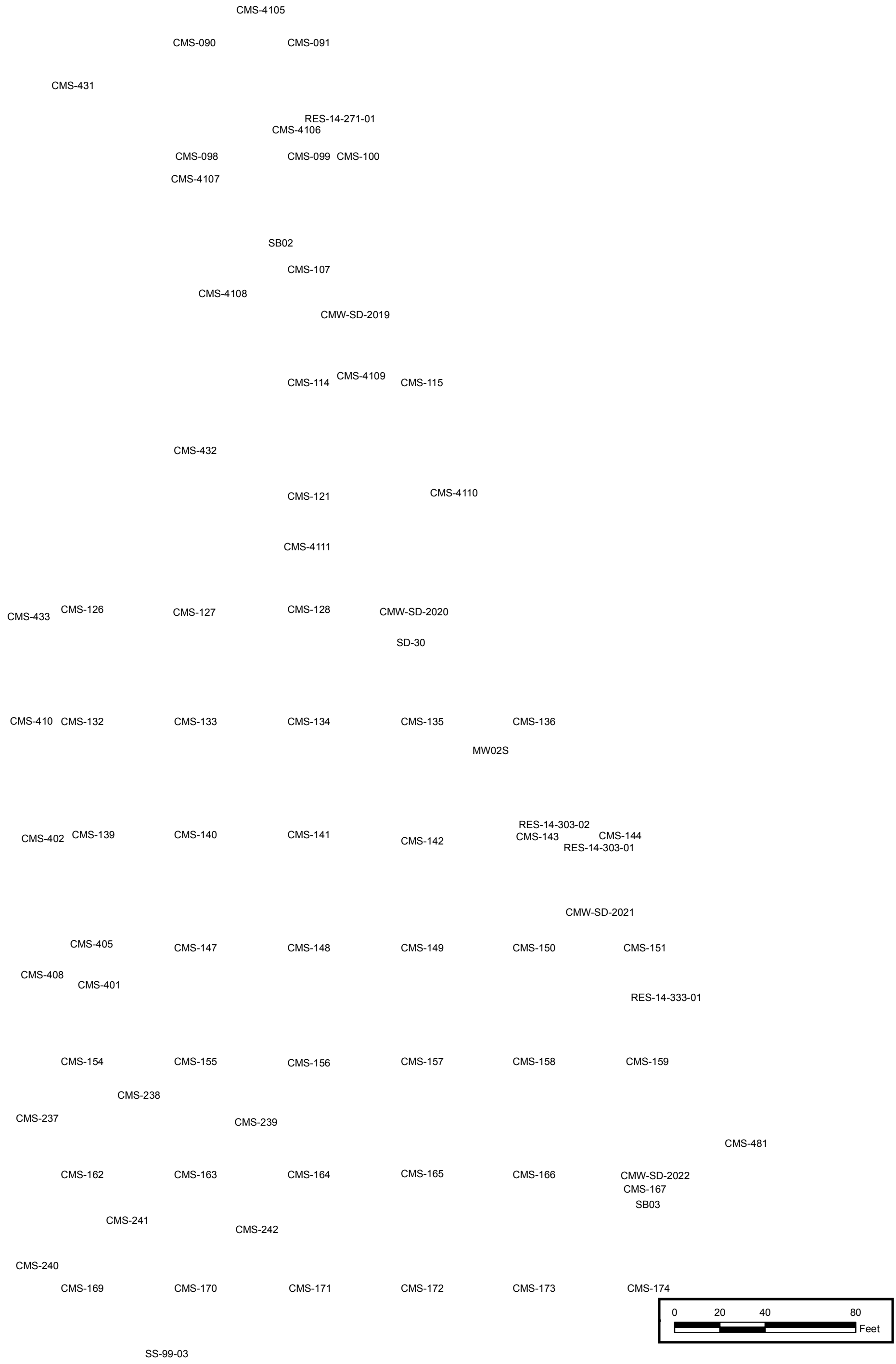


Polygons for COC Class Dioxin — 1



Polygons for COC Class Dioxin — 2

Polygons for COC Class Dioxin — 3



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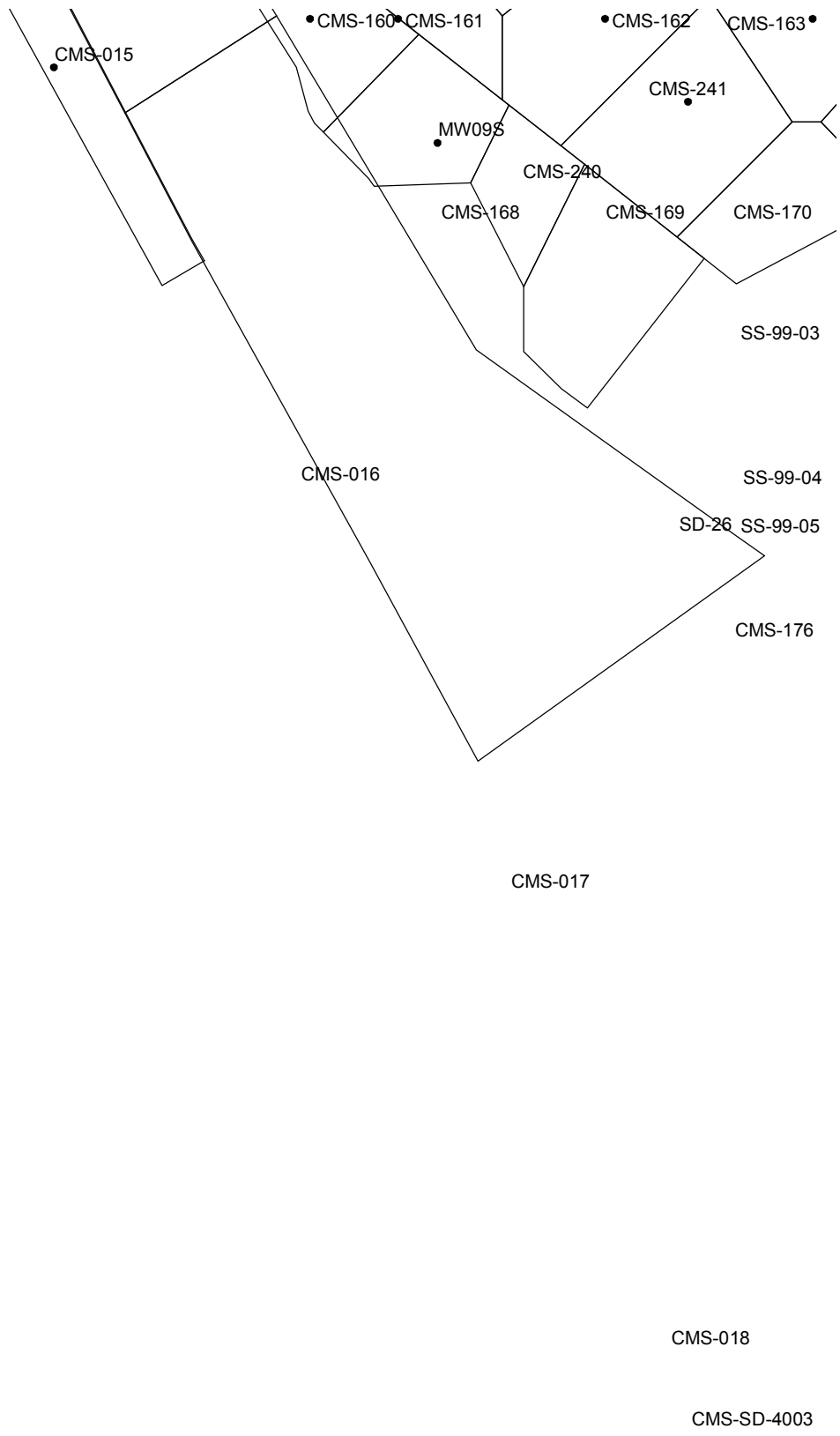
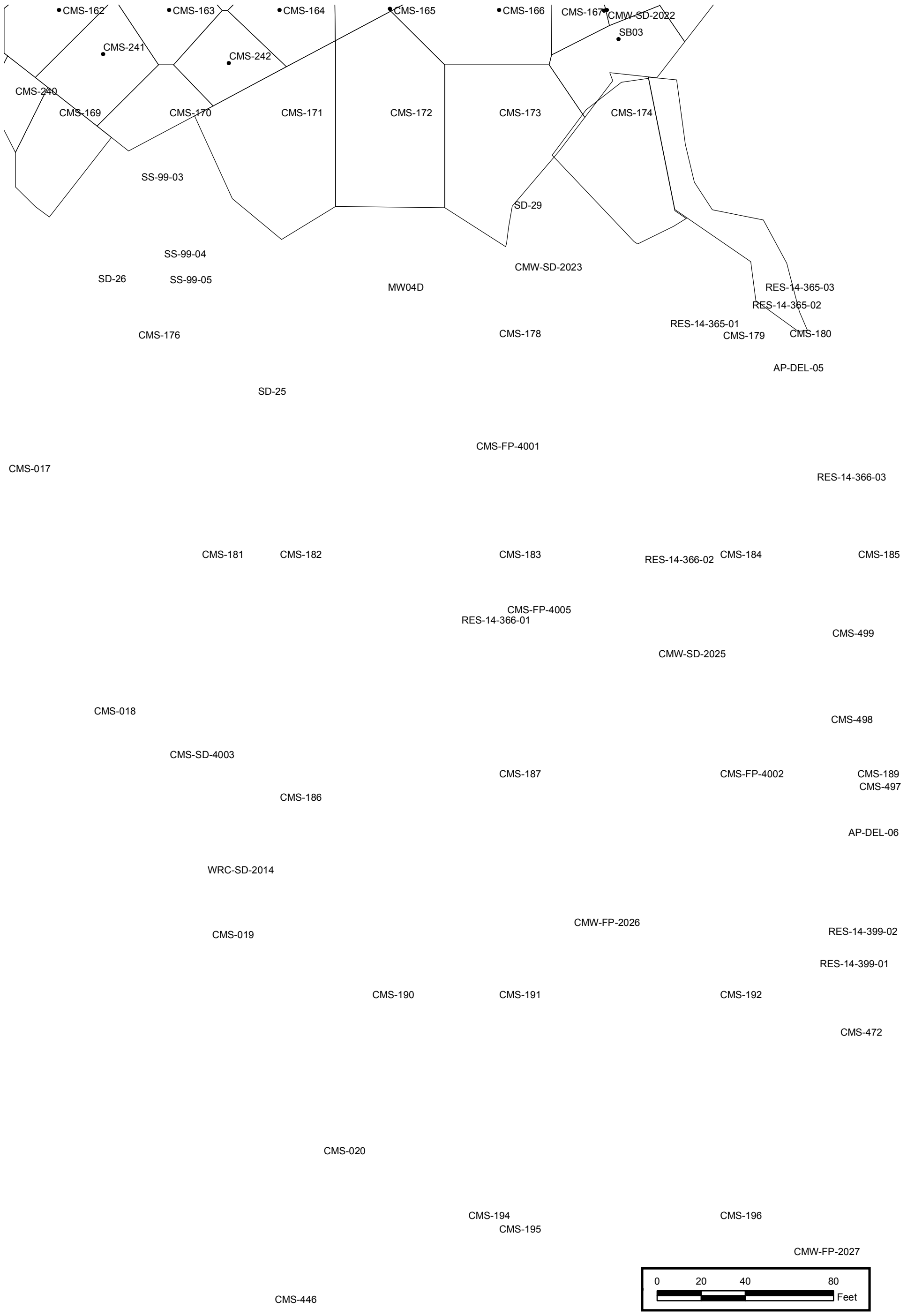


Polygons for COC Class Dioxin — 5



Polygons for COC Class Dioxin — 6

RES-14-365-03

RES-14-365-02

RES-14-365-01

CMS-180

AP-DEL-05

RES-14-366-03

CMS-185

CMS-499

CMS-498

CMS-497 CMS-189

AP-DEL-06

RES-14-399-02

RES-14-399-01

CMS-472

CMS-197

CMW-FP-2027

AP-DEL-07

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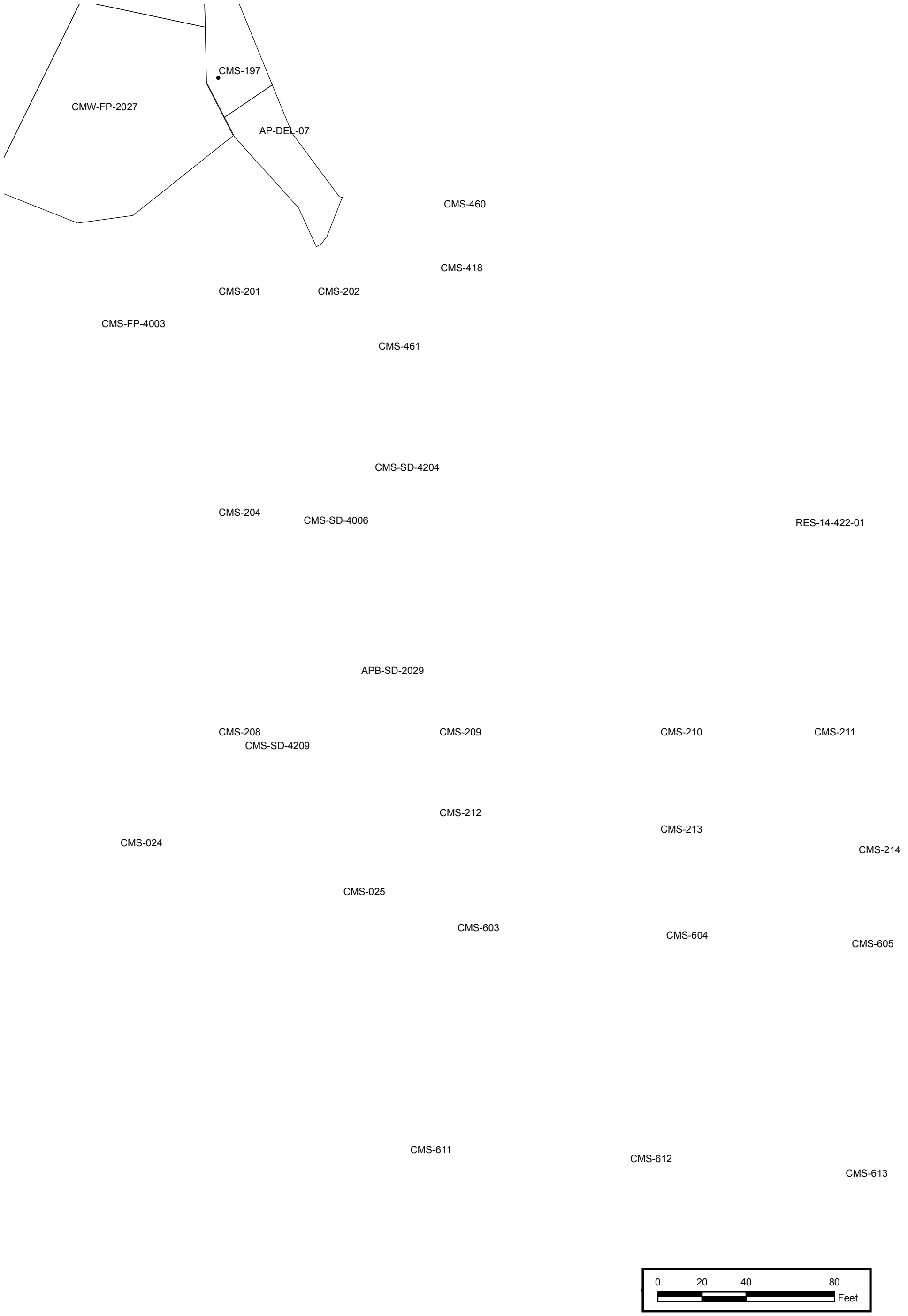
Feet

Polygons for COC Class Dioxin — 7

Polygons for COC Class Dioxin — 8



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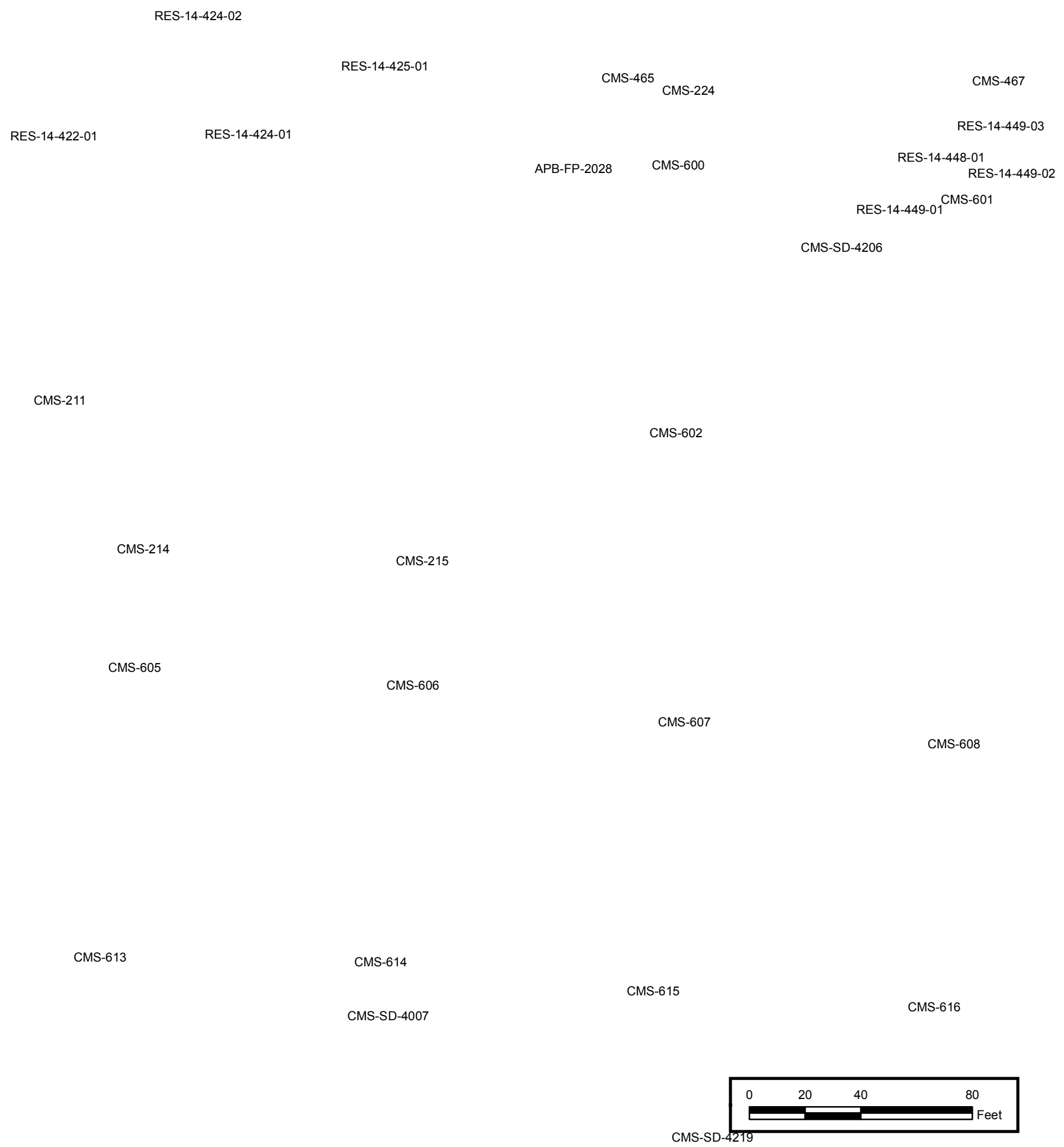
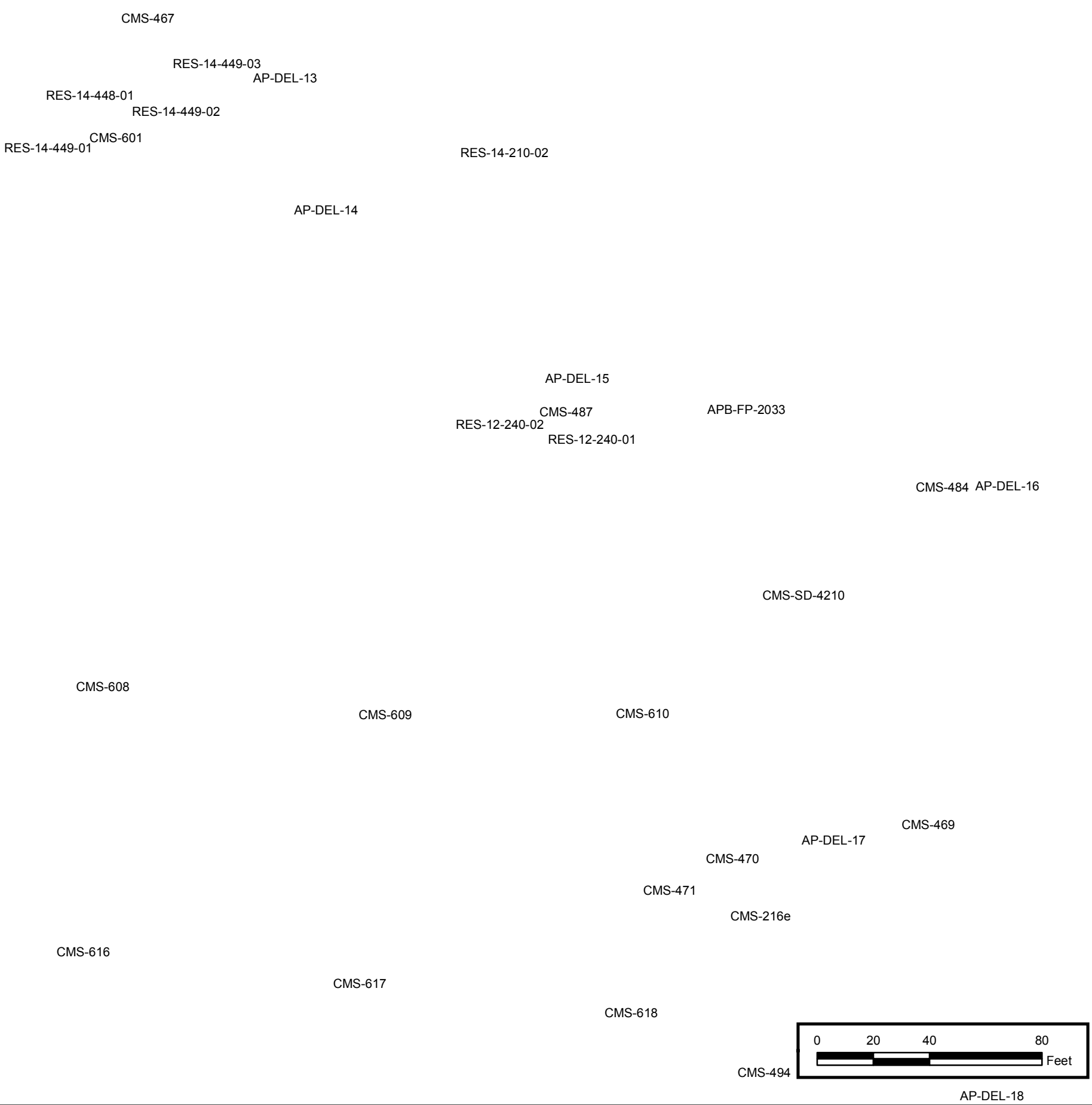
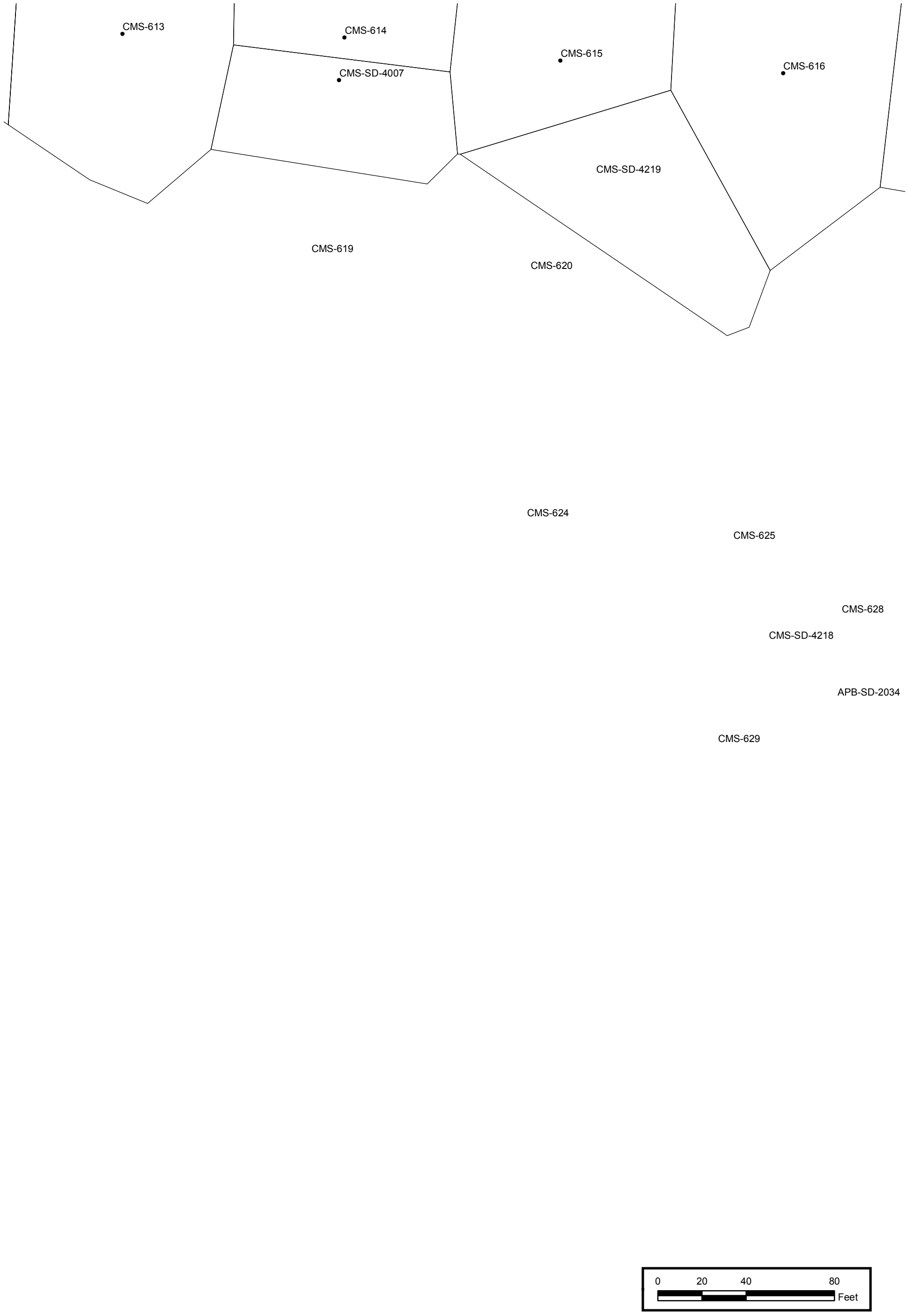


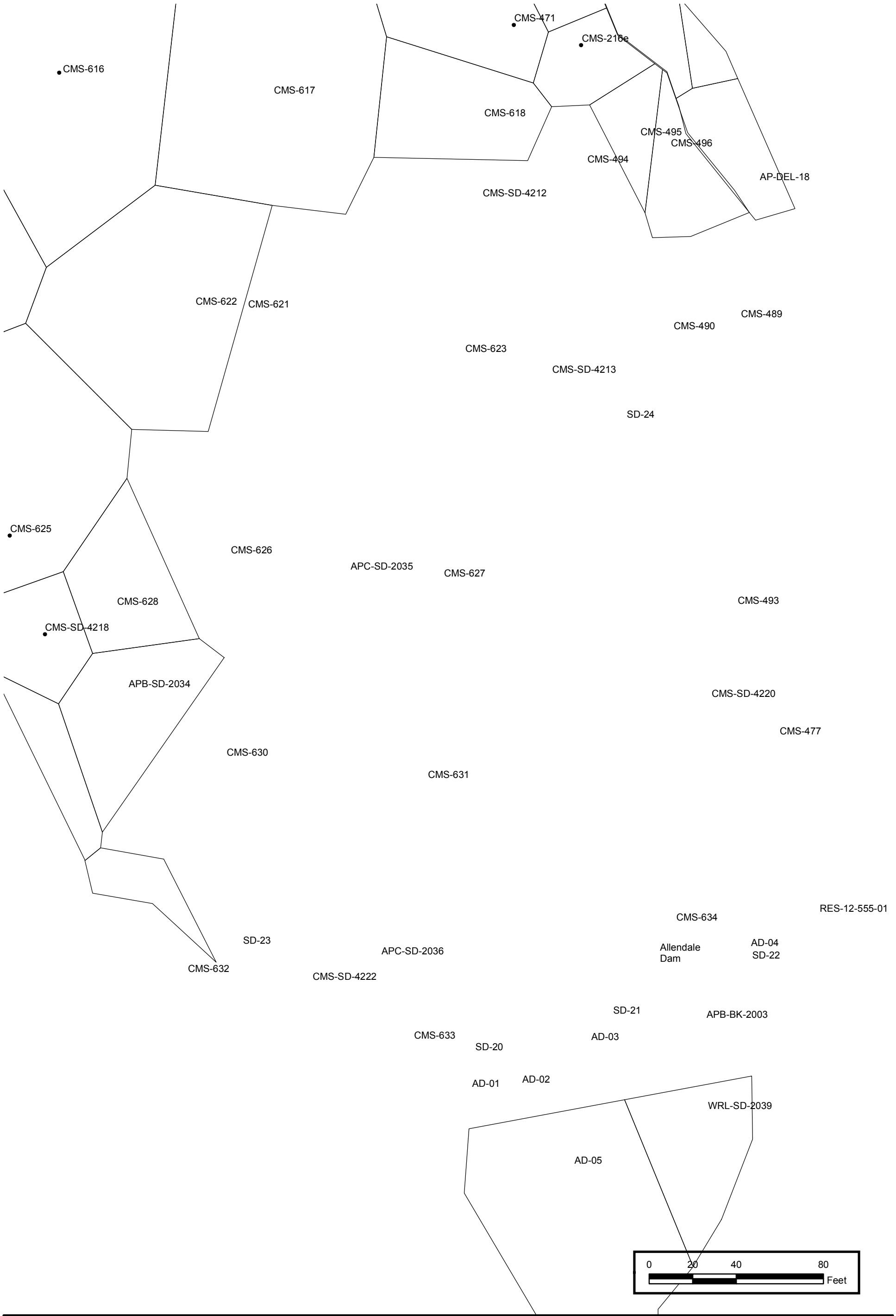
Polygons for COC Class Dioxin — 10



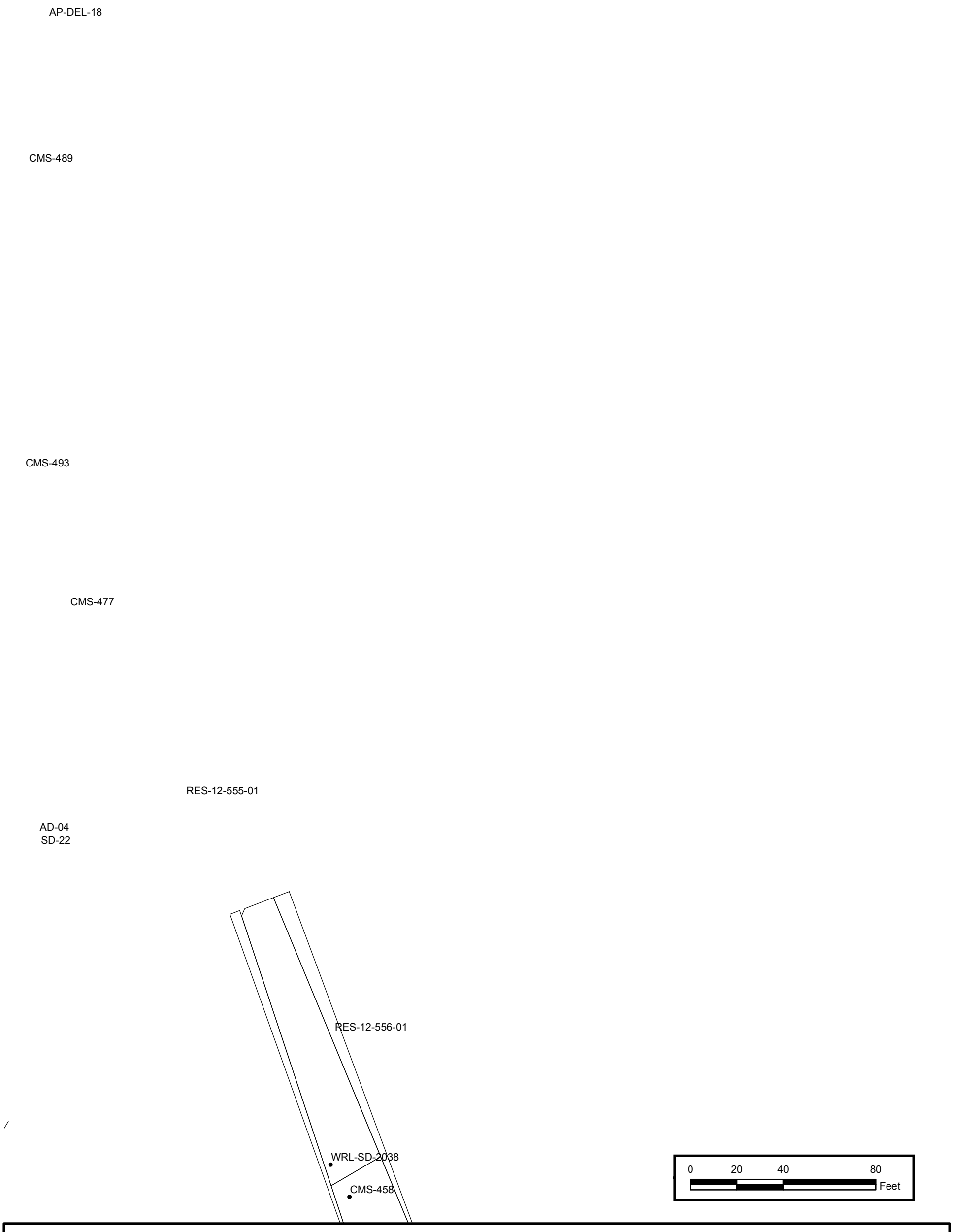
Polygons for COC Class Dioxin — 11



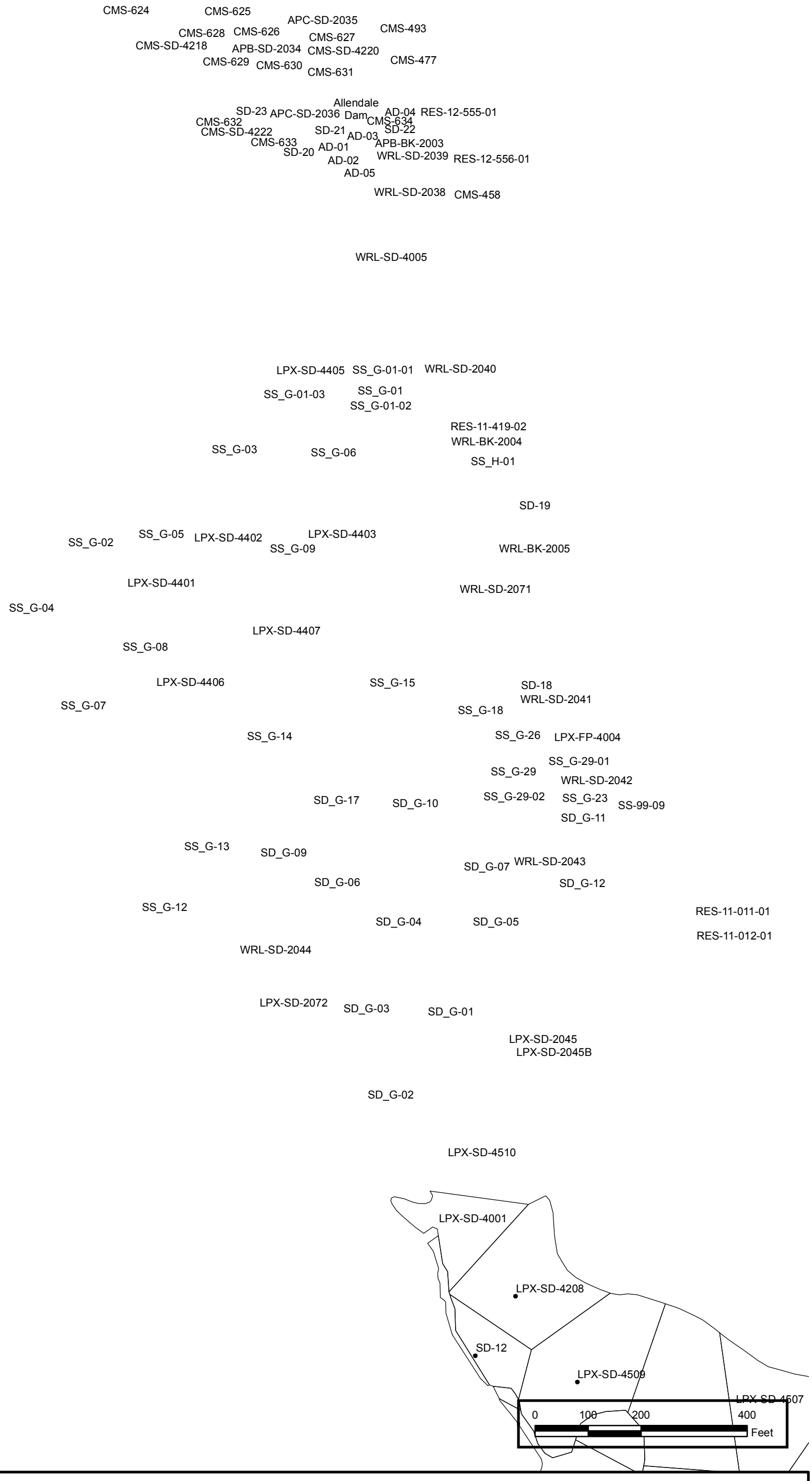
Polygons for COC Class Dioxin — 12



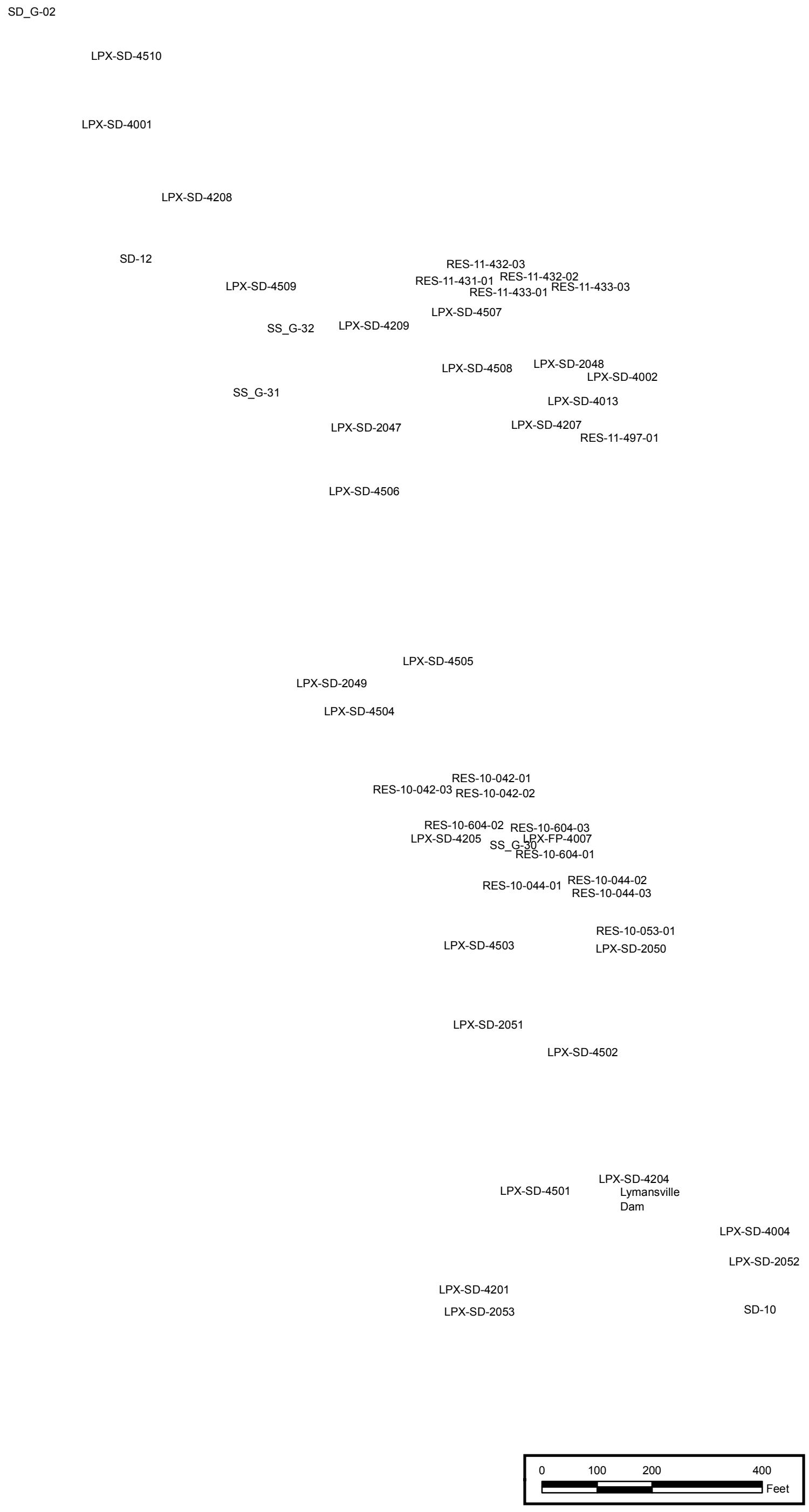
Polygons for COC Class Dioxin — 13



Polygons for COC Class Dioxin — 14



Polygons for COC Class Dioxin — 15



Polygons for COC Class Dioxin — 16

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5 6 7

8 9 10 11

12 13 14

15

16

0 415 830 1,660
Feet

Polygons for COC Class Metals — Index

Polygons for COC Class Metals — 1

MW01S

CMS-456

CMW-SD-2018

CMS-427

CMS-4105

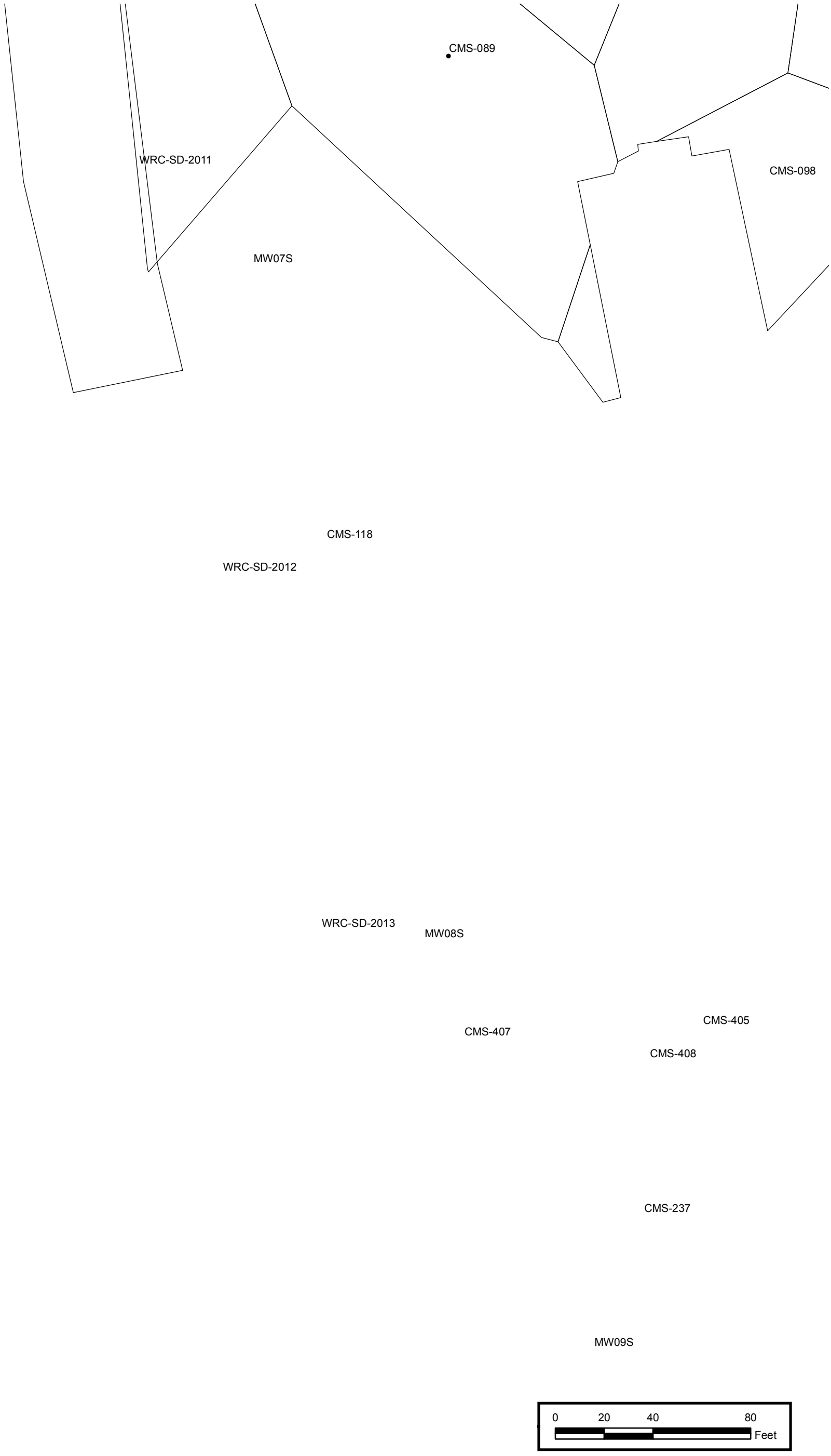
RES-14-271-01

CMS-098

0 20 40 80

Feet

Polygons for COC Class Metals — 2



Polygons for COC Class Metals — 3

CMS-4105

RES-14-271-01

CMS-098

SB02

CMW-SD-2019

RES-14-272-01

CMS-4110

CMW-SD-2020

RES-14-302-01

MW02S

CMS-142

RES-14-303-01

CMW-SD-2021

CMS-405

CMS-408

RES-14-333-01

CMS-159

CMS-237

CMS-164

CMW-SD-2022

SB03

RES-14-334-01

CMS-173

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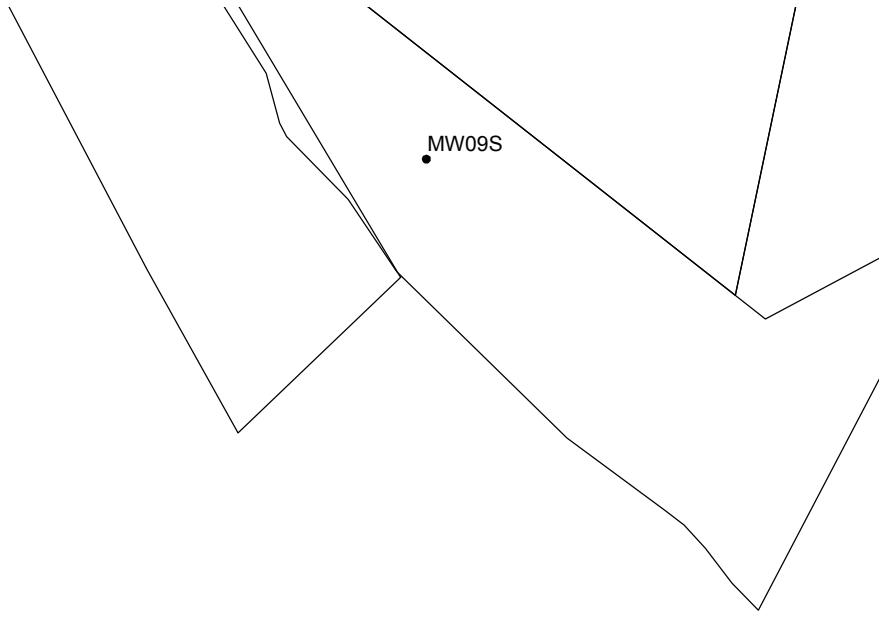
Feet

Polygons for COC Class Metals — 4



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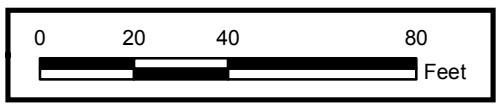

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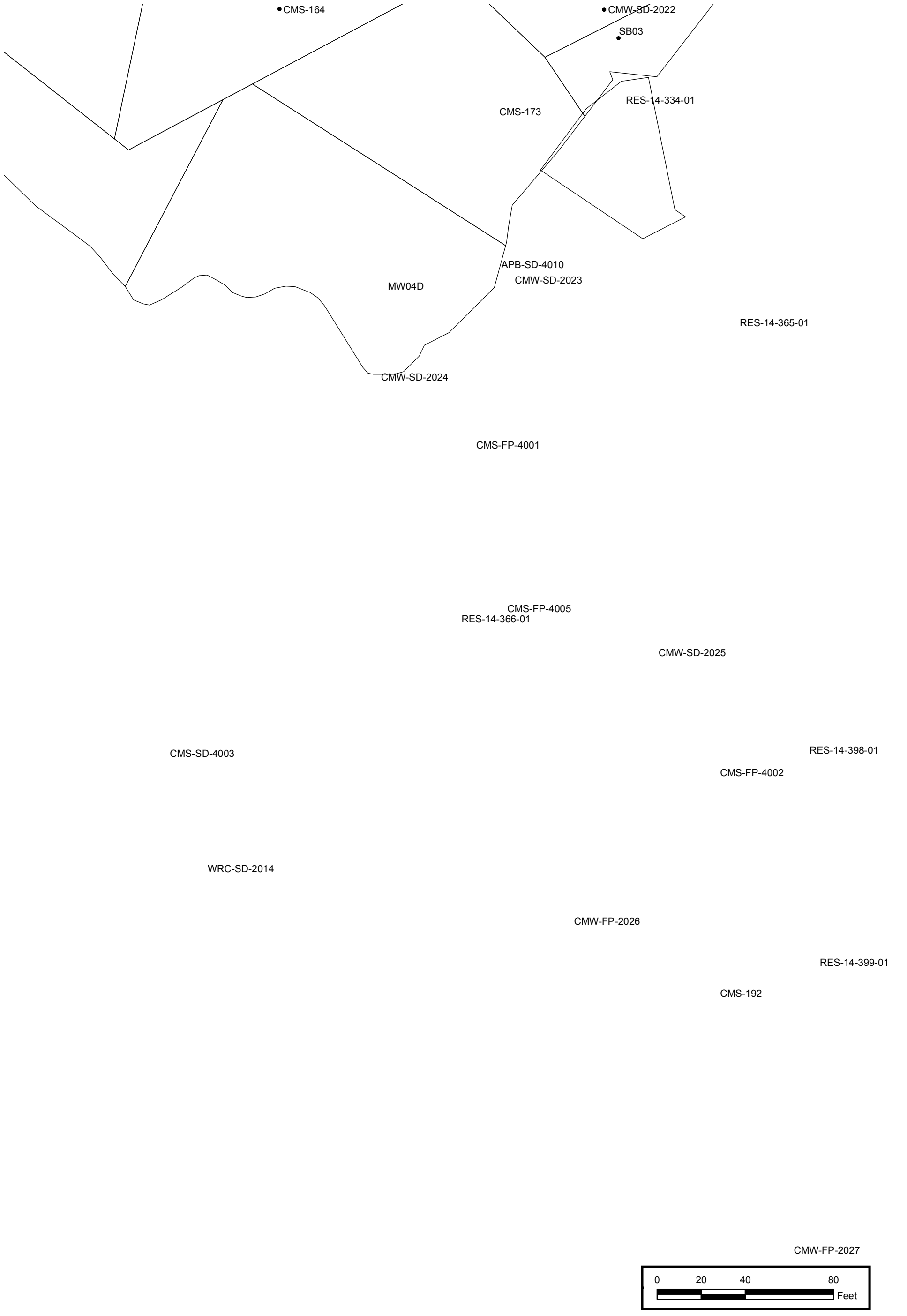


Polygons for COC Class Metals — 6

RES-14-365-01

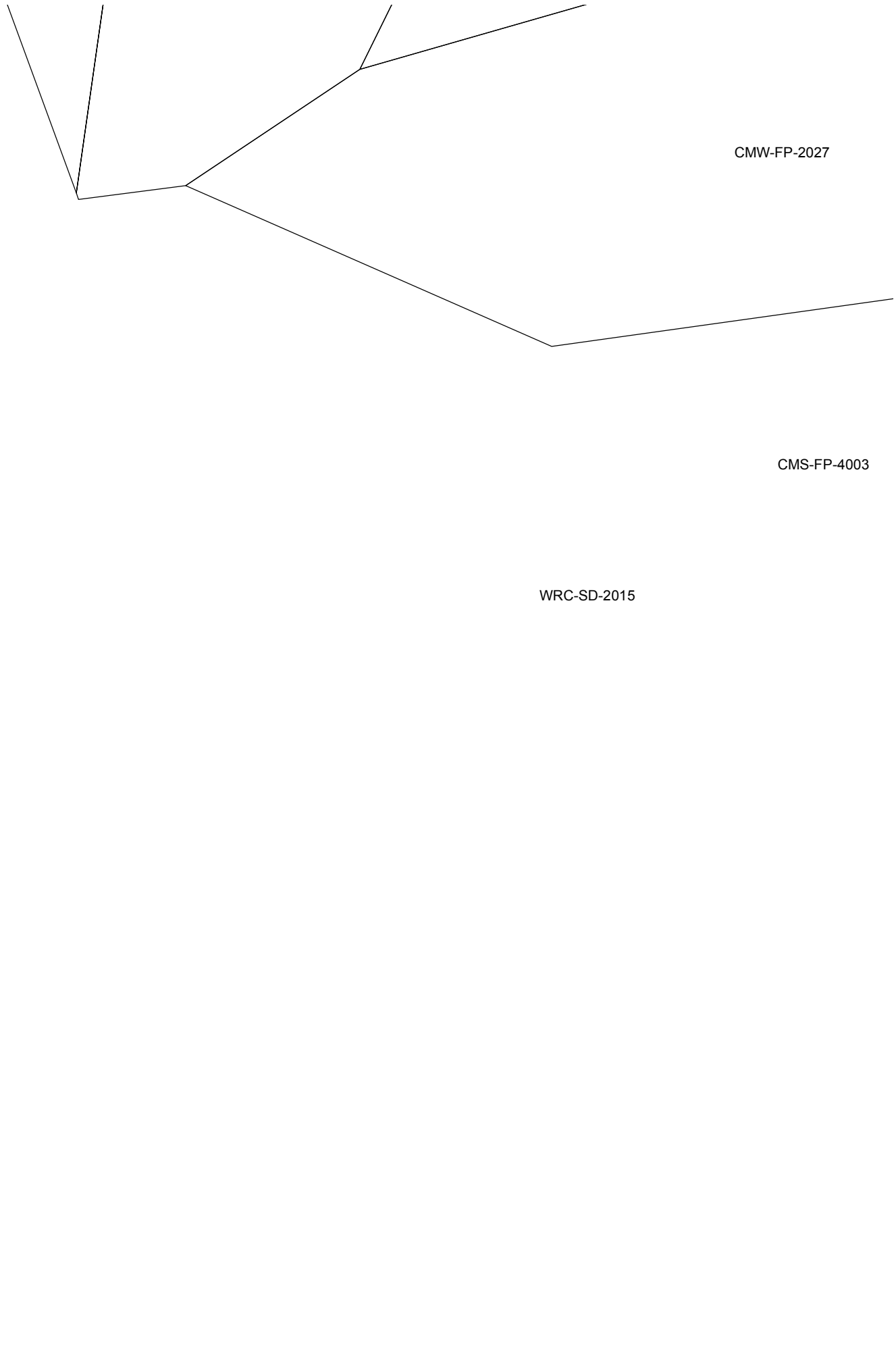
RES-14-398-01

RES-14-399-01

CMW-FP-2027

0 20 40 80
Feet

Polygons for COC Class Metals — 7



Polygons for COC Class Metals — 8

Polygons for COC Class Metals — 9

RES-14-425-01

RES-14-430-01

RES-14-422-01

RES-14-424-01

RES-14-448-01

APB-FP-2028

RES-14-449-01

CMS-215

APB-FP-2031

CMS-SD-4007

APB-FP-2032

0 20 40 80 Feet

Polygons for COC Class Metals — 10

RES-14-448-01

RES-14-449-01

APB-FP-2033

RES-12-240-01

RES-12-239-01

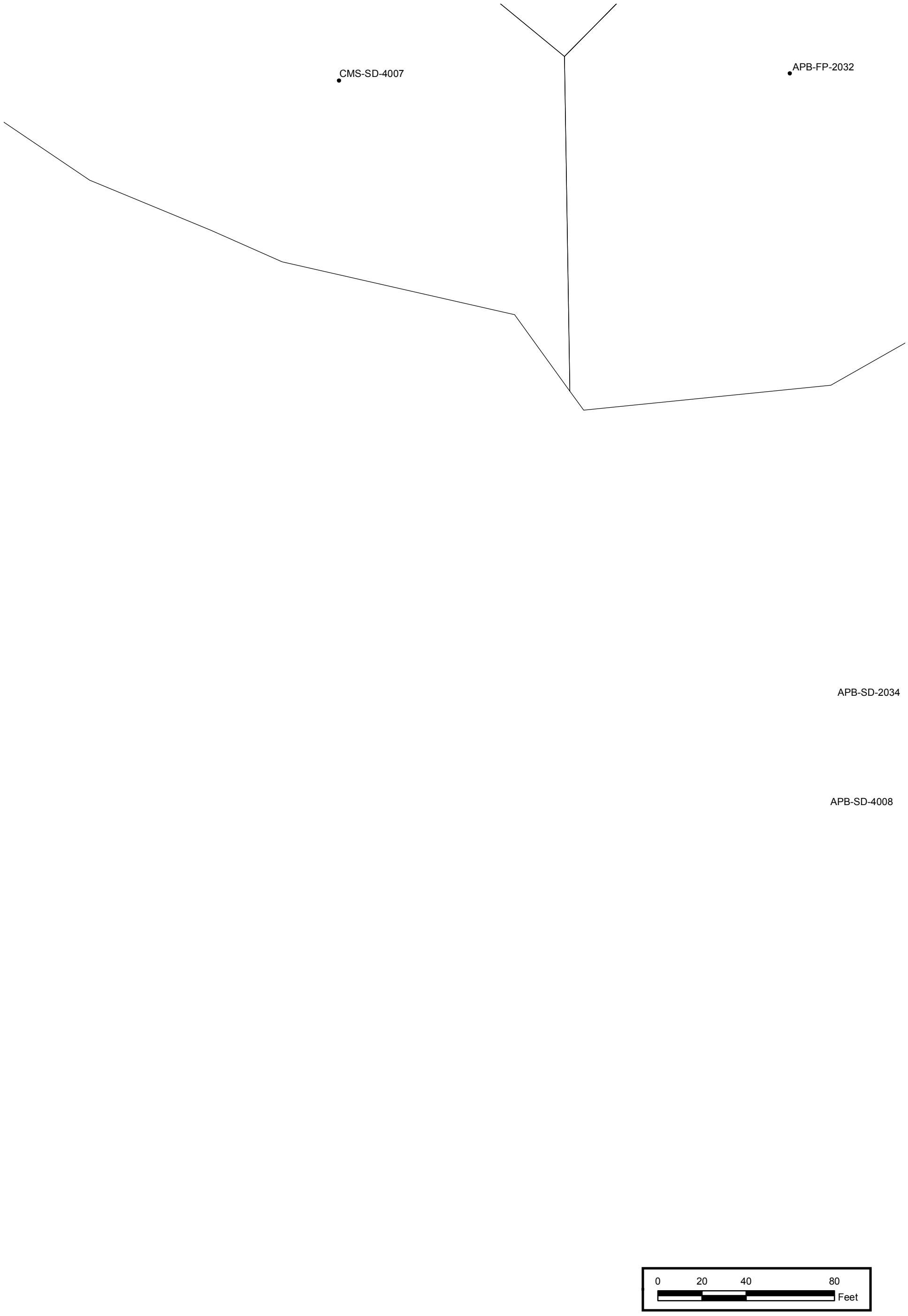
RES-12-550-01

APB-FP-2032

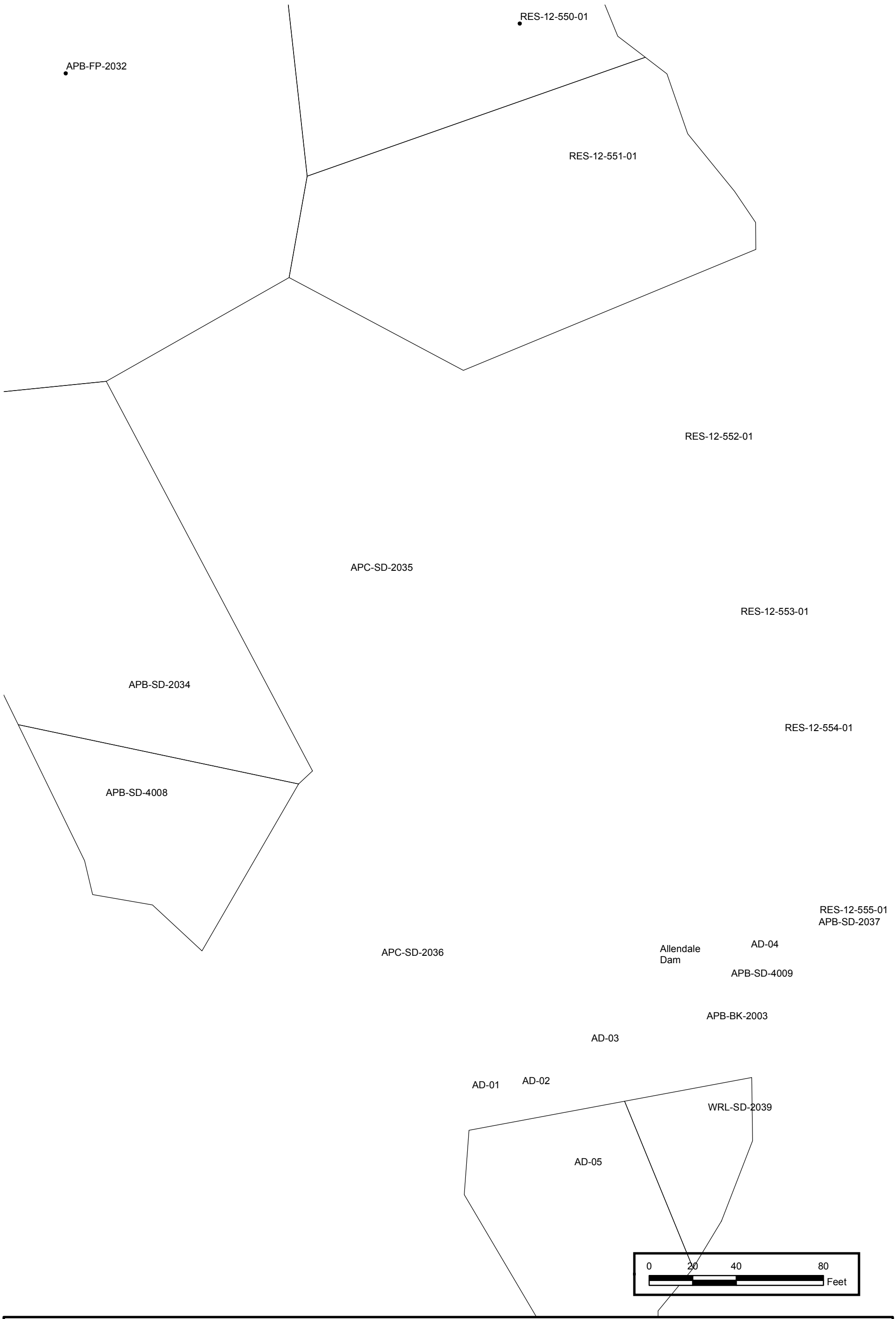
RES-12-551-0

0 20 40 80 Feet

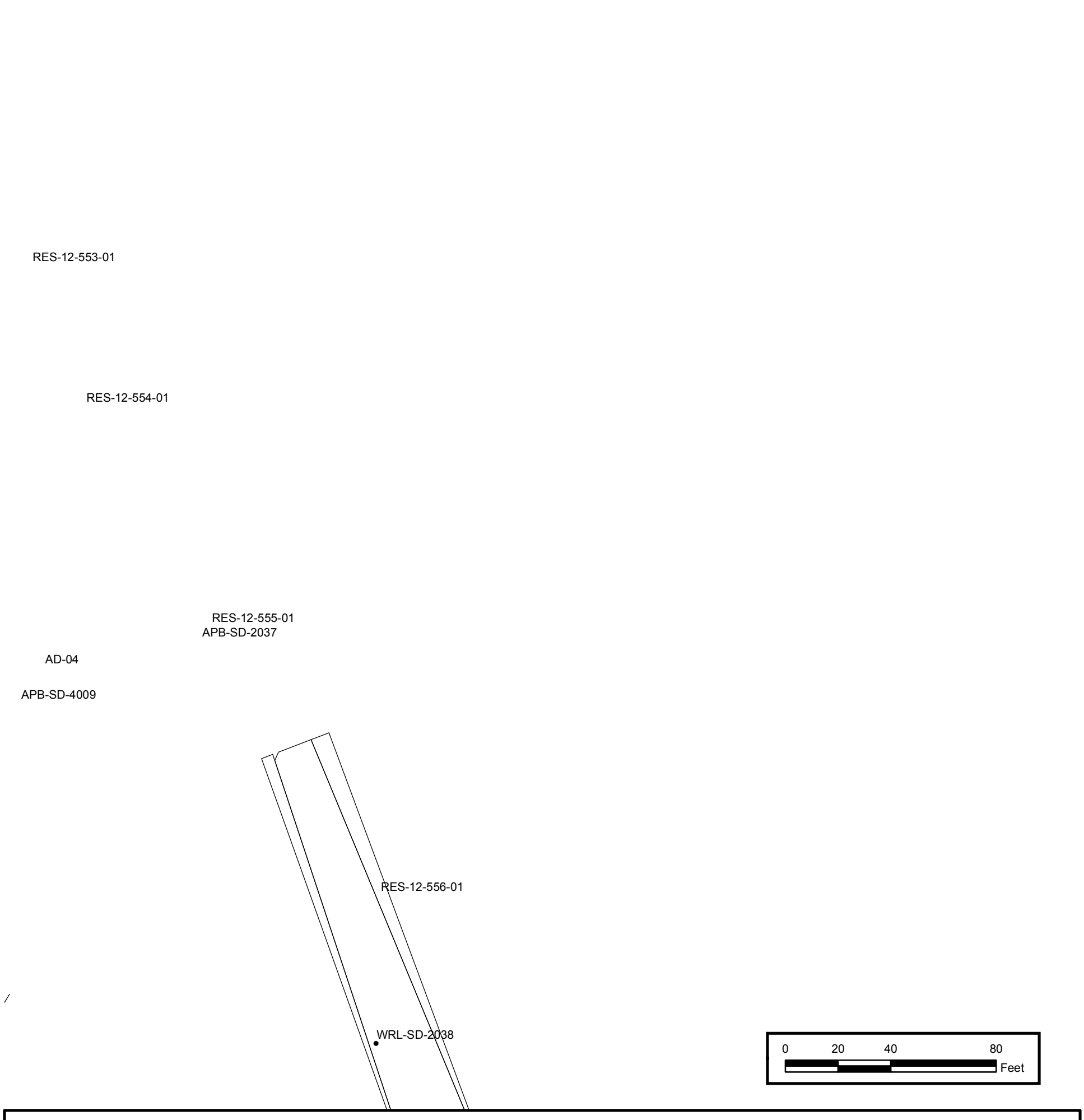
Polygons for COC Class Metals — 11



Polygons for COC Class Metals — 12



Polygons for COC Class Metals — 13



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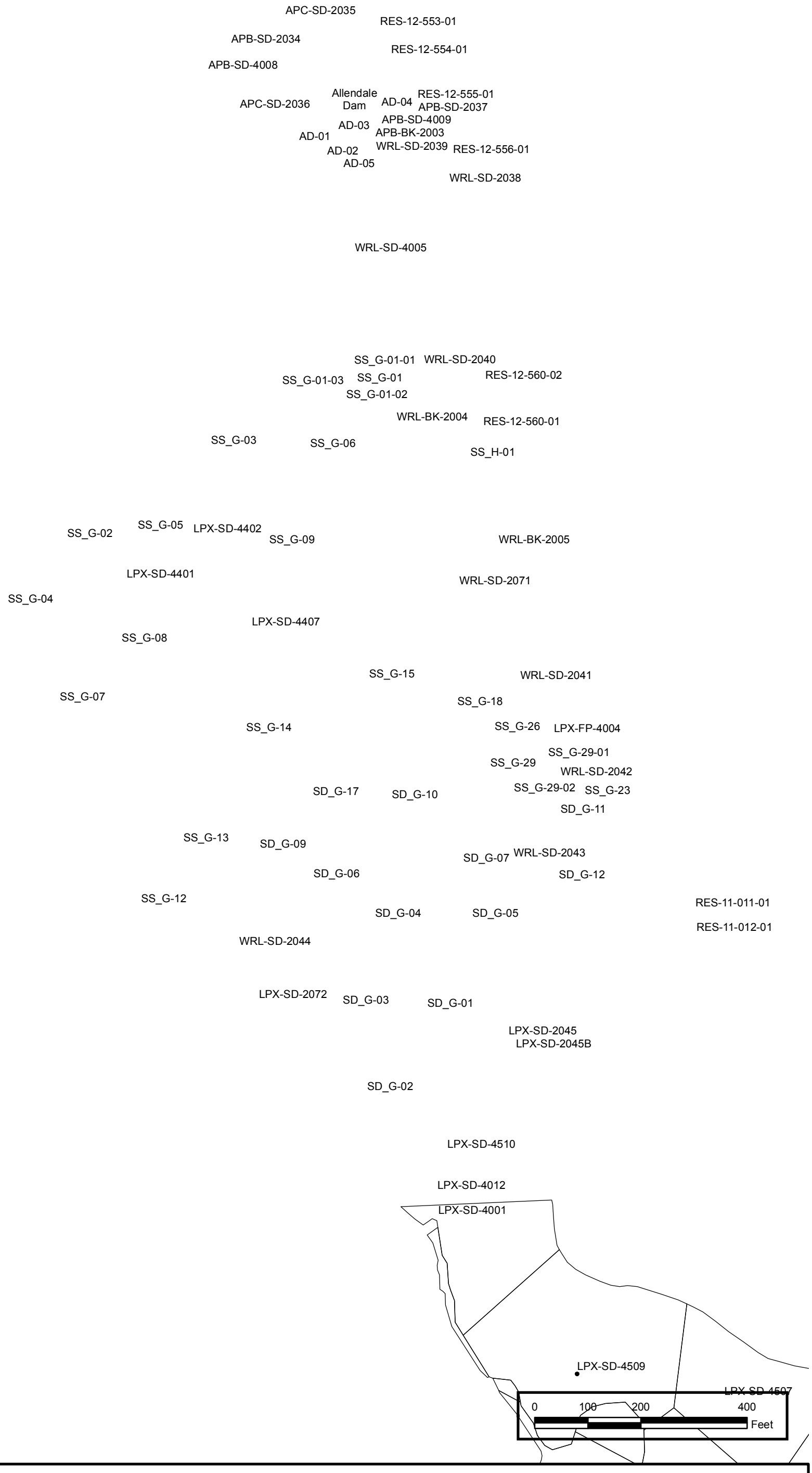
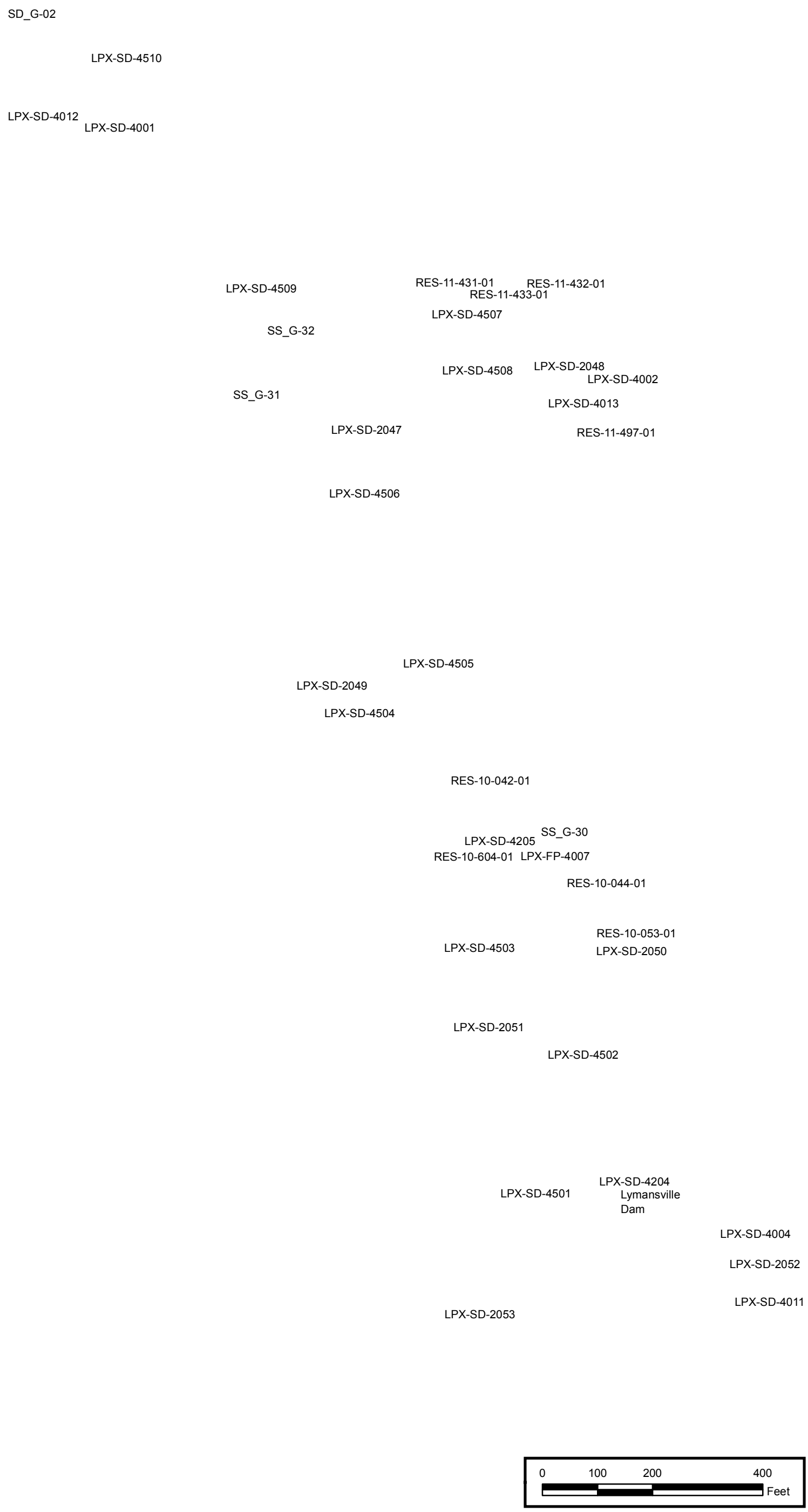


Polygons for COC Class Metals — 15



Polygons for COC Class Metals — 16

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5 6 7

8 9 10 11

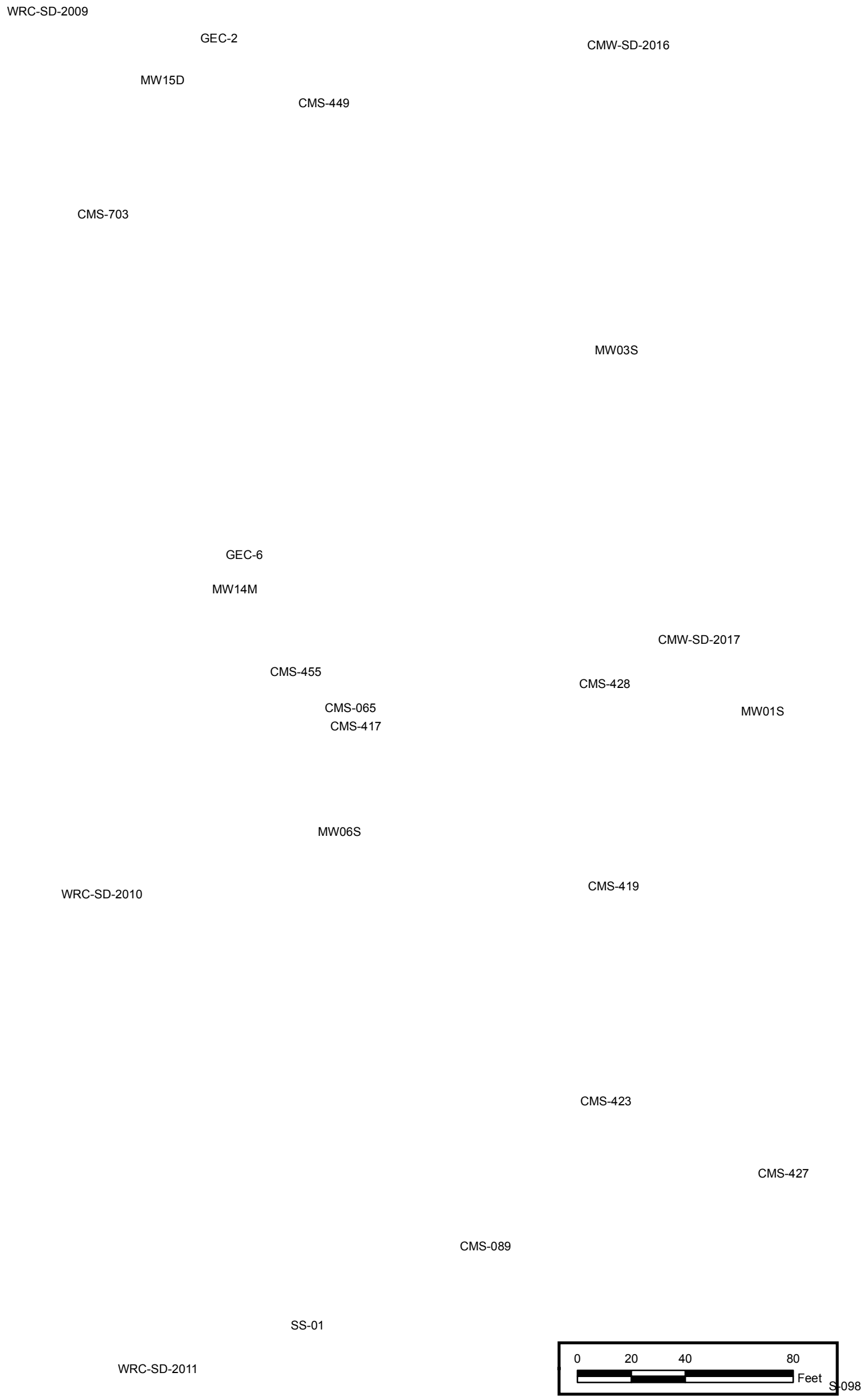
12 13 14

15

16

0 415 830 1,660
Feet

Polygons for COC Class SVOCs — Index



Polygons for COC Class SVOCs — 1

MW01S

CMS-456

CMW-SD-2018

CMS-427

CMS-4105

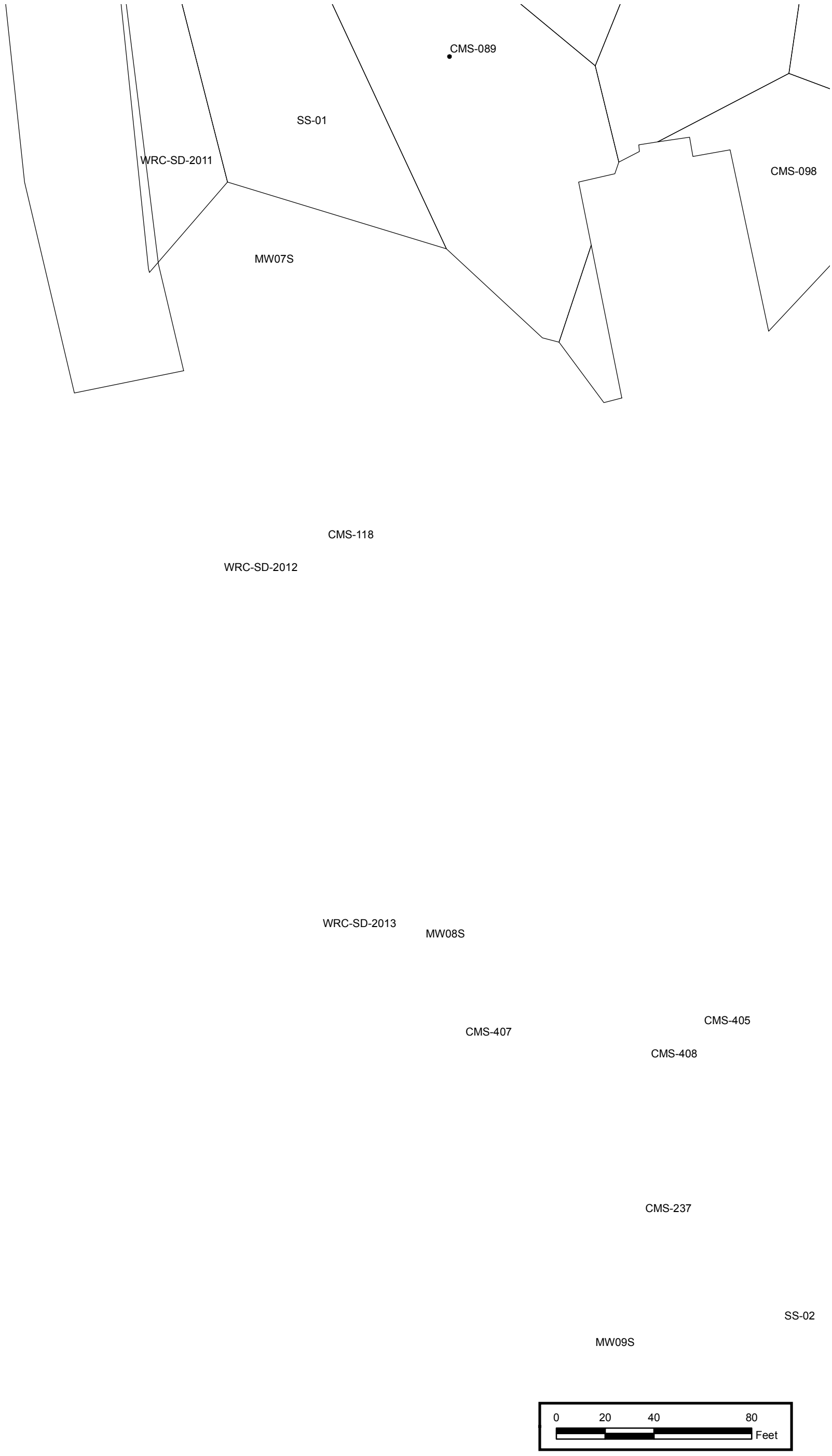
RES-14-271-01

CMS-098

0 20 40 80

Feet

Polygons for COC Class SVOCs — 2



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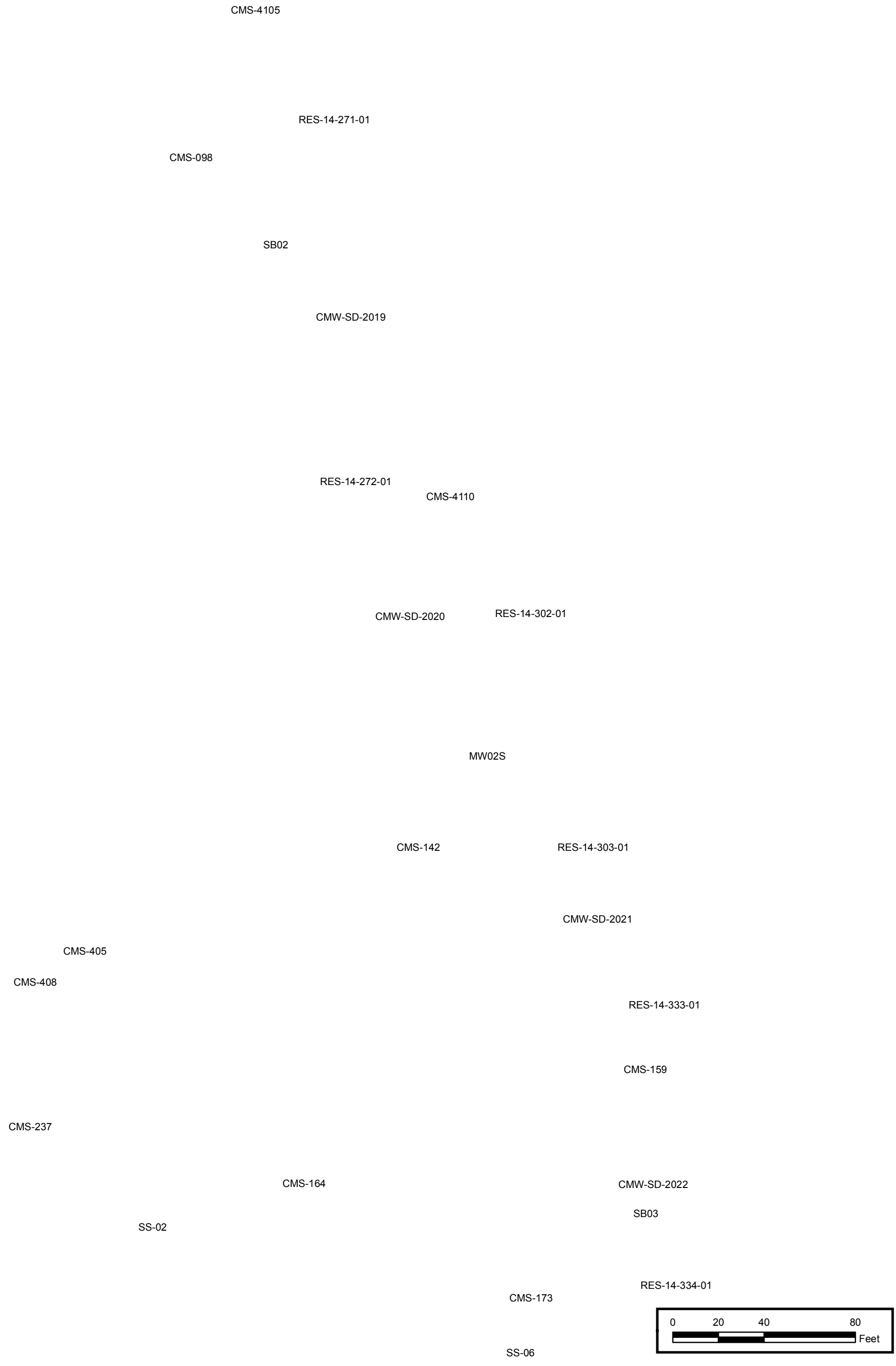
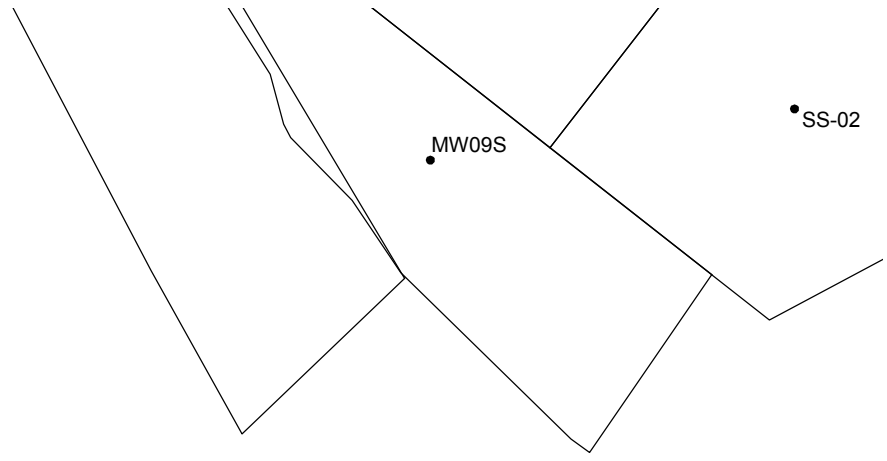
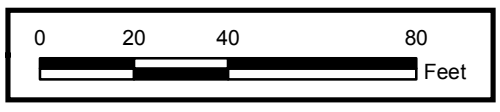


Polygons for COC Class SVOCs — 4





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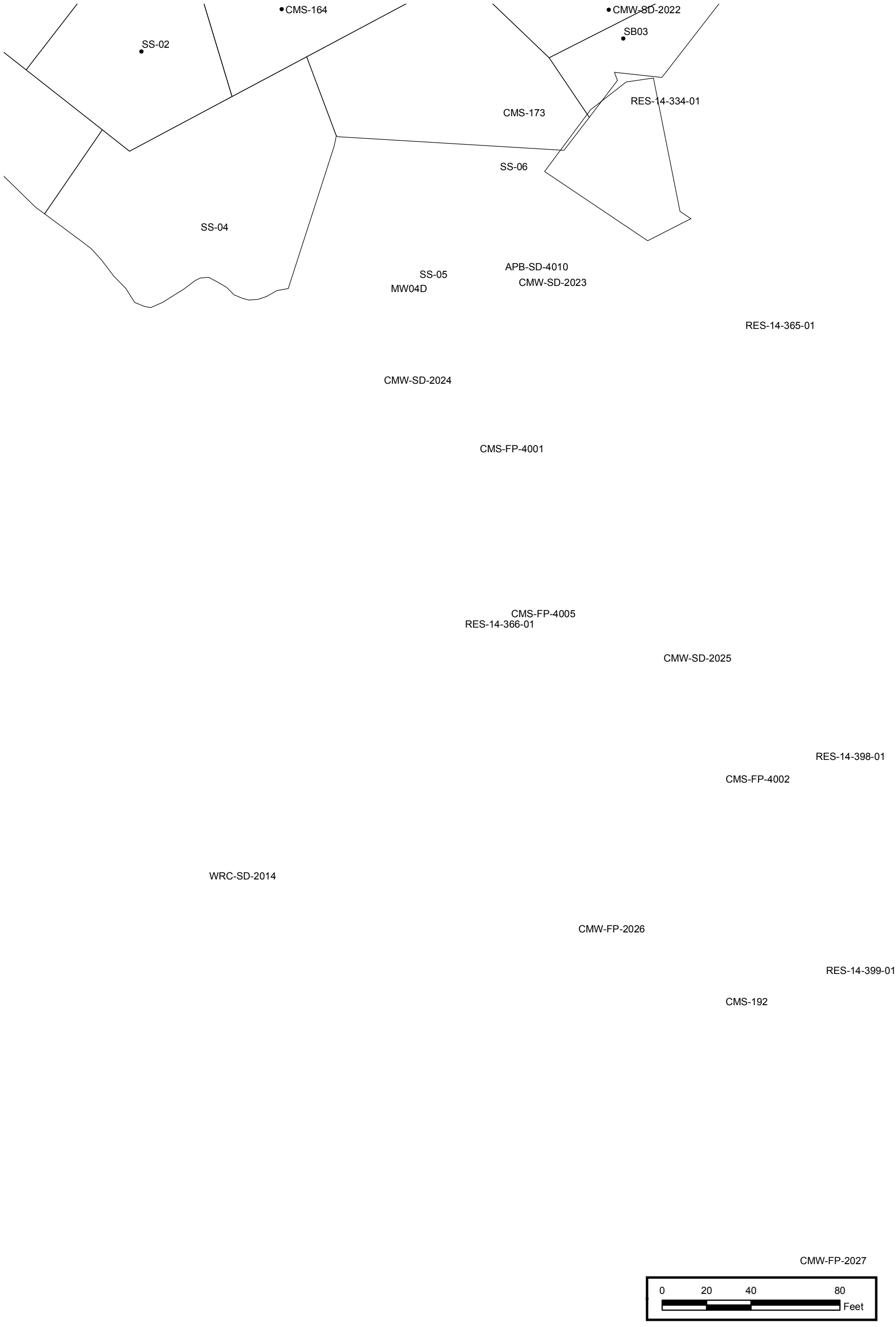


Polygons for COC Class SVOCs — 6

RES-14-365-01

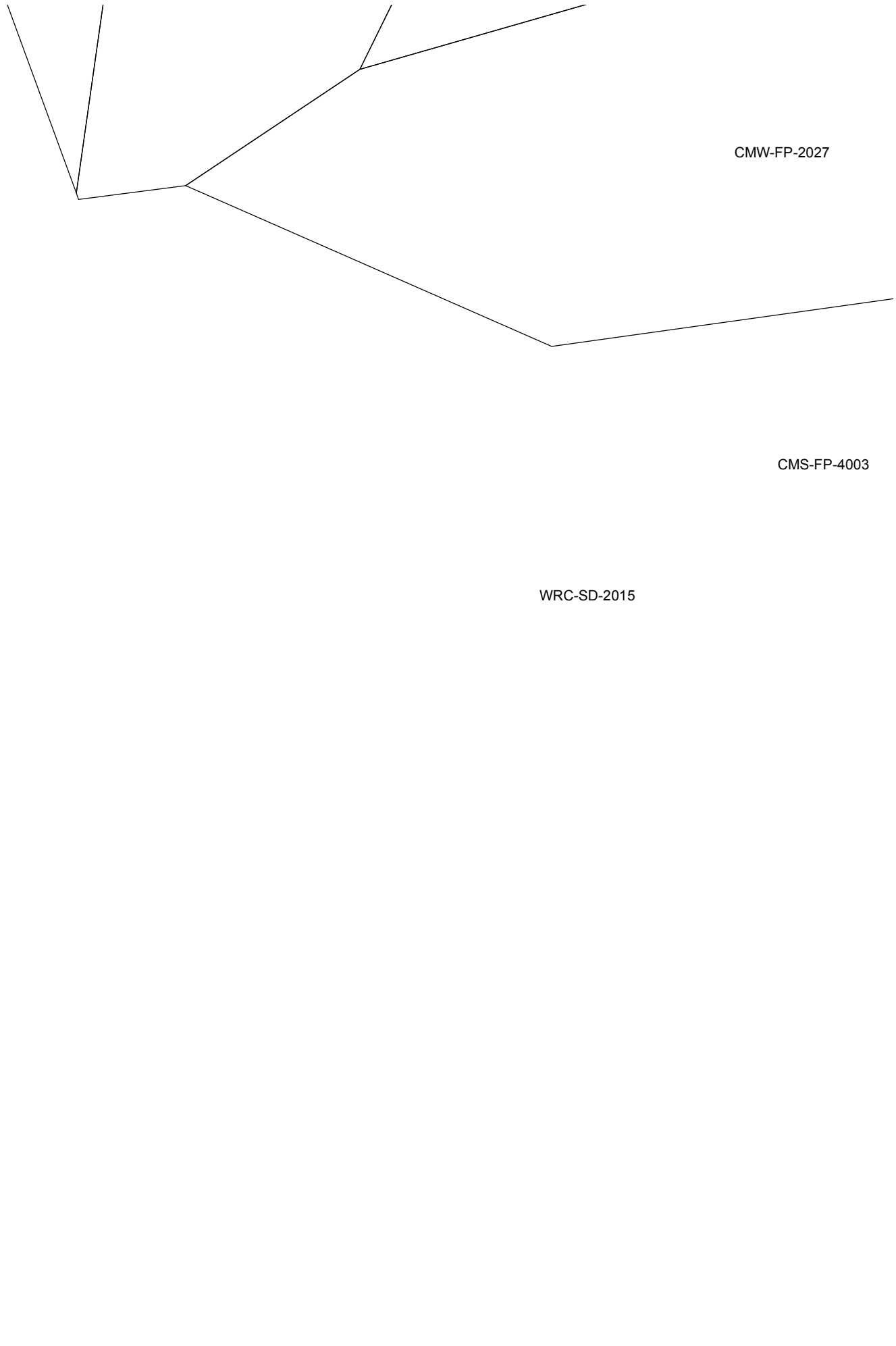
RES-14-398-01

RES-14-399-01

CMW-FP-2027

0 20 40 80
Feet

Polygons for COC Class SVOCs — 7



Polygons for COC Class SVOCs — 8

Polygons for COC Class SVOCs — 9

RES-14-425-01

RES-14-430-01

RES-14-422-01

RES-14-424-01

RES-14-448-01

APB-FP-2028

RES-14-449-01

CMS-215

APB-FP-2031

APB-FP-2032

0 20 40 80 Feet

Polygons for COC Class SVOCs — 10

RES-14-448-01

RES-14-449-01

APB-FP-2033

RES-12-240-01

RES-12-239-01

RES-12-550-01

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RES-12-551-0

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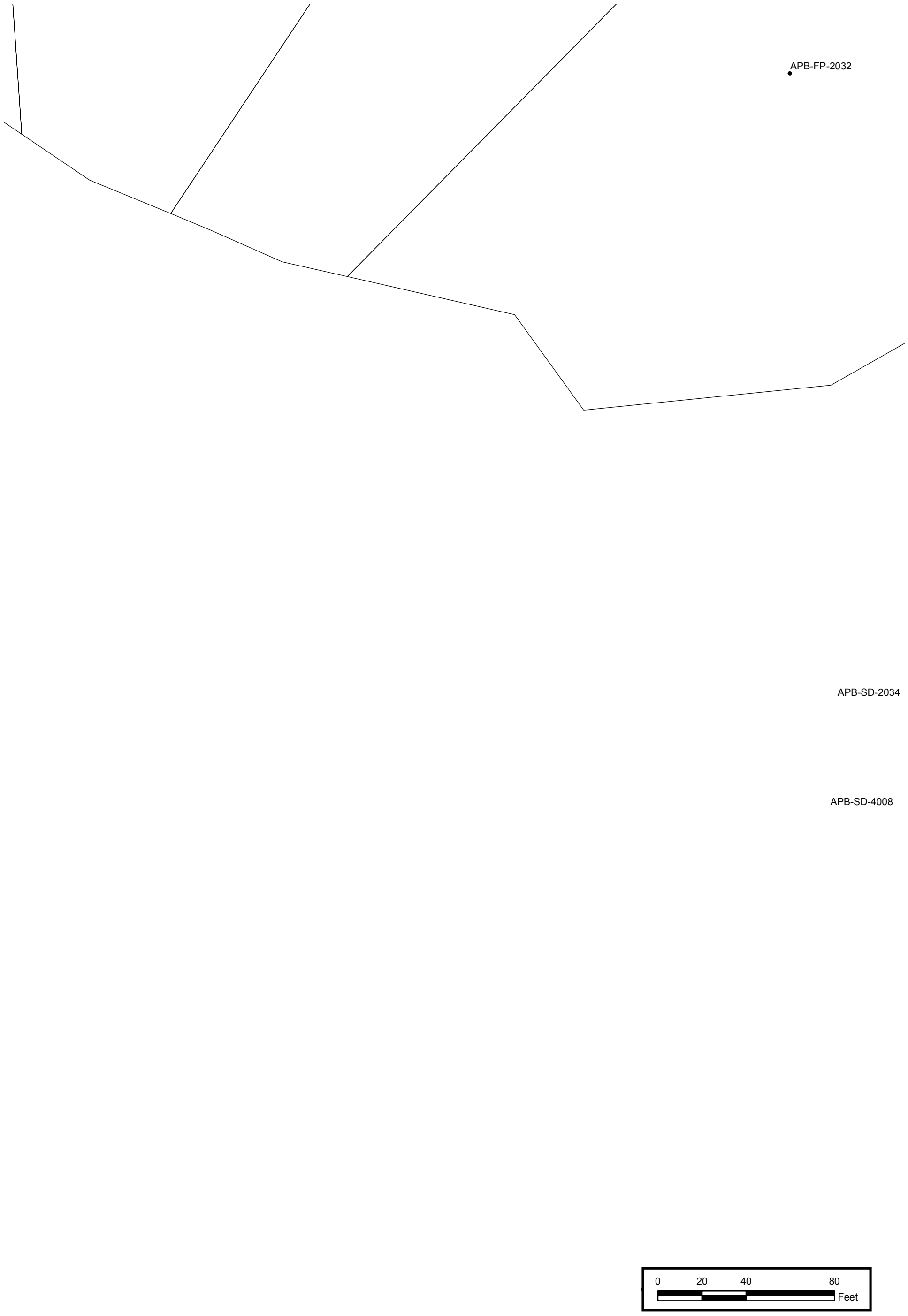
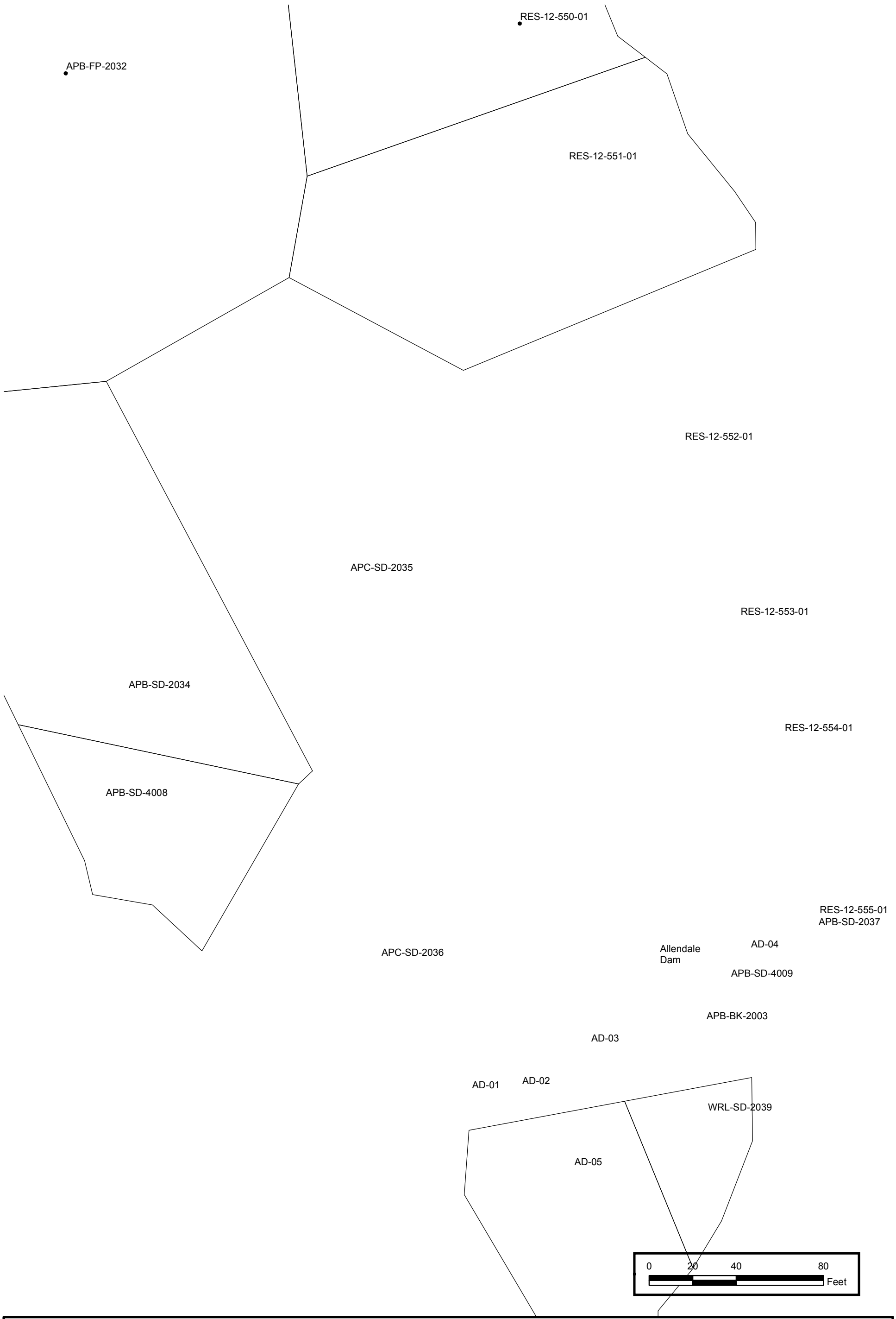
Polygons for COC Class SVOCs — 11



Polygons for COC Class SVOCs — 12



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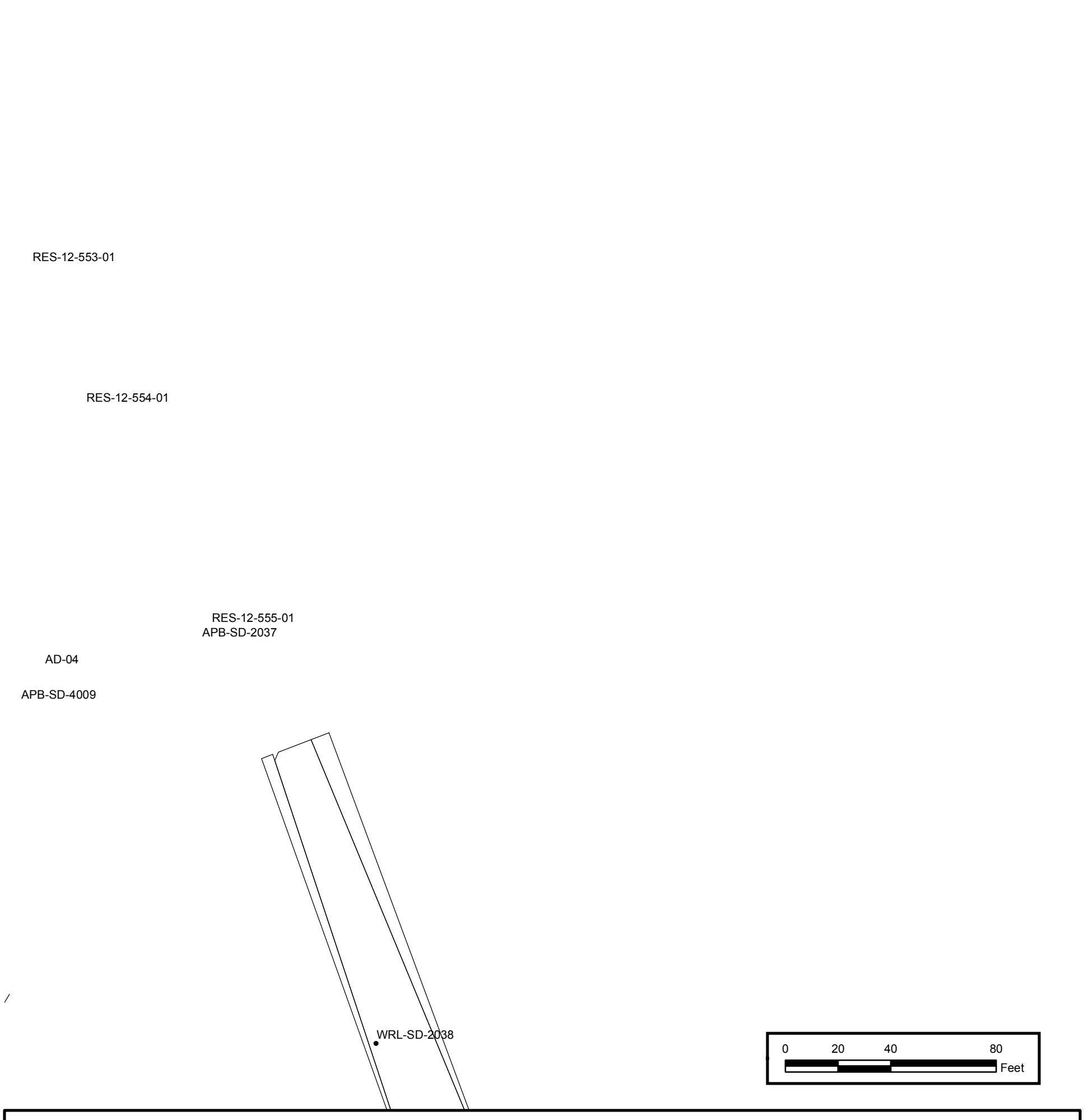

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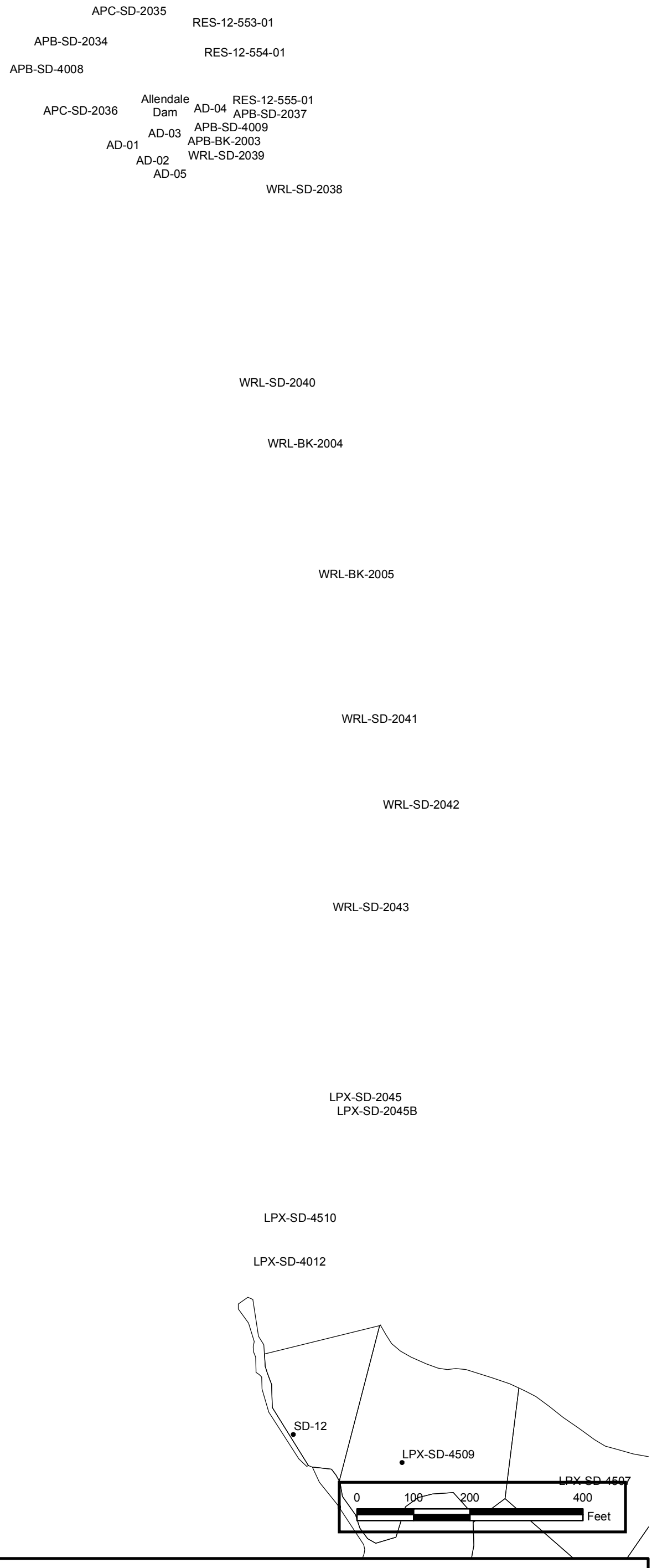

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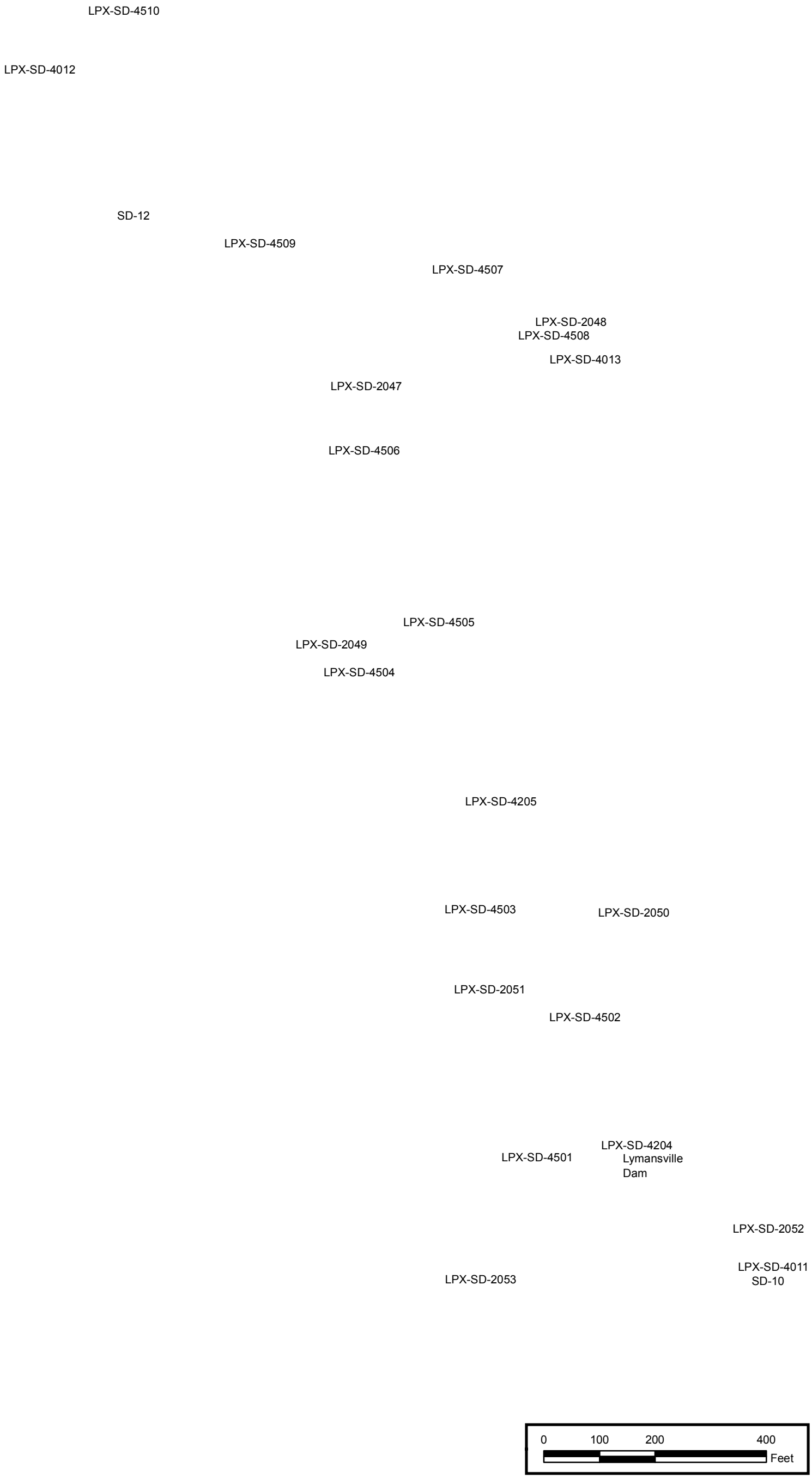

Polygons for COC Class SVOCs — 16

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5 6 7

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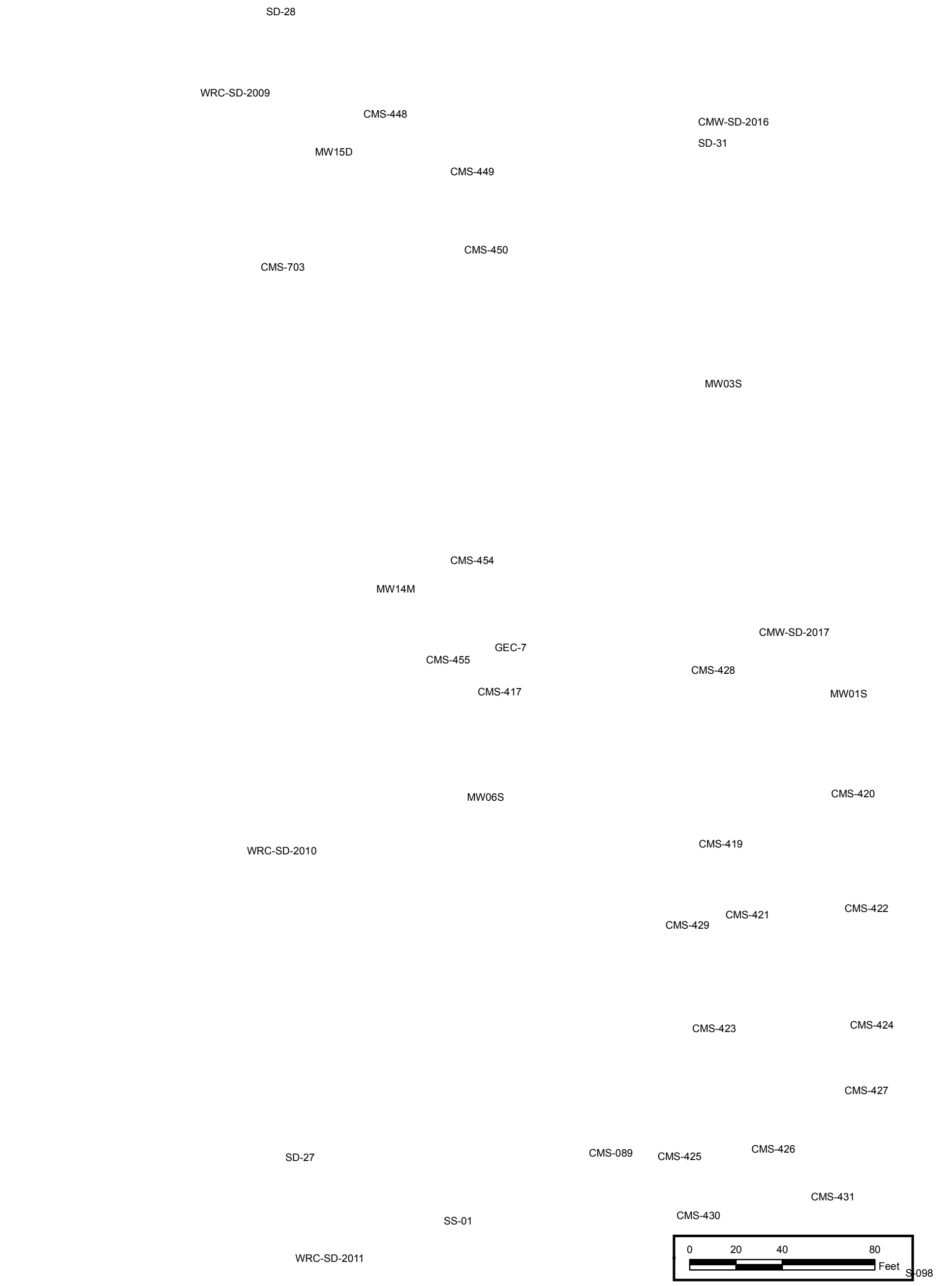
16

0 415 830 1,660
Feet

Polygons for COC Class PCBs — Index



Polygons for COC Class PCBs — 1

MW01S

CMS-420

CMS-422

CMS-424

CMS-456

CMW-SD-2018

CMS-427

CMS-4105

CMS-431

RES-14-271-01

CMS-098

0 20 40 80
Feet

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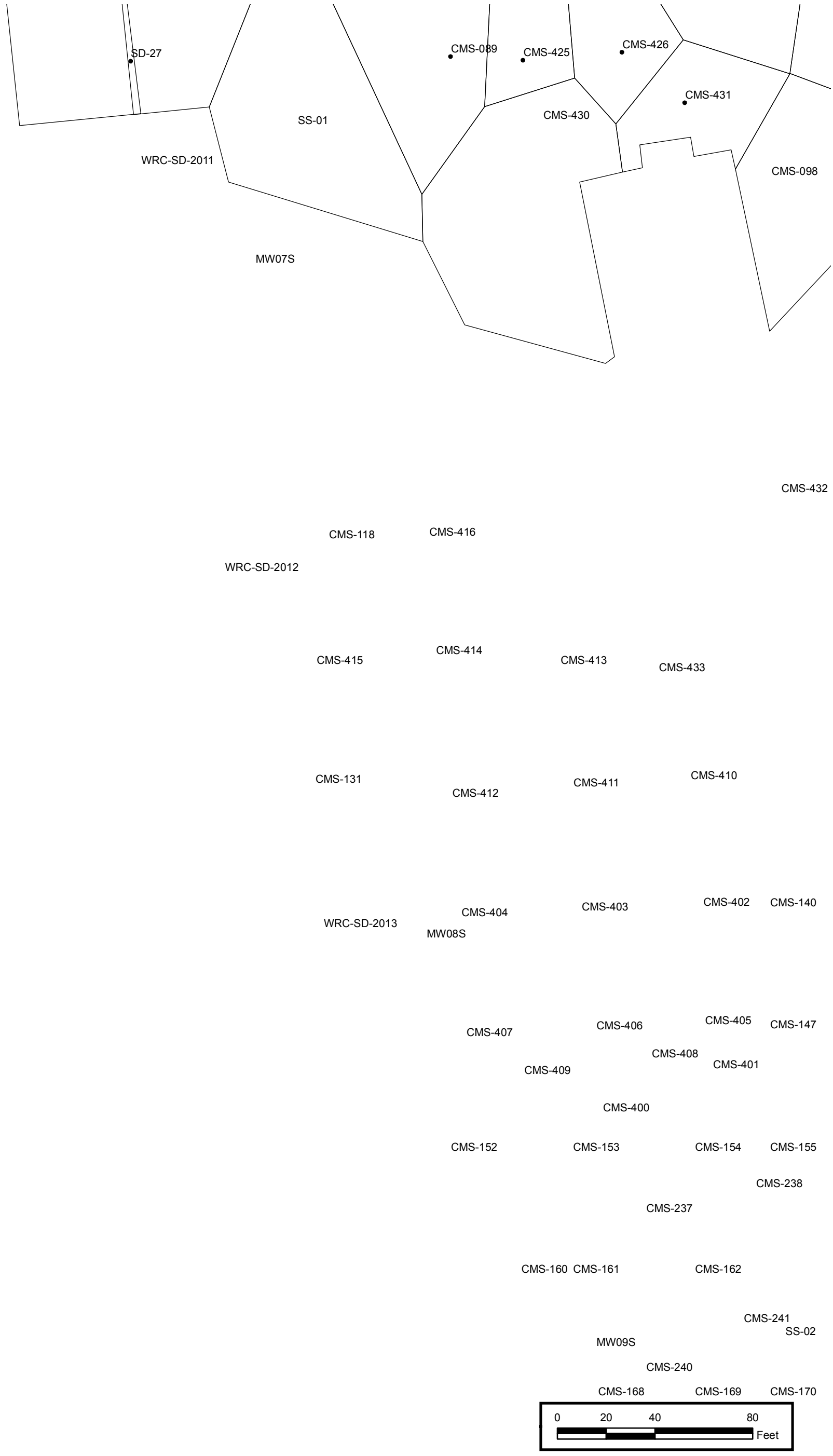

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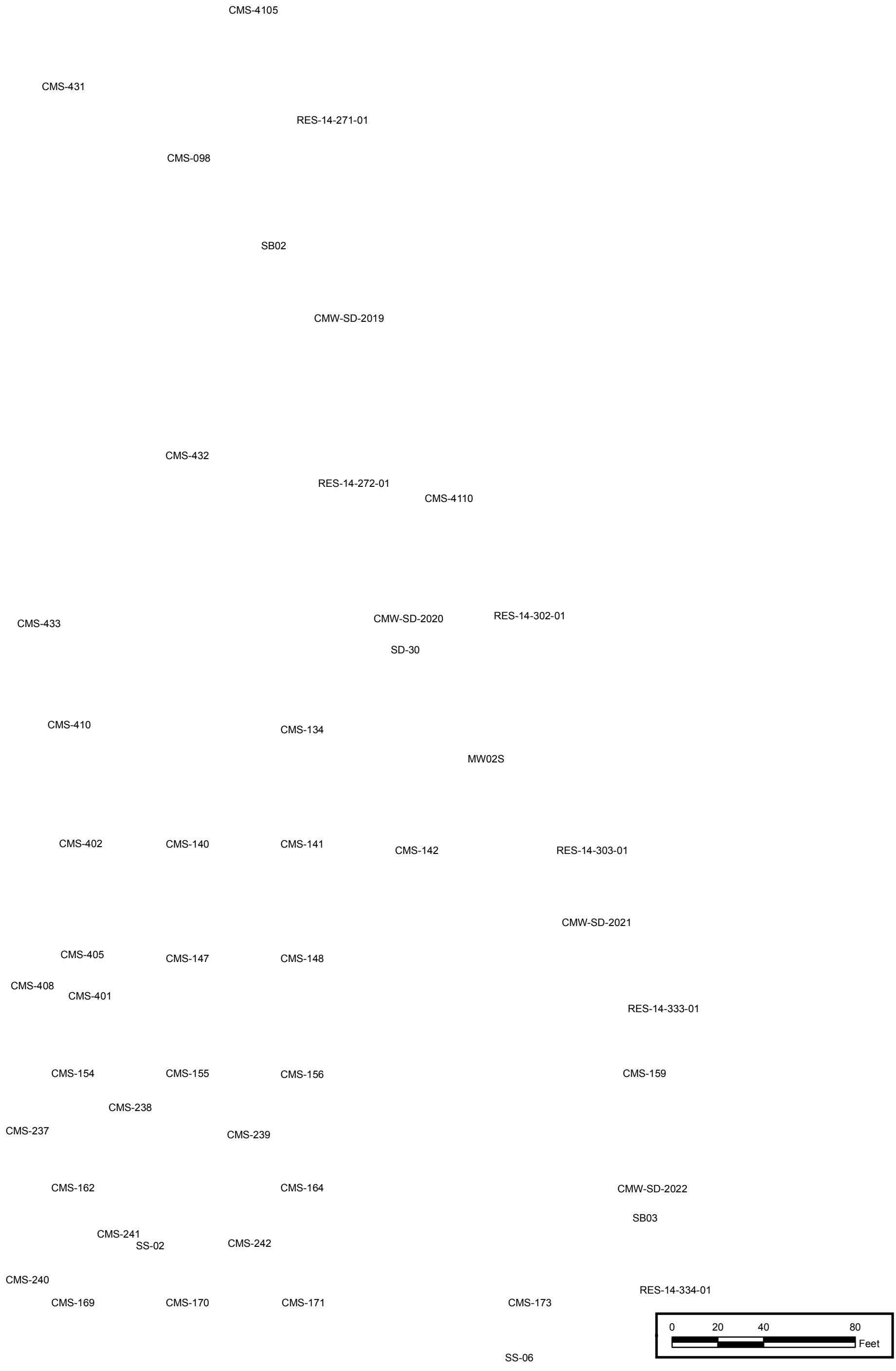

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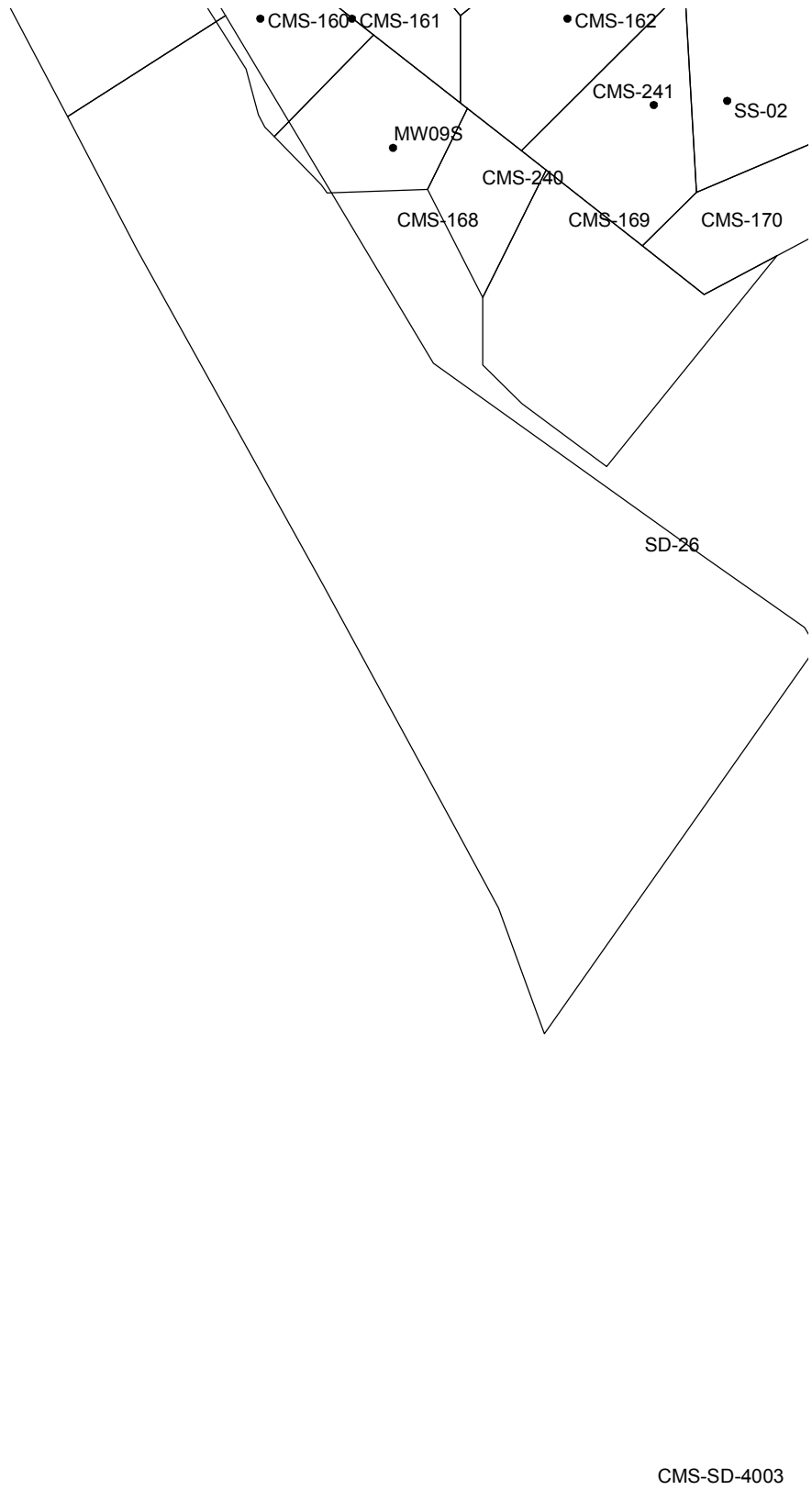
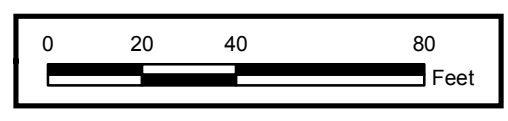




Polygons for COC Class PCBs — 5

Polygons for COC Class PCBs — 6

RES-14-365-01

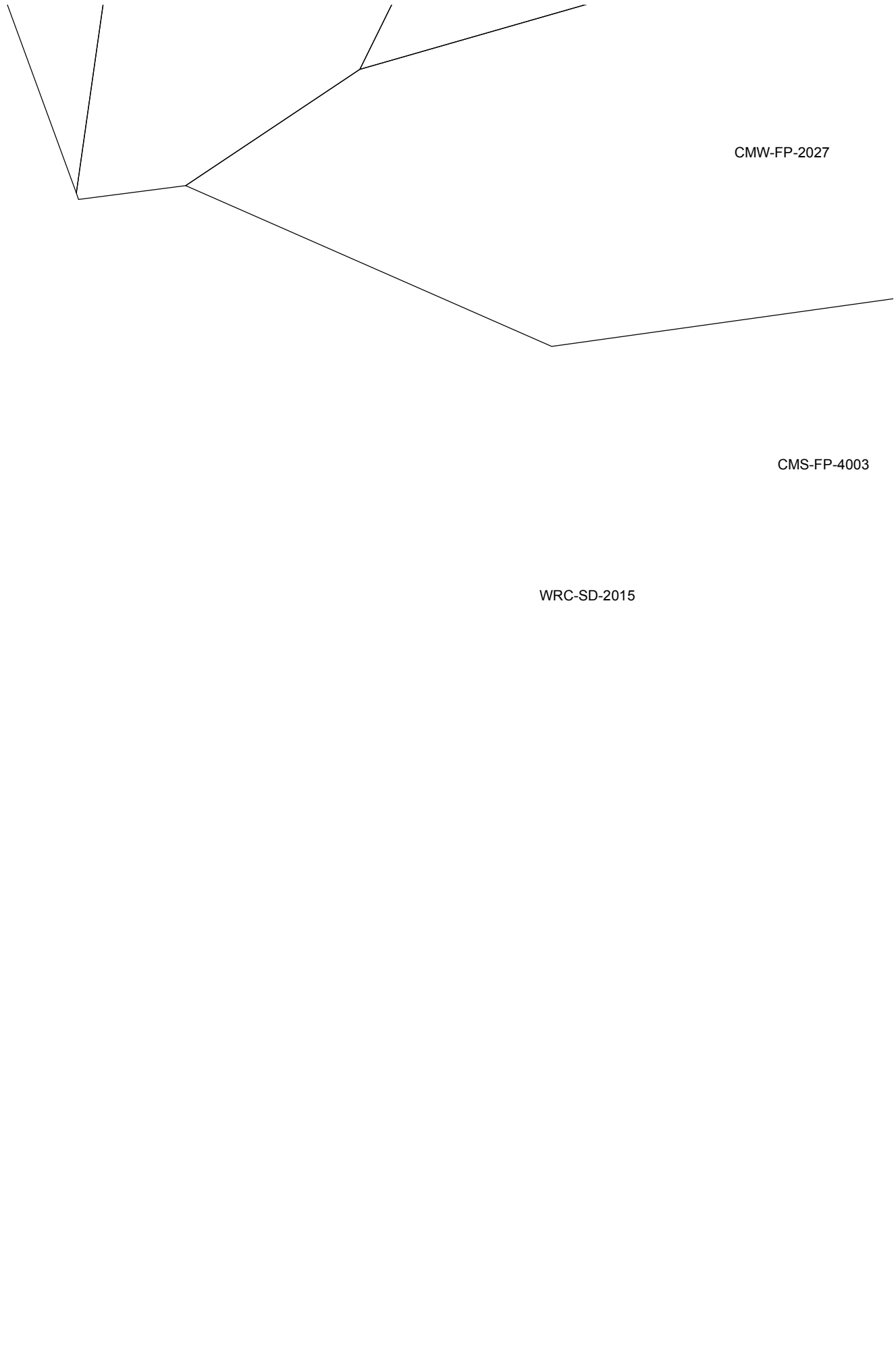
RES-14-398-01

RES-14-399-01

CMW-FP-2027

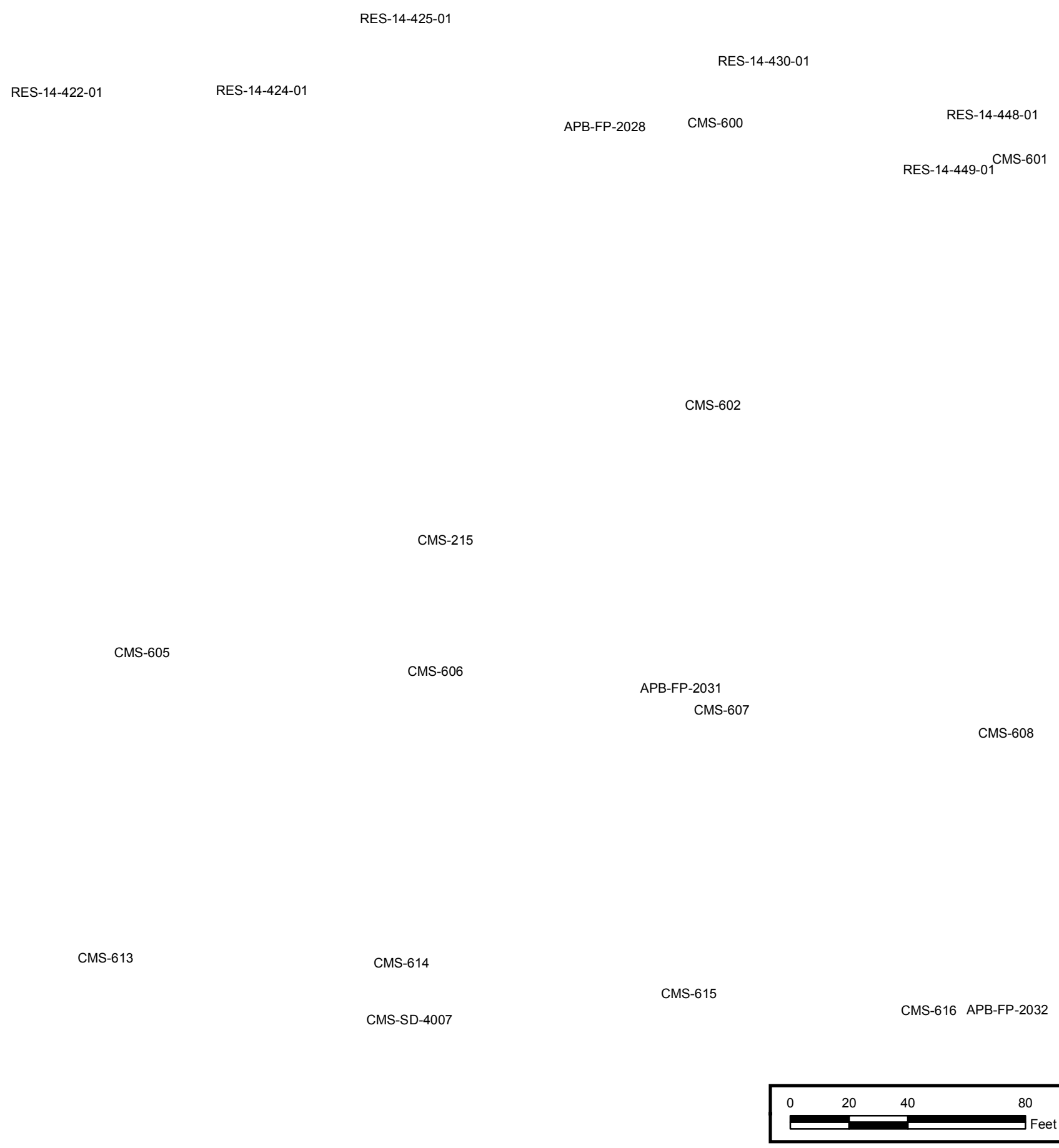
0 20 40 80
Feet

Polygons for COC Class PCBs — 7



Polygons for COC Class PCBs — 8

Polygons for COC Class PCBs — 9



Polygons for COC Class PCBs — 10

RES-14-448-01

RES-14-449-01 CMS-601

APB-FP-2033

RES-12-240-01

RES-12-239-01

CMS-608

CMS-609

CMS-610

RES-12-550-01

CMS-616 APB-FP-2032

CMS-617

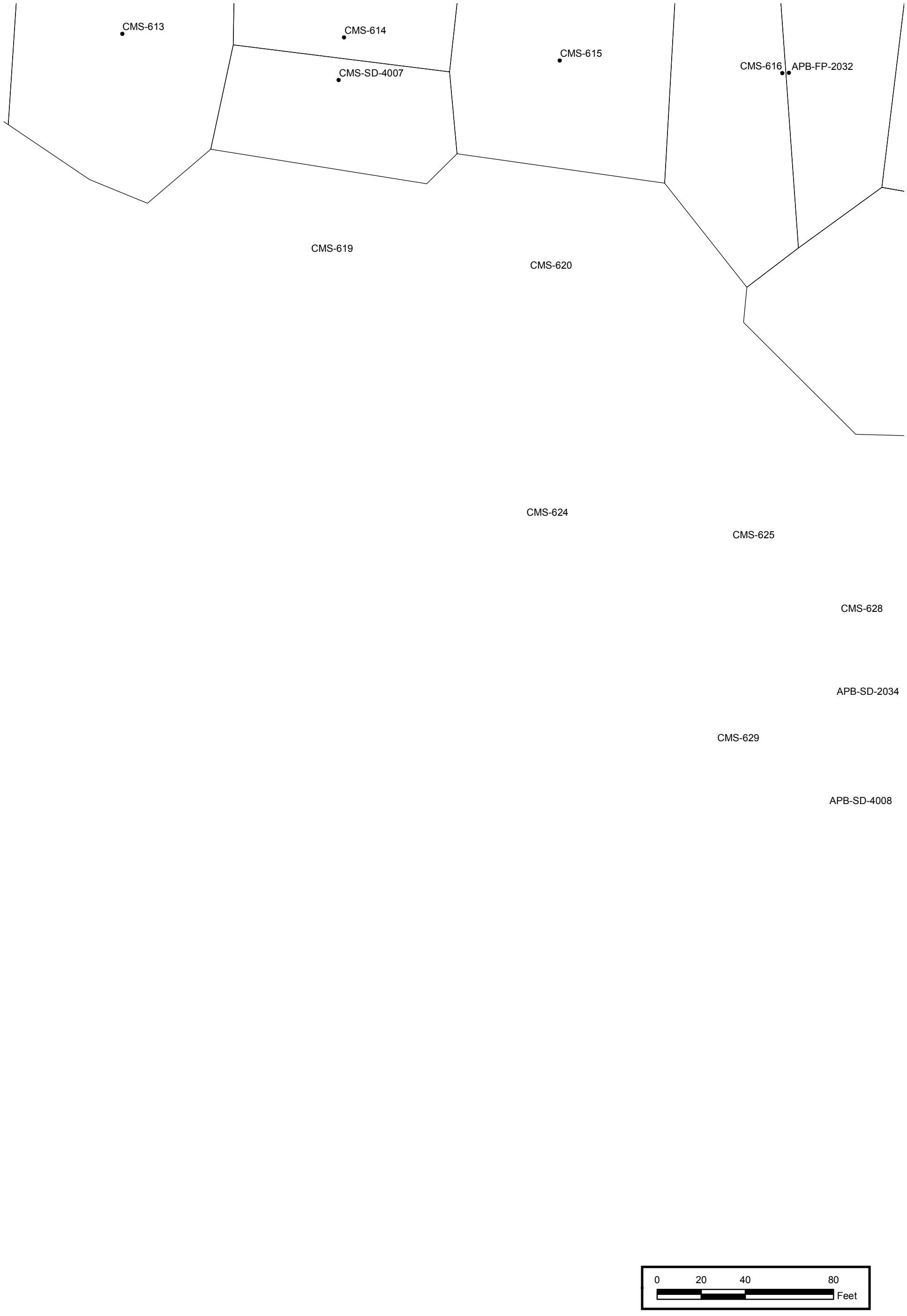
CMS-618

RES-12-551-0

0 20 40 80

Feet

Polygons for COC Class PCBs — 11



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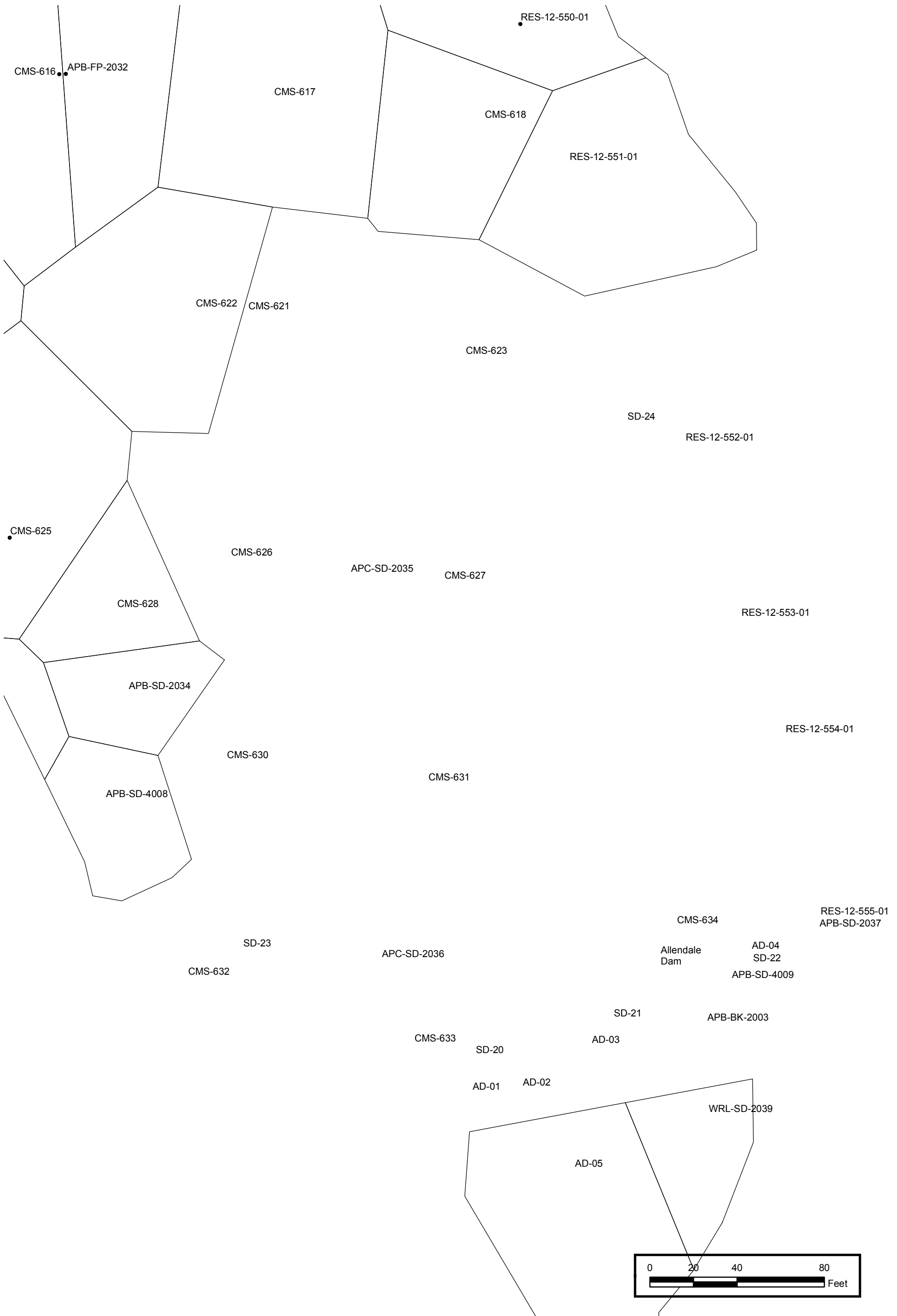
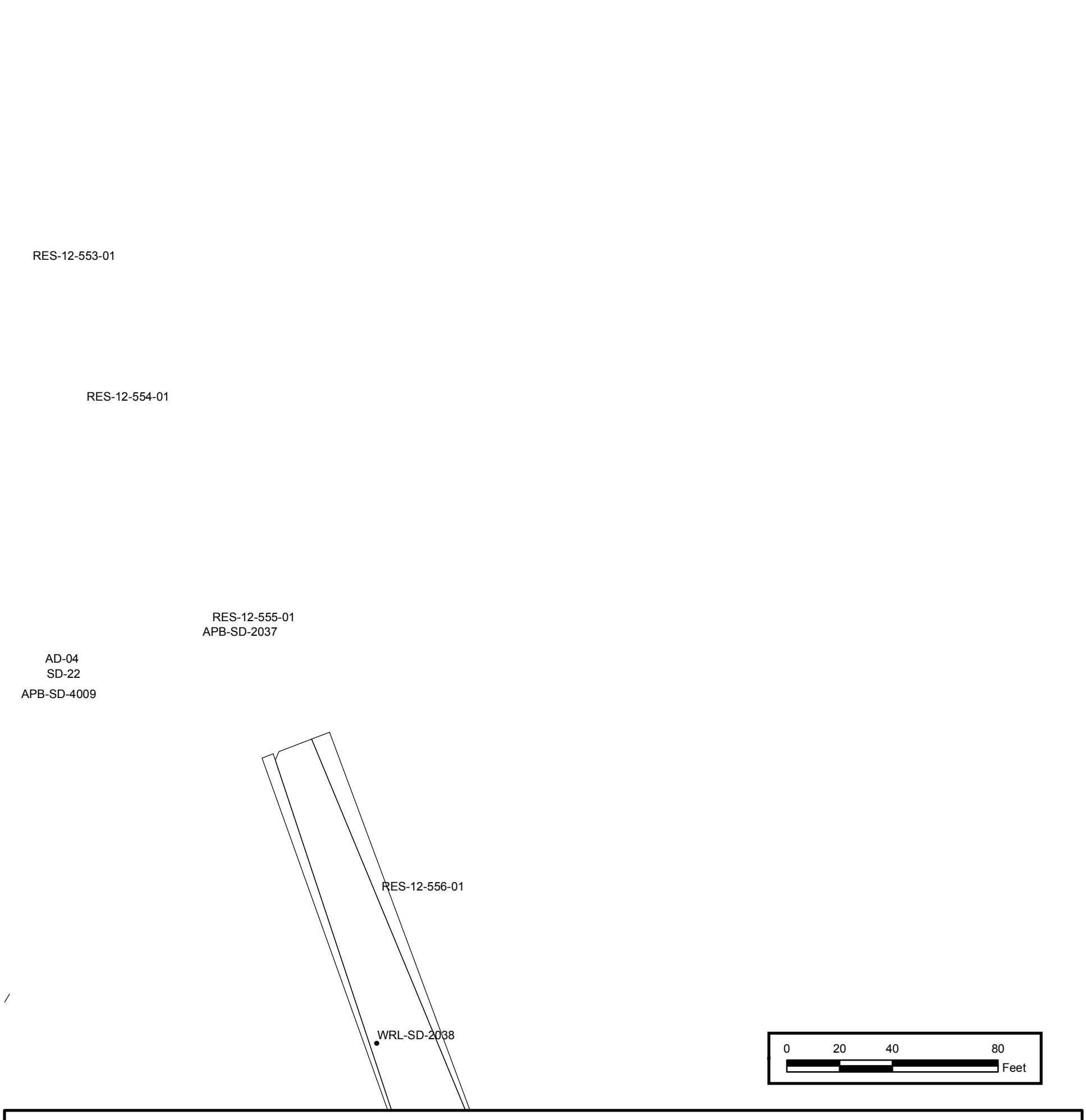
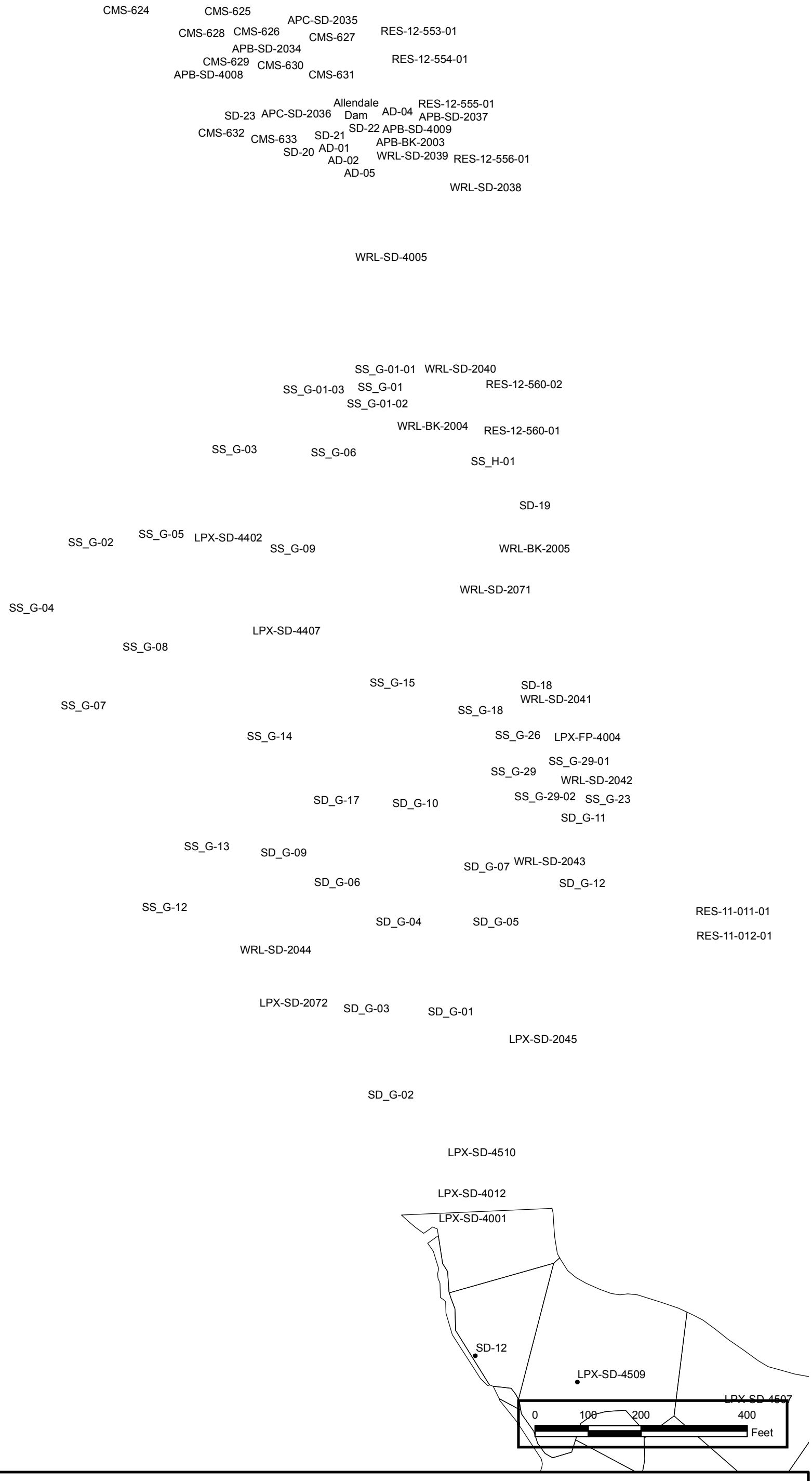


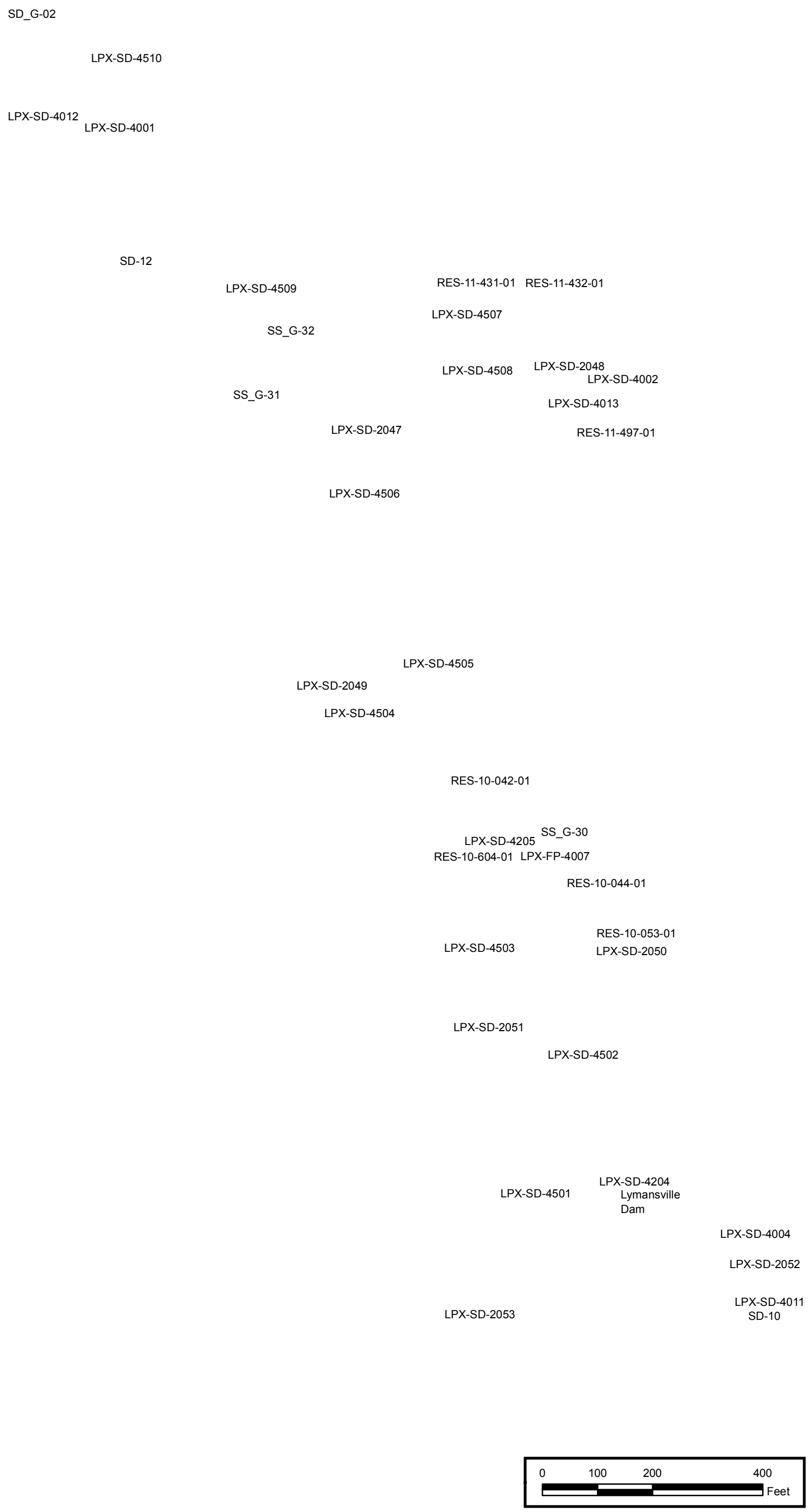
Polygons for COC Class PCBs — 13



Polygons for COC Class PCBs — 14



Polygons for COC Class PCBs — 15



Polygons for COC Class PCBs — 16

1 2

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5 6 7

8 9 10 11

12 13 14

15

16

0 415 830 1,660
Feet

Polygons for COC Class Pesticides — Index

Polygons for COC Class Pesticides — 1

MW01S

CMS-456

CMW-SD-2018

CMS-427

CMS-4105

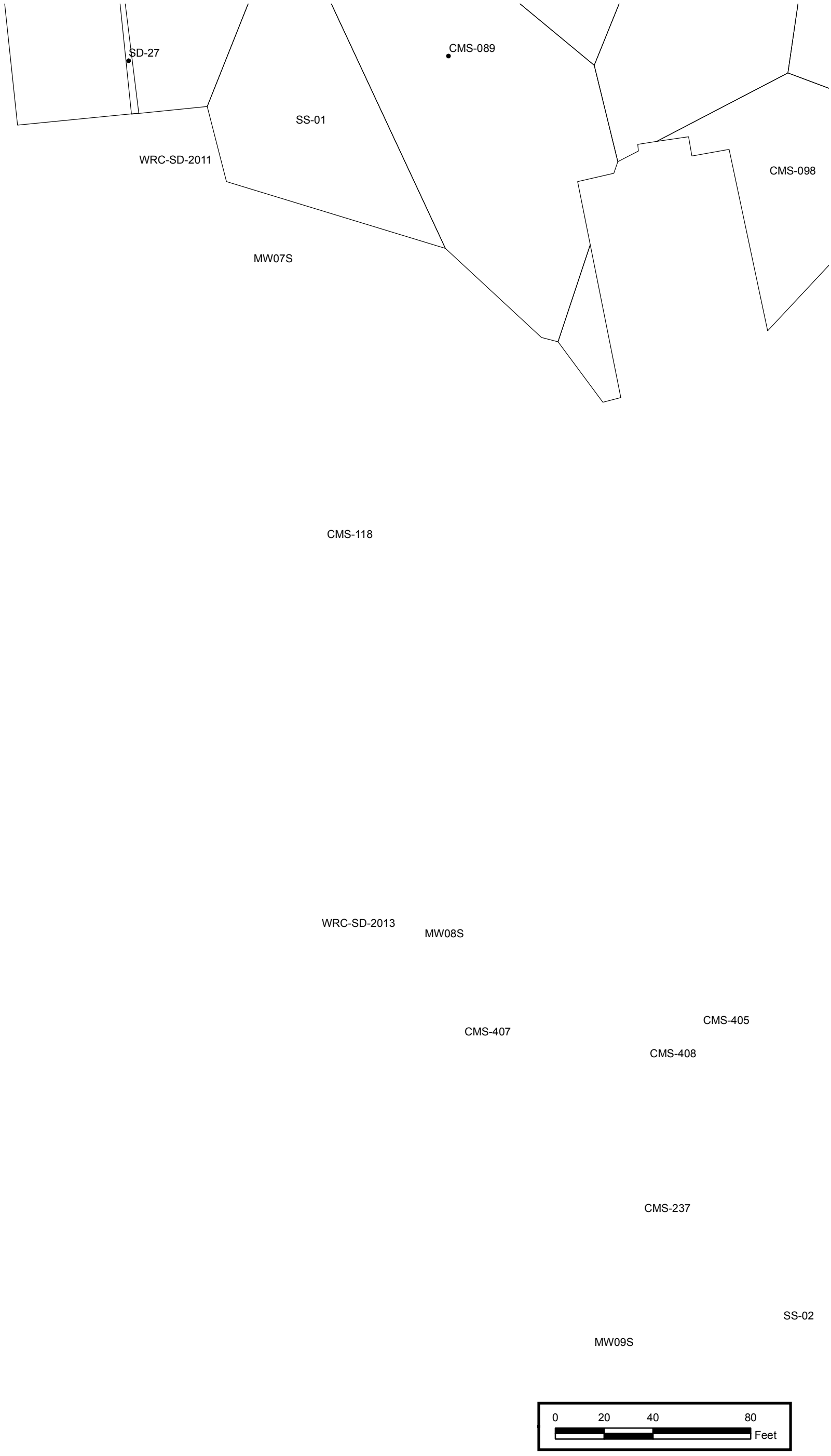
RES-14-271-01

CMS-098

0 20 40 80

Feet

Polygons for COC Class Pesticides — 2



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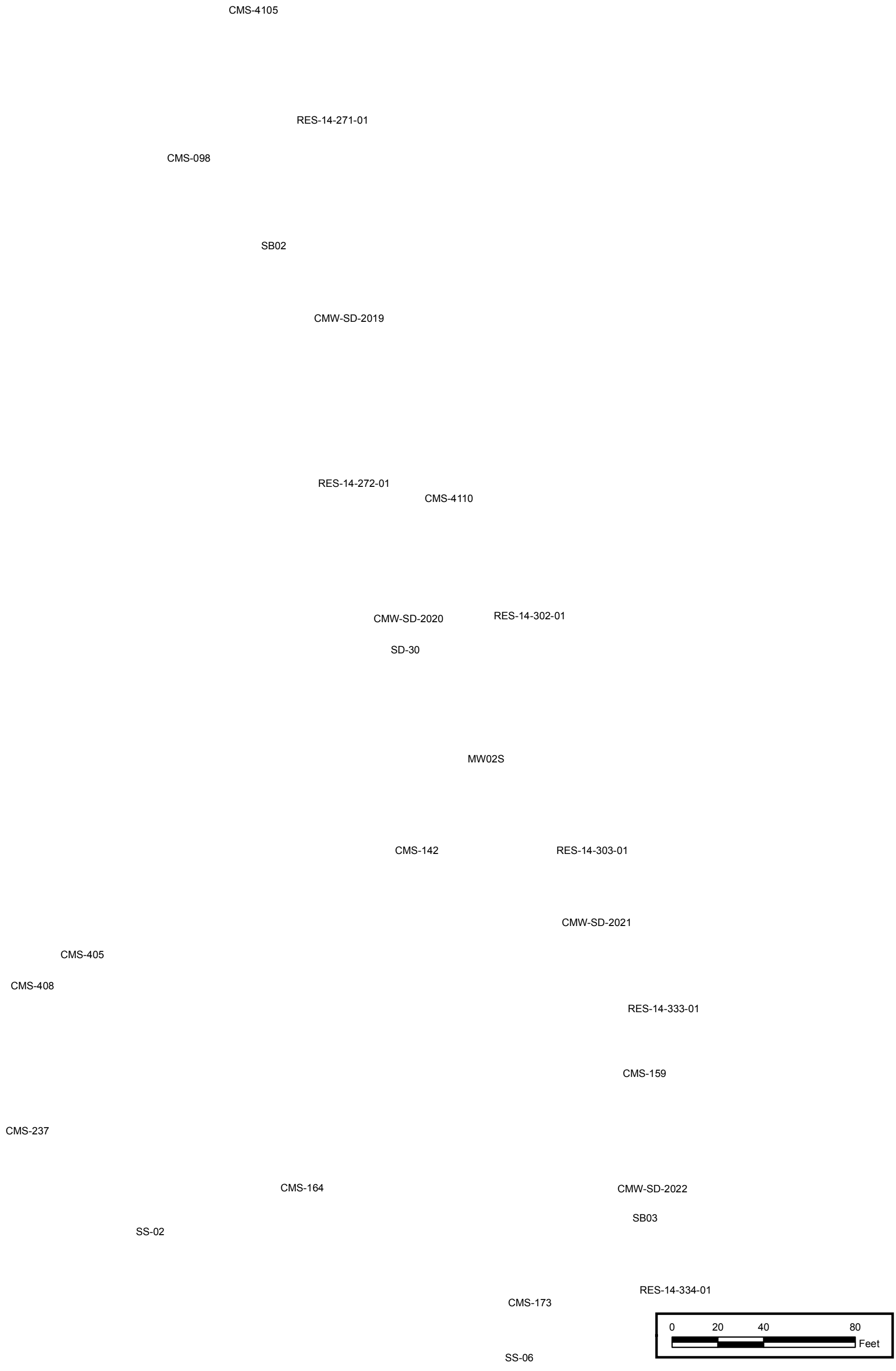

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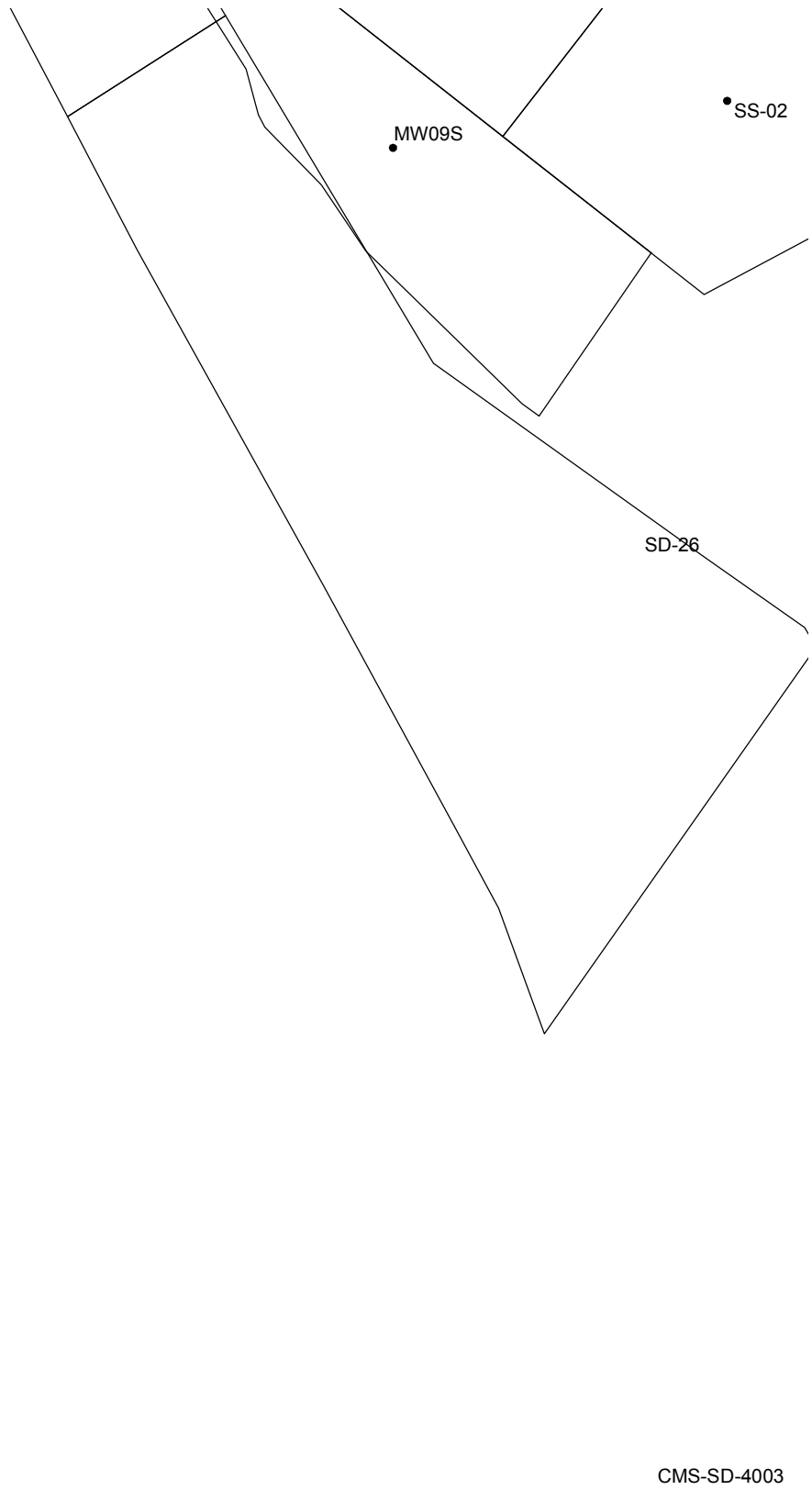
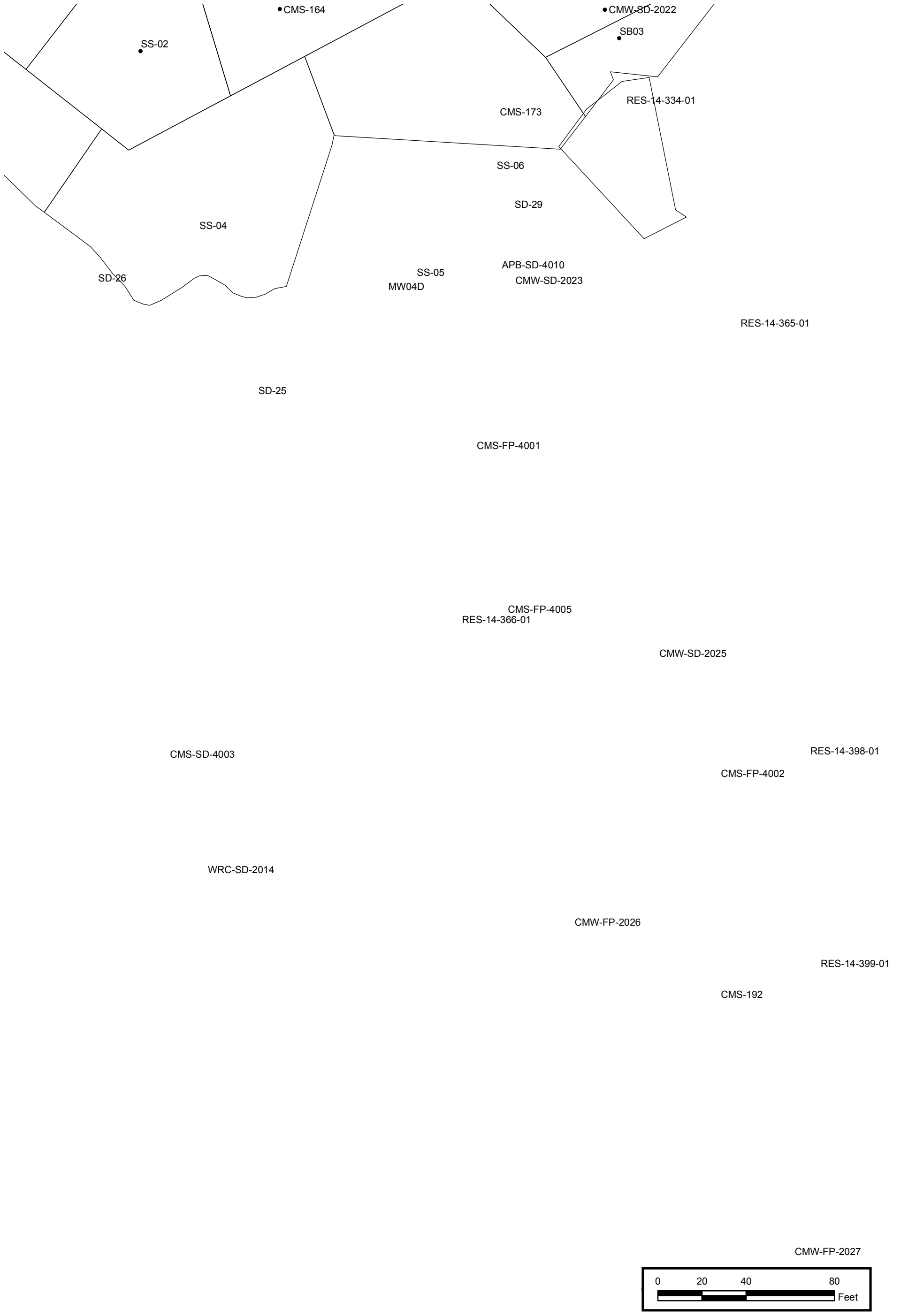


Polygons for COC Class Pesticides — 5



Polygons for COC Class Pesticides — 6

RES-14-365-01

RES-14-398-01

RES-14-399-01

CMW-FP-2027

0 20 40 80
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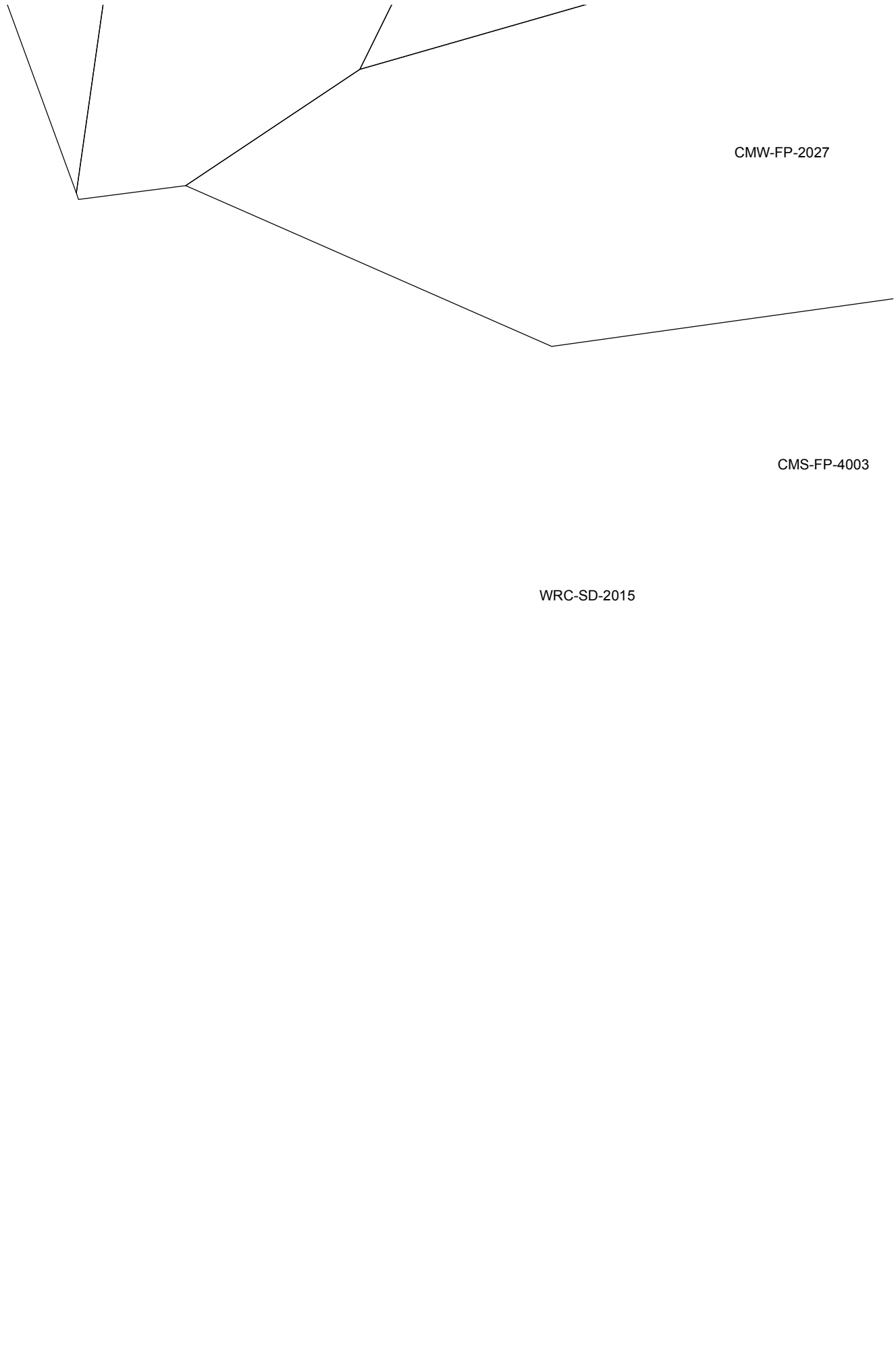
Polygons for COC Class Pesticides — 7



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Polygons for COC Class Pesticides — 9

RES-14-425-01

RES-14-430-01

RES-14-422-01

RES-14-424-01

RES-14-448-01

APB-FP-2028

CMS-215

APB-FP-2031

APB-FP-2032

CMS-SD-4007

0 20 40 80
Feet

Polygons for COC Class Pesticides — 10

RES-14-448-01

APB-FP-2033

RES-12-240-01

RES-12-239-01

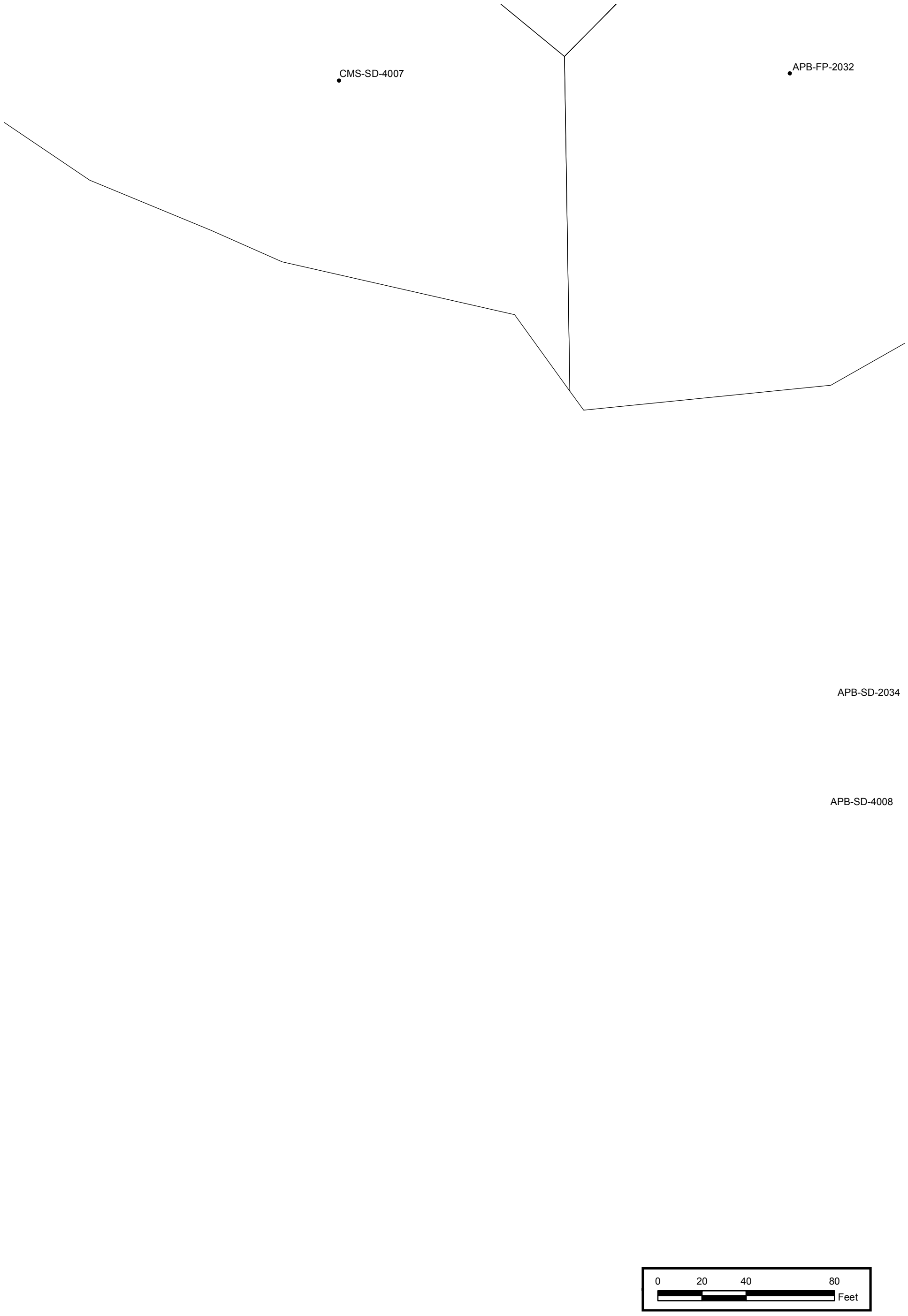
RES-12-550-01

APB-FP-2032

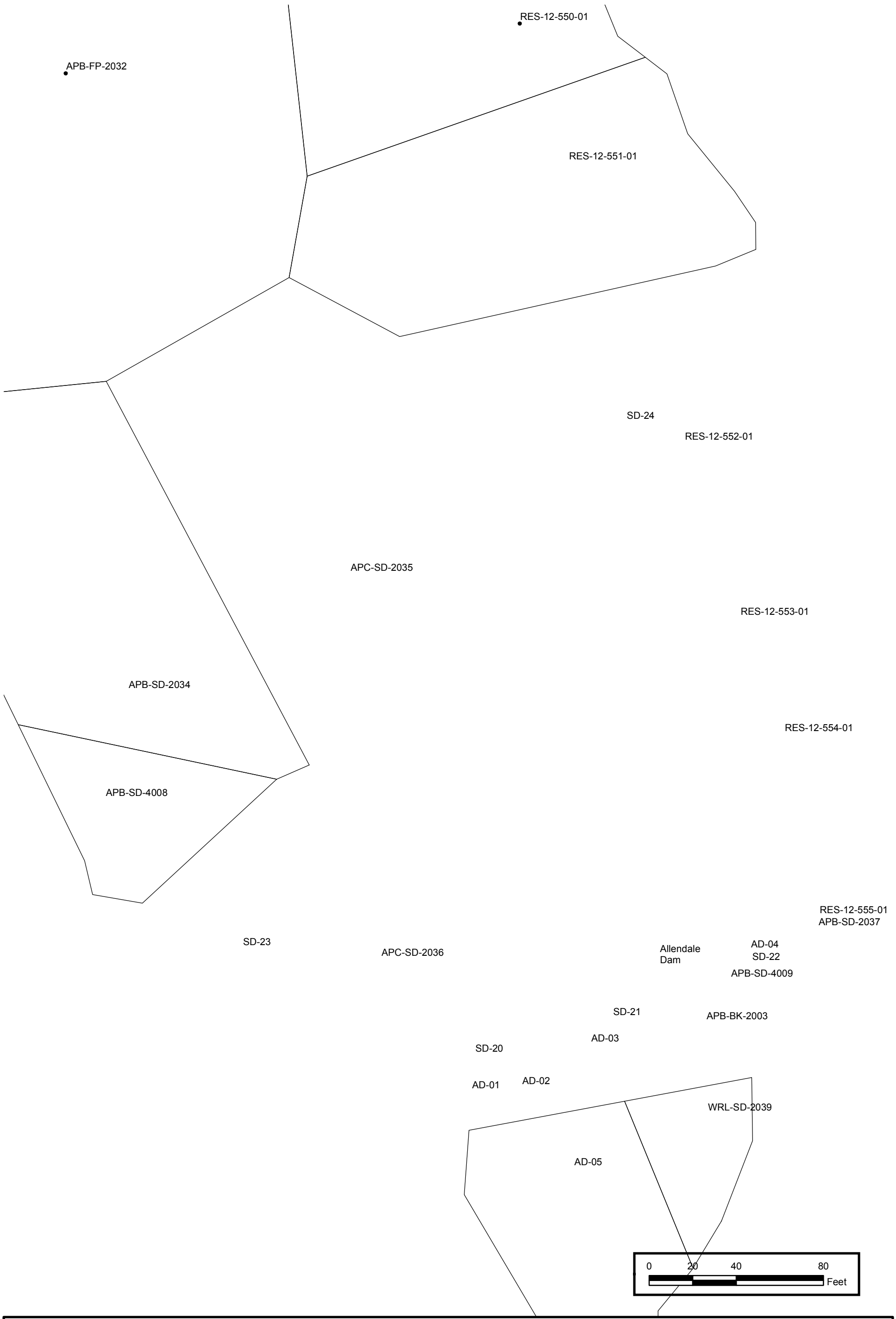
RES-12-551-0

0 20 40 80 Feet

Polygons for COC Class Pesticides — 11



Polygons for COC Class Pesticides — 12



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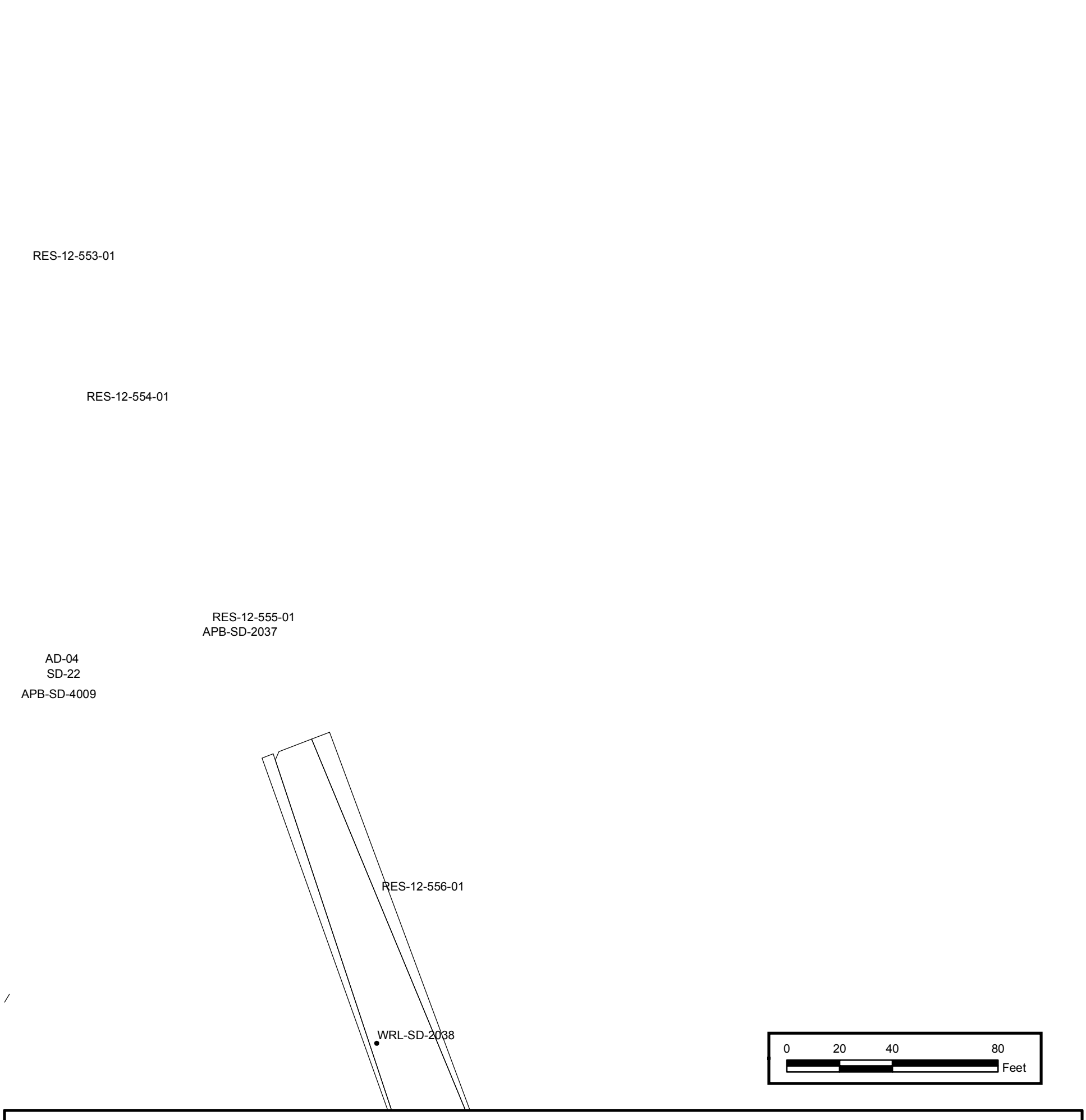
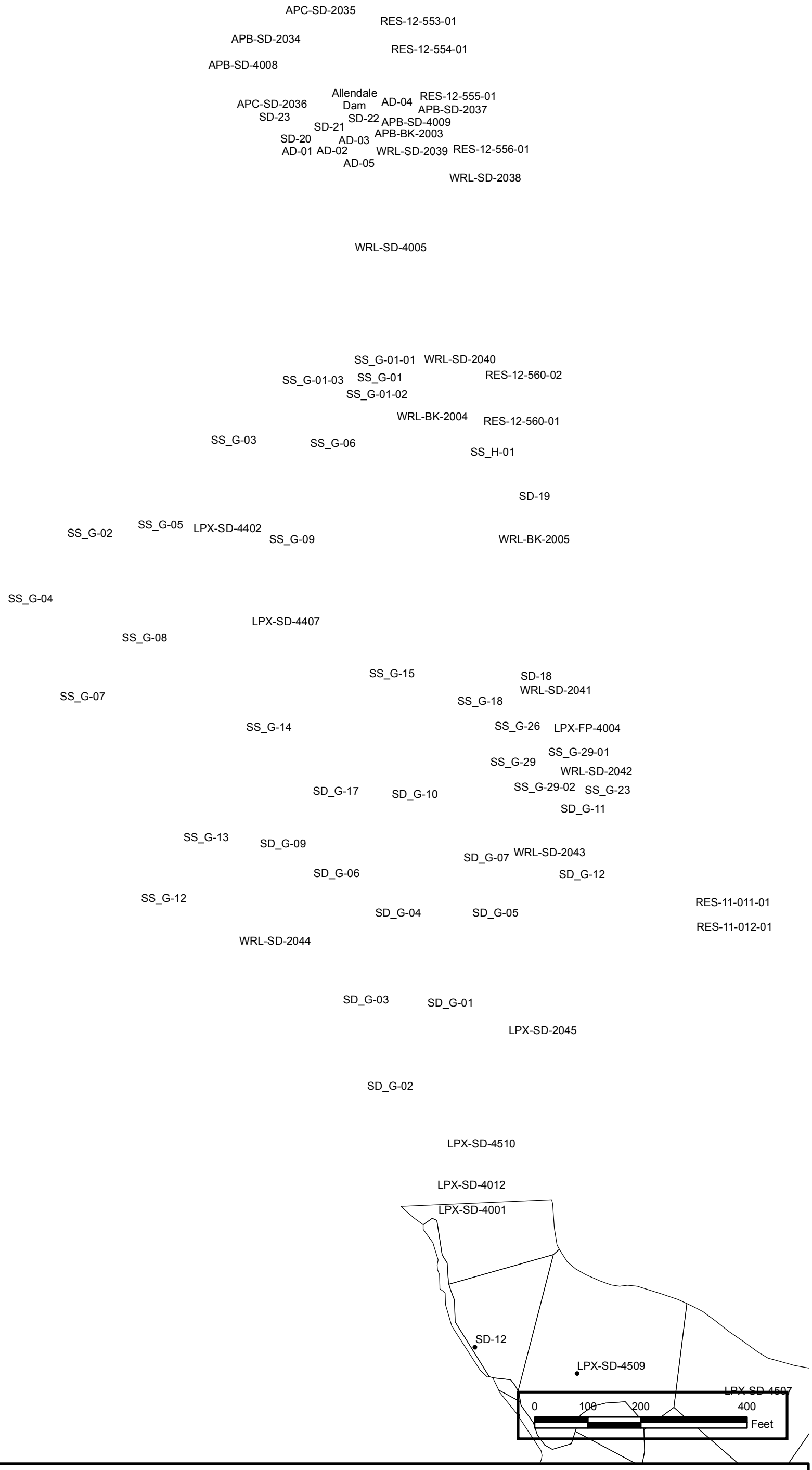


Polygons for COC Class Pesticides — 14



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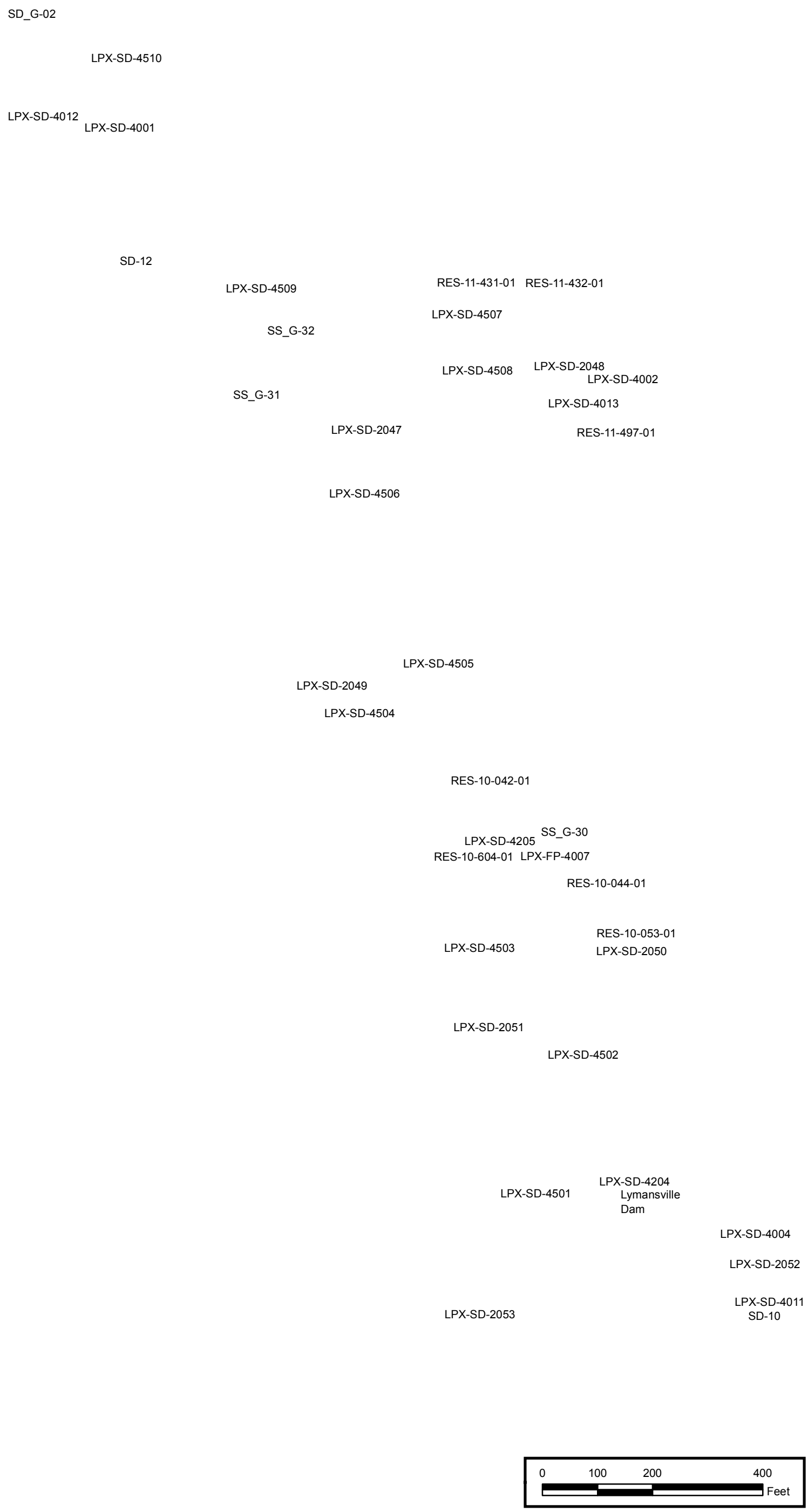
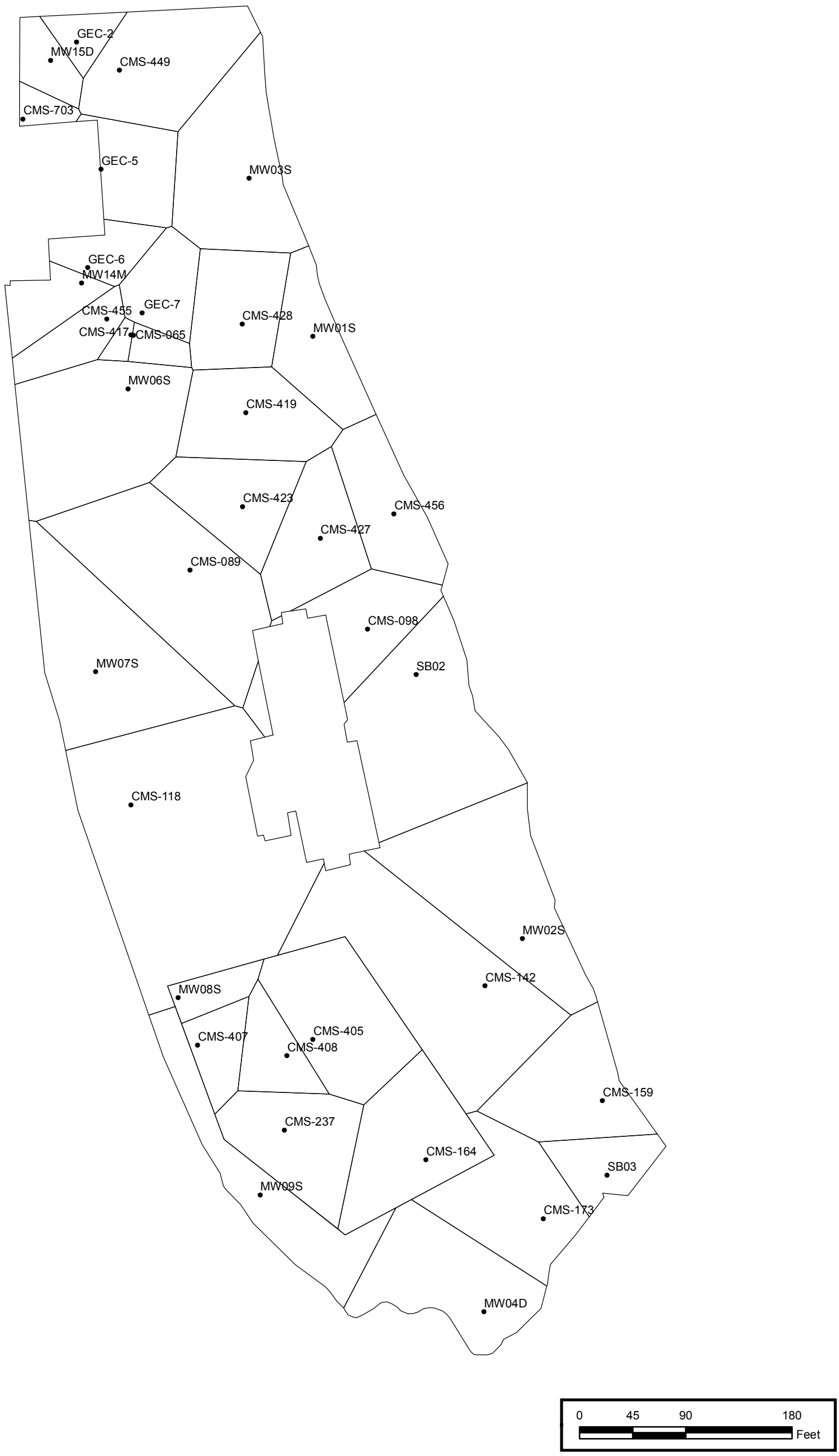


Polygons for COC Class Pesticides — 16

1

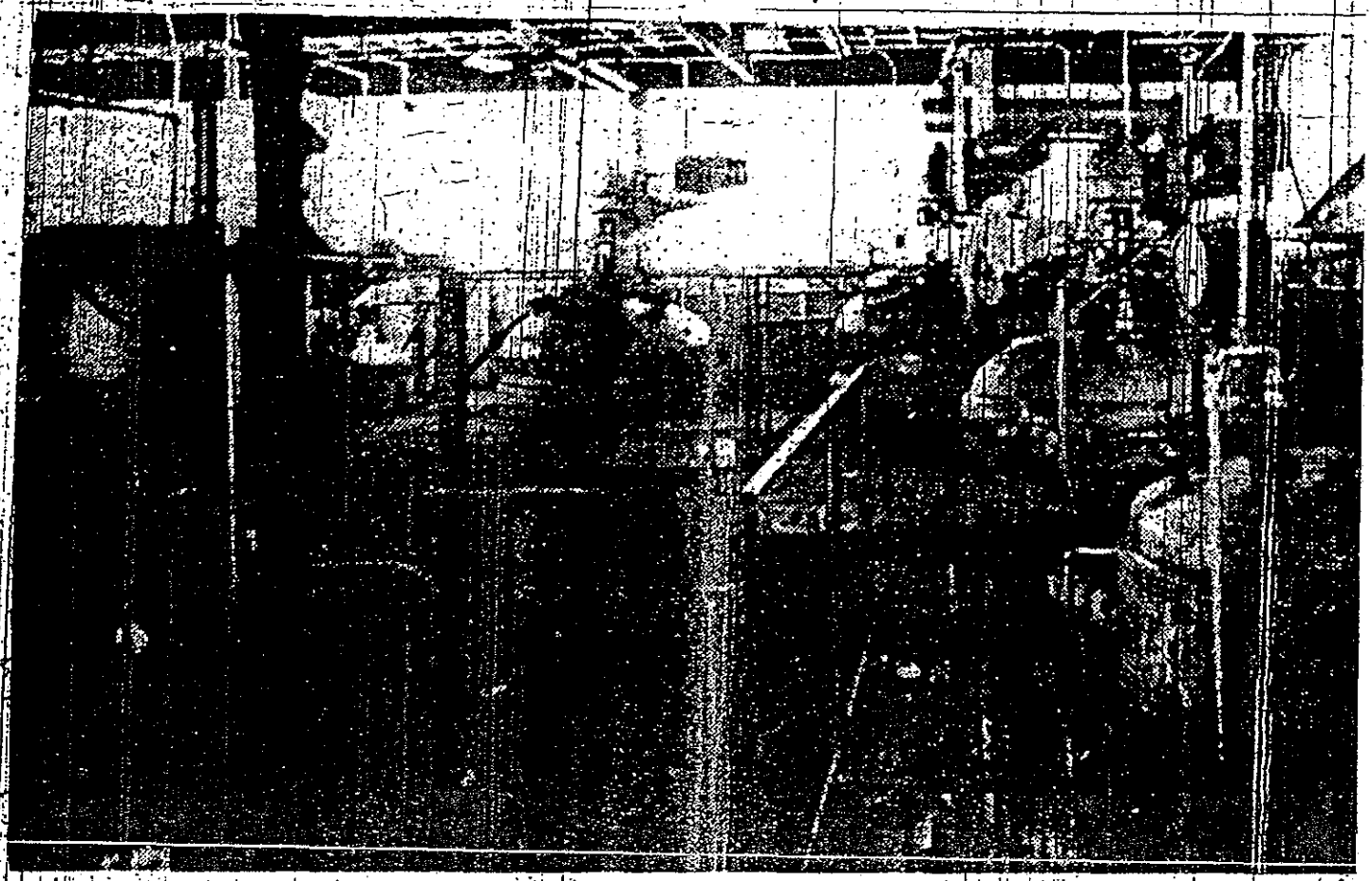
Polygons for COC Class VOCs — Index



Polygons for COC Class VOCs — 1

Appendix 3.1
May 30, 1965, Providence Sunday Journal Business Weekly (PSJ) Article Titled “Pharmaceutical Products Added”

J 5-30-65 B22



Upper level of new hexachlorophene plant at Metro-Atlantic, Inc., Centredale, showing a number of its stainl

Pharmaceutical Products Adde

By ARTHUR S. RESEIGH
Journal-Bulletin Business Writer

An entrance into the pharmaceutical field has been achieved by Metro-Atlantic, Inc. of Centredale as a result of a product development program in which it has been active for the past three years.

The chemicals manufacturer, originally a producer of chemical products for the textile industry, has erected a new 2,000 square foot plant for the production of its newest product — hexachlorophene.

The new facility, erected at a reported cost of a quarter of a million dollars, provides Metro-Atlantic with the equipment necessary to produce the new product by means of its newly patented process.

Joseph E. Buonanno, president, said the facility contains enough equipment to produce a complete line of chemical products. It could produce the equivalent of 15 million pounds per year if used for general chemicals production, he said.

The many different pieces of equipment in the new plant, however, are performing single steps in the production of hex-

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"We are not setting out to capture the market for this product, but only to acquire a share of it," Mr. Buonanno said. He expressed the opinion that the use of hexachlorophene is on the increase and that another manufacturer will be able to find ample market for his output.

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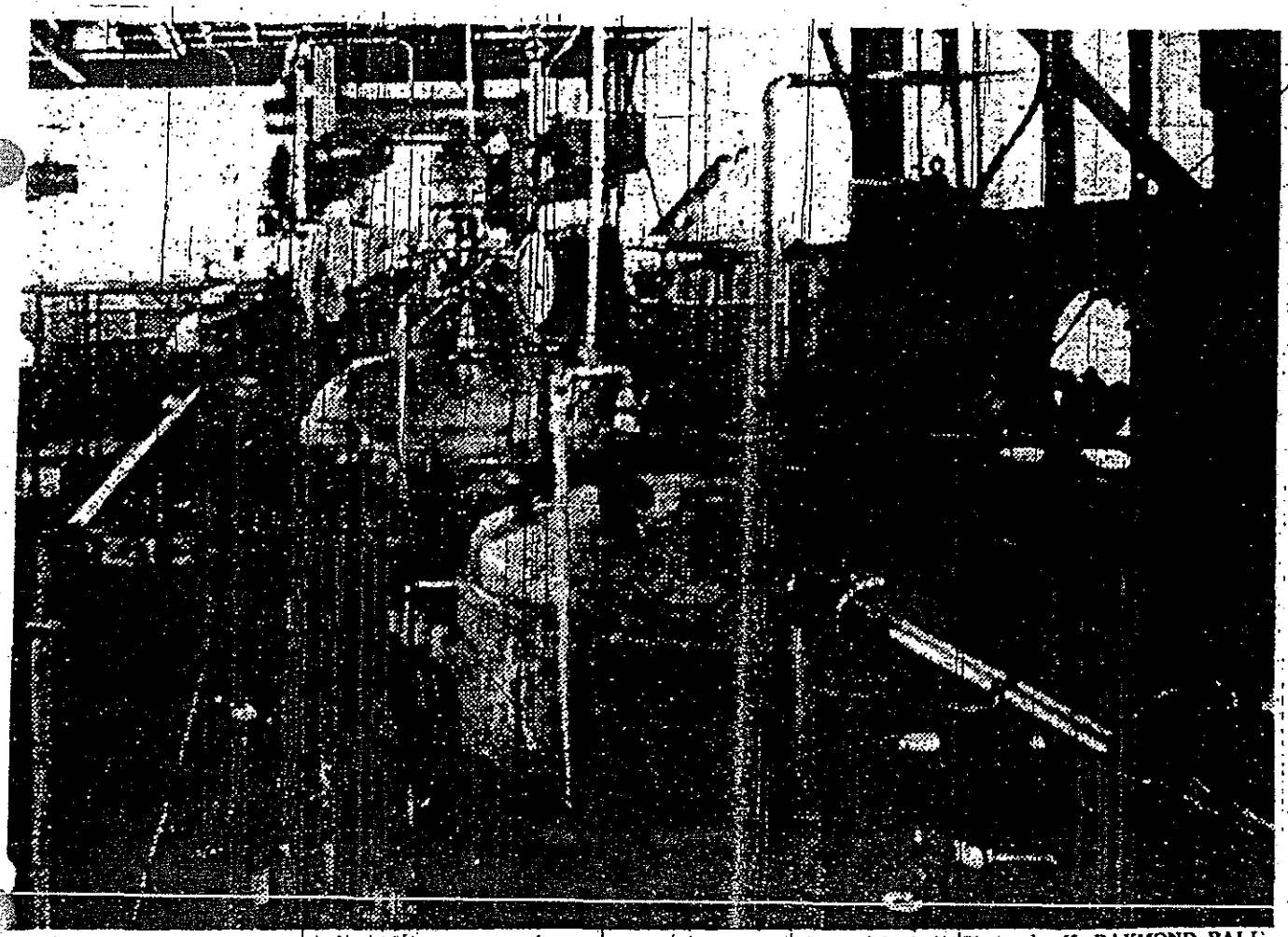

—Journal-Bulletin Photos by H. RAYMOND BALL

lantic, Inc., Centredale, showing a number of its stainless steel low and high temperature reactors.

l Products Added

CTHUR S. RESEIGH
l-Bulletin Business Writer

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Two other programs are currently in progress at the Centredale plant. When completed, the operation there will be about 25 per cent pharmaceuticals, Mr. Buonanno said. It is our intention, he added, to increase the line of new products

Continued on Next Page

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Signed for Production

They contacted Metro-Atlantic and set up an arrangement for carrying on the required research and also for producing close to half a million pounds of the product.

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The research and subsequent manufacture of about 500,000 pounds of the product served to interest Metro-Atlantic in the pharmaceutical side of the chemical business.

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Continued on Next Page

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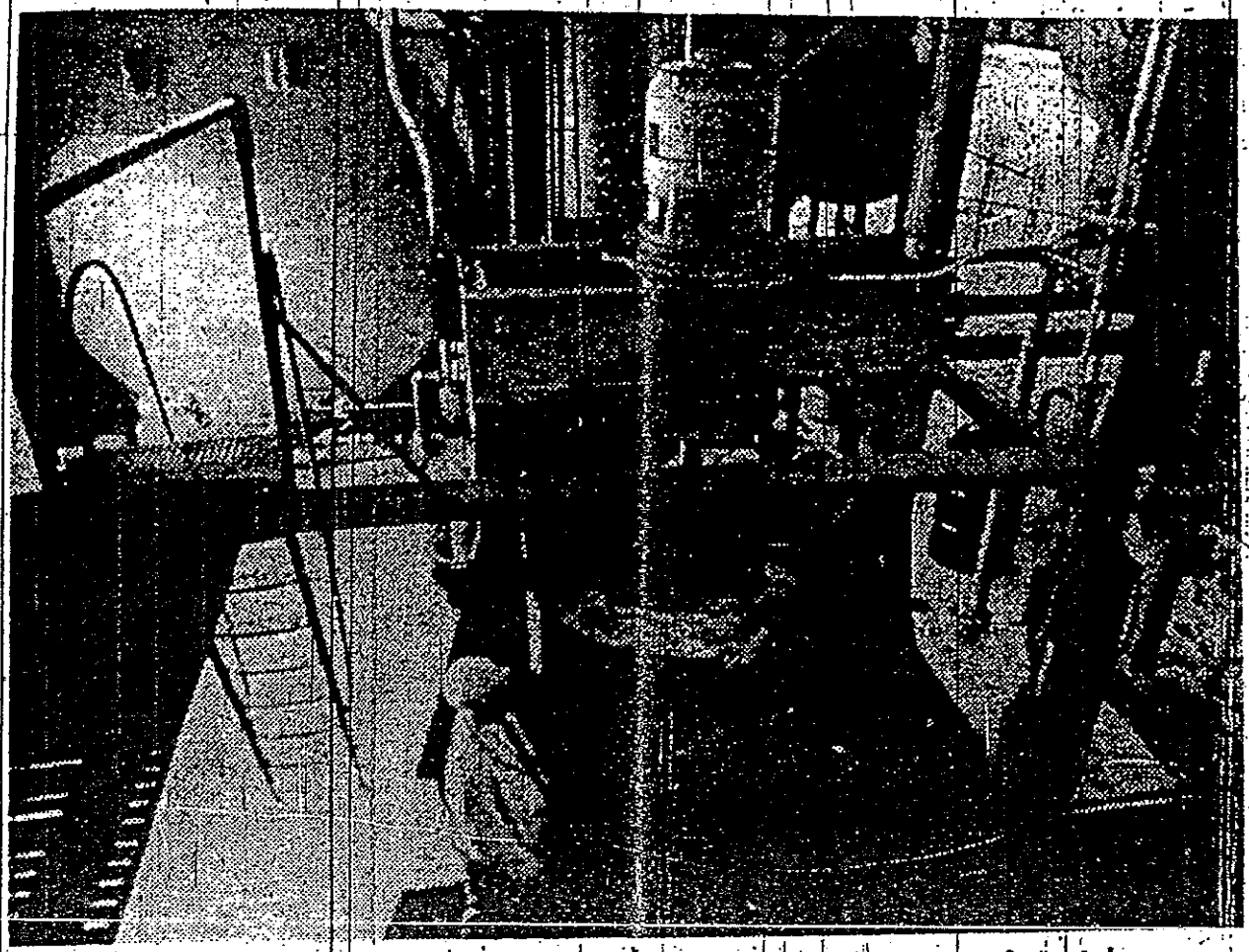

Large perforate centrifuge located in new plant provides company a means of crystal recovery.

CONTINUED from preceding page

Proposed Line of Metro-Atlantic To Be Half Non-Textile Products

until the operation is 50 per cent non-textile.

During the development of non-textile products, the company's volume in its normal textile chemicals has been holding up well, management reported. New products also have been added. These include several textile finishing products, including wash and wear, permanent crease and water repellency items.

The company also is active in chemicals for the metals field. It is making products used for metal finishing and stripping. On some of these, Metro-Atlantic is one of the first two suppliers in the country, Mr. Buonanno said. The line is made in bulk and sold to manufacturers of metal finishes who package and distribute them.

The company also has developed a chrome complex type of water repellent used chiefly in the paper trade. It is expected to be one of Metro's big items.

The company has become one of the first firms of its size to produce mallamine resins—used in textiles to give stiffness and crispness to a fabric.

New Facility Planned

Earlier this month, Metro-Atlantic announced plans to build a $400,000 plant at Don-

about five years, has recently been increased to 50 per cent.

The facility is operated jointly with a Swiss firm and produces dye stuffs. The plant supplies the Centerdale operation, the value of the imported product being 50 per cent American and 50 per cent European.

Operated for about 18 years is a Canadian facility, utilized chiefly for selling, but including some textile chemicals manufacture.

Metro-Atlantic additionally is working currently under license arrangements with manufacturing companies for the packaging and distribution of some of the products the firm produces

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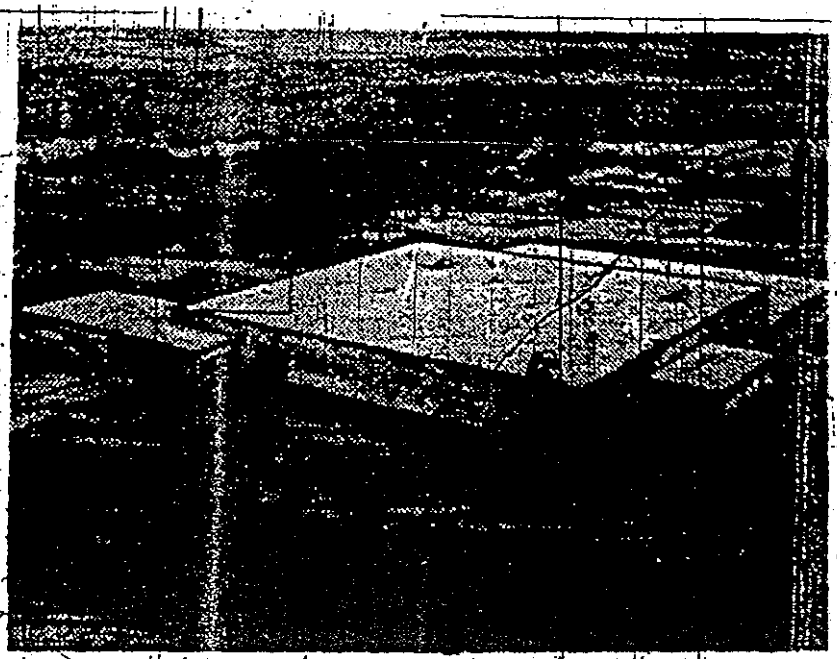

New line of printing inks for use in paper trade will be manufactured in this plant at Greenville, S.C.

Metro-Atlantic Textile Products

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Metro-Atlantic additionally is working currently under license arrangements with manufacturing companies for the packaging and distribution of some of the products the firm produces in bulk. A household bleach, spot remover and spray glue are among these items.

The varied programs of the 25-year-old company are working together to bring expansion to the firm, Mr. Buonanno said. Employment has climbed to 130 throughout the organization with about 80 affiliated with the Centredale operation.

"We are looking forward to growth, especially from our entrance into the manufacture of products for the pharmaceutical trade, but we are striving also for a continuation of our employment stability record," Mr. Buonanno said. He reported that throughout its 25 years of operation the company has never laid off anyone.

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New Facility Planned

Earlier this month, Metro-Atlantic announced plans to build a $400,000 plant at Donaldson Center, Greenville, S.C., for production of a complete line of textile and paper chemicals. Also planned for this facility, scheduled for completion in the fall, is a line of printing inks for use in the paper trade, a new operation for the company.

Metro also has facilities abroad. One of these is a compounding plant in Brussels, designed to serve the European Common Market. It presently uses chemicals produced in this country, but plans are being considered for the addition of some manufacturing there.

One of its other foreign operations is an interest in the Virgin Islands Chemical Co., St. Croix, Christiansted, V.I. Its interest in the firm, dating back about five years, has recently been increased to 50 per cent.

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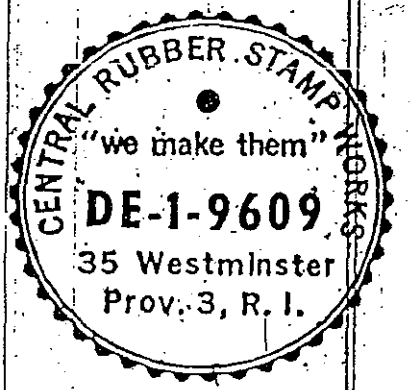

Military Surplus Sales

Inspection may be made and bids submitted up to dates indicated for useable surplus property and scrap for sale at New England military installations. Further information, including location, free sales catalogs and bid instructions, may be obtained from the Defense Surplus Sales Office, Dept. P, P.O. Box 660, Bldg. 115, Newport; telephone 841-3504. Requests should specify sales catalog number for prompt response.

Steel Scrap. June 4—(1 p.m.)—16-S-65-97. Steel scrap unprepared, galvanized (net panels).

Electronics and Aeronautical. June 8—(1 p.m.)—16-S-65-98. Current regulators, magnetron tubes, receivers transmitters, amplifiers, fuel tanks; spinner, stabilizer and strut assemblies, valves, shafts, hydraulic pumps, aircraft heaters, water separators, cylinders, linear activators, accumulators and lighting fixtures. Original cost: $446,052.

Platinum-Tipped Spark Plugs. June 9—(1 p.m.)—16-S-65-99. Platinum tipped spark plugs. Original cost: $11,739.

Varied Material. June 10—(1 p.m.)—16-S-65-100. Engine, turret and woodworking lathes, milling machine, wood surfacer; titanium bars, boring bars, cutters, tube oil, sealing compound, leather dressing, clothing and laundry and restaurant equipment. Original cost: $350,023.

NEW CREDIT CARDS

Ft. Lauderdale, Fla. — (UPI) — A new all-purpose credit card is being launched by Credit Card Acceptance Corporation, according to J. C. Behringer, president. The Gold Medal credit cards will be honored initially by approximately 3,000 member establishments in more than 40 states.

Behringer believes that these feature will revolutionize the credit card industry.

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By ARTHUR S. KRAMER
Journal-Bulletin Business Writer

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Joseph E. Buonanno, president, said the facility contains enough equipment to produce a complete line of chemical products. It could produce the equivalent of 15 million pounds per year if used for general chemicals production, he said.

The many different pieces of equipment in the new plant, however, are performing single steps in the production of hexachlorophene. The final product, according to George C. Huse, the firm's chemical director, involves a number of highly complicated chemical reactions. The process starts with raw materials and includes such chemical processes as purification, crystallization, recovery of the reactor media, drying, grinding and packaging.

Raw materials are fed from large storage tanks outside the plant. Process equipment includes a dozen different stainless steel, glass-lined low and high temperature reactors—each of them limited to one step of the production cycle.

Product Is Bactericide

Hexachlorophene is a bactericide used in soaps, shaving creams, tooth paste, medical soaps and all kinds of creams and salves for hospital use.

Making the production of hexachlorophene particularly interesting to Metro-Atlantic was the large number of preparations in which it is used and the fact that its production was limited to one manufacturer.

Mr. Huse reports that in one section of a drugstore he visited he counted 34 different products containing hexachlorophene.

"We are not setting out to capture the market for this product, but only to acquire a share of it," Mr. Buonanno said. He expressed the opinion that the use of hexachlorophene is on the increase and that another manufacturer will be able to find ample market for his output.

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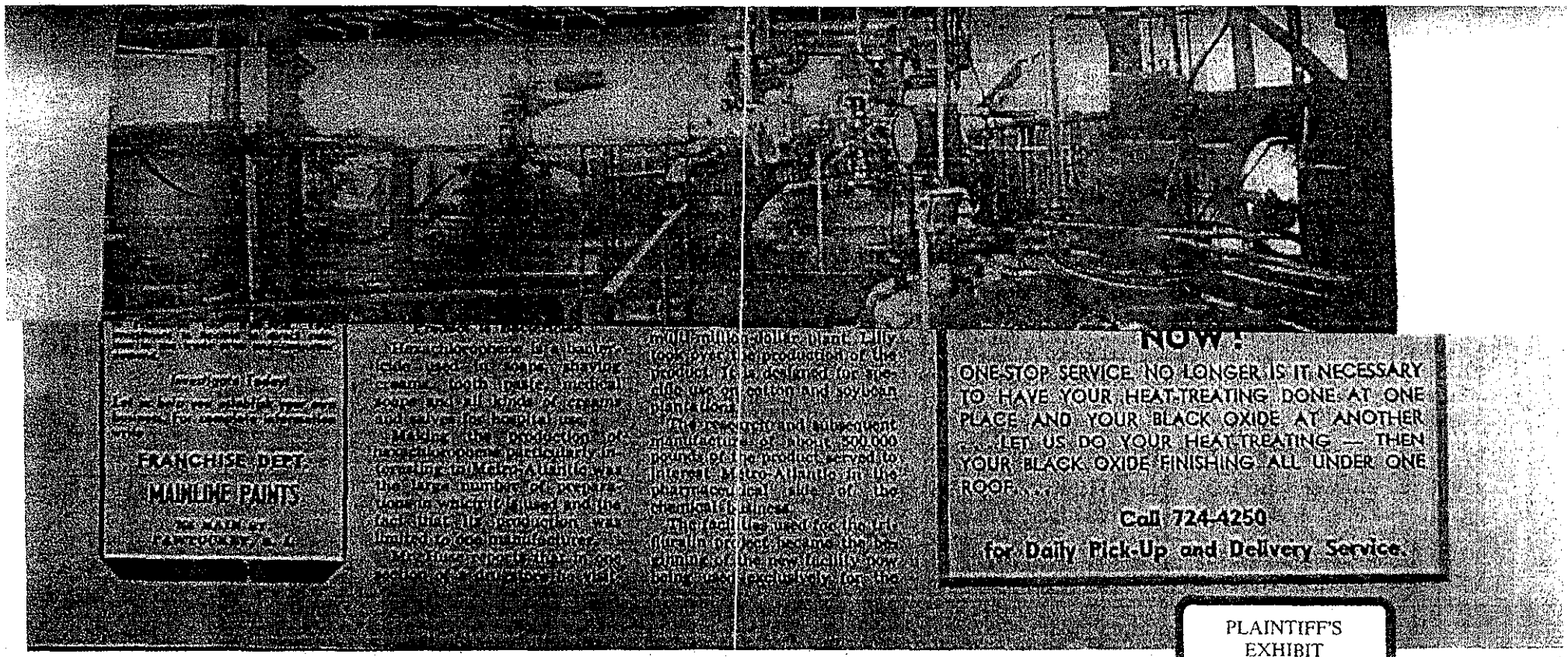

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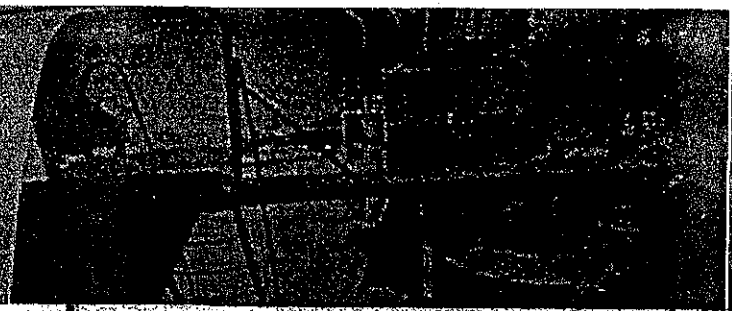

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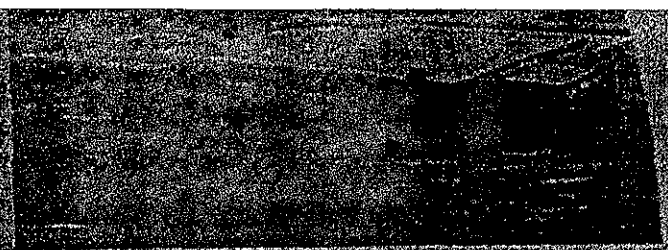

New line of printing ink for use in paper industry to be manufactured in this plant at Greenville, S.C.

nation, according to J. C. Behringer, president. The Gold Medal credit cards will be honored initially by approximately 3,000 member establishments in more than 40 states.

Behringer believes that these features will revolutionize the credit card industry.

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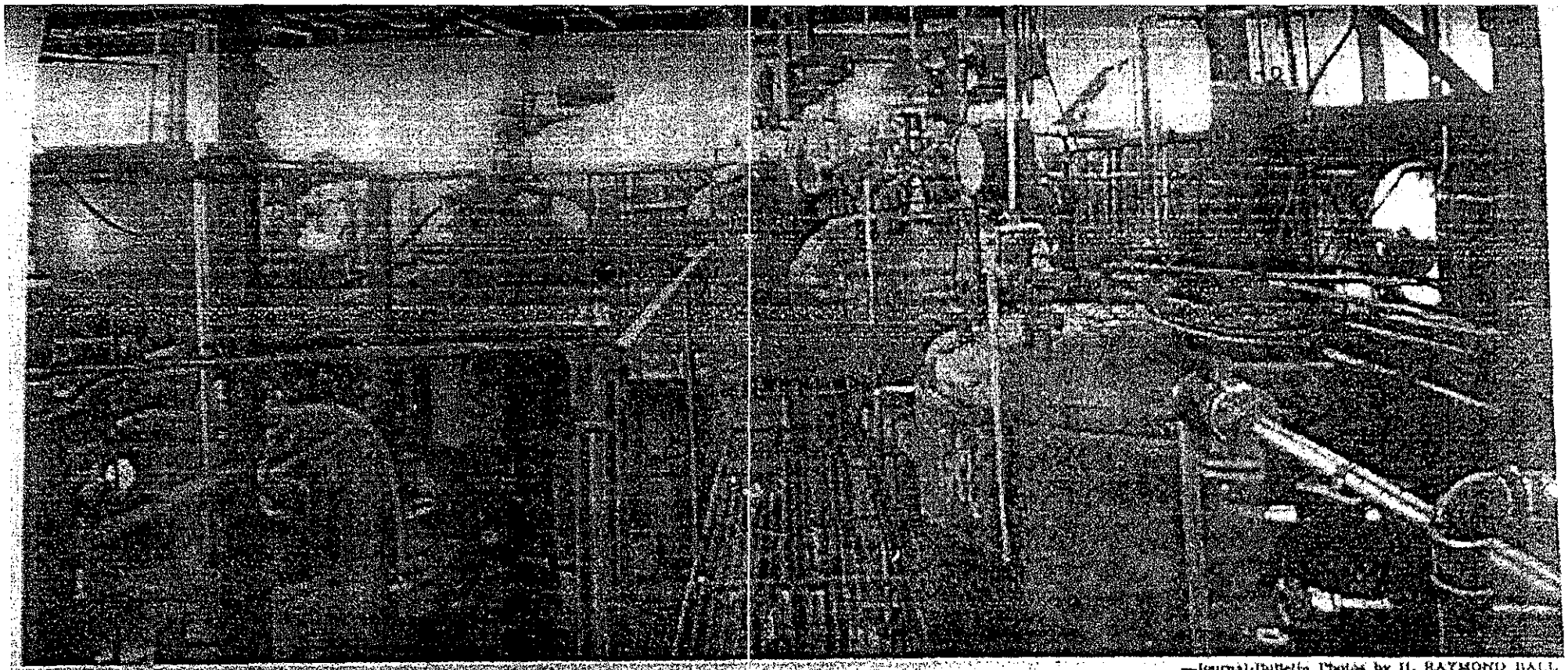

—Journal-Bulletin Photos by H. RAYMOND HALL

Upper level of new hexachlorophene plant at Metro-Atlantic, Inc., Centredale, showing a number of its stainless steel low and high temperature reactors.

PLAINTIFF'S
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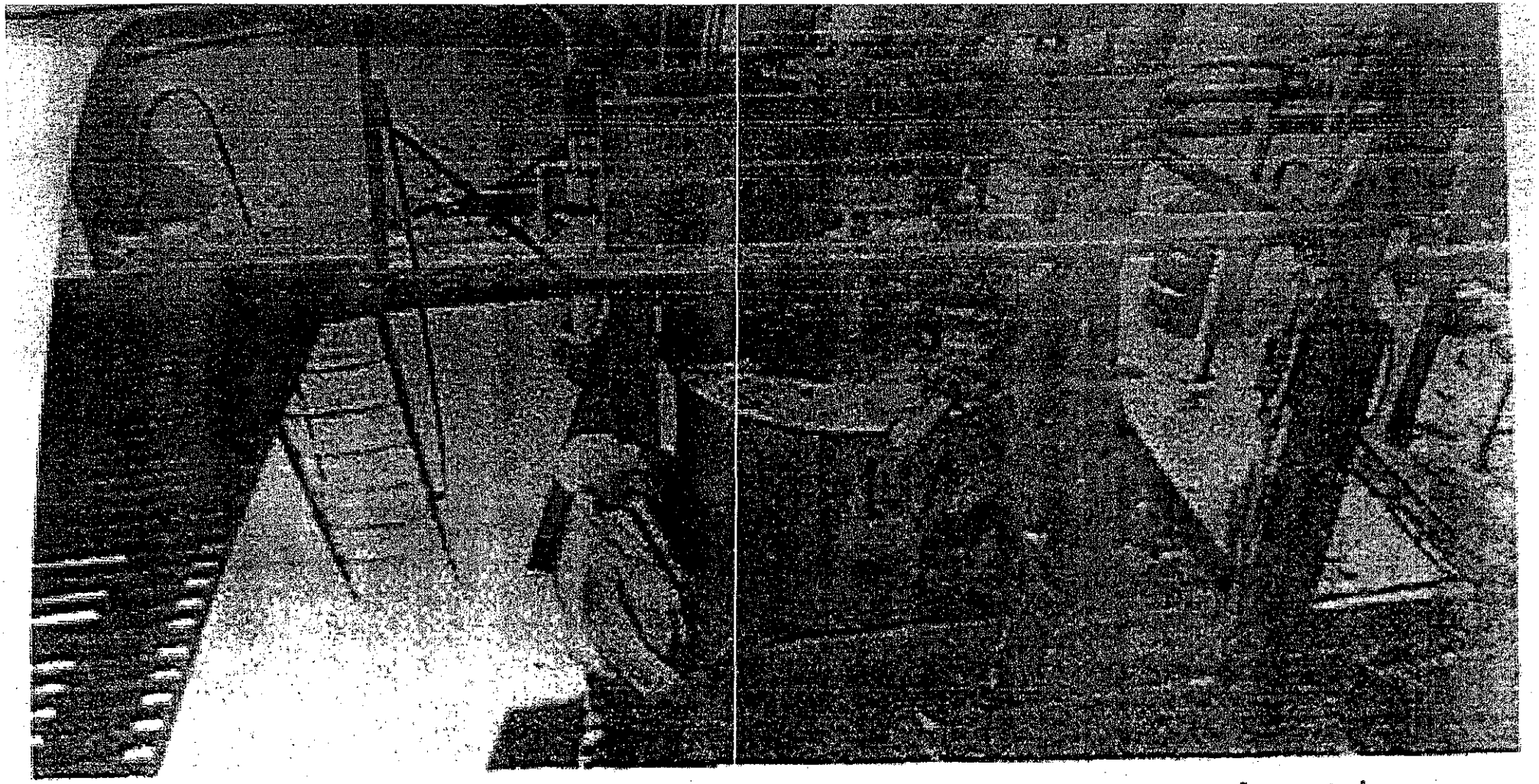

Large perforate centrifuge located in new plant provides company a means of crystal recovery.

PLAINTIFF'S
EXHIBIT
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Appendix 3.2
Documents Used to Derive Metro-Atlantic's Hexachlorophene Manufacturing Time Line

RHG

CENTERCHEM, INC. • 300 East 42nd Street, New York, N. Y. 10017
Manufacturing Chemists
Cable address: CENTCHEMIN • Telephone: 212 986-7250

August 24, 1966

Mr. John S. Cort, Jr.
Diamond Alkali Company
Union Commerce Bldg.
Cleveland, Ohio 44114

Dear John:

This will acknowledge your letter of August 4th which was just received here today. Please note that this letter was addressed to 124 E. 24th St. Our old address was 124 E. 40th St., and please note that our present address is 300 E. 42nd St., New York, N. Y. 10017.

To answer the question raised in your letter regarding our interest in the Trichlorophenol which you plan to manufacture, we can tell you that this grade of material would not be particularly interesting to us. From the product which you sell us, we produce a grade of TCP which contains 99.5+% of 2,4,5 Isomer, and this is the quality of material which is required for the successful operation of our process.

We could undoubtedly use your 91% material as a starting point in much the same manner as we use the material which we now purchase, but it would have to be in our economic interest for us to do so.

If you have any further information which might influence our thinking along these lines, we will be very happy to hear from you further.

Sincerely yours,

CENTERCHEM, INC.

Tom

Thomas F. Cleary
Sales Manager

S 00003518

TFC:mb
216

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6/8/64

ZEP Manufacture

Phase #1:

Purification Equipment:

Steel tank equipped with cooling jacket and gate type agitator and centrifuge.

Basic Charge:

Lbs.	Materials
--	Sodium TCP (Concentration 36-38%) So as to contain 1000 lbs. TCP contained
5280	30% Caustic Soda
800	30% Caustic Soda (Wash)
450	66° Be' Sulfuric Acid (Precipitating acid)
370	66° Be' Sulfuric Acid (Purification acid)
4800	Perchlorpethylene
10	Nuchar
10	Fiber Flo
1000	Theo. Yield (Total Isomers)
787	Minimum Yield TCP
880	Maximum Yield TCP
65°C	Melting Point (Minimum)

PLAINTIFF'S EXHIBIT 8
CLEARY-Pilot 3

This is Geo Hoses
B.U of MATERIALS for
Purification of Trichlorophenol

"Zep" was our nickname
for Hexachlorophene.

Diamond Alkali Company

INTER-OFFICE CORRESPONDENCE

DATE March 5, 19

TO DR. RICHARD McBURNEY - PAINESVILLE

FROM

SUBJECT:

We are presently negotiating with a potential customer for our crude TCP (Trichlorophenol) from our Newark plant. Although I do not know the customer's end use, I do know that he proposes to purify the crude material as a first step in his processing.

I would appreciate any advice you can give me as to the potential Chloracne hazards involved in the use of this material. We are concerned as to possible obligation on our part to apprise him of such hazards.

J. S. CORT, JR.

JSC:vk

cc: Mr. E. J. Masek - Law

DS00019479

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March 23, 1964

MR. J. A. FLOBECK - NEW YORK

Centerchem Incorporated

COPY

You may recall, that while talking to Tom Cleary from your office last week, I promised to forward him any safety information we had on the handling of Trichlorophenol or its Sodium Salt.

I am attaching hereto regulations, which were derived from our files, which we feel will be helpful to Tom in appropriately safeguarding the personnel in his plant. I will appreciate your seeing that he receives a copy of these.

J. S. CORT, JR.

JSC:vk

Attachment

cc: Mr. F. R. Kennedy - Newark
Mr. R. W. McBurney - P'vlle.
Mr. E. J. Masek - Law

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RECEIVED
MAR 24 1964
Works
Hospital

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REGULATIONS FOR WORKERS HANDLING TRICHLOROPHENOL OR ITS SODIUM SALT

1) The chemical operator in the trichlorophenol unit must wear a clean set of work clothes daily; his face, neck, ears, hands, and all exposed skin are covered with Kerodex (a protective cream), and on termination of duty, must shower thoroughly.

2) Any chemical operator performing a transfer of TCP or Na-TCP is required to wear goggles and rubber gloves.

3) No man is permitted to enter a vessel which has contained either of the above chemicals until the vessel has been boiled out with a caustic solution, a minimum of two, and preferably three times. He then is required to wear a full face mask with an outside air supply and apply cream to all exposed parts of the skin. Immediately after completing his task, he is required to shower thoroughly and change work clothes.

4) In the event of an equipment failure, or accidental splash onto any portion of a man's body, we urge immediate washing with copious quantities of water for an extended period of time (15-20 minutes). This has occurred on occasion. The usual result is a mild chemical burn; however, if the prescribed remedy is not delayed, there is little, if any, damage.

5) Generally, all our equipment is of the closed type; where air vents are required, the line is extended to a remote location. The plant area is washed daily. However, no special detergents or procedures have been outlined at this time. In retrospect, we might say that the precautions taken in this unit are no more demanding than those of an acid plant or a caustic plant.

3/23/64

REPRODUCED AT THE NATIONAL ARCHIVES

March 31, 1966

Mr. F. R. Kennedy - Newark

Mr. F. G. Steward - Newark

ANALYSIS OF NaTCP - METRO-ATLANTIC

During a conversation with Mr. George Huse of Metro-Atlantic on March 24, 1966, he indicated that they had found the major cause of the increasing difference with time between the titration and extraction-titration analytical techniques to be due to carbonate build-up in the samples. It seems that Metro-Atlantic does not have an agitated tank, so they air-sparge to agitate the NaTCP. The carbonate build-up resulting from the air sparging was reported to cause 75% of the observed difference between the analytical techniques.

Mr. Huse also indicated that chromatographic analysis for isomer content that they have had done, agreed well with our results. Four peaks were observed both by Metro-Atlantic and us; however, there was some difference in the identification of the various peaks, as shown below:

PEAK	%	IDENTIFICATION OF PEAK METRO-ATLANTIC	DACO (PER W.A.G.)
1	1.9	2,4,6-TCP	DCP
2	92.0	2,4,5-TCP	2,4,5-TCP
3	Shoulder on 2	Unknown	2,4,6-TCP
4	6.5	T_4CB	Unknown

In view of the close comparison of the analytical techniques demonstrated by Bill Goodloe, and the fact that Metro-Atlantic apparently has explained the difference they reported, no additional work is planned on the analysis of NaTCP by the extractive technique.

F. Gordon Steward

F. GORDON STEWARD

FGS/nc

cc: W. A. Goodloe

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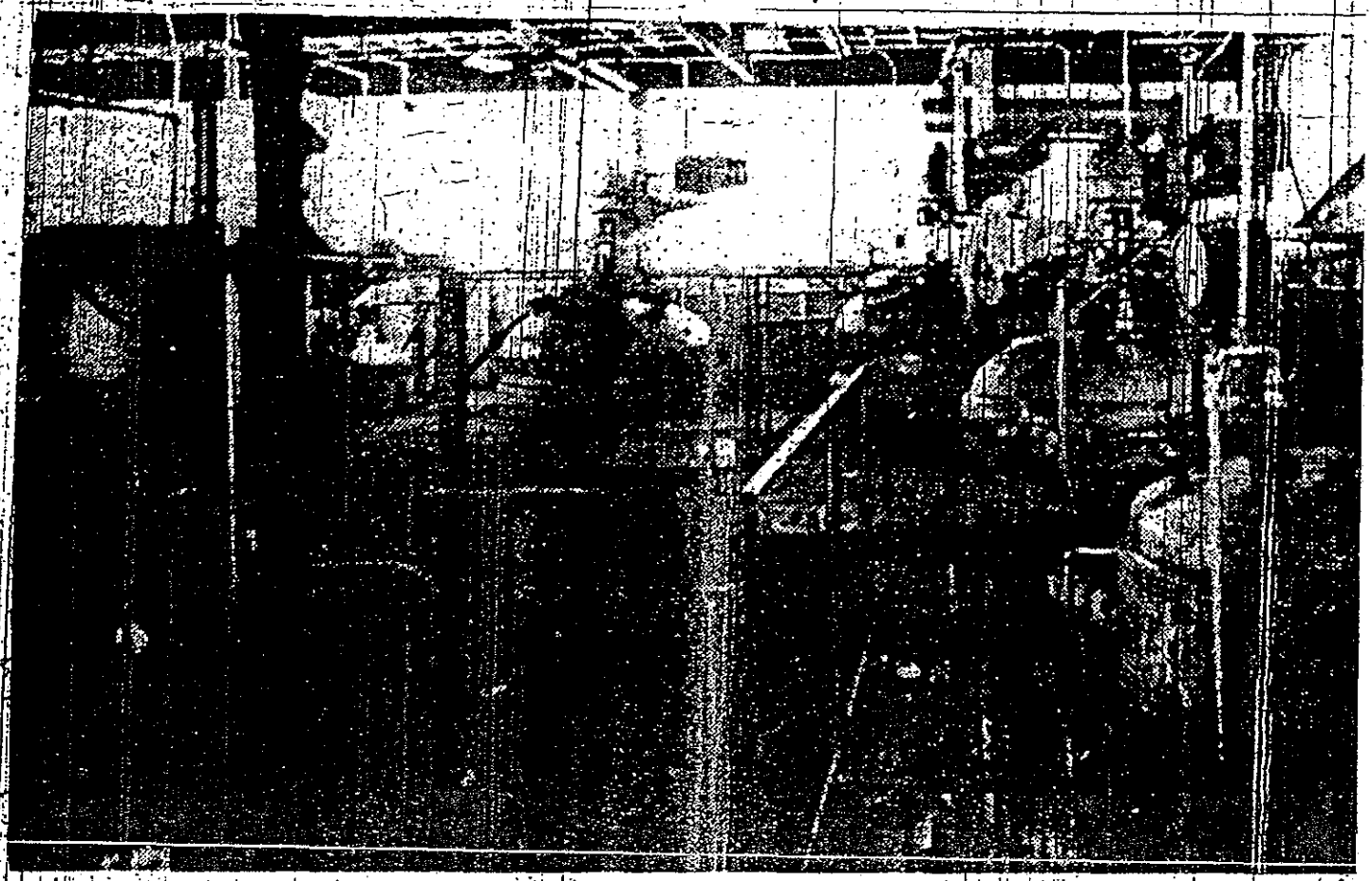

Upper level of new hexachlorophene plant at Metro-Atlantic, Inc., Centredale, showing a number of its stainl

Pharmaceutical Products Adde

By ARTHUR S. RESEIGH
Journal-Bulletin Business Writer

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The chemicals manufacturer, originally a producer of chemical products for the textile industry, has erected a new 2,000 square foot plant for the production of its newest product — hexachlorophene.

The new facility, erected at a reported cost of a quarter of a million dollars, provides Metro-Atlantic with the equipment necessary to produce the new product by means of its newly patented process.

Joseph E. Buonanno, president, said the facility contains enough equipment to produce a complete line of chemical products. It could produce the equivalent of 15 million pounds per year if used for general chemicals production, he said.

The many different pieces of equipment in the new plant, however, are performing single steps in the production of hex-

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"We are not setting out to capture the market for this product, but only to acquire a share of it," Mr. Buonanno said. He expressed the opinion that the use of hexachlorophene is on the increase and that another manufacturer will be able to find ample market for his output.

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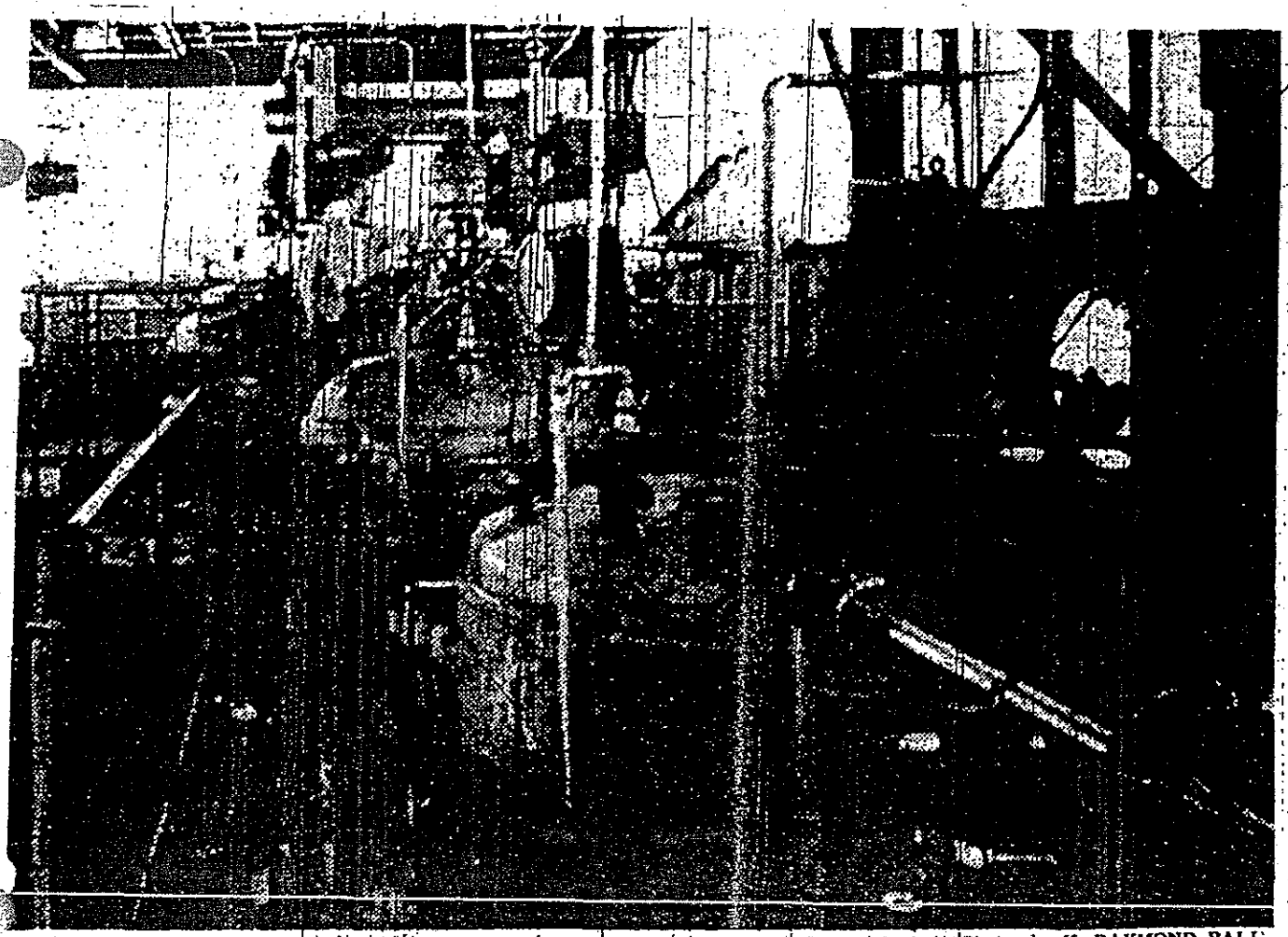

—Journal-Bulletin Photos by H. RAYMOND BALL

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l Products Added

CTHUR S. RESEIGH
l-Bulletin Business Writer

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Two other programs are currently in progress at the Centredale plant. When completed, the operation there will be about 25 per cent pharmaceuticals, Mr. Buonanno said. It is our intention, he added, to increase the line of new products

Continued on Next Page

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With the completion of a multi-million-dollar plant, Lilly took over the production of the product. It is designed for specific use on cotton and soybean plantations.

The research and subsequent manufacture of about 500,000 pounds of the product served to interest Metro-Atlantic in the pharmaceutical side of the chemical business.

The facilities used for the trifluralin project became the beginning of the new facility now being used exclusively for the production of hexachlorophene.

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Continued on Next Page

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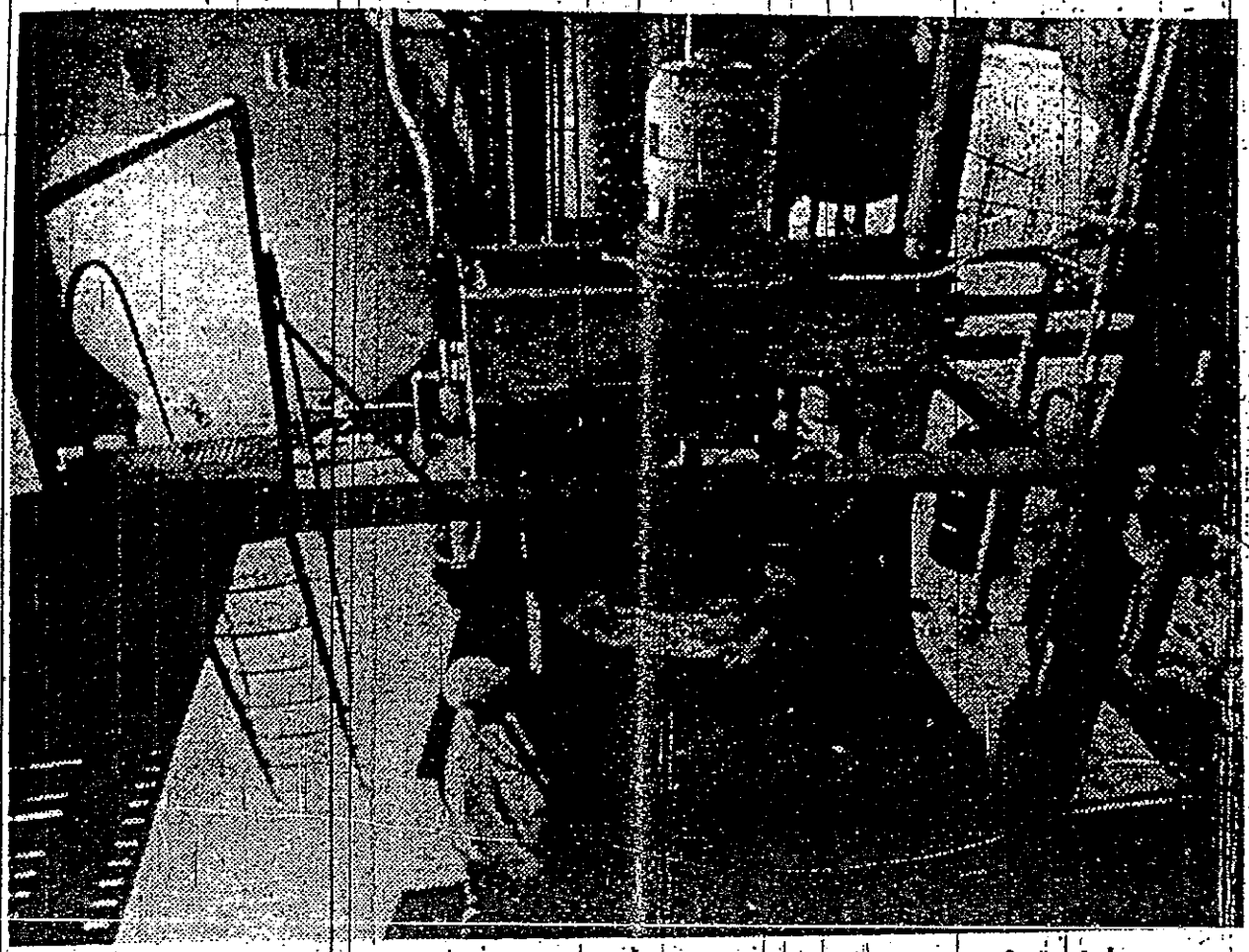

Large perforate centrifuge located in new plant provides company a means of crystal recovery.

CONTINUED from preceding page

Proposed Line of Metro-Atlantic To Be Half Non-Textile Products

until the operation is 50 per cent non-textile.

During the development of non-textile products, the company's volume in its normal textile chemicals has been holding up well, management reported. New products also have been added. These include several textile finishing products, including wash and wear, permanent crease and water repellency items.

The company also is active in chemicals for the metals field. It is making products used for metal finishing and stripping. On some of these, Metro-Atlantic is one of the first two suppliers in the country, Mr. Buonanno said. The line is made in bulk and sold to manufacturers of metal finishes who package and distribute them.

The company also has developed a chrome complex type of water repellent used chiefly in the paper trade. It is expected to be one of Metro's big items.

The company has become one of the first firms of its size to produce mallamine resins—used in textiles to give stiffness and crispness to a fabric.

New Facility Planned

Earlier this month, Metro-Atlantic announced plans to build a $400,000 plant at Don-

about five years, has recently been increased to 50 per cent.

The facility is operated jointly with a Swiss firm and produces dye stuffs. The plant supplies the Centerdale operation, the value of the imported product being 50 per cent American and 50 per cent European.

Operated for about 18 years is a Canadian facility, utilized chiefly for selling, but including some textile chemicals manufacture.

Metro-Atlantic additionally is working currently under license arrangements with manufacturing companies for the packaging and distribution of some of the products the firm produces

Military

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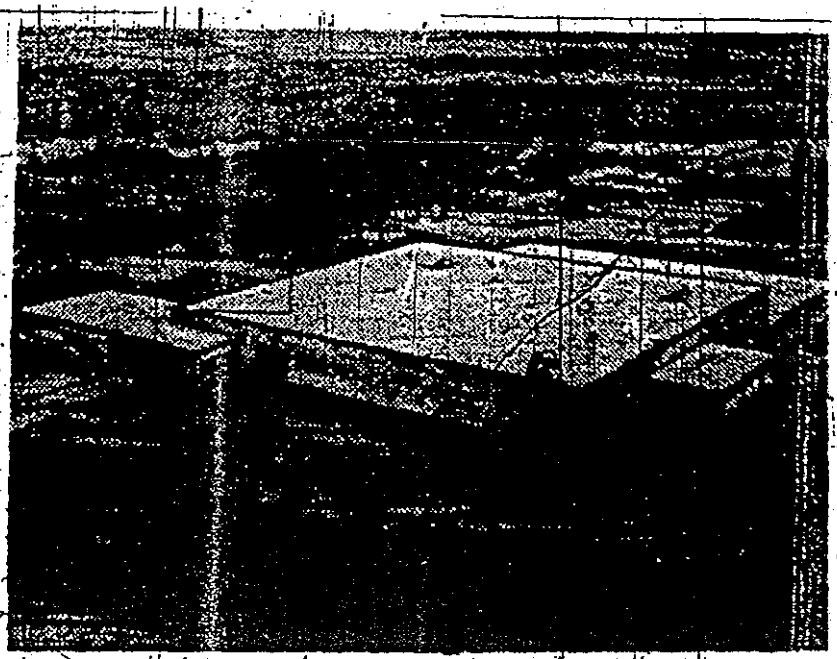

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Metro-Atlantic additionally is working currently under license arrangements with manufacturing companies for the packaging and distribution of some of the products the firm produces in bulk. A household bleach, spot remover and spray glue are among these items.

The varied programs of the 25-year-old company are working together to bring expansion to the firm, Mr. Buonanno said. Employment has climbed to 130 throughout the organization with about 80 affiliated with the Centredale operation.

"We are looking forward to growth, especially from our entrance into the manufacture of products for the pharmaceutical trade, but we are striving also for a continuation of our employment stability record," Mr. Buonanno said. He reported that throughout its 25 years of operation the company has never laid off anyone.

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New Facility Planned

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Metro also has facilities abroad. One of these is a compounding plant in Brussels, designed to serve the European Common Market. It presently uses chemicals produced in this country, but plans are being considered for the addition of some manufacturing there.

One of its other foreign operations is an interest in the Virgin Islands Chemical Co., St. Croix, Christiansted, V.I. Its interest in the firm, dating back about five years, has recently been increased to 50 per cent.

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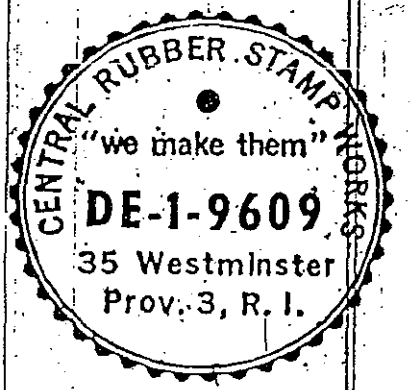

Military Surplus Sales

Inspection may be made and bids submitted up to dates indicated for useable surplus property and scrap for sale at New England military installations. Further information, including location, free sales catalogs and bid instructions, may be obtained from the Defense Surplus Sales Office, Dept. P, P.O. Box 660, Bldg. 115, Newport; telephone 841-3504. Requests should specify sales catalog number for prompt response.

Steel Scrap. June 4—(1 p.m.)—16-S-65-97. Steel scrap unprepared, galvanized (net panels).

Electronics and Aeronautical. June 8—(1 p.m.)—16-S-65-98. Current regulators, magnetron tubes, receivers transmitters, amplifiers, fuel tanks; spinner, stabilizer and strut assemblies, valves, shafts, hydraulic pumps, aircraft heaters, water separators, cylinders, linear activators, accumulators and lighting fixtures. Original cost: $446,052.

Platinum-Tipped Spark Plugs. June 9—(1 p.m.)—16-S-65-99. Platinum tipped spark plugs. Original cost: $11,739.

Varied Material. June 10—(1 p.m.)—16-S-65-100. Engine, turret and woodworking lathes, milling machine, wood surfacer; titanium bars, boring bars, cutters, tube oil, sealing compound, leather dressing, clothing and laundry and restaurant equipment. Original cost: $350,023.

NEW CREDIT CARDS

Ft. Lauderdale, Fla. — (UPI) — A new all-purpose credit card is being launched by Credit Card Acceptance Corporation, according to J. C. Behringer, president. The Gold Medal credit cards will be honored initially by approximately 3,000 member establishments in more than 40 states.

Behringer believes that these feature will revolutionize the credit card industry.

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By ARTHUR S. KRAMER
Journal-Bulletin Business Writer

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The many different pieces of equipment in the new plant, however, are performing single steps in the production of hexachlorophene. The final product, according to George C. Huse, the firm's chemical director, involves a number of highly complicated chemical reactions. The process starts with raw materials and includes such chemical processes as purification, crystallization, recovery of the reactor media, drying, grinding and packaging.

Raw materials are fed from large storage tanks outside the plant. Process equipment includes a dozen different stainless steel, glass-lined low and high temperature reactors—each of them limited to one step of the production cycle.

Product Is Bactericide

Hexachlorophene is a bactericide used in soaps, shaving creams, tooth paste, medical soaps and all kinds of creams and salves for hospital use.

Making the production of hexachlorophene particularly interesting to Metro-Atlantic was the large number of preparations in which it is used and the fact that its production was limited to one manufacturer.

Mr. Huse reports that in one section of a drugstore he visited he counted 34 different products containing hexachlorophene.

"We are not setting out to capture the market for this product, but only to acquire a share of it," Mr. Buonanno said. He expressed the opinion that the use of hexachlorophene is on the increase and that another manufacturer will be able to find ample market for his output.

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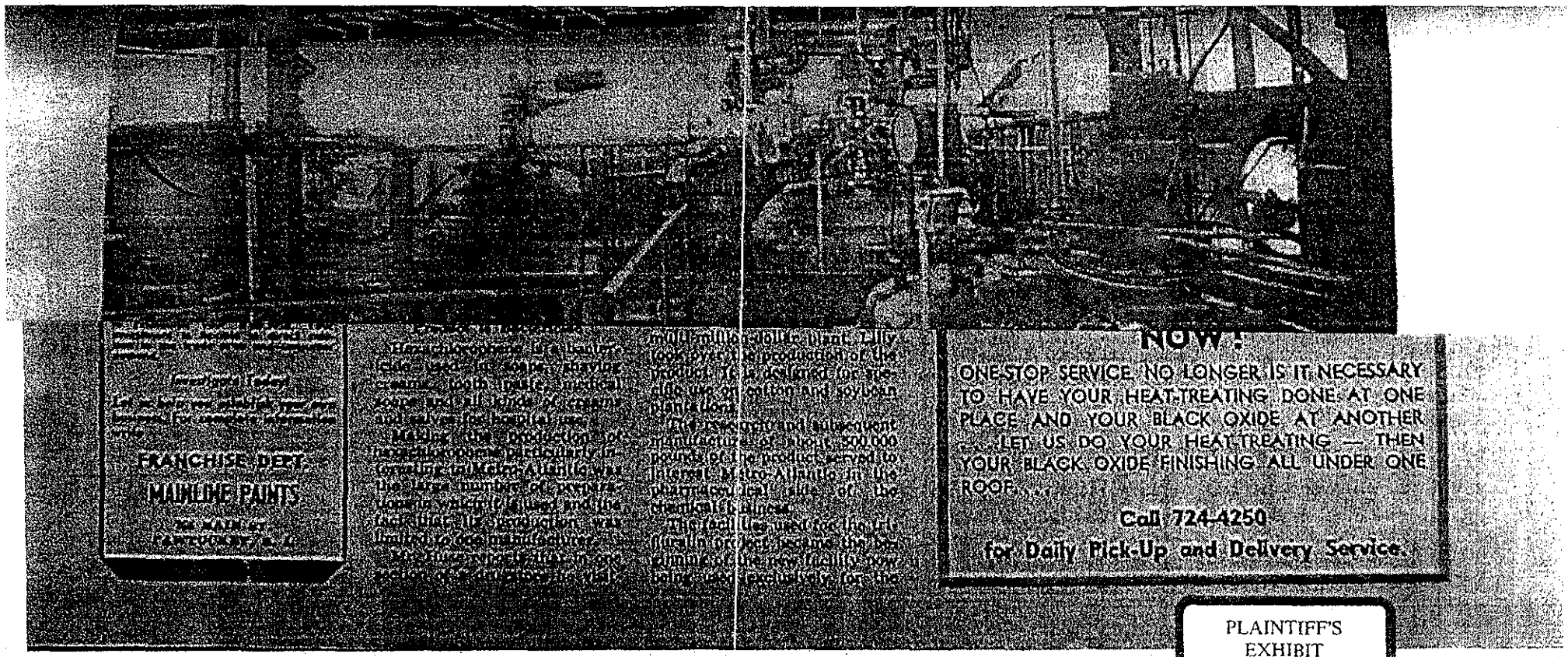
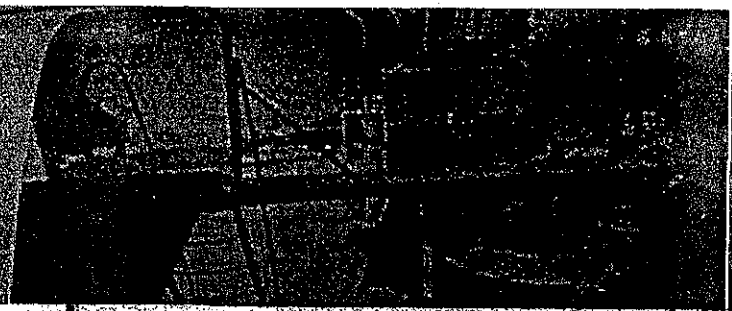


PLAINTIFF'S EXHIBIT
4
CLEARY - 2/10/03



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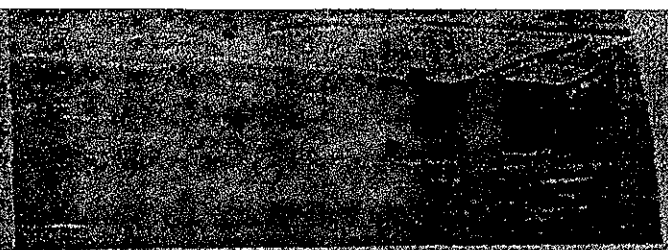

New line of printing ink for use in paper industry to be manufactured in this plant at Greenville, S.C.

nation, according to J. C. Behringer, president. The Gold Medal credit cards will be honored initially by approximately 3,000 member establishments in more than 40 states.

Behringer believes that these features will revolutionize the credit card industry.

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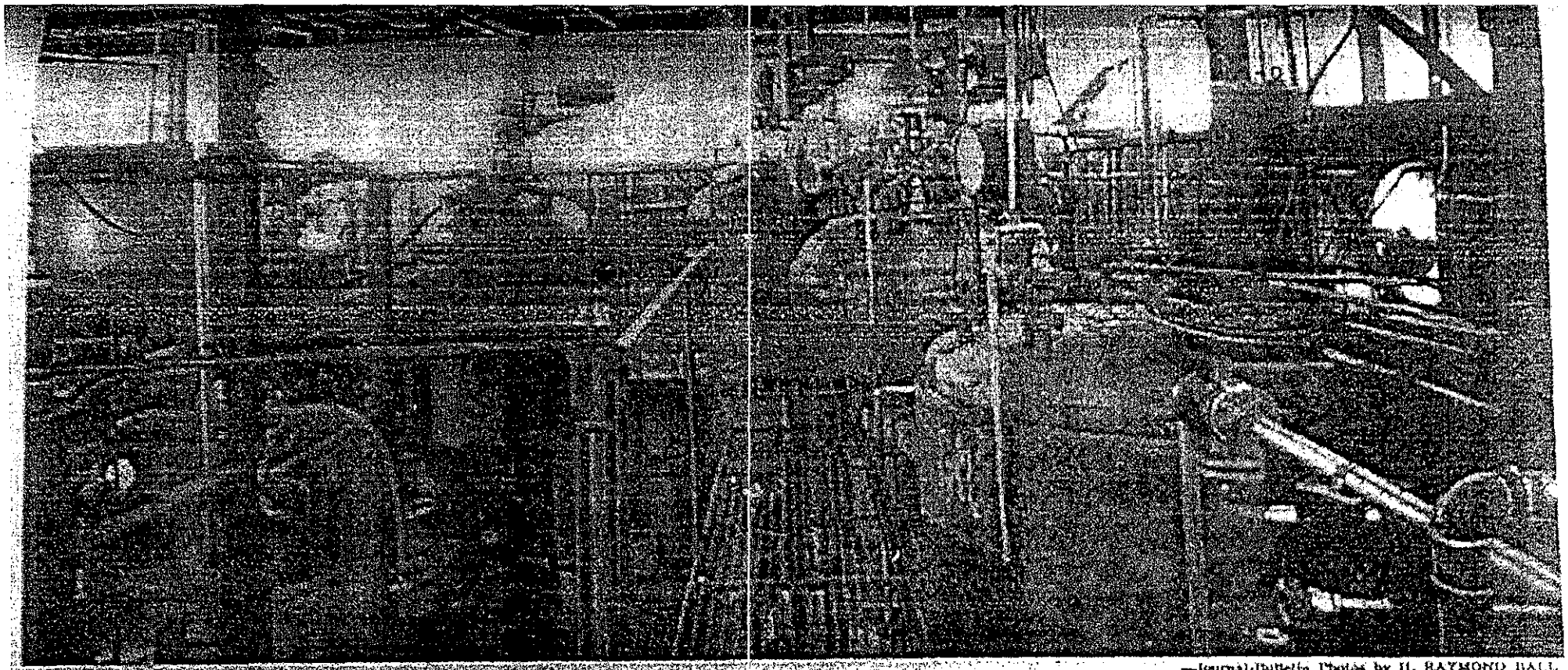
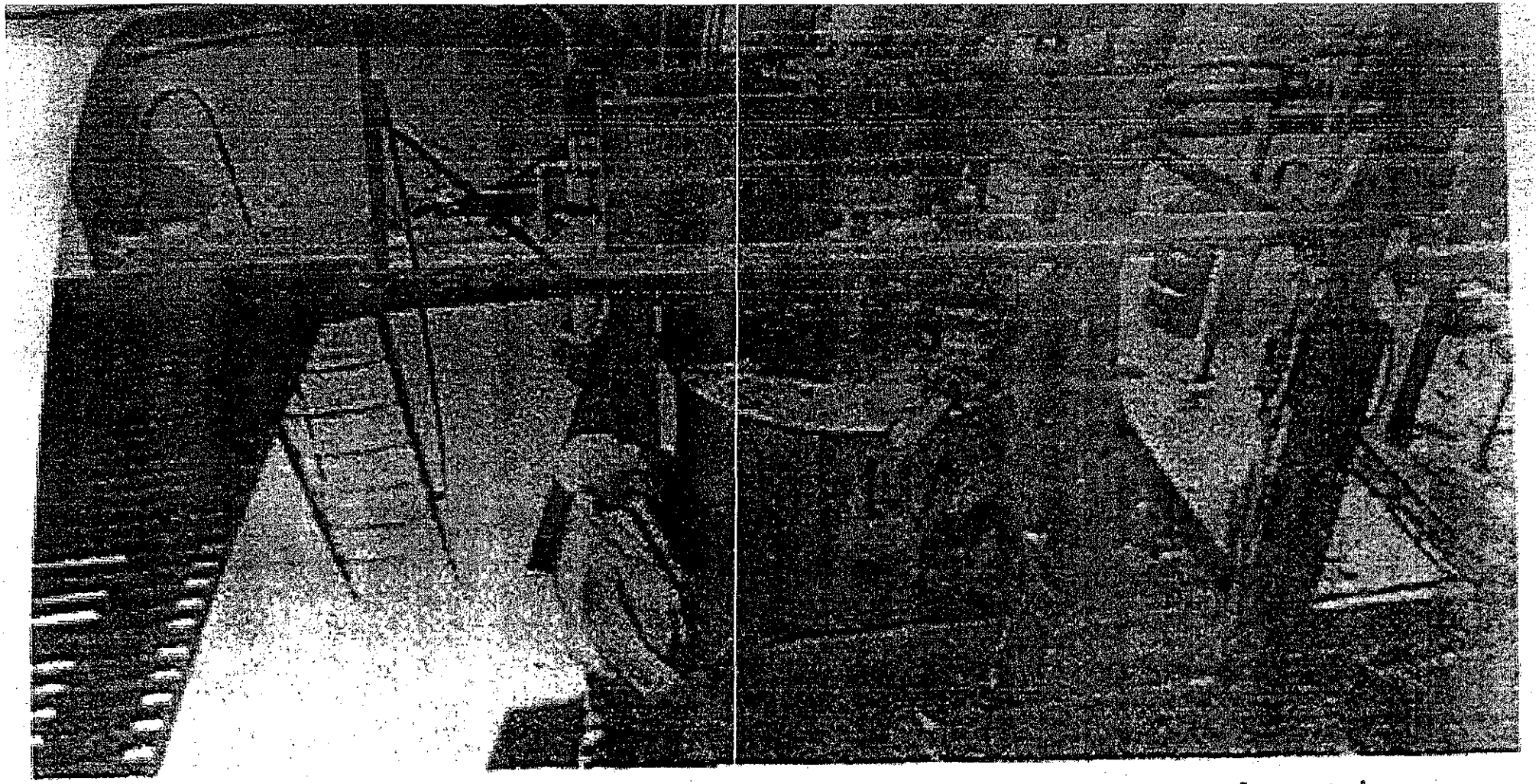


—Journal-Bulletin Photos by H. RAYMOND HALL

Upper level of new hexachlorophene plant at Metro-Atlantic, Inc., Centredale, showing a number of its stainless steel low and high temperature reactors.

PLAINTIFF'S
EXHIBIT
5
CLEHR4 - 1/16/03



Large perforate centrifuge located in new plant provides company a means of crystal recovery.

PLAINTIFF'S
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6
CLEARY - 2/10/03

Appendix 5.1
Report on Samples Retrieved from EPA Archives for Data Validation

TECHNICAL MEMORANDUM

TO: Noemi Barabas, LTI

FROM: Mary Bennett, ATS
Ed Paulson, ATS
Philip Simon, ATS

DATE: July 27, 2009

RE: Data Validity of HCX and Dioxins/Furans
Centredale Manor Site, Woonasquatucket River, Rhode Island
(ATS P/N L003-WNS)

As requested, senior chemistry staff of Ann Arbor Technical Services, Inc. (ATS) reviewed and audited three Sample Data Groups (SDG) from Battelle Labs relating to the Centredale Manor project. The SDG contained USEPA Method 1613B analyses of sediment samples from this site on the Woonasquatucket River in Rhode Island. Analytical data for nine of the twenty-two samples of interest in the Centredale Manor-Emhart v. NECC matter and selected by LTI were found in these SDG. The SDG and the respective samples of interest are as follows:

SDG # 48985
GMP-SD-5002
CMS-SD-4006
CMS-SD-4007

SDG # 49308
RWR-FP-5004-0000-00

SDG # 49715
CMS-SS-4108-3040-01
CMS-SS-4109-3038-01
CMS-SS-4105-3040-01
CMS-SS-4106-1016-01
CMS-SS-4111-1028-01

The objectives for this data review and audit focused on hexachloroxanthene (HCX) detections. Batch quality control (QC) data were used to determine whether this compound was properly identified based upon the masses chosen and the

Consultants in Chemistry & Environmental Science
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chromatographic response, as well as the presence of positive or negative interferences. The confidence level of HCX concentrations in the reports was also evaluated.

From this review, the following conclusions can be made regarding HCX:

- HCX was present in all nine samples, and at concentrations approximating those in the LTI data spreadsheet.
- Contrary to Dr. Haas' assertions, the masses used to identify HCX are appropriate, thereby substantiating the identification of HCX in the samples.
- HCX concentrations could not be fully validated because a complete record of HCX calibration was missing in the SDG.
- Tetrachloroxanthene (TCX) is also present in sediments from the Centredale site.
- HCX and TCX are present at environmentally significant concentrations.

Chlorinated dibenzodioxins (CDD) and chlorinated dibenzofurans (CDF) are Method 1613B target compounds, and are also present in Centredale samples. The Battelle data for these compounds was also reviewed and audited with the following conclusions:

- Battelle adhered to the specifications and procedures of USEPA Method 1613B. No quality problems were found with the resulting dioxin and furan data.
- Except in samples representing background concentrations (< 100 ppt TEQ), the vast majority of TEQ is attributable to CDD compounds, 2,3,7,8-TCDD in particular.
- Method 1613B does require a second column confirmation for 2,3,7,8-TCDF because of the relatively high TEF of this compound, and the potential for co-elution of exact mass interferences. Such interferences can only be separated by differential retention times and will otherwise result in positive bias. Battelle did not perform second column confirmation for 2,3,7,8-TCDF, so the possibility exists that data for this compound are positively biased. However, in cases where the TEQ contribution from CDF is relatively low, this positive bias is not significant and does not impair use of the data.

Lastly, the chromatograms and data supplied by Battelle revealed the presence of chlorinated biphenyl ethers in Centredale Manor sediments. Like the chloroxanthenes, these compounds may be useful in chemical fingerprinting for contribution and cost allocation purposes.

Appendix 5.2
Data Flag Interpretation and Meaning

Appendix 5.2 – Data Flag Interpretation and Meaning

Table 1. Interpretation of Single Flags

Reported Flag	Flag Type	Flag Description (as given in Centredale Manor Database)
0	Unknown	No explanation given
#	Minor	Result from second column confirmation analysis
$	Minor	Result from second column confirmation analysis - (this qualifier is used interchangeably with # qualifier by EPA validators)
&	Other	QA value outside the accuracy or decision criteria goal (EPA-NE QAPP worksheet #11b)
*	U-type	Value reported as the Estimated Maximum Possible Concentration (EMPC)
~	Minor	QC value outside the accuracy or precision criteria goal (EPA-NE QAPP Worksheet #11b) - but meets contingency criteria.
<	U-type	none given
B	B-type	Analyte detected at > detection limit and concentration in associated samples <10x blank levels
C	U-type	Co-elution
D	Minor	Results from analytical dilution
E	J-type	Estimate; significant matrix interference
EMPC	U-type	none given
J	J-type	Detected but below the detection limit
K	Unknown	none given
N	Other	Presumptive evidence of presence
T	Minor	Holding time exceeded
U	U-type	Not detected; sample-specific detection limit reported
X	J-type	Estimated, due to lack of a compound specific response factor

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Table 2. Interpretation of Combination flags

Combinations of Two or More Flags - Flag type selected based on flag with greatest uncertainty.	
Reported Flag	**Flag Type**
#J	J-type
#U	U-type
$EB	B-type
$J	J-type
$JEB	B-type
*#	U-type
*J	U-type
*U	U-type
<,CON	Unknown
CON	Unknown
EB	B-type
EB$	B-type
EBJ	B-type
EBJ$	B-type
EJ	J-type
EMPC$	U-type

Combinations of Two or More Flags - Flag type selected based on flag with greatest uncertainty.	
Reported Flag	**Flag Type**
J#	J-type
J$	J-type
J$EB	B-type
J&	Other
J,CON	Unknown
J@	J-type
JB	B-type
JD	J-type
JE	J-type
JEB	B-type
JEB$	B-type
JK	Unknown
U#	U-type
UEMPC	U-type
UJ	U-type
UJ$	U-type

Table 3. List of Flags by Flag Type

Minor	J-type	B-type	U-type	Other	Unknown
#	E	B	*	&	0
$	J	EB	<	N	CON
~	X	JB	C	J&	<,CON
D	#J (or J#)	$EB (or EB$)	EMPC		J,CON
T	$J (or J$)	EBJ (or JEB)	U		K
	EJ (or JE)	EBJ$ (or JEB, JEB, JEB$)	#U (or U#)		JK
	J@		*U		
	JD		UJ		
			UJ$		
			UEMPC		
			EMPC$		
			*#		
			*J		

Appendix 5.3 – PCDD/F congener concentration data plots.

The samples in each plot are in alphabetical order, symbols denote data flag type, described in Section 5.3.

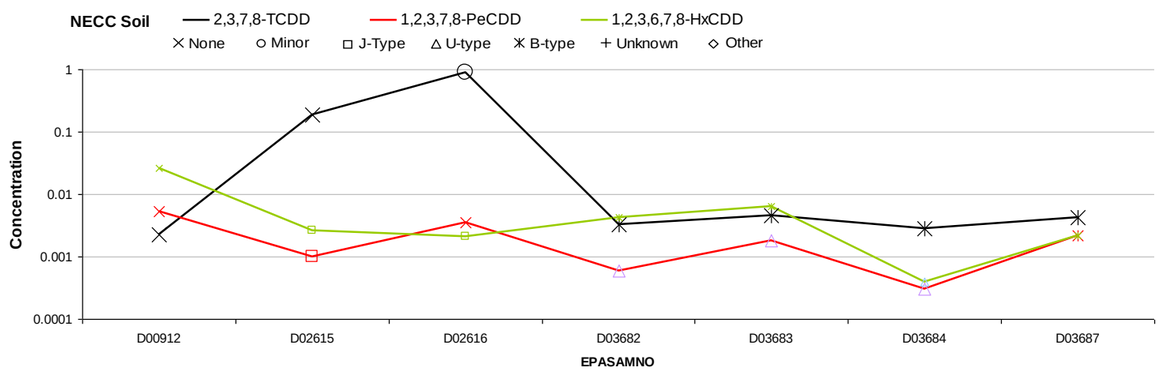


Figure 1. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in soil samples in the vicinity of NECC.

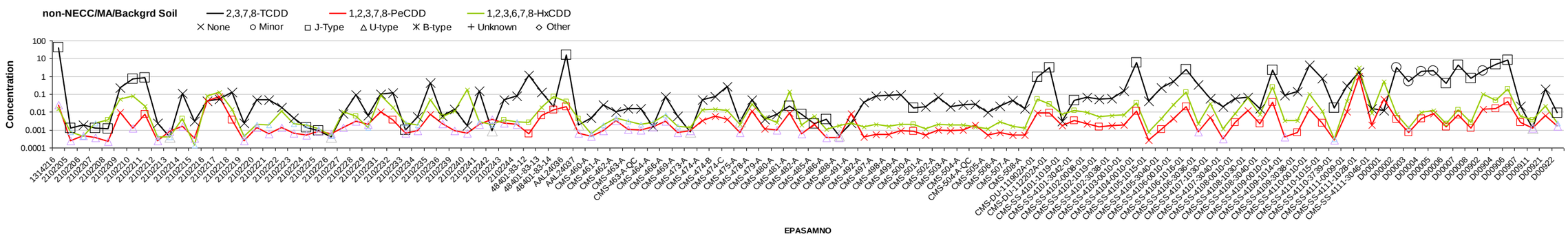


Figure 2a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. First half of samples.

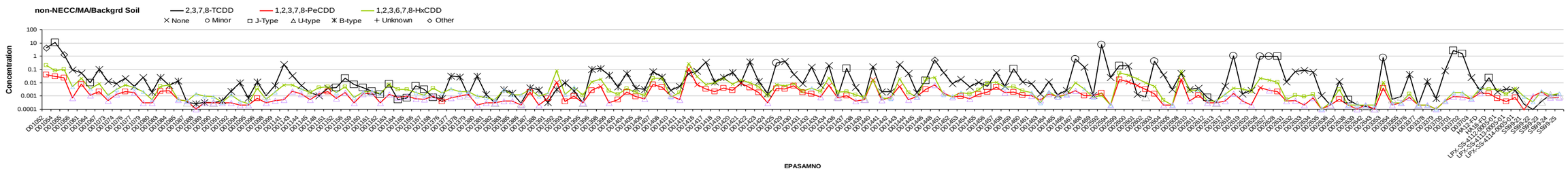


Figure 2b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. Second half of samples.

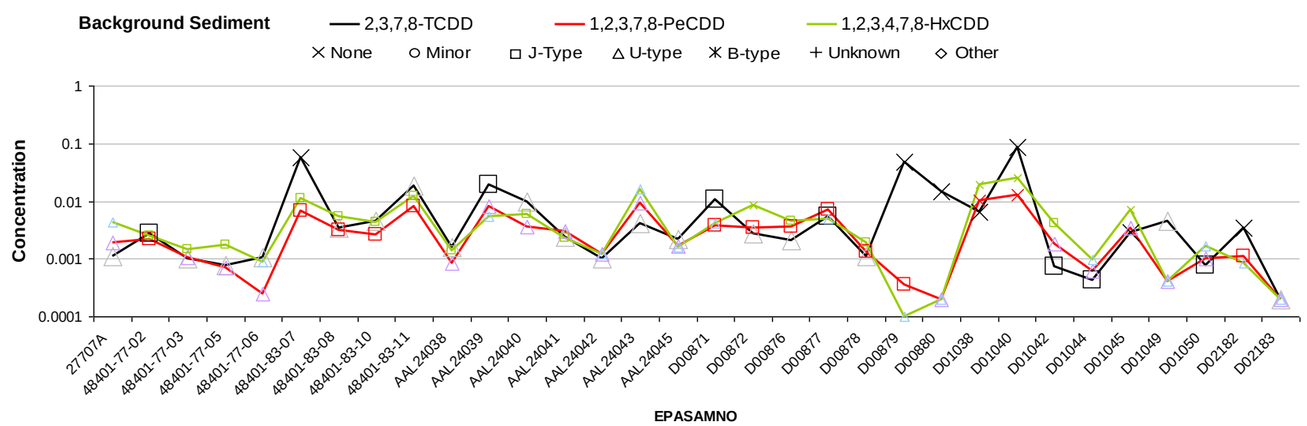


Figure 3. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in background sediment samples.

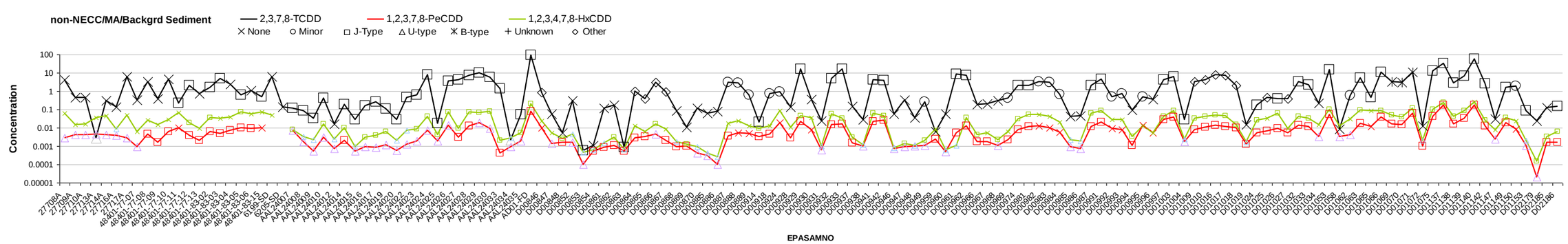


Figure 4a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. First half of samples.

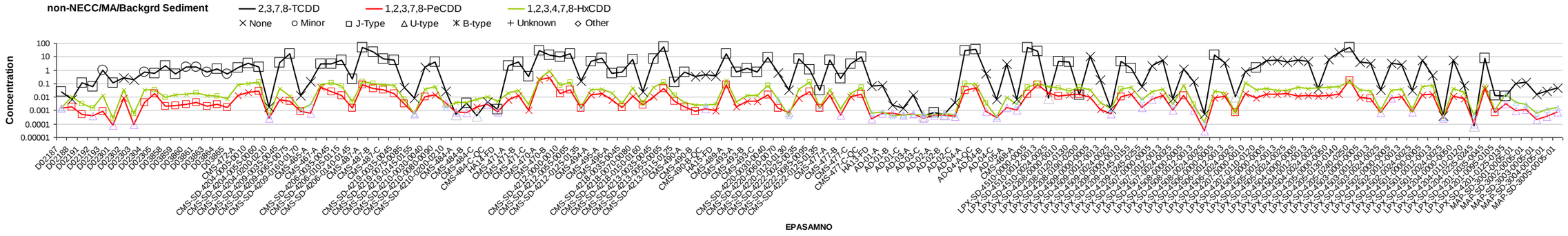


Figure 4b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. Second half of samples.

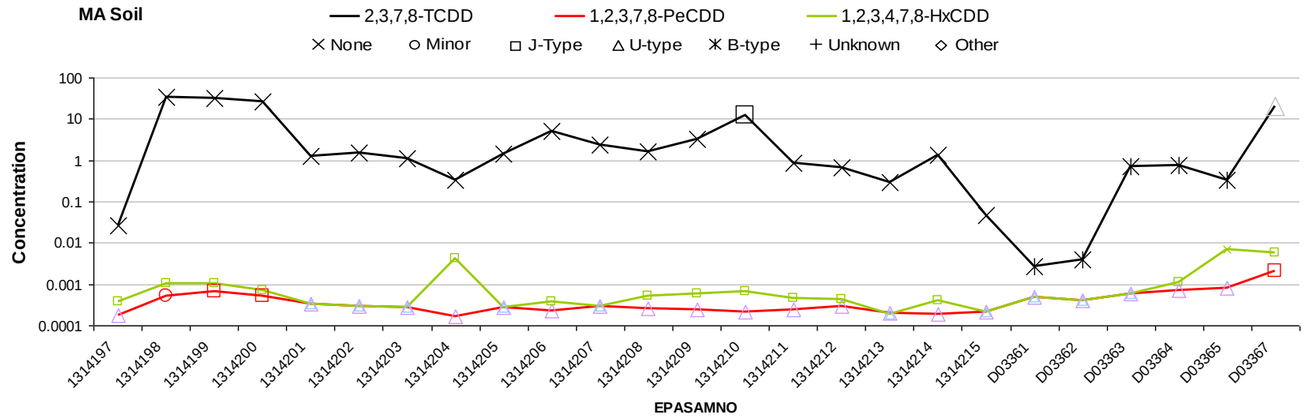


Figure 5. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,4,7,8-HxCDD and 1,2,3,9,7,8-HxCDD in soil in the vicinity of MA.

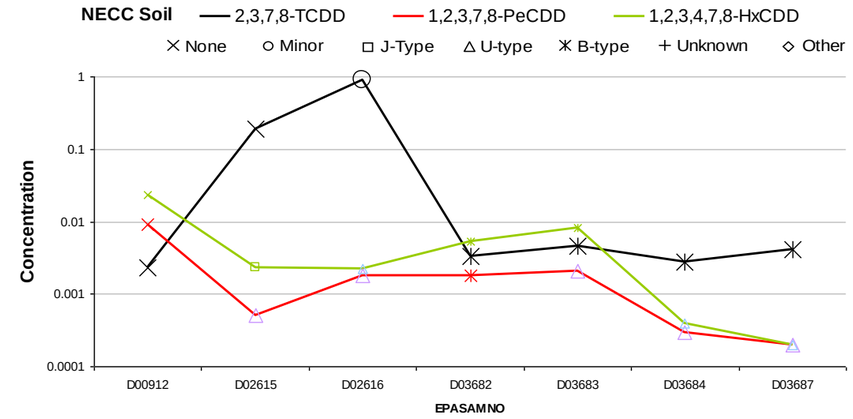


Figure 6. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,4,7,8-HxCDD and 1,2,3,9,7,8-HxCDD in soil in the vicinity of NECC.

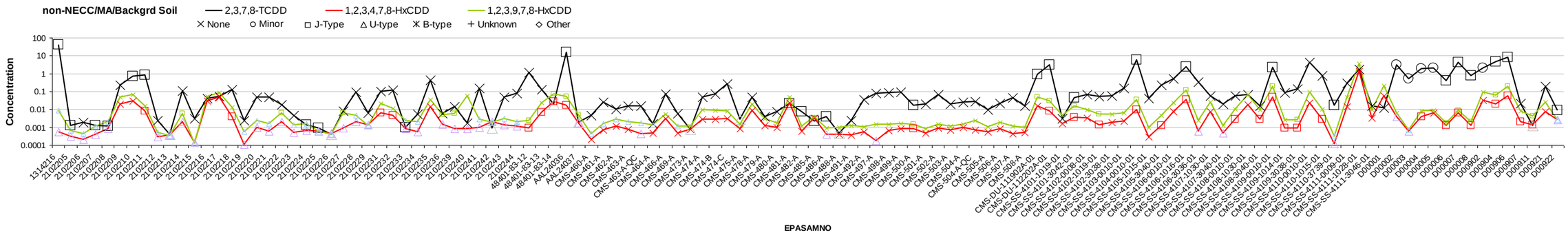


Figure 7a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,7,8-HxCDD and 1,2,3,9,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. First half of samples.

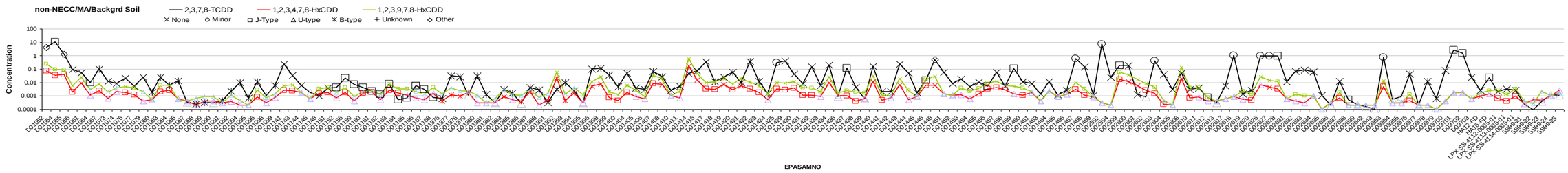


Figure 7b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,7,8-HxCDD and 1,2,3,9,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. Second half of samples.

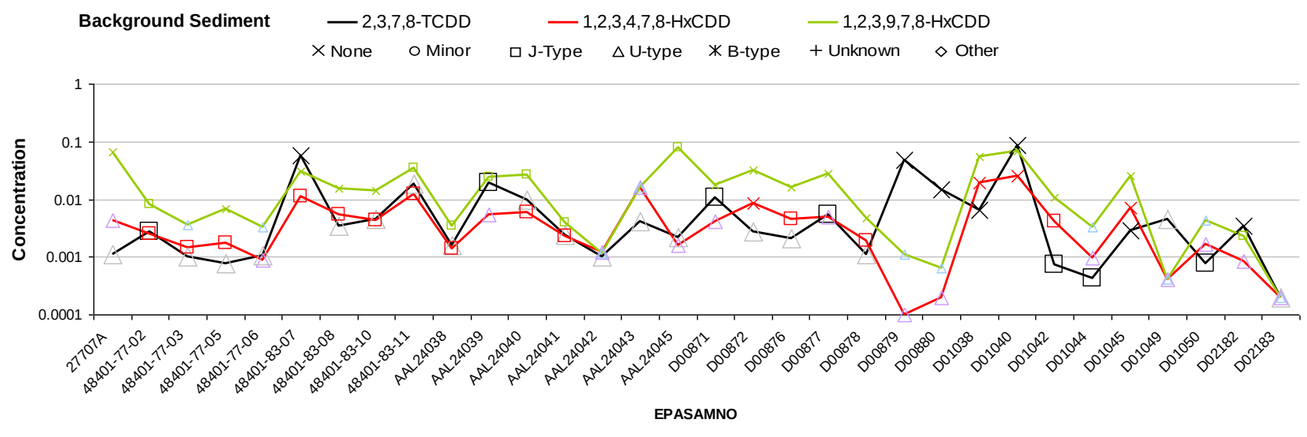


Figure 8. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in background sediment samples.

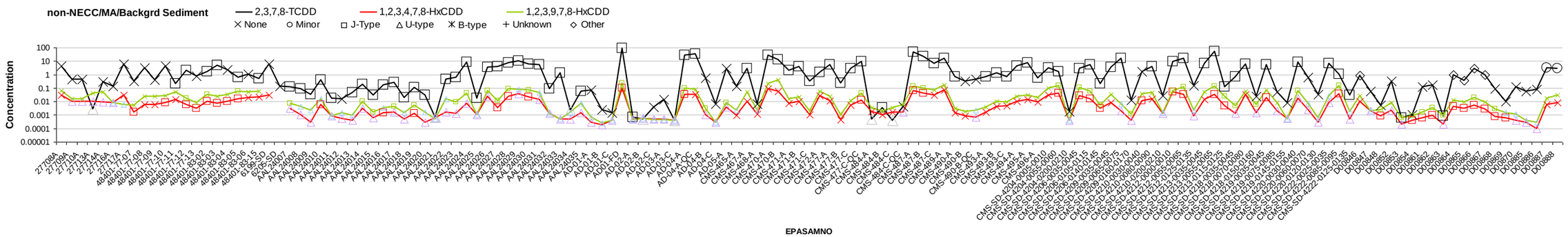


Figure 9a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. First half of samples.

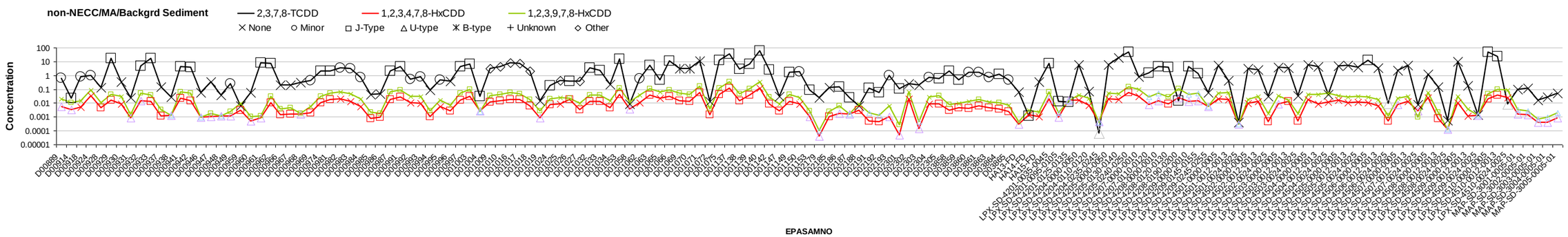
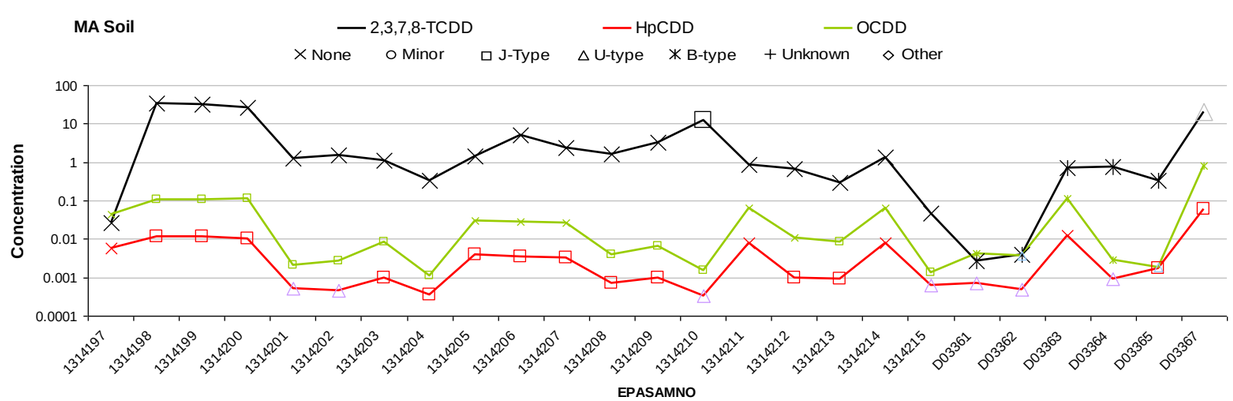
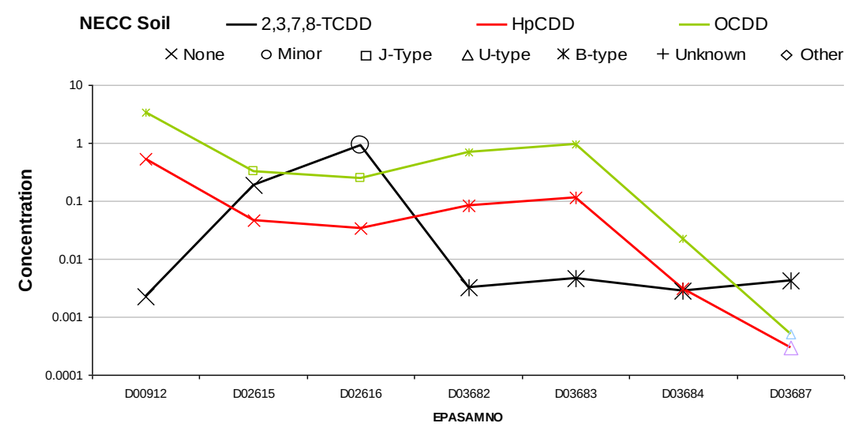


Figure 9b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,7,8-PeCDD and 1,2,3,6,7,8-HxCDD in areas not including the vicinity of MA, NECC or background. Second half of samples.





10. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD and OCDD in soil in the vicinity of MA.

Figure 11. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD and OCDD in soil in the vicinity of NECC.

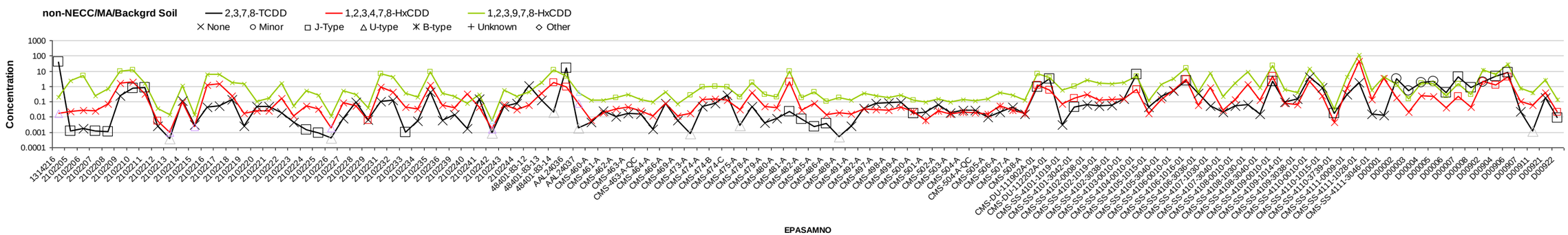


Figure 12a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD and OCDD in areas not including the vicinity of MA, NECC or background. First half of samples.

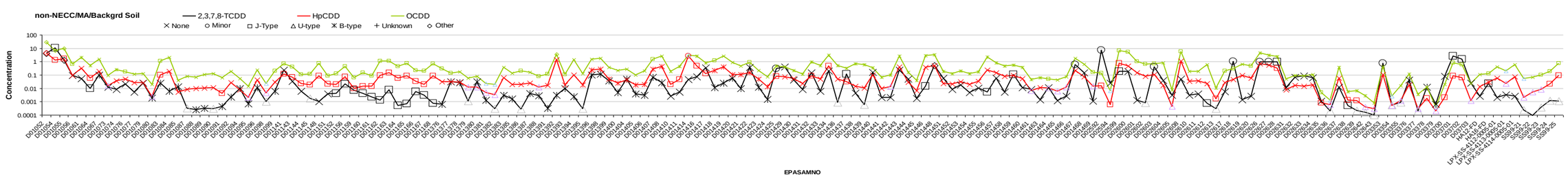


Figure 12b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD and OCDD in areas not including the vicinity of MA, NECC or background. Second half of samples.

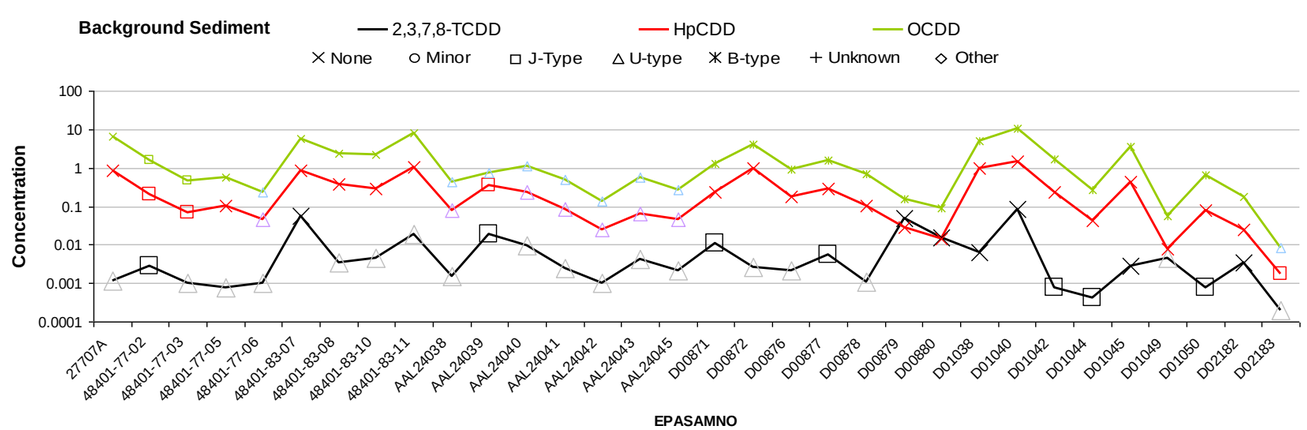


Figure 13. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD and OCDD in background sediment samples.

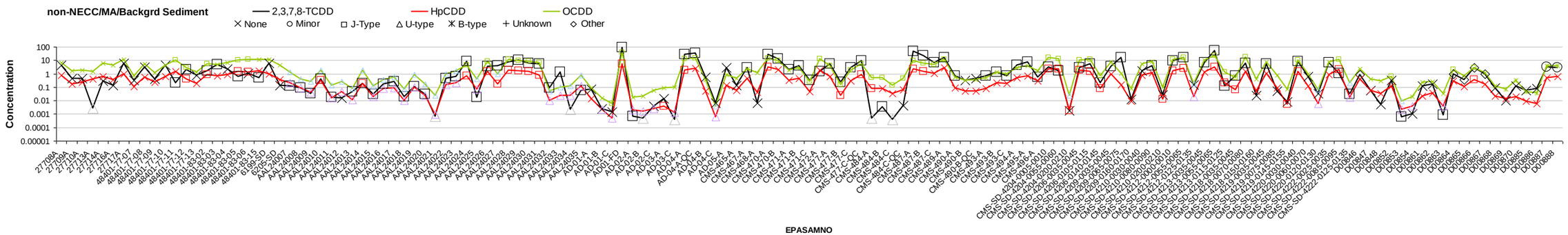


Figure 14a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD and OCDD in areas not including the vicinity of MA, NECC or background. First half of samples.

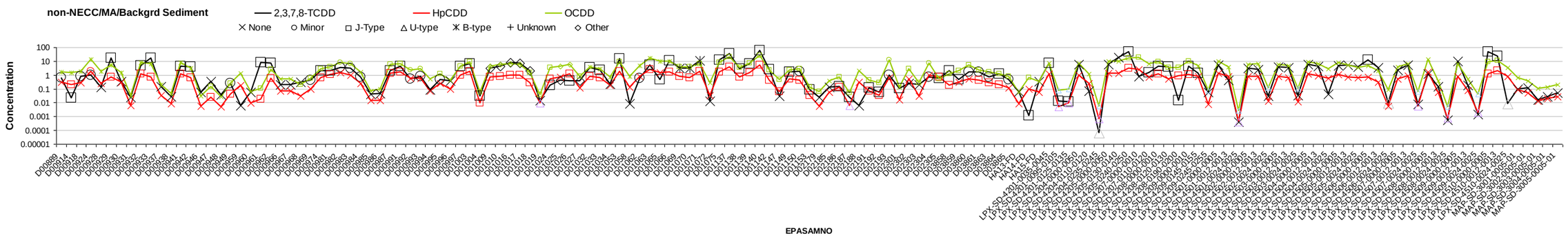
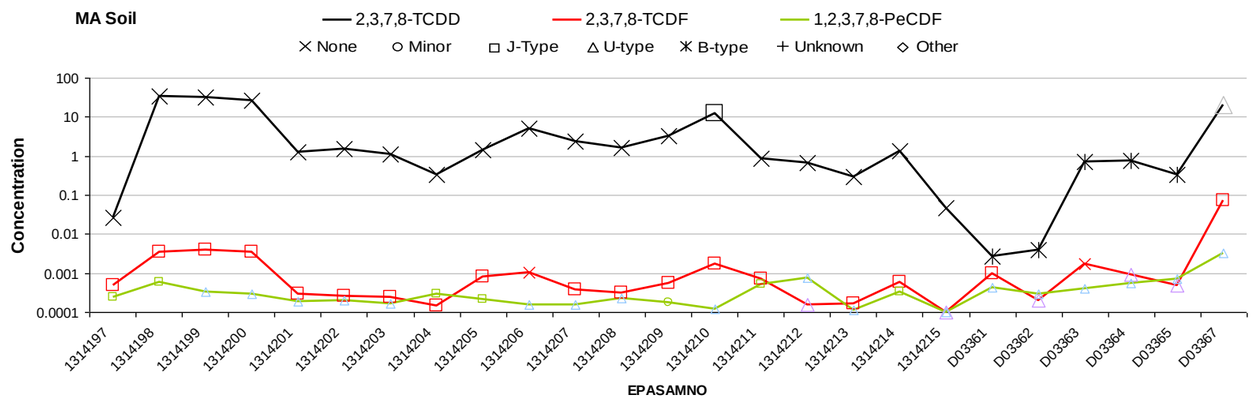


Figure 14b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,6,7,8-HpCDD and OCDD in areas not including the vicinity of MA, NECC or background. Second half of samples.



15. Congener concentrations for 2,3,7,8-TCDD, 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF in soil in the vicinity of MA.

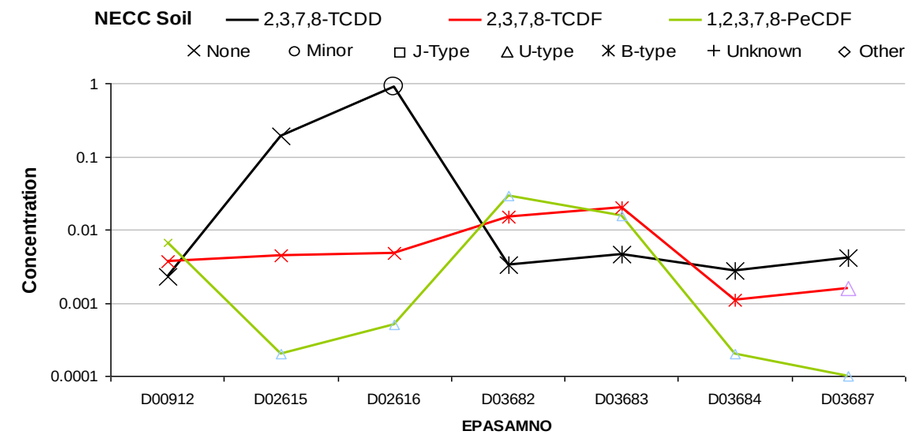


Figure 16. Congener concentrations for 2,3,7,8-TCDD, 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF in soil in the vicinity of NECC.

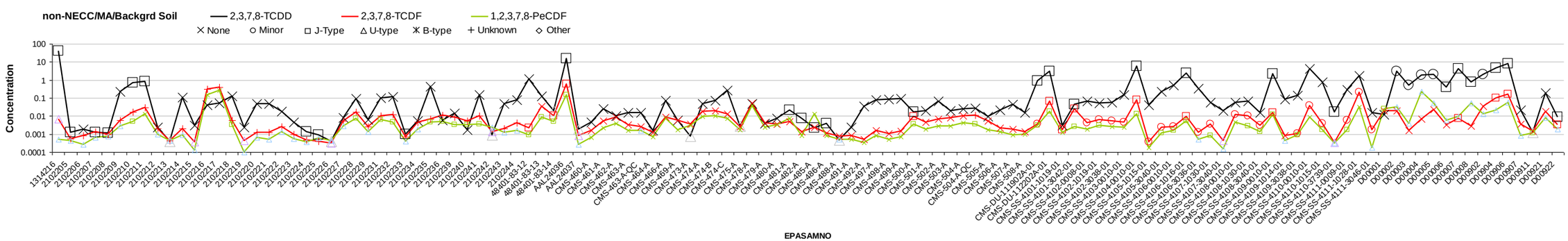


Figure 17a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

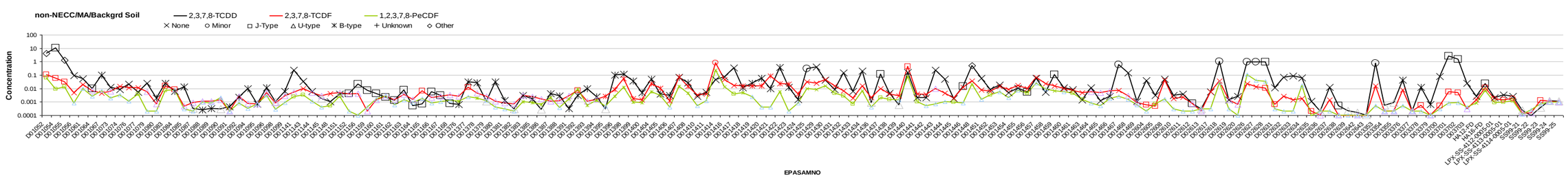


Figure 17b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

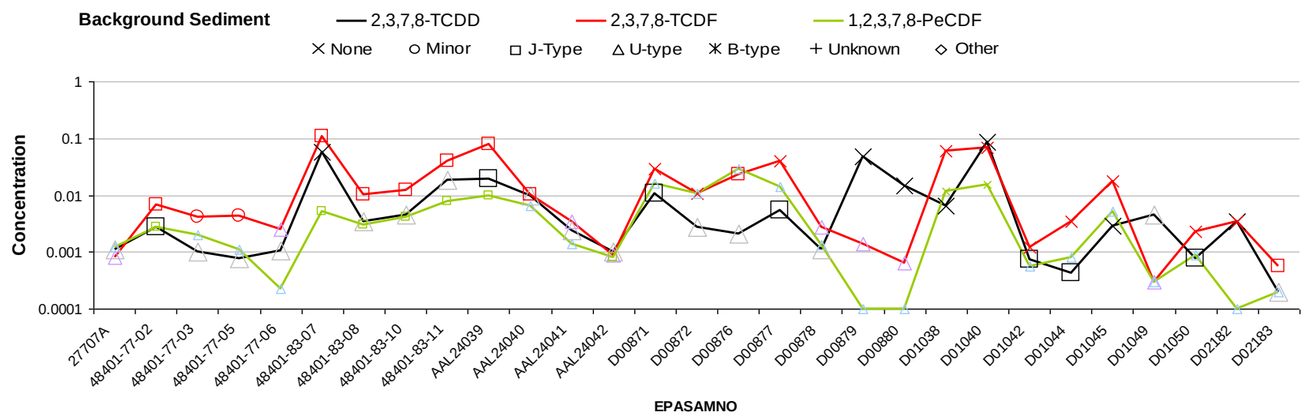


Figure 18. Congener concentrations for 2,3,7,8-TCDD, 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF in background sediment samples.

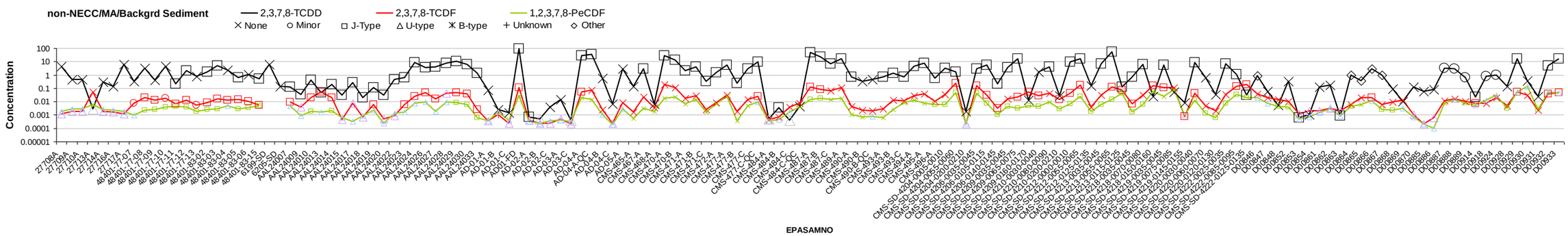


Figure 19a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

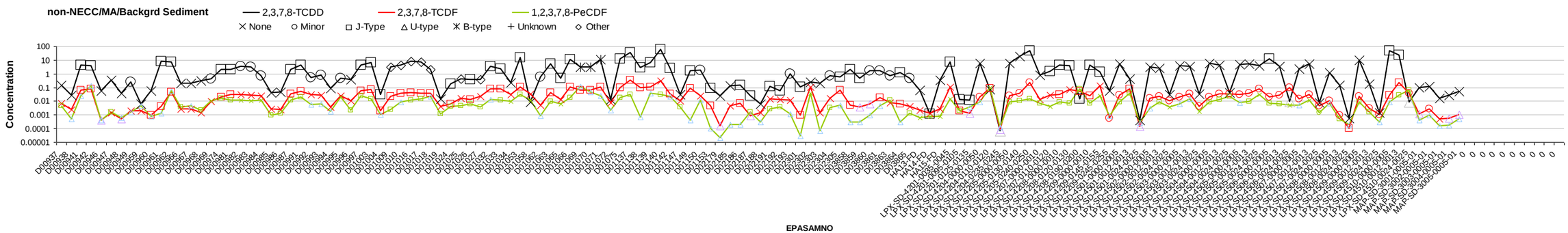


Figure 19b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,7,8-TCDF and 1,2,3,7,8-PeCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

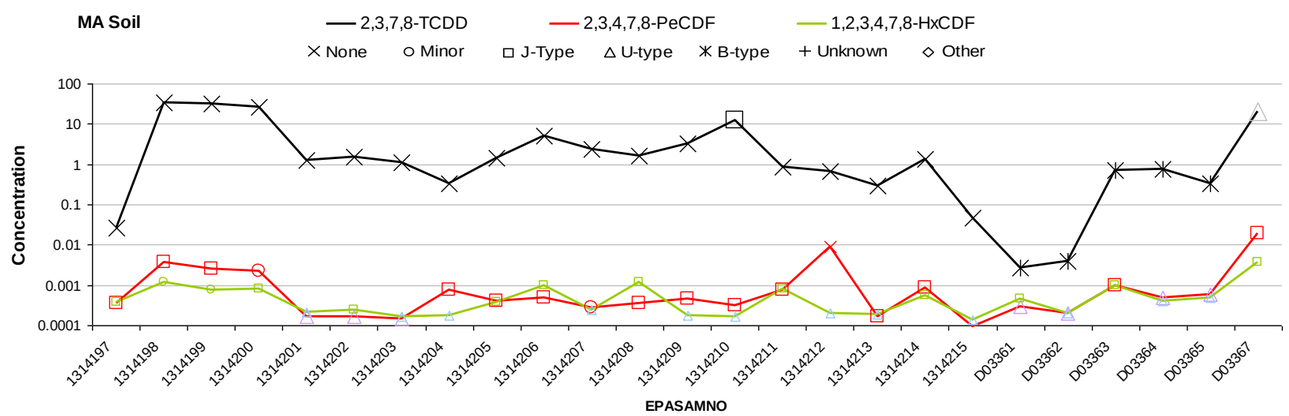


Figure 20. Congener concentrations for 2,3,7,8-TCDD, 2,3,4,7,8-PeCDF and 1,2,3,4,7,8-HxCDF in soil in the vicinity of MA.

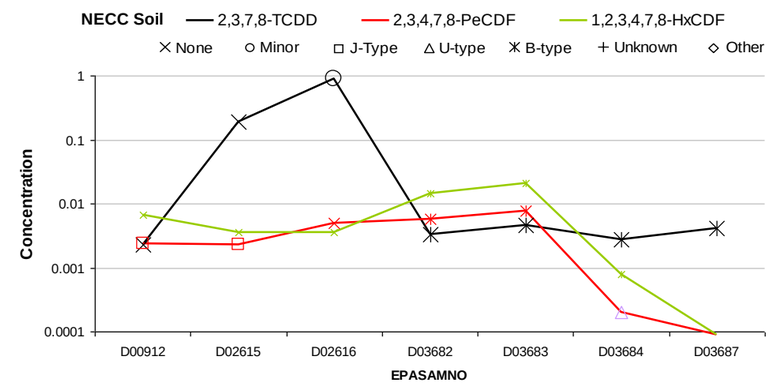


Figure 21. Congener concentrations for 2,3,7,8-TCDD, 2,3,4,7,8-PeCDF and 1,2,3,4,7,8-HxCDF in soil in the vicinity of NECC.

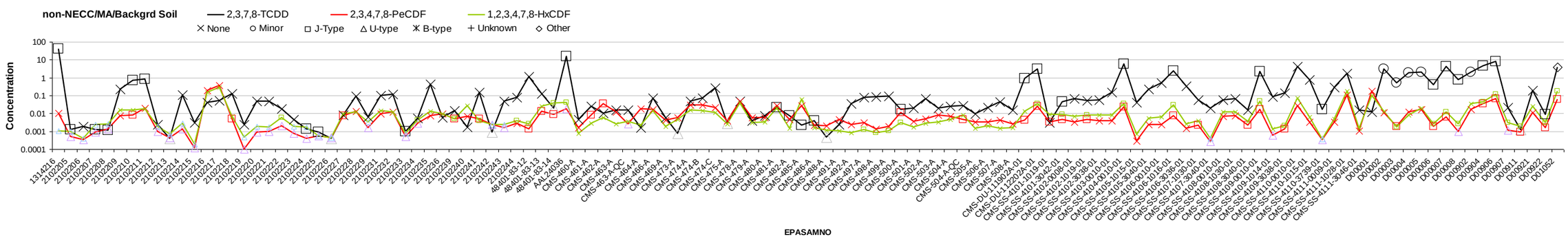


Figure 22a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,4,7,8-PeCDF and 1,2,3,4,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

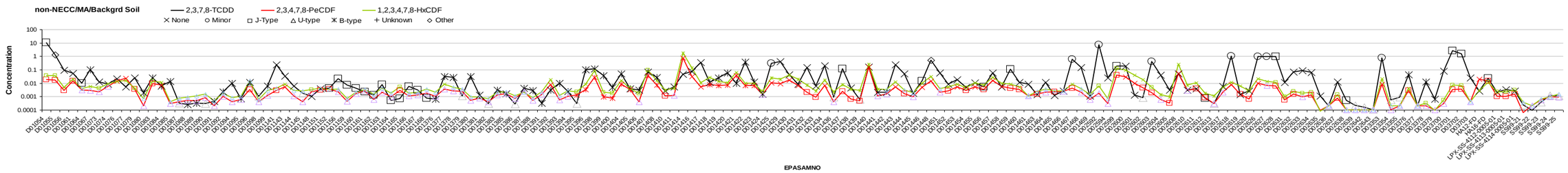


Figure 22b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,4,7,8-PeCDF and 1,2,3,4,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

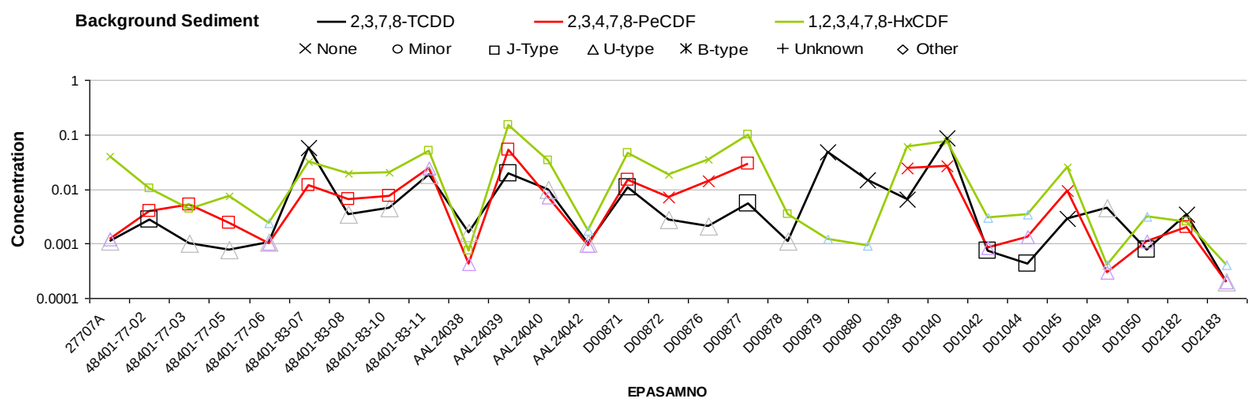


Figure 23. Congener concentrations for 2,3,7,8-TCDD, 2,3,4,7,8-PeCDF and 1,2,3,4,7,8-HxCDF in background sediment samples.

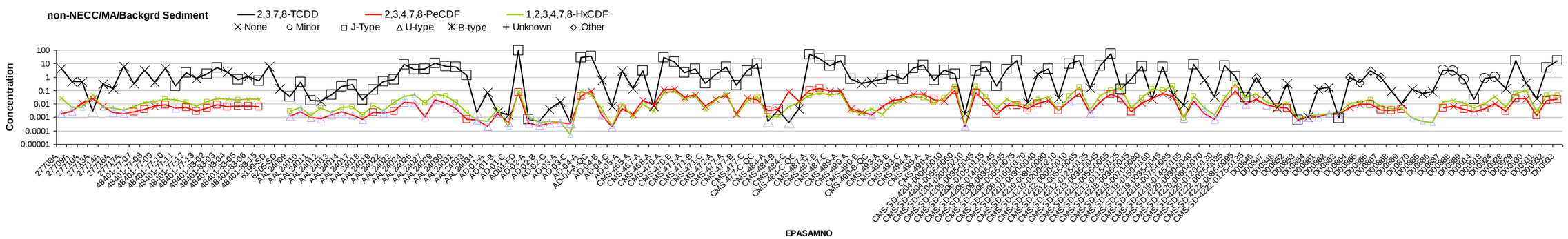


Figure 24a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 2,3,4,7,8-PeCDF and 1,2,3,4,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

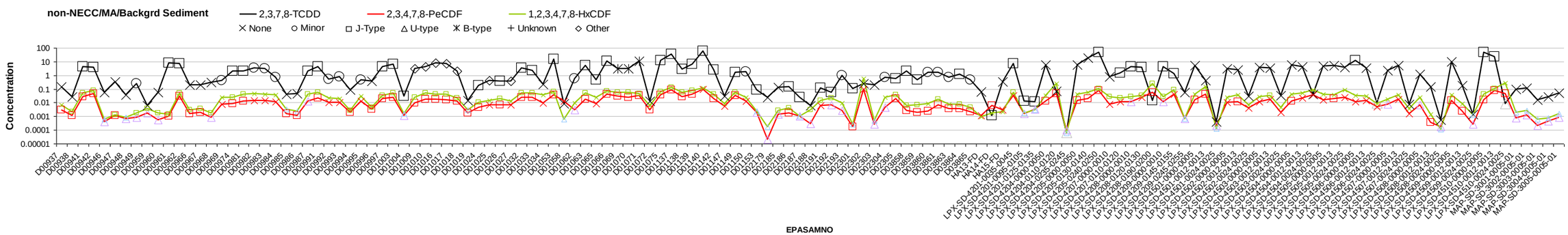


Figure 24b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,4,7,8-PeCDF and 1,2,3,4,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

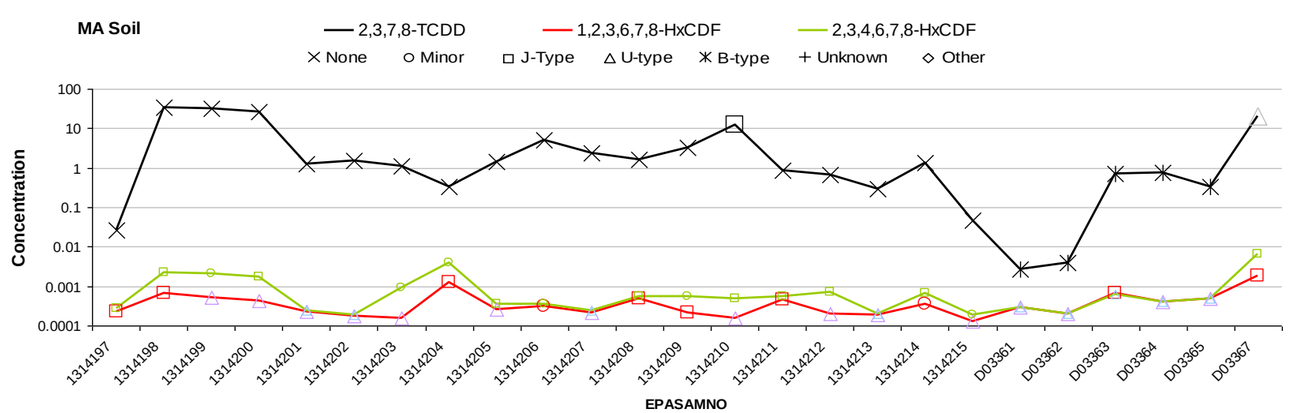


Figure 25. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,6,7,8-HxCDF and 2,3,4,6,7,8-HxCDF in soil in the vicinity of MA.

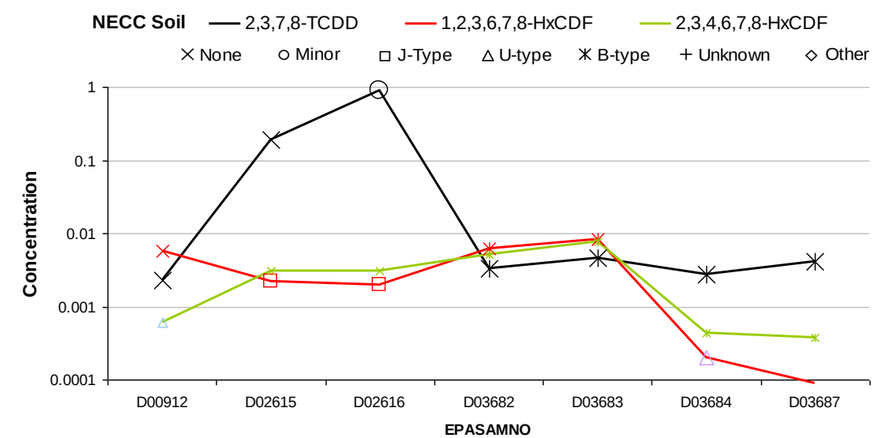


Figure 26. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,6,7,8-HxCDF and 2,3,4,6,7,8-HxCDF in soil in the vicinity of NECC.

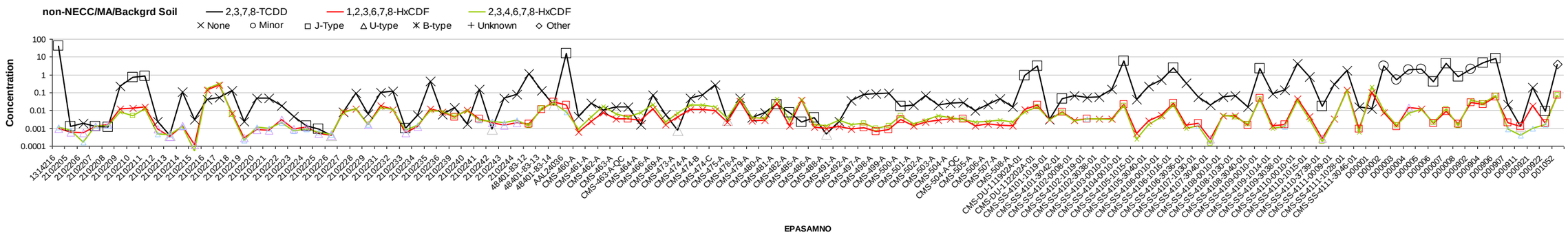


Figure 27a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,6,7,8-HxCDF and 2,3,4,6,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

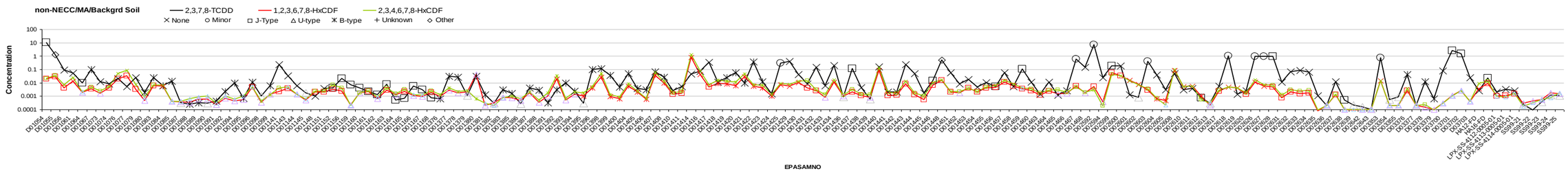


Figure 27b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,6,7,8-HxCDF and 2,3,4,6,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

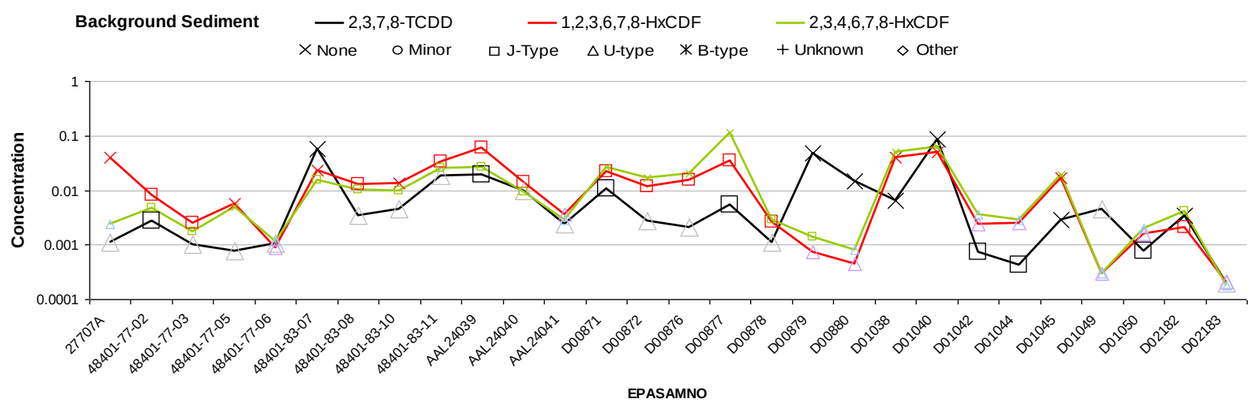


Figure 28. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,6,7,8-HxCDF and 2,3,4,6,7,8-HxCDF in background sediment samples.

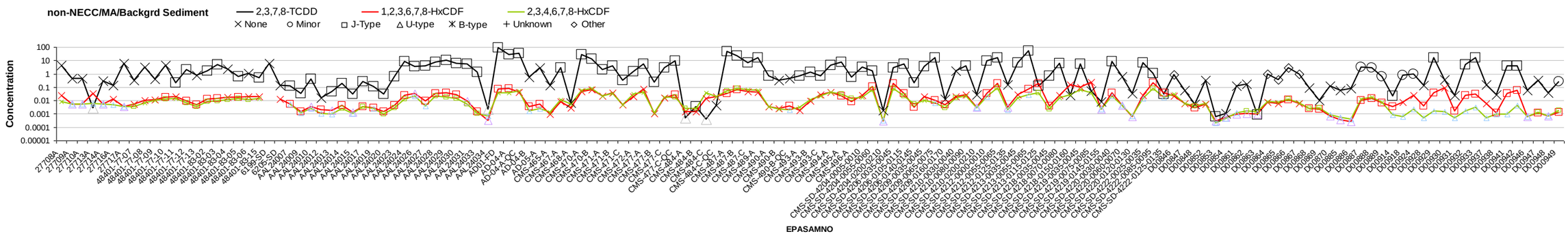


Figure 29a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 1,2,3,6,7,8-HxCDF and 2,3,4,6,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

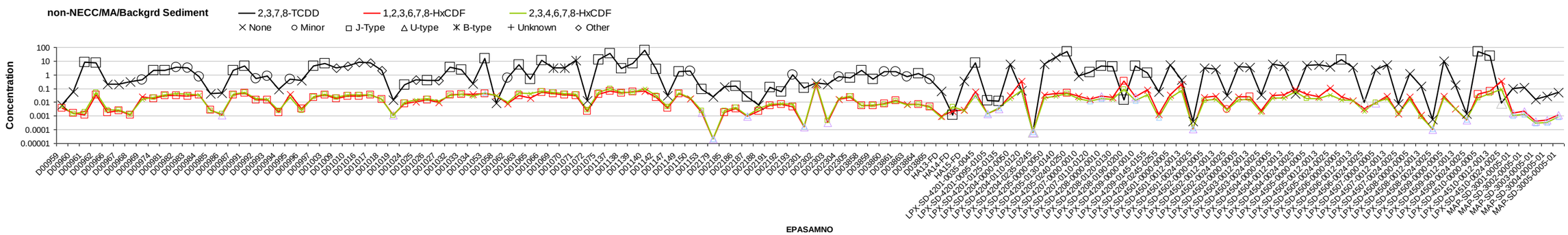


Figure 29b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,6,7,8-HxCDF and 2,3,4,6,7,8-HxCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

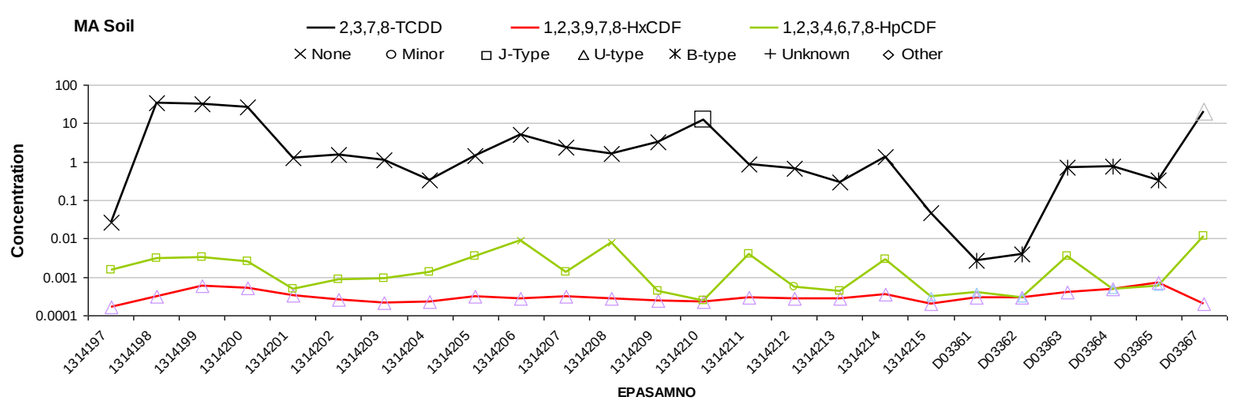


Figure 30. Congener concentrations for 2,3,7,8-TCDD, 2,3,6,7,8,9-HxCDF and 1,2,3,4,6,7,8-HpCDF in soil in the vicinity of MA.

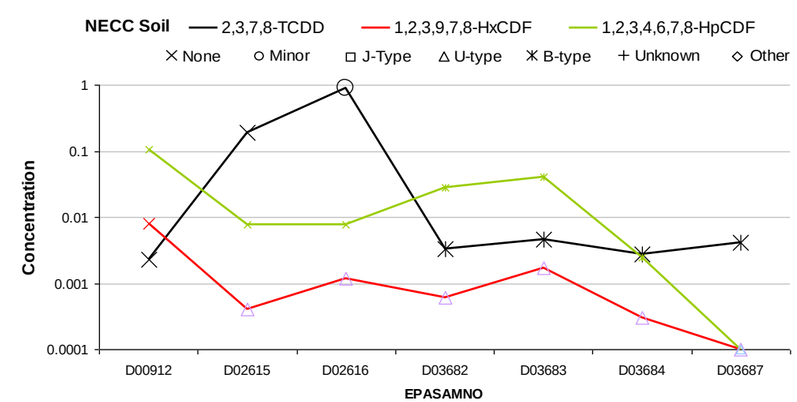


Figure 31. Congener concentrations for 2,3,7,8-TCDD, 2,3,6,7,8,9-HxCDF and 1,2,3,4,6,7,8-HpCDF in soil in the vicinity of NECC.

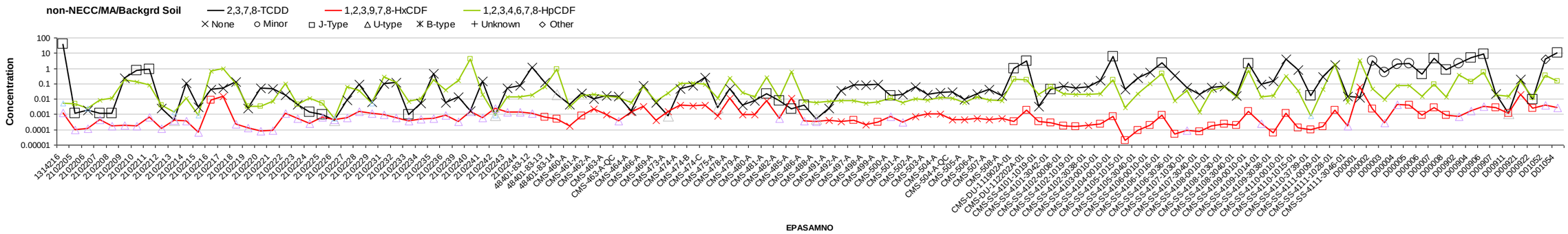


Figure 32a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,6,7,8,9-HxCDF and 1,2,3,4,6,7,8-HpCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

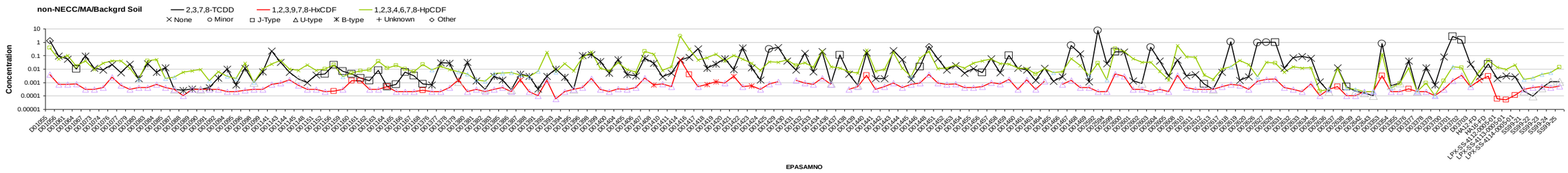


Figure 32b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,6,7,8,9-HxCDF and 1,2,3,4,6,7,8-HpCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

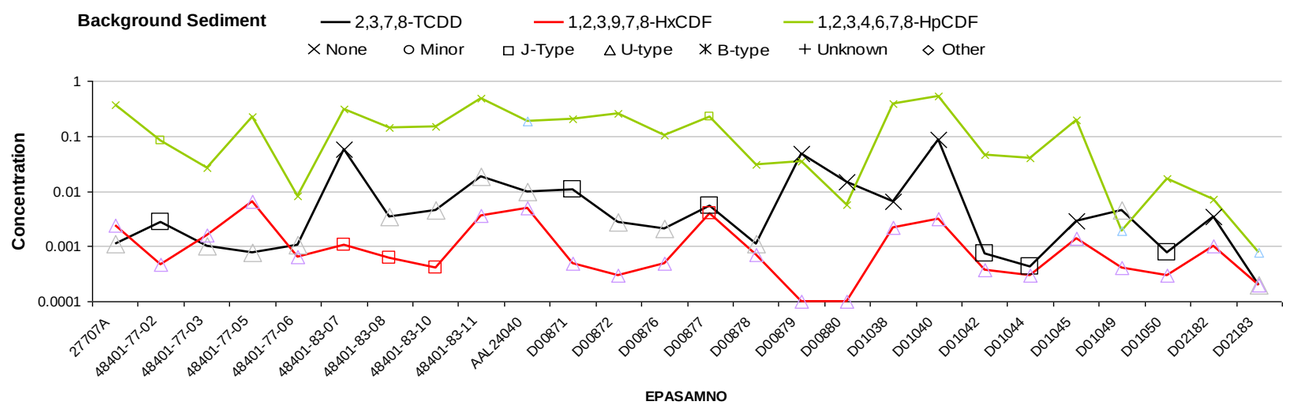


Figure 33. Congener concentrations for 2,3,7,8-TCDD, 2,3,6,7,8,9-HxCDF and 1,2,3,4,6,7,8-HpCDF in background sediment samples.

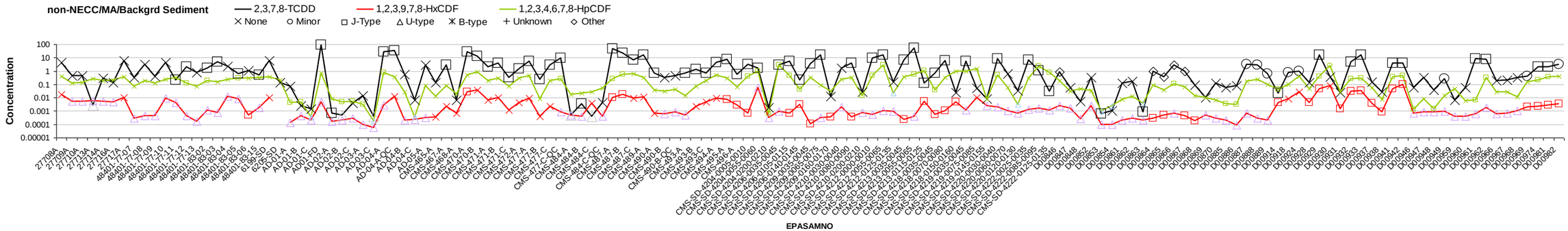


Figure 34a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 2,3,6,7,8,9-HxCDF and 1,2,3,4,6,7,8-HpCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

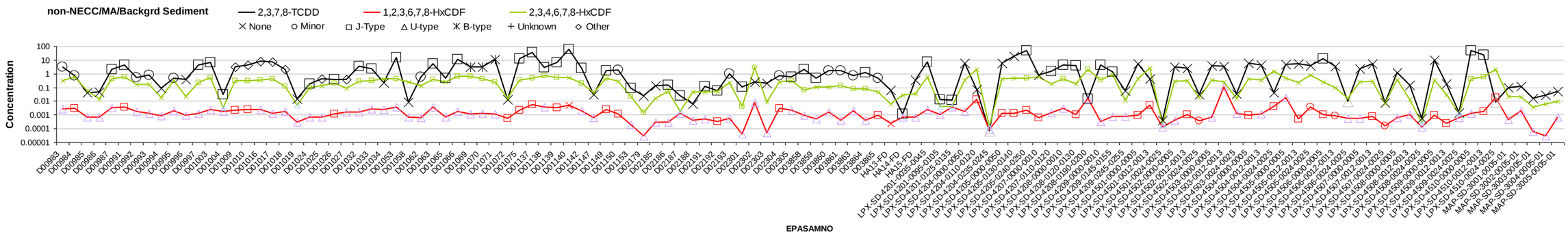


Figure 34b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 2,3,6,7,8,9-HxCDF and 1,2,3,4,6,7,8-HpCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

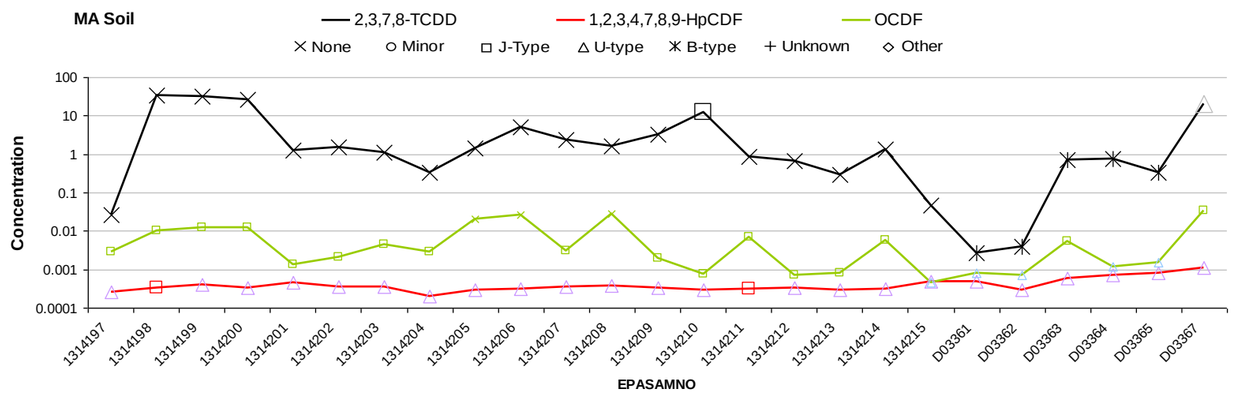


Figure 35. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,4,7,8,9-HpCDF and OCDF in soil in the vicinity of MA.

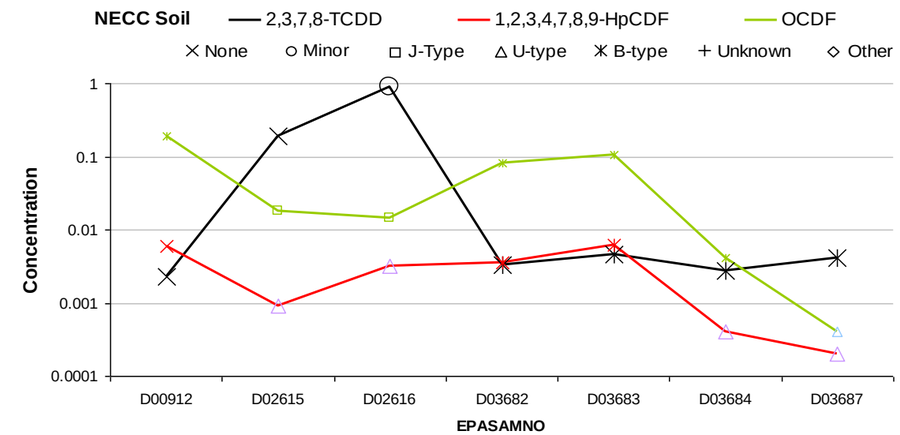


Figure 36. Congener concentrations for 2,3,7,8-TCDD, 2,3,4,6,7,8,9-HpCDF and OCDF in soil in the vicinity of NECC.

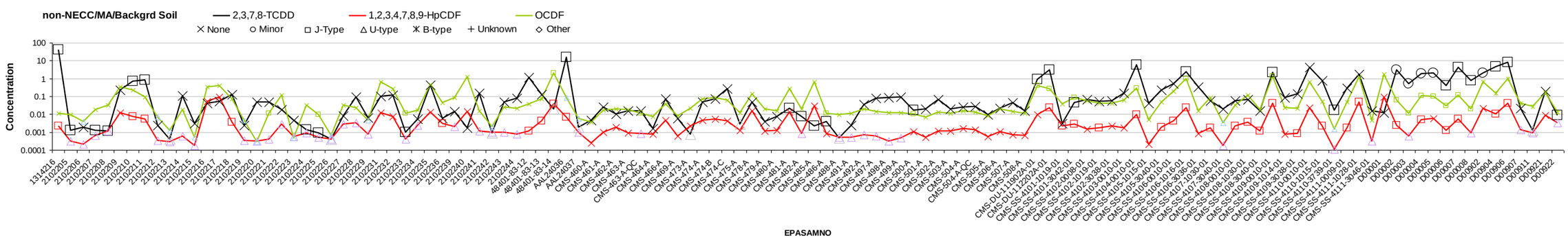


Figure 37a. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,7,8,9-HpCDF and OCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

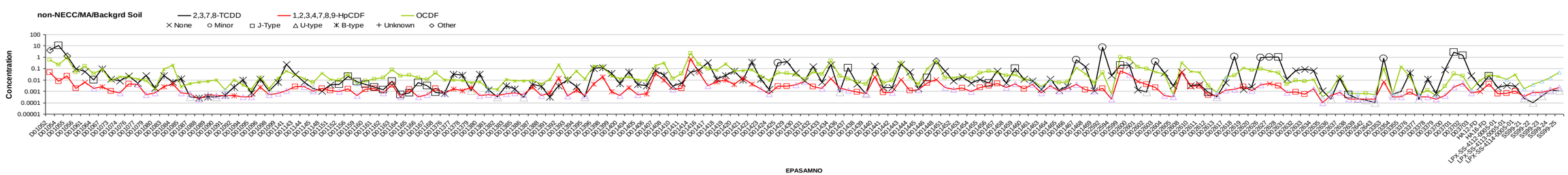


Figure 37b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,7,8,9-HpCDF and OCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

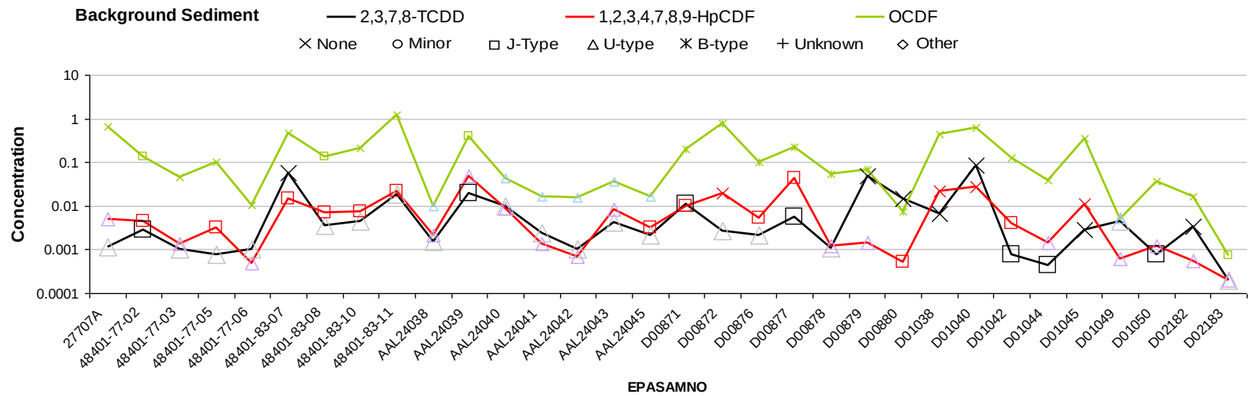


Figure 38. Congener concentrations for 2,3,7,8-TCDD, 1,2,3,4,7,8,9-HpCDF and OCDF in background sediment samples.

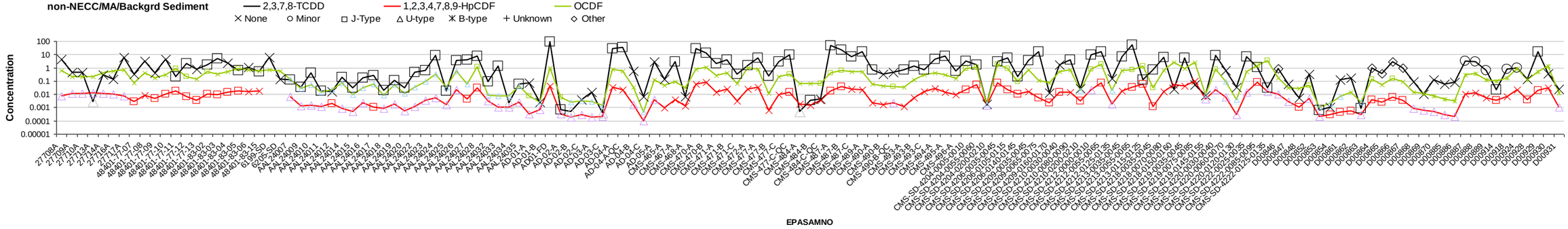


Figure 39a. Congener concentrations in sediment samples for 2,3,7,8-TCDD, 1,2,3,4,7,8,9-HpCDF and OCDF in areas not including the vicinity of MA, NECC or background. First half of samples.

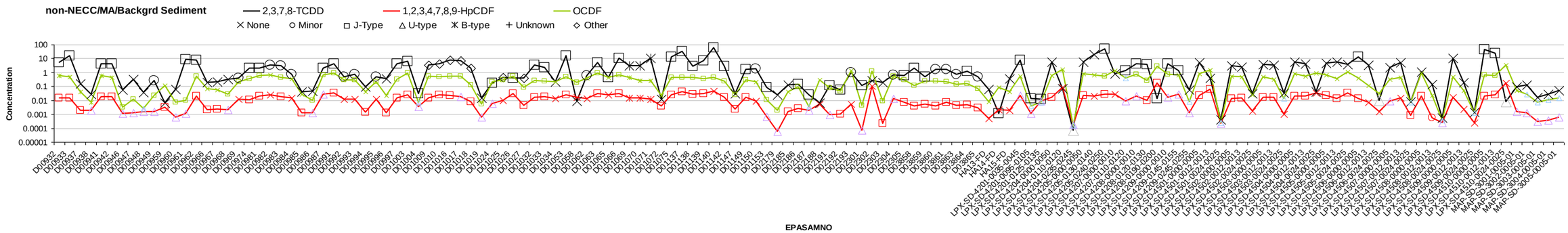


Figure 39b. Congener concentrations in soil samples for 2,3,7,8-TCDD, 1,2,3,4,7,8,9-HpCDF and OCDF in areas not including the vicinity of MA, NECC or background. Second half of samples.

Appendix 5.4 The principles of Polytopic Vector Analysis

The fundamental, mathematical principles of polytopic vector analysis (PVA) were developed for geological applications by Miesch in 1976. In more recent applications, it has been adopted in environmental forensics as described by Johnson et al. (2002). PVA has three objectives: (1) to determine the number of contributing sources or EMs in the system; (2) to resolve each EM fingerprint; and (3) to resolve the loading or mixing proportion of each EM on each sample (Figure 1).

PVA starts with principal component analysis (PCA) and is a special case of factor analysis in which measurements in N-dimensional *variable space*, represented in a data matrix $\boldsymbol{X}_{p\times N}$ of p samples and N variables, are translated by decomposition of a similarity matrix (variance-covariance, correlation, etc.) to a *factor (or vector) space* of k factors, represented in a loading matrix $A_{p\times k}$, and a factor matrix $F_{k\times N}$. To capture 100% of the variability in real data, and due to a multitude of sources and error, $k = N$ for complete mapping. Usually, k is reduced to $k < N$ factors (leading to *reduced factor space*), sufficient to capture most variability contained in the data, by eliminating factors that contribute very little to variability and, hence, are unresolvable within reasonable uncertainty, and/or are assumed to represent error. The data matrix $\boldsymbol{X}$ is then modeled by incorporating an error term $\boldsymbol{E}_{p\times N}$:

$$X_{p\times N} = A_{p\times k} \cdot F_{k\times N} + E_{p\times N} \tag{2.1}$$

Each row r in the matrix $\boldsymbol{F}$ is a factor, and its relative contribution to each sample is given in the corresponding column $c = r$ of the loading matrix $\boldsymbol{A}$.

Generally, a problem of multivariate decomposition has an infinite set of solutions. Thus, the principal component axes, $\boldsymbol{F}$, can be rotated to any new position and the loadings, $\boldsymbol{A}$, recalculated for a new solution to the same data matrix. The axis rotation is performed such that all values in both matrices become positive. This constraint is necessary for an additive system of linearly mixing components, as is the case when contaminant sources contribute positive (or zero) concentrations in positive (or zero) proportions to each sample in the data matrix (orthogonality is not necessarily preserved) (Figure 2). *In the traditional algorithm, it is the constraint of positive values that results in the equivalence of the mathematical and phenomenological representations under the assumption of linear mixing* [Miesch, 1976].

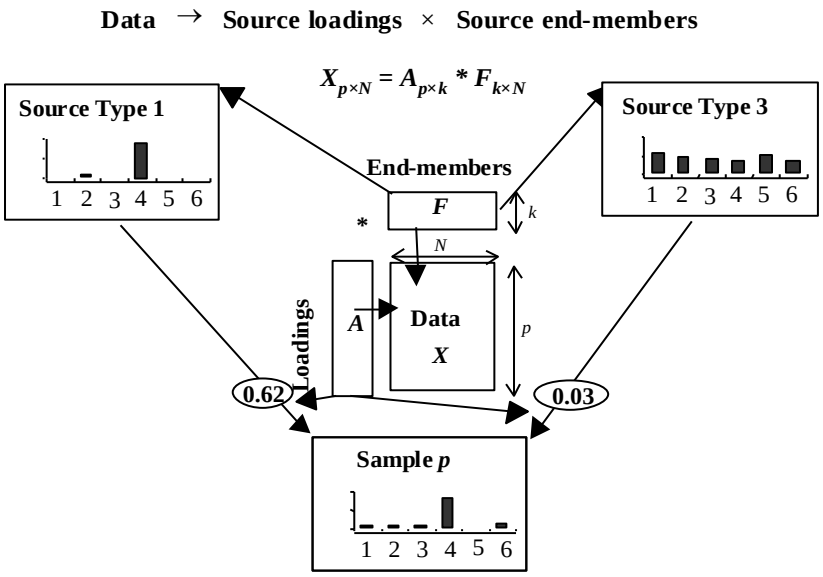


Figure 1: Conceptual representation of the PVA model. Source type 1 and 3 are EMs derived by PVA and contained in rows 1 and 3 of matrix *F*. The numbers in circles are the mixing proportions of each source to the pth sample contained in columns 1 and 3 of the loading matrix *A*.

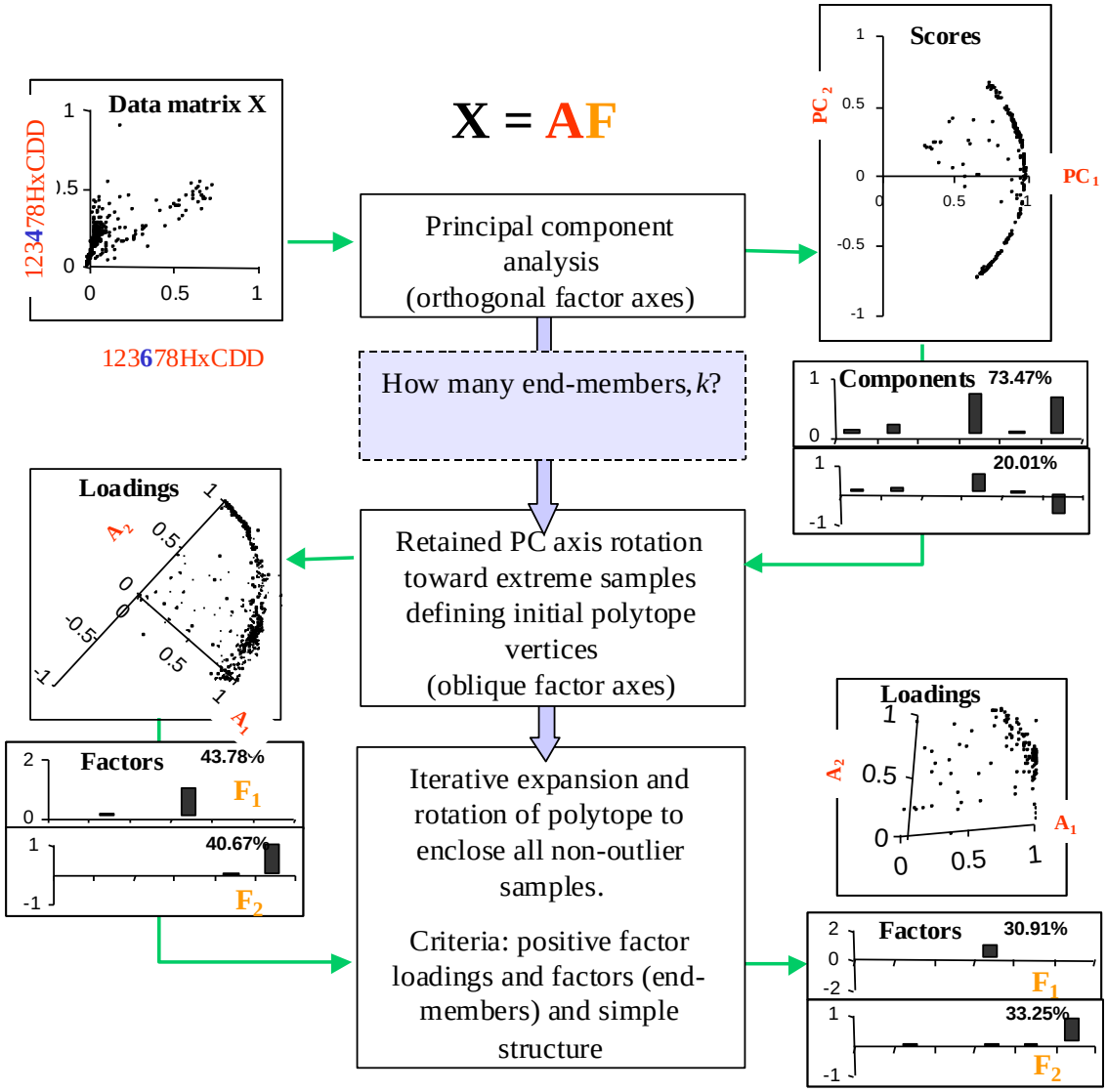


Figure 2: Graphical illustration of the rotation procedure from principal components to EMs. Negative values in last bar graph are due to 5% error tolerance.

The PVA algorithm can be broken into 8 steps: (1) Transformation procedures on the data matrix; (2) Principal component (PC) analysis; (3) Iterative determination of the number of EMs, *k*, by re-estimation of the data-matrix using an increasing number of PC-s, from 1 to *N*, and evaluating certain re-estimation criteria; (4) Identification of outliers (erroneous samples); repeat steps 1-3 if these are found and corrected or removed; (5) Varimax (orthogonal) rotation of the retained axes; (6) Initial polytope rotation (oblique) towards the most extreme samples; (7) Iterative polytope rotation and expansion until positivity constraint and any additional constraints are satisfied. (8) The mathematical procedure is followed by the identification of the EM patterns using information about fingerprints of known sources.

The initial step in the procedure is the transformation of the samples to sum to a constant (1 or 100%), and all results are then expressed as relative concentrations. The next step is the determination of the number of EMs present in the system using the results of principal components analysis (PCA). PCA represents each sample as a linear combination of ordered factors, such that the first factor accounts for or 'contains' the greatest possible part of the variability and subsequent factors account for successively less variability. The theoretical basis is eigen-analysis starting with a similarity matrix (e.g. variance-covariance, correlation, angle between sample vectors) of the variables. To determine the number of EMs, one retains only as many of the principal components as necessary for a "satisfactory" reproduction of the data set. The number of principal components that are retained for re-estimation is sequentially increased until all samples and variables are reproduced such that high correlations are achieved between estimate and data for all important samples and variables. (Several criteria are used that test the reproduction, and most rely on sample-to-sample and variable-to-variable correlations.) At this stage, outlier samples and variables can also be identified, as these samples will be associated with a principal component that has high loadings on a few outliers and low loadings on all others. This evaluation can be confirmed by inspection of outlier sample locations and laboratory analytical error. Erroneous samples are corrected or eliminated.

The third step is the actual polytope adjustment procedure, whereby the retained principal component axes are rotated until all loadings and EMs have positive values only, within a margin of error that is usually 5% (i.e. negative values of up to -0.05 are accepted). Although not mathematically necessary, the principal component axes are rotated first by maintaining their orthogonality (and independence) using varimax rotation [Jöreskog et al., 1976]. Then, the axes are rotated towards the extreme-most samples, i.e. samples whose composition becomes an EM, as a starting point from which the actual EMs are searched by further, oblique rotation. Oblique rotation introduces correlations between the factors, which is reasonable since real source emissions are not necessarily unrelated. During the oblique rotation, a solution is searched in which all EM components and factor loadings are positive. This is implemented with two thresholds, the parameters t_1 and t_2 in Step 7. The error tolerance, t_1, is set to a default of 5% meaning that negative values up to -0.05 are accepted in matrix A. The second parameter, t_2, specifies the highest negative value that is considered to be adjustable in A.

References

Johnson, G.W., R. Ehrlich, and W. Full. 2002. Principal components analysis and receptor models in environmental forensics, p. 461-515. In B. Murphy, R. Morrison (eds.) Introduction to Environmental Forensics. Academic Press.

Jöreskog, K.G., Klovan, J.E., and Reyment, R.A. 1975. Geological Factor Analysis. Elsevier Scientific Publishing Company.

Miesch, A.T. 1976. Q-mode Factor Analysis of Geochemical and Petrologic Data Matrices with Constant Row Sums. Professional Paper 574-G, Geological Survey, Washington, D.C.

Appendix 5.3
PCDD/F congener concentration data plots

Appendix 5.4
Principles of Polytopic Vector Analysis