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Waste Management & Cleanup Division
Dept of Environmental Quality

Revised Final Remedial Design Data Summary Report

McCormick & Baxter Creosoting Company
Portland Plant
Portland, Oregon

Task Order No.: 88-97-5

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Prepared for:

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List of Acronyms

ACC	Arsenic-chromium-copper [area]
ACZA	Ammoniacal copper zinc arsenate
BGS	Below ground surface
BNRR	Burlington Northern Railroad
cfs	Cubic feet per second
CLP	Contract Laboratory Program
CPA	Central Processing Area
CPAH	Carcinogenic polycyclic aromatic hydrocarbons
DEA	David Evans and Associates, Inc.
DEQ	Department of Environmental Quality
DNAPL	Dense nonaqueous phase liquid
E & E	Ecology and Environment, Inc.
EPA	United States Environmental Protection Agency
FS	Feasibility Study
FWDA	Former Waste Disposal Area
GIS	Geographic Information System
IRA	Interim remedial action
LNAPL	Light nonaqueous phase liquid
mg/kg	Milligram per kilogram
mph	Miles per hour
MSL	Mean Sea Level
NAPL	Nonaqueous phase liquid
NGVD	National Geodetic Vertical Datum
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
PAH	Polycyclic aromatic hydrocarbon
PCP	Pentachlorophenol
ppt	Parts per trillion
QA	Quality Assurance
QC	Quality Control
RA	Remedial Action
RCRA	Resource Conservation and Recovery Act
RD	Remedial Design

List of Acronyms (Cont.)

RI	Remedial Investigation
ROD	Record of Decision
RPD	Relative percent difference
SQAP	Sampling and Quality Assurance Plan
TCLP	Toxicity characteristic leaching procedure
TEQ	Toxic Equivalent Concentrations
TFA	Tank Farm Area
TIN	Triangulated Irregular Network
UPRR	Union Pacific Railroad
USACE	United States Corps of Engineers

1

1 Introduction and Purpose

Ecology and Environment, Inc. (E & E), under contract with the Oregon Department of Environmental Quality (DEQ), has prepared this revised draft document to summarize field sampling activities in support of the remedial design (RD) for contaminated soil at the McCormick & Baxter Creosoting Company Portland Plant (McCormick & Baxter) site in Portland, Oregon. The site was an active wood-treating operation from 1944 until 1991, and is located along the Willamette River at 6900 North Edgewater Street (see Figure 1-1).

This document has been prepared under DEQ Task Order No. 88-97-5. The purpose of the task order is to conduct RD and remedial action (RA) activities at the site in accordance with the remedy described in the Record of Decision (ROD; EPA/DEQ 1996). The ROD identifies remedies for soil, sediment, and groundwater contaminated primarily with carcinogenic polycyclic aromatic hydrocarbons (CPAH), pentachlorophenol (PCP), arsenic, and polychlorinated dibenzo-*p*-dioxins and dibenzofurans (dioxin/furans).

This draft document was originally prepared based on soil sampling data collected in December 1996 and was submitted to DEQ as the *Draft Remedial Design Data Summary Report* in February 1997. Evaluation of the RD data presented in this draft document identified the following data gaps:

- No analytical data existed for soil beneath the concrete slabs in several areas of the site.
- No analytical data existed for soil along the river bank area in the former waste disposal area (FWDA) and downgradient of the FWDA (see Figure 2-1).
- No analytical data existed for the soil around the MW-1 area (see Figure 2-1).

In addition, evaluation of the RD data presented in the *Draft Remedial Design Data Summary Report* (E & E 1997c) identified insufficient dioxin/furans data to determine an areal extent or magnitude of dioxin/furans contaminated soil for off-site disposal calculations.

Based on the identified data gaps, DEQ directed E & E to prepare and conduct two separate field events. The first field event was completed in May 1997 and addressed the dioxin/furans sampling. The second field event was completed in September 1997 and addressed the remaining data gaps.

Dioxin/furans results from both the original soil sampling of December 1996 and the supplemental soil sampling of May 1997 showed that dioxin/furans contamination was more widespread than previously reported. This impacted the selected soil remedies described in the ROD (EPA/DEQ 1996) by increasing the amount of dioxin/furans contaminated soil to be removed from the site and changing the in-situ treatment variables. The ROD specified biological treatment as the on-site treatment technology; however, this technology has not been demonstrated to effectively reduce dioxin/furans concentrations in soil. Therefore, DEQ and the United States Environmental Protection Agency (EPA) determined that the ROD would require amendment.

The Proposed Plan for ROD Amendment (EPA/DEQ 1997) revises the soil remedial alternative to exclude biological treatment and include excavation and off-site disposal of the most highly contaminated soil (soil above site-specific action levels) and capping of all other soil contaminated above cleanup goals. The Amended ROD is anticipated to be signed in December 1997. This revised draft document has been updated to reflect the changes in the Proposed Plan for ROD Amendment.

This document summarizes activities supporting the RD for soil. Following this introductory section, the data summary report presents a site description and history (Section 2); a summary of field activities (Section 3); a summary of analytical results (Section 4); a discussion of the nature and extent of contamination (Section 5); a discussion of the RD criteria (Section 6); and a list of references (Section 7).

2

2 Site Description and History

The McCormick & Baxter site covers approximately 58 acres of terrestrial and aquatic lands and is located on the Willamette River in Portland, Oregon. A description and history of the site, primarily excerpted from the Remedial Investigation (RI) Report (PTI 1992a), Revised Feasibility Study (FS; PTI 1995), the ROD (EPA/DEQ 1996), and the Proposed Plan for ROD Amendment (EPA/DEQ 1997), are provided below.

2.1 Site Description

The McCormick & Baxter site is located on the Willamette River in Portland, Oregon, downstream of Swan Island and upstream of the St. John's Bridge (see Figure 1-1). The Willamette River flows to the northwest in the vicinity of the site. The site is located on an area that was constructed by placement of dredged material sometime in the early 1900s. The site, which encompasses approximately 43 acres on land and 15 acres in the river, is generally flat and lies between a 120-foot-high bluff along the northeastern border and a 20-foot-high bank along the Willamette River to the southwest (see Figure 2-1). A sandy beach is exposed at the base of the bank except during brief periods of high river stage (generally late winter or early spring). The sandy beach is usually covered with drift timber and river debris. The site is bordered by industrial properties along the river and by a residential area on the bluff.

In the early 1900s, the first industrial structure, a sawmill, was built at the site. The McCormick & Baxter Creosoting Company began wood-treating operations in 1944 that continued until October 10, 1991 (see Figure 2-1). Four retorts at the site were used for different wood-treatment processes:

- Retort 1: Creosote in aromatic oils (1945 to 1991);
- Retorts 2 and 4: PCP in aromatic oils (1953 to 1991);
- Retort 3: Water-based treatment (chromium from 1954 to 1970, ammoniacal copper arsenate from 1970 to 1986, ammoniacal copper zinc arsenate [ACZA] from 1986 to 1991); and

- Retort 4: Cellon (PCP in liquid butane and isopropyl ether, 1968 to 1988).

A 750,000-gallon creosote tank within a dike and a diked tank farm with several additional tanks for storing wood-treatment chemicals were present at the site. Chemicals for water-based treatment were also stored in tanks near Retort 3. Chemicals remaining following shutdown of the site were inventoried and removed by DEQ in 1992 as an interim site stabilization action. All chemical storage tanks and retorts were cleaned, dismantled, and removed by DEQ in 1994.

Between 1950 and 1965, waste oil containing creosote and/or PCP was applied to site soil for dust suppression in the central process area (E & E 1983). Liquid process wastes were reportedly discharged to a low area near the tank farm area (TFA) prior to 1971 (E & E 1983). Contaminated soil was removed from this area in the mid-1980s. From 1968 until 1971, process wastes were disposed in the FWDA in the southwest portion of the site, as shown on Figure 2-1 (CH2M Hill 1987).

The site has a wastewater discharge outfall (Outfall 001) that was used for cooling water when the plant was operating (see Figure 2-1). Contact wastewater also was discharged from this outfall in the early years of operation. Three storm water outfalls (002, 003, and 004) are also present along the river. Outfalls 001 and 002 were permitted under the National Pollutant Discharge Elimination System (NPDES). Following plant shutdown, DEQ placed earthen berms around storm water collection sumps at the site as an early response action to minimize off-site discharge. Currently, storm water at the site infiltrates the subsurface.

The current configuration of the McCormick & Baxter property is shown in Figure 2-2 and is discussed in Section 2.4.

2.1.1 Topography

As shown in Figure 2-3, the McCormick & Baxter property is located on a terrace that is generally flat with surface elevations ranging from about 29 to 36 feet mean sea level (MSL; referenced to City of Portland datum). The site is part of a larger industrial area that includes a former cooperage and shipyard to the northwest and Riedel International to the southeast. The Burlington Northern Railroad (BNRR) tracks that border the site on the northwest are located on an embankment that is elevated approximately 40 feet above the site. The northeast side of the site is bordered by Union Pacific Railroad (UPRR) tracks and a naturally formed, 120-foot-high bluff; atop this bluff is a residential area. A narrow, vegetated, 20-foot bank separates the site from the Willamette River on the southwest. A sandy beach is exposed at the base of the bank,

except during periods in the late winter or early spring when higher river stages prevail (greater than 15 feet). Surveyed beach elevations generally range from 10 to 15 feet MSL.

Elevations on the site are generally highest at the base of the 120-foot bluff, ranging from 30 to 36 feet, and gradually decrease toward the river. Elevations northwest of the central process area range from 33 to 36 feet, with the exception of the BNRR spur line, which slopes down to the site from an elevation of approximately 40 feet. Southeast of the central process area, elevations generally range from 29 to 33 feet. The lowest elevations on site are along the southeastern fence line adjacent to the Riedel International property and in the southeast waste disposal trench shown on Figure 2-1.

The McCormick & Baxter site is located at River Mile 7 on the Willamette River. Along this reach, the river flows to the northwest and is about 1,500 feet wide. Channel sounding maps for January 1991 from the United States Army Corps of Engineers (USACE) indicate that adjacent to the site, the channel is maintained at a width of approximately 600 feet and to a maximum depth of approximately 40 to 50 feet below the Columbia River datum. The Columbia River datum is 1.78 feet below the City of Portland datum that was used as a control for the site topographic survey. An additional 500-foot-wide embayment exists along the southern portion of the McCormick & Baxter property. River depths in the embayment range from +10 to -25 feet (City of Portland datum) northwest and southeast of the creosote dock shown on Figure 2-2. USACE maps indicate that steep slopes to the dredged navigational channel occur along a line approximately 100 to 200 feet southwest from the end of the creosote dock.

The elevation of the 100-year flood plain along this reach of the Willamette River is 28 feet NGVD (National Geodetic Vertical Datum 1929), and the elevation of the 500-year flood plain is 32 feet NGVD. The NGVD and the City of Portland datum are approximately equal at the site. A 100-year flood would rise up the bank to within a few feet of the terrace. A storm event of this magnitude occurred in February 1996. A 500-year flood would encroach onto the southeastern portion of the site, flooding most of the former untreated wood storage areas southeast of the tank farm and creosote tank.

2.1.2 Geology and Hydrology

The McCormick & Baxter site is located in an area of sand fill adjacent to the Willamette River. Three hydrostratigraphic units are present at the site: the shallow, intermediate, and deep aquifer zones, which are interconnected to varying degrees depending on the location within the site.

The shallow, unconfined, sand-fill aquifer is present across the entire site and ranges in thickness from about 5 feet to greater than 30 feet. Depth of groundwater ranges from approximately 20 to 25 feet below ground surface (BGS). The base of the shallow aquifer is defined by a silt aquitard that ranges in thickness from 0 feet to greater than 100 feet. The silt aquitard is thickest near the central portion of the site (i.e., in the TFA) and thins toward the Willamette River. At the Willamette River, the silt aquitard is truncated and a thick sequence of poorly-graded sands extends from ground surface to at least 80 feet BGS. In this area, the aquifer zones are hydraulically connected and form a single, continuous, unconfined aquifer near the river boundary. Depth intervals along the river are referred to as shallow, intermediate, and deep zones of a single aquifer that are separated landward into distinct aquifers.

The intermediate aquifer is composed of fine- to medium-grained alluvial sand and is present below the silt aquitard. The intermediate aquifer varies in thickness from 0 feet to greater than 50 feet BGS. In the central process area, the intermediate aquifer is approximately 12 feet thick and is hydraulically separated from the shallow aquifer. In the TFA, the silt aquitard is greater than 100 feet thick and no intermediate aquifer is present. In other portions of the site, the intermediate zone is separated from the shallow zone by a thin silt aquitard and the intermediate zone is up to 50 feet or more in thickness. In these areas, the intermediate and deep zones are not separated by a continuous confining layer and apparently are in hydraulic connection.

The deep aquifer zone is present in all portions of the site. As previously discussed, the deep zone is in alluvial sands and is directly connected with the intermediate and shallow zones along the river margin. Near the center of the site, the deep zone is separated from the shallow zone by more than 100 feet of low-permeability silt. Near the bluff, the deep aquifer is composed of gravel and sands of the Troutdale Formation and Catastrophic Flood Deposits.

Shallow groundwater gradients generally exist from the bluff toward the river. Intermediate and deep zone groundwater surface elevations and gradients have been inferred to flow toward the river in these zones.

The City of Portland supplies drinking water to residential areas in north Portland, including the site. The source of this drinking water is the Bull Run Reservoir located approximately 40 miles east of Portland. This water supply is supplemented by a well field in East Multnomah County (approximately 10 miles east of the site) that uses deep aquifers in the Troutdale Formation. The only current use of groundwater in the vicinity of the site is by the University of Portland, which operates a supply well for irrigation. This supply well is completed in the deep aquifer, which has not been affected by the site.

2.1.3 Surface Water

The Willamette River is the only surface water body at the site. Near the site, the river flows at a rate ranging from 8,300 cubic feet per second (cfs) in summer to 73,000 cfs in winter and is about 1,500 feet wide. The Willamette River is a major river that flows through Portland and joins the Columbia River approximately 7 miles northwest of the site. The Willamette River is not used as a drinking water source downstream of the site.

Four outfalls (001 through 004, see Figure 2-1) are located on the McCormick & Baxter property; three are storm water outfalls (002, 003, and 004). As stated in Section 2.1, following shutdown of the McCormick & Baxter facility, earthen berms were placed around storm water collection sumps to minimize off-site discharge through these outfalls. Currently, storm water at the site infiltrates into the subsurface. Groundwater treated in the on-site pilot treatment system is currently discharged to the river through Outfall 002.

2.1.4 Climate and Meteorology

The temperature in the Portland area is generally mild with little precipitation during summer and spring. Winter is generally characterized by mild temperatures, cloudy skies, and frequent rain. Monthly average temperatures range from approximately 41°F in winter to approximately 70°F in summer. Daily minimum temperatures in January average 32°F; daily maximum temperatures in July average 79°F. Average annual precipitation for Portland is 37.6 inches, with more than 76 percent of this falling between October and March. Monthly average relative humidity ranges from 65 to 84 percent.

Winds measured at the site average 4.7 miles per hour (mph). Monthly average wind speeds measured at the site were relatively constant, varying from 3 to 6 mph, but wind speeds were generally higher in the summer months than in the fall and winter.

Wind directions measured at the site were generally aligned with the Willamette River Valley. The predominant wind direction throughout much of the year was from the north-northwest. During the late fall and winter, however, winds shifted so that the wind direction was generally from the southeast. This same pattern is reflected in the Portland Airport data, although the directions are shifted slightly to reflect the differing orientations of the Columbia and Willamette river valleys.

2.1.5 Land Use

Land use at the site has been industrial since the 1940s; it has been projected to continue as industrial, or perhaps change to recreational, in the future. Development of a residential area is proposed at the Riedel property to the east, and development of a park is proposed at the Willamette Cove property to the west. Railroad rights-of-way are established on two sides of the site, and it is anticipated that the area on top of the bluff will remain residential.

2.1.6 Rare and Endangered Species

The McCormick & Baxter property is a highly developed industrial area with little terrestrial wildlife habitat; however, numerous benthic (sediment-dwelling), aquatic, and amphibian species have been observed at the site. The only federally endangered species observed at the site is the peregrine falcon *(Falco peregrinus)*.

2.2 Site Regulatory History

In August 1983, McCormick & Baxter performed a preliminary site investigation (AquaResources 1983) and notified DEQ of possible off-site releases near a former waste disposal area. Subsequently, CH2M Hill was retained by McCormick & Baxter to perform a site investigation, which was completed in 1985. The investigation report concluded that soil and groundwater contamination existed at the site, but that no emergency actions were necessary to protect off-site populations (CH2M Hill 1985, 1987).

On November 24, 1987, a stipulation and final order was signed by McCormick & Baxter and DEQ, requiring McCormick & Baxter to perform a number of RA activities. Not all of these requirements were completed by the time the facility was closed on October 10, 1991. DEQ conducted a RI/FS from September 1990 to September 1992 (PTI 1992a, b).

DEQ's notice of a proposed RA for the site was published in the *Secretary of State's Bulletin* on January 1, 1993, in *The Oregonian* on January 4, 1993, and in *Between the Rivers* on March 1, 1993. Summaries of the proposed cleanup plan were mailed to the approximately 370 persons on the project mailing list. Copies of the RI and FS were available for review at the St. John's Library and the North Portland Neighborhood office. The public comment period began on January 1, 1993, and ended on March 8, 1993, after being extended one month at the request of a citizen. A public comment meeting was held on February 2, 1993, but no verbal testimony was received. DEQ provided written responses to comments received following completion of the public comment period.

DEQ elected not to finalize the proposed RA at the McCormick & Baxter site in 1993 due to the pending addition of the site to the National Priorities List (NPL) by the EPA. DEQ instead began to implement a number of interim remedial actions (IRAs), which were elements of the 1993 DEQ proposed plan, while awaiting a final decision from EPA on inclusion of the McCormick & Baxter site on the NPL. EPA added the site to the NPL on June 1, 1994.

Since completion of the RI/FS in 1992, DEQ has conducted several IRAs and additional site characterization. Based on implementation and/or completion of the IRAs, collection of additional site data since the 1992 FS, and experience gained at other wood-treating sites, DEQ chose to revise the 1992 FS to incorporate new data and updated remedial alternatives. The Revised FS (PTI 1995) describes updated RA alternatives for the McCormick & Baxter site and incorporates IRAs conducted since the 1992 FS.

The Proposed Plan describing DEQ's and EPA's preferred remedy was issued on October 30, 1995. The public comment period began on November 6, 1995, and ended on January 15, 1996. A public meeting was held on November 28, 1995. After considering the comments received during the public comment period, DEQ and EPA issued the Record of Decision specifying the selected remedy in March 1996. DEQ conducted public meetings on April 23 and May 29, 1996, to discuss the ROD and the selected remedy.

After the ROD was signed, DEQ began performing the detailed design of the selected soil remedy and additional soil sampling was completed. Based on the data gathered during the sampling, DEQ determined that dioxin/furans contamination was more widespread than previously reported.

Accordingly, DEQ and EPA are working to amend the ROD. The major components of the proposed amendment to the selected remedy for contaminated soil include:

- Completion of demolition and off-site disposal or recycling of aboveground structures and debris, and of underground structures that interfere with soil excavation;

- Excavation, to a maximum depth of 4 feet, of contaminated soil that exceeds the action levels for arsenic, PCP, and CPAH established in the 1996 ROD. DEQ and EPA are not proposing to establish an action level for dioxin/furans because there is still insufficient data to evaluate the costs associated with dioxin/furans cleanup level alternatives;

- Off-site treatment of excavated soil that exceeds toxicity characteristic leaching procedure (TCLP) criteria for arsenic, chromium, and/or PCP established under the Resource Conservation and Recovery Act (RCRA);

- Off-site disposal of excavated soil at an RCRA-permitted hazardous waste disposal facility, following any required treatment, as described above;
- Placement of a clean soil cap over the entire site, followed by long-term monitoring and maintenance; and
- Institutional controls, such as deed restrictions, that would limit future land use at the site.

All other elements of the selected remedy set forth in the ROD are unchanged.

The Proposed Plan for ROD Amendment describing DEQ's and EPA's amended remedies (see above) was issued on October 1, 1997. The public comment period began on October 1, 1997, and ended on October 31, 1997. A public meeting was held on October 9, 1997. After considering the comments received during the public comment period, DEQ and EPA will issue the Amended ROD (anticipated for December 1997).

2.3 Site Configuration

The current configuration of the McCormick & Baxter site is shown in Figure 2-2. The McCormick & Baxter property is accessed via the partially-paved North Edgewater Street, which leads from Willamette Boulevard to the main gate in the northwest corner of the site. The driveway leading into the property and the parking lot are paved; the remainder of the property is unpaved, covered with gravel, or vegetated. An office building, a laboratory, and a former shop building (currently used to house the groundwater treatment plant) remain at the site. In addition, several process-related structures are still on site, including the foundations of demolished buildings, concrete retort sumps, concrete containment walls around the former location of the tank farm and creosote tank, and creosote dock. The entire site is fenced and warning signs are posted on the fence around the perimeter of the site. Areas that pose a potential physical hazard, such as the open concrete retort sumps, are surrounded by a chain-link fence.

The former shop building is currently used to house the groundwater treatment plant. Influent wastewater from total fluids extraction efforts, treatment plant effluent, and sludges from treatment plant operations are stored in tanks located outside of the water treatment plant building (see Figure 2-2). In addition, a nonaqueous phase liquid (NAPL) storage tank is located in the FWDA and a total fluids storage tank is located in TFA (see Figure 2-2). The sludge tank, NAPL storage tank (FWDA), and total fluids tank are located in lined and bermed secondary containment.

Utility service at the site includes water provided by the City of Portland to the office, laboratory, and plant buildings and several fire hydrants. Electrical service is provided by Portland General Electric Company to the main buildings, as well as security lights mounted on several overhead poles. Railroad tracks (approximately 7,500 linear feet), including a spur from the main BNRR line, cross the western portion of the site. Two pressurized sewer lines are located on the west side of the site adjacent to the BNRR tracks; one of the lines extends beneath the FWDA near the beach before crossing beneath the Willamette River. One combined sewer line is located on the east side of the site adjacent to the Riedel property. Utilities are discussed further in Section 3.

2.4 Source Areas

Based on documented historic site operations, three main contaminant source areas exist at the site (Figure 2-1): the FWDA, the central process area (CPA), and the TFA. These main source areas, as well as other areas of contamination, are discussed in the following sections.

2.4.1 Former Waste Disposal Area

The FWDA is located at the western corner of the site adjacent to the Willamette River (see Figure 2-1). This area was characterized by a large depression where waste oils, retort sludges, and wastewater were disposed for a period of several years. Currently, the area is relatively flat with small depressions that occasionally hold ponded water. Based on historical aerial photographs, this former disposal area could have been as large as 0.4 acres. Borings and monitoring wells completed in the unsaturated and saturated zones beneath the FWDA are contaminated with light nonaqueous-phase liquid (LNAPL) and dense nonaqueous-phase liquid (DNAPL).

2.4.2 Central Process Area

The CPA comprises the retorts, PCP mixing shed, and the cellon wash area (see Figure 2-1). Most of these structures were demolished during tank demolition activities. A brief description of each source is presented below.

- Retorts 1 and 2: These retorts were removed and the underlying sumps were cleaned during tank demolition activities in 1994. Monitoring well boreholes installed at both ends of the former retorts indicate LNAPL and DNAPL contamination to depths of 65 feet BGS. The

concrete footings for the retorts still remain and several are stained light green as a result of ACZA contamination.

- Retort 3: The retort and sump contained arsenical sludges, which were removed during demolition efforts.

- Cellon and PCP Retort 4: The sumps contained oily sludge residue, which was removed during tank demolition efforts. The areas surrounding the retort doors and beneath sumps and tanks are expected to contain substantial PCP and oils.

- PCP Crystals (PCP Blowdown and Mixing) Area: Soil adjacent to the cellon blow-off valve contained up to 5 feet of PCP crystals (19 percent PCP). During the 1994 removal action, approximately 124 tons of soil were removed from this area and transported to a hazardous waste treatment and disposal facility for disposal. PCP crystal-contaminated soil is still visually evident in this area.

- Cellon Wash Area: The area between the retorts and the laboratory was reportedly used to wash PCP crystals from treated logs.

- Settler and Evaporator: The settler and evaporator were located at the southwest end of the former boiler room and contained substantial amounts of sludge. The sludge and settler were removed during tank demolition efforts.

- Retort Spur Lines: The retort spur lines leading into the retorts are heavily stained with oily material.

- Underground Storage Tanks: Three underground diesel storage tanks were removed from the area in 1989. Some excavation of contaminated soil was performed.

2.4.3 Tank Farm Area

The TFA is located in the central portion of the site (see Figure 2-1). Source areas are summarized below.

- Main Tank Farm: The main tank farm is a primary source for a NAPL plume that extends into the sediments and causes NAPL seeps along the beach. Much of the NAPL seeped into the ground from inside the containment wall; unsaturated-zone soil beneath the footprint contain residual NAPL. Some areas beneath the footprint contain wood chips from 10 to 30 feet BGS (based on adjacent boreholes) that appear to restrict NAPL migration. The tanks inside the containment area were cleaned, removed, and recycled.

- Large Creosote Tank #4: This tank was cleaned, removed, and recycled during demolition activities. NAPL-contaminated soil are still evident between the tank and the containment wall.

- PCP Hopper (Agar Mix Shed): The shed behind (northeast of) the tank farm used for mixing PCP agar reportedly had major spills (greater than 5,000 gallons) onto the ground. The area is estimated at 1,000 square feet, with PCP contamination to depths of 15 feet BGS.

- Naphthalene Blocks Area: Crystalline naphthalene (93 percent) is present in 1-foot-thick blocks along the beach near the interceptor trench. The naphthalene blocks are covered by an estimated 2 to 10 feet of soil; volumes are presently unknown. The naphthalene block area was apparently named during installation of the interceptor trench along the shoreline. During excavation, significant NAPL and naphthalene contamination was observed and removed for subsequent storage on site in the Frac tanks. Naphthalene crystals and "blocks" or solid masses of pure naphthalene were observed in the sediment and along the river bank. During the field sampling effort, E & E's attempt to relocate and sample the naphthalene blocks was unsuccessful, because the river stage was higher than the interceptor trench. Based on its proximity to the river, this area will be remediated as part of the sediment remedy.

- Butt Tank #1: Butt Tank #1 was formerly located along the rail tracks; soil contains NAPL to 30 feet BGS. The tank was cleaned, removed, and recycled; however, NAPL was observed in the shallow aquifer.

- Butt Tank #2: Butt Tank #2 was formerly located adjacent to the back of the tank farm. The tank was cleaned, removed, and recycled; however, there is residual soil NAPL contamination to 15 feet BGS.

- Retort Spur Lines: The retort spur lines leading into the retorts are heavily stained with oily material.

- Southeast Waste Disposal Trench and Waste Trench Sidecast Area: The waste trench received overflow of oily wastes from the system pits and tank farm. The trench extended from the former wigwam burner to the southeast corner of the property (approximately 600 feet). Soil in this area contain CPAH, PCP, copper, arsenic, and oil and grease. NAPL is present in soil to depths of 10 to 33 feet BGS.

- Wigwam Burner: Soil within the footprint of the former wigwam burner contain PCP, creosote, copper, and arsenic. These contaminants were identified in the Wigwam Burner based on data presented in PTI's RI report (1992a) and Revised FS (1995). However, since the contaminant concentrations did not exceed the site Action Levels, this area was not specifically included in the RD data acquisition activities.

2.4.4 Monitoring Well MW-1

A viscous LNAPL found in MW-1 located near the entrance to the property (see Figure 2-1) contains 26-percent total aliphatic hydrocarbons. This NAPL has been characterized as bunker-range hydrocarbons. The source of this NAPL has not been directly attributed to site-related releases and is still unknown. A possible source for the NAPL contamination at MW-1 may be the abandoned fuel pipeline (owned or operated by Chevron) that parallels the UPRR tracks and runs along the northeastern edge of the site. The 8-inch pipe was used to supply diesel fuel to the Port of Portland Terminal 4, located approximately 2 miles down river from the site. According to Chevron personnel, the line was shut down and flushed out in about 1978. It is not anticipated that the fuel line is a factor in the fate and transport of groundwater and NAPL

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due to its proximity at the site. However, this fuel line is a possible source of NAPL contamination at MW-1.

2.5 Previous Soil Investigations

DEQ conducted surface and subsurface soil investigations at the site during the RI (September 1990 to March 1992) and during the supplemental site characterization and removal action (April and August 1994). In addition, an extensive set of subsurface samples was collected prior to the RI field investigation. Previous RI and supplemental site characterization surface and subsurface sampling locations are illustrated on Figures 2-4 and 2-5, respectively. Contaminants detected on the site are chemicals used in the wood preserving industry, including CPAH, about 85 percent of which is composed of creosote constituents, PCP, arsenic, chromium, copper, and zinc. Dioxin/furans, which are trace constituents of PCP, were also found in soil, groundwater, and sediment at the site. All contaminants were found in concentrations that exceed background levels by substantial margins; maximum values of CPAH, PCP, dioxin/furans, and arsenic exceeded background levels by factors of more than 1,000. Many contaminants are considered human carcinogens and many are also toxicants. Copper and zinc, while relatively nontoxic to humans, are toxic to aquatic organisms.

In August 1994, DEQ conducted a removal action in three areas with the highest contaminant concentrations: the arsenic-chromium-copper (ACC) area in the southeastern part of the property; the PCP soil area in the western corner of the property; and the PCP crystals area near the PCP mixing shed in the CPA. Post-removal sampling indicated a significant reduction in soil contaminant concentrations in these areas.

Sampling activities conducted by PTI prior to and following the removal action in 1994 indicated that surface soil contaminated above action levels still remains in the following areas: log storage, pole dryer, east yard, stacker shed, naphthalene block and creosote dock, beneath the retort sumps in the CPA, FWDA, TFA creosote tank, the southeast waste disposal trench, the ACC soil, and the southern corner of the site, as shown in Figure 2-4. In addition, PTI sampling data indicates subsurface soil contaminated above action levels still remains in the following areas: napthalene block and creosote dock, CPA, FWDA, TFA, creosote tank, the southeast waste disposal trench and the pole peeler as shown in Figure 2-5. It should be noted that E & E identified the creosote tank area separately from the TFA because during RA the two areas likely will be remediated separately. PTI identified most of the contaminated areas using field-screening analysis, including thin layer chromatography and x-ray fluorescence analyses. The contours illustrating contaminant concentrations in surface soil (see Figure 2-4) and subsurface

soil (see Figure 2-5) were developed by PTI using field-screening data. Previous investigations also indicated that the highest soil contaminant concentrations occur primarily in source areas such as the TFA, CPA, southeast waste disposal trench area, and FWDA, and in portions of the treated log storage area in the north portion of the site. PCP and CPAH contamination in the FWDA and TFA has been identified in the vadose and saturated zones to depths up to 80 feet BGS, and has migrated horizontally into sediment in the Willamette River. Also in these source areas, miscellaneous wastes, such as creosote tar balls (i.e., hardened materials resembling asphalt) and naphthalene blocks located southeast of the CPA, still remain on site from former McCormick & Baxter operations.

In the Revised FS (PTI 1995) identified the areas requiring biological treatment as the southeast waste disposal trench, the TFA, the creosote tank area, the FWDA, parts of the CPA, and the area near the creosote dock, herein referred to as the major source areas. The Revised FS also stated that subsurface soil in portions of the major source areas is highly contaminated with CPAH and PCP. Other areas with shallow soil contamination above action levels include the pole storage, pole dryer, east yard, stacker shed, pole peeler, ACC soil area, the southern corner area, and the railroad tie storage area at the FWDA (herein referred to as Area A). In addition, surface soil (up to a depth of approximately 6 inches BGS) across most of the McCormick & Baxter property exhibits contaminant concentrations exceeding background levels.

Although other contaminants (primarily chromium, copper, zinc, and dioxin/furans) are present in soil above background or risk-based concentrations, these contaminants coincide with other contaminants of concern. In source areas such as the CPA and the TFA, surface soil is noticeably discolored. In most other areas of contamination, the ground surface is vegetated, semi-vegetated, or covered with gravel, and contamination is not visually evident.

During the RI, DEQ's contractor, PTI, collected 15 off-site surface soil samples and analyzed them for CPAH, PCP, and metals. Off-site soil sampling locations included a reference location at the University of Portland, residential areas along the bluff, locations midway between the site and the top of the residential bluff, areas along North Edgewater Street (the access road to the McCormick & Baxter property), and locations on adjacent properties along the river (see Figure 2-6 from the RI Report, Volume I of IV [PTI 1992a]). Generally, the concentrations of site-related contaminants in off-site surface soil in residential areas near the site are consistent with typical residential soil concentrations in the Portland area; however, unpaved portions of North Edgewater Street leading to the site exhibited somewhat elevated concentrations of CPAH and metals. These elevated concentrations are attributed to deposition by vehicles leaving the site. Air modeling of dust emissions from the site conducted by DEQ did

not predict contaminant concentrations of concern for airborne particulate in the residential areas surrounding the site, even under worst-case scenarios. The lack of contamination in surface soil samples from residential areas on the bluff is consistent with the model's predictions.

2.6 Phase I Demolition

As described in the *Final Remedial Design Work Plan* (E & E 1996a), Phase I demolition activities were expedited to facilitate the soil RD/RA process. Phase I demolition activities were defined as demolition and site clean-up of all aboveground structures, objects, and debris.

Phase I demolition was completed on May 29, 1997, by E & E's subcontractor, Allied Demolition. Allied Demolition removed all surface debris (wood, metal, tires, etc.) and demolished all buildings except the laboratory, office, and shop buildings. All wood except ACZA-treated wood and some unclassified wood was decontaminated and transported off site to Hillsboro Landfill for disposal as non-hazardous solid waste. The small portion of wood debris that was not removed from the site (approximately 410 cubic yards) was stockpiled on site. Previous analysis of the ACZA wood demonstrated that this type of treated wood fails TCLP analysis for arsenic (resulting in a RCRA hazardous waste classification when disposed). This stockpile will be addressed during the soil RA.

3

3 Summary of Field Activities

A detailed description of RD data collection field activities is presented in the following sections. Sections 3.1 through 3.3 describe field activities conducted according to the DEQ-approved *Sampling and Quality Assurance Plan* (SQAP, E & E 1996b). Sections 3.4 and 3.5 describe subsequent sampling events which were conducted by E & E to supplement those activities described in the SQAP to further define the nature and extent of contamination and refine the limits of the RA areas. Section 3.4 details the activities conducted in accordance with E & E's *Dioxin Sampling Plan Addendum* (E & E 1997b), and Section 3.5 describes sampling activities conducted according to the *Remedial Design Supplemental Sampling Plan* (E & E 1997a).

3.1 Site Survey

Site surveying activities were conducted by E & E's subcontractor David Evans and Associates, Inc. (DEA), to accurately locate site features and RD sampling locations. DEA is an Oregon-licensed surveyor. Surveying was conducted in two phases. The first phase established three permanent benchmarks and a 200-foot by 200-foot sample reference grid, and documented all site features, including buildings, fences, railroad tracks, fire hydrants, pilings, and monitoring wells. The second phase of surveying documented exact surface and subsurface sample locations and the results of the utility location activities described in Section 3.2. All survey activities were referenced to the Oregon State Plane Coordinates and the NGVD.

The results of the soil and utility location surveys were utilized to generate the RD sample location maps and RD contaminant concentrations maps contained in this data summary report.

During the field activities, E & E noted that the location of the eastern site fence may not represent the McCormick and Baxter property line. In addition, UPRR modified the location of their track, as a result of the 1996 landslide, that is located along the site's northern fence. This modification could have influenced the location of the site's property line. Based on these concerns, DEQ authorized E & E and DEA to conduct a legal property boundary survey. The

results of this boundary survey are presented in Figure 3-1. The survey located the right-of-way for N. Van Houten Place that exists between the McCormick and Baxter Property and the former Riedel property. The right-of-way is 40 feet wide and apparently owned by the City of Portland. Currently, the site fence is located on the east side of the right-of-way and denotes the property line of the former Riedel property. At one time, the road was used for access to a large dock built on pilings in the river. E & E has assumed that the site cap will cover this right-of way since soil samples in this area exceeded the site cleanup goals (See Figures 5-1 and 5-2). The presence of the right-of-way should be re-evaluated during discussions regarding future property usage and design of the final site cap.

A bathymetric survey of the Willamette River in the immediate vicinity of the site also was conducted during the first phase of surveying to provide baseline topographic sediment data. The results of the bathymetric survey were presented in the *Sediment Information Summary Report* (E & E 1997d) and was provided under separate cover.

3.2 Utility Locate

E & E procured LineFinders, Inc., a utility locate subcontractor, to assist with the field activities. The utility locate method consisted of connecting a tone generator to portions of exposed metal piping and locating the tone using a hand-held detector. The tone generator sends a signal through the metal piping at a specific frequency. The detector is swept across the ground surface until it receives the specific frequency, then it emits a tone to the operator.

The location of the underground piping was marked with paint or pin flags, and the marked utilities were surveyed by the survey subcontractor. The identified utilities are presented in Figure 3-1. E & E and the subcontractor were able to locate the following utilities: electrical, telephone, city water piping, well water piping, natural gas piping, and drainage/outfall piping.

3.3 Soil Sampling: December 1996

Surface and subsurface soil sampling was conducted in accordance with the SQAP (E & E 1996a) during December 1996. The primary objectives of the RD soil sampling program were to collect sufficient information to refine the nature and estimated extent of contaminated soil; determine the quantity and location of soil that will require off-site treatment/disposal; obtain information regarding the treatability of the organic- and inorganic-contaminated soil; determine which areas of the site need to be capped; determine whether off-site soil is contaminated above

cleanup goals as a result of former site activities; and evaluate field screening test kits for potential use in site remediation.

Based on contaminant contours generated by PTI and presented in the RI (PTI 1992a), E & E initially divided the site into 14 areas of contamination. The major source areas included the FWDA, southeast waste disposal trench, CPA, TFA, creosote tank area, and creosote dock area. The other source areas included Area A and the log storage, pole dryer, east yard, stacker shed, pole peeler, ACC soils, and southern corner areas. In addition, E & E identified other non-

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source areas for further investigation, such as areas that may require capping, the site perimeter, and off-site locations, including the area along North Edgewater Street and the east gate area.

As previously discussed, PTI identified most of the contaminated areas using field-screening analysis, including thin layer chromatography and x-ray fluorescence analyses. Based on comparisons with a small number of confirmation laboratory data, PTI's field screening data likely overestimated the areas of contamination. Therefore, as part of the RD investigation, E & E conducted surface and subsurface soil sampling within the contaminant concentration contours generated by PTI to more accurately define the nature and extent of contamination in the source areas.

It should be noted that targeted sampling areas for each source area were based on contaminant contours presented in PTI's RI Report (1992a) and Revised FS (1995). The contours and grid locations are presented on PTI's site maps developed using AutoCAD™. E & E utilized PTI's AutoCAD™ map files as the basis for locating each new sample location and to determine which site features would be included in the site survey. DEA's review of the AutoCAD™ files noted several inconsistencies and errors. For example, the 200-foot reference grid actually measured 202 feet, monitoring wells that measured 14 feet apart in the field were shown as 60 feet apart on the maps, and sample locations shown outside of site buildings were actually located within the buildings. Since E & E utilized PTI's maps to locate the RD soil sample locations, E & E had to modify certain sample locations in the field. It also should be noted that due to the amount of surface water ponded at the site many of the planned sample locations had to be moved.

Soil sampling information obtained from the December 1996 field sampling event is presented by source area in Table 3-1. Surface and subsurface sampling locations are presented in Figures 3-2 and 3-3, respectively. In addition, Table 3-1 and Figures 3-2 and 3-3 include information from the supplemental soil sampling event discussed in Section 3.5 below. All soil sample locations were identified by a unique alphanumeric descriptor, whereby the first three letters represent an abbreviation of the source area name, followed by a unique number for every sampling location.

3.3.1 Surface Soil Sampling

A total of 210 surface soil samples were collected from 169 locations during the December 1996 sampling event as shown on Figure 3-2. Extensive surface soil sampling was conducted in the eight major source areas and in the six other source areas. In addition, surface soil samples were collected in non-source areas on the site (i.e., areas that may require capping),

along the northeast perimeter of the site, and off the site. One non-source soil sampling location was identified and sampled within each 200-foot grid sector for which there was no previous laboratory-analyzed data, nine perimeter samples were collected along the northeast perimeter of the site, and five off-site soil samples were collected, as illustrated on Figure 3-2. No surface soil samples were collected in the TFA and creosote tank area because these were major source areas that were assumed to contain significant surface contamination above the action levels.

Surface soil samples were collected with a dedicated stainless-steel spoon and placed into a disposable aluminum pan for homogenization. At the majority of the surface soil sample locations, non-native compacted gravel was encountered (generally 4 to 6 inches BGS) and was removed so that finer-grained native soil could be collected from either a 6-inch or 1-foot depth. For samples collected within other source areas and non-source areas of the site, the gravel was loosened using a pick ax or shovel; and for samples collected within major source area, the gravel was removed using a decontaminated backhoe bucket. A labeled flag or stake was then placed at the sample location for surveying.

During the RD field activities the surface soil samples extended to a maximum depth of 1 foot BGS. Typically, the first 4 to 6 inches consisted of subangular to angular crushed basalt fill. The basalt fill was grey to black in color and very dense and hard. The basalt fill averaged 1 inch in diameter. The basalt fill was present over nearly the entire site, especially in areas in which heavy traffic load was historically present. In areas where little or no traffic was present (e.g., beneath log storage piles), the basalt commonly was absent.

All surface soils were analyzed for CPAH, PCP, and arsenic, with the exception of surface soils collected within the footprints of the TFA and creosote tanks. Surface soils in this area were visually stained, and previous soil sampling by PTI documented that these two areas have contamination above the action levels. Therefore, additional CPAH, PCP, and arsenic data were not needed for these two areas.

The Proposed Plan for ROD Amendment (EPA/DEQ 1997) no longer addresses biological treatment as a selected remedy for site soil RD. Therefore, biological treatment data and information has been removed from the body of this document and placed into Appendix C.

3.3.2 Subsurface Soil Sampling

A total of 260 subsurface soil samples were collected from 134 locations during the December 1996 sampling event. All subsurface samples were analyzed for CPAH, PCP, and arsenic. Actual subsurface sampling locations are illustrated on Figure 3-3. Extensive subsurface sampling at 4 and 10 feet BGS was conducted in the major source areas, which are areas

that PTI identified as requiring biological treatment. Limited subsurface sampling at 4 feet BGS was conducted in the other source areas, which are areas that PTI identified as having shallow soil contamination.

Subsurface soil samples from 4- and 10-foot depths were collected from a backhoe bucket with a dedicated stainless-steel spoon and placed into a disposable aluminum pan for homogenization. The backhoe bucket was decontaminated with a pressure washer between sampling locations. A labeled flag or stake was then placed at the sample location for surveying.

Beneath the basalt fill located at approximately 4 to 6 inches BGS, a silty sand fill was present across the entire site and was typically encountered to the maximum trenching depth of 10 feet. The sand was commonly tan-brown to grey-black in color. Closer to the southeast waste disposal trench area, the silty sand graded to a tan-yellow, fine- to medium-coarse sand. Depth to groundwater ranges from approximately 20 to 25 feet BGS, and groundwater was not encountered during any of the trenching activities. Due to seasonal precipitation, the subsurface soil was typically moist. In certain source area locations (FWDA, creosote tank), the soil was visibly contaminated with pure product diesel and creosote mixed with water. In addition, sloughing occurred at one sample location in the pole peeler area (PPA272), three sample locations in the southeast waste disposal trench area (SEW285, SEW288, and SEW300), and one sample location in the creosote dock area (CDA352).

Biological Treatment Sampling

A subset (approximately 25 percent) of the source area samples were analyzed for biological treatment parameters to enable soil treatment vendors to identify appropriate biological treatment technologies. Biological treatment parameters included copper, nitrate/ nitrite, total phosphorous, total kjeldahl nitrogen, ammonia nitrogen, total organic carbon, natural biological activity, cation exchange capacity, and pH. Based on the Proposed Plan for ROD Amendment (EPA/DEQ 1997), biological treatment is no longer a selected remedy. Biological treatment data is presented in Appendix C.

Dioxin

During the December 1996 sampling event, E & E also analyzed 20 surface soil samples for dioxin/furans. Two samples were collected from each of the major source areas (FWDA, southeast waste disposal trench, CPA, TFA, creosote tank area, and creosote dock area). In addition, one sample was collected from each of the other source areas (log storage, pole dryer,

east yard, stacker shed, pole peeler, ACC soils, and southern corner areas and Area A). These grab dioxin/furans sampling locations are listed in Table 3-2 and shown on Figure 3-4.

Field Screening

In addition to the laboratory-analyzed data collected at the site, E & E utilized Ohmicron Environmental Diagnostics, Inc. Rapid Assay test kits for analyses of CPAH and PCP to determine whether test kits can be utilized during the RA to facilitate excavation and/or treatment of contaminated soil. Approximately 15 percent of the surface soil sampling locations in the major source areas were analyzed for CPAH and PCP using the test kits (see Table 3-1).

3.4 Additional Dioxin Sampling: May 1997

The results of the December 1996 soil sampling indicated that dioxin/furans were found in, or directly adjacent to, areas that were slated for further remediation because of other contaminants as described in the *Draft Remedial Design Data Summary Report* (E & E 1997c). As such, supplemental dioxin/furans sampling was proposed to further characterize the nature and extent of dioxin/furans contamination. In addition, the information obtained from additional dioxin/furans sampling was used to reevaluate the efficacy of the selected soil remedy (i.e., on-site biological treatment and/or stabilization), based on the nature and extent of the dioxin/furans contamination.

The results of the December 1996 soil sampling also indicated that contaminant concentrations exceed the cleanup goals virtually across the entire site. However, there were data gaps near the site boundaries, particularly for dioxin/furans. Supplemental sampling was conducted to help address those data gaps.

To achieve these objectives, E & E used archived samples. All sampling and analysis was conducted in accordance with the *Dioxin Sampling Plan Addendum* (E & E 1997b). E & E combined archived discrete grab samples into composite samples for designated areas. A total of 26 composited samples were analyzed for dioxin/furans. Table 3-2 contains the sample collection/composite summary and Figure 3-4 indicates sample locations used for compositing. Archived soil samples to be composited were stored at Sound Analytical Laboratory in Tacoma, Washington, E & E's subcontract laboratory for sample analysis. E & E personnel traveled to the laboratory and composited those samples listed in Table 3-2. The aliquots were homogenized in stainless-steel pans and placed in appropriately labeled sample containers.

3.5 Supplemental Soil Sampling: September-October 1997

Evaluation of the RD data presented in the *Draft Remedial Design Data Summary Report* (E & E 1997c) identified certain areas of the site that required additional investigation and proposed RA areas that required supplementary analysis. The supplemental soil sampling was conducted to refine the estimated limits of the RA areas and to characterize suspect areas of the site that were identified during Phase I demolition activities. Locations that were investigated during this supplemental soil sampling event are identified below:

- Soil beneath the concrete slabs in the central processing, stacker shed, tank farm, creosote tank, butt tank 1 near the southeast waste disposal, and pole peeler areas.
- Soil along the river bank in the FWDA. During Phase I demolition activities, various treated and untreated logs and 55-gallon drums were found beneath the brush in this area.
- Soil near MW-1, which is located in the northeast corner of the site. Viscous NAPL found in MW-1 has been characterized as bunker-range hydrocarbons, a contaminant not directly attributed to previous site activities. Since the subsurface soil in this area was never investigated, sampling was conducted to determine whether a source of the NAPL still exists in the unsaturated zone.
- Soil located downgradient of the FWDA on the river side of the railroad track. Samples were collected to determine whether soil remediation is required in this area.

A total of 45 soil samples were collected from 38 locations during the supplemental soil sampling event as shown on Figures 3-2 and 3-3. Each sample was analyzed for CPAH, PCP, and arsenic, and aliquots of each sample were archived for potential dioxin/furans and TCLP analyses. Soil below concrete slabs at locations CPA 418-419, 421-427, and 424-428 was sampled through openings in the concrete made with a decontaminated hydraulic hammer. All other soil samples collected below concrete features were obtained by excavating with a decontaminated backhoe immediately adjacent to the structure. The backhoe also was utilized to collect the subsurface samples in the FWDA and MW-1 areas. All handling and analyses of the samples were conducted in accordance with the SQAP (E & E 1996b). Soil samples were collected using a decontaminated stainless steel sample spoon. Large pieces of gravel were removed prior to placement of the soil into an appropriate sample container. Sample depths and locations were documented in field log books, and a labeled stake was then placed at the sample location for subsequent surveying. Where possible, positional measurements were made with a tape measure with reference to fixed site features such as concrete structures or monitoring

wells. The supplemental sampling location stakes were surveyed on October 28, 1997 by E & E personnel. Thereafter, all supplemental sampling locations were added to the site database and AutoCAD™ map using north and east state plane coordinates.

Toxic Characteristic Leaching Procedure

To further characterize the soil for treatment and/or disposal, supplemental sampling also included toxic characteristic leaching procedure (TCLP) analysis of selected archived samples. TCLP data for arsenic, chromium, and PCP are necessary to determine proper hazardous waste classifications for off-site disposal options. All contaminated soil that is excavated from the site for treatment and/or disposal is classified as a listed waste (F032, F034, and F035) for wood-treating wastes that contained chlorophenolic creosote; and arsenic or chromium formulations, respectively. In addition, if the soil exceeds TCLP criteria for arsenic, chromium, and/or PCP, it also would be classified as a characteristic hazardous waste (e.g., D004, D007, and/or D037). As such, E & E submitted 11 existing composite samples for TCLP analyses. Table 4-19 summarizes the sample number, sample locations, and TCLP analyses performed for each sample submitted.

4

4 Data Quality and Analytical Results

This section briefly presents the quality assurance/quality control (QA/QC) and analytical and field screening data for the soil sampling at the McCormick & Baxter site. Except for dioxin/furans, all fixed laboratory analyses were conducted by Sound Analytical Services, Inc., in Tacoma, Washington. Dioxin/furans analyses were conducted by Triangle Laboratories, Inc., in Durham, North Carolina. Field screening analyses were conducted on site by an E & E chemist using Ohmicron Environmental Diagnostics, Inc. PCP and CPAH Rapid Assay test kits. Complete data summary tables are included in Appendix A, including duplicate analyses; E & E QA reports are included in Appendix B; dioxin/furans data validation memos are included in Appendix B.

4.1 Quality Assurance/Quality Control, December 1996 Data

QA objectives for the analytical data generated during the RD soil sampling event was monitored by evaluation of the field and laboratory QC analyses for analytical samples, and by field QC analyses and laboratory confirmation analyses for field screening samples.

4.1.1 Analytical Samples

The quality of analytical data generated during the RD soil investigation at the site was monitored by evaluation of field and laboratory QC analyses. Analytical data packages are provided in Appendix A. A summary of QA and QC data is presented below.

Blind Field Duplicate Samples

To provide an indication of overall sample variability, 41 blind field duplicates were collected and analyzed for arsenic, CPAH, and PCP; 1 blind duplicate was collected and analyzed for dioxin/furans; and 6 blind duplicate samples were collected and analyzed for biological parameters. Approximately 75 percent of the relative percent differences (RPDs) for detected compounds were 25 percent or below, and many of the remaining results were detected

close to the quantitation limit, where greater variation in results is expected. Only a small amount of the data showed any significant disagreement between duplicate samples. This disagreement did not affect entire areas; only a limited number of samples was impacted. The maximum concentration from duplicate pairs was selected for use in this data summary report for generation of remedial action areas and removal volumes to ensure that areas exceeding cleanup and action levels are not being underestimated. Therefore, the effects of variability due to field sampling procedures are expected to be minimal.

Data Quality Control

Ten percent of the arsenic, CPAH, and PCP data was evaluated for precision, accuracy, and completeness. Data validation was conducted in accordance with *USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review* (EPA/540/R-94-012) and *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA/540/R-94-013). The QA memoranda for the 10 percent data set are provided as Appendix B.

4.1.2 Field Screening Samples

The quality of field screening data generated during the RD soil investigation at the site were monitored by evaluation of field and laboratory confirmation analyses.

Blind Field Duplicates

To provide an indication of overall field variability, eight blind field duplicates were collected and submitted to the field laboratory for analyses. Results of the duplicate samples were generally comparable to the primary samples. Although individual results varied somewhat, all samples exceeding cleanup levels in primary samples also exceeded in the duplicates, which indicates that the results seem to be reliable enough for use in delineating RA areas.

Laboratory Confirmation Analyses

All of the field screening samples were submitted to the project laboratory for confirmation analyses. Linear regression analysis of confirmation data for CPAH revealed a correlation of $R^2 = 0.74$ between field screening and laboratory data sets. Regression analysis of confirmation data for PCP revealed a correlation of $R^2 = 0.79$ between field screening and laboratory data sets. The R^2 correlation is a statistical indication of how well the field and laboratory data are

correlated; $R^2 = 1$ indicates a perfect correlation while $R^2 = 0$ indicates no correlation. Correlations above 0.70 are considered reasonably good.

4.2 Quality Assurance/Quality Control, May 1997 Data

QA objectives for the analytical data generated during the soil investigation for dioxin/furans were monitored by evaluation of the field and laboratory QC analyses for analytical samples and field QC analyses and laboratory confirmation analyses for field screening samples. EPA performed the validation of the data associated with all 21 samples collected.

4.2.1 Analytical Samples

The quality of analytical data generated during the soil investigation for dioxin/furans were monitored by evaluation of field and laboratory QC analyses. Analytical data packages are provided in Appendix A and data validation memoranda are provided in Appendix B. A summary of QC and QC data is presented below.

Data Quality Control

All of the soil samples were analyzes in accordance with Method 8290 Revision 0 (September 1994) specifications. Data results, as qualified, were determined to be acceptable and, hence, can be used for all purposes (see Appendix B).

4.3 Quality Assurance/Quality Control, September 1997 Data

QA objectives for the analytical data generated during the soil investigation for CPAH, PCP, and arsenic were monitored by evaluation of the field and laboratory QC analyses for analytical samples and field QC analyses and laboratory confirmation analyses for field screening samples. E & E chemists performed the validation of the data associated with five samples.

4.3.1 Analytical Samples

The quality of analytical data generated during the soil investigation for CPAH, PCP, and arsenic was monitored by evaluation of field and laboratory QC analyses. Analytical data packages are provided in Appendix A. A summary of QC and QC data is presented below.

Blind Field Duplicate Samples

To provide an indication of overall sample variabilty, five blind field duplicates were collected and analyzed for arsenic, CPAH, and PCP. Approximately 65 percent of the RPDs for detected compounds were 25 percent or below, and many of the remaining results were detected close to the quantitation limit. Only one result (pentachlorophenol in MB068GB01) showed a significant disagreement (i.e., 49 milligrams per kilogram [mg/kg] in primary sample and 750 mg/kg in duplicate). The maximum concentration from duplicate pairs was selected for use in this data summary report for generation of RA areas and removal volumes to ensure that areas exceeding cleanup and action levels are not being underestimated. Therefore, the effects of variability due to field sampling procedures are expected to be minimal.

Data Quality Control

Based on the information provided by the analytical laboratory, the data are acceptable for use with the data qualifications stated in the validation memoranda (see Appendix B).

For arsenic, the overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document *Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan and Data Validation Procedures* (EPA/540/G-90/004) and, when applicable, the Office of Emergency and Remedial Response publication *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA/540/R-94/013).

For CPAH and PCP, the overall usefulness of the data is based on the criteria outlined in the OSWER Directive *Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures* (EPA/540/G-90/004), EPA SW-846 Method 8270, and, when applicable, the Office of Emergency and Remedial Response publication *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review* (EPA/540/R-94/013).

4.4 Analytical Results

Surface and subsurface soil sample locations are listed in Tables 3-1 and 3-2 (dioxin/furans only) and are graphically presented in Figure 3-2 (surface soil), Figure 3-3 (subsurface soil), and Figure 3-4 (dioxin/furans). A summary of analytical results is presented in Tables 4-1 through 4-19, as follows:

- Table 4-1: Field Screening Data
- Tables 4-2 through 4-17: Analytical Results by Area (No Dioxin/furans)
- Table 4-18: Dioxin/furans Data Summary
- Table 4-19: TCLP Data Summary

Concentrations for CPAH were calculated by summing the following seven carcinogenic PAH compounds: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

Data for dioxin/furans are presented in toxic equivalent concentrations (TEQs). To derive TEQs, the concentration of each dioxin or furan congener is multiplied by the relative toxicity of that congener compared to that of 2,3,7,8-tetrachlorodibenzo-*p*-dioxin. The adjusted concentrations are summed to derive the TEQ for that sample.

A subset of samples was analyzed by the TCLP for arsenic, chromium, and PCP to determine the correct RCRA waste classification(s) and to determine if off-site treatment before disposal is required.

In addition, a discussion of analytical results and contaminant concentration contour maps is presented in Section 5.

4.5 Field Screening Data

Forty-five sample locations were analyzed for PCP and CPAH using field screening analysis as well as being submitted for fixed laboratory analysis. The purpose of this study was to determine if field screening methods could be used effectively during remediation to facilitate excavation and confirmation sampling. Fixed laboratory analyses will be used for confirmation samples to certify attainment of cleanup goals.

As described in Section 4.1, PCP and CPAH field screening results appeared to correlate well with laboratory data ($R^2 = 0.79$ and 0.74, respectively). However, limitations were identified with accurate quantitation of high concentrations of CPAH that may potentially limit the usefulness of field screening during remediation. Due to a limited number of available test materials, samples with high concentrations were not diluted and reanalyzed when necessary; therefore, the results for a significant number of samples are known to be biased low. These samples are denoted with an *L*-qualifier in Table 4-1. As such, samples with CPAH concentrations above approximately 30 to 40 mg/kg were not quantified using the field screening method. This will be a serious consideration during RA activities since the action level for CPAH is 100

mg/kg. Out of the 45 locations analyzed with the field screening method, laboratory analysis showed five locations exceeding the action level, with concentrations ranging from 106.6 mg/kg to 398 mg/kg; the results of the field screening analyses for these five samples ranged from 23 mg/kg to 38 mg/kg.

Despite the limitations with the CPAH field screening results, there are several reasons for suggesting the method may still be useful during remediation. First, the PCP results appear to correlate better than the CPAH results, even at high concentrations. Although no laboratory results exceeded the action level for PCP (500 mg/kg) at any of the 45 locations, there were several significantly elevated concentrations. For example, project laboratory PCP concentrations of 390 mg/kg and 320 mg/kg were reported at location TFA248; the field screening results for these samples were 330 mg/kg and 320 mg/kg, respectively. Also, the field screening samples may simply have required more dilution and reanalysis to achieve more useful results.

In conclusion, a good correlation was achieved between field screening and laboratory data. Some limitations were identified for samples with high levels of CPAH and the lack of time and/or materials needed to perform required dilutions and reanalysis. Based on previous work performed by E & E, this method may still prove to be practical. Future field screening efforts will assume that high levels of contaminants (specifically CPAH) will be encountered. Therefore, the field chemists will dilute the samples before analysis. The dilution will provide more accurate results at higher concentration levels.

5

5 Nature and Extent of Contamination

The cleanup goals and scope of the RA are discussed, and the nature and extent of contamination is described in the following sections.

5.1 Soil Cleanup Goals and Scope of Remedial Action

The soil remedy identified in the Proposed Plan for ROD Amendment (EPA/DEQ 1997) includes:

- Completion of demolition and off-site disposal or recycling of above-ground structures and debris, and of underground structures that interfere with soil excavation;
- Excavation, to a maximum depth of 4 feet, of contaminated soil that exceeds the action levels for arsenic, CPAH, and PCP, established in the 1996 ROD. DEQ and EPA are not proposing to establish an action level for dioxin because insufficient data exist to evaluate the costs associated with dioxin cleanup level alternatives;
- Off-site treatment of excavated soil that exceeds TCLP criteria for arsenic, chromium, and/or PCP established under RCRA;
- Off-site disposal of excavated soil at a RCRA-permitted hazardous waste disposal facility, following any required treatment as described above;
- Placement of a clean soil cap over the entire site, followed by a long-term monitoring and maintenance; and
- Implementation of institutional controls, such as deed restrictions, that would limit future land use at the site.

In the major source areas, soil exceeding the site specific action levels (see Table 5-1) will be excavated to a minimum depth of 1 foot BGS and a maximum depth of 4 feet BGS. Areas that exhibit soil contaminant concentrations above soil cleanup goals (see Table 5-2), but below action levels, will be capped in place.

5.2 Nature and Extent of Contamination

Surface and subsurface soil samples were collected throughout the site to further define the extent of contamination. Except for surface soil locations within the footprints of the TFA and the creosote tank (see Section 3.3.1 for explanation), all samples were analyzed for CPAH, PCP, and arsenic; and a subset of the samples were analyzed for dioxin/furans. Sample locations that exceed site cleanup levels and action levels are discussed below for each area at surface and 4 feet BGS. Analytical data are presented for each area in Tables 4-1 through 4-19 and are graphically illustrated in Figures 5-1 through 5-6. Dioxin information is presented in Figure 5-7.

The 1996 ROD called for minimum soil excavation of 4 feet and a maximum excavation of 10 feet. *The Draft Remedial Design Data Summary Report* (E & E 1997c) presented subsurface soil analytical data for the 4- and 10-foot depth intervals. The Proposed Plan for ROD Amendment (EPA/DEQ 1997) limits soil excavation to 4 feet BGS as part of modifying the remedy to facilitate off-site disposal of soil. Therefore, this Revised Draft Data Summary Report does not discuss soil contamination at the 10-foot depth, but the analytical results from the December 1996 sampling event at the 10-foot depth are presented in the analytical data tables (see Section 4).

5.2.1 Surface Soil

Contaminant concentration contour maps for arsenic, CPAH, and PCP in surface soil are provided in Figures 5-1, 5-2, and 5-3, respectively.

Log Storage Area (see Table 4-2)

Twenty-two surface soil samples at 6 inches BGS and eleven surface soil samples at 1 foot BGS were collected in the log storage area for arsenic, CPAH, and PCP analyses. One grab and two composite surface soil samples were collected in this area for dioxin/furans analyses.

Arsenic was detected above the site action level in four surface soil locations (LSA4, LSA5, LSA17, and LSA19) and above the site cleanup level in 13 surface soil sample locations (LSA2, LSA6, LSA7, LSA8, LSA9, LSA10, LSA12, LSA13, LSA14, LSA15, LSA18, LSA20, and LSA22).

CPAH were not detected above the site action level, but were detected above the site cleanup level in 13 surface soil locations (LSA4, LSA5, LSA6, LSA7, LSA8, LSA9, LSA10, LSA13, LSA14, LSA15, LSA17, LSA18, and LSA19).

PCP was not detected above the site action level but was detected above the site cleanup level at two surface soil locations (LSA9 and LSA19).

Dioxin/furans were detected above the site cleanup level in all three samples collected in this area (see Table 4-18).

Pole Dryer Area (see Table 4-3)

Nine surface soil samples at 6 inches BGS and two surface soil samples at 1 foot BGS were collected in the pole dryer area for arsenic, CPAH, and PCP analyses. One grab and one composite surface soil samples were collected in this area for dioxin/furan analyses.

Arsenic was detected above the site action level at four locations (PDA25, PDA27, PDA28, and PDA29) at a 6-inch depth and one location (PDA28) at a 1-foot depth. Arsenic was detected above the site cleanup level at the remaining five sample locations (PDA23, PDA24, PDA26, PDA30, and PDA31).

CPAH were not detected above the site action level; however, they were detected above the site cleanup level in eight of the nine surface soil sample locations in this area.

PCP was not detected above the site action level, but was detected above the site cleanup level in three surface soil sample locations (PDA25, PDA28, and PDA31).

The highest concentration of dioxin/furans (74,903 parts per trillion [ppt]) were detected above the site cleanup level in this area (see Table 4-18).

East Yard Area (see Table 4-4)

Fifteen surface soil samples at 6 inches BGS and four surface soil samples at 1 foot BGS were collected in the east yard area for arsenic, CPAH, and PCP analyses. One grab and two composite surface soil samples were collected in this area for dioxin/furan analyses.

Arsenic was detected above the site action level in three surface soil locations (EYA35, EYA38, and EYA44), and was detected above the site cleanup level in the remaining 12 surface soil sample locations in this area.

CPAH were detected above the site cleanup level, but below the site action level, in all surface soil sample locations except EYA32.

PCP was not detected above the site action or cleanup levels in this area.

Dioxin/furans were detected above the site cleanup level in all three samples collected in this area (see Table 4-18).

Stacker Shed Area (see Table 4-5)

Thirty-three surface soil samples at 6 inches BGS and fifteen surface soil samples at 1 foot BGS were collected in the stacker shed area for arsenic, CPAH, and PCP analyses. One grab and four composite surface soil samples were collected in this area for dioxin/furans.

Arsenic was detected above the site action level in eight surface soil locations (SSA77, SSA79, SSA83, SSA89 [1 foot BGS], SSA91, SSA92, SSA95, and SSA119) and above the site cleanup level in the remaining surface soil sample locations except SSA76.

CPAH were not detected above the site action level; however, all but seven surface soil locations had CPAH above the site cleanup level.

PCP was not detected above the site action level, but was detected above site cleanup levels in three surface soil locations (SSA73, SSA79, and SSA81).

Dioxin/furans were detected above the site cleanup level in all five samples collected in this area (see Table 4-18).

Arsenic-Chromium-Copper Area (see Table 4-6)

Nine surface soil samples at 6 inches BGS and two surface soil samples at 1 foot BGS were collected in the ACC soil area for arsenic, CPAH, and PCP analyses. One grab surface soil sample at 6 inches BGS was collected in this area for dioxin/furans.

Arsenic was not detected above the site action level, but was detected above the site cleanup level in five of the nine sample locations (ACC47, ACC50, ACC53, ACC54, and ACC55).

CPAH were not detected above the site action level, but eight of the nine sample locations (ACC47, ACC48, ACC49, ACC51, ACC52, ACC53, ACC54, and ACC55) exceeded the site cleanup level.

PCP was not detected above site action or cleanup levels in this area.

Dioxin/furans were detected above the site cleanup level in this area (ACC51; see Table 4-18).

Southern Corner Area (see Table 4-7)

Four surface soil samples at 6 inches BGS and one surface soil sample at 1 foot BGS were collected in the southern corner area for arsenic, CPAH, and PCP analyses. One grab and one composite surface soil samples were collected in this area for dioxin/furans.

Arsenic was detected above the site action level in one location (SCA56) and above the site cleanup level in two surface soil sample locations (SCA57 and SCA59).

CPAH were not detected above the site action level, but were detected above the site cleanup level in one surface soil location (SCA56).

PCP was not detected above the site action or cleanup levels in this area.

Dioxin/furans were detected above the site cleanup level in both samples collected in this area (see Table 4-18).

Area A (see Table 4-8)

Four surface soil samples at 6 inches BGS and one surface soil sample at 1 foot BGS were collected in Area A for arsenic, CPAH, and PCP analyses. One grab surface soil sample at 6 inches BGS was collected in this area for dioxin/furans.

Arsenic and CPAH were not detected above the site action levels, but were detected above the site cleanup levels in two of the four surface soil sample locations (AA101 and AA103).

PCP was not detected above site action or cleanup levels in this area.

Dioxin/furans were detected above the site cleanup level in this area (AA101; see Table 4-18).

Pole Peeler Area (see Table 4-9)

Two surface soil samples at 6 inches BGS and one surface soil sample at 1 foot BGS were collected in the pole peeler area for arsenic, CPAH, and PCP analyses. One grab surface soil sample at 6 inches BGS was collected in this area for dioxin/furans.

Arsenic was not detected above the site action level, but was detected above the site cleanup level at one surface soil location (PPA276).

CPAH and PCP were not detected above the site action or cleanup levels in any of the surface soil sample locations.

Dioxin/furans were detected above the site cleanup level in this area (PPA274; see Table 4-18).

Areas Above Cleanup Levels (see Table 4-10)

Six surface soil samples at 6 inches BGS were collected in areas considered to be above cleanup levels for arsenic, CPAH, and PCP analyses.

Arsenic and CPAH were not detected above their respective site action level, but were detected above the site cleanup level at two surface soil locations (OTH104 and OTH109).

PCP was not detected above site action or cleanup levels in any of these areas.

Off-site at North Edgewater Street and East Gate Areas (see Table 4-11)

Eight surface soil samples at 6 inches BGS were collected in off-site areas for arsenic, CPAH, and PCP analyses. One composite surface soil sample for North Edgewater Street and one composite surface soil sample for the East Gate area were collected for dioxin/furans.

Arsenic and PCP were not detected above site action or cleanup levels in any of the off-site locations.

CPAH were detected above the site cleanup level at one off-site location (OFF503) off North Edgewater Street.

Dioxin/furans were detected above the site cleanup level in the North Edgewater Street composite sample (see Table 4-18).

Site Perimeter (see Table 4-10)

Nine surface soil samples at 6 inches BGS were collected along the site perimeter for arsenic, CPAH, and PCP analyses. Two composite surface soil samples for the north perimeter and two composite surface soil samples for the east perimeter were collected for dioxin/furans.

Arsenic was not detected above the site action level in any of the perimeter samples, but was detected above site cleanup levels at three surface soil locations (PER110, PER116, and PER118).

CPAH were not detected above the site action level, but were detected above the site cleanup level at seven surface soil locations (PER110, PER111, PER112, PER113, PER114, PER116, and PER118).

PCP was not detected above site action or cleanup levels in this area.

Dioxin/furans were detected above the site cleanup level in all four composite samples (see Table 4-18).

Former Waste Disposal Area (see Table 4-12)

Eleven surface soil samples at 6 inches BGS and five surface soil samples at 1 foot BGS were collected in the FWDA for arsenic, CPAH, and PCP analyses. Two grab surface soil

samples and three composite surface and subsurface soil samples were collected in this area for dioxin/furans.

Arsenic was not detected above the site action level in any of the surface soil sample locations; however, it was detected above the site cleanup level in seven locations (FWD201, FWD202, FWD203, FWD205, FWD208, FWD209, and FWD214).

CPAH were detected above the site action level in one location (FWD205) and above the site cleanup level in seven locations (FWD201, FWD202, FWD203, FWD207, FWD208, FWD209, and FWD214).

PCP was not detected above the site action level but was detected above site cleanup levels in four surface soil locations (FWD202, FWD205, FWD209, and FWD214).

Dioxin/furans were detected above the site cleanup level in all five samples in this area (see Table 4-18).

Central Processing Area (see Table 4-13)

Twenty-eight surface soil samples at 6 inches BGS and fourteen surface soil samples at 1 foot BGS were collected in the CPA for arsenic, CPAH, and PCP analyses. Four composite surface and subsurface soil samples and two grab surface soil samples were collected in this area for dioxin/furans.

Arsenic was detected above the site action level in three surface soil locations (CPA226, CPA232, and CPA233) and was detected above the site cleanup level in 21 of the remaining 28 locations.

CPAH were detected above the site action level in four locations (CPA233, CPA241, CPA420, and CPA423) and above site cleanup levels in 21 of the remaining 28 surface soil locations.

PCP was detected above the site action level in four surface soil locations (CPA232, CPA239, CPA244, and CPA431) and above site cleanup levels in six surface soil locations (CPA220, CPA222, CPA227, CPA233, CPA238, and CPA241).

Dioxin/furans were detected above the site cleanup level in all six samples in this area (see Table 4-18).

Southeast Waste Disposal Trench (see Table 4-14)

Fifteen surface soil samples at 6 inches BGS and one surface soil sample at 1 foot BGS were collected in the southeast waste disposal trench for arsenic, CPAH, and PCP analyses. One

composite surface and subsurface soil sample and two grab surface soil samples were collected in this area for dioxin/furans.

Arsenic was detected above the site action level in one location (SEW293) and above the site cleanup level in six surface soil locations (SEW280, SEW283, SEW287, SEW290, SEW301, and SEW305).

CPAH were detected above the site action level in one surface soil location (SEW290) and above the site cleanup level in eight surface soil locations (SEW279, SEW280, SEW281, SEW287, SEW293, SEW297, SEW301, and SEW305).

PCP was detected above the site cleanup level, but below the site action level, in three surface soil locations (SEW280, SEW290, and SEW293).

Dioxin/furans were detected above the site cleanup level in all three samples in this area (see Table 4-18).

Tank Farm Area (see Table 4-15)

Two surface soil samples at 1 foot BGS were collected in the TFA for arsenic, CPAH, and PCP analyses. One composite subsurface soil sample and two grab surface soil samples were collected in this area for dioxin/furans.

Arsenic was not detected above the site action level, but was detected above the site cleanup level at both locations (TFA436 and TFA437).

CPAH were not detected above the site action level, but were detected above the site cleanup level at one location (TFA436).

PCP was detected above the site action level at one location (TFA436).

Dioxin/furans were detected above the site cleanup level in all three samples in this area (see Table 4-18).

Creosote Tank Area (see Table 4-16)

Surface soil samples were not collected in the creosote tank area for arsenic, CPAH, or PCP analyses; however, it is assumed that surface soil is contaminated above action levels for CPAH. One composite subsurface soil sample and two grab surface soil samples were collected in this area for dioxin/furan analyses.

Dioxin/furans were detected above the site cleanup level in one (CTA268) of three samples from this area (see Table 4-18).

Creosote Dock Area (see Table 4-17)

Five surface soil samples at 6 inches BGS and one surface soil sample at 1 foot BGS were collected in the creosote dock area for arsenic, CPAH, and PCP analyses. Two grab surface soil samples were collected in this area for dioxin/furan analyses.

Arsenic was detected above the site cleanup level, but below the site action level, in three surface soil locations (CDA350, CDA355, CDA363).

CPAH were detected above the site cleanup level, but below the site action level, in all five surface soil (i.e., 6 inches BGS) locations (CDA350, CDA355, CDA358, CDA362, CDA363).

PCP was not detected above site action or cleanup levels in any of the surface soil samples collected in the creosote dock area.

Dioxin/furans were detected above the site cleanup level in this area (see Table 4-18).

5.2.2 Subsurface Soil at 4 Feet BGS

Contaminant concentration contour maps for arsenic, CPAH, and PCP in subsurface soil at 4 feet BGS are provided in Figures 5-4, 5-5, and 5-6, respectively. ARC/INFO Geographic Information System (GIS) was utilized to generate analytical result and contamination contour figures. The contours were generated using the Triangulated Irregular Network (TIN) surface modeling package. E & E divided the sample locations into discrete areas (e.g., log storage area) in accordance with their location at the site. The contours for each area were generated using only the sample locations within a given area. For example, contours in the log storage area were generated using only data from the log storage area locations.

Log Storage Area (see Table 4-2)

Six subsurface soil samples at 4 feet BGS were collected in the log storage area for arsenic, CPAH, and PCP analyses.

Arsenic and PCP were not detected above site cleanup or action levels in the two subsurface soil locations in this area.

CPAH were detected above the site cleanup level, but not above the action level, in one subsurface soil location (LSA403).

Pole Dryer Area (see Table 4-3)

One subsurface soil sample at 4 feet BGS was collected in the pole dryer area for arsenic, CPAH, and PCP analyses.

Arsenic and CPAH were detected above the site cleanup level, but below the site action levels, for the one subsurface soil sample location (PDA28).

PCP was not detected above the site action or cleanup levels in this area.

East Yard Area (see Table 4-4)

Two subsurface soil samples at 4 feet BGS were collected in the east yard area for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site cleanup level, but below the site action level, in one subsurface soil location (EYA35).

CPAH and PCP were not detected above the site action or cleanup levels in the two subsurface soil samples collected in this area.

Stacker Shed Area (see Table 4-5)

Two subsurface soil samples at 4 feet BGS were collected in the stacker shed area for arsenic, CPAH, and PCP analyses.

Arsenic, CPAH, and PCP were not detected above site cleanup or action levels in the two subsurface soil samples collected in this area.

Arsenic-Chromium-Copper Area (see Table 4-6)

One subsurface soil sample at 4 feet BGS was collected in the ACC soil area for arsenic, CPAH, and PCP analyses.

Arsenic, CPAH, and PCP were not detected above site cleanup or action levels in the sample.

Southern Corner Area (see Table 4-7)

One subsurface soil sample at 4 feet BGS was collected in the southern corner area for arsenic, CPAH, and PCP analyses.

Arsenic, CPAH, and PCP were not detected above site cleanup or action levels in the sample.

Area A (see Table 4-8)

One subsurface soil sample at 4 feet BGS was collected in Area A for arsenic, CPAH, and PCP analyses.

Arsenic, CPAH, and PCP were not detected above site cleanup or action levels in the sample.

Pole Peeler Area (see Table 4-9)

Eight subsurface soil samples at 4 feet BGS were collected in the pole peeler area for arsenic, CPAH, and PCP analyses.

Arsenic and PCP were not detected above the site action or cleanup level at any of the subsurface soil locations.

CPAH were detected above the site cleanup level at one subsurface soil location (PPA273).

Former Waste Disposal Area (see Table 4-12)

Twenty four subsurface soil samples at 4 feet BGS were collected in the FWDA for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site action level in three locations (FWD205, FWD211, and FWD214) and above the site cleanup level in seven locations (FWD201, FWD203, FWD204, FWD208, FWD209, FW212, and FWD217).

CPAH were detected above the site action level in three locations (FWD211, FWD212, and FWD214) and above the site cleanup level in ten locations (FWD201, FWD203, FWD205, FWD207, FWD208, FWD209, FWD210, FWD213, FWD217, and FWD410).

PCP was detected above the site action level in two locations (FWD211 and FWD214) and above the site cleanup level in four locations (FWD205, FWD209, FWD212, and FWD217).

The highest concentrations of arsenic (3,400 mg/kg) and CPAH (1,698 mg/kg) were reported for subsurface soil sample FWD214.

Central Processing Area (see Table 4-13)

Twenty-seven subsurface soil samples at 4 feet BGS were collected in the CPA for arsenic, CPAH, and PCP analyses.

Arsenic contamination was detected above the site action level at two subsurface locations (CPA226 and CPA233) and above the site cleanup level in five subsurface soil locations (CPA230, CPA232, CPA236, CPA238, and CPA241).

CPAH were detected above the site action level in one location (CPA233) and above the site cleanup level in 12 subsurface locations (CPA218, CPA222, CPA227, CPA228, CPA230, CPA232, CPA235, CPA236, CPA238, CPA240, CPA241, and CPA243).

PCP was detected above the site action level in three locations (CPA238, CPA241, and CPA243) and above the site cleanup level in four locations (CPA222, CPA232, CPA233, and CPA242).

Subsurface soil at CPA243 contained the second highest PCP concentration at the site (41,000 mg/kg).

Southeast Waste Disposal Trench (see Table 4-14)

Thirty-four subsurface soil samples at 4 feet BGS were collected in the southeast waste disposal trench for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site action level in one subsurface soil location (SEW294) and above the site cleanup level in seven subsurface locations (SEW285, SEW287, SEW288, SEW293, SEW295, SEW296, and SEW301).

CPAH were not detected above the site action level, but were detected above the site cleanup level in eight subsurface locations (SEW280, SEW281, SEW284, SEW285, SEW290, SEW293, SEW301, and SEW304).

PCP was not detected above the site action level or site cleanup level at any subsurface soil location in this area.

Tank Farm Area (see Table 4-15)

Thirteen subsurface soil samples at 4 feet BGS were collected in the TFA for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site cleanup level, but below the site action level, in two locations (TFA252 and TFA253).

CPAH were detected above the site action level in two locations (TFA251 and TFA253) and above the site cleanup level in five locations (TFA248, TFA249, TFA250, TFA256, and TFA257).

PCP was detected above the site cleanup level, but below the action level, in three subsurface soil locations (TFA248, TFA249, and TFA251).

Creosote Tank Area (see Table 4-16)

Twelve subsurface soil samples at 4 feet BGS were collected for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site cleanup level, but below the action level, in one subsurface soil location (CTA263).

CPAH were detected above the site action level in one location (CTA262) and above the site cleanup level in four locations (CTA259, CTA260, CTA263, and CTA265).

PCP was not detected above site action or cleanup levels in any of the subsurface soil sample locations in this area.

Creosote Dock Area (see Table 4-17)

Fourteen subsurface soil samples at 4 feet BGS were collected in the creosote dock area for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site cleanup level, but below the site action level, in four subsurface soil locations (CDA353, CDA355, CDA361, and CDA364).

CPAH were detected above the site cleanup level, but below the site action level, in nine subsurface soil locations (CDA353, CDA354, CDA355, CDA357, CDA358, CDA359, CDA360, CDA361, and CDA364).

PCP was not detected above site action or cleanup levels in any of the samples collected in the creosote dock area.

5.2.3 Subsurface Soil at 10 Feet BGS

Information concerning subsurface soil concentrations is provided below. These soil samples were collected prior to the issuance of the Proposed Plan for ROD Amendment (EPA/DEQ 1997), which proposes to amend the maximum site excavation depth to no more than 4 feet BGS.

Pole Peeler Area (see Table 4-9)

Eight subsurface soil samples at 10 feet BGS were collected in the pole peeler area for arsenic, CPAH, and PCP analyses.

Arsenic, CPAH, and PCP were not detected above site action or cleanup levels in subsurface soil samples collected in this area.

Former Waste Disposal Area (see Table 4-12)

Seventeen subsurface soil samples at 10 feet BGS were collected in the FWDA for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site action level in one sample location (FWD214) and above the site cleanup level in seven locations (FWD201, FWD205, FWD209, FWD211, FWD213, FWD216, and FWD217).

CPAH were detected above the site action level in three locations (FWD211, FWD212, FWD214) and above site cleanup levels in seven sample locations (FWD201, FWD202, FWD205, FWD209, FWD210, FWD213, and FWD217).

PCP was detected above the site action level in one location (FWD214) and above the site cleanup level in six subsurface soil locations (FWD205, FWD209, FWD211, FWD212, FWD213, and FWD217).

Central Processing Area (see Table 4-13)

Twenty-seven subsurface soil samples at 10 feet BGS were collected in the CPA for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site action level in one location (CPA226) and above the site cleanup level in eight locations (CPA223, CPA224, CPA227, CPA230, CPA232, CPA233, CPA239, and CPA241).

CPAH were detected above the site cleanup level, but below the action level, in six locations (CPA218, CPA222, CPA227, CPA232, CPA241, and CPA243).

PCP was detected above the site action level in one location (CPA243) and above the site cleanup level in two locations (CPA227 and CPA241). Subsurface soil at CPA243 contained the highest PCP concentration at the site at 55,000 mg/kg.

Southeast Waste Disposal Trench (see Table 4-14)

Thirty-five subsurface soil samples at 10 feet BGS were collected in the southeast waste disposal trench for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site cleanup level, but below the site action level, in six subsurface locations (SEW283, SEW287, SEW292, SEW293, SEW294, and SEW301).

CPAH were detected above the site action level at one location (SEW435) and above the site cleanup level in six subsurface locations (SEW280, SEW284, SEW285, SEW292, SEW294, and SEW301).

PCP was not detected above the site action level or the site cleanup level at any subsurface soil location in this area.

Tank Farm Area (see Table 4-15)

Fifteen subsurface soil samples at 10 feet BGS were collected in the TFA for arsenic, CPAH, and PCP analyses.

Arsenic was not detected above the site action or cleanup levels in this area.

CPAH were detected above the site action level in two locations (TFA251 and TFA253) and above the site cleanup level in four locations (TFA248, TFA250, TFA256, and TFA438).

PCP was detected above the site cleanup level, but below the site action level, in one location (TFA2483).

Creosote Tank Area (see Table 4-16)

Eleven subsurface soil samples at 10 feet BGS were collected in the creosote tank area for arsenic, CPAH, and PCP analyses.

Arsenic and PCP were not detected above the site action or cleanup levels in this area.

CPAH were detected above the site action level in one location (CTA262) and above the site cleanup level in three subsurface soil locations (CTA263, CTA265, and CTA268).

Creosote Dock Area (see Table 4-17)

Fourteen subsurface soil samples were collected in the creosote dock area for arsenic, CPAH, and PCP analyses.

Arsenic was detected above the site cleanup level, but below the site action level, in three subsurface soil locations (CDA353, CDA355, and CDA364).

CPAH were detected above the site cleanup level, but below the site action level, in seven subsurface soil locations (CDA353, CDA355, CDA357, CDA358, CDA359, and CDA362, and CDA364).

PCP was not detected above site action or cleanup levels in any of the samples collected in this area.

5.3 TCLP Results (see Table 4-19)

A subset of samples from several remedial areas were analyzed using TCLP for arsenic, chromium, and PCP. Composite samples from the pole dryer area (PDA25, PDA27, PDA28) exceeded regulatory criteria for arsenic. Composite samples from the FWDA (FWD211, FWD212) exceeded regulatory criteria for arsenic and chromium.

6

6 Remedial Action Areas and Design Criteria

Based on the data discussed in the previous sections, RA areas and design criteria have been developed. This section contains a discussion of specific soil RA components including demolition/debris removal, delineation of the RA areas, calculation of soil volume estimates, soil disposal waste classifications, and a description of areas of the site requiring capping.

6.1 Demolition/Debris Removal and Site Preparation

To prepare the site for excavation of the contaminated soil and construction of the cap, miscellaneous surface and subsurface structures and debris will be removed. Demolition/debris removal will be included in the soil remediation contractor's scope of work. The following actions will be required prior to soil excavation and cap construction:

Railroad Track Removal: A site survey was conducted, from which a total length of 24,700 feet of railroad steel was documented. In addition, E & E contacted a railroad construction contractor (Condon Brothers, Inc.) to determine the typical rail tie spacing. Using the typical spacing of 19 inches on center, E & E estimates that approximately 7,600 rail ties will require removal. Railroad tracks will be salvaged; however, it is proposed that railroad ties be disposed as non-hazardous waste following decontamination. Past decontamination experience (during Phase I demolition) demonstrated that gross soil removal can be attained; however, soil present in wood cracks was difficult and time consuming to remove. The ties also had a tendency to disintegrate during the water-wash process, rendering them unusable. Since there is no effective way to guarantee that all soil has been completely removed from the cracks in the ties, E & E believes that reuse poses a liability. Therefore, disposal as a non-hazardous waste has been proposed.

Main Office Building Demolition/Removal: The office building, laboratory, and former shop building (currently used to house the groundwater treatment plant) are the only buildings remaining at the site following Phase I demolition (see Section 2.4.2). E & E anticipates that the laboratory and the shop building will remain intact throughout remedial activities; however, the office building will require demolition. E & E estimates that approximately 150 tons of wood and 12 tons of steel will require disposal as a result of the office building

demolition. In addition, all asbestos-containing materials (e.g., vinyl floor tile, textured ceiling material) identified within the building confines will be properly disposed in an appropriately permitted solid waste landfill.

Contaminated Wood Removal: Approximately 410 cubic yards of stockpiled ACZA-treated wood and some unclassified wood remain on site following Phase I demolition. Previous analysis of the ACZA wood demonstrated that it exceeds the TCLP criterion for arsenic, resulting in a RCRA hazardous waste classification for disposal. In the ROD (EPA/DEQ 1996), the contaminated wood was targeted for on-site stabilization; however, as described in the Proposed Plan for ROD Amendment (EPA/DEQ 1997), this wood will now be transported off site for treatment and disposal. ACZA wood debris will need to be stabilized to reduce the concentration of leachable arsenic prior to land disposal at a RCRA-permitted facility.

Buried Piling and Unused Utility Pole Removal: All existing pilings and unused utility poles on site (excluding those in the river and on the river bank) will be pulled or excavated. Typically, pilings were used to support structures and to contain log storage piles. The majority of the pilings were cut to within 18 inches of the ground and painted yellow during Phase I demolition work. The exact number and location of the remaining pilings and unused utility poles were surveyed during supplemental soil sampling activities conducted in September-October 1997. A total of 94 buried pilings and 3 unused utility poles will require pulling/removal and off-site disposal.

Concrete Removal: Based on discussions with DEQ, E & E assumes that all concrete retort pits, as well as the concrete underground utility tunnel (between the TFA and Retorts 1 and 2) and Butt Tank No. 1 will remain in place. However, the remaining concrete slabs on grade, equipment pedestals, and retaining walls (aboveground walls in the TFA and around the former creosote tank) will be demolished as part of the soil remedy. During the supplemental soil sampling event in September-October 1997, a limited concrete investigation was conducted to gather dimensional data (slab thickness) of the concrete structures scheduled for demolition. Slab thickness was investigated by punching holes in the concrete slabs with a backhoe-mounted hydraulic hammer and by conducting limited investigations with a backhoe adjacent to the concrete structures. Based on dimensional data collected during this investigation, E & E calculated that approximately 1,170 cubic yards of concrete will require demolition. E & E anticipates that following excavation, the concrete will be crushed to a 2-inch-minus particle size. Assuming a 30 to 50 percent volume increase due to crushing, the estimated volume of crushed material is 1,500 to 1,750 cubic yards. E & E has assumed that the crushed concrete will be placed into the existing retort pits, which occupy a volume of approximately 1,330 cubic yards. Once the retort pits reach capacity, the excess crushed concrete will be used as fill material in the RA excavation areas.

6.2 Remedial Action Areas

Twenty RA areas have been designated for excavation and off-site treatment and/or disposal based on exceedances of action levels and the resulting GIS-generated contaminant

contours (see Section 5). Contaminant-specific contours (CPAH, PCP, and arsenic only) were superimposed on a site map to illustrate the extent of the RA areas. The contours for surface soil and subsurface soil contamination (to a maximum of 4 feet BGS) are graphically illustrated on Figures 6-1 and 6-2, respectively. The resulting RA areas with estimated limits of excavation and excavation depths are shown on Figure 6-3.

Each area targeted for excavation has been numbered (e.g., RA10) to facilitate discussion. Table 6-1 summarizes information pertaining to each RA area. Determination of RA area volumes and soil disposal classifications are discussed in the following sections.

6.2.1 Definition of Remedial Action Areas

The estimated extent of each RA area was determined based on surface and subsurface analytical data, GIS-generated contours, field observations, and best professional judgement. In general, the RA areas encompass the GIS-generated action level contours (see Figures 6-1 and 6-2) and represent the anticipated lateral extent of excavation. Anomalies in the GIS-generated contaminant contours (as discussed in Section 5) also were taken into account when defining the RA areas. Generally, these anomalies were attributed to non-uniform sample location distribution and/or unique site features (e.g., retort pits, concrete structures). Specific examples of contour anomalies are discussed below.

RA11. As shown on Figure 5-1, SCA56 is the only sample location in the southern corner area with contaminant concentrations above action levels. In addition, the nearest sample location north of SCA56 is OTH106, located approximately 230 feet away. Due to this lack of local RD sample points, GIS was unable to generate a complete contour for this area. As such, a single point positioned exactly at SCA56 defines the extent of the GIS-generated action level contour. For estimation purposes, E & E has assumed a RA area of approximately 35 feet by 35 feet positioned centrally about this point to account for potential lateral excavation that may arise from confirmation sample results obtained during RA activities.

RA12. Contours generated in the FWDA extend beyond the railroad track to the west, towards the river bank (see Figure 6-2). Since the berm on which the tracks sit is not targeted for excavation, RA12 has been defined as abutting the east perimeter of the tracks/berm. Samples collected immediately west of the tracks/berm indicate concentrations below action levels; thus, it is unlikely excavation in this area would be necessary.

RA13-A. This area has been divided into four sub-areas. Although the GIS-generated action level contours fall outside these RA area boundaries, it has been determined that the retort pits (1, 2, and 3) in this area will remain in place. As such, only those areas between retort pits 1 and 2 and outside of pit 3 (Figure 6-3) are targeted for excavation. At each location, the pit wall has been used to define the limit of excavation.

RA16. The sample collected at SEW294 was reported at exactly the action level for arsenic (300 mg/kg). Since no other locations in this area exhibited concentrations above action levels, a single point was generated by GIS, around which E & E has assumed a RA area of approximately 35 feet by 35 feet. As in all areas, the actual extent of excavation will be determined by confirmation sample results.

RA18. In addition to an action level exceedance at sample location CTA262, visual inspection of the creosote tank area has revealed areas of significant contamination within the confines of the circular containment wall. Therefore, RA18 extends beyond the GIS-generated contour to include those areas up to the inside surface of the circular containment wall.

It should be noted that the RA areas shown on Figure 6-3 are approximate. The actual lateral extent of excavation will be determined during RA activities using field screening and laboratory confirmation sample results. Excavation will commence in each RA area at the sample locations that exceeded action levels. These sample locations, with their associated contaminant concentrations, are shown on Figures 6-1 and 6-2. Excavation will proceed outward from these sample locations until field screening and confirmation sampling indicate contaminant concentrations are below action levels.

6.2.2 Soil Volume Calculations for Remedial Action Areas

The estimated volume of soil contaminated above action levels was determined by multiplying the lateral extent within each RA area by the proposed depth of excavation. The depth of excavation for each RA area was based on subsurface soil analytical data with a maximum excavation depth of 4 feet as established in the Proposed Plan for ROD Amendment (EPA/DEQ 1997). Estimated depths of excavation for each RA area are listed in Table 6-1 and illustrated on Figure 6-3. Within each RA area, if any sample collected at or below 4 feet BGS contained concentrations of CPAH, PCP, or arsenic above their respective action levels, the entire area was designated as a 4-foot excavation area. However, if samples collected within each area exhibited only surface soil contamination (0 to 1 feet BGS) the planned excavation depth is 1 foot. As stated previously, the depth of excavation will be determined by the results of the confirmation sample analysis, to a maximum depth of 4 feet BGS.

A summary of the RA areas and corresponding ranges of contaminants above action levels, approximate areal extent, proposed depths of excavation, and resulting in-place volumes is included in Table 6-1. An estimated total in-place volume of approximately 16,200 cubic yards (26,100 tons) for all RA areas will require off-site treatment and/or disposal. The total volume of soil to be excavated includes two existing piles of previously excavated contaminated soil containing approximately 450 cubic yards. These piles are located near RA7 and are adjacent to

the laboratory building, as shown on Figure 2-2. Note, the volume of retort pit 3 in RA13-B and butt tank 1 in RA19 were excluded from the volume estimate for these areas since it is anticipated that these structures are to remain in place.

6.2.3 Disposal Classifications and Quantities

Based on RCRA hazardous waste definitions contained in 40 CFR 261, E & E assigned waste classification codes for each RA area. Every RA area will be classified F032, F034, and F035 since these are the listed waste classifications for wood-treating wastes that contained chlorophenolic creosote, and arsenic or chromium formulations, respectively. RA areas and wood debris that exceeded TCLP criteria for arsenic or chromium also will be classified as D004 or D007, respectively, in addition to the F-listed waste codes discussed above. Table 6-2 presents a summary of the anticipated disposal quantities. Soil and debris with F-listed waste codes only can be landfilled directly (i.e., do not require stabilization) prior to the expiration of the national capacity variance on May 12, 1999. Soil and debris with D-listed waste codes require treatment prior to land disposal. Approximately 1,800 cubic yards (2,400 tons) of soil (from RA3 and RA12) and wood debris exceeded TCLP criteria (see Table 4-19) and will require off-site stabilization prior to land disposal. None of the soil or wood debris exceeded the TCLP criteria for PCP; therefore, the D037 hazardous waste classification does not apply to the site soil or debris. The total volume of soil that will be directly landfilled (i.e., not stabilized) is approximately 14,800 cubic yards (23,700 tons).

6.3 Areas to be Capped

As part of the soil remedy at the site, areas that exhibit soil contaminant concentrations above soil cleanup goals (see Table 5-2), but below action levels for treatment (see Table 5-1), will be capped in place. Since this area corresponds to the majority of the site, it is assumed that a 2-foot thick cap of clean soil will be placed across the entire site.

Off-site soil that exceeded the site cleanup levels corresponds to N. Edgewater Street. One off-site sample exceeded the site cleanup level for cPAH (OFF503 contained cPAH at 2.35 mg/kg, the site clean-up level for cPAH is 1 mg/kg). In addition, the composite dioxin sample corresponding to N. Edgewater Street (OFF500 to OFF503) contained a dioxin concentration of 358 ppt which exceeds the capping concentration of 40 ppt. N. Edgewater Street will be addressed by removing the top 12 inches of soil, consolidating the soil onto the site, and installing an asphalt road over the excavated area.

7

7 References

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Tables

Table 3-1

SAMPLE COLLECTION SUMMARY
McCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND, PLANT
PORTLAND, OREGON

Sample Area and Type	Number of Project Samples			
	Arsenic	PAH/PCP	Biological[a] Parameters	Field[b] Screening
Log Storage Area				
Surface Soil at 0 to 6 inches BGS	22	22	5	--
Surface Soil at 6 to 12 inches BGS	11	11	--	--
Subsurface Soil at 4 feet BGS	6	6	--	--
Pole Dryer Area				
Surface Soil at 0 to 6 inches BGS	9	9	2	--
Surface Soil at 6 to 12 inches BGS	2	2	--	--
Subsurface Soil at 4 feet BGS	1	1	--	--
East Yard Area				
Surface Soil at 0 to 6 inches BGS	15	15	3	--
Surface Soil at 6 to 12 inches BGS	4	4	--	--
Subsurface Soil at 4 feet BGS	2	2	--	--
Stacker Shed Area				
Surface Soil at 0 to 6 inches BGS	34	34	6	--
Surface Soil at 6 to 12 inches BGS	14	14	1	--
Subsurface Soil at 4 feet BGS	2	2	--	--
Arsenic-Chromium-Copper Area				
Surface Soil at 0 to 6 inches BGS	9	9	2	--
Surface Soil at 6 to 12 inches BGS	2	2	--	--
Subsurface Soil at 4 feet BGS	1	1	--	--
Southern Corner Area				
Surface Soil at 0 to 6 inches BGS	4	4	1	--
Surface Soil at 6 to 12 inches BGS	1	1	--	--
Subsurface Soil at 4 feet BGS	1	1	--	--

Table 3-1

SAMPLE COLLECTION SUMMARY
McCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND, PLANT
PORTLAND, OREGON

Sample Area and Type	Number of Project Samples			
	Arsenic	PAH/PCP	Biological[a] Parameters	Field[b] Screening
Area A				
Surface Soil at 0 to 6 inches BGS	4	4	1	--
Surface Soil at 6 to 12 inches BGS	1	1	--	--
Subsurface Soil at 4 feet BGS	1	1	--	--
Pole Peeler Area				
Surface Soil at 0 to 6 inches BGS	2	2	--	--
Surface Soil at 6 to 12 inches BGS	1	1	--	--
Surface Soil at 4 feet BGS	8	8	2	1
Subsurface Soil at 10 feet BGS	8	8	--	1
Areas above Cleanup Levels				
Surface Soil at 0 to 6 inches BGS	6	6	--	--
North Edgewater Street Area (Off-Site)				
Surface Soil at 0 to 6 inches BGS	5	5	--	--
East Gate Area (Off-Site)				
Surface Soil at 0 to 6 inches BGS	3	3	--	--
Site Perimeter				
Surface Soil at 0 to 6 inches BGS	9	9	--	--
Former Waste Disposal Area (FWDA)				
Surface Soil at 0 to 6 inches BGS	11	11	2	1
Surface Soil at 6 to 12 inches BGS	5	5	--	--
Subsurface Soil at 4 feet BGS	24	24	2	2
Subsurface Soil at 10 feet BGS	17	17	2	3
Central Processing Area (CPA)				
Surface Soil at 0 to 6 inches BGS	28	28	6	4
Surface Soil at 6 to 12 inches BGS	14	14	--	--
Subsurface Soil at 4 feet BGS	27	27	3	5

Table 3-1

SAMPLE COLLECTION SUMMARY
McCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND, PLANT
PORTLAND, OREGON

Sample Area and Type	Number of Project Samples			
	Arsenic	PAH/PCP	Biological[a] Parameters	Field[b] Screening
Subsurface Soil at 10 feet BGS	27	27	3	3
Southeast Waste Disposal Trench Area				
Surface Soil at 0 to 6 inches BGS	15	15	4	1
Surface Soil at 6 to 12 inches BGS	1	1	--	--
Subsurface Soil at 4 feet BGS	34	34	4	6
Subsurface Soil at 10 feet BGS	35	35	4	6
Creosote Dock Area				
Surface Soil at 0 to 6 inches BGS	5	5	1	1
Surface Soil at 6 to 12 inches BGS	1	1	--	--
Subsurface Soil at 4 feet BGS	14	14	2	2
Subsurface Soil at 10 feet BGS	14	14	2	1
Tank Farm Area (TAF)				
Surface Soil at 0 to 6 inches BGS	--	--	--	--
Surface Soil at 6 to 12 inches BGS	2	2	--	--
Subsurface Soil at 4 feet BGS	14	14	2	2
Subsurface Soil at 10 feet BGS	14	14	1	2
Creosote Tank Area				
Surface Soil at 0 to 6 inches BGS	--	--	--	--
Subsurface Soil at 4 feet BGS	12	12	2	2
Subsurface Soil at 10 feet BGS	11	11	1	2

a Biological parameters include nitrate/nitrite, phosphorous, ammonia nitrogen, total kjeldahl nitrogen, total organic carbon, cation exchange capacity, natural biological activity, and pH.

b Field screening parameters include PCP and carcinogenic PAHs.

Key: PAH - Polycyclic aromatic hydrocarbons.
PCP - Pentachlorophenol.
BGS - Below ground surface.
-- - Analyte not proposed at this location.

Table 3-2

Dioxin Sample Collection Summary
McCormick & Baxter Creosoting Company
Portland, Oregon

Site Area	Previous Remedial Action Area[1]	Station Locations	Sample Numbers	Sample Type[2]	Sample Depth (feet bgs)
Log Storage Area	RA1	LSA4, LSA5	MB007SS00, MB012SS00	Composite	0 - 1
	RA2	LSA17, LSA19	MB018SS00, MB002SS00	Composite	0 - 1
		LSA14	MB019SS00	Grab	0.5
Pole Dryer Area	RA3	PDA25, PDA27, PDA28, PDA29	MB204SS00, MB201SS00, MB206SS00, MB209SS00	Composite	0 - 1
		PDA28	MB206SS00	Grab	0.5
East Yard Area	RA4	EYA35, EYA38	MB258SS00, MB258SS01, MB262SS00, MB262SS01	Composite	0 - 1
	RA5	EYA44	MB254SS00	Composite	0 - 1
		EYA35	MB258SS00	Grab	0.5
Stacker Shed Area	RA6	SSA119, SSA77, SSA83	MB062SS00, MB063SS00, MB088SS00	Composite	0 - 1
	RA7	SSA79	MB065SS00	Composite	0 - 1
	RA8	SSA91, SSA95	MB084SS00, MB079SS00	Composite	0 - 1
	RA9	SSA92	MB076SS00	Composite	0 - 1
		SSA85	MB087SS00	Grab	0.5
ACC Soil Area		ACC51	MB755SS00	Grab	0.5
Southern Corner Area	RA11	SCA56	MB802SS00	Composite	0 - 1
		SCA57	MB801SS00	Grab	0.5
Area A		AA101	MB401SS00	Grab	0.5
Pole Peeler Area		PPA274	MB700SS00	Grab	0.5
Former Waste Disposal Area	RA10	FWD205	MB141SS00, MB114SB04	Composite	0 - 4
		FWD205	MB141SS00	Grab	0.5
	RA12	FWD214	MB138SS00, MB139SB04, MB140SB10	Composite	0 - 10
		FWD211, FWD212	MB143SB04, MB144SB10, MB134SB04, MB135SB10	Composite	0 - 10

Table 3-2

Dioxin Sample Collection Summary
McCormick & Baxter Creosoting Company
Portland, Oregon

Site Area	Previous Remedial Action Area[1]	Station Locations	Sample Numbers	Sample Type[2]	Sample Depth (feet bgs)
		FWD214	MB142SS00	Grab	0.5
Central Processing Area	RA13-A	CPA226	MB363SS00, MB393SS01, MB364SB04, MB365BS10	Composite	0 - 10
	RA13-B	CPA232, CPA233	MB372SS00, MB394SS01, MB345SS00, MB399SS01, MB346SB04	Composite	0 - 4
	RA13-C	CPA238, CPA239, CPA241	MB381SB04, MB321SS00, MB348SS00, MB349SS01	Composite	0 - 4
		CPA243, CPA244	MB389SB04, MB390SB10, MB325SS00	Composite	0 - 10
		CPA225	MB304SS00	Grab	0.5
		CPA241	MB348SS00	Grab	0.5
Southeast Waste Disposal Trench	RA14	SEW290	MB676SS00	Grab	0.5
	RA15	SEW293	MB690SS00	Grab	0.5
	RA16	SEW294	Surface sample and MB622SB04	Composite	0 - 4
Tank Farm Area	RA17	TFA251, TFA253	MB517SB04, MB518SB10, MB502SB04, MB503SB10	Composite	4- 10
		TFA251	MB516SS00	Grab	0.5
		TFA256	MB523SS00	Grab	0.5
Creosote Tank Area	RA18	CTA262	MB559SB04, MB561SB10	Composite	4 - 10
		CTA262	MB558SS00	Grab	0.5
		CTA268	MB566SS00	Grab	0.5
Creosote Dock Area		CDA350	MB450SS00	Grab	0.5
		CDA362	MB477SS00	Grab	0.5
	Perimeter North 1	EYA32, PER110, PER111	MB259SS00, MB950SS00, MB951SS00	Composite	0 - 1
	Perimeter North 2	PER112, PER13, PER114	MB952SS00, MB953SS00, MB954SS00	Composite	0 - 1

Table 3-2

Dioxin Sample Collection Summary
McCormick & Baxter Creosoting Company
Portland, Oregon

Site Area	Previous Remedial Action Area[1]	Station Locations	Sample Numbers	Sample Type[2]	Sample Depth (feet bgs)
	Perimeter East 1	ACC52, PER115, PER116	MB754SS00, MB955SS00, MB956SS00	Composite	0 - 1
	Perimeter East 2	ACC54, PER117, PER118	MB756SS00, MB957SS00, MB958SS00	Composite	0 - 1
	N. Edgewater St.	OFF500, OFF501, OFF502, OFF503	MB850SS00, MB851SS00, MB852SS00, MB853SS00, MB854SS00	Composite	0 - 1
	East Gate Area	OFF505, OFF506, OFF507	MB855SS00, MB857SS00, MB856SS00	Composite	0 - 1

1 Previous remedial action areas were defined in the *Draft Remedial Design Data Summary Report* (E & E 1997c).
2 Grab samples were previously collected during the RD soil sampling event in December 1996; and data has been validated. Composite samples were composited at Sound Analytical Laboratory; and data has been validated.

bgs Below ground surface.

Table 4-1

FIELD SCREENING CPAH AND PCP RESULTS
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Sample Location	Depth (feet)	Field Screening Data		Field Screening Duplicates		Laboratory Analytical Data	
		CPAHs	PCP	CPAHs	PCP	CPAHs	PCP
FWD201	10	2.9 L	28	1.5	13	28.8	35 D
FWD206	4	0.39	0.34	NA	NA	0 U	0.29 U
FWD208	0	1.08 L	6.4	NA	NA	1.102	2.3
FWD208	4	0.95 L	3.6	NA	NA	2.67	3.4
FWD208	10	0.08	0.47	NA	NA	0.091	0.29 U
FWD212	10	29 L	0.99	NA	NA	116.4	220
CPA225	4	0.45	0.76	1.1	0.112	0.89	0.59
CPA223	0	2.5	1.02	NA	NA	5.416	2.4
CPA228	10	1	1.5	1.4	1.16	0.084	1.2
CPA231	4	1.6	0.18	NA	NA	0.183	0.39
CPA233	0	38 L	42 L	NA	NA	148.7	160
CPA233	4	29 L	37 L	NA	NA	106.6	150
CPA224	0	4.3	29 L	4.3	2.1	6.86	44 D
CPA226	4	1.6	0.1 U	NA	NA	0.068	0.28 U
CPA226	10	0.3	0.15	NA	NA	0 U	0.29 U
CPA230	10	0.7	0.18	0.6	0.08	0.236	0.15 U
CPA235	4	1.5	0.13	NA	NA	1.195	0.58
CPA238	0	3 L	180 L	NA	NA	7.74	300 D
CDA355	10	3.7 L	0.12	NA	NA	13.58	0.16 J
CDA356	4	1	0.08	NA	NA	0.307	0.28
CDA361	4	1.8 L	1.8	NA	NA	3.96	2.1
CDA362	0	2.5 L	5.2	NA	NA	11.7	5.3
TFA248	4	2.6 L	330 L	NA	NA	12.67	390 D
TFA248	10	1.9 L	320 L	NA	NA	5.81	320 D
TFA253	4	23 L	23 L	NA	NA	201	56 U
TFA253	10	35 L	32 L	NA	NA	398	57 U
CTA258	4	1.5	0.79	NA	NA	0.34	0.1 J
CTA263	10	2.3	1.6	NA	NA	1.048	1.3
CTA264	4	0.57	0.65	0.56	1.3	0 U	0.22 J
CTA264	10	0.3	0.034	NA	NA	0 U	0.072 J
SEW309	10	0.01 U	1.04	NA	NA	0 U	0.27 U
SEW308	4	0.19	0.36	0.39	0.44	0 U	0.29 U
SEW302	4	0.25	0.52	NA	NA	0 U	0.28 U
SEW304	10	0.21	0.84	NA	NA	0 U	0.29 U
SEW288	4	0.6	0.98	0.75	0.41	0.412	0.28 U
SEW289	4	0.01 U	0.7	NA	NA	0 U	0.27 U
SEW289	10	0.16	0.22	NA	NA	0 U	0.27 U
SEW283	10	0.028	0.2	NA	NA	0 U	0.28 U
SEW301	0	16 L	NA	NA	NA	36	14
SEW286	4	0.3	0.64	NA	NA	0 U	0.27 U
SEW298	10	0.58 L	0.219	NA	NA	0 U	0.18 J

Table 4-1

FIELD SCREENING CPAH AND PCP RESULTS
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Sample Location	Depth (feet)	Field Screening Data		Field Screening Duplicates		Laboratory Analytical Data	
		CPAHs	PCP	CPAHs	PCP	CPAHs	PCP
SEW299	4	0.039	0.194	NA	NA	0 U	0.27 U
SEW300	9	0.025	0.69	NA	NA	0 U	0.28 U
PPA272	4	0.22	3.9	NA	NA	0 U	0.28 U
PPA278	10	0.091	2.9	NA	NA	0 U	0.28 U

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
D = Result of a diluted sample.
L = Results biased low.
NA = Not analyzed.
PCP = Pentachlorophenol.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-2

SUMMARY OF DATA - LOG STORAGE AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	LSA1	LSA2	LSA3	LSA4	LSA5	LSA6	LSA7	LSA8
0	Arsenic	4.7	***18.1***	4.7	***651***	***720***	***12.7***	***88.6***	***87***
	Pentachlorophenol	0.27	0.9	0.23	37	12	1.1	4.7	9.2
	Total CPAHs	0.11	0.432	U	***6.76***	***4.05***	***1.73***	***4.942***	***2.09***
1	Arsenic	NA	***107***	NA	NA	NA	4.7	NA	***48***
	Pentachlorophenol	NA	1.8	NA	NA	NA	0.39	NA	2.3
	Total CPAHs	NA	***1.49***	NA	NA	NA	***16.97***	NA	0.298
4	Arsenic	NA	NA	NA	NA	NA	NA	4.7	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	0.27 U	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	U	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-2

SUMMARY OF DATA - LOG STORAGE AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	LSA9	LSA10	LSA11	LSA12	LSA13	LSA14	LSA15	LSA16
0	Arsenic	***287***	***64***	6.4	***12***	***58.6***	***120***	***92***	7.8
	Pentachlorophenol	***57 D***	4.3	0.72	0.92	4.3	26	7.6	2.3
	Total CPAHs	***5.91***	***1.365***	0.065	0.706	***1.13***	***1.61***	***1.49***	0.204
1	Arsenic	***61.4***	NA	NA	NA	NA	***94***	NA	NA
	Pentachlorophenol	5.9	NA	NA	NA	NA	5.4	NA	NA
	Total CPAHs	***37.25***	NA	NA	NA	NA	0.8	NA	NA
4	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-2

SUMMARY OF DATA - LOG STORAGE AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	LSA17	LSA18	LSA19	LSA20	LSA21	LSA22	LSA400	LSA401
0	Arsenic	***500***	***140***	***498***	***89***	7.6	***20.2***	NA	NA
	Pentachlorophenol	12	8.9	***72 D***	13	0.2 J	0.92	NA	NA
	Total CPAHs	***8.26***	***2.045***	***1.04***	0.355	0.087	0.666	NA	NA
1	Arsenic	NA	NA	NA	***24***	NA	2.9	5.2	***12.4***
	Pentachlorophenol	NA	NA	NA	2.1	NA	0.27 U	0.21 U	0.54
	Total CPAHs	NA	NA	NA	0.078	NA	U	U	0.774
4	Arsenic	NA	NA	2	NA	NA	NA	2.9	1.5
	Pentachlorophenol	NA	NA	0.27 U	NA	NA	NA	0.2 U	0.21 U
	Total CPAHs	NA	NA	U	NA	NA	NA	U	U

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-2

SUMMARY OF DATA - LOG STORAGE AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	LSA402	LSA403
0	Arsenic	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*
	Total CPAHs	*NA*	*NA*
1	Arsenic	3	2.5
	Pentachlorophenol	0.2 U	0.19 U
	Total CPAHs	U	***2.84***
4	Arsenic	1.9	2.4
	Pentachlorophenol	0.2 U	0.2 U
	Total CPAHs	U	***1.16***

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-3

SUMMARY OF DATA - POLE DRYER AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	PDA23	PDA24	PDA25	PDA26	PDA27	PDA28	PDA29	PDA30	PDA31
0	Arsenic	***29***	***140***	***1700***	***41***	***310***	***1300***	***780***	***130***	***240***
	Pentachlorophenol	0.26 U	8.1	***170 D***	0.25 U	7.9	***71 D***	33 D	5.2	***350 D***
	Total CPAHs	***1.023***	***13.61***	***65.2***	0.773	***18.1***	***34***	***14.83***	***6.31***	***11.15***
1	Arsenic	NA	NA	***72***	NA	NA	***810***	NA	NA	NA
	Pentachlorophenol	NA	NA	23 D	NA	NA	***60 D***	NA	NA	NA
	Total CPAHs	NA	NA	***22.12***	NA	NA	***11.85***	NA	NA	NA
4	Arsenic	NA	NA	NA	NA	NA	***84***	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	21	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	***1.126***	NA	NA	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-4

SUMMARY OF DATA - EAST YARD AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	EYA32	EYA33	EYA34	EYA35	EYA36	EYA37	EYA38	EYA39
0	Arsenic	***24***	***150***	***40***	***2100***	***64***	***18***	***1300***	***170***
	Pentachlorophenol	0.8	6.8	1.7	6.7	2.7	1.1	15	31 D
	Total CPAHs	0.773	***12.56***	***6.72***	***8.55***	***4.86***	***1.586***	***33.9***	***47.6***
1	Arsenic	*NA*	*NA*	*NA*	***180***	*NA*	*NA*	***190***	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	0.16 J	*NA*	*NA*	3.1	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	U	*NA*	*NA*	***10.14***	*NA*
4	Arsenic	*NA*	*NA*	*NA*	***32***	*NA*	*NA*	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	0.28 U	*NA*	*NA*	*NA*	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	U	*NA*	*NA*	*NA*	*NA*

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-4

SUMMARY OF DATA - EAST YARD AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	EYA40	EYA41	EYA42	EYA43	EYA44	EYA45	EYA46
0	Arsenic	***45***	***32***	***220***	***110***	***450***	***82***	***45***
	Pentachlorophenol	5.7	2.4	7.2	22	5	6.6	24
	Total CPAHs	***12.62***	***4.706***	***16.96***	***39.54***	***3.916***	***8.07***	***22.95***
1	Arsenic	*NA*	***11***	*NA*	*NA*	*NA*	***24***	*NA*
	Pentachlorophenol	*NA*	***2.1***	*NA*	*NA*	*NA*	2.1	*NA*
	Total CPAHs	*NA*	***6.99***	*NA*	*NA*	*NA*	***2.49***	*NA*
4	Arsenic	*NA*	*NA*	*NA*	*NA*	*NA*	***2.8***	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	*NA*	*NA*	*0.28 U*	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	*NA*	*NA*	*U*	*NA*

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-5

SUMMARY OF DATA - STACKER SHED AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SSA68	SSA69	SSA70	SSA71	SSA72	SSA73	SSA74	SSA75
0	Arsenic	***57.7***	***37.5***	***103***	***28.3***	***97***	***211***	***91.4***	***104***
	Pentachlorophenol	0.43	0.13 J	4.7	0.14 J	4.1	***470 D***	6.7	2.4
	Total CPAHs	0.614	U	0.354	0.355	***1.117***	***5.54***	0.702	***2.03***
1	Arsenic	*NA*	*NA*	***20.5***	*NA*	*NA*	*NA*	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*	1.4	*NA*	*NA*	*NA*	*NA*	*NA*
	Total CPAHs	*NA*	*NA*	0.093	*NA*	*NA*	*NA*	*NA*	*NA*
4	Arsenic	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-5

SUMMARY OF DATA - STACKER SHED AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SSA76	SSA77	SSA78	SSA79	SSA80	SSA81	SSA82	SSA83
0	Arsenic	5.3	***848***	***15***	***416***	***51.3***	***66***	***131***	***350***
	Pentachlorophenol	0.12 J	4.9	0.28	***82 D***	17	***110 D***	1.4	15
	Total CPAHs	***1.32***	***3.32***	0.636	***30.97***	***3.54***	***13.32***	***1.512***	***4.09***
1	Arsenic	NA	NA	NA	NA	***29***	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	3.3	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	0.833	NA	NA	NA
4	Arsenic	NA	NA	NA	NA	NA	NA	2.7	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	0.28 U	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	U	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-5

SUMMARY OF DATA - STACKER SHED AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SSA84	SSA85	SSA86	SSA87	SSA88	SSA89	SSA90	SSA91
0	Arsenic	***56***	***8.7***	***83***	***170***	***79***	***290***	***34***	***320***
	Pentachlorophenol	0.29 U	0.085 J	11	9.7	3.1	6.2	0.37	2.8
	Total CPAHs	***1.28***	U	***6.81***	***49.1***	***2.44***	***2.835***	0.454	***5.87***
1	Arsenic	*NA*	*NA*	*NA*	*NA*	*NA*	***300***	***18***	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	*NA*	*NA*	2.8	0.67	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	*NA*	*NA*	***1.74***	***1.83***	*NA*
4	Arsenic	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-5

SUMMARY OF DATA - STACKER SHED AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SSA92	SSA93	SSA94	SSA95	SSA96	SSA97	SSA98	SSA99	SSA119
0	Arsenic	***320***	***43***	***290***	***380***	***100***	***28***	***62***	***99***	***363***
	Pentachlorophenol	21	1.5	1.8	5.4	4.4	4.1	1.2	6.9	2.4
	Total CPAHs	***62.6***	0.715	***4.17***	***4.798***	***9***	***1.382***	***1.466***	***98.3***	***1.063***
1	Arsenic	*NA*	*NA*	*NA*	***280***	***21***	*NA*	***52***	***8.2***	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	1.6	0.28 J	*NA*	0.39	0.11 J	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	***1.42***	***1.319***	*NA*	0.394	***1.506***	*NA*
4	Arsenic	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	7.2	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	0.29 U	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	*NA*	0.402	*NA*

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-5

SUMMARY OF DATA - STACKER SHED AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SSA411	SSA412	SSA413	SSA414	SSA415	SSA416	SSA417
0	Arsenic	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA
1	Arsenic	***56.9***	***9.5***	***98.8***	***14.8***	***245***	***23.4***	2.7
	Pentachlorophenol	***200 D***	0.2 U	2.7	1.9	7.3	0.2 U	0.2 U
	Total CPAHs	***663.9***	U	***1.268***	0.93	***4.47***	U	***1.42***
4	Arsenic	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-6

SUMMARY OF DATA - ACC SOIL AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	ACC47	ACC48	ACC49	ACC50	ACC51	ACC52	ACC53	ACC54	ACC55
0	Arsenic	***16***	5.1	6.9	***23***	5.7	4.1	***240***	***13***	***13***
	Pentachlorophenol	3	4.2	0.67	0.27 U	1.8	0.33	1.6	1.2	1.9
	Total CPAHs	***2.32***	***16.98***	***2.86***	0.876	***2.91***	***1.56***	***1.184***	***2.4***	***2.07***
1	Arsenic	4.5	*NA*	*NA*	*NA*	*NA*	*NA*	***30***	*NA*	*NA*
	Pentachlorophenol	1.1	*NA*	*NA*	*NA*	*NA*	*NA*	0.075 J	*NA*	*NA*
	Total CPAHs	***2.94***	*NA*	*NA*	*NA*	*NA*	*NA*	0.246	*NA*	*NA*
4	Arsenic	*NA*	*NA*	*NA*	*NA*	2.3	*NA*	*NA*	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*	*NA*	0.29 U	*NA*	*NA*	*NA*	*NA*
	Total CPAHs	*NA*	*NA*	*NA*	*NA*	U	*NA*	*NA*	*NA*	*NA*

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-7

SUMMARY OF DATA - SOUTHERN CORNER AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SCA56	SCA57	SCA58	SCA59
0	Arsenic	***580***	***14***	4.4	***12***
	Pentachlorophenol	0.97	0.55	0.39 U	0.31 J
	Total CPAHs	***2.46***	0.15	U	U
1	Arsenic	*NA*	*NA*	*NA*	5.6
	Pentachlorophenol	*NA*	*NA*	*NA*	0.27 U
	Total CPAHs	*NA*	*NA*	*NA*	0.275
4	Arsenic	*NA*	2.5	*NA*	*NA*
	Pentachlorophenol	*NA*	0.26 U	*NA*	*NA*
	Total CPAHs	*NA*	U	*NA*	*NA*

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-8

SUMMARY OF DATA - AREA A
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	AA100	AA101	AA102	AA103
0	Arsenic	4.2	***39***	3.6	***81***
	Pentachlorophenol	0.15 J	3.9	0.11 J	35 D
	Total CPAHs	0.093	***1.877***	0.12	***10.49***
1	Arsenic	3.1	NA	NA	NA
	Pentachlorophenol	0.24 U	NA	NA	NA
	Total CPAHs	U	NA	NA	NA
4	Arsenic	NA	2.4	NA	NA
	Pentachlorophenol	NA	0.27 U	NA	NA
	Total CPAHs	NA	U	NA	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-9

SUMMARY OF DATA - POLE PEELER AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	PPA270	PPA272	PPA273	PPA274	PPA275	PPA276	PPA277	PPA278	PPA444
0	Arsenic	NA	NA	NA	7.1	NA	***11***	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	0.13 J	NA	0.23 J	NA	NA	NA
	Total CPAHs	NA	NA	NA	0.264	NA	0.571	NA	NA	NA
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA	7.8
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA	0.2 U
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA	U
4	Arsenic	2.3	2.5	2.6	2.4	2.8	6	2.2	2.7	NA
	Pentachlorophenol	0.29 U	0.28 U	2.3	0.29 U	0.16 J	0.28 U	0.28 U	0.28 U	NA
	Total CPAHs	U	U	***19.61***	U	0.154	U	U	U	NA
9-10	Arsenic	2.2	1.7	1.8	1.9	2.7	2.6	2.8	1.9	NA
	Pentachlorophenol	0.28 U	0.27 U	0.28 U	0.28 U	0.27 U	0.28 U	0.27 U	0.28 U	NA
	Total CPAHs	U	U	0.33	U	U	U	U	U	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

ecology and environment

Table 4-10

SUMMARY OF DATA - PERIMETER AND OTHER
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	PER110	PER111	PER112	PER113	PER114	PER115	PER116	PER117	PER118
0	Arsenic	***67***	7.9	1.9	4.1	6.9	2	***16***	4.8	***42***
	Pentachlorophenol	1.3	0.65	0.26 J	8.1	0.28 J	0.29 U	3.7	0.2 J	9.1
	Total CPAHs	***5.017***	***3.8***	***1.24***	***16.36***	***2.32***	0.1	***5.83***	U	***10.6***

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-10

SUMMARY OF DATA - PERIMETER AND OTHER
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	OTH104	OTH105	OTH106	OTH107	OTH108	OTH109
0	Arsenic	***85***	7.7	4	7.7	2	***14***
	Pentachlorophenol	7.5	0.32	0.29 U	0.34 U	0.3 U	0.31 U
	Total CPAHs	***10.58***	0.723	0.169	0.43	0.169	***1.294***

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

ecology and environment

Table 4-11

SUMMARY OF DATA - OFFSITE
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	OFF500	OFF501	OFF502	OFF503	OFF504	OFF505	OFF506	OFF507
0	Arsenic	3.6	4.3	1.8	2.9	4.2	2.6	1.9	1.4
	Pentachlorophenol	0.29 U	0.28 U	0.28 U	0.15 J	0.27 U	0.29 U	0.29 U	0.29 U
	Total CPAHs	0.254	0.426	U	***2.35***	0.526	U	0.158	U

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-12

SUMMARY OF DATA - FORMER WASTE DISPOSAL AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	FWD200	FWD201	FWD202	FWD203	FWD204	FWD205	FWD206	FWD207
0	Arsenic	3.6	***200***	***100***	***200***	NA	***51***	NA	7
	Pentachlorophenol	0.47	18	***74 D***	0.47	NA	***350***	NA	8.7
	Total CPAHs	U	***23.6***	***56.72***	***1.573***	NA	***127.2***	NA	***1.48***
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
4	Arsenic	5.1	***19***	5	***67***	***47***	***400***	2.6	5
	Pentachlorophenol	0.38	3.4	0.62	0.3 U	0.27 U	***180***	0.29 U	3.9
	Total CPAHs	U	***5.67***	0.87	***2.467***	0.906	***42.1***	U	***2.16***
10	Arsenic	3.1	***29***	5.1	5.5	4.7	***260***	2.6	3
	Pentachlorophenol	0.11 J	35 D	4.9	0.28 U	0.27 U	***140***	0.28 U	2.3
	Total CPAHs	U	***28.88***	***2.32***	0.321	U	***62.5***	0.62	0.308

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

ecology and environment

Table 4-12

SUMMARY OF DATA - FORMER WASTE DISPOSAL AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	FWD208	FWD209	FWD210	FWD211	FWD212	FWD213	FWD214	FWD216
0	Arsenic	***160***	***120***	2.3	NA	NA	NA	***10***	2.6
	Pentachlorophenol	2.3	***93***	0.27 U	NA	NA	NA	***100***	0.27 U
	Total CPAHs	***1.102***	***37.3***	U	NA	NA	NA	***43.1***	U
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
4	Arsenic	***33***	***160***	3.2	***630***	***8***	3.1	***3400***	7.3
	Pentachlorophenol	3.4	***170***	0.26 U	***1900 D***	***160***	26	***8100 D***	0.26 U
	Total CPAHs	***2.67***	***70.5***	***3.5***	***921.9***	***102.4***	***48.2***	***1698***	0.145
10	Arsenic	2.4	***140***	2.5	***23***	2.7	***25***	***310***	***10***
	Pentachlorophenol	0.29 U	***170***	0.27 U	***410***	***220***	***57***	***1100***	0.64
	Total CPAHs	0.091	***72.1***	***2.05***	***136.6***	***116.4***	***10.9***	***495***	0.22

Concentrations exceeding cleanup levels are listed in bold italics.
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Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-12

SUMMARY OF DATA - FORMER WASTE DISPOSAL AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	FWD217	FWD404	FWD405	FWD406	FWD407	FWD408	FWD409	FWD410
0	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
1	Arsenic	NA	NA	NA	2.2	2.4	2.9	3.5	2.1
	Pentachlorophenol	NA	NA	NA	0.25	0.2 U	0.19 U	0.52	0.2 U
	Total CPAHs	NA	NA	NA	0.14	U	0.305	***1.41***	U
4	Arsenic	***120***	3.9	2.6	3.4	2.9	2.2	2.3	2
	Pentachlorophenol	***370***	0.35	0.19 U	0.2 U	0.19 U	0.19 U	0.19 U	2.7
	Total CPAHs	***77.8***	0.208	U	0.601	U	U	U	***1.7***
10	Arsenic	***180***	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	***120***	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	***23.3***	NA	NA	NA	NA	NA	NA	NA

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Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

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mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

ecology and environment

Table 4-13

SUMMARY OF DATA - CENTRAL PROCESSING AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CPA218	CPA219	CPA220	CPA221	CPA222	CPA223	CPA224	CPA225
0	Arsenic	***11***	***8.1***	***84***	***44***	***240***	***30***	***230***	***53***
	Pentachlorophenol	1.5	0.66	***72 D***	8.5	***100***	2.4	44 D	10
	Total CPAHs	***1.81***	***2.66***	***50.56***	***1.651***	***40.59***	***6.43***	***7.29***	***14.06***
1	Arsenic	NA	2.6	NA	NA	***130***	NA	NA	NA
	Pentachlorophenol	NA	0.25 J	NA	NA	***310 D***	NA	NA	NA
	Total CPAHs	NA	0.274	NA	NA	***59.8***	NA	NA	NA
4	Arsenic	2.7	2.4	3.3	6.3	2.5	3.3	4.2	3.8
	Pentachlorophenol	3.8	0.22 J	2	0.29 U	***170***	0.16 J	2.9 U	0.59
	Total CPAHs	***2.574***	0.68	U	U	***15.76***	0.149	0.355	0.89
10	Arsenic	4.2	2.4	3.1	6.2	6.4	***8.5***	***11***	3.3
	Pentachlorophenol	2.7	0.29 U	0.27 J	0.29 U	7.8	0.28 U	0.19 J	0.48
	Total CPAHs	***1.136***	0.298	U	U	***1.548***	U	0.492	0.829

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Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-13

SUMMARY OF DATA - CENTRAL PROCESSING AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CPA226	CPA227	CPA228	CPA229	CPA230	CPA231	CPA232	CPA233
0	Arsenic	***680***	***78***	***30***	2.4	NA	***56***	***930***	***770***
	Pentachlorophenol	0.28 U	***400 D***	9.2	0.28 U	NA	24	***710 D***	***160***
	Total CPAHs	U	***87.71***	***7.689***	0.151	NA	***16.6***	***78.5***	***148.7***
1	Arsenic	***790***	NA	NA	NA	NA	NA	***640***	***630***
	Pentachlorophenol	0.067 J	NA	NA	NA	NA	NA	***140 D***	***230***
	Total CPAHs	0.188	NA	NA	NA	NA	NA	***31.99***	***145.8***
4	Arsenic	***770***	5	6.8	2.4	***12***	2.9	***82***	***450***
	Pentachlorophenol	0.28 U	14	1.9	0.28 U	0.47	0.39	***56 D***	***150***
	Total CPAHs	0.068	***2.26***	***1.04***	U	***1.11***	0.183	***27.97***	***106.6***
10	Arsenic	***1100***	***53***	2.9	2.5	***39***	1.5	***34***	***19***
	Pentachlorophenol	0.29 U	***73***	1.2	0.29 U	0.15 J	0.28 U	11	0.38
	Total CPAHs	U	***60.6***	0.084	U	0.236	U	***6.03***	0.647

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Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

ecology and environment

Table 4-13

SUMMARY OF DATA - CENTRAL PROCESSING AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CPA234	CPA235	CPA236	CPA237	CPA238	CPA239	CPA240	CPA241
0	Arsenic	***24***	2.4	***78***	***60***	***46***	***150***	2.4	***110***
	Pentachlorophenol	5.7	0.22 J	12	7.8	***300 D***	***1700 D***	1.2	***430 D***
	Total CPAHs	***7.08***	***11.7***	***4.4***	***6.97***	***7.74***	***73.8***	***1.354***	***198.8***
1	Arsenic	NA	NA	NA	NA	***33***	NA	NA	***59***
	Pentachlorophenol	NA	NA	NA	NA	3.8	NA	NA	8.5
	Total CPAHs	NA	NA	NA	NA	***5.17***	NA	NA	***8.82***
4	Arsenic	2.5	7.5	***15***	3.1	***16***	4.8	2.9	***45***
	Pentachlorophenol	0.35	0.58	9.2	0.38	***2300 D***	1.6	2.5	***3700 D***
	Total CPAHs	U	***1.195***	***2.82***	U	***3.37***	0.16	***2.31***	***38.72***
10	Arsenic	2.1	2.7	3	2	3	***14***	2.6	***18***
	Pentachlorophenol	0.26 U	0.91	2.2	0.29 U	3.2	24	0.48	***76 D***
	Total CPAHs	U	0.088	0.09	U	0.334	0.406	0.163	***6.02***

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-13

SUMMARY OF DATA - CENTRAL PROCESSING AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CPA242	CPA243	CPA244	CPA418	CPA419	CPA420	CPA421	CPA422
0	Arsenic	2.2	NA	***63***	NA	NA	***20.9***	NA	NA
	Pentachlorophenol	30 D	NA	***2700 D***	NA	NA	***98***	NA	NA
	Total CPAHs	0.824	NA	***50.18***	NA	NA	***122.8***	NA	NA
1	Arsenic	NA	NA	NA	***346***	3.7	NA	***104***	1.9
	Pentachlorophenol	NA	NA	NA	0.68	1.3	NA	5.8	0.18 J
	Total CPAHs	NA	NA	NA	0.221	***22.55***	NA	***1.166***	0.323
4	Arsenic	4.1	5.4	5.2	NA	NA	NA	NA	NA
	Pentachlorophenol	***340 D***	***41000 D***	4.3	NA	NA	NA	NA	NA
	Total CPAHs	0.35	***1.8***	0.912	NA	NA	NA	NA	NA
10	Arsenic	2.1	6.4	2.4	NA	NA	NA	NA	NA
	Pentachlorophenol	4.2	***55000 D***	0.78	NA	NA	NA	NA	NA
	Total CPAHs	0.273	***2.35***	0.099	NA	NA	NA	NA	NA

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Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-13

SUMMARY OF DATA - CENTRAL PROCESSING AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CPA423	CPA424	CPA426	CPA428	CPA431
0	Arsenic	***235***	NA	NA	NA	***45.9***
	Pentachlorophenol	***100***	NA	NA	NA	***2800 D***
	Total CPAHs	***175.5***	NA	NA	NA	***41.36***
1	Arsenic	NA	7.5	***74.9***	2.6	NA
	Pentachlorophenol	NA	0.2 J	0.48	0.2 U	NA
	Total CPAHs	NA	***2.93***	0.805	0.504	NA
4	Arsenic	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA
10	Arsenic	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-14

SUMMARY OF DATA - SOUTHEAST WASTE DISPOSAL TRENCH
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SEW279	SEW280	SEW281	SEW282	SEW283	SEW284	SEW285	SEW286
0	Arsenic	4	***19***	5.7	NA	***100***	NA	NA	NA
	Pentachlorophenol	0.29	***56***	0.77	NA	0.26 J	NA	NA	NA
	Total CPAHs	***3.52***	***69.3***	***16.73***	NA	0.199	NA	NA	NA
1	Arsenic	NA	5.3	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	8.8	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	***17.71***	NA	NA	NA	NA	NA	NA
4	Arsenic	2	4.1	4.3	2.8	4.6	3.6	***150***	2.6
	Pentachlorophenol	0.28 U	14	0.11 J	0.27 U	0.28 U	19	14	0.27 U
	Total CPAHs	0.507	***7.455***	***4.166***	U	0.708	***5.27***	***65.5***	U
6-10	Arsenic	2.3	2.6	2.1	4.6	***9.2***	2.9	7.7	2.5
	Pentachlorophenol	0.28 U	2.6	0.28 U	0.28 U	0.28 U	2.5	1	0.29 U
	Total CPAHs	U	***1.95***	0.352	U	U	***1.91***	***39.47***	U

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-14

SUMMARY OF DATA - SOUTHEAST WASTE DISPOSAL TRENCH
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SEW287	SEW288	SEW289	SEW290	SEW291	SEW292	SEW293	SEW294
0	Arsenic	***190***	NA	2.6	***27***	6.7	NA	***330***	NA
	Pentachlorophenol	6	NA	0.28 U	***77***	0.12 J	NA	***61 D***	NA
	Total CPAHs	***11.01***	NA	U	***111.4***	0.12	NA	***89.47***	NA
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
4	Arsenic	***38***	***34***	2.6	4.3	2.5	5.9	***230***	***300***
	Pentachlorophenol	0.073 J	0.15 J	0.27 U	0.92	0.27 U	0.34	11	1.7
	Total CPAHs	0.586	0.412	U	***1.198***	U	0.778	***14.47***	0.964
6-10	Arsenic	***29***	3.9	2.4	2.4	2.1	***74***	***8.5***	***250***
	Pentachlorophenol	0.27 U	0.27 U	0.27 U	0.81	0.27 U	11	0.14 J	2.8
	Total CPAHs	U	U	U	0.925	U	***35.4***	0.065	***1.69***

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-14

SUMMARY OF DATA - SOUTHEAST WASTE DISPOSAL TRENCH
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SEW295	SEW296	SEW297	SEW298	SEW299	SEW300	SEW301	SEW302
0	Arsenic	3.5	NA	3.4	NA	NA	NA	***260***	NA
	Pentachlorophenol	0.27 U	NA	0.2 J	NA	NA	NA	14	NA
	Total CPAHs	0.22	NA	***25.23***	NA	NA	NA	***36***	NA
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
4	Arsenic	***23***	***9.4***	1.3	2.8	2.1	2.4	***42***	6.4
	Pentachlorophenol	0.27 U	0.29 U	0.29 U	0.27 U	0.27 U	0.28 U	43	0.28 U
	Total CPAHs	U	0.076	0.616	0.256	U	U	***65.6***	U
6-10	Arsenic	6.2	2.3	3.2	1.9	2.4	1.9	***87***	2.2
	Pentachlorophenol	0.28 U	0.28 U	0.29 U	0.18 J	NA	0.28 U	24	0.29 U
	Total CPAHs	0.561	U	0.435	U	NA	U	***55.4***	0.55

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

ecology and environment

Table 4-14

SUMMARY OF DATA - SOUTHEAST WASTE DISPOSAL TRENCH
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SEW303	SEW304	SEW305	SEW306	SEW307	SEW308	SEW309	SEW310
0	Arsenic	NA	NA	***47***	NA	NA	2.9	NA	7
	Pentachlorophenol	NA	NA	9.3	NA	NA	0.29 U	NA	0.27 U
	Total CPAHs	NA	NA	***16.37***	NA	NA	U	NA	U
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
4	Arsenic	2.6	4.5	3.6	2.4	2.1	2.2	2.5	2.2
	Pentachlorophenol	0.28 U	0.28 U	0.44 U	0.27 U	0.29 U	0.29 U	0.28 U	0.27 U
	Total CPAHs	U	***1.71***	U	U	U	U	0.066	U
6-10	Arsenic	1.7	2.3	2.4	2.8	2.1	1.5	2	2
	Pentachlorophenol	0.28 U	0.29 U	0.27 U	0.45 U	0.3 U	0.29 U	0.27 U	0.3 U
	Total CPAHs	U	U	0.771	U	U	U	U	U

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-14

SUMMARY OF DATA - SOUTHEAST WASTE DISPOSAL TRENCH
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	SEW311	SEW312	SEW435
0	Arsenic	*NA*	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*
	Total CPAHs	*NA*	*NA*	*NA*
1	Arsenic	*NA*	*NA*	*NA*
	Pentachlorophenol	*NA*	*NA*	*NA*
	Total CPAHs	*NA*	*NA*	*NA*
4	Arsenic	3.3	6.5	*NA*
	Pentachlorophenol	0.28 U	0.27 U	*NA*
	Total CPAHs	U	U	*NA*
6-10	Arsenic	2	3.3	2.9
	Pentachlorophenol	0.29 U	0.29 U	7.5
	Total CPAHs	U	U	***314.9***

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

ecology and environment

Table 4-15

SUMMARY OF DATA - TANK FARM AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	TFA245	TFA246	TFA247	TFA248	TFA249	TFA250	TFA251	TFA252
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
4	Arsenic	2.9	2.6	3.1	2.1	3.5	4.1	3.2	8.2
	Pentachlorophenol	0.22 J	0.27 U	0.084 J	***390 D***	***93 D***	1.2	***59 J D***	0.87
	Total CPAHs	0.304	U	U	***12.67***	***10.183***	***27.88***	***571***	U
5-10	Arsenic	2.6	2.5	2.8	1.3	2.6	3.3	2.7	3
	Pentachlorophenol	0.1 J	0.27 U	0.29 U	***320 D***	2.5	5.6	25	0.23 J
	Total CPAHs	U	U	U	***5.81***	0.418	***3.79***	***320***	U

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-15

SUMMARY OF DATA - TANK FARM AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	TFA253	TFA254	TFA255	TFA256	TFA257	TFA436	TFA437	TFA438	TFA439
1	Arsenic	NA	NA	NA	NA	NA	***12.8***	***25.5***	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	***750 D***	0.43	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	***6.66***	0.289	NA	NA
4	Arsenic	***8.4***	3.9	4	4.6	3	NA	NA	NA	NA
	Pentachlorophenol	56 U	13	0.77	5.2	0.1 J	NA	NA	NA	NA
	Total CPAHs	***201***	0.651	0.807	***8.44***	***5.73***	NA	NA	NA	NA
5-10	Arsenic	6.4	3.3	2.8	2.4	3.1	NA	NA	3	2.1
	Pentachlorophenol	57 U	3.1	0.3	0.32	0.48	NA	NA	4.3	0.49
	Total CPAHs	***398***	0.29	0.47	***6.45***	0.693	NA	NA	***65.65***	0.1

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-16

SUMMARY OF DATA - CREOSOTE TANK AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CTA258	CTA259	CTA260	CTA262	CTA263	CTA264	CTA265	CTA266
4	Arsenic	2.4	5.9	2.8	1.6	***9.2***	3.3	2.8	2.4
	Pentachlorophenol	0.1 J	3.2	0.14 J	0.28 U	3.5	0.22 J	0.1 J	0.23 J
	Total CPAHs	0.34	***8.23***	***1.168***	***105.05***	***3.18***	U	***1.899***	0.411
10	Arsenic	2.3	2.2	2.3	2	6.4	2	2.3	2.2
	Pentachlorophenol	0.086 J	0.52	0.11 J	0.29 U	1.3	0.072 J	0.27 U	0.27 U
	Total CPAHs	0.844	0.55	U	***155.62***	***1.048***	U	***29.1***	U

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

Table 4-16

SUMMARY OF DATA - CREOSOTE TANK AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CTA267	CTA268	CTA269	CTA441
4	Arsenic	2.9	3.6	4.4	4.5
	Pentachlorophenol	0.52	0.091 J	0.12 J	2.1 U
	Total CPAHs	0.48	0.93	U	U
10	Arsenic	3.8	2.8	3	NA
	Pentachlorophenol	0.073 J	0.28 U	0.28 U	NA
	Total CPAHs	U	***2.26***	U	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-17

SUMMARY OF DATA - CREOSOTE DOCK AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CDA350	CDA351	CDA352	CDA353	CDA354	CDA355	CDA356	CDA357
0	Arsenic	***15***	NA	NA	NA	NA	***13***	NA	NA
	Pentachlorophenol	4.2	NA	NA	NA	NA	0.076 J	NA	NA
	Total CPAHs	***7.78***	NA	NA	NA	NA	***7.58***	NA	NA
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	NA
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	NA
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	NA
4	Arsenic	NA	2.8	2.3	***14***	5.8	***17***	3.8	3.6
	Pentachlorophenol	NA	0.29 U	0.28 U	0.35	0.44	0.28 U	0.28	0.42
	Total CPAHs	NA	0.327	U	***14.67***	***1.61***	***14.75***	0.307	***2.06***
6-10	Arsenic	NA	2.4	2.5	***11***	2	***16***	2.7	2.7
	Pentachlorophenol	NA	0.29 U	0.28 U	0.34	0.28 U	0.16 J	0.28 U	0.24 J
	Total CPAHs	NA	0.215	U	***6.13***	0.067	***13.58***	0.295	***1.13***

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-17

SUMMARY OF DATA - CREOSOTE DOCK AREA
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/kg

Depth (feet)	Analyte	CDA358	CDA359	CDA360	CDA361	CDA362	CDA363	CDA364	CDA443
0	Arsenic	2.3	NA	NA	NA	6	***94***	NA	NA
	Pentachlorophenol	0.064 J	NA	NA	NA	5.3	0.27 U	NA	NA
	Total CPAHs	***3.09***	NA	NA	NA	***11.7***	***2.701***	NA	NA
1	Arsenic	NA	NA	NA	NA	NA	NA	NA	2.5
	Pentachlorophenol	NA	NA	NA	NA	NA	NA	NA	0.2 U
	Total CPAHs	NA	NA	NA	NA	NA	NA	NA	U
4	Arsenic	3	5.7	6.7	***96***	2.5	4.6	***44***	NA
	Pentachlorophenol	0.27 U	0.26 J	0.59	2.1	0.11 J	0.28 U	0.93	NA
	Total CPAHs	***1.435***	***1.62***	***2.02***	***3.96***	0.297	U	***16.3***	NA
6-10	Arsenic	2	4.2	2.9	3.6	2.3	6.9	***41***	NA
	Pentachlorophenol	0.97	0.28 U	0.28 U	0.27 U	0.28 U	0.087 J	0.52	NA
	Total CPAHs	***10.13***	***2.477***	0.162	0.079	***3.1***	0.369	***12.18***	NA

Concentrations exceeding cleanup levels are listed in bold italics.
Concentrations exceeding action levels and dioxin concentrations exceeding cleanup levels by 100 times are listed in bold italics and shaded.

Key:

CPAHs = Carcinogenic polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
NA = Not analyzed.
U = Not detected at detection limit shown or all CPAHs not detected.

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Table 4-18

Dioxin Data Summary
McCormick & Baxter Creosoting Company
Portland, Oregon

Site Area	Previous Remedial Action Area[1]	Station Locations (Sample Type)[2]	Sample Depth (feet bgs)	Dioxin TEQ Concentrations (ppt)
Log Storage Area	RA1	LSA4, LSA5 (Composite)	0 - 1	6,140
	RA2	LSA17, LSA19 (Composite)	0 - 1	29,930
		LSA14 (Grab)	0.5	4,076
Pole Dryer Area	RA3	PDA25, PDA27, PDA28, PDA29 (Composite)	0 - 1	74,903
		PDA28 (Grab)	0.5	50,606
East Yard Area	RA4	EYA35, EYA38 (Composite)	0 - 1	1,280
	RA5	EYA44 (Composite)	0 - 1	2,535
		EYA35 (Grab)	0.5	1,280
Stacker Shed Area	RA6	SSA119, SSA77, SSA83 (Composite)	0 - 1	3,276
	RA7	SSA79 (Composite)	0 - 1	2,386
	RA8	SSA91, SSA95 (Composite)	0 - 1	5,016
	RA9	SSA92 (Composite)	0 - 1	25,450
		SSA85 (Grab)	0.5	129
ACC Soil Area		ACC51 (Grab)	0.5	521
Southern Corner Area	RA11	SCA56 (Composite)	0 - 1	625
		SCA57 (Grab)	0.5	933
Area A		AA101 (Grab)	0.5	1,280
Pole Peeler Area		PPA274 (Grab)	0.5	333
Former Waste Disposal Area	RA10	FWD205 (Composite)	0 - 4	3,780
		FWD205 (Grab)	0.5	2,305
	RA12	FWD214 (Composite)	0 - 10	47,320
		FWD211, FWD212 (Composite)	0 - 10	16,125
		FWD214 (Grab)	0.5	480

Table 4-18

Dioxin Data Summary
McCormick & Baxter Creosoting Company
Portland, Oregon

Site Area	Previous Remedial Action Area[1]	Station Locations (Sample Type)[2]	Sample Depth (feet bgs)	Dioxin TEQ Concentrations (ppt)
Central Processing Area	RA13-A	CPA226 (Composite)	0 - 10	346
	RA13-B	CPA232, CPA233 (Composite)	0 - 4	56,650
	RA13-C	CPA238, CPA239, CPA241 (Composite)	0 - 4	5,750
		CPA243, CPA244 (Composite)	0 - 10	51,980
		CPA225 (Grab)	0.5	3,023
		CPA241 (Grab)	0.5	7,364
Southeast Waste Disposal Trench	RA14	SEW290 (Grab)	0.5	5,534
	RA15	SEW293 (Grab)	0.5	6,665
	RA16	SEW294 (Composite)	0 - 4	756
Tank Farm Area	RA17	TFA251, TFA253 (Composite)	4- 10	3,650
		TFA251 (Grab)	0.5	3,222
		TFA256 (Grab)	0.5	1,917
Creosote Tank Area	RA18	CTA262 (Composite)	4 - 10	40
		CTA262 (Grab)	0.5	0.27
		CTA268 (Grab)	0.5	261
Creosote Dock Area		CDA350 (Grab)	0.5	496
		CDA362 (Grab)	0.5	717
	Perimeter North 1	EYA32, PER110, PER111 (Composite)	0 - 1	929
	Perimeter North 2	PER112, PER13, PER114 (Composite)	0 - 1	1,437
	Perimeter East 1	ACC52, PER115, PER116 (Composite)	0 - 1	865
	Perimeter East 2	ACC54, PER117, PER118 (Composite)	0 - 1	2,761
	N. Edgewater St.	OFF500, OFF501, OFF502, OFF503 (Composite)	0 - 1	358

Table 4-18

Dioxin Data Summary
McCormick & Baxter Creosoting Company
Portland, Oregon

Site Area	Previous Remedial Action Area[1]	Station Locations (Sample Type)[2]	Sample Depth (feet bgs)	Dioxin TEQ Concentrations (ppt)
	East Gate Area	OFF505, OFF506, OFF507 (Composite)	0 - 1	40

1 Previous remedial action areas were defined in the *Draft Remedial Design Data Summary Report* (E & E 1997c).
2 Grab samples were previously collected during the RD soil sampling event in December 1996; and data has been validated. Samples were composited at Sound Analytical Laboratory; and data has been validated.

Key:

TEQ 2,3,7,8-Tetrachlorodibenzo-*p*-dioxin toxicity equivalents.
bgs Below ground surface.
ppt parts per trillion (nanograms/kilogram).
Note: The cleanup level for dioxin TEQ concentration is 40 ppt.

Table 4-19

SUMMARY OF DATA - TCLP SAMPLES
McCORMICK AND BAXTER
PORTLAND, OREGON
UNITS: mg/L

Sample ID	Remedial Area	Sample Location	TCLP Arsenic	TCLP Chromium	TCLP Pentachlorophenol
MB001CP00	RA1	LSA4, LSA5	0.731	0.0071	NA
MB003CP00	RA3	PDA25, PDA27, PDA28	***7.14***	0.0583	NA
MB004CP00	RA4	EYA35, EYA38	0.888	0.0084 B	NA
MB006CP00	RA6	SSA119, SSA77, SSA83	0.419	0.0436	NA
MB011CP00	RA11	SCA56	1.28	0.913	NA
MB012CP10	RA12	FWD214	1.73	1.92	1.6
MB012CP11	RA12	FWD211, FWD212	***21.8***	***21.6***	7.8
MB13ACP10	RA13-A	CPA226	2.29	0.0349	NA
MB13BCP04	RA13-B	CPA232, CPA233	NA	NA	0.06 J
MB13CCP10	RA13-B	CPA238, CPA239, CPA241	NA	NA	0.3
MB13CCP11	RA13-B	CPA243, CPA244	NA	NA	14

Concentrations exceeding regulatory criteria (5 mg/L for arsenic and chromium, 100 mg/L for pentachlorophenol) are listed in bold italics.

Key:

mg/L = Milligrams per liter.
NA = Not analyzed.
TCLP = Toxicity characteristic leaching protocol.

Table 5-1

ACTION LEVELS FOR SOIL TREATMENT
MCCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND PLANT
PORTLAND, OREGON

Compound	Remedial Action Level (mg/kg)
Arsenic	300[a]
Pentachlorophenol	500[b]
Carcinogenic PAHs	100[a]

[a] Based on an excess cancer risk of 1×10^{-4} for industrial land use and 2×10^{-5} for recreational land use.
[b] Based on an excess cancer risk of 1×10^{-5} for industrial land use.

Key:

PAHs = Polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.

Table 5-2

SOIL CLEANUP GOALS
MCCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND PLANT
PORTLAND, OREGON

Compound	Soil Concentration (mg/kg)
Arsenic	8[a]
Pentachlorophenol	50[b]
Carcinogenic PAHs	1[c]
Dioxins/Furans	0.00004[d]

a Based on background concentrations equivalent to an excess lifetime cancer risk of 2×10^{-6} in an industrial scenario.

b Equivalent to an excess lifetime cancer risk of 1×10^{-6} in an industrial scenario.

c Equivalent to an excess lifetime cancer risk of 1×10^{-6} in an industrial scenario using benzo(a)pyrene.

d Equivalent to an excess lifetime cancer risk of 1×10^{-6} in an industrial scenario using TCDD equivalency.

Key:

PAHs = Polycyclic aromatic hydrocarbons.
mg/kg = Milligrams per kilogram.
TCDD = Tetrachlorodibenzo-p-dioxin.

Table 6-1

SUMMARY OF SOIL REMEDIAL ACTION AREAS
McCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND PLANT
PORTLAND, OREGON

Remedial Action Area	Sample Locations in Remedial Action Area with Contaminants Above Action Level	Concentration Range of Contaminants Above Action Level (mg/kg)	RCRA Waste Classification	Approximate Area (ft^2)	Estimated Depth of Excavation (ft BGS)	Approximate In-Place Volume (yd^3)
RA1	LSA4, LSA5	Arsenic = 651 - 720	F032, F034, F035	11,936	0-1	442
RA2	LSA17, LSA19	Arsenic = 498 - 500	F032, F034, F035	13,746	0-1	509
RA3	PDA25, PDA27, PDA28, PDA29	Arsenic = 310 - 1700	F032, F034, F035 D004, D007	19,362	0-1	717
RA4	EYA35, EYA38	Arsenic = 1300 - 2100	F032, F034, F035	12,873	0-1	477
RA5	EYA44	Arsenic = 450	F032, F034, F035	5,607	0-1	208
RA6	SSA119, SSA77, SSA83	Arsenic = 350 - 848	F032, F034, F035	11,614	0-1	430
RA7	SSA79	Arsenic = 416	F032, F034, F035	5,633	0-1	209
	Soil Piles	--	F032, F034, F035	--	--	450
RA8	SSA91, SSA95, SSA411	Arsenic = 320 - 380 CPAH = 663.9	F032, F034, F035	10,218	0-1	378
RA9	SSA92	Arsenic = 320	F032, F034, F035	2,934	0-1	109
RA10	FWD205	Arsenic = 400 CPAH = 127.2	F032 F034, F035	2,869	0-4	425
RA11	SCA56	Arsenic = 580	F032, F034, F035	1,225	0-1	45
RA12	FWD211, FWD212, FWD214	Arsenic = 630 - 3,400 CPAH = 102 - 1,698 PCP = 1,900 - 8,100	F032, F034, F035 D004, D007	18,241	0-4	676
RA13-A	CPA226, CPA418, CPA420, CPA423	Arsenic = 346 - 790 CPAH = 123 - 176	F032, F034, F035	4,810	0-4	713
RA13-B	CPA232, CPA233, CPA238, CPA239, CPA241, CPA243, CPA244, CPA431	Ar = 450 - 930 CPAH = 106.6 - 198.8 PCP = 710 D - 41,000D	F032, F034, F035	44,567 *	0-4	6603

Table 6-1

SUMMARY OF SOIL REMEDIAL ACTION AREAS
McCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND PLANT
PORTLAND, OREGON

Remedial Action Area	Sample Locations in Remedial Action Area with Contaminants Above Action Level	Concentration Range of Contaminants Above Action Level (mg/kg)	RCRA Waste Classification	Approximate Area (ft^2)	Estimated Depth of Excavation (ft BGS)	Approximate In-Place Volume (yd^3)
RA14	SEW290	CPAH = 111.4	F032, F034, F035	5,611	0-1	208
RA15	SEW293	Arsenic = 330	F032, F034, F035	5,974	0-1	221
RA16	SEW294	Arsenic = 300	F032, F034, F035	1,225	0-4	181
RA17	TFA251, TFA253, TFA436	CPAH= 201 - 571 PCP = 750D	F032, F034, F035	15,728	0 - 4	2,330
RA18	CTA262	CPAH - 105.05	F032, F034, F035	3,400	0 - 4	504
RA19	SEW435	CPAH = 314.9	F032, F034, F035	2,520 **	0 - 4	373
Estimated Total In-Place Volume						16,200
Excavated Total Excavated Volume (20% increase)						19,440

CPAH = Carcinogenic polycyclic aromatic hydrocarbons.
PCP = Pentachlorophenol
mg/kg = milligrams per kilogram.
ND = Not detected.
D = The reported result for this analyte is calculated based on a secondary dilution factor.
RA = Remedial action area requiring excavation.
yd^3 = cubic yards.
BGS = Below ground surface.
* = Area for RA13B excludes retort pit no. 4 which shall remain in-place.
** = Area for RA19 excludes butt tank no. 1 which shall remain in-place.

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Table 6-2

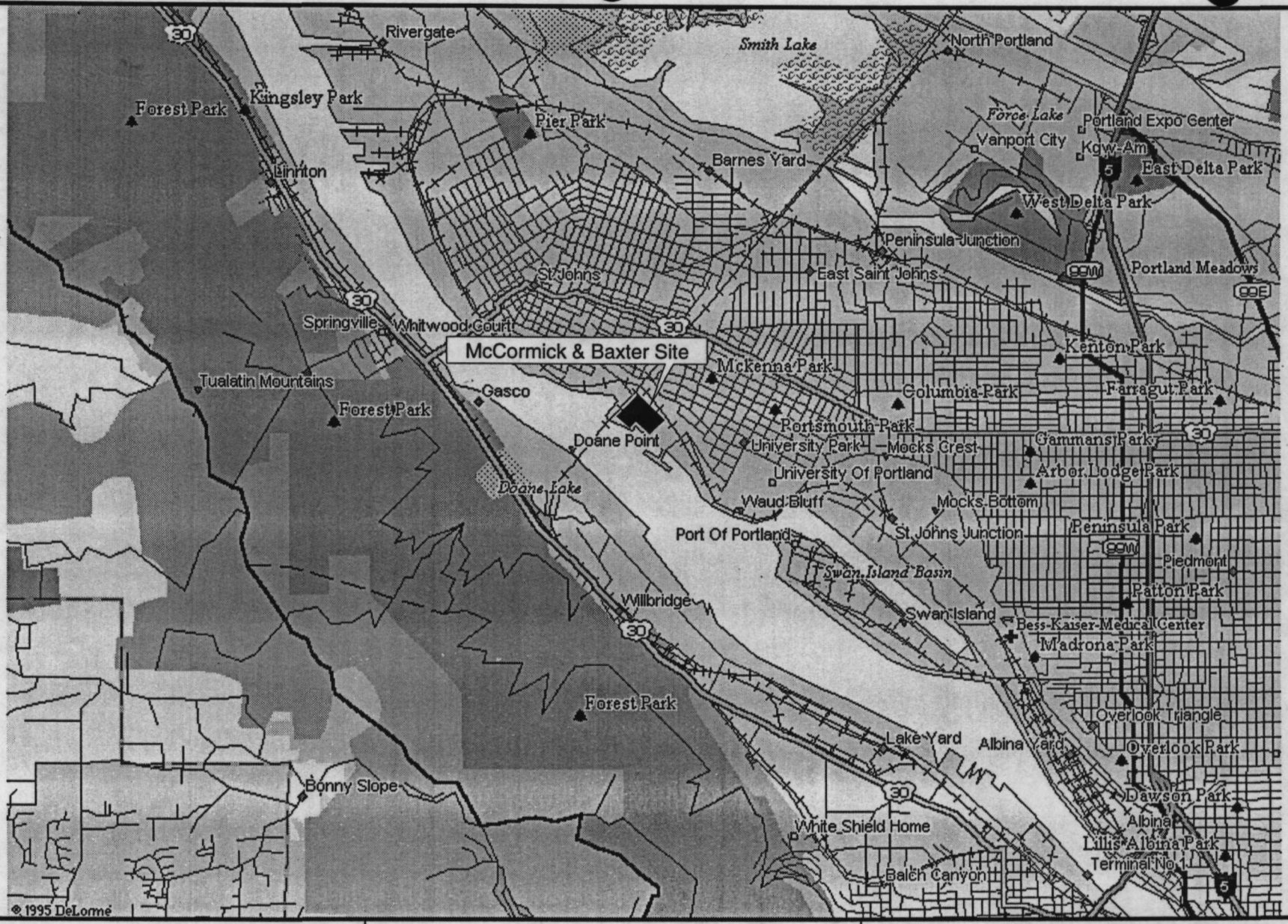
SUMMARY OF DISPOSAL QUANTITIES
McCORMICK & BAXTER CREOSOTING COMPANY
PORTLAND PLANT
PORTLAND, OREGON

Description	RCRA Waste Classification	Remedial Action Areas	Approximate In-Place Volume (yd^3)	Approximate Weight[a] (tons)
Soil requiring off-site treatment prior to disposal	F032, F034, F035, D004, D007	RA3	717	1,147
		RA12	676	1,082
		ACZA wood debris	410	165
Soil to be directly landfilled	F032, F034, F035	All other RA areas	14,815	23,700
Total			16,618	26,100

[a] Tonnage based on an assumed soil density of 1.6 tons/yd^3 and ACZA wood density of 0.4 tons/yd^3.

Key:
ACZA = Ammoniacal copper zinc arsenate
RA = Remedial action area requiring excavation
RCRA = Resource Conservation and Recovery Act
yd^3 = Cubic yards

Figures



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McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

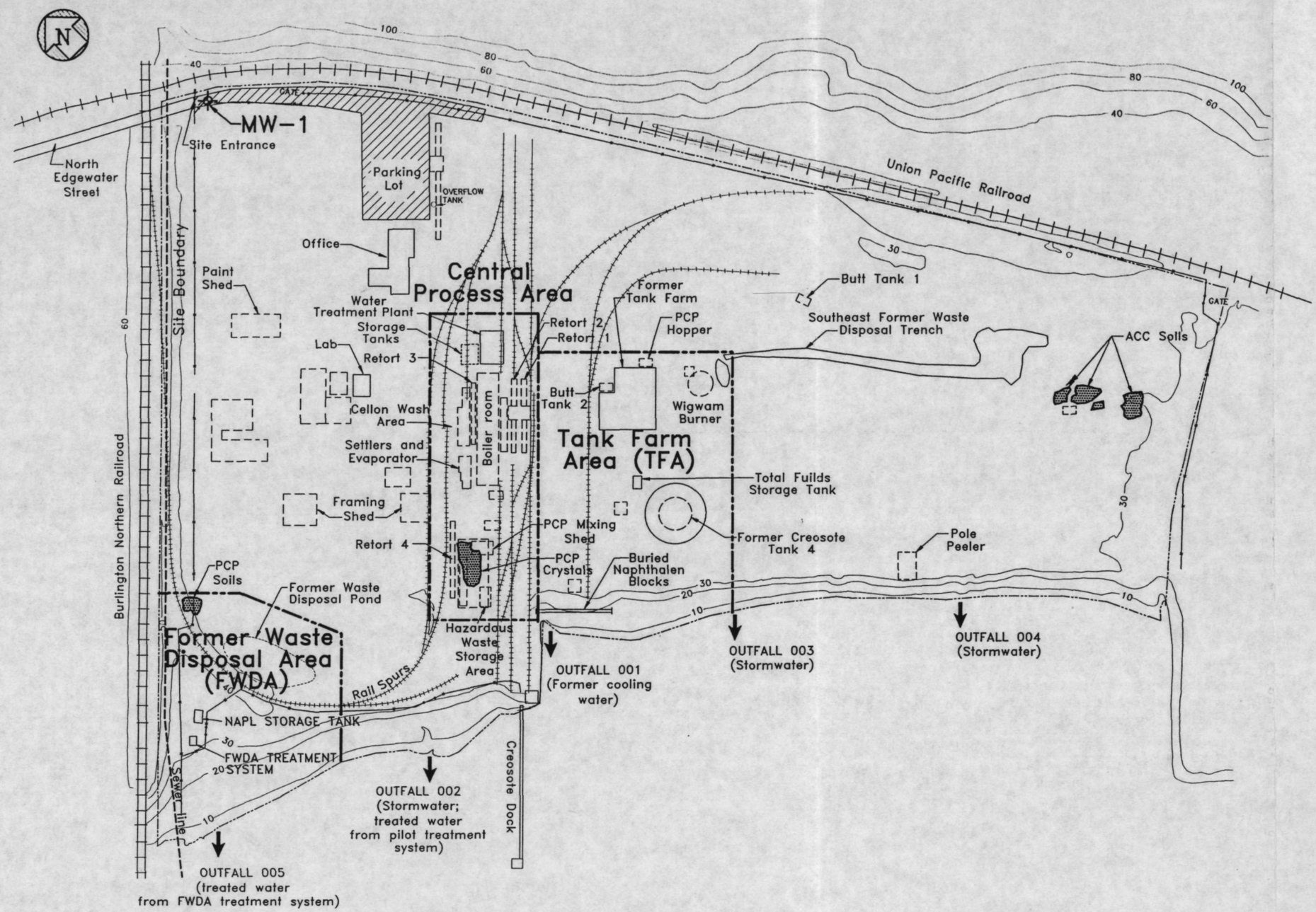
0 .5mi 1 mile
Approximate Scale in Miles

FIGURE 1-1

SITE LOCATION MAP

Drawn By:	Date	TDD/Job No.	Dwg. No.
MRE	10-11-96	OI9020	OI9020F4

0h4090/0h40CS2-1E.DWG/11-17-97/SEATTLE,WA./AUTOCAD OPR ED MARTIN



LEGEND

- Site boundary or shoreline
- Paved area
- Existing structure
- Former structure (See Note)
- Outfall
- Soil removal areas (1994)
- Fence

NOTE:

THE OFFICE BUILDING, LABORATORY, AND WATER TREATMENT PLANT (FORMER SHOP BUILDING) REMAIN AT THE SITE. ALL OTHER ABOVE-GROUND STRUCTURES AND OBJECTS WERE REMOVED DURING PHASE I DEMOLITION IN MAY, 1997.

SCALE IN FEET
(GRAPHIC SCALE)

0 200 400 600

NO.	DATE	DWN	APP'D	DESCRIPTION
REVISIONS				

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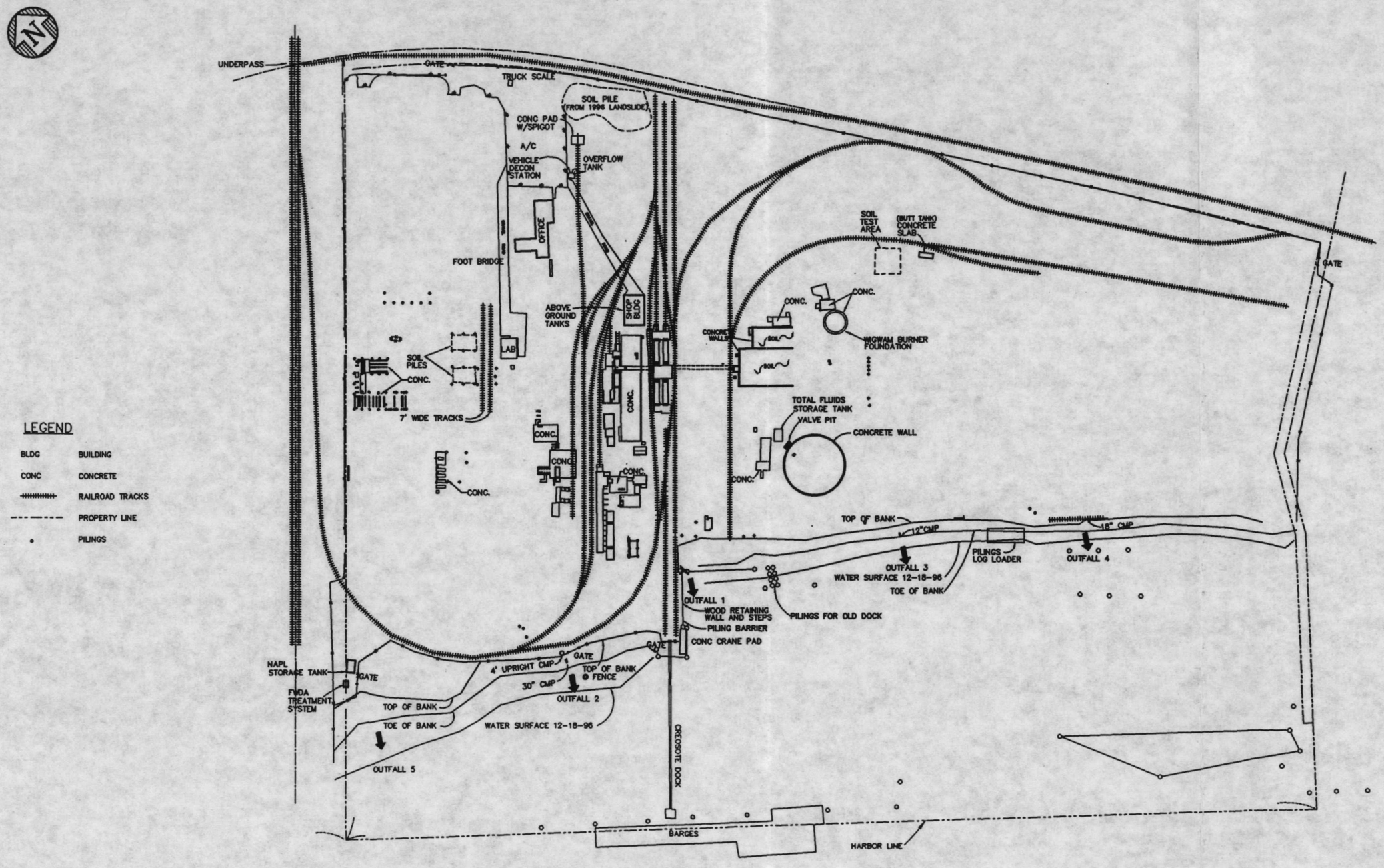
CHECKED BY: K. SMITH
DRAWN BY: E.MARTIN
APPROVED BY: XXXXXXX

FIGURE 2-1
HISTORIC SITE CONFIGURATION WITH CONTAMINANT SOURCE AREAS
McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

SCALE	DATE ISSUED	CAD FILE NO.	DRAWING NO.
NOTED	11-17-97	OH40CS2-1E.DWG	X OF X

OH4090/OH40SP2-2B.DWG/11-18-97/AUTOCAD-OPR.EDMARTIN/SEATTLE,WA



LEGEND

BLDG	BUILDING
CONC	CONCRETE
++++++++++	RAILROAD TRACKS
- - - - - -	PROPERTY LINE
•	PILINGS

SCALE IN FEET

0 200 400 600

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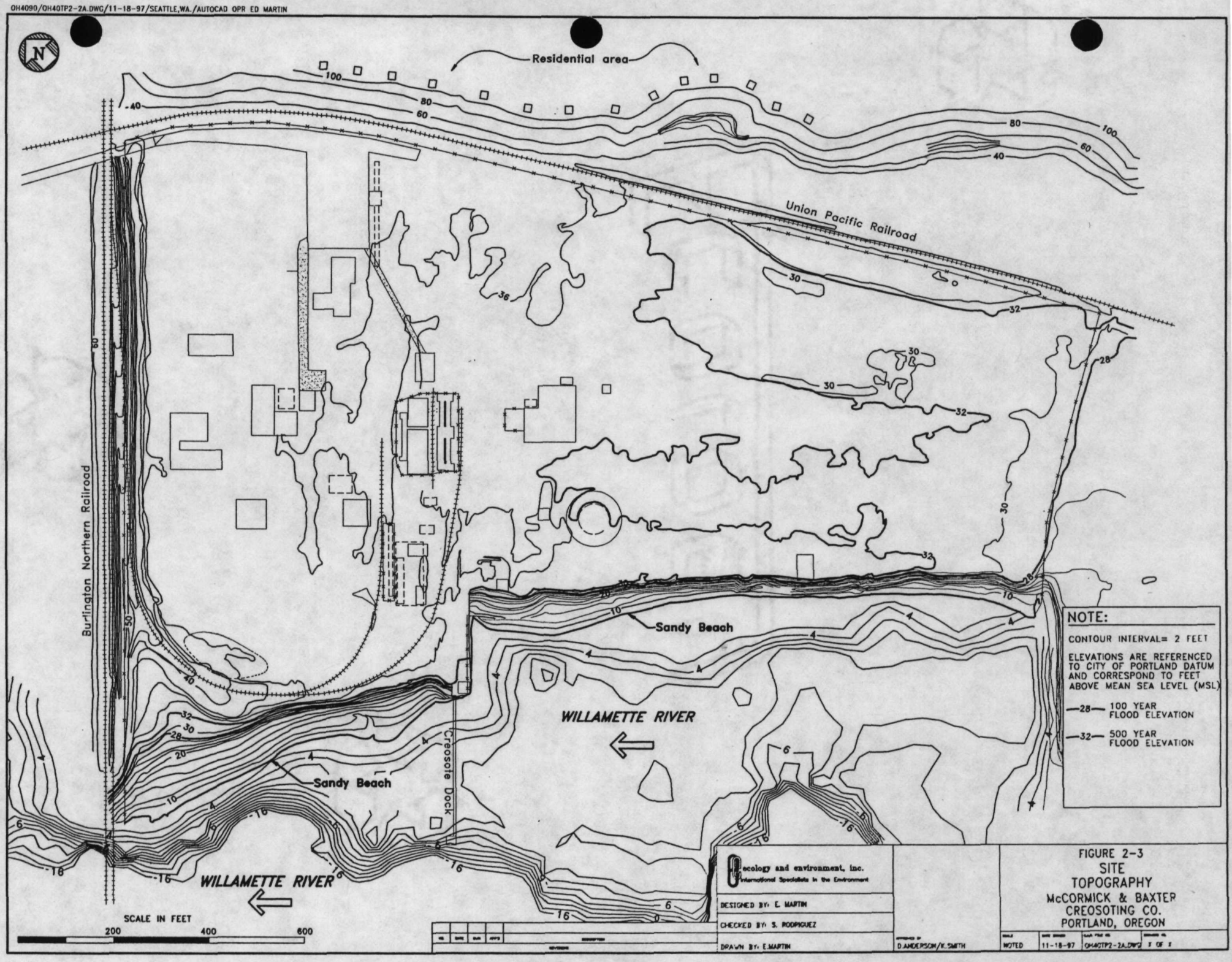
CHECKED BY: KEVIN SMITH
DRAWN BY: ED MARTIN

APPROVED BY: XXXXXXX

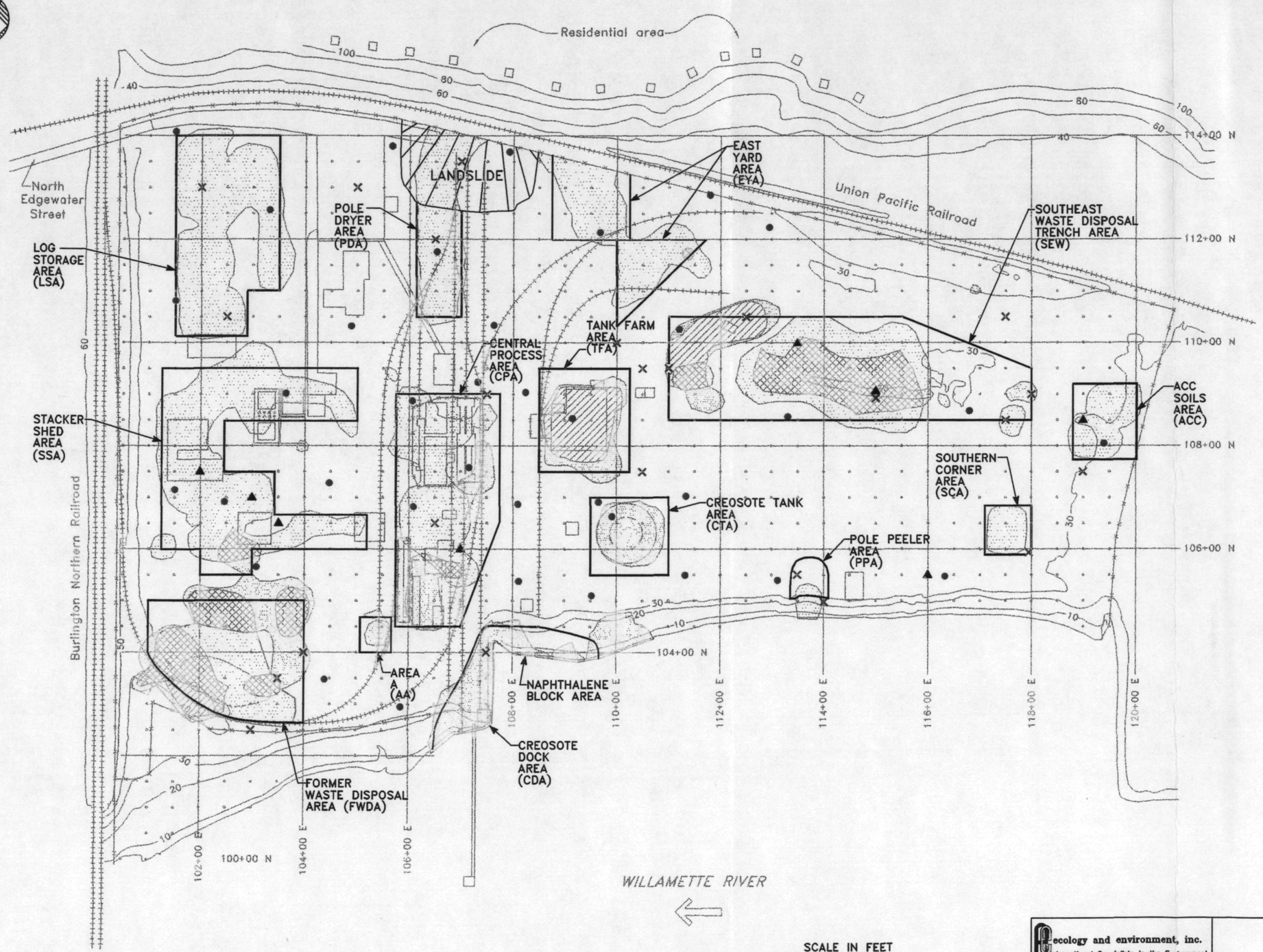
FIGURE 2-2
CURRENT SITE CONFIGURATION
McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

SCALE	DATE ISSUED	C.A.D. FILE NO.	DRAWING NO.
NOTED	11-18-97	OH40SP2-2B.DWG	X OF X

OH4090/OH40TP2-2A.DWG/11-18-97/SEATTLE,WA./AUTOCAD OPR ED MARTIN



OH4090/OH40SUR2-3B.DWG/11-147-97/SEATTLE,WA./AUTOCAD OPR ED MARTIN



LEGEND

- Building
- Topography, Contour 10'-0" Interval
- Mixed Arsenic with PAH and/or PCP
- Mixed PCP and PAH
- + 300 mg/kg Arsenic
- + 500 mg/kg PCP/PAH
- RI/FS Field Screening Locations
- Ar, Cr, Cu and Zn Field Screening/ Confirmation Sample Locations
- PAH/PCP Field Screening/ Confirmation Sample Locations
- RI/FS Surface Soil Sample Locations (Lab. Data)
- Proposed Area of Surface Soil Investigation

SCALE IN FEET

0 200 400 600

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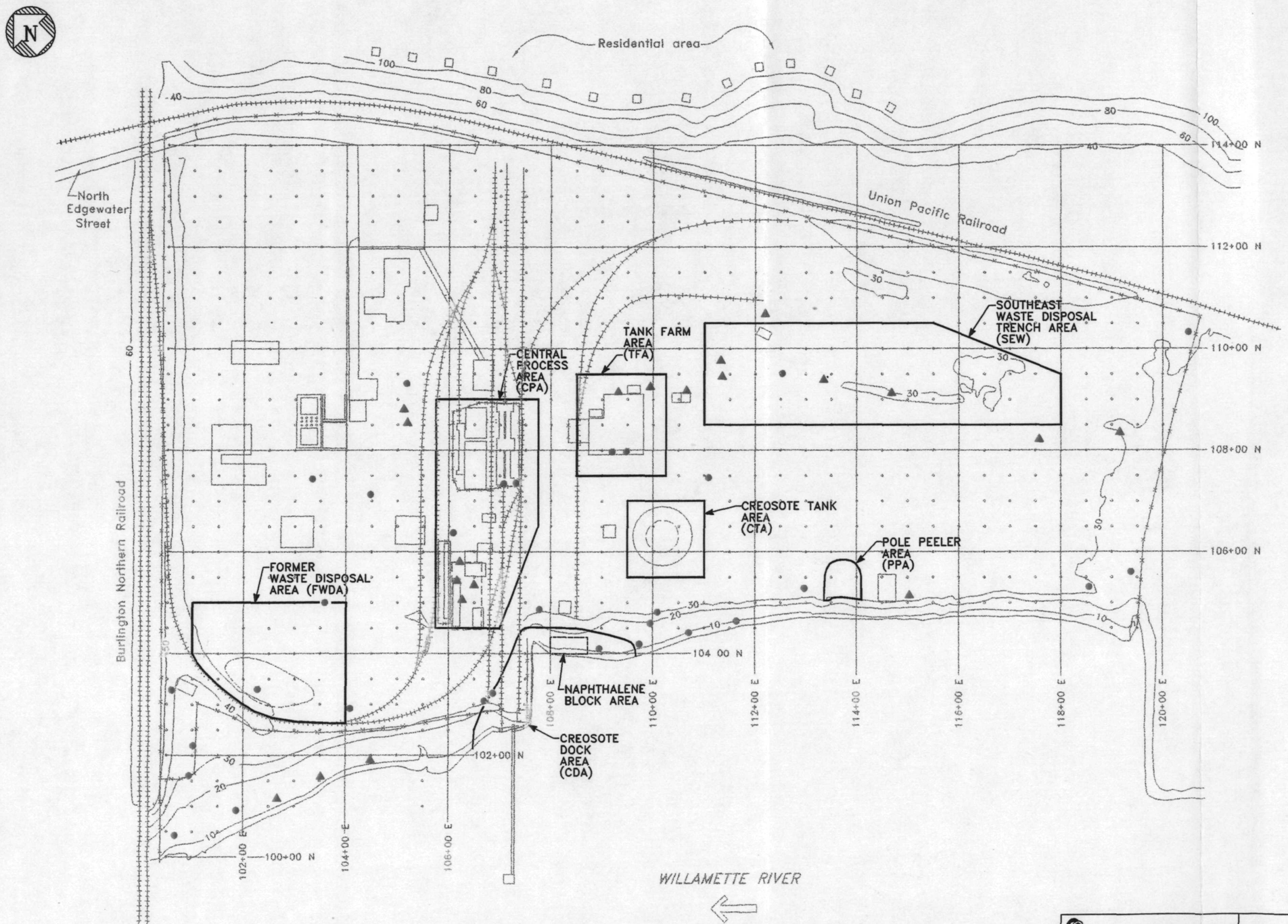
CHECKED BY: K.SMITH
DRAWN BY: E.MARTIN

APPROVED BY: XXXXXXXX

FIGURE 2-4
PREVIOUS SURFACE SOIL SAMPLE LOCATIONS
McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

SCALE	DATE ISSUED	CAD FILE NO.	DRAWING NO.
NOTED	11-17-97	OH40PSUR2-3B	X OF X

OH4090/OH40PSUB2-4B.DWG/11-17-97/SEATTLE,WA./AUTOCAD OPR ED MARTIN



LEGEND

- BUILDING
- Topography, Contour 10'-0" Interval
- Subsurface Soil Lab RI/FS Data collected from borehole location
- Subsurface Soil Lab RI/FS Data collected from monitoring well installation location
- RI/FS Field Screening Locations
- Proposed Area of Subsurface Soil Investigation

SCALE IN FEET

0 200 400 600

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CHECKED BY: K.SMITH
DRAWN BY: E. MARTIN

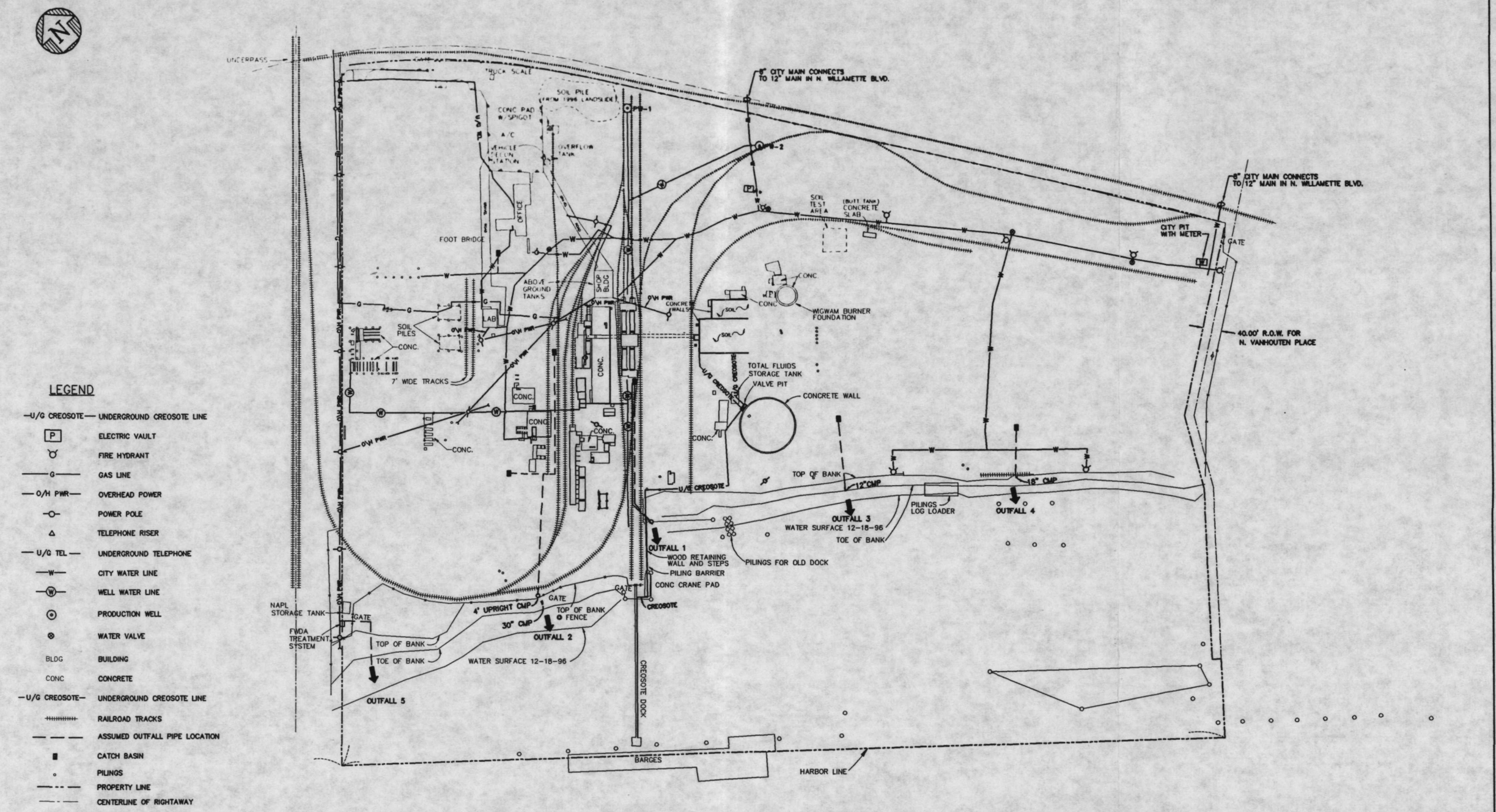
NO.	DATE	DWN	APP'D	DESCRIPTION

REVISIONS

APPROVED BY XXXXXXX

FIGURE 2-5
PREVIOUS SUBSURFACE SOIL SAMPLE LOCATIONS
McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

SCALE	DATE ISSUED	CAD FILE NO.	DRAWING NO.
NOTED	11-17-97	OH40PSUB2-4B	X OF X



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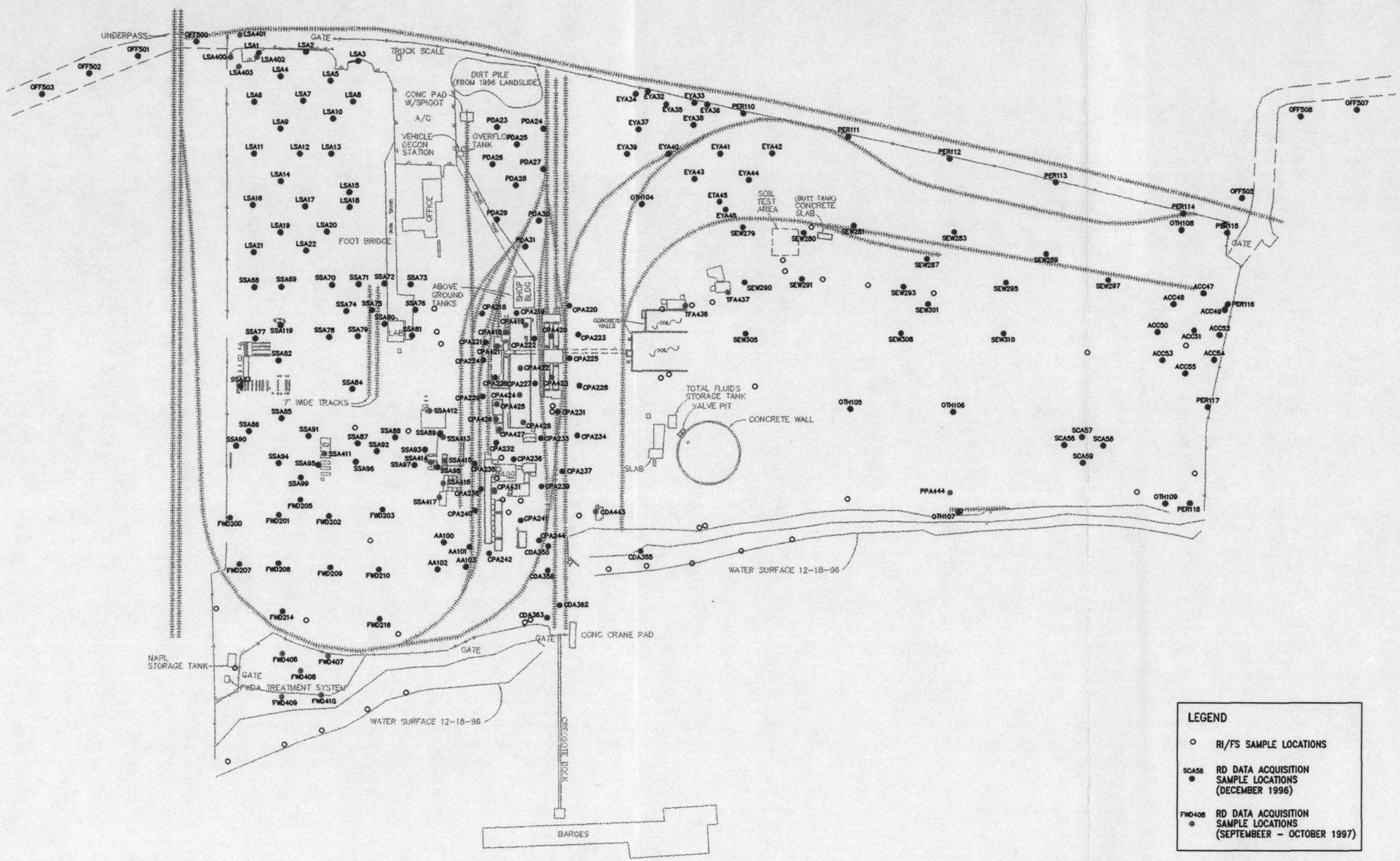
CHECKED BY: KEVIN SMITH
DRAWN BY: ED MARTIN

FIGURE 3-1
SITE PROPERTY BOUNDARY AND UTILITIES
McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

SCALE	DATE ISSUED	C.A.D. FILE NO.	DRAWING NO.
NOTED	11-18-97	OH40ULT3-1.DWG	X OF X

OH4090/OH41SUR3-2B.DWG/11-17-97/AUTOCAD-OPR.EDMARTIN/SEATTLE,WA



LEGEND

- ○ RI/FS SAMPLE LOCATIONS
- SCA56 ● RD DATA ACQUISITION SAMPLE LOCATIONS (DECEMBER 1996)
- FWD408 ● RD DATA ACQUISITION SAMPLE LOCATIONS (SEPTEMBEER – OCTOBER 1997)

SCALE IN FEET

0 200 400 600

NO.	DATE	DRN	APPD	DESCRIPTION
				REVISIONS

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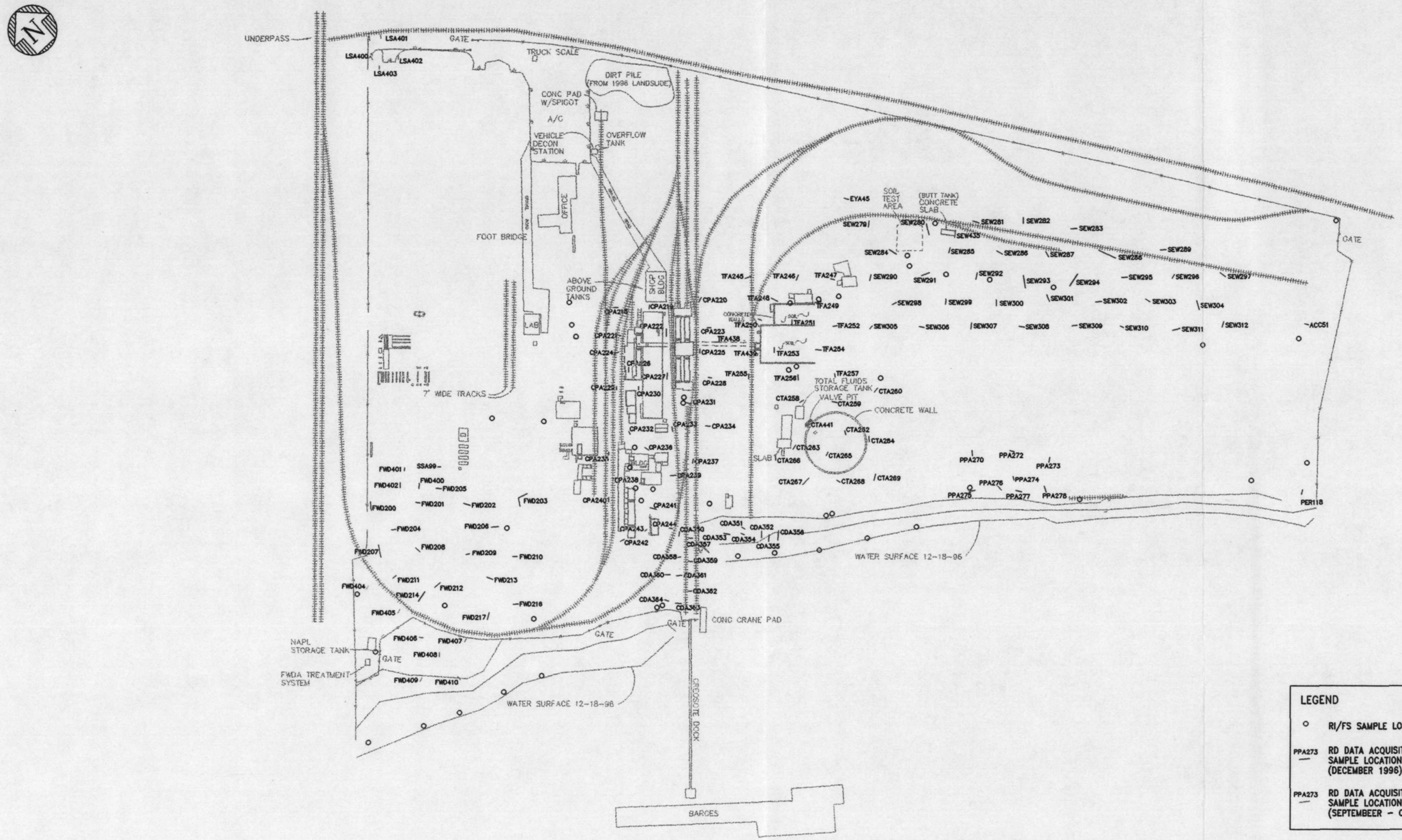
DRAWN BY: ED MARTIN

APPROVED BY: XXXXXX

FIGURE 3-2
SURFACE SOIL SAMPLING LOCATIONS
McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

SCALE	DATE ISSUED	CAD FILE NO.	DRAWING NO.
NOTED	11-17-97	OH40SUR3-2B.DWG	X OF X

H4090/OH40SUB3-3B.DWG/11-17-97/AUTOCAD-OPR.EDMARTIN/SEATTLE,WA



LEGEND

- ○ RI/FS SAMPLE LOCATIONS
- PPA273 — RD DATA ACQUISITION SAMPLE LOCATIONS (DECEMBER 1996)
- PPA273 — RD DATA ACQUISITION SAMPLE LOCATIONS (SEPTEMBEER - OCTOBER 1997)

SCALE IN FEET

0 200 400 600

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CHECKED BY: KEVIN SMITH
DRAWN BY: ED MARTIN
APPROVED BY: KEVIN SMITH

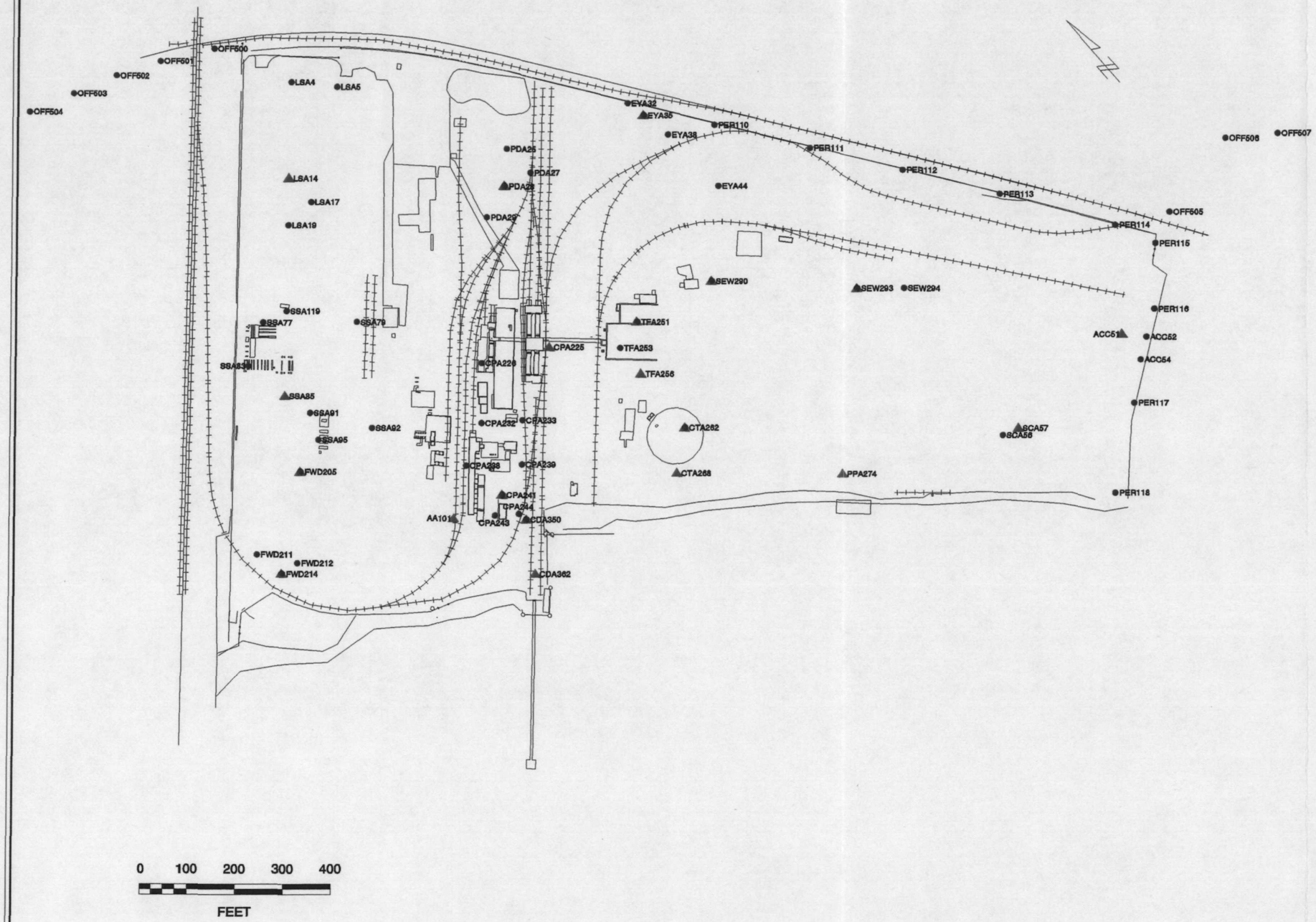
FIGURE 3-3
SUBSURFACE SOIL SAMPLING LOCATIONS
McCORMICK & BAXTER CREOSOTING CO.
PORTLAND, OREGON

SCALE	DATE ISSUED	C.A.D. FILE NO.	DRAWING NO.
NOTED	11-17-97	OH40SUB3-3B.DWG	X OF X

FIGURE 3-4

McCORMICK & BAXTER Creosoting Company

Portland, Oregon



0 100 200 300 400

FEET

Dioxin Sample Locations

(See Table 3-2 for Dioxin Sample Collection Summary)

Legend

▲ Grab dioxin sample location (December 1996)

● Composite dioxin sample location (May 1997)

▲ Grab dioxin sample location, where the archived sample was later used for compositing.

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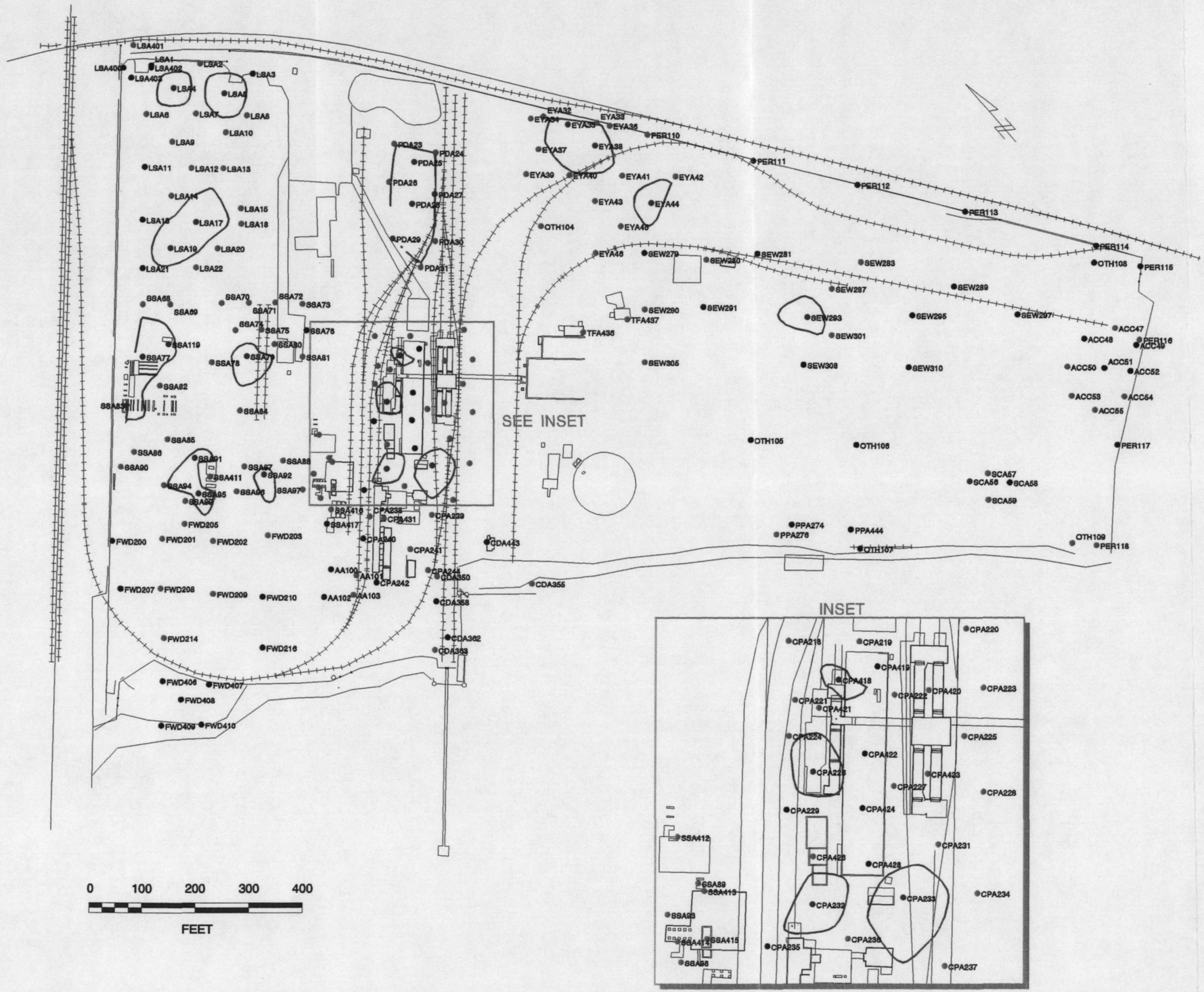
FIGURE 5-1

McCORMICK & BAXTER
Creosoting Company
Portland, Oregon

Extent of Arsenic Contamination
Surface Soil



Legend

- Below Cleanup Goal (< 8 mg/Kg)
- Above Cleanup Goal (>= 8 and < 300 mg/Kg)
- Above Action Level (>= 300 mg/Kg)
- ~ Arsenic Contour - 300 mg/Kg

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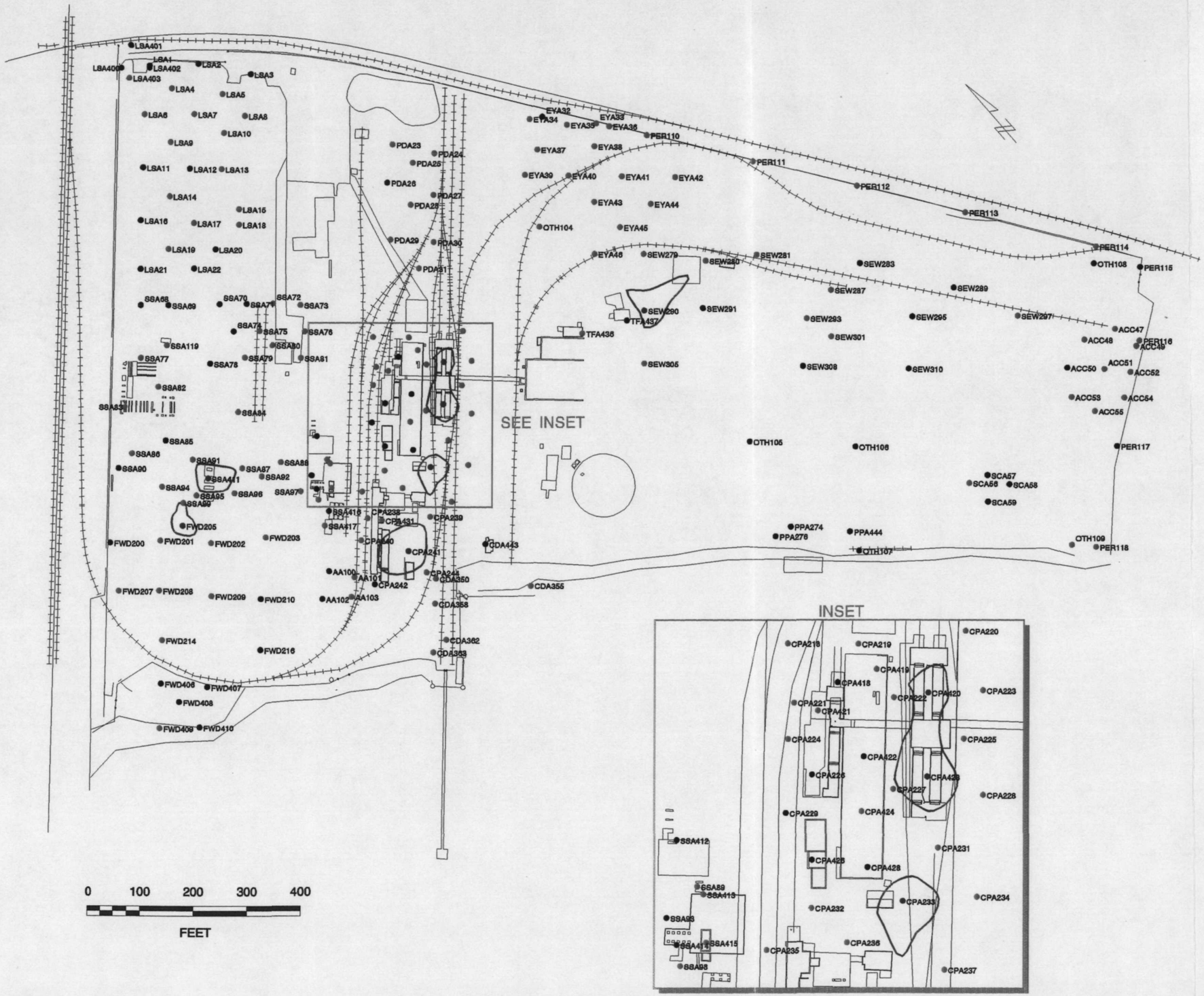
FIGURE 5-2

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Extent of CPAH Contamination Surface Soil



Legend

- Below Cleanup Goal (< 1 mg/Kg)
- Above Cleanup Goal (>= 1 and < 100 mg/Kg)
- Above Action Level (>= 100 mg/Kg)

~ CPAH Contour - 100 mg/Kg

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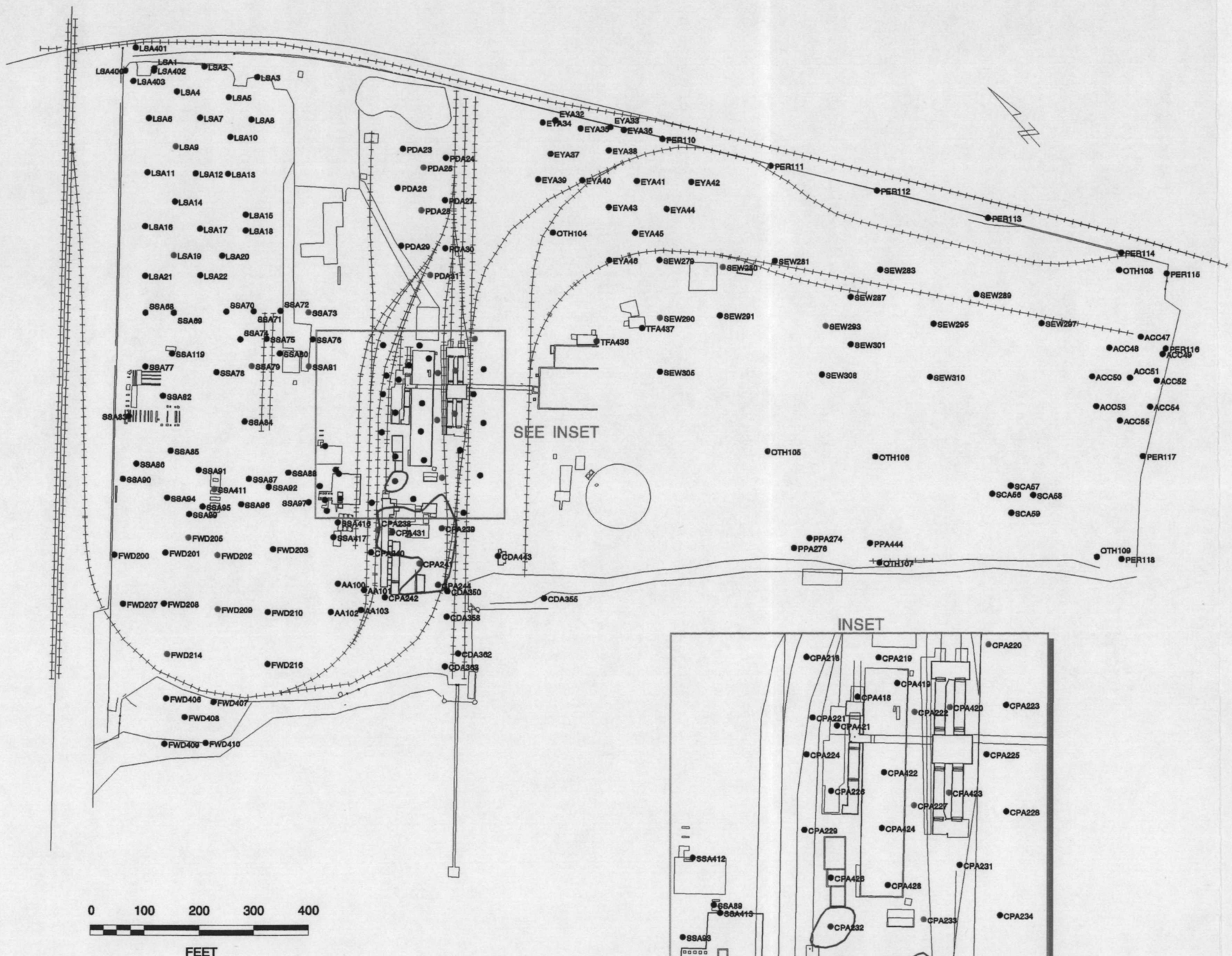
FIGURE 5-3

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Extent of PCP Contamination Surface Soil



Legend

- Below Cleanup Goal (< 50 mg/Kg)
- Above Cleanup Goal (>= 50 and < 500 mg/Kg)
- Above Action Level (>= 500 mg/Kg)
- ~ Pentachlorophenol Contour - 500 mg/Kg

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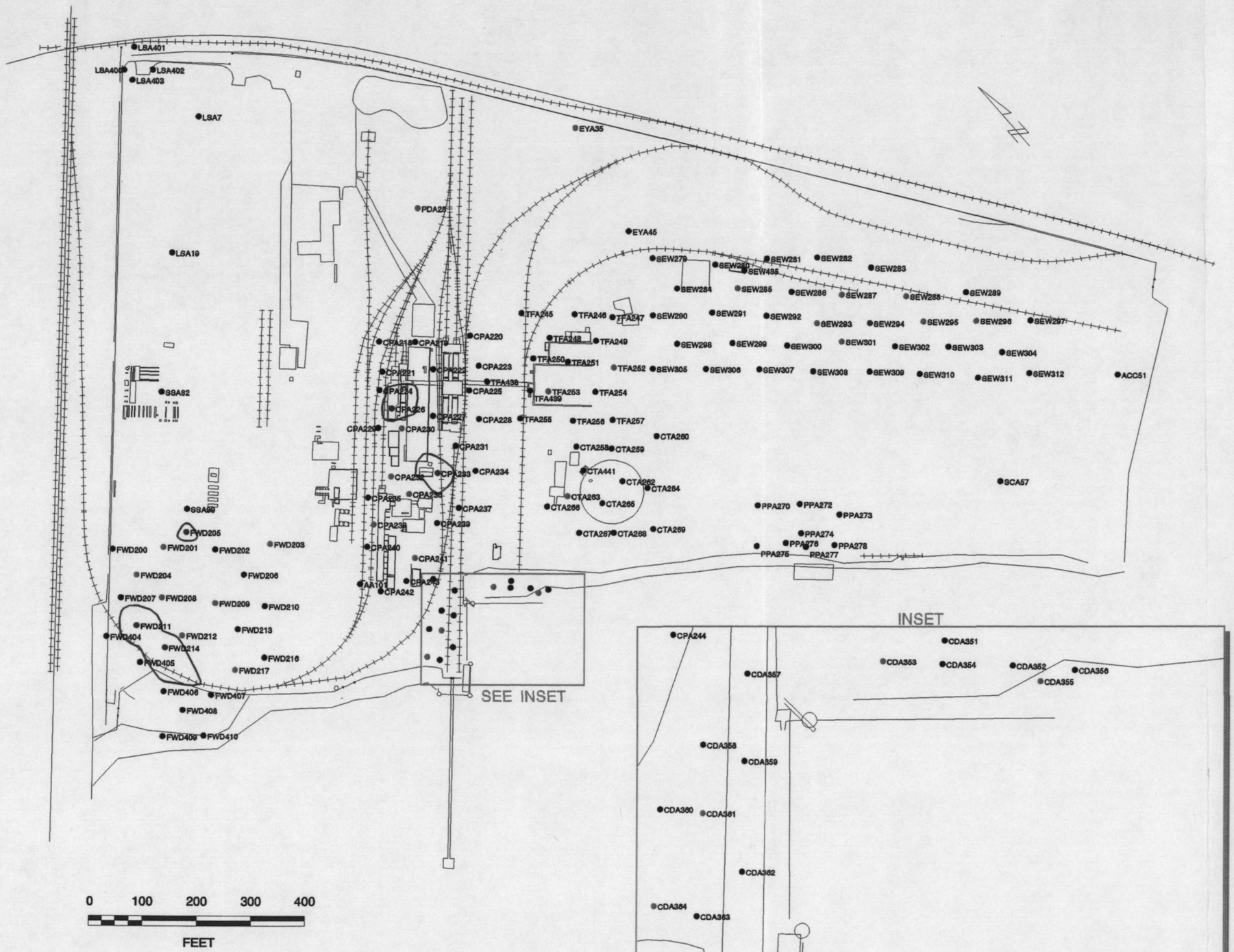
FIGURE 5-4

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Extent of Arsenic Contamination Subsurface Soil (4 feet BGS)



Legend

- Below Cleanup Goal (< 8 mg/Kg)
- Above Cleanup Goal (>= 8 and < 300 mg/Kg)
- Above Action Level (>= 300 mg/Kg)
- ~ Arsenic Contour - 300 mg/Kg

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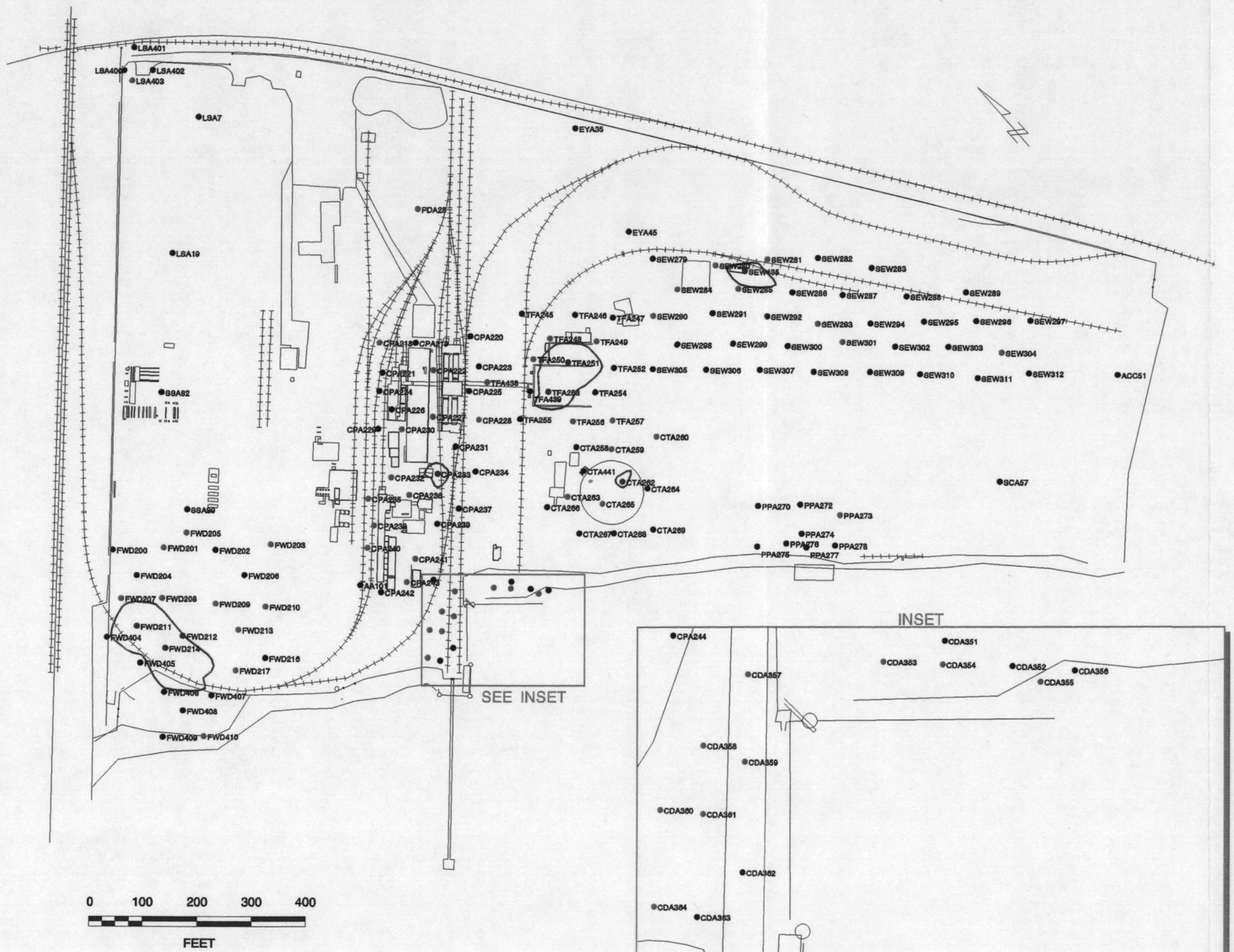
FIGURE 5-5

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Extent of CPAH Contamination Subsurface Soil (4 feet BGS)



Legend

- Below Cleanup Goal (< 1 mg/Kg)
- Above Cleanup Goal (>= 1 and < 100 mg/Kg)
- Above Action Level (>= 100 mg/Kg)
- ~ CPAH Contour - 100 mg/Kg

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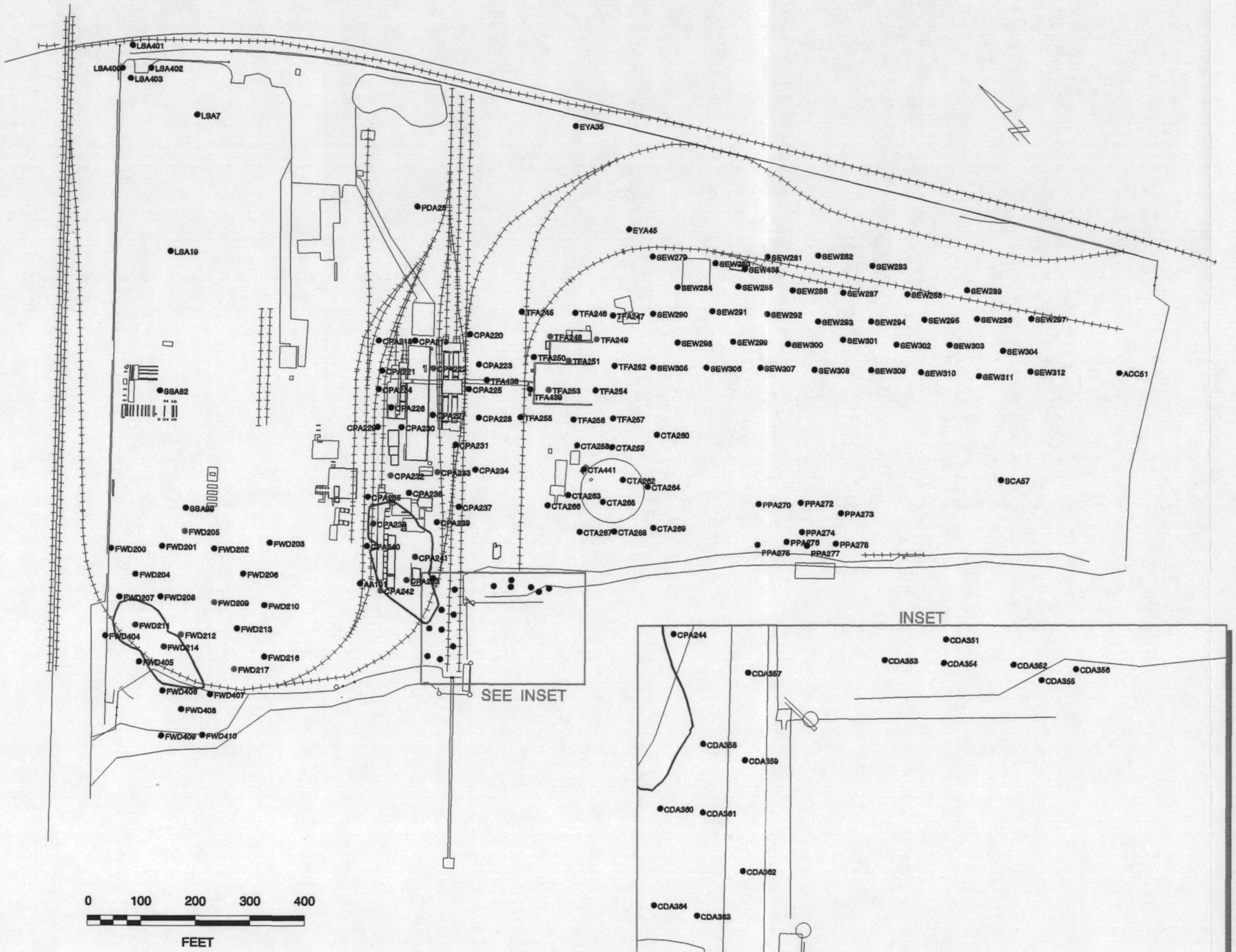
FIGURE 5-6

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Extent of PCP Contamination Subsurface Soil (4 feet BGS)



Legend

- Below Cleanup Goal (< 50 mg/Kg)
- Above Cleanup Goal (>= 50 and < 500 mg/Kg)
- Above Action Level (>= 500 mg/Kg)
- ~ Pentachlorophenol Contour - 500 mg/Kg

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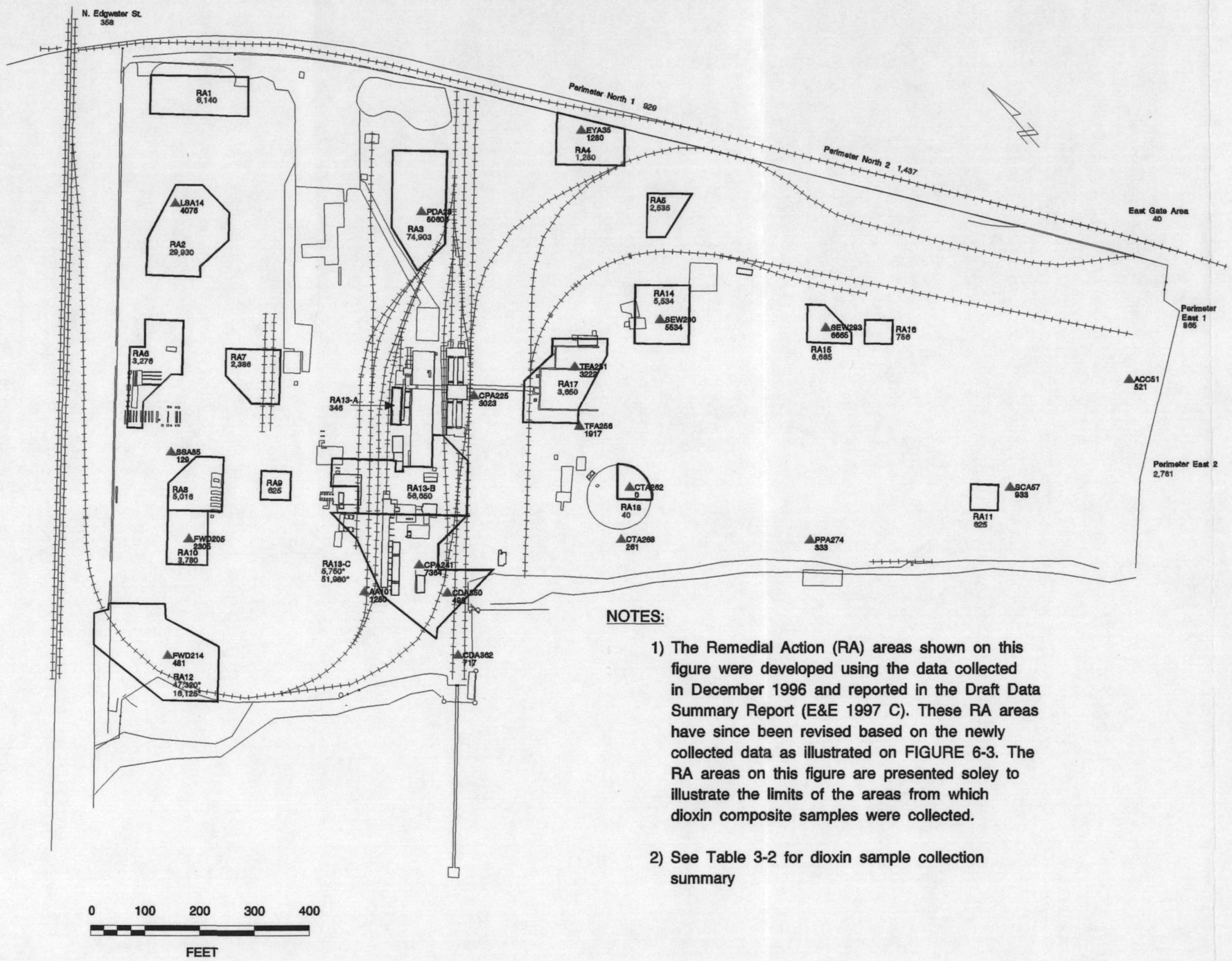
FIGURE 5-7

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Dioxin Analytical Results

Units: Parts Per Trillion (ppt)



NOTES:

1) The Remedial Action (RA) areas shown on this figure were developed using the data collected in December 1996 and reported in the Draft Data Summary Report (E&E 1997 C). These RA areas have since been revised based on the newly collected data as illustrated on FIGURE 6-3. The RA areas on this figure are presented soley to illustrate the limits of the areas from which dioxin composite samples were collected.

2) See Table 3-2 for dioxin sample collection summary

Legend

▲SCA57 933 Grab dioxin sample location and concentration (ppt)

RA16 756 Remedial Action area with associated composite dioxin concentration (ppt).

* See Table 4-18 for composite aliquot grouping.

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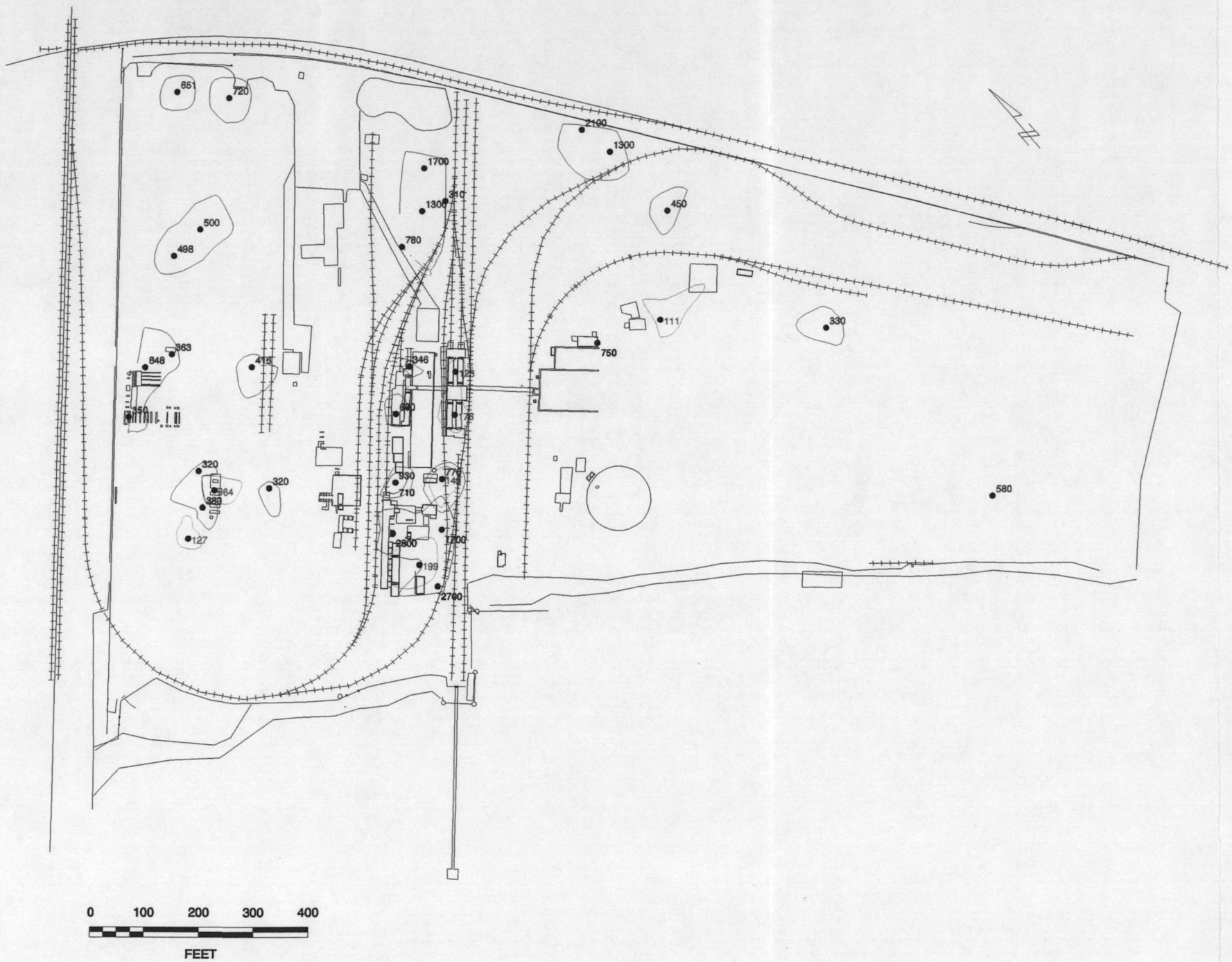
FIGURE 6-1

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Surface Soil Concentrations Exceeding Action Levels (0-1 feet BGS)



Legend

- Arsenic Contour - 300 mg /Kg
- CPAH Contour - 100 mg/Kg
- PCP Contour - 500 mg/Kg
- • Sample Location
- 382 Arsenic Concentration - mg/Kg
- 187 CPAH Concentration - mg/Kg
- 647 PCP Concentration - mg/Kg

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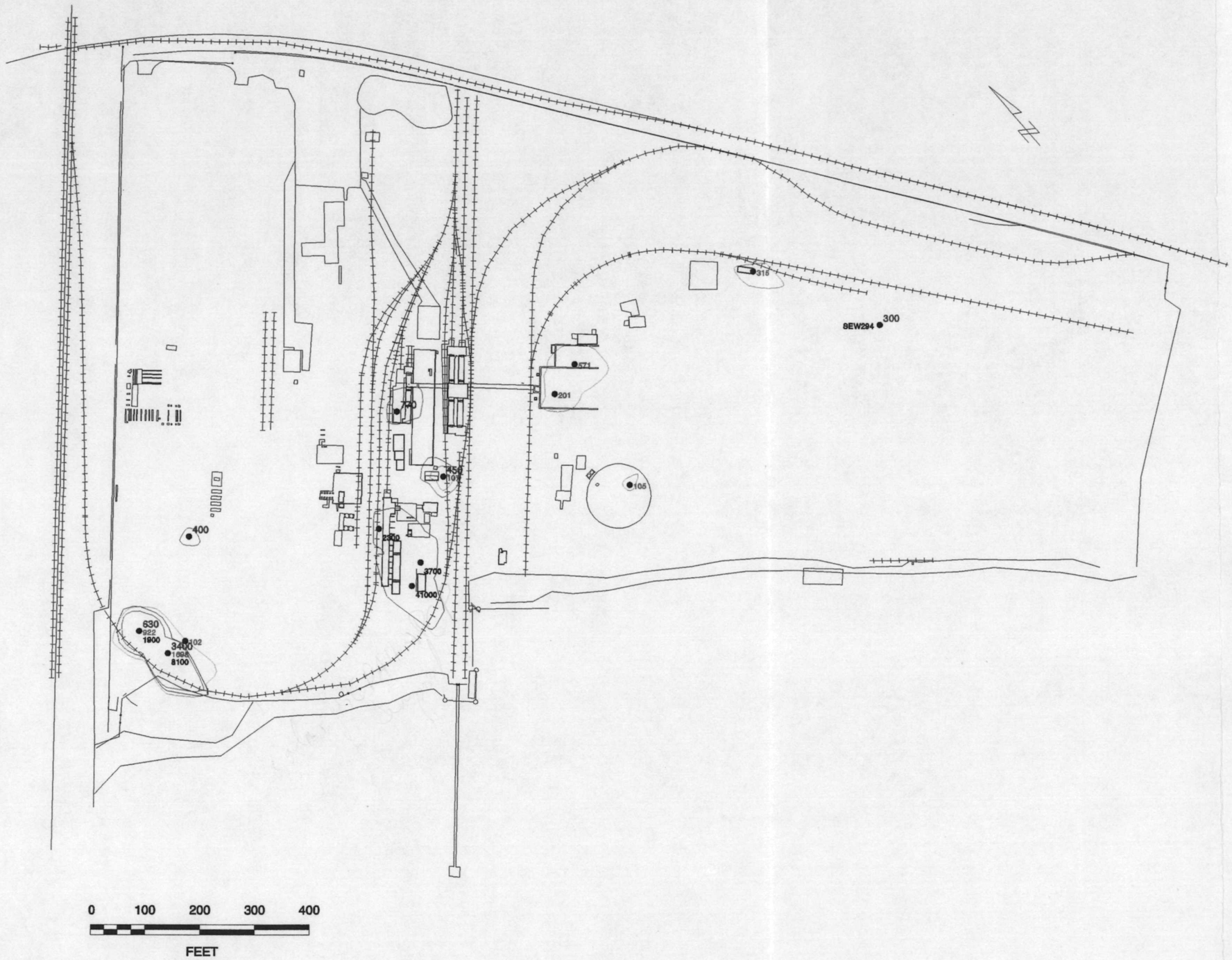
FIGURE 6-2

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Surface Soil Concentrations Exceeding Action Levels (4 feet BGS)



Legend

- Arsenic Contour - 300 mg /Kg
- CPAH Contour - 100 mg/Kg
- PCP Contour - 500 mg/Kg
- • Sample Location
- 382 Arsenic Concentration - mg/Kg
- 187 CPAH Concentration - mg/Kg
- 647 PCP Concentration - mg/Kg

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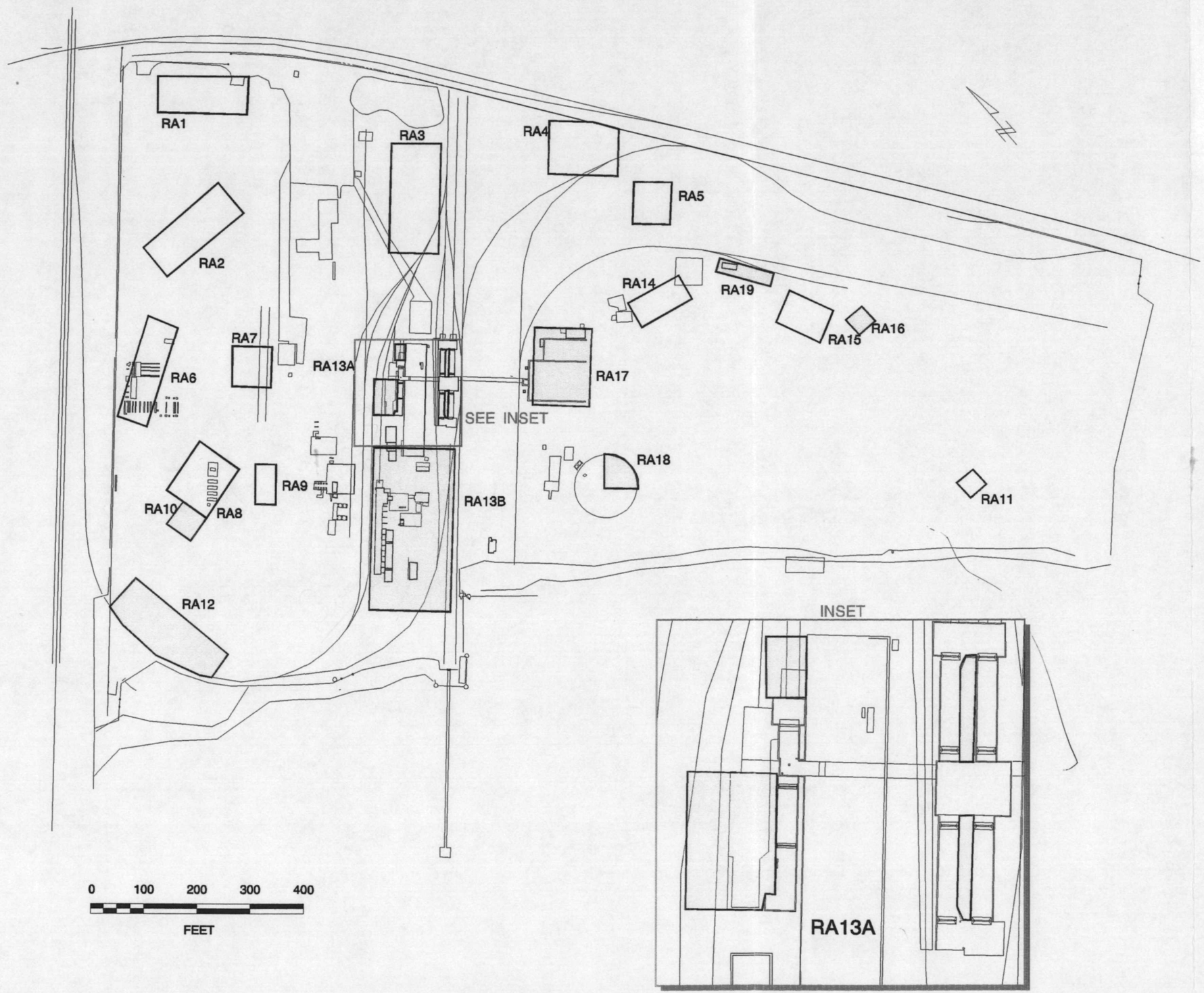
FIGURE 6-3

McCORMICK & BAXTER Creosoting Company

Portland, Oregon

Remedial Action Areas



Legend

- Surace Soil Remediation Area (0-1 Foot Excavation)
- Subsurface Soil Remediation Area (0-4 Foot Excavation)

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A

DATA QUALIFIERS AND ABBREVIATIONS

B1	This analyte was detected in the associated method blank. The analyte concentration was determined not to be significantly higher than the associated method blank (less than ten times the concentration reported in the blank).
B2	This analyte was detected in the associated method blank. The analyte concentration in the sample was determined to be significantly higher than the method blank (greater than ten times the concentration reported in the blank).
C	Additional confirmation performed.
D	The reported result for this analyte is calculated based on a secondary dilution factor.
E	The concentration of this analyte exceeded the instrument calibration range.
J	The analyte was analyzed for and positively identified, but the associated numerical value is an estimated quantity.
U	The analyte was not detected at the given detection limit.
NA	Not analyzed.
mg/kg	milligrams per kilogram.
SVOCs	Semivolatile organic compounds.
TOC	Total organic carbon.
CEC	Cation exchange capacity.
meq	milliequivalent.
g	gram.
ppt	parts per trillion.

FILE NAME:[CONNORS.MCB]APPENDIX_A_ABBREVIATIONS.

Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB001CP00 RA1 0	MB001SS00 LSA22 0	MB001SS01 LSA22 1	MB002SS00 LSA19 0	MB003SS00 LSA21 0	MB004SS00 LSA16 0	MB005SS00 LSA11 0	MB006SS00 LSA6 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	**9.8**	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	**15**	NA	NA
Metals (mg/kg)								
Arsenic	NA	**20.2**	**2.9**	**498**	**7.6**	**7.8**	**6.4**	**12.7**
Copper	NA	NA	NA	NA	NA	**30.6**	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	**35,000**	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	**3,400**	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	1 U	NA	NA
pH (pH)								
pH	NA	NA	NA	NA	NA	**7.04**	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	**520**	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	NA	0.072 U	0.069 U	0.081 U	0.08 U	0.073 U	0.073 U	0.074 U
2-Methylnaphthalene	NA	0.14 U	0.14 U	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U
Acenaphthene	NA	0.092 U	0.089 U	0.1 U	0.1 U	0.094 U	0.094 U	0.095 U
Acenaphthylene	NA	0.077 U	0.074 U	0.086 U	0.085 U	0.078 U	0.077 U	0.079 U
Anthracene	NA	0.14 U	0.13 U	0.16 U	0.15 U	0.14 U	0.14 U	**0.088 J**
Benzo(a)anthracene	NA	**0.077 J**	0.1 U	0.12 U	0.12 U	0.11 U	0.11 U	**0.27**
Benzo(a)pyrene	NA	**0.083 J**	0.11 U	**0.16**	0.12 U	0.11 U	0.11 U	**0.27**
Benzo(b)fluoranthene	NA	**0.19 J**	0.23 U	**0.25 J**	**0.087 J**	0.24 U	**0.065 J**	**0.46**
Benzo(g,h,i)perylene	NA	**0.091 J**	0.15 U	0.18 U	0.18 U	0.16 U	0.16 U	**0.25**
Benzo(k)fluoranthene	NA	**0.075 J**	0.18 U	**0.13 J**	0.21 U	0.19 U	0.19 U	**0.14 J**
Chrysene	NA	**0.15**	0.081 U	**0.5**	0.093 U	0.085 U	0.085 U	**0.37**
Dibenz(a,h)anthracene	NA	0.12 U	0.11 U	0.13 U	0.13 U	0.12 U	0.12 U	0.12 U
Fluoranthene	NA	**0.11**	0.1 U	**0.21**	0.12 U	0.11 U	0.11 U	**0.53**
Fluorene	NA	0.1 U	0.1 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	NA	**0.091**	0.068 U	0.079 U	0.078 U	0.072 U	0.071 U	**0.22**
Naphthalene	NA	0.18 U	0.17 U	0.2 U	0.2 U	0.18 U	0.18 U	0.18 U
Pentachlorophenol	NA	**0.92**	0.27 U	**72 D**	**0.2 J**	**1.2**	**0.72**	**1.1**
Phenanthrene	NA	0.15 U	0.15 U	0.17 U	0.17 U	0.16 U	0.16 U	**0.18**
Pyrene	NA	**0.1 J**	**0.068 J**	**0.25**	0.16 U	0.14 U	0.14 U	**0.5**

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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB001CP00 RA1 0	MB001SS00 LSA22 0	MB001SS01 LSA22 1	MB002SS00 LSA19 0	MB003SS00 LSA21 0	MB004SS00 LSA16 0	MB005SS00 LSA11 0	MB006SS00 LSA6 0
Chemical								
TCLP Metals (mg/L)								
TCLP Arsenic	0.731	NA	NA	NA	NA	NA	NA	NA
TCLP Chromium	0.0071	NA	NA	NA	NA	NA	NA	NA
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	1,700	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	200	NA	NA

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Summary of Analytical Data
McCormick and Baxter
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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB006SS01 LSA6 1	MB007SS00 LSA4 0	MB008SS00 LSA2 0	MB008SS01 LSA2 1	MB009SS00 LSA16 0	MB010SS00 LSA1 0	MB011SS00 LSA3 0	MB012SS00 LSA5 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	4.8	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	9.2	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	4.7	651	18.1	107	7.4	4.7	4.7	720
Copper	NA	NA	46.9	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	62,000	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	1,900	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	1 U	NA	NA	NA	NA	NA
pH (pH)								
pH	NA	NA	6.23	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	690	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.07 U	0.078 U	0.076 U	0.074 U	0.076 U	NA	NA	NA
2-Methylnaphthalene	0.14 U	0.16 U	0.15 U	0.15 U	0.15 U	NA	NA	NA
Acenaphthene	0.14	0.1 U	0.097 U	0.095 U	0.098 U	0.087 U	0.076 U	0.077 U
Acenaphthylene	0.17	0.11	0.08 U	0.066 J	0.081 U	0.072 U	0.063 U	0.066
Anthracene	0.34	0.28	0.15 U	0.18	0.15 U	0.13 U	0.12 U	0.15
Benzo(a)anthracene	2.3	0.39	0.076 J	0.17	0.11 U	0.098 U	0.086 U	0.7
Benzo(a)pyrene	3.6	1.4	0.085 J	0.17	0.12 U	0.1 U	0.091 U	0.83
Benzo(b)fluoranthene	4	2	0.11 J	0.37	0.11 J	0.11 J	0.2 U	1.2
Benzo(g,h,i)perylene	2.2	0.51	0.17 U	0.18	0.17 U	0.15 U	0.13 U	0.38
Benzo(k)fluoranthene	1.2	0.74	0.067 J	0.21	0.2 U	0.18 U	0.15 U	0.41
Chrysene	3.7	1.5	0.094	0.39	0.094	0.079 U	0.069 U	0.56
Dibenz(a,h)anthracene	0.27	0.16	0.12 U	0.12 U	0.12 U	0.11 U	0.095 U	0.096 U
Fluoranthene	4	0.89	0.13	0.56	0.11	0.064 J	0.087 U	0.3
Fluorene	0.097 J	0.11 U	0.11 U	0.11 U	0.11 U	0.098 U	0.086 U	0.087 U
Indeno(1,2,3-cd)pyrene	1.9	0.57	0.074 U	0.18	0.075 U	0.066 U	0.058 U	0.35
Naphthalene	0.17 J	0.19 U	0.19 U	0.18 U	0.19 U	0.17 U	0.15 U	0.15 U
Pentachlorophenol	0.39	37	0.9	1.8	2.3	0.27	0.23	12
Phenanthrene	2	0.19	0.16 U	0.15 J	0.16 U	0.14 U	0.13 U	0.11 J
Pyrene	4.3	0.7	0.16	0.45	0.088 J	0.066 J	0.12 U	0.35

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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB006SS01 LSA6 1	MB007SS00 LSA4 0	MB008SS00 LSA2 0	MB008SS01 LSA2 1	MB009SS00 LSA16 0	MB010SS00 LSA1 0	MB011SS00 LSA3 0	MB012SS00 LSA5 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	1,900	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	94	NA	NA	NA	NA	NA

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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB013SS00 LSA7 0	MB014SS00 LSA9 0	MB014SS01 LSA9 1	MB015SS00 LSA12 0	MB016SS00 LSA13 0	MB017SS00 LSA10 0	MB018SS00 LSA17 0	MB019SS00 LSA14 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	93	NA	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	14	NA	NA	NA	NA	NA	NA
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	NA	NA	66,324 E
1234678-HpCDF	NA	NA	NA	NA	NA	NA	NA	12,197 E
123478-HxCDD	NA	NA	NA	NA	NA	NA	NA	1,504 E
123478-HxCDF	NA	NA	NA	NA	NA	NA	NA	EN
1234789-HpCDF	NA	NA	NA	NA	NA	NA	NA	1,416 E
123678-HxCDD	NA	NA	NA	NA	NA	NA	NA	13,231 E
123678-HxCDF	NA	NA	NA	NA	NA	NA	NA	1,232 E
12378-PeCDD	NA	NA	NA	NA	NA	NA	NA	1,218 E
12378-PeCDF	NA	NA	NA	NA	NA	NA	NA	809.2409 E
123789-HxCDD	NA	NA	NA	NA	NA	NA	NA	3,233 E
123789-HxCDF	NA	NA	NA	NA	NA	NA	NA	80.9211 E
234678-HxCDF	NA	NA	NA	NA	NA	NA	NA	881.1482 E
23478-PeCDF	NA	NA	NA	NA	NA	NA	NA	605.1075 E
2378-TCDD	NA	NA	NA	NA	NA	NA	NA	94.7729 E
2378-TCDF	NA	NA	NA	NA	NA	NA	NA	242.4858 E
OCDD	NA	NA	NA	NA	NA	NA	NA	133,050 E
OCDF	NA	NA	NA	NA	NA	NA	NA	56,521 E
TOTAL HpCDD	NA	NA	NA	NA	NA	NA	NA	113,905 E
TOTAL HpCDF	NA	NA	NA	NA	NA	NA	NA	44,798 E
TOTAL HxCDD	NA	NA	NA	NA	NA	NA	NA	34,537 E
TOTAL HxCDF	NA	NA	NA	NA	NA	NA	NA	45,260 E
TOTAL PeCDD	NA	NA	NA	NA	NA	NA	NA	3,236 E
TOTAL PeCDF	NA	NA	NA	NA	NA	NA	NA	19,800 E
TOTAL TCDD	NA	NA	NA	NA	NA	NA	NA	317.9236 E
TOTAL TCDF	NA	NA	NA	NA	NA	NA	NA	2,270 E
Metals (mg/kg)								
Arsenic	88.6	287	61.4	12	58.6	64	500	120
Copper	NA	183	NA	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	2,300	NA	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	67	NA	NA	NA	NA	NA	NA

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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB013SS00 LSA7 0	MB014SS00 LSA9 0	MB014SS01 LSA9 1	MB015SS00 LSA12 0	MB016SS00 LSA13 0	MB017SS00 LSA10 0	MB018SS00 LSA17 0	MB019SS00 LSA14 0
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	2.1	NA	NA	NA	NA	NA	NA
pH (pH)								
pH	NA	5.11	NA	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	510	NA	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	NA	0.077 U	NA	NA	NA	0.12 U	0.14 U	0.14 U
2-Methylnaphthalene	NA	0.16 U	NA	NA	NA	0.2 U	0.24 U	0.23 U
Acenaphthene	0.15	0.099 U	0.089 U	0.071 U	0.08 U	0.21 U	0.25 U	0.24 U
Acenaphthylene	0.072 U	0.071 J	0.15	0.059 U	0.066 U	0.15 U	0.1 J	0.18 U
Anthracene	0.54	0.18	1.3	0.11 U	0.077 J	0.16 U	0.2	0.086 J
Benzo(a)anthracene	0.89	0.3	4.2	0.094	0.09 U	0.078 J	0.68	0.13
Benzo(a)pyrene	0.74	1.2	6.7	0.086	0.3	0.32	1.4	0.29
Benzo(b)fluoranthene	1.1	1.9	8.6	0.23	0.42	0.48	3.2	0.5
Benzo(g,h,i)perylene	0.36	0.34	3.5	0.064 J	0.11 J	0.1	0.42	0.1
Benzo(k)fluoranthene	0.58	0.56	3.6	0.065 J	0.16 U	0.097	0.64	0.18
Chrysene	1.1	1.4	9.5	0.15	0.27	0.24	1.6	0.37
Dibenz(a,h)anthracene	0.072 J	0.13	0.75	0.089 U	0.1 U	0.099 U	0.1 J	0.12 U
Fluoranthene	2.1	1.1	4.5	0.17	0.19	0.25	0.93	0.45
Fluorene	0.11	0.11 U	0.066 J	0.08 U	0.09 U	0.13 U	0.16 U	0.15 U
Indeno(1,2,3-cd)pyrene	0.46	0.42	3.9	0.081	0.14	0.15	0.64	0.14
Naphthalene	0.17 U	0.085 J	0.14 J	0.14 U	0.15 U	0.14 U	0.17 U	0.16 U
Pentachlorophenol	4.7	57 D	5.9	0.92	4.3	4.3	12	26
Phenanthrene	1.6	0.19	0.63	0.12 U	0.13 U	0.072 J	0.34	0.15 J
Pyrene	1.6	0.68	4.7	0.12	0.12 J	0.15	0.83	0.36
TOC (mg/kg)								
TOC	NA	6,900	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	120	NA	NA	NA	NA	NA	NA

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Summary of Analytical Data
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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB019SS01 LSA14 1	MB020SS00 LSA15 0	MB021SS00 LSA18 0	MB022SS00 LSA20 0	MB022SS01 LSA20 1	MB023SS00 LSA8 0	MB023SS01 LSA8 1	MB024SB04 LSA7 4
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	25 U	NA	25 U	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	11	NA	11	NA	NA
Metals (mg/kg)								
Arsenic	94	92	140	89	24	87	48	4.7
Copper	NA	NA	NA	17	NA	57	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	15,000	NA	290,000	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	310	NA	9,000	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	1 U	NA	1 U	NA	NA
pH (pH)								
pH	NA	NA	NA	5.17	NA	5.93	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	520	NA	510	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.17 U	0.12 U	0.12 U	0.12 U	0.14 U	0.13 U	0.13 U	0.072 U
2-Methylnaphthalene	0.28 U	0.2 U	0.21 U	0.21 U	0.23 U	0.23 U	0.21 U	0.14 U
Acenaphthene	0.29 U	0.21 U	0.22 U	0.22 U	0.25 U	0.24 U	0.22 U	0.092 U
Acenaphthylene	0.22 U	0.16 U	0.16 U	0.16 U	0.18 U	0.17 U	0.16 U	0.076 U
Anthracene	0.23 U	0.074 J	0.12 J	0.17 U	0.19 U	0.12 J	0.17 U	0.14 U
Benzo(a)anthracene	0.11 J	0.095 U	0.1	0.098 U	0.11 U	0.17	0.1 U	0.1 U
Benzo(a)pyrene	0.15 U	0.42	0.6	0.085 J	0.13 U	0.38	0.093 J	0.11 U
Benzo(b)fluoranthene	0.33	0.47	0.65	0.16 J	0.078 J	0.79	0.12 J	0.24 U
Benzo(g,h,i)perylene	0.058 U	0.13	0.18	0.043 U	0.049 U	0.16	0.044 U	0.16 U
Benzo(k)fluoranthene	0.11 J	0.12	0.095 J	0.1 U	0.11 U	0.11	0.1 U	0.19 U
Chrysene	0.14 J	0.3	0.33	0.11 J	0.23 U	0.44	0.085 J	0.083 U
Dibenz(a,h)anthracene	0.14 U	0.1 U	0.1 U	0.1 U	0.12 U	0.11 U	0.11 U	0.11 U
Fluoranthene	0.19 J	0.21 U	0.22 U	0.16 J	0.11 J	0.24	0.22 U	0.078 J
Fluorene	0.18 U	0.13 U	0.14 U	0.14 U	0.16 U	0.15 U	0.14 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.11 J	0.18	0.27	0.1 U	0.12 U	0.2	0.11 U	0.07 U
Naphthalene	0.2 U	0.14 U	0.15 U	0.15 U	0.16 U	0.16 U	0.15 U	0.18 U
Pentachlorophenol	5.4	7.6	8.9	13	2.1	9.2	2.3	0.27 U
Phenanthrene	0.24 U	0.18 U	0.18 U	0.18 U	0.21 U	0.2 U	0.19 U	0.15 U
Pyrene	0.16 J	0.14 J	0.13 J	0.13 J	0.095 J	0.22	0.069 J	0.14 U

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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB019SS01 LSA14 1	MB020SS00 LSA15 0	MB021SS00 LSA18 0	MB022SS00 LSA20 0	MB022SS01 LSA20 1	MB023SS00 LSA8 0	MB023SS01 LSA8 1	MB024SB04 LSA7 4
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	4,100	NA	7,300	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	25 U	NA	25 U	NA	NA

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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB025SB04 LSA19 4	MB026SB04 LSA19 4	MB030GB01 LSA400 1	MB031GB04 LSA400 4	MB032GB01 LSA401 1	MB033GB04 LSA401 4	MB034GB01 LSA402 1	MB035GB04 LSA402 4
Chemical								
Metals (mg/kg)								
Arsenic	2	2	5.2	2.8	12.4	1.5	3	1.9
SVOCs (mg/kg)								
2-Chloronaphthalene	0.072 U	0.071 U	0.054 U	0.055 U	0.054 U	0.054 U	0.051 U	0.052 U
2-Methylnaphthalene	0.14 U	0.14 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U
Acenaphthene	0.092 U	0.091 U	0.069 U	0.07 U	0.069 U	0.069 U	0.066 U	0.067 U
Acenaphthylene	0.076 U	0.076 U	0.057 U	0.058 U	0.057 U	0.057 U	0.055 U	0.055 U
Anthracene	0.14 U	0.14 U	0.1 U	0.11 U	0.1 U	0.1 U	0.099 U	0.1 U
Benzo(a)anthracene	0.1 U	0.1 U	0.078 U	0.079 U	0.15	0.078 U	0.074 U	0.075 U
Benzo(a)pyrene	0.11 U	0.11 U	0.082 U	0.084 U	0.11	0.082 U	0.078 U	0.079 U
Benzo(b)fluoranthene	0.24 U	0.24 U	0.18 U	0.18 U	0.18	0.18 U	0.17 U	0.17 U
Benzo(g,h,i)perylene	0.16 U	0.16 U	0.12 U	0.12 U	0.13	0.12 U	0.11 U	0.12 U
Benzo(k)fluoranthene	0.19 U	0.18 U	0.14 U	0.14 U	0.094 J	0.14 U	0.13 U	0.14 U
Chrysene	0.084 U	0.083 U	0.063 U	0.064 U	0.13	0.063 U	0.06 U	0.061 U
Dibenz(a,h)anthracene	0.12 U	0.11 U	0.086 U	0.088 U	0.086 U	0.087 U	0.082 U	0.083 U
Fluoranthene	0.1 U	0.1 U	0.078 U	0.08 U	0.21	0.11	0.075 U	0.076 U
Fluorene	0.1 U	0.1 U	0.077 U	0.079 U	0.077 U	0.078 U	0.074 U	0.075 U
Indeno(1,2,3-cd)pyrene	0.07 U	0.07 U	0.052 U	0.054 U	0.11	0.053 U	0.05 U	0.051 U
Naphthalene	0.18 U	0.18 U	0.13 U	0.14 U	0.13 U	0.13 U	0.13 U	0.13 U
Pentachlorophenol	0.28 U	0.27 U	0.21 U	0.21 U	0.54	0.21 U	0.2 U	0.2 U
Phenanthrene	0.15 U	0.15 U	0.11 U	0.12 U	0.17	0.087 J	0.11 U	0.11 U
Pyrene	0.14 U	0.14 U	0.11 U	0.11 U	0.23	0.14	0.1 U	0.1 U

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Log Storage Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB036GB01 LSA403 1	MB037GB04 LSA403 4	MB076GB04 LSA400 4
Chemical			
Metals (mg/kg)			
Arsenic	**2.5**	**2.4**	**2.9**
SVOCs (mg/kg)			
2-Chloronaphthalene	0.05 U	0.053 U	0.052 U
2-Methylnaphthalene	0.1 U	0.11 U	0.1 U
Acenaphthene	0.065 U	0.068 U	0.067 U
Acenaphthylene	**0.074**	0.057 U	0.055 U
Anthracene	**0.08 J**	0.1 U	0.1 U
Benzo(a)anthracene	**0.46**	**0.17**	0.076 U
Benzo(a)pyrene	**0.62**	**0.24**	0.08 U
Benzo(b)fluoranthene	**0.58**	**0.25**	0.17 U
Benzo(g,h,i)perylene	**0.55**	**0.21**	0.12 U
Benzo(k)fluoranthene	**0.25**	**0.1 J**	0.14 U
Chrysene	**0.54**	**0.24**	0.061 U
Dibenz(a,h)anthracene	0.081 U	0.085 U	0.084 U
Fluoranthene	**0.84**	**0.36**	0.076 U
Fluorene	0.073 U	0.077 U	0.075 U
Indeno(1,2,3-cd)pyrene	**0.39**	**0.16**	0.051 U
Naphthalene	0.12 U	0.13 U	0.13 U
Pentachlorophenol	0.19 U	0.2 U	0.2 U
Phenanthrene	**0.5**	**0.3**	0.11 U
Pyrene	**1.2**	**0.46**	0.1 U

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Pole Dryer Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB003CP00 RA3 0	MB200SS00 PDA26 0	MB201SS00 PDA27 0	MB202SS00 PDA24 0	MB203SS00 PDA23 0	MB204SS00 PDA25 0	MB204SS01 PDA25 1	MB205SS00 PDA25 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	96	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	22	NA	NA
Metals (mg/kg)								
Arsenic	NA	41	310	140	29	1,300	72	1,700
Copper	NA	NA	NA	NA	NA	2,600	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	200,000	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	940	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	6.6	NA	NA
pH (pH)								
pH	NA	NA	NA	NA	NA	5.54	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	520	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	NA	0.12 U	0.14 U	0.14 U	0.13 U	0.13 U	0.12 U	0.13 U
2-Methylnaphthalene	NA	0.2 U	0.23 U	0.23 U	0.21 U	0.11 J	0.2 U	0.095 J
Acenaphthene	NA	0.21 U	0.24 U	0.24 U	0.22 U	0.18 J	0.21 U	0.19 J
Acenaphthylene	NA	0.16 U	0.35	0.27	0.16 U	0.8	0.16	0.76
Anthracene	NA	0.16 U	1	0.14 J	0.082 J	1.9	0.49	1.9
Benzo(a)anthracene	NA	0.095 U	1.4	0.46	0.1 U	6.1	3.8	5.4
Benzo(a)pyrene	NA	0.16	3.7	3.4	0.25	10	2.8	9.9
Benzo(b)fluoranthene	NA	0.25	6.4	5.3	0.39	21	5.5	20
Benzo(g,h,i)perylene	NA	0.042 U	1.5	1.4	0.093	3	0.8	3.1
Benzo(k)fluoranthene	NA	0.18	1.5	0.64	0.093 J	7.3	2	6.7
Chrysene	NA	0.073 J	3	1.6	0.15 J	15	6.7	13
Dibenz(a,h)anthracene	NA	0.1 U	0.12 U	0.31	0.11 U	1.2	0.22	1.3
Fluoranthene	NA	0.21 U	0.85	0.51	0.22 U	4	2.3	4.3
Fluorene	NA	0.13 U	0.15 U	0.15 U	0.14 U	0.24	0.13 U	0.23
Indeno(1,2,3-cd)pyrene	NA	0.11	2.1	1.9	0.14	4.6	1.1	4.7
Naphthalene	NA	0.14 U	0.16 U	0.16 U	0.15 U	0.12 J	0.14 U	0.11 J
Pentachlorophenol	NA	0.25 U	7.9	8.1	0.26 U	170 D	23 D	130 D
Phenanthrene	NA	0.18 U	0.21	0.65	0.19 U	0.82	0.16 J	0.78
Pyrene	NA	0.16 U	2.4	0.47	0.071 J	5.9	4	6.1

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Pole Dryer Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB003CP00 RA3 0	MB200SS00 PDA26 0	MB201SS00 PDA27 0	MB202SS00 PDA24 0	MB203SS00 PDA23 0	MB204SS00 PDA25 0	MB204SS01 PDA25 1	MB205SS00 PDA25 0
Chemical								
TCLP Metals (mg/L)								
TCLP Arsenic	**7.14**	NA	NA	NA	NA	NA	NA	NA
TCLP Chromium	**0.0583**	NA	NA	NA	NA	NA	NA	NA
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	**27,000**	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	**820**	NA	NA

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Summary of Analytical Data
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Pole Dryer Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB206SS00 PDA28 0	MB206SS01 PDA28 1	MB207SS00 PDA30 0	MB208SS00 PDA31 0	MB209SS00 PDA29 0	MB210SB04 PDA28 4
Chemical						
Ammonia (mg/kg)						
Ammonia	NA	NA	NA	27	NA	NA
CEC (meq/100g)						
Cation Exchange Capacity	NA	NA	NA	13	NA	NA
Dioxin (ppt)						
1234678-HpCDD	118,111 E	NA	NA	NA	NA	NA
1234678-HpCDF	50,597 E	NA	NA	NA	NA	NA
123478-HxCDD	29,671 E	NA	NA	NA	NA	NA
123478-HxCDF	44,634 E	NA	NA	NA	NA	NA
1234789-HpCDF	24,794 E	NA	NA	NA	NA	NA
123678-HxCDD	67,960 E	NA	NA	NA	NA	NA
123678-HxCDF	25,715 E	NA	NA	NA	NA	NA
12378-PeCDD	22,664 E	NA	NA	NA	NA	NA
12378-PeCDF	22,520 E	NA	NA	NA	NA	NA
123789-HxCDD	38,197 E	NA	NA	NA	NA	NA
123789-HxCDF	3,917 E	NA	NA	NA	NA	NA
234678-HxCDF	19,053 E	NA	NA	NA	NA	NA
23478-PeCDF	20,873 E	NA	NA	NA	NA	NA
2378-TCDD	1,562 E	NA	NA	NA	NA	NA
2378-TCDF	9,401 E	NA	NA	NA	NA	NA
OCDD	222,325 E	NA	NA	NA	NA	NA
OCDF	138,208 E	NA	NA	NA	NA	NA
TOTAL HpCDD	212,798 E	NA	NA	NA	NA	NA
TOTAL HpCDF	158,591 E	NA	NA	NA	NA	NA
TOTAL HxCDD	193,902 E	NA	NA	NA	NA	NA
TOTAL HxCDF	146,347 E	NA	NA	NA	NA	NA
TOTAL PeCDD	55,943 E	NA	NA	NA	NA	NA
TOTAL PeCDF	117,047 E	NA	NA	NA	NA	NA
TOTAL TCDD	5,001 E	NA	NA	NA	NA	NA
TOTAL TCDF	51,077 E	NA	NA	NA	NA	NA
Metals (mg/kg)						
Arsenic	1,300	810	130	240	780	84
Copper	NA	NA	NA	390	NA	NA
Natural Biological Activity (CFU/g)						
Heterotrophic Plate Count	NA	NA	NA	610,000	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	28,000	NA	NA

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Pole Dryer Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB206SS00 PDA28 0	MB206SS01 PDA28 1	MB207SS00 PDA30 0	MB208SS00 PDA31 0	MB209SS00 PDA29 0	MB210SB04 PDA28 4
Chemical						
Nitrate/Nitrite (mg/kg)						
Nitrate/Nitrite	NA	NA	NA	1 U	NA	NA
pH (pH)						
pH	NA	NA	NA	6.73	NA	NA
Phosphorus (mg/kg)						
Total Phosphorus	NA	NA	NA	610	NA	NA
SVOCs (mg/kg)						
2-Chloronaphthalene	0.13 U	0.12 U	0.12 U	0.074 U	0.081 U	0.071 U
2-Methylnaphthalene	0.22 U	0.2 U	0.2 U	0.15 U	0.16 U	0.14 U
Acenaphthene	0.23 U	0.21 U	0.21 U	0.095 U	0.1 U	0.091 U
Acenaphthylene	0.41	0.26	0.13 J	0.21	0.32	0.076 U
Anthracene	1.3	0.27	0.42	0.76	0.82	0.11 J
Benzo(a)anthracene	1.7	0.74	0.25	1.6	0.9	0.086 J
Benzo(a)pyrene	5.7	2	1.2	2.3	3.1	0.23
Benzo(b)fluoranthene	13	4.6	2.7	5.2	6.2	0.33
Benzo(g,h,i)perylene	1.9	0.76	0.59	0.71	0.9	0.14 J
Benzo(k)fluoranthene	3.9	1	0.43	0.86	0.93	0.17 J
Chrysene	5.4	2.1	0.92	0.19	2.3	0.16
Dibenz(a,h)anthracene	1.1	0.21	0.1 U	0.12 U	0.13 U	0.11 U
Fluoranthene	3.1	2	0.38	1.3	1.1	0.18
Fluorene	0.098 J	0.073 J	0.14 U	0.11 U	0.072 J	0.1 U
Indeno(1,2,3-cd)pyrene	3.2	1.2	0.81	1	1.4	0.15
Naphthalene	0.077 J	0.098 J	0.14 U	0.091 J	0.13 J	0.18 U
Pentachlorophenol	71 D	60 D	5.2	350 D	33 D	21
Phenanthrene	0.39	0.73	0.09 J	0.21	0.37	0.15 U
Pyrene	3	1.7	0.37	3.1	1.1	0.15
Total Kjeldahl Nitrogen (mg/kg)						
Total Kjeldahl Nitrogen	NA	NA	NA	500	NA	NA

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East Yard Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB004CP00 RA4 0	MB250SS00 EYA39 0	MB251SS00 EYA40 0	MB252SS00 EYA43 0	MB253SS00 EYA46 0	MB254SS00 EYA44 0	MB255SS00 EYA42 0	MB256SS00 EYA33 0
Chemical								
Metals (mg/kg)								
Arsenic	NA	170	45	110	45	450	220	150
SVOCs (mg/kg)								
2-Chloronaphthalene	NA	0.14 U	0.13 U	0.13 U	0.13 U	0.12 U	0.11 U	0.13 U
2-Methylnaphthalene	NA	0.093 J	0.22 U	0.095 J	0.15 J	0.21 U	0.081 J	0.08 J
Acenaphthene	NA	0.24 U	0.23 U	0.23 U	0.23 U	0.21 U	0.19 U	0.23 U
Acenaphthylene	NA	1	0.22	0.76	0.23	0.1 J	0.44	0.34
Anthracene	NA	2.3	0.68	1.6	0.62	0.25	0.75	0.57
Benzo(a)anthracene	NA	3.3	0.99	2.8	1.7	0.28	1.1	0.89
Benzo(a)pyrene	NA	10	2.7	8.2	3.8	0.83	4.3	3
Benzo(b)fluoranthene	NA	16	4.4	14	6	1.4	6.2	4.2
Benzo(g,h,i)perylene	NA	3.6	0.87	2.5	0.79	0.26	1.3	0.93
Benzo(k)fluoranthene	NA	4.2	0.83	3.6	4.9	0.099 U	0.4	0.87
Chrysene	NA	9.1	2.5	6.6	5.3	0.97	2.6	2.3
Dibenz(a,h)anthracene	NA	0.12 U	0.11 U	0.74	0.26	0.066 J	0.36	0.11 U
Fluoranthene	NA	3.5	0.56	2.8	6.2	0.58	1.4	1.2
Fluorene	NA	0.26	0.11 J	0.26	0.1 J	0.14 U	0.12 J	0.11 J
Indeno(1,2,3-cd)pyrene	NA	5	1.2	3.6	0.99	0.37	2	1.3
Naphthalene	NA	0.12 J	0.08 J	0.14 J	0.13 J	0.092 J	0.13	0.15 J
Pentachlorophenol	NA	31 D	5.7	22	24	5	7.2	6.8
Phenanthrene	NA	2.2	0.16 J	0.7	0.18 J	0.16 J	0.41	0.44
Pyrene	NA	3	0.49	2	5.7	0.57	1.1	0.9
TCLP Metals (mg/L)								
TCLP Arsenic	0.888	NA	NA	NA	NA	NA	NA	NA
TCLP Chromium	0.0084 B	NA	NA	NA	NA	NA	NA	NA

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Summary of Analytical Data
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East Yard Area Data

Sample ID: *Sample Location:* Sample Depth (ft):	MB257SS00 *EYA36* 0	MB258SS00 *EYA35* 0	MB258SS01 *EYA35* 1	MB259SS00 *EYA32* 0	MB260SS00 *EYA34* 0	MB261SS00 *EYA37* 0	MB262SS00 *EYA38* 0	MB262SS01 *EYA38* 1
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	NA	48	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	NA	24	NA
Dioxin (ppt)								
1234678-HpCDD	NA	39,316 E	NA	NA	NA	NA	NA	NA
1234678-HpCDF	NA	7,201 E	NA	NA	NA	NA	NA	NA
123478-HxCDD	NA	633.3813 E	NA	NA	NA	NA	NA	NA
123478-HxCDF	NA	EN	NA	NA	NA	NA	NA	NA
1234789-HpCDF	NA	668.4224 E	NA	NA	NA	NA	NA	NA
123678-HxCDD	NA	2,225 E	NA	NA	NA	NA	NA	NA
123678-HxCDF	NA	315.3231 E	NA	NA	NA	NA	NA	NA
12378-PeCDD	NA	280.7713 E	NA	NA	NA	NA	NA	NA
12378-PeCDF	NA	133.1979 E	NA	NA	NA	NA	NA	NA
123789-HxCDD	NA	1,027 E	NA	NA	NA	NA	NA	NA
123789-HxCDF	NA	11.2322 E	NA	NA	NA	NA	NA	NA
234678-HxCDF	NA	EN	NA	NA	NA	NA	NA	NA
23478-PeCDF	NA	144.4451 E	NA	NA	NA	NA	NA	NA
2378-TCDD	NA	40.2399 E	NA	NA	NA	NA	NA	NA
2378-TCDF	NA	49.7065 E	NA	NA	NA	NA	NA	NA
OCDD	NA	88,938 E	NA	NA	NA	NA	NA	NA
OCDF	NA	33,399 E	NA	NA	NA	NA	NA	NA
TOTAL HpCDD	NA	53,949 E	NA	NA	NA	NA	NA	NA
TOTAL HpCDF	NA	32,750 E	NA	NA	NA	NA	NA	NA
TOTAL HxCDD	NA	9,153 E	NA	NA	NA	NA	NA	NA
TOTAL HxCDF	NA	13,190 E	NA	NA	NA	NA	NA	NA
TOTAL PeCDD	NA	1,226 E	NA	NA	NA	NA	NA	NA
TOTAL PeCDF	NA	2,912 E	NA	NA	NA	NA	NA	NA
TOTAL TCDD	NA	483.2549 E	NA	NA	NA	NA	NA	NA
TOTAL TCDF	NA	259.045 E	NA	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	64	2,100	180	24	40	18	1,300	190
Copper	NA	NA	NA	NA	NA	NA	960	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	NA	330,000	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	NA	13,000	NA

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Summary of Analytical Data
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East Yard Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB257SS00 EYA36 0	MB258SS00 EYA35 0	MB258SS01 EYA35 1	MB259SS00 EYA32 0	MB260SS00 EYA34 0	MB261SS00 EYA37 0	MB262SS00 EYA38 0	MB262SS01 EYA38 1
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	NA	1.8	NA
pH (pH)								
pH	NA	NA	NA	NA	NA	NA	5.41	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	NA	550	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.12 U	0.086 U	0.075 U	0.059 U	0.13 U	0.073 U	0.082 U	0.081 U
2-Methylnaphthalene	0.2 U	0.12 J	0.15 U	0.12 U	0.22 U	0.15 U	0.23	0.14 J
Acenaphthene	0.2 U	0.11 U	0.097 U	0.076 U	0.23 U	0.094 U	0.11	0.1 U
Acenaphthylene	0.17	0.21	0.08 U	0.063 U	0.12 J	0.08	0.73	0.36
Anthracene	0.22	0.43	0.15 U	0.07 J	0.28	0.14	1.3	0.63
Benzo(a)anthracene	0.28	0.55	0.11 U	0.082 J	0.53	0.088 J	3.4	0.83
Benzo(a)pyrene	1.1	1.5	0.11 U	0.2	1	0.43	7.6	2.4
Benzo(b)fluoranthene	1.9	3.6	0.25 U	0.19 J	2.1	0.54	11	3.8
Benzo(g,h,i)perylene	0.37	0.43	0.17 U	0.084 J	0.37	0.2	2.3	0.76
Benzo(k)fluoranthene	0.21	0.31	0.2 U	0.082 J	0.39	0.088 J	2.6	0.45
Chrysene	0.74	2	0.088 U	0.12	2.2	0.18	6.2	1.7
Dibenz(a,h)anthracene	0.1	0.14 U	0.12 U	0.095 U	0.11 U	0.12 U	0.13 U	0.13 U
Fluoranthene	0.32	2.2	0.11 U	0.13	0.31	0.12	5.4	1.6
Fluorene	0.13 U	0.12 U	0.11 U	0.085 U	0.15 U	0.11 U	0.24	0.13
Indeno(1,2,3-cd)pyrene	0.53	0.59	0.074 U	0.099	0.5	0.26	3.1	0.96
Naphthalene	0.14 U	0.23	0.19 U	0.15 U	0.16 U	0.18 U	0.46	0.37
Pentachlorophenol	2.7	6.7	0.16 J	0.8	1.7	1.1	15	3.1
Phenanthrene	0.16 J	0.84	0.16 U	0.13 U	0.083 J	0.16 U	2	0.7
Pyrene	0.23	1.4	0.15 U	0.087 J	0.26	0.094 J	4	1.2
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	NA	35,000	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	NA	1,100	NA

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East Yard Area Data

Sample ID: Sample Location: *Sample Depth (ft):*	MB263SS00 EYA41 0	MB263SS01 EYA41 1	MB264SS00 EYA45 0	MB264SS01 EYA45 1	MB265SB04 EYA35 4	MB266SB04 EYA45 4
Chemical						
Ammonia (mg/kg)						
Ammonia	5.9	NA	20	NA	NA	NA
CEC (meq/100g)						
Cation Exchange Capacity	12	NA	12	NA	NA	NA
Metals (mg/kg)						
Arsenic	32	11	82	24	32	2.8
Copper	55	NA	120	NA	NA	15
Natural Biological Activity (CFU/g)						
Heterotrophic Plate Count	150,000	NA	190,000	NA	NA	NA
Total Phenanthrene Degraders	26,000	NA	1,600	NA	NA	NA
Nitrate/Nitrite (mg/kg)						
Nitrate/Nitrite	1 U	NA	1 U	NA	NA	NA
pH (pH)						
pH	6.31	NA	6.25	NA	NA	NA
Phosphorus (mg/kg)						
Total Phosphorus	680	NA	470	NA	NA	NA
SVOCs (mg/kg)						
2-Chloronaphthalene	0.072 U	0.075 U	0.13 U	0.079 U	0.073 U	0.073 U
2-Methylnaphthalene	0.14 U	0.25	0.21 U	0.16 U	0.15 U	0.15 U
Acenaphthene	0.092 U	0.22	0.22 U	0.1 U	0.094 U	0.094 U
Acenaphthylene	0.13	0.08 U	0.16 U	0.084 U	0.077 U	0.077 U
Anthracene	0.22	0.53	0.53	0.18	0.14 U	0.14 U
Benzo(a)anthracene	0.24	0.66	0.41	0.18	0.11 U	0.11 U
Benzo(a)pyrene	1.2	1.6	2.2	0.61	0.11 U	0.11 U
Benzo(b)fluoranthene	1.5	2.2	2.8	0.85	0.24 U	0.24 U
Benzo(g,h,i)perylene	0.32	0.35	0.62	0.15 J	0.16 U	0.16 U
Benzo(k)fluoranthene	0.31	0.36	0.36	0.14 J	0.19 U	0.19 U
Chrysene	0.91	1.6	1.3	0.49	0.085 U	0.085 U
Dibenz(a,h)anthracene	0.076 J	0.11 J	0.16	0.13 U	0.12 U	0.12 U
Fluoranthene	0.23	2.1	0.87	0.26	0.11 U	0.11 U
Fluorene	0.1 U	0.37	0.083 J	0.11 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.47	0.46	0.84	0.22	0.071 U	0.071 U
Naphthalene	0.18 U	0.63	0.094 J	0.19 U	0.18 U	0.18 U
Pentachlorophenol	2.4	2.1	6.6	2.1	0.28 U	0.28 U
Phenanthrene	0.15 U	1.3	0.26	0.086 J	0.16 U	0.16 U
Pyrene	0.16	1.2	0.62	0.17	0.14 U	0.14 U

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East Yard Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB263SS00 EYA41 0	MB263SS01 EYA41 1	MB264SS00 EYA45 0	MB264SS01 EYA45 1	MB265SB04 EYA35 4	MB266SB04 EYA45 4
Chemical						
TOC (mg/kg)						
TOC	7,600	NA	14,000	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)						
Total Kjeldahl Nitrogen	89	NA	20	NA	NA	NA

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Stacker Shed Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB006CP00 RA6 0	MB050GB01 SSA411 1	MB050SS00 SSA73 0	MB051GB01 SSA412 1	MB051SS00 SSA72 0	MB052GB01 SSA413 1	MB052SS00 SSA75 0	MB053GB01 SSA414 1
Chemical								
Metals (mg/kg)								
Arsenic	NA	56.9	211	9.5	97	98.8	104	14.8
SVOCs (mg/kg)								
2-Chloronaphthalene	NA	0.6 U	0.076 U	0.052 U	0.074 U	0.055 U	0.07 U	0.055 U
2-Methylnaphthalene	NA	77	0.12 J	0.1 U	0.15 U	0.11 U	0.14 U	0.11 U
Acenaphthene	NA	390 D	0.098 U	0.067 U	0.095 U	0.07 U	0.09 U	0.07 U
Acenaphthylene	NA	15	0.075 J	0.055 U	0.079 U	0.086	0.074 U	0.058 U
Anthracene	NA	790 D	0.21	0.1 U	0.066 J	0.24	0.15	0.14
Benzo(a)anthracene	NA	180 D	0.21	0.075 U	0.077 J	0.13	0.17	0.24
Benzo(a)pyrene	NA	69	1.1	0.08 U	0.26	0.12	0.24	0.14
Benzo(b)fluoranthene	NA	140	1.8	0.17 U	0.35	0.41	0.76	0.23
Benzo(g,h,i)perylene	NA	21	0.21	0.12 U	0.12 J	0.32	0.15 J	0.082 J
Benzo(k)fluoranthene	NA	53	0.86	0.14 U	0.15 J	0.088 J	0.23	0.11 J
Chrysene	NA	190 D	1.3	0.061 U	0.13	0.11	0.46	0.21
Dibenz(a,h)anthracene	NA	5.9	0.12 U	0.084 U	0.12 U	0.087 U	0.11 U	0.087 U
Fluoranthene	NA	1,100 D	1.3	0.076 U	0.081 J	0.18	0.33	0.4
Fluorene	NA	280 D	0.11 U	0.075 U	0.11 U	0.079 U	0.1 U	0.079 U
Indeno(1,2,3-cd)pyrene	NA	26	0.27	0.051 U	0.15	0.41	0.17	0.053 U
Naphthalene	NA	53	0.18 J	0.13 U	0.18 U	0.13 U	0.17 U	0.13 U
Pentachlorophenol	NA	200 D	470 D	0.2 U	4.1	2.7	2.4	1.9
Phenanthrene	NA	660	0.19	0.11 U	0.16 U	0.097 J	0.15 U	0.49
Pyrene	NA	740 D	2.3	0.1 U	0.07 J	0.16	0.28	0.48
TCLP Metals (mg/L)								
TCLP Arsenic	0.419	NA	NA	NA	NA	NA	NA	NA
TCLP Chromium	0.0436	NA	NA	NA	NA	NA	NA	NA

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Appendix A
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Stacker Shed Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB053SS00 SSA71 0	MB054GB01 SSA415 1	MB054SS00 SSA70 0	MB055GB01 SSA416 1	MB055SS01 SSA70 1	MB056GB01 SSA417 1	MB056SS00 SSA74 0	MB057SS00 SSA69 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	NA	NA	10
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	NA	NA	12
Metals (mg/kg)								
Arsenic	28.3	245	103	23.4	20.5	2.7	91.4	33.4
Copper	NA	NA	NA	NA	NA	NA	NA	18.9
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	NA	NA	11,000
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	NA	NA	1 U
pH (pH)								
pH	NA	NA	NA	NA	NA	NA	NA	6.04
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	NA	NA	410
SVOCs (mg/kg)								
2-Chloronaphthalene	0.077 U	0.2 U	0.075 U	0.052 U	0.072 U	0.053 U	0.07 U	NA
2-Methylnaphthalene	0.15 U	0.41 U	0.15 U	0.1 U	0.14 U	0.11 U	0.14 U	NA
Acenaphthene	0.099 U	0.26 U	0.097 U	0.067 U	0.092 U	0.068 U	0.09 U	0.086 U
Acenaphthylene	0.082 U	0.22 U	0.08 U	0.055 U	0.076 U	0.056 U	0.075 U	0.071 U
Anthracene	0.15 U	0.49	0.15 U	0.1 U	0.14 U	0.16	0.14 U	0.13 U
Benzo(a)anthracene	0.11 U	0.81	0.11 U	0.075 U	0.1 U	0.32	0.11	0.097 U
Benzo(a)pyrene	0.086 J	0.31 U	0.11 U	0.079 U	0.11 U	0.26	0.11	0.1 U
Benzo(b)fluoranthene	0.17 J	1.8	0.19 J	0.17 U	0.093 J	0.24	0.18 J	0.22 U
Benzo(g,h,i)perylene	0.17 U	0.45 U	0.17 U	0.12 U	0.16 U	0.13	0.067 J	0.15 U
Benzo(k)fluoranthene	0.2 U	0.66	0.082 J	0.14 U	0.19 U	0.15	0.083 J	0.17 U
Chrysene	0.099	1.2	0.088 U	0.061 U	0.084 U	0.33	0.15	0.078 U
Dibenz(a,h)anthracene	0.12 U	0.33 U	0.12 U	0.083 U	0.11 U	0.084 U	0.11 U	0.11 U
Fluoranthene	0.11 U	2.1	0.091 J	0.076 U	0.1 U	0.59	0.18	0.098 U
Fluorene	0.11 U	0.29 U	0.11 U	0.075 U	0.1 U	0.076 U	0.1 U	0.096 U
Indeno(1,2,3-cd)pyrene	0.075 U	0.2 U	0.082	0.051 U	0.07 U	0.12	0.069 J	0.066 U
Naphthalene	0.19 U	0.5 U	0.19 U	0.13 U	0.18 U	0.13 U	0.17 U	0.16 U
Pentachlorophenol	0.14 J	7.3	4.7	0.2 U	1.4	0.2 U	6.7	0.13 J
Phenanthrene	0.16 U	0.46	0.16 U	0.11 U	0.15 U	0.58	0.13 J	0.14 U
Pyrene	0.15 U	1.2	0.089 J	0.1 U	0.14 U	0.71	0.2	0.13 U

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Sample ID: Sample Location: Sample Depth (ft):	MB053SS00 SSA71 0	MB054GB01 SSA415 1	MB054SS00 SSA70 0	MB055GB01 SSA416 1	MB055SS01 SSA70 1	MB056GB01 SSA417 1	MB056SS00 SSA74 0	MB057SS00 SSA69 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	NA	NA	1,800
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	NA	NA	280

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Stacker Shed Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB058SS00 SSA69 0	MB059SS00 SSA68 0	MB060SS00 SSA76 0	MB061SS00 SSA78 0	MB062SS00 SSA119 0	MB063SS00 SSA77 0	MB064SS00 SSA82 0	MB065SS00 SSA79 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	72	NA	260
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	10	NA	14
Metals (mg/kg)								
Arsenic	37.5	57.7	5.3	15	363	848	131	416
Copper	NA	NA	NA	NA	NA	444	NA	112
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	83,000	NA	2,000
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	3,500	NA	33
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	1 U	NA	120
pH (pH)								
pH	NA	NA	NA	NA	NA	5.08	NA	6.77
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	710	NA	460
SVOCs (mg/kg)								
Acenaphthene	0.085 U	0.091 U	0.085 U	0.089 U	0.086 U	0.088 U	0.086 U	0.088 U
Acenaphthylene	0.07 U	0.076 U	0.07 U	0.074 U	0.071 U	0.073 U	0.071 U	0.084
Anthracene	0.13 U	0.14 U	0.11 J	0.13 U	0.13 U	0.091 J	0.096 J	0.45
Benzo(a)anthracene	0.095 U	0.1 U	0.18	0.1 U	0.085 J	0.14	0.097 U	1.3
Benzo(a)pyrene	0.1 U	0.15	0.22	0.1 J	0.081 J	0.62	0.35	0.98
Benzo(b)fluoranthene	0.22 U	0.31	0.45	0.26	0.5	1.5	0.6	2.1
Benzo(g,h,i)perylene	0.15 U	0.16 U	0.15	0.082 J	0.15 U	0.15 J	0.23	0.26
Benzo(k)fluoranthene	0.17 U	0.19 U	0.17 U	0.074 J	0.083 J	0.36	0.092 J	0.58
Chrysene	0.077 U	0.08 J	0.32	0.12	0.24	0.48	0.19	2
Dibenz(a,h)anthracene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Fluoranthene	0.096 U	0.14	0.44	0.24	0.28	0.61	0.075 J	6.6
Fluorene	0.095 U	0.1 U	0.096 U	0.1 U	0.097 U	0.099 U	0.097 U	0.098 U
Indeno(1,2,3-cd)pyrene	0.065 U	0.074	0.15	0.082	0.074	0.22	0.28	0.35
Naphthalene	0.16 U	0.18 U	0.12 J	0.17 U	0.17 U	0.17 U	0.16 U	0.09 J
Pentachlorophenol	0.25 U	0.43	0.12 J	0.28	2.4	4.9	1.4	66 D
Phenanthrene	0.14 U	0.066 J	0.37	0.084 J	0.089 J	0.1 J	0.14 U	0.74
Pyrene	0.13 U	0.092 J	0.31	0.19	0.16	0.42	0.067 J	3.1
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	14,000	NA	5,100

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Sample ID: Sample Location: Sample Depth (ft):	MB058SS00 SSA69 0	MB059SS00 SSA68 0	MB060SS00 SSA76 0	MB061SS00 SSA78 0	MB062SS00 SSA119 0	MB063SS00 SSA77 0	MB064SS00 SSA82 0	MB065SS00 SSA79 0
Chemical								
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	400	NA	10 U

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Sample ID: Sample Location: Sample Depth (ft):	MB066SS00 SSA79 0	MB067SS00 SSA81 0	MB068SS00 SSA80 0	MB069SS01 SSA80 1	MB070SS00 SSA89 0	MB071SS01 SSA89 1	MB072SS01 SSA89 1	MB073SS00 SSA97 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	260	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	13	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	397	66	51.3	29	290	300	280	28
Copper	NA	NA	135	NA	52	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	9,600	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	700	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	2.5	NA	NA	NA	NA	NA
pH (pH)								
pH	NA	NA	5.85	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	460	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	NA	NA	NA	NA	0.073 U	0.07 U	0.072 U	0.076 U
2-Methylnaphthalene	NA	NA	NA	NA	0.11 J	0.098 J	0.14 U	0.15 U
Acenaphthene	0.082 U	0.084 U	0.086	0.085 U	0.094 U	0.068 J	0.092 U	0.097 U
Acenaphthylene	0.21	0.098	0.064 U	0.071 U	0.16	0.074 U	0.076 U	0.08 U
Anthracene	1.5	0.43	0.79	0.13 U	0.36	0.17	0.19	0.14 J
Benzo(a)anthracene	8.3	1.2	0.54	0.11	0.17	0.084 J	0.13	0.11 U
Benzo(a)pyrene	3.2	2.1	0.56	0.13	0.5	0.23	0.25	0.36
Benzo(b)fluoranthene	5.6	4.5	1.2	0.29	1.3	0.79	0.88	0.56
Benzo(g,h,i)perylene	0.68	0.57	0.18	0.073 J	0.18	0.16 U	0.16 U	0.2
Benzo(k)fluoranthene	2.8	1.7	0.14 J	0.065 J	0.065 J	0.18 U	0.14 J	0.072 J
Chrysene	10	2.9	0.86	0.15	0.46	0.26	0.2	0.12
Dibenz(a,h)anthracene	0.16	0.19	0.096 U	0.11 U	0.12 U	0.11 U	0.11 U	0.12 U
Fluoranthene	29	5.9	1.2	0.24	0.53	0.28	0.32	0.11
Fluorene	0.17	0.095 U	0.087 U	0.096 U	0.11 U	0.1 U	0.1 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.91	0.73	0.24	0.088	0.34	0.14	0.14	0.27
Naphthalene	0.095 J	0.15 J	0.46	0.16 U	0.31	0.28	0.22	0.19 U
Pentachlorophenol	82 D	110 D	17	3.3	6.2	0.27 U	2.8	4.1
Phenanthrene	1.6	0.44	0.78	0.14 J	0.33	0.26	0.25	0.16 U
Pyrene	21	6.1	0.65	0.15	0.34	0.22	0.24	0.096 J

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Sample ID: Sample Location: Sample Depth (ft):	MB066SS00 SSA79 0	MB067SS00 SSA81 0	MB068SS00 SSA80 0	MB069SS01 SSA80 1	MB070SS00 SSA89 0	MB071SS01 SSA89 1	MB072SS01 SSA89 1	MB073SS00 SSA97 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	18,000	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	400	NA	NA	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB074SS00 SSA93 0	MB075SS00 SSA88 0	MB076SS00 SSA92 0	MB077SS00 SSA87 0	MB078SS00 SSA84 0	MB079GB01 SSA413 1	MB079SS00 SSA95 0	MB080SS00 SSA99 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	NA	41	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	NA	21	NA
Metals (mg/kg)								
Arsenic	43	79	320	170	56	69.9	380	99
Copper	NA	NA	NA	NA	NA	NA	130	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	NA	260,000	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	NA	20,000	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	NA	1 U	NA
pH (pH)								
pH	NA	NA	NA	NA	NA	NA	5.26	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	NA	550	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.072 U	0.078 U	0.1 U	0.071 U	0.075 U	0.051 U	0.075 U	0.071 U
2-Methylnaphthalene	0.15 U	0.16 U	0.19 J	0.13 J	0.15 U	0.1 U	0.15 U	0.15
Acenaphthene	0.093 U	0.1 U	0.095 J	0.15	0.097 U	0.083	0.097 U	0.67
Acenaphthylene	0.077 U	0.11	1.8	1.7	0.08 U	0.055 U	0.091	1.9
Anthracene	0.075 J	0.31	4.6	3.1	0.087 J	0.15	0.27	5.2
Benzo(a)anthracene	0.075 J	0.15	3.4	1.3	0.11 U	0.078	0.23	18
Benzo(a)pyrene	0.21	0.62	18	17	0.44	0.078 U	1.3	18
Benzo(b)fluoranthene	0.31	0.93	20	15	0.51	0.17 U	1.9	19
Benzo(g,h,i)perylene	0.16 U	0.41	6.7	5.7	0.13 J	0.11 U	0.3	6.5
Benzo(k)fluoranthene	0.19 U	0.2 U	4.7	2.9	0.2 U	0.13 U	0.24	11
Chrysene	0.12	0.25	6.5	4	0.15	0.078	0.6	23
Dibenz(a,h)anthracene	0.12 U	0.12 U	1.6	1.3	0.12 U	0.082 U	0.078 J	1.3
Fluoranthene	0.14	0.2	4.1	2.5	0.08 J	0.24	0.42	14
Fluorene	0.1 U	0.11 U	0.61	0.52	0.11 U	0.074 U	0.11 U	1.4
Indeno(1,2,3-cd)pyrene	0.071 U	0.49	8.4	7.6	0.18	0.05 U	0.45	8
Naphthalene	0.18 U	0.19 U	0.31	0.16 J	0.19 U	0.13 U	0.076 J	0.2
Pentachlorophenol	1.5	3.1	21	9.7	0.29 U	0.25	5.4	6.9
Phenanthrene	0.094 J	0.085 J	1.3	0.75	0.16 U	0.27	0.14 J	0.88
Pyrene	0.1 J	0.15 J	3.6	2.2	0.15 U	0.18	0.32	24

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Sample ID: Sample Location: Sample Depth (ft):	MB074SS00 SSA93 0	MB075SS00 SSA88 0	MB076SS00 SSA92 0	MB077SS00 SSA87 0	MB078SS00 SSA84 0	MB079GB01 SSA413 1	MB079SS00 SSA95 0	MB080SS00 SSA99 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	NA	14,000	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	NA	500	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB081SS00 SSA98 0	MB082SS00 SSA96 0	MB083SS00 SSA94 0	MB084SS00 SSA91 0	MB085SS00 SSA90 0	MB086SS00 SSA86 0	MB087SS00 SSA85 0	MB088SS00 SSA83 0
Chemical								
Ammonia (mg/kg)								
Ammonia	40 U	NA	NA	25 U	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	13	NA	NA	19	NA	NA	NA	NA
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	NA	3,799 E	NA
1234678-HpCDF	NA	NA	NA	NA	NA	NA	391.0845 E	NA
123478-HxCDD	NA	NA	NA	NA	NA	NA	33.0239 E	NA
123478-HxCDF	NA	NA	NA	NA	NA	NA	EN	NA
1234789-HpCDF	NA	NA	NA	NA	NA	NA	35.2486 E	NA
123678-HxCDD	NA	NA	NA	NA	NA	NA	183.3951 E	NA
123678-HxCDF	NA	NA	NA	NA	NA	NA	35.5564 E	NA
12378-PeCDD	NA	NA	NA	NA	NA	NA	20.0484 E	NA
12378-PeCDF	NA	NA	NA	NA	NA	NA	20.8599 E	NA
123789-HxCDD	NA	NA	NA	NA	NA	NA	63.953 E	NA
123789-HxCDF	NA	NA	NA	NA	NA	NA	4.8793 E	NA
234678-HxCDF	NA	NA	NA	NA	NA	NA	22.8349 E	NA
23478-PeCDF	NA	NA	NA	NA	NA	NA	18.9115 E	NA
2378-TCDD	NA	NA	NA	NA	NA	NA	4.2433 E	NA
2378-TCDF	NA	NA	NA	NA	NA	NA	7.8427 E	NA
OCDD	NA	NA	NA	NA	NA	NA	25,966 E	NA
OCDF	NA	NA	NA	NA	NA	NA	1,086 E	NA
TOTAL HpCDD	NA	NA	NA	NA	NA	NA	5,208 E	NA
TOTAL HpCDF	NA	NA	NA	NA	NA	NA	1,309 E	NA
TOTAL HxCDD	NA	NA	NA	NA	NA	NA	611.1243 E	NA
TOTAL HxCDF	NA	NA	NA	NA	NA	NA	894.3926 E	NA
TOTAL PeCDD	NA	NA	NA	NA	NA	NA	56.638 E	NA
TOTAL PeCDF	NA	NA	NA	NA	NA	NA	358.9627 E	NA
TOTAL TCDD	NA	NA	NA	NA	NA	NA	9.1876 E	NA
TOTAL TCDF	NA	NA	NA	NA	NA	NA	24.6734 E	NA
Metals (mg/kg)								
Arsenic	62	100	290	320	34	83	8.7	350
Copper	58	NA	NA	210	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	29,000	NA	NA	49,000	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	900	NA	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB081SS00 SSA98 0	MB082SS00 SSA96 0	MB083SS00 SSA94 0	MB084SS00 SSA91 0	MB085SS00 SSA90 0	MB086SS00 SSA86 0	MB087SS00 SSA85 0	MB088SS00 SSA83 0
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	NA	1 U	NA	NA	NA	NA
pH (pH)								
pH	5.41	NA	NA	5.86	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	580	NA	NA	430	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.069 U	0.072 U	0.14 U	0.078 U	0.12 U	0.12 U	0.12 U	0.11 U
2-Methylnaphthalene	0.14 U	0.14 U	0.23 U	0.16 U	0.21 U	0.2 U	0.2 U	0.19 U
Acenaphthene	0.088 U	0.092 U	0.24 U	0.1 U	0.22 U	0.21 U	0.21 U	0.2 U
Acenaphthylene	0.073 U	0.56	0.091 J	0.13	0.16 U	0.22	0.16 U	0.12 J
Anthracene	0.063 J	0.77	0.2	0.3	0.17 U	0.62	0.17 U	0.23
Benzo(a)anthracene	0.061 J	0.51	0.22	0.19	0.097 U	0.33	0.097 U	0.46
Benzo(a)pyrene	0.35	1.9	1.1	1.7	0.094 J	1.8	0.11 U	0.59
Benzo(b)fluoranthene	0.67	3.3	1.7	2.3	0.22	2.3	0.2 U	1.4
Benzo(g,h,i)perylene	0.065 J	1.5	0.27	0.43	0.043 U	0.68	0.042 U	0.44
Benzo(k)fluoranthene	0.065 J	0.31	0.1 J	0.31	0.099 U	0.28	0.098 U	0.2
Chrysene	0.2	0.98	0.68	0.61	0.14 J	1	0.2 U	0.88
Dibenz(a,h)anthracene	0.11 U	0.12 U	0.12 U	0.11 J	0.1 U	0.16	0.1 U	0.095 U
Fluoranthene	0.12	0.72	0.33	0.31	0.21 U	0.64	0.21 U	1
Fluorene	0.099 U	0.11	0.15 U	0.11 U	0.14 U	0.09 J	0.14 U	0.13 U
Indeno(1,2,3-cd)pyrene	0.12	2	0.37	0.65	0.1 U	0.94	0.1 U	0.56
Naphthalene	0.17 U	0.18 U	0.16 U	0.19 U	0.14 U	0.14 U	0.14 U	0.12 J
Pentachlorophenol	1.2	4.4	1.8	2.8	0.37	11	0.085 J	15
Phenanthrene	0.15 U	0.21	0.096 J	0.069 J	0.18 U	0.17 U	0.18 U	0.097 J
Pyrene	0.11 J	0.67	0.21	0.27	0.16 U	0.36	0.16 U	0.75
TOC (mg/kg)								
TOC	7,200	NA	NA	19,000	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	40 U	NA	NA	25 U	NA	NA	NA	NA

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Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Stacker Shed Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB089SS01 SSA98 1	MB090SS01 SSA96 1	MB091SS01 SSA95 1	MB092SS01 SSA99 1	MB093SS01 SSA90 1	MB094SB04 SSA82 4	MB095SB04 SSA99 4
Chemical							
Ammonia (mg/kg)							
Ammonia	NA	NA	NA	25 U	NA	NA	NA
CEC (meq/100g)							
Cation Exchange Capacity	NA	NA	NA	14	NA	NA	NA
Metals (mg/kg)							
Arsenic	52	21	280	8.2	18	2.7	7.2
Copper	NA	NA	NA	17	NA	NA	NA
Natural Biological Activity (CFU/g)							
Heterotrophic Plate Count	NA	NA	NA	20,000	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	1,900	NA	NA	NA
Nitrate/Nitrite (mg/kg)							
Nitrate/Nitrite	NA	NA	NA	1.1	NA	NA	NA
pH (pH)							
pH	NA	NA	NA	6.5	NA	NA	NA
Phosphorus (mg/kg)							
Total Phosphorus	NA	NA	NA	420	NA	NA	NA
SVOCs (mg/kg)							
2-Chloronaphthalene	0.068 U	0.073 U	0.079 U	0.075 U	0.12 U	0.073 U	0.076 U
2-Methylnaphthalene	0.14 U	0.15 U	0.16 U	0.15 U	0.2 U	0.15 U	0.15 U
Acenaphthene	0.087 U	0.094 U	0.1 U	0.096 U	0.21 U	0.094 U	0.097 U
Acenaphthylene	0.072 U	0.08	0.084 U	0.093	0.15 U	0.078 U	0.08 U
Anthracene	0.13 U	0.12 J	0.079 J	0.15	0.099 J	0.14 U	0.15 U
Benzo(a)anthracene	0.098 U	0.099 J	0.11 U	0.086 J	0.13	0.11 U	0.11 U
Benzo(a)pyrene	0.12	0.29	0.3	0.34	0.31	0.11 U	0.11 J
Benzo(b)fluoranthene	0.18 J	0.5	0.61	0.47	0.65	0.24 U	0.15 J
Benzo(g,h,i)perylene	0.15 U	0.2	0.079 J	0.22	0.085	0.16 U	0.17 U
Benzo(k)fluoranthene	0.18 U	0.19 U	0.16 J	0.19 J	0.15	0.19 U	0.07 J
Chrysene	0.094	0.17	0.21	0.13	0.47	0.085 U	0.072 J
Dibenz(a,h)anthracene	0.11 U	0.12 U	0.13 U	0.12 U	0.1 U	0.12 U	0.12 U
Fluoranthene	0.084 J	0.15	0.098 J	0.12	0.32	0.11 U	0.07 J
Fluorene	0.098 U	0.11 U	0.11 U	0.095 J	0.13 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.067 U	0.26	0.14	0.29	0.12	0.072 U	0.074 U
Naphthalene	0.17 U	0.18 U	0.19 U	0.19 U	0.14 U	0.18 U	0.19 U
Pentachlorophenol	0.39	0.28 J	1.6	0.11 J	0.67	0.28 U	0.29 U
Phenanthrene	0.063 J	0.16 U	0.17 U	0.16 U	0.11 J	0.16 U	0.16 U
Pyrene	0.061 J	0.13 J	0.095 J	0.13 J	0.18	0.14 U	0.067 J

Appendix A
Summary of Analytical Data
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Stacker Shed Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB089SS01 SSA98 1	MB090SS01 SSA96 1	MB091SS01 SSA95 1	MB092SS01 SSA99 1	MB093SS01 SSA90 1	MB094SB04 SSA82 4	MB095SB04 SSA99 4
Chemical							
TOC (mg/kg)							
TOC	NA	NA	NA	1,900	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)							
Total Kjeldahl Nitrogen	NA	NA	NA	25 U	NA	NA	NA

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Appendix A
Summary of Analytical Data
McCormick and Baxter
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ACC Soil Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB750SS00 ACC47 0	MB750SS01 ACC47 1	MB751SS00 ACC53 0	MB751SS01 ACC53 1	MB752SS00 ACC48 0	MB753SS00 ACC49 0	MB754SS00 ACC52 0	MB755SS00 ACC51 0
Chemical								
Ammonia (mg/kg)								
Ammonia	25	NA	120	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	17	NA	33	NA	NA	NA	NA	NA
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	NA	NA	14,250 E
1234678-HpCDF	NA	NA	NA	NA	NA	NA	NA	3,118 E
123478-HxCDD	NA	NA	NA	NA	NA	NA	NA	200.5169 E
123478-HxCDF	NA	NA	NA	NA	NA	NA	NA	EN
1234789-HpCDF	NA	NA	NA	NA	NA	NA	NA	269.2749 E
123678-HxCDD	NA	NA	NA	NA	NA	NA	NA	670.1819 E
123678-HxCDF	NA	NA	NA	NA	NA	NA	NA	EN
12378-PeCDD	NA	NA	NA	NA	NA	NA	NA	144.7639 E
12378-PeCDF	NA	NA	NA	NA	NA	NA	NA	43.2105 E
123789-HxCDD	NA	NA	NA	NA	NA	NA	NA	330.3791 E
123789-HxCDF	NA	NA	NA	NA	NA	NA	NA	7.0825 E
234678-HxCDF	NA	NA	NA	NA	NA	NA	NA	EN
23478-PeCDF	NA	NA	NA	NA	NA	NA	NA	77.7085 E
2378-TCDD	NA	NA	NA	NA	NA	NA	NA	17.2419 E
2378-TCDF	NA	NA	NA	NA	NA	NA	NA	12.8992 E
OCDD	NA	NA	NA	NA	NA	NA	NA	75,146 E
OCDF	NA	NA	NA	NA	NA	NA	NA	17,068 E
TOTAL HpCDD	NA	NA	NA	NA	NA	NA	NA	18,567 E
TOTAL HpCDF	NA	NA	NA	NA	NA	NA	NA	13,704 E
TOTAL HxCDD	NA	NA	NA	NA	NA	NA	NA	2,486 E
TOTAL HxCDF	NA	NA	NA	NA	NA	NA	NA	4,265 E
TOTAL PeCDD	NA	NA	NA	NA	NA	NA	NA	349.9655 E
TOTAL PeCDF	NA	NA	NA	NA	NA	NA	NA	1,208 E
TOTAL TCDD	NA	NA	NA	NA	NA	NA	NA	109.06 E
TOTAL TCDF	NA	NA	NA	NA	NA	NA	NA	113.6614 E
Metals (mg/kg)								
Arsenic	16	4.5	240	30	5.1	6.9	4.1	5.7
Copper	29	NA	170	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	2,500	NA	3,100,000	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	250	NA	24,000	NA	NA	NA	NA	NA

Appendix A
Summary of Analytical Data
McCormick and Baxter
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ACC Soil Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB750SS00 ACC47 0	MB750SS01 ACC47 1	MB751SS00 ACC53 0	MB751SS01 ACC53 1	MB752SS00 ACC48 0	MB753SS00 ACC49 0	MB754SS00 ACC52 0	MB755SS00 ACC51 0
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	1 U	NA	NA	NA	NA	NA
pH (pH)								
pH	6.21	NA	5.91	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	600	NA	510	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.071 U	0.077 U	0.084 U	0.072 U	0.087 U	0.079 U	0.078 U	0.08 U
2-Methylnaphthalene	0.14 U	0.089 J	0.17 U	0.14 U	0.087 J	0.16 U	0.16 U	0.16 U
Acenaphthene	0.068 J	0.099 U	0.11 U	0.092 U	0.11 U	0.1 U	0.1 U	0.1 U
Acenaphthylene	0.076 U	0.078 J	0.089 U	0.076 U	0.085 J	0.084 U	0.083 U	0.085 U
Anthracene	0.12 J	0.19	0.16 U	0.14 U	0.31	0.13 J	0.074 J	0.21
Benzo(a)anthracene	0.21	0.48	0.15	0.072 J	2.2	0.29	0.22	0.38
Benzo(a)pyrene	0.57	0.42	0.21	0.11 U	2.2	0.5	0.28	0.45
Benzo(b)fluoranthene	0.56	0.82	0.41	0.095 J	5.5	1	0.65	0.91
Benzo(g,h,i)perylene	0.092 J	0.17	0.1 J	0.16 U	0.63	0.15 J	0.099 J	0.14 J
Benzo(k)fluoranthene	0.25	0.31	0.084 J	0.19 U	0.86	0.15 J	0.2 U	0.25
Chrysene	0.61	0.74	0.23	0.079 J	5.2	0.72	0.3	0.74
Dibenz(a,h)anthracene	0.11 U	0.12 U	0.13 U	0.12 U	0.18	0.13 U	0.12 U	0.13 U
Fluoranthene	1.1	1.1	0.37	0.12	6.9	0.66	0.19	1.3
Fluorene	0.1 U	0.11 U	0.12 U	0.1 U	0.12 U	0.11 U	0.11 U	0.12 U
Indeno(1,2,3-cd)pyrene	0.12	0.17	0.1	0.071 U	0.84	0.2	0.11	0.18
Naphthalene	0.09 J	0.3	0.089 J	0.18 U	0.18 J	0.2 U	0.19 U	0.2 U
Pentachlorophenol	3	1.1	1.6	0.075 J	4.2	0.67	0.33	1.8
Phenanthrene	0.38	0.39	0.15 J	0.15 U	1.1	0.082 J	0.17 U	0.4
Pyrene	0.81	0.84	0.2	0.11 J	3.6	0.51	0.15	0.87
TOC (mg/kg)								
TOC	14,000	NA	57,000	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	190	NA	820	NA	NA	NA	NA	NA

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Appendix A
Summary of Analytical Data
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ACC Soil Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB756SS00 ACC54 0	MB757SS00 ACC50 0	MB758SS00 ACC55 0	MB759SB04 ACC51 4
Chemical				
Metals (mg/kg)				
Arsenic	13	23	13	2.3
SVOCs (mg/kg)				
2-Chloronaphthalene	0.09 U	0.07 U	0.081 U	0.075 U
2-Methylnaphthalene	0.18 U	0.14 U	0.16 U	0.15 U
Acenaphthene	0.12 U	0.09 U	0.1 U	0.096 U
Acenaphthylene	0.095 U	0.074 U	0.086 U	0.08 U
Anthracene	0.14 J	0.14 U	0.1 J	0.14 U
Benzo(a)anthracene	0.21	0.12	0.18	0.11 U
Benzo(a)pyrene	0.17	0.15	0.17	0.11 U
Benzo(b)fluoranthene	0.87	0.27	0.87	0.25 U
Benzo(g,h,i)perylene	0.13 J	0.076 J	0.13 J	0.17 U
Benzo(k)fluoranthene	0.24	0.18 U	0.16 J	0.19 U
Chrysene	0.72	0.26	0.54	0.087 U
Dibenz(a,h)anthracene	0.14 U	0.11 U	0.13 U	0.12 U
Fluoranthene	0.3	0.52	0.29	0.11 U
Fluorene	0.13 U	0.1 U	0.12 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.19	0.076	0.15	0.073 U
Naphthalene	0.22 U	0.17 U	0.2 U	0.18 U
Pentachlorophenol	1.2	0.27 U	1.9	0.29 U
Phenanthrene	0.19 U	0.19	0.17 U	0.16 U
Pyrene	0.19	0.36	0.2	0.15 U

Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Southern Corner Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB800SS00 SCA59 0	MB800SS01 SCA59 1	MB801SS00 SCA57 0	MB802SS00 SCA56 0	MB803SS00 SCA58 0	MB804SB04 SCA57 4
Chemical						
Ammonia (mg/kg)						
Ammonia	130	NA	NA	NA	NA	NA
CEC (meq/100g)						
Cation Exchange Capacity	51	NA	NA	NA	NA	NA
Dioxin (ppt)						
1234678-HpCDD	NA	NA	29,769 E	NA	NA	NA
1234678-HpCDF	NA	NA	3,071 E	NA	NA	NA
123478-HxCDD	NA	NA	290.217 E	NA	NA	NA
123478-HxCDF	NA	NA	EN	NA	NA	NA
1234789-HpCDF	NA	NA	200.2886 E	NA	NA	NA
123678-HxCDD	NA	NA	2,287 E	NA	NA	NA
123678-HxCDF	NA	NA	149.1885 E	NA	NA	NA
12378-PeCDD	NA	NA	190.6102 E	NA	NA	NA
12378-PeCDF	NA	NA	102.7758 E	NA	NA	NA
123789-HxCDD	NA	NA	691.875 E	NA	NA	NA
123789-HxCDF	NA	NA	EN	NA	NA	NA
234678-HxCDF	NA	NA	179.5643 E	NA	NA	NA
23478-PeCDF	NA	NA	85.0758 E	NA	NA	NA
2378-TCDD	NA	NA	35.336 E	NA	NA	NA
2378-TCDF	NA	NA	30.0073 E	NA	NA	NA
OCDD	NA	NA	58,036 E	NA	NA	NA
OCDF	NA	NA	3,505 E	NA	NA	NA
TOTAL HpCDD	NA	NA	42,581 E	NA	NA	NA
TOTAL HpCDF	NA	NA	10,785 E	NA	NA	NA
TOTAL HxCDD	NA	NA	6,741 E	NA	NA	NA
TOTAL HxCDF	NA	NA	7,358 E	NA	NA	NA
TOTAL PeCDD	NA	NA	603.3357 E	NA	NA	NA
TOTAL PeCDF	NA	NA	2,026 E	NA	NA	NA
TOTAL TCDD	NA	NA	228.9953 E	NA	NA	NA
TOTAL TCDF	NA	NA	149.0665 E	NA	NA	NA
Metals (mg/kg)						
Arsenic	12	5.6	14	580	4.4	2.5
Copper	30	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)						
Heterotrophic Plate Count	1,800,000	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	360,000	NA	NA	NA	NA	NA

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Summary of Analytical Data
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Southern Corner Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB800SS00 SCA59 0	MB800SS01 SCA59 1	MB801SS00 SCA57 0	MB802SS00 SCA56 0	MB803SS00 SCA58 0	MB804SB04 SCA57 4
Chemical						
Nitrate/Nitrite (mg/kg)						
Nitrate/Nitrite	1 U	NA	NA	NA	NA	NA
pH (pH)						
pH	5.96	NA	NA	NA	NA	NA
Phosphorus (mg/kg)						
Total Phosphorus	280	NA	NA	NA	NA	NA
SVOCs (mg/kg)						
2-Chloronaphthalene	0.1 U	0.069 U	0.11 U	0.078 U	0.1 U	0.068 U
2-Methylnaphthalene	0.21 U	0.072 J	0.22 U	0.16 U	0.21 U	0.14 U
Acenaphthene	0.13 U	0.089 U	0.14 U	0.1 U	0.13 U	0.087 U
Acenaphthylene	0.11 U	0.073 U	0.12 U	0.083 U	0.11 U	0.072 U
Anthracene	0.2 U	0.13 U	0.21 U	0.15 J	0.2 U	0.13 U
Benzo(a)anthracene	0.15 U	0.084 J	0.15 J	0.18	0.15 U	0.098 U
Benzo(a)pyrene	0.16 U	0.11 U	0.17 U	0.54	0.16 U	0.1 U
Benzo(b)fluoranthene	0.35 U	0.094 J	0.37 U	0.99	0.34 U	0.23 U
Benzo(g,h,i)perylene	0.23 U	0.15 U	0.25 U	0.16 J	0.23 U	0.15 U
Benzo(k)fluoranthene	0.27 U	0.18 U	0.29 U	0.2 U	0.27 U	0.18 U
Chrysene	0.12 U	0.097	0.13 U	0.55	0.12 U	0.079 U
Dibenz(a,h)anthracene	0.17 U	0.11 U	0.18 U	0.13 U	0.16 U	0.11 U
Fluoranthene	0.15 U	0.21	0.16 U	0.51	0.15 U	0.099 U
Fluorene	0.15 U	0.1 U	0.16 U	0.11 U	0.15 U	0.098 U
Indeno(1,2,3-cd)pyrene	0.1 U	0.068 U	0.11 U	0.2	0.1 U	0.066 U
Naphthalene	0.26 U	0.19	0.27 U	0.19 U	0.25 U	0.17 U
Pentachlorophenol	0.31 J	0.27 U	0.55	0.97	0.39 U	0.26 U
Phenanthrene	0.22 U	0.19	0.24 U	0.23	0.22 U	0.14 U
Pyrene	0.21 U	0.099 J	0.22 U	0.27	0.2 U	0.13 U
TOC (mg/kg)						
TOC	81,000	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)						
Total Kjeldahl Nitrogen	1,700	NA	NA	NA	NA	NA

Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Area A Data

Sample ID: Sample Location: Sample Depth (ft):	MB400SS00 AA100 0	MB401SS00 AA101 0	MB402SS00 AA102 0	MB403SS00 AA103 0	MB404SS01 AA100 1	MB405SS00 AA103 0	MB406SB04 AA101 4
Chemical							
Ammonia (mg/kg)							
Ammonia	19	NA	NA	NA	NA	NA	NA
CEC (meq/100g)							
Cation Exchange Capacity	10	NA	NA	NA	NA	NA	NA
Dioxin (ppt)							
1234678-HpCDD	NA	49,565 E	NA	NA	NA	NA	NA
1234678-HpCDF	NA	4,713 E	NA	NA	NA	NA	NA
123478-HxCDD	NA	235.7631 E	NA	NA	NA	NA	NA
123478-HxCDF	NA	EN	NA	NA	NA	NA	NA
1234789-HpCDF	NA	371.4952 E	NA	NA	NA	NA	NA
123678-HxCDD	NA	2,186 E	NA	NA	NA	NA	NA
123678-HxCDF	NA	318.3849 E	NA	NA	NA	NA	NA
12378-PeCDD	NA	106.8643 E	NA	NA	NA	NA	NA
12378-PeCDF	NA	142.5483 E	NA	NA	NA	NA	NA
123789-HxCDD	NA	489.1831 E	NA	NA	NA	NA	NA
123789-HxCDF	NA	EN	NA	NA	NA	NA	NA
234678-HxCDF	NA	183.8559 E	NA	NA	NA	NA	NA
23478-PeCDF	NA	126.4943 E	NA	NA	NA	NA	NA
2378-TCDD	NA	12.1007 E	NA	NA	NA	NA	NA
2378-TCDF	NA	58.4404 E	NA	NA	NA	NA	NA
OCDD	NA	237,946 E	NA	NA	NA	NA	NA
OCDF	NA	12,693 E	NA	NA	NA	NA	NA
TOTAL HpCDD	NA	70,420 E	NA	NA	NA	NA	NA
TOTAL HpCDF	NA	18,699 E	NA	NA	NA	NA	NA
TOTAL HxCDD	NA	6,312 E	NA	NA	NA	NA	NA
TOTAL HxCDF	NA	13,936 E	NA	NA	NA	NA	NA
TOTAL PeCDD	NA	328.635 E	NA	NA	NA	NA	NA
TOTAL PeCDF	NA	3,105 E	NA	NA	NA	NA	NA
TOTAL TCDD	NA	42.9699 E	NA	NA	NA	NA	NA
TOTAL TCDF	NA	317.5508 E	NA	NA	NA	NA	NA
Metals (mg/kg)							
Arsenic	4.2	39	3.6	81	3.1	73	2.4
Copper	16	NA	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)							
Heterotrophic Plate Count	9,600	NA	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	330	NA	NA	NA	NA	NA	NA

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Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Area A Data

Sample ID: Sample Location: Sample Depth (ft):	MB400SS00 AA100 0	MB401SS00 AA101 0	MB402SS00 AA102 0	MB403SS00 AA103 0	MB404SS01 AA100 1	MB405SS00 AA103 0	MB406SB04 AA101 4
Chemical							
Nitrate/Nitrite (mg/kg)							
Nitrate/Nitrite	1 U	NA	NA	NA	NA	NA	NA
pH (pH)							
pH	6.97	NA	NA	NA	NA	NA	NA
Phosphorus (mg/kg)							
Total Phosphorus	470	NA	NA	NA	NA	NA	NA
SVOCs (mg/kg)							
2-Chloronaphthalene	0.12 U	0.1 U	0.11 U	0.14 U	0.11 U	0.13 U	0.071 U
2-Methylnaphthalene	0.19 U	0.083 J	0.19 U	0.23 U	0.19 U	0.22 U	0.14 U
Acenaphthene	0.2 U	0.18 U	0.2 U	0.24 U	0.2 U	0.23 U	0.091 U
Acenaphthylene	0.15 U	0.12 J	0.15 U	0.24	0.15 U	0.27	0.076 U
Anthracene	0.16 U	0.28	0.16 U	0.6	0.16 U	0.62	0.14 U
Benzo(a)anthracene	0.091 U	0.16	0.091 U	0.78	0.091 U	0.7	0.1 U
Benzo(a)pyrene	0.1 U	0.35	0.1 U	2	0.1 U	2.3	0.11 U
Benzo(b)fluoranthene	0.093 J	0.71	0.12 J	3.3	0.19 U	3.9	0.24 U
Benzo(g,h,i)perylene	0.04 U	0.33	0.04 U	0.67	0.04 U	0.77	0.16 U
Benzo(k)fluoranthene	0.093 U	0.067 J	0.092 U	1.1	0.092 U	0.7	0.19 U
Chrysene	0.19 U	0.22	0.19 U	1.6	0.18 U	1.6	0.083 U
Dibenz(a,h)anthracene	0.097 U	0.087 U	0.097 U	0.2	0.097 U	0.19	0.11 U
Fluoranthene	0.065 J	0.52	0.082 J	2.3	0.2 U	2.4	0.082 J
Fluorene	0.13 U	0.11 U	0.13 U	0.081 J	0.13 U	0.084 J	0.1 U
Indeno(1,2,3-cd)pyrene	0.097 U	0.37	0.097 U	1.1	0.097 U	1.1	0.07 U
Naphthalene	0.14 U	0.2	0.14 U	0.14 J	0.13 U	0.13 J	0.18 U
Pentachlorophenol	0.15 J	3.9	0.11 J	27 D	0.24 U	35 D	0.27 U
Phenanthrene	0.17 U	0.4	0.17 U	0.44	0.17 U	0.4	0.15 U
Pyrene	0.15 U	0.3	0.07 J	1.7	0.15 U	1.9	0.08 J
TOC (mg/kg)							
TOC	1,300	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)							
Total Kjeldahl Nitrogen	190	NA	NA	NA	NA	NA	NA

Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Pole Peeler Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB074GB01 PPA444 1	MB700SS00 PPA274 0	MB701SB04 PPA274 4	MB702SB10 PPA274 10	MB703SS00 PPA276 0	MB704SS00 PPA276 0	MB705SB04 PPA276 4	MB706SB10 PPA276 10
Chemical								
Dioxin (ppt)								
1234678-HpCDD	NA	**9,900 E**	NA	NA	NA	NA	NA	NA
1234678-HpCDF	NA	**1,226 E**	NA	NA	NA	NA	NA	NA
123478-HxCDD	NA	**84.7941 E**	NA	NA	NA	NA	NA	NA
123478-HxCDF	NA	**EN**	NA	NA	NA	NA	NA	NA
1234789-HpCDF	NA	**97.2017 E**	NA	NA	NA	NA	NA	NA
123678-HxCDD	NA	**529.1395 E**	NA	NA	NA	NA	NA	NA
123678-HxCDF	NA	**65.7656 E**	NA	NA	NA	NA	NA	NA
12378-PeCDD	NA	**64.7487 E**	NA	NA	NA	NA	NA	NA
12378-PeCDF	NA	**34.9222 E**	NA	NA	NA	NA	NA	NA
123789-HxCDD	NA	**140.9021 E**	NA	NA	NA	NA	NA	NA
123789-HxCDF	NA	**N**	NA	NA	NA	NA	NA	NA
234678-HxCDF	NA	**29.3245 E**	NA	NA	NA	NA	NA	NA
23478-PeCDF	NA	**37.4588 E**	NA	NA	NA	NA	NA	NA
2378-TCDD	NA	**EN**	NA	NA	NA	NA	NA	NA
2378-TCDF	NA	**11.0601 E**	NA	NA	NA	NA	NA	NA
OCDD	NA	**64,808 E**	NA	NA	NA	NA	NA	NA
OCDF	NA	**17,448 E**	NA	NA	NA	NA	NA	NA
TOTAL HpCDD	NA	**10,502 E**	NA	NA	NA	NA	NA	NA
TOTAL HpCDF	NA	**4,878 E**	NA	NA	NA	NA	NA	NA
TOTAL HxCDD	NA	**1,271 E**	NA	NA	NA	NA	NA	NA
TOTAL HxCDF	NA	**2,466 E**	NA	NA	NA	NA	NA	NA
TOTAL PeCDD	NA	**147.3253 E**	NA	NA	NA	NA	NA	NA
TOTAL PeCDF	NA	**790.2352 E**	NA	NA	NA	NA	NA	NA
TOTAL TCDD	NA	**6.5787 E**	NA	NA	NA	NA	NA	NA
TOTAL TCDF	NA	**75.9443 E**	NA	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	**7.8**	**7.1**	**2.4**	**1.9**	**5.7**	**11**	**6**	**2.6**
SVOCs (mg/kg)								
2-Chloronaphthalene	0.052 U	0.076 U	0.075 U	0.073 U	0.073 U	0.075 U	0.072 U	0.072 U
2-Methylnaphthalene	0.11 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.14 U
Acenaphthene	0.067 U	0.097 U	0.096 U	0.093 U	0.094 U	0.096 U	0.093 U	0.092 U
Acenaphthylene	0.056 U	0.081 U	0.08 U	0.077 U	0.078 U	0.079 U	0.077 U	0.076 U
Anthracene	0.1 U	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U
Benzo(a)anthracene	0.076 U	0.11 U	0.11 U	0.1 U	0.11 U	**0.067 J**	0.1 U	0.1 U
Benzo(a)pyrene	0.08 U	0.12 U	0.11 U	0.11 U	0.11 U	**0.097 J**	0.11 U	0.11 U

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Pole Peeler Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB074GB01 PPA444 1	MB700SS00 PPA274 0	MB701SB04 PPA274 4	MB702SB10 PPA274 10	MB703SS00 PPA276 0	MB704SS00 PPA276 0	MB705SB04 PPA276 4	MB706SB10 PPA276 10
Chemical								
Benzo(b)fluoranthene	0.17 U	0.17 J	0.25 U	0.24 U	0.15 J	0.18 J	0.24 U	0.24 U
Benzo(g,h,i)perylene	0.12 U	0.17 U	0.17 U	0.16 U	0.16 U	0.17 U	0.16 U	0.16 U
Benzo(k)fluoranthene	0.14 U	0.2 U	0.2 U	0.19 U	0.19 U	0.067 J	0.19 U	0.19 U
Chrysene	0.061 U	0.094	0.088 U	0.085 U	0.095	0.16	0.085 U	0.084 U
Dibenz(a,h)anthracene	0.084 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Fluoranthene	0.092	0.072 J	0.11 U	0.11 U	0.099 J	0.097 J	0.11 U	0.1 U
Fluorene	0.075 U	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.1 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.051 U	0.074 U	0.074 U	0.071 U	0.072 U	0.073 U	0.071 U	0.071 U
Naphthalene	0.13 U	0.19 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Pentachlorophenol	0.2 U	0.13 J	0.29 U	0.28 U	0.23 J	0.29 U	0.28 U	0.28 U
Phenanthrene	0.11 U	0.16 U	0.16 U	0.16 U	0.091 J	0.16 U	0.16 U	0.15 U
Pyrene	0.1 U	0.15 U	0.15 U	0.14 U	0.087 J	0.15 U	0.14 U	0.14 U

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Summary of Analytical Data
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Pole Peeler Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB707SB04 PPA275 4	MB708SB04 PPA275 4	MB709SB10 PPA275 10	MB710SB04 PPA270 4	MB711SB10 PPA270 10	MB712SB04 PPA272 4	MB713SB10 PPA272 9	MB715SB10 PPA272 9
Chemical								
Ammonia (mg/kg)								
Ammonia	13	NA	NA	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	13	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	2.5	2.8	2.7	2.3	2.2	2.5	1.7	1.6
Copper	16	NA	NA	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	1,000,000	NA	NA	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	190,000	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	NA	NA	NA	NA	NA	NA
pH (pH)								
pH	6.61	NA	NA	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	410	NA	NA	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.07 U	0.072 U	0.07 U	0.076 U	0.074 U	0.073 U	0.07 U	0.068 U
2-Methylnaphthalene	0.14 U	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U	0.14 U	0.14 U
Acenaphthene	0.09 U	0.093 U	0.09 U	0.097 U	0.095 U	0.094 U	0.09 U	0.088 U
Acenaphthylene	0.075 U	0.077 U	0.074 U	0.081 U	0.079 U	0.078 U	0.074 U	0.073 U
Anthracene	0.14 U	0.14 U	0.14 U	0.15 U	0.14 U	0.14 U	0.14 U	0.13 U
Benzo(a)anthracene	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.1 U	0.099 U
Benzo(a)pyrene	0.11 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0.1 U
Benzo(b)fluoranthene	0.083 J	0.24 U	0.23 U	0.25 U	0.25 U	0.24 U	0.23 U	0.23 U
Benzo(g,h,i)perylene	0.16 U	0.16 U	0.16 U	0.17 U	0.17 U	0.16 U	0.16 U	0.15 U
Benzo(k)fluoranthene	0.071 J	0.19 U	0.18 U	0.2 U	0.19 U	0.19 U	0.18 U	0.18 U
Chrysene	0.082 U	0.084 U	0.082 U	0.089 U	0.087 U	0.085 U	0.082 U	0.08 U
Dibenz(a,h)anthracene	0.11 U	0.12 U	0.11 U	0.12 U	0.12 U	0.12 U	0.11 U	0.11 U
Fluoranthene	0.1 U	0.067 J	0.1 U	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U
Fluorene	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.1 U	0.099 U
Indeno(1,2,3-cd)pyrene	0.069 U	0.071 U	0.068 U	0.074 U	0.073 U	0.072 U	0.068 U	0.067 U
Naphthalene	0.17 U	0.18 U	0.17 U	0.19 U	0.18 U	0.18 U	0.17 U	0.17 U
Pentachlorophenol	0.16 J	0.11 J	0.27 U	0.29 U	0.28 U	0.28 U	0.27 U	0.26 U
Phenanthrene	0.15 U	0.15 U	0.15 U	0.16 U	0.16 U	0.16 U	0.15 U	0.15 U
Pyrene	0.079 J	0.14 U	0.14 U	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U

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Pole Peeler Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB707SB04 PPA275 4	MB708SB04 PPA275 4	MB709SB10 PPA275 10	MB710SB04 PPA270 4	MB711SB10 PPA270 10	MB712SB04 PPA272 4	MB713SB10 PPA272 9	MB715SB10 PPA272 9
Chemical								
TOC (mg/kg)								
TOC	2,200	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	140	NA	NA	NA	NA	NA	NA	NA

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Summary of Analytical Data
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Pole Peeler Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB716SB04 PPA273 4	MB717SB10 PPA273 10	MB718SB04 PPA278 4	MB719SB10 PPA278 10	MB720SB04 PPA277 4	MB721SB10 PPA277 10	MB722SB04 PPA275 4
Chemical							
Ammonia (mg/kg)							
Ammonia	NA	NA	NA	NA	6.9	NA	NA
CEC (meq/100g)							
Cation Exchange Capacity	NA	NA	NA	NA	13	NA	NA
Metals (mg/kg)							
Arsenic	2.6	1.8	2.7	1.9	2.2	2.8	NA
Copper	NA	NA	NA	NA	13	NA	NA
Natural Biological Activity (CFU/g)							
Heterotrophic Plate Count	NA	NA	NA	NA	1,500,000	NA	800,000
Total Phenanthrene Degraders	NA	NA	NA	NA	320,000	NA	2,700
Nitrate/Nitrite (mg/kg)							
Nitrate/Nitrite	NA	NA	NA	NA	1 U	NA	NA
pH (pH)							
pH	NA	NA	NA	NA	6.3	NA	NA
Phosphorus (mg/kg)							
Total Phosphorus	NA	NA	NA	NA	460	NA	NA
SVOCs (mg/kg)							
2-Chloronaphthalene	0.07 U	0.073 U	0.073 U	0.072 U	0.072 U	0.071 U	NA
2-Methylnaphthalene	120 D	1.1	0.15 U	0.14 U	0.14 U	0.14 U	NA
Acenaphthene	82 D	0.72	0.093 U	0.092 U	0.092 U	0.092 U	NA
Acenaphthylene	1.6	0.077 U	0.077 U	0.076 U	0.076 U	0.076 U	NA
Anthracene	18	0.2	0.14 U	0.14 U	0.14 U	0.14 U	NA
Benzo(a)anthracene	7.4	0.1 J	0.1 U	0.1 U	0.1 U	0.1 U	NA
Benzo(a)pyrene	1.8	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	NA
Benzo(b)fluoranthene	3.7	0.1 J	0.24 U	0.24 U	0.24 U	0.24 U	NA
Benzo(g,h,i)perylene	0.31	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	NA
Benzo(k)fluoranthene	0.85	0.19 U	0.19 U	0.19 U	0.19 U	0.19 U	NA
Chrysene	5.4	0.13	0.085 U	0.084 U	0.084 U	0.083 U	NA
Dibenz(a,h)anthracene	0.11 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	NA
Fluoranthene	52 D	0.68	0.11 U	0.1 U	0.1 U	0.1 U	NA
Fluorene	47 D	0.54	0.1 U	0.1 U	0.1 U	0.1 U	NA
Indeno(1,2,3-cd)pyrene	0.46	0.071 U	0.071 U	0.07 U	0.07 U	0.07 U	NA
Naphthalene	18	1.6	0.18 U	0.18 U	0.18 U	0.18 U	NA
Pentachlorophenol	2.3	0.28 U	0.28 U	0.28 U	0.28 U	0.27 U	NA
Phenanthrene	130 D	1.4	0.16 U	0.15 U	0.15 U	0.15 U	NA
Pyrene	29	0.32	0.14 U	0.14 U	0.14 U	0.14 U	NA

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Pole Peeler Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB716SB04 PPA273 4	MB717SB10 PPA273 10	MB718SB04 PPA278 4	MB719SB10 PPA278 10	MB720SB04 PPA277 4	MB721SB10 PPA277 10	MB722SB04 PPA275 4
Chemical							
TOC (mg/kg)							
TOC	NA	NA	NA	NA	750	NA	NA
Total Kjeldahl Nitrogen (mg/kg)							
Total Kjeldahl Nitrogen	NA	NA	NA	NA	66	NA	NA

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Summary of Analytical Data
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Perimeter Data

Sample ID: Sample Location: Sample Depth (ft):	MB950SS00 PER110 0	MB951SS00 PER111 0	MB952SS00 PER112 0	MB953SS00 PER113 0	MB954SS00 PER114 0	MB955SS00 PER115 0	MB956SS00 PER116 0	MB957SS00 PER117 0
Chemical								
Metals (mg/kg)								
Arsenic	67	7.9	1.9	4.1	6.9	2	16	4.8
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.075 U	0.075 U	0.078 U	0.076 U	0.075 U	0.092 U	0.069 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.088 J	0.15 U	0.15 U	0.19 U	0.14 U
Acenaphthene	0.096 U	0.097 U	0.096 U	0.098 U	0.097 U	0.096 U	0.12 U	0.089 U
Acenaphthylene	0.11	0.13	0.079 U	0.13	0.081 U	0.079 U	0.14	0.074 U
Anthracene	0.27	0.33	0.14 U	0.52	0.15	0.14 U	0.43	0.13 U
Benzo(a)anthracene	0.38	0.18	0.099 J	2.1	0.29	0.11 U	0.36	0.1 U
Benzo(a)pyrene	1.1	1.1	0.22	2.9	0.36	0.11 U	1.3	0.11 U
Benzo(b)fluoranthene	1.7	1.2	0.35	5.3	0.85	0.1 J	1.9	0.23 U
Benzo(g,h,i)perylene	0.4	0.39	0.13 J	0.55	0.17 J	0.17 U	0.42	0.15 U
Benzo(k)fluoranthene	0.51	0.31	0.17 J	1.7	0.16 J	0.19 U	0.59	0.18 U
Chrysene	0.64	0.38	0.22	3.4	0.46	0.087 U	1.2	0.081 U
Dibenz(a,h)anthracene	0.067 J	0.11 J	0.071 J	0.29	0.12 U	0.12 U	0.15 U	0.11 U
Fluoranthene	0.47	0.27	0.23	4.8	0.63	0.086 J	0.61	0.1 U
Fluorene	0.11 U	0.11 U	0.11 U	0.11 J	0.11 U	0.11 U	0.13 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.62	0.52	0.11	0.67	0.2	0.073 U	0.48	0.068 U
Naphthalene	0.19 U	0.19 U	0.18 U	0.18 J	0.19 U	0.18 U	0.23 U	0.17 U
Pentachlorophenol	1.3	0.65	0.26 J	8.1	0.28 J	0.29 U	3.7	0.2 J
Phenanthrene	0.19	0.084 J	0.16 U	1.1	0.27	0.16 U	0.23	0.15 U
Pyrene	0.37	0.25	0.18	2.8	0.42	0.15 U	0.47	0.14 U

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Perimeter Data

Sample ID: Sample Location: Sample Depth (ft):	MB958SS00 PER118 0
Chemical	
Metals (mg/kg)	
Arsenic	42
SVOCs (mg/kg)	
2-Chloronaphthalene	0.082 U
2-Methylnaphthalene	0.17 U
Acenaphthene	0.11 U
Acenaphthylene	0.22
Anthracene	0.63
Benzo(a)anthracene	0.57
Benzo(a)pyrene	3
Benzo(b)fluoranthene	3.3
Benzo(g,h,i)perylene	1
Benzo(k)fluoranthene	0.65
Chrysene	1.5
Dibenz(a,h)anthracene	0.28
Fluoranthene	1.2
Fluorene	0.078 J
Indeno(1,2,3-cd)pyrene	1.3
Naphthalene	0.099 J
Pentachlorophenol	9.1
Phenanthrene	0.36
Pyrene	0.86

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Other Data

Sample ID: Sample Location: Sample Depth (ft):	MB900SS00 OTH104 0	MB901SS00 OTH105 0	MB902SS00 OTH106 0	MB903SS00 OTH107 0	MB904SS00 OTH109 0	MB905SS00 OTH108 0	MB908SS00 OTH108 0
Chemical							
Metals (mg/kg)							
Arsenic	85	7.7	4	7.7	14	1.7	2
SVOCs (mg/kg)							
2-Chloronaphthalene	0.081 U	0.074 U	0.075 U	0.09 U	0.08 U	0.076 U	0.079 U
2-Methylnaphthalene	0.16 U	0.15 U	0.15 U	0.09 J	0.16 U	0.15 U	0.16 U
Acenaphthene	0.1 U	0.096 U	0.096 U	0.12 U	0.1 U	0.098 U	0.1 U
Acenaphthylene	0.23	0.079 U	0.08 U	0.095 U	0.085 U	0.081 U	0.084 U
Anthracene	0.72	0.077 J	0.14 U	0.43	0.16	0.15 U	0.15 U
Benzo(a)anthracene	0.61	0.071 J	0.11 U	0.43	0.24	0.11 U	0.11 U
Benzo(a)pyrene	3.2	0.092 J	0.11 U	0.14 U	0.24	0.12 U	0.12 U
Benzo(b)fluoranthene	3.2	0.3	0.1 J	0.3 U	0.35	0.25 U	0.081 J
Benzo(g,h,i)perylene	1.1	0.073 J	0.17 U	0.2 U	0.099 J	0.17 U	0.18 U
Benzo(k)fluoranthene	0.68	0.19 U	0.19 U	0.23 U	0.074 J	0.2 U	0.2 U
Chrysene	1.3	0.17	0.069 J	0.1 U	0.28	0.07 J	0.088 J
Dibenz(a,h)anthracene	0.19	0.12 U	0.12 U	0.14 U	0.13 U	0.12 U	0.13 U
Fluoranthene	0.61	0.19	0.11 U	0.13 U	0.56	0.13	0.22
Fluorene	0.12 U	0.11 U	0.11 U	0.13 U	0.12 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	1.4	0.09	0.073 U	0.088 U	0.11	0.075 U	0.077 U
Naphthalene	0.2 U	0.18 U	0.18 U	0.15 J	0.2 U	0.19 U	0.19 U
Pentachlorophenol	7.5	0.32	0.29 U	0.34 U	0.31 U	0.29 U	0.3 U
Phenanthrene	0.15 J	0.075 J	0.16 U	0.15 J	0.3	0.13 J	0.43
Pyrene	0.61	0.16	0.15 U	0.36	0.43	0.077 J	0.1 J

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Summary of Analytical Data
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Offsite Data

Sample ID: Sample Location: Sample Depth (ft):	MB850SS00 OFF500 0	MB851SS00 OFF501 0	MB852SS00 OFF502 0	MB853SS00 OFF503 0	MB854SS00 OFF504 0	MB855SS00 OFF505 0	MB856SS00 OFF507 0	MB857SS00 OFF506 0
Chemical								
Metals (mg/kg)								
Arsenic	3.6	4.3	1.8	2.9	4.2	2.6	1.4	1.9
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.073 U	0.072 U	0.074 U	0.071 U	0.075 U	0.076 U	0.076 U
2-Methylnaphthalene	0.15 U	0.15 U	0.14 U	0.073 J	0.14 U	0.15 U	0.15 U	0.15 U
Acenaphthene	0.098 U	0.093 U	0.092 U	0.095 U	0.092 U	0.097 U	0.098 U	0.098 U
Acenaphthylene	0.079 U	0.077 U	0.076 U	0.079 U	0.076 U	0.08 U	0.081 U	0.081 U
Anthracene	0.14 U	0.14 U	0.14 U	0.13 J	0.14 U	0.15 U	0.15 U	0.15 U
Benzo(a)anthracene	0.11 U	0.073 J	0.1 U	0.47	0.082 J	0.11 U	0.11 U	0.11 U
Benzo(a)pyrene	0.11 U	0.075 J	0.11 U	0.41	0.094 J	0.11 U	0.12 U	0.12 U
Benzo(b)fluoranthene	0.086 J	0.11 J	0.24 U	0.47	0.14 J	0.25 U	0.25 U	0.079 J
Benzo(g,h,i)perylene	0.17 U	0.083 J	0.16 U	0.2	0.13 J	0.17 U	0.17 U	0.07 J
Benzo(k)fluoranthene	0.19 U	0.19 U	0.19 U	0.2	0.19 U	0.2 U	0.2 U	0.2 U
Chrysene	0.097	0.085	0.084 U	0.58	0.09	0.088 U	0.089 U	0.079 J
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.11 U	0.12 U	0.11 U	0.12 U	0.12 U	0.12 U
Fluoranthene	0.079 J	0.085 J	0.1 U	0.86	0.11	0.11 U	0.11 U	0.1 J
Fluorene	0.11 U	0.1 U	0.1 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.071 J	0.083	0.07 U	0.22	0.12	0.074 U	0.074 U	0.075 U
Naphthalene	0.18 U	0.18 U	0.18 U	0.081 J	0.18 U	0.19 U	0.19 U	0.19 U
Pentachlorophenol	0.29 U	0.28 U	0.28 U	0.15 J	0.27 U	0.29 U	0.29 U	0.29 U
Phenanthrene	0.16 U	0.16 U	0.15 U	0.49	0.066 J	0.16 U	0.16 U	0.16 U
Pyrene	0.15 U	0.067 J	0.14 U	0.79	0.12 J	0.15 U	0.15 U	0.11 J

Appendix A
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Sample ID: Sample Location: Sample Depth (ft):	MB011CP00 RA11 0	MB012CP10 RA12 10	MB012CP11 RA12 11	MB038GB04 FWD404 4	MB039GB04 FWD405 4	MB040GB01 FWD406 1	MB041GB04 FWD406 4	MB042GB01 FWD407 1
Chemical								
Metals (mg/kg)								
Arsenic	NA	NA	NA	**3.9**	**2.6**	**2.2**	**3.4**	**2.4**
SVOCs (mg/kg)								
2-Chloronaphthalene	NA	NA	NA	0.051 U	0.051 U	0.049 U	0.052 U	0.053 U
2-Methylnaphthalene	NA	NA	NA	0.1 U	0.1 U	0.099 U	0.1 U	0.11 U
Acenaphthene	NA	NA	NA	0.065 U	0.065 U	0.063 U	0.067 U	0.068 U
Acenaphthylene	NA	NA	NA	0.054 U	0.054 U	0.052 U	0.055 U	0.056 U
Anthracene	NA	NA	NA	0.098 U	0.098 U	0.095 U	0.1 U	0.1 U
Benzo(a)anthracene	NA	NA	NA	0.074 U	0.073 U	0.071 U	**0.097**	0.077 U
Benzo(a)pyrene	NA	NA	NA	**0.088**	0.077 U	0.075 U	**0.091**	0.081 U
Benzo(b)fluoranthene	NA	NA	NA	**0.12 J**	0.17 U	0.16 U	**0.17 J**	0.18 U
Benzo(g,h,i)perylene	NA	NA	NA	0.11 U	0.11 U	0.11 U	**0.17**	0.12 U
Benzo(k)fluoranthene	NA	NA	NA	0.13 U	0.13 U	0.13 U	0.14 U	0.14 U
Chrysene	NA	NA	NA	0.059 U	0.059 U	**0.14**	**0.093**	0.062 U
Dibenz(a,h)anthracene	NA	NA	NA	0.081 U	0.081 U	0.079 U	0.083 U	0.085 U
Fluoranthene	NA	NA	NA	0.074 U	0.074 U	**0.45**	**0.15**	**0.098**
Fluorene	NA	NA	NA	0.073 U	0.073 U	0.071 U	0.075 U	0.077 U
Indeno(1,2,3-cd)pyrene	NA	NA	NA	0.05 U	0.05 U	0.048 U	**0.15**	0.052 U
Naphthalene	NA	NA	NA	0.13 U	0.12 U	0.12 U	0.13 U	0.13 U
Pentachlorophenol	NA	NA	NA	**0.35**	0.19 U	**0.25**	0.2 U	0.2 U
Phenanthrene	NA	NA	NA	0.11 U	0.11 U	**0.15**	0.11 U	0.11 U
Pyrene	NA	NA	NA	0.1 U	0.1 U	**0.3**	**0.17**	0.11 U
TCLP Metals (mg/L)								
TCLP Arsenic	**1.28**	**1.73**	**21.8**	NA	NA	NA	NA	NA
TCLP Chromium	**0.913**	**1.92**	**21.6**	NA	NA	NA	NA	NA
TCLP PCP (mg/L)								
TCLP Pentachlorophenol	NA	**1.6**	**7.8**	NA	NA	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB043GB04 FWD407 4	MB044GB01 FWD408 1	MB045GB04 FWD408 4	MB046GB01 FWD409 1	MB047GB04 FWD409 4	MB048GB04 FWD410 1	MB049GB04 FWD410 4	MB077GB04 FWD404 4
Chemical								
Metals (mg/kg)								
Arsenic	2.9	2.9	2.2	3.5	2.3	2.1	2	3.2
SVOCs (mg/kg)								
2-Chloronaphthalene	0.051 U	0.049 U	0.051 U	0.051 U	0.05 U	0.051 U	0.052 U	0.051 U
2-Methylnaphthalene	0.1 U	0.099 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Acenaphthene	0.065 U	0.063 U	0.065 U	0.066 U	0.065 U	0.066 U	0.29	0.066 U
Acenaphthylene	0.054 U	0.052 U	0.054 U	0.055 U	0.054 U	0.054 U	0.055 U	0.055 U
Anthracene	0.098 U	0.095 U	0.098 U	0.077 J	0.098 U	0.099 U	0.3	0.099 U
Benzo(a)anthracene	0.073 U	0.088	0.073 U	0.23	0.073 U	0.074 U	0.34	0.074 U
Benzo(a)pyrene	0.077 U	0.075 U	0.077 U	0.17	0.077 U	0.078 U	0.13	0.078 U
Benzo(b)fluoranthene	0.17 U	0.097 J	0.17 U	0.33	0.17 U	0.17 U	0.39	0.17 U
Benzo(g,h,i)perylene	0.11 U	0.11 U	0.11 U	0.15	0.11 U	0.11 U	0.12 U	0.11 U
Benzo(k)fluoranthene	0.13 U	0.13 U	0.13 U	0.12 J	0.13 U	0.13 U	0.14	0.13 U
Chrysene	0.059 U	0.12	0.059 U	0.44	0.059 U	0.06 U	0.7	0.06 U
Dibenz(a,h)anthracene	0.081 U	0.079 U	0.081 U	0.082 U	0.081 U	0.082 U	0.083 U	0.082 U
Fluoranthene	0.074 U	0.31	0.074 U	1.2	0.074 U	0.075 U	3.1	0.075 U
Fluorene	0.073 U	0.071 U	0.073 U	0.074 U	0.073 U	0.074 U	0.3	0.074 U
Indeno(1,2,3-cd)pyrene	0.05 U	0.048 U	0.049 U	0.12	0.049 U	0.05 U	0.051 U	0.05 U
Naphthalene	0.12 U	0.12 U	0.12 U	0.078 J	0.12 U	0.13 U	0.13 U	0.13 U
Pentachlorophenol	0.19 U	0.19 U	0.19 U	0.52	0.19 U	0.2 U	2.7	0.12 J
Phenanthrene	0.11 U	0.13	0.11 U	0.38	0.11 U	0.11 U	2.3	0.11 U
Pyrene	0.1 U	0.28	0.1 U	0.91	0.1 U	0.1 U	1.9	0.1 U

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Sample ID: Sample Location: Sample Depth (ft):	MB100SS00 FWD200 0	MB101SB04 FWD200 4	MB102SB10 FWD200 10	MB103SS00 FWD201 0	MB104SB04 FWD201 4	MB105SB10 FWD201 10	MB106SS00 FWD202 0	MB107SB04 FWD202 4
Chemical								
Metals (mg/kg)								
Arsenic	3.5	5.1	3.1	200	19	29	100	5
SVOCs (mg/kg)								
2-Chloronaphthalene	0.074 U	0.069 U	0.07 U	0.075 U	0.072 U	0.86	0.074 U	0.074 U
2-Methylnaphthalene	0.11 J	0.14 U	0.14 U	0.15 U	0.14 U	220 D	300 D	5.3
Acenaphthene	0.095 U	0.089 U	0.09 U	0.099	0.092 U	20	170 D	1.9
Acenaphthylene	0.078 U	0.073 U	0.074 U	0.97	0.25	0.077 U	0.079 U	0.078 U
Anthracene	0.14 U	0.13 U	0.14 U	1.3	0.32	33 D	45 D	0.84
Benzo(a)anthracene	0.11 U	0.1 U	0.1 U	1.3	0.26	10	19 D	0.19
Benzo(a)pyrene	0.11 U	0.11 U	0.11 U	4.1	1.6	3.2	4.4	0.11
Benzo(b)fluoranthene	0.25 U	0.23 U	0.23 U	8.4	1.8	4.3	11	0.18 J
Benzo(g,h,i)perylene	0.16 U	0.15 U	0.16 U	2.2	0.54	0.48	0.17 U	0.16 U
Benzo(k)fluoranthene	0.19 U	0.18 U	0.18 U	3	0.48	1.3	4.1	0.07 J
Chrysene	0.086 U	0.081 U	0.082 U	2.8	0.77	9.3	18 D	0.32
Dibenz(a,h)anthracene	0.12 U	0.11 U	0.11 U	0.6	0.12 U	0.13	0.12 U	0.12 U
Fluoranthene	0.11 U	0.1 U	0.1 U	1.9	0.44	63 D	130 D	1.5
Fluorene	0.11 U	0.1 U	0.1 U	0.22	0.097 J	18	110 D	1.5
Indeno(1,2,3-cd)pyrene	0.072 U	0.068 U	0.068 U	3.4	0.76	0.65	0.22	0.072 U
Naphthalene	0.3	0.17 U	0.17 U	0.18 U	0.18 U	120 D	180 D	19
Pentachlorophenol	0.42	0.38	0.11 J	18	3.4	35 D	74 D	0.62
Phenanthrene	0.16 U	0.15 U	0.15 U	0.095 J	0.15 U	10	260 D	3
Pyrene	0.15 U	0.14 U	0.14 U	1.3	0.29	36 D	1.5 U	0.82

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Sample ID: Sample Location: Sample Depth (ft):	MB108SB10 FWD202 10	MB109SS00 FWD203 0	MB110SB04 FWD203 4	MB111SB10 FWD203 10	MB112SB04 FWD204 4	MB113SB10 FWD204 10	MB114SB04 FWD205 4	MB115SB10 FWD205 10
Chemical								
Ammonia (mg/kg)								
Ammonia	22	NA	NA	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	14	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	5.1	200	67	5.5	47	4.7	400	260
Copper	19	NA	NA	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	1,500,000	NA	NA	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	740,000	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	NA	NA	NA	NA	NA	NA
pH (pH)								
pH	6.79	NA	NA	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	20 U	NA	NA	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.074 U	0.082 U	0.077 U	0.072 U	0.071 U	0.071 U	2	3.2
2-Methylnaphthalene	19	0.16 U	0.16 U	0.15 U	0.14 U	0.14 U	300	630 D
Acenaphthene	6.1	0.1 U	0.099 U	0.093 U	0.091 U	0.091 U	160	290
Acenaphthylene	0.078 U	0.087 U	0.08 J	0.077 U	0.076 U	0.075 U	3.4	6.5
Anthracene	1.8	0.15 J	0.19	0.14 U	0.09 J	0.14 U	58	2.7 U
Benzo(a)anthracene	0.69	0.073 J	0.51	0.1 U	0.1 U	0.1 U	15	19
Benzo(a)pyrene	0.17	0.27	0.49	0.081 J	0.11	0.11 U	4	6.3
Benzo(b)fluoranthene	0.47	0.62	0.93	0.12 J	0.43	0.24 U	6.6	11
Benzo(g,h,i)perylene	0.16 U	0.18 U	0.23	0.16 U	0.076 J	0.16 U	3 U	3.1 U
Benzo(k)fluoranthene	0.13 J	0.14 J	0.13 J	0.19 U	0.14 J	0.18 U	2.5 J	4.9
Chrysene	0.86	0.26	0.087 J	0.12	0.14	0.083 U	14	20
Dibenz(a,h)anthracene	0.12 U	0.13 U	0.12 U	0.12 U	0.11 U	0.11 U	2.2 U	2.2 U
Fluoranthene	4.9	0.19	0.35	0.11	0.13	0.1 U	110	150
Fluorene	4.7	0.12 U	0.11 U	0.1 U	0.1 U	0.1 U	120	210
Indeno(1,2,3-cd)pyrene	0.072 U	0.21	0.32	0.071 U	0.086	0.069 U	1.3 U	1.3 J
Naphthalene	51 D	0.2 U	0.19 U	0.18 U	0.18 U	0.17 U	1,000 D	2,000 D
Pentachlorophenol	4.9	0.47	0.3 U	0.28 U	0.27 U	0.27 U	180	140
Phenanthrene	9.9	0.08 J	0.1 J	0.13 J	0.15 U	0.15 U	270	430
Pyrene	0.15 U	0.14 J	0.28	0.12 J	0.11 J	0.14 U	63	100

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Sample ID: Sample Location: Sample Depth (ft):	MB108SB10 FWD202 10	MB109SS00 FWD203 0	MB110SB04 FWD203 4	MB111SB10 FWD203 10	MB112SB04 FWD204 4	MB113SB10 FWD204 10	MB114SB04 FWD205 4	MB115SB10 FWD205 10
Chemical								
TOC (mg/kg)								
TOC	1,200	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	160	NA	NA	NA	NA	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB116SS00 FWD200 0	MB117SB04 FWD206 4	MB118SB10 FWD206 10	MB119SB10 FWD206 10	MB120SB04 FWD213 4	MB121SB10 FWD213 10	MB122SS00 FWD210 0	MB123SB04 FWD210 4
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	29	NA	0.5 U	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	17	NA	13	NA
Metals (mg/kg)								
Arsenic	3.6	2.6	2.6	2.6	3.1	25	2.3	3.2
Copper	NA	NA	NA	NA	0.8	18	13	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	390	NA	750	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	390	NA	40	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	1 U	NA	1 U	NA
pH (pH)								
pH	NA	NA	NA	NA	6.77	NA	6.85	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	420	NA	460	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.075 U	0.074 U	0.069 U	1.5 U	3.6 U	0.07 U	0.069 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.14 U	430	400	0.14 U	0.14 U
Acenaphthene	0.096 U	0.096 U	0.095 U	0.089 U	320	95	0.09 U	0.65
Acenaphthylene	0.08 U	0.08 U	0.079 U	0.073 U	7.5	3.8 U	0.074 U	0.11
Anthracene	0.14 U	0.15 U	0.24	0.13 U	47	20	0.14 U	0.64
Benzo(a)anthracene	0.11 U	0.11 U	0.12	0.1 U	17	6	0.1 U	0.61
Benzo(a)pyrene	0.11 U	0.11 U	0.11 U	0.11 U	4.8	5.5 U	0.11 U	0.37
Benzo(b)fluoranthene	0.25 U	0.25 U	0.2 J	0.23 U	6.5	12 U	0.23 U	0.91
Benzo(g,h,i)perylene	0.17 U	0.17 U	0.17 U	0.15 U	3.4 U	8.1 U	0.16 U	0.24
Benzo(k)fluoranthene	0.19 U	0.2 U	0.19 U	0.18 U	2.9 J	9.4 U	0.18 U	0.15 J
Chrysene	0.087 U	0.088 U	0.3	0.081 U	15	4.9	0.082 U	1.1
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.12 U	0.11 U	2.5 U	5.8 U	0.11 U	0.11 U
Fluoranthene	0.11 U	0.11 U	0.37	0.1 U	150	48	0.1 U	1.9
Fluorene	0.11 U	0.11 U	0.11 U	0.1 U	140	57	0.1 U	0.55
Indeno(1,2,3-cd)pyrene	0.073 U	0.074 U	0.073 U	0.068 U	1.5 U	3.6 U	0.068 U	0.36
Naphthalene	0.18 U	0.19 U	0.18 U	0.17 U	370	1,000	0.17 U	0.17 U
Pentachlorophenol	0.47	0.29 U	0.28 U	0.27 U	26	57	0.27 U	0.26 U
Phenanthrene	0.16 U	0.16 U	0.34	0.15 U	380	130	0.15 U	1.8
Pyrene	0.15 U	0.15 U	0.39	0.14 U	70	20	0.14 U	1.6

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Sample ID: Sample Location: Sample Depth (ft):	MB116SS00 FWD200 0	MB117SB04 FWD206 4	MB118SB10 FWD206 10	MB119SB10 FWD206 10	MB120SB04 FWD213 4	MB121SB10 FWD213 10	MB122SS00 FWD210 0	MB123SB04 FWD210 4
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	9,800	NA	700	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	110	NA	5 U	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB124SB10 FWD210 10	MB125SS00 FWD216 0	MB126SB04 FWD216 4	MB127SB10 FWD216 10	MB128SS00 FWD208 0	MB129SB04 FWD208 4	MB130SB10 FWD208 10	MB131SS00 FWD207 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	15	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	13	NA	NA	NA
Metals (mg/kg)								
Arsenic	2.5	2.6	7.3	10	160	33	2.4	7
Copper	NA	NA	NA	NA	25	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	320	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	50	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	2.6	NA	NA	NA
pH (pH)								
pH	NA	NA	NA	NA	5.57	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	470	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.07 U	0.07 U	0.067 U	0.085 U	0.071 U	0.075 U	0.075 U	0.071 U
2-Methylnaphthalene	0.14 U	0.14 U	0.14 U	0.17 U	0.14 U	0.15 U	0.15 U	0.08 J
Acenaphthene	0.062 J	0.089 U	0.086 U	0.11 U	0.092 U	0.097 U	0.096 U	0.065 J
Acenaphthylene	0.074 U	0.074 U	0.071 U	0.091 U	0.076 U	0.08 U	0.08 U	0.075 U
Anthracene	0.13 U	0.13 U	0.13 U	0.16 U	0.12 J	0.13 J	0.14 U	0.14
Benzo(a)anthracene	0.37	0.1 U	0.097 U	0.12 U	0.082 J	0.1 J	0.11 U	0.2
Benzo(a)pyrene	0.46	0.11 U	0.077 J	0.13 U	0.18	0.68	0.11 U	0.22
Benzo(b)fluoranthene	0.46	0.23 U	0.068 J	0.12 J	0.34	1	0.091 J	0.42
Benzo(g,h,i)perylene	0.13 J	0.16 U	0.15 U	0.19 U	0.072 J	0.15 J	0.17 U	0.098 J
Benzo(k)fluoranthene	0.2	0.18 U	0.18 U	0.22 U	0.16 J	0.31	0.19 U	0.18 J
Chrysene	0.39	0.081 U	0.079 U	0.1	0.25	0.38	0.087 U	0.34
Dibenz(a,h)anthracene	0.11 U	0.11 U	0.11 U	0.14 U	0.11 U	0.12 U	0.12 U	0.11 U
Fluoranthene	0.76	0.1 U	0.098 U	0.25	0.15	0.18	0.11 U	0.5
Fluorene	0.1 U	0.1 U	0.097 U	0.12 U	0.1 U	0.11 U	0.11 U	0.086 J
Indeno(1,2,3-cd)pyrene	0.17	0.068 U	0.066 U	0.084 U	0.09	0.2	0.073 U	0.12
Naphthalene	0.17 U	0.17 U	0.17 U	0.13 J	0.18 U	0.19 U	0.18 U	0.16 J
Pentachlorophenol	0.27 U	0.27 U	0.26 U	0.64	2.3	3.4	0.29 U	8.7
Phenanthrene	0.15 U	0.15 U	0.14 U	0.15 J	0.15 U	0.16 U	0.16 U	0.38
Pyrene	0.76	0.14 U	0.13 U	0.29	0.12 J	0.16	0.15 U	0.44

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Sample ID: Sample Location: Sample Depth (ft):	MB124SB10 FWD210 10	MB125SS00 FWD216 0	MB126SB04 FWD216 4	MB127SB10 FWD216 10	MB128SS00 FWD208 0	MB129SB04 FWD208 4	MB130SB10 FWD208 10	MB131SS00 FWD207 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	3,800	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	140	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB132SB04 FWD207 4	MB133SB10 FWD207 10	MB134SB04 FWD212 4	MB135SB10 FWD212 10	MB136SB04 FWD217 4	MB137SB10 FWD217 10	MB138SS00 FWD214 0	MB139SB04 FWD214 4
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	18	NA	NA	230	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	14	NA	NA	17	NA	NA
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	NA	18,529 E	NA
1234678-HpCDF	NA	NA	NA	NA	NA	NA	1,895 E	NA
123478-HxCDD	NA	NA	NA	NA	NA	NA	77.7496 E	NA
123478-HxCDF	NA	NA	NA	NA	NA	NA	302.5452 E	NA
1234789-HpCDF	NA	NA	NA	NA	NA	NA	141.5752 E	NA
123678-HxCDD	NA	NA	NA	NA	NA	NA	777.4886 E	NA
123678-HxCDF	NA	NA	NA	NA	NA	NA	73.8542 E	NA
12378-PeCDD	NA	NA	NA	NA	NA	NA	25.8903 E	NA
12378-PeCDF	NA	NA	NA	NA	NA	NA	62.9759 E	NA
123789-HxCDD	NA	NA	NA	NA	NA	NA	189.6546 E	NA
123789-HxCDF	NA	NA	NA	NA	NA	NA	N	NA
234678-HxCDF	NA	NA	NA	NA	NA	NA	87.374 E	NA
23478-PeCDF	NA	NA	NA	NA	NA	NA	93.6614 E	NA
2378-TCDD	NA	NA	NA	NA	NA	NA	N	NA
2378-TCDF	NA	NA	NA	NA	NA	NA	25.6237 E	NA
OCDD	NA	NA	NA	NA	NA	NA	53,830 E	NA
OCDF	NA	NA	NA	NA	NA	NA	4,091 E	NA
TOTAL HpCDD	NA	NA	NA	NA	NA	NA	28,020 E	NA
TOTAL HpCDF	NA	NA	NA	NA	NA	NA	6,610 E	NA
TOTAL HxCDD	NA	NA	NA	NA	NA	NA	2,781 E	NA
TOTAL HxCDF	NA	NA	NA	NA	NA	NA	4,516 E	NA
TOTAL PeCDD	NA	NA	NA	NA	NA	NA	102.665 E	NA
TOTAL PeCDF	NA	NA	NA	NA	NA	NA	958.9919 E	NA
TOTAL TCDD	NA	NA	NA	NA	NA	NA	11.0417 E	NA
TOTAL TCDF	NA	NA	NA	NA	NA	NA	110.8904 E	NA
Metals (mg/kg)								
Arsenic	5	3	8	2.7	120	180	9.1	3,400
Copper	NA	NA	24	NA	NA	61	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	12,000	NA	NA	1,000,000	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	44,000	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB132SB04 FWD207 4	MB133SB10 FWD207 10	MB134SB04 FWD212 4	MB135SB10 FWD212 10	MB136SB04 FWD217 4	MB137SB10 FWD217 10	MB138SS00 FWD214 0	MB139SB04 FWD214 4
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	1 U	NA	NA	1 U	NA	NA
pH (pH)								
pH	NA	NA	8.15	NA	NA	6.24	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	430	NA	NA	500	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.073 U	1.4 U	1.4 U	1.9 U	1.5 U	1.5 U	7.5
2-Methylnaphthalene	0.15 U	0.15 U	92	230	39	19	13	2,000 D
Acenaphthene	0.094 U	0.094 U	95	230	110	26	20	1,900 D
Acenaphthylene	0.078 U	0.078 U	1.5 U	2.9	2.1	1.6 U	1.6 U	26
Anthracene	0.1 J	0.14 U	43	74	28	8.1	29	5,300 D
Benzo(a)anthracene	0.3	0.11 U	28	39	18	5.1	8.8	490
Benzo(a)pyrene	0.31	0.11 U	11	14	8.9	1.9 J	4.2	140
Benzo(b)fluoranthene	0.73	0.14 J	22	4.7 U	16	4.7 J	10	280
Benzo(g,h,i)perylene	0.12 J	0.16 U	1.7 J	2.5 J	2.6 J	3.3 U	3.4 U	27
Benzo(k)fluoranthene	0.27	0.08 J	8.1	14	7.2	2.7 J	4.8	140
Chrysene	0.4	0.088	30	46	25	8.9	13	610
Dibenz(a,h)anthracene	0.12 U	0.12 U	2.3 U	2.2 U	3.1 U	2.4 U	2.5 U	6.2 U
Fluoranthene	0.53	0.097 J	130	190	79	31	38	2,000 D
Fluorene	0.11 U	0.11 U	110	220	100	29	20	2,900 D
Indeno(1,2,3-cd)pyrene	0.15	0.072 U	3.3	3.4	2.7	1.4 U	2.3	38
Naphthalene	0.18 U	0.18 U	240	620 D	16	9.5	32	6,100 D
Pentachlorophenol	3.9	2.3	160	220	370	120	100	8,100 D
Phenanthrene	0.12 J	0.16 U	240	400	130	52	28	5,100 D
Pyrene	0.49	0.11 J	79	110	42	19	25	1,200
TOC (mg/kg)								
TOC	NA	NA	12,000	NA	NA	7,900	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	12,000	NA	NA	390	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB140SB10 FWD214 10	MB141SS00 FWD205 0	MB142SS00 FWD214 0	MB143SB04 FWD211 4	MB144SB10 FWD211 10	MB145SS00 FWD209 0	MB146SB04 FWD209 4	MB147SB10 FWD209 10
Chemical								
Dioxin (ppt)								
1234678-HpCDD	NA	24,571 E	13,057 E	NA	NA	NA	NA	NA
1234678-HpCDF	NA	10,715 E	1,209 E	NA	NA	NA	NA	NA
123478-HxCDD	NA	129.2481 E	46.9192 E	NA	NA	NA	NA	NA
123478-HxCDF	NA	7,903 E	191.7741 E	NA	NA	NA	NA	NA
1234789-HpCDF	NA	3,307 E	76.8201 E	NA	NA	NA	NA	NA
123678-HxCDD	NA	4,865 E	471.167 E	NA	NA	NA	NA	NA
123678-HxCDF	NA	1,266 E	51.743 E	NA	NA	NA	NA	NA
12378-PeCDD	NA	11.7529 E	13.8162 E	NA	NA	NA	NA	NA
12378-PeCDF	NA	605.8991 E	42.4321 E	NA	NA	NA	NA	NA
123789-HxCDD	NA	346.7233 E	129.7931 E	NA	NA	NA	NA	NA
123789-HxCDF	NA	244.1893 E	5.1713 E	NA	NA	NA	NA	NA
234678-HxCDF	NA	EN	68.3124 E	NA	NA	NA	NA	NA
23478-PeCDF	NA	628.032 E	29.8426 E	NA	NA	NA	NA	NA
2378-TCDD	NA	N	N	NA	NA	NA	NA	NA
2378-TCDF	NA	120.5884 E	15.4368 E	NA	NA	NA	NA	NA
OCDD	NA	54,105 E	32,781 E	NA	NA	NA	NA	NA
OCDF	NA	27,273 E	2,323 E	NA	NA	NA	NA	NA
TOTAL HpCDD	NA	44,245 E	20,518 E	NA	NA	NA	NA	NA
TOTAL HpCDF	NA	28,718 E	4,307 E	NA	NA	NA	NA	NA
TOTAL HxCDD	NA	11,571 E	1,759 E	NA	NA	NA	NA	NA
TOTAL HxCDF	NA	40,453 E	2,755 E	NA	NA	NA	NA	NA
TOTAL PeCDD	NA	33.0351 E	29.2133 E	NA	NA	NA	NA	NA
TOTAL PeCDF	NA	8,944 E	605.9448 E	NA	NA	NA	NA	NA
TOTAL TCDD	NA	EN	N	NA	NA	NA	NA	NA
TOTAL TCDF	NA	391.8466 E	63.4427 E	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	310	51	10	630	23	120	160	140
SVOCs (mg/kg)								
2-Chloronaphthalene	3.9 U	3.1	1.4 U	1.6 U	3.5 U	1.4 U	2.1	2.4
2-Methylnaphthalene	560	320	7.3	500	43	75	330	370
Acenaphthene	820	380	10	620 D	95	58	230	250
Acenaphthylene	11	6.5	1.5 U	12	3.2 J	1.5	2.8	3.2
Anthracene	610	92	7.5	380	53	30	65	62
Benzo(a)anthracene	180	42	3.6	260	31	12	24	23
Benzo(a)pyrene	69	11	2 J	99	12	4.2	7	7.9

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Sample ID: Sample Location: Sample Depth (ft):	MB140SB10 FWD214 10	MB141SS00 FWD205 0	MB142SS00 FWD214 0	MB143SB04 FWD211 4	MB144SB10 FWD211 10	MB145SS00 FWD209 0	MB146SB04 FWD209 4	MB147SB10 FWD209 10
Chemical								
Benzo(b)fluoranthene	13 U	18	4.5 J	210	35	6.2	11	11
Benzo(g,h,i)perylene	6.9 J	2 J	3.2 U	16	7.7 U	3.1 U	3.2 U	3.1 U
Benzo(k)fluoranthene	55	9	2.4 J	61	11	3.9	5.1	5.8
Chrysene	180	45	6.3	260	41	11	22	23
Dibenz(a,h)anthracene	6.2 U	2.2 U	2.3 U	6.9	5.5 U	2.2 U	2.3 U	2.2 U
Fluoranthene	680	330	18	830 D	130	96	190	180
Fluorene	790	220	12	720 D	97	47	180	180
Indeno(1,2,3-cd)pyrene	11	2.2	1.4 U	25	6.6	1.4 U	1.4	1.4
Naphthalene	2,600 D	400	23	1,100 D	53	290	440	530 D
Pentachlorophenol	1,100	350	44	1,900 D	410	93	170	170
Phenanthrene	1,900 D	490 D	21	1,100 D	150	120	390	380
Pyrene	420	210	9.8	490 D	91	54	100	100

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Sample ID: Sample Location: Sample Depth (ft):	MB057GB01 CPA418 1	MB058GB01 CPA419 1	MB059GB01 CPA420 0	MB060GB01 CPA421 1	MB061GB01 CPA422 1	MB062GB01 CPA423 0	MB063GB01 CPA424 1	MB064GB01 CPA426 1
Chemical								
Metals (mg/kg)								
Arsenic	346	3.7	20.9	104	1.9	235	7.5	74.9
SVOCs (mg/kg)								
2-Chloronaphthalene	0.052 U	0.062 U	0.51 U	0.052 U	0.049 U	0.52 U	0.053 U	0.05 U
2-Methylnaphthalene	0.1 U	0.13 U	1 U	0.1 U	0.099 U	10	0.12	0.1 U
Acenaphthene	0.067 U	0.08 U	0.66 U	0.066 U	0.063 U	1	0.068 U	0.064 U
Acenaphthylene	0.055 U	0.13	1.5	0.11	0.052 U	3.2	0.11	0.053 U
Anthracene	0.1 U	1.9	3.9	0.24	0.095 U	210 D	0.32	0.097 U
Benzo(a)anthracene	0.075 U	2.3	11	0.12	0.093	23	0.36	0.073 U
Benzo(a)pyrene	0.079 U	3.2	19	0.14	0.075 U	20	0.44	0.15
Benzo(b)fluoranthene	0.14 J	4.3	42	0.41	0.11 J	55	0.65	0.24
Benzo(g,h,i)perylene	0.12 U	2	7.1	0.33	0.11 U	9.8	1	0.19
Benzo(k)fluoranthene	0.14 U	2.2	16	0.096 J	0.13 U	20	0.36	0.14
Chrysene	0.061 U	8	25	0.14	0.12	44	0.52	0.075
Dibenz(a,h)anthracene	0.083 U	0.45	2.1	0.083 U	0.079 U	2.5	0.1	0.08 U
Fluoranthene	0.076 U	4.8	20	0.18	0.61	41	0.84	0.11
Fluorene	0.075 U	0.09 U	0.92	0.074 U	0.071 U	19	0.076 U	0.072 U
Indeno(1,2,3-cd)pyrene	0.081	2.1	7.7	0.26	0.048 U	11	0.48	0.2
Naphthalene	0.13 U	0.15 U	1.3 U	0.26	0.12 U	3.5	0.31	0.12 U
Pentachlorophenol	0.68	1.3	98	5.8	0.18 J	100	0.2 J	0.48
Phenanthrene	0.11 U	3.4	3.3	0.29	0.34	41	0.76	0.11 U
Pyrene	0.1 U	3.3	87	0.14	0.34	52	0.7	0.082 J

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Sample ID: Sample Location: Sample Depth (ft):	MB065GB01 CPA428 1	MB066GB01 CPA431 0	MB075GB01 CPA424 1	MB13ACP10 RA13-A 10	MB13BCP04 RA13-B 4	MB13CCP10 RA13-C 10	MB13CCP11 RA13-C 11	MB300SS00 CPA223 0
Chemical								
Metals (mg/kg)								
Arsenic	2.6	45.9	4.5	NA	NA	NA	NA	30
Copper	NA	NA	NA	NA	NA	NA	NA	57
SVOCs (mg/kg)								
2-Chloronaphthalene	0.051 U	0.051 U	0.052 U	NA	NA	NA	NA	0.081 U
2-Methylnaphthalene	0.1 U	0.1 U	0.12	NA	NA	NA	NA	0.35
Acenaphthene	0.065 U	0.066 U	0.067 U	NA	NA	NA	NA	0.12
Acenaphthylene	0.054 U	0.3	0.12	NA	NA	NA	NA	0.2
Anthracene	0.098 U	0.9	0.3	NA	NA	NA	NA	0.87
Benzo(a)anthracene	0.086	3.9	0.4	NA	NA	NA	NA	0.52
Benzo(a)pyrene	0.078 U	8.6	0.26	NA	NA	NA	NA	1
Benzo(b)fluoranthene	0.22	14	0.49	NA	NA	NA	NA	1.5
Benzo(g,h,i)perylene	0.11 U	1.6	0.78	NA	NA	NA	NA	0.35
Benzo(k)fluoranthene	0.13 U	4.4	0.2	NA	NA	NA	NA	0.59
Chrysene	0.12	7.6	0.65	NA	NA	NA	NA	1.1
Dibenz(a,h)anthracene	0.082 U	0.76	0.083 U	NA	NA	NA	NA	0.096 J
Fluoranthene	0.15	6.4	0.88	NA	NA	NA	NA	1.1
Fluorene	0.073 U	0.097	0.075 U	NA	NA	NA	NA	0.13
Indeno(1,2,3-cd)pyrene	0.078	2.1	0.28	NA	NA	NA	NA	0.61
Naphthalene	0.13 U	0.094 J	0.34	NA	NA	NA	NA	0.9
Pentachlorophenol	0.2 U	2,800 D	0.2 U	NA	NA	NA	NA	2.4
Phenanthrene	0.11 J	0.57	0.67	NA	NA	NA	NA	0.81
Pyrene	0.11	14	0.68	NA	NA	NA	NA	0.88
TCLP Metals (mg/L)								
TCLP Arsenic	NA	NA	NA	2.29	NA	NA	NA	NA
TCLP Chromium	NA	NA	NA	0.0349	NA	NA	NA	NA
TCLP PCP (mg/L)								
TCLP Pentachlorophenol	NA	NA	NA	NA	0.06 J	0.3	14	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB301SS00 CPA223 0	MB302SB04 CPA223 4	MB303SB10 CPA223 10	MB304SS00 CPA225 0	MB305SB04 CPA225 4	MB306SB04 CPA225 4	MB307SB10 CPA225 10	MB308SS00 CPA228 0
Chemical								
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	34,335 E	NA	NA	NA	NA
1234678-HpCDF	NA	NA	NA	5,661 E	NA	NA	NA	NA
123478-HxCDD	NA	NA	NA	1,781 E	NA	NA	NA	NA
123478-HxCDF	NA	NA	NA	2,437 E	NA	NA	NA	NA
1234789-HpCDF	NA	NA	NA	1,180 E	NA	NA	NA	NA
123678-HxCDD	NA	NA	NA	6,939 E	NA	NA	NA	NA
123678-HxCDF	NA	NA	NA	659.4447 E	NA	NA	NA	NA
12378-PeCDD	NA	NA	NA	889.3273 E	NA	NA	NA	NA
12378-PeCDF	NA	NA	NA	477.1462 E	NA	NA	NA	NA
123789-HxCDD	NA	NA	NA	3,107 E	NA	NA	NA	NA
123789-HxCDF	NA	NA	NA	86.923 E	NA	NA	NA	NA
234678-HxCDF	NA	NA	NA	573.7737 E	NA	NA	NA	NA
23478-PeCDF	NA	NA	NA	462.1723 E	NA	NA	NA	NA
2378-TCDD	NA	NA	NA	155.4594 E	NA	NA	NA	NA
2378-TCDF	NA	NA	NA	126.2521 E	NA	NA	NA	NA
OCDD	NA	NA	NA	119,682 E	NA	NA	NA	NA
OCDF	NA	NA	NA	65,592 E	NA	NA	NA	NA
TOTAL HpCDD	NA	NA	NA	67,611 E	NA	NA	NA	NA
TOTAL HpCDF	NA	NA	NA	16,228 E	NA	NA	NA	NA
TOTAL HxCDD	NA	NA	NA	27,498 E	NA	NA	NA	NA
TOTAL HxCDF	NA	NA	NA	18,424 E	NA	NA	NA	NA
TOTAL PeCDD	NA	NA	NA	3,851 E	NA	NA	NA	NA
TOTAL PeCDF	NA	NA	NA	6,231 E	NA	NA	NA	NA
TOTAL TCDD	NA	NA	NA	1,113 E	NA	NA	NA	NA
TOTAL TCDF	NA	NA	NA	721.8729 E	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	28	3.3	8.5	53	3.8	3.3	3.3	30
SVOCs (mg/kg)								
2-Chloronaphthalene	0.077 U	0.076 U	0.072 U	0.081 U	0.073 U	0.071 U	0.075 U	0.072 U
2-Methylnaphthalene	0.43	0.15 U	0.15 U	0.077 J	0.15 U	0.14 U	0.15 U	0.15 U
Acenaphthene	0.2	0.098 U	0.093 U	0.1 U	0.094 U	0.067 J	0.096 U	0.093 U
Acenaphthylene	0.25	0.081 U	0.077 U	0.52	0.078 U	0.075 U	0.079 U	0.075 J
Anthracene	0.77	0.15 U	0.14 U	1.3	0.16	0.14 U	0.088 J	0.27
Benzo(a)anthracene	0.69	0.11 U	0.1 U	0.68	0.11 U	0.065 J	0.12	0.47
Benzo(a)pyrene	1.2	0.068 J	0.11 U	3.3	0.2	0.11 U	0.12	1.2

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Sample ID: Sample Location: Sample Depth (ft):	MB301SS00 CPA223 0	MB302SB04 CPA223 4	MB303SB10 CPA223 10	MB304SS00 CPA225 0	MB305SB04 CPA225 4	MB306SB04 CPA225 4	MB307SB10 CPA225 10	MB308SS00 CPA228 0
Chemical								
Benzo(b)fluoranthene	2.1	0.081 J	0.24 U	4.5	0.27	0.087 J	0.21 J	1.7
Benzo(g,h,i)perylene	0.49	0.17 U	0.16 U	1.7	0.14 J	0.16 U	0.073 J	0.53
Benzo(k)fluoranthene	0.41	0.2 U	0.19 U	0.9	0.19 U	0.18 U	0.086 J	0.47
Chrysene	1.3	0.089 U	0.084 U	1.4	0.26	0.083 U	0.2	0.79
Dibenz(a,h)anthracene	0.13	0.12 U	0.12 U	0.58	0.12 U	0.11 U	0.12 U	0.071 J
Fluoranthene	1.6	0.11 U	0.11 U	0.96	0.11 U	0.1 U	0.35	0.54
Fluorene	0.14	0.11 U	0.1 U	0.13	0.11 U	0.1 U	0.11 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.6	0.075 U	0.071 U	2.7	0.16	0.07 U	0.093	0.58
Naphthalene	1.2	0.19 U	0.18 U	0.19 J	0.18 U	0.17 U	0.18 U	0.071 J
Pentachlorophenol	2	0.16 J	0.28 U	10	0.59	0.16 J	0.48	9.2
Phenanthrene	0.99	0.16 U	0.15 U	0.38	0.16 U	0.15 U	0.16 U	0.15 J
Pyrene	1.1	0.15 U	0.14 U	0.77	0.14 U	0.076 J	0.2	0.45

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Sample ID: Sample Location: Sample Depth (ft):	MB309SS00 CPA228 0	MB310SB04 CPA228 4	MB311SB10 CPA228 10	MB313SS00 CPA234 0	MB314SS00 CPA234 0	MB315SB04 CPA234 4	MB316SB04 CPA234 4	MB317SB10 CPA234 10
Chemical								
Metals (mg/kg)								
Arsenic	30	6.8	2.9	24	23	2.5	2.3	2.1
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.087 U	0.073 U	0.074 U	0.076 U	0.074 U	0.072 U	0.067 U
2-Methylnaphthalene	0.15 U	4.1	0.082 J	0.07 J	0.081 J	0.15 U	0.15 U	0.13 U
Acenaphthene	0.096 U	0.25	0.094 U	0.094 U	0.097 U	0.095 U	0.093 U	0.086 U
Acenaphthylene	0.099	0.12	0.078 U	0.11	0.13	0.078 U	0.077 U	0.071 U
Anthracene	0.34	2.1	0.14 U	0.26	0.35	0.14 U	0.14 U	0.13 U
Benzo(a)anthracene	0.55	0.12 J	0.11 U	0.35	0.35	0.11 U	0.1 U	0.097 U
Benzo(a)pyrene	1.8	0.22	0.11 U	1.2	1.3	0.11 U	0.11 U	0.1 U
Benzo(b)fluoranthene	2.6	0.29 J	0.084 J	2	2	0.25 U	0.24 U	0.22 U
Benzo(g,h,i)perylene	0.79	0.19 U	0.16 U	0.8	0.72	0.16 U	0.16 U	0.15 U
Benzo(k)fluoranthene	0.59	0.23 U	0.19 U	1.7	0.5	0.19 U	0.19 U	0.17 U
Chrysene	1.2	0.25	0.085 U	0.95	0.92	0.086 U	0.085 U	0.078 U
Dibenz(a,h)anthracene	0.099 J	0.14 U	0.12 U	0.1 J	0.13	0.12 U	0.12 U	0.11 U
Fluoranthene	0.63	0.22	0.11 U	0.7	0.79	0.11 U	0.11 U	0.098 U
Fluorene	0.11 U	0.13 U	0.11 U	0.11 U	0.11 U	0.11 U	0.1 U	0.097 U
Indeno(1,2,3-cd)pyrene	0.85	0.16	0.072 U	0.78	0.93	0.072 U	0.071 U	0.066 U
Naphthalene	0.099 J	6.4	0.17 J	0.18 J	0.2	0.18 U	0.18 U	0.17 U
Pentachlorophenol	8.2	1.9	1.2	5.5	5.7	0.35	0.28 U	0.26 U
Phenanthrene	0.21	2.1	0.086 J	0.21	0.31	0.16 U	0.16 U	0.14 U
Pyrene	0.52	0.25	0.14 U	0.66	0.66	0.15 U	0.14 U	0.13 U

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Summary of Analytical Data
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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB318SS00 CPA237 0	MB319SB04 CPA237 4	MB320SB10 CPA237 10	MB321SS00 CPA239 0	MB322SB04 CPA239 4	MB323SB10 CPA239 10	MB324SS00 CPA244 0	MB325SS00 CPA244 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	NA	32	28
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	NA	11	13
Metals (mg/kg)								
Arsenic	60	3.1	2	150	4.8	14	60	63
Copper	NA	NA	NA	NA	NA	NA	100	96
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	NA	810,000	92,000
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	NA	340,000	75,000
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	NA	1 U	1 U
pH (pH)								
pH	NA	NA	NA	NA	NA	NA	7.01	7.01
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	NA	200	220
SVOCs (mg/kg)								
2-Chloronaphthalene	0.072 U	0.075 U	0.077 U	0.73 U	0.075 U	0.074 U	0.073 U	0.072 U
2-Methylnaphthalene	0.14 U	0.15 U	0.15 U	1.5 U	0.15 U	0.15 U	0.15 U	0.091 J
Acenaphthene	0.092 U	0.096 U	0.098 U	0.94 U	0.096 U	0.095 U	0.094 U	0.093 U
Acenaphthylene	0.18	0.079 U	0.081 U	1.1	0.079 U	0.079 U	0.35	0.43
Anthracene	0.59	0.14 U	0.15 U	2.1	0.14 U	0.14 U	1.9	9.4
Benzo(a)anthracene	0.44	0.11 U	0.11 U	4.5	0.11 U	0.11 U	3.1	6
Benzo(a)pyrene	1.6	0.11 U	0.12 U	13	0.08 J	0.086 J	5.3	6.9
Benzo(b)fluoranthene	2.5	0.25 U	0.26 U	25	0.08 J	0.2 J	10	15
Benzo(g,h,i)perylene	0.94	0.17 U	0.17 U	4.8	0.17 U	0.17 U	1.8	2.1
Benzo(k)fluoranthene	0.4	0.19 U	0.2 U	10	0.19 U	0.19 U	4.5	3.8
Chrysene	0.8	0.087 U	0.09 U	13	0.087 U	0.12	9.5	15
Dibenz(a,h)anthracene	0.13	0.12 U	0.12 U	1.5	0.12 U	0.12 U	0.51	0.68
Fluoranthene	0.88	0.11 U	0.11 U	29	0.069 J	0.19	17	31
Fluorene	0.1 U	0.11 U	0.11 U	1.1 U	0.11 U	0.11 U	0.8	0.52
Indeno(1,2,3-cd)pyrene	1.1	0.073 U	0.075 U	6.8	0.073 U	0.073 U	2.2	2.8
Naphthalene	0.18 U	0.18 U	0.19 U	1.8 U	0.18 U	0.18 U	0.086 J	0.11 J
Pentachlorophenol	7.8	0.38	0.29 U	1,700 D	1.6	24	2,400 D	2,700 D
Phenanthrene	0.3	0.16 U	0.16 U	0.88 J	0.16 U	0.16 U	1.4	3
Pyrene	0.7	0.15 U	0.15 U	50	0.082 J	0.36	22	34

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Summary of Analytical Data
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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB318SS00 CPA237 0	MB319SB04 CPA237 4	MB320SB10 CPA237 10	MB321SS00 CPA239 0	MB322SB04 CPA239 4	MB323SB10 CPA239 10	MB324SS00 CPA244 0	MB325SS00 CPA244 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	NA	14,000	12,000
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	NA	100	260

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Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB326SB04 CPA244 4	MB327SB10 CPA244 10	MB328SS00 CPA220 0	MB329SB04 CPA220 4	MB329SS00 CPA220 0	MB330SB10 CPA220 10	MB331SS00 CPA222 0	MB332SS01 CPA222 1
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	76	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	20	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	5.2	2.4	72	3.3	84	3.1	240	130
Copper	NA	NA	140	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	110,000	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	20,000	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	2.3	NA	NA	NA	NA	NA
pH (pH)								
pH	NA	NA	6.1	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	240	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.073 U	0.076 U	0.075 U	0.074 U	0.074 U	0.71 U	0.75 U
2-Methylnaphthalene	0.15 U	0.15 U	0.17	0.15 U	0.15 J	0.15 U	1.4 U	1.5 U
Acenaphthene	0.094 U	0.094 U	0.45	0.097 U	0.41	0.095 U	0.92 U	0.96 U
Acenaphthylene	0.078 U	0.078 U	0.34	0.08 U	0.62	0.079 U	1.8	4.6
Anthracene	0.14 U	0.14 U	2	0.15 U	8.4	0.14 U	4.2	9.4
Benzo(a)anthracene	0.08 J	0.11 U	3.5	0.11 U	9.7	0.11 U	1.5	1.4
Benzo(a)pyrene	0.082 J	0.11 U	4.4	0.11 U	6.5	0.11 U	10	20
Benzo(b)fluoranthene	0.33	0.099 J	7.4	0.25 U	11	0.25 U	12	15
Benzo(g,h,i)perylene	0.16 U	0.16 U	2.1	0.17 U	2.8	0.17 U	6.5	15
Benzo(k)fluoranthene	0.28	0.19 U	2.8	0.2 U	5.3	0.19 U	4.5	4.9
Chrysene	0.14	0.086 U	5.6	0.088 U	14	0.087 U	4	2.8
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.12 U	0.12 U	0.56	0.12 U	0.99 J	1.7
Fluoranthene	0.21	0.11 U	3.6	0.11 U	24	0.11 U	4.7	2.7
Fluorene	0.11 U	0.11 U	0.34	0.11 U	0.55	0.11 U	1 U	0.86 J
Indeno(1,2,3-cd)pyrene	0.072 U	0.072 U	2.7	0.074 U	3.5	0.073 U	7.6	14
Naphthalene	0.18 U	0.18 U	0.098 J	0.19 U	0.1 J	0.18 U	1.8 U	1.8 U
Pentachlorophenol	4.3	0.78	72 D	2	71 D	0.27 J	100	310 D
Phenanthrene	0.16 U	0.16 U	1.4	0.16 U	2.8	0.16 U	1.2 J	1.6 U
Pyrene	0.18	0.14 U	6	0.15 U	24	0.15 U	4	5.2

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Sample ID: Sample Location: Sample Depth (ft):	MB326SB04 CPA244 4	MB327SB10 CPA244 10	MB328SS00 CPA220 0	MB329SB04 CPA220 4	MB329SS00 CPA220 0	MB330SB10 CPA220 10	MB331SS00 CPA222 0	MB332SS01 CPA222 1
Chemical								
TOC (mg/kg)								
TOC	NA	NA	27,000	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	520	NA	NA	NA	NA	NA

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB333SB04 CPA222 4	MB334SB10 CPA222 10	MB335SS00 CPA227 0	MB336SS00 CPA227 0	MB337SB04 CPA227 4	MB338SB10 CPA227 10	MB339SB10 CPA227 10	MB340SS00 CPA231 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	NA	NA	49
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	NA	NA	16
Metals (mg/kg)								
Arsenic	2.5	6.4	78	73	5	43	53	56
Copper	NA	NA	NA	NA	NA	NA	NA	120
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	NA	NA	280,000
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	NA	NA	64,000
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	NA	NA	1 U
pH (pH)								
pH	NA	NA	NA	NA	NA	NA	NA	6.26
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	NA	NA	210
SVOCs (mg/kg)								
2-Chloronaphthalene	0.76 U	0.071 U	0.69 U	0.69 U	0.077 U	0.74 U	0.75 U	0.078 U
2-Methylnaphthalene	1.5 U	0.14 U	1.5	1.2 J	0.15 U	1.5 U	1.5 U	0.46
Acenaphthene	0.97 U	0.092 U	6.4	6.3	0.47	5.7	5.2	0.19
Acenaphthylene	1.3	0.18	1.8	2	0.092	1.8	1.9	0.51
Anthracene	1.8	0.37	8	9	0.41	5.3	6.2	1.9
Benzo(a)anthracene	1.7	0.14	19	18	0.51	13	13	1.2
Benzo(a)pyrene	4.3	0.22	11	12	0.31	9.5	8.3	2.5
Benzo(b)fluoranthene	3.2	0.38	23	22	0.49	14	16	5.5
Benzo(g,h,i)perylene	4.3	0.61	3.2	3.4	0.11 J	2.5	2.2	0.17 U
Benzo(k)fluoranthene	0.76 J	0.11 J	7.8	6.9	0.3	7.9	5.2	1.2
Chrysene	1.8	0.17	22	20	0.51	13	12	3.2
Dibenz(a,h)anthracene	1.2 U	0.068 J	0.91 J	0.94 J	0.12 U	1.2 U	1.2 U	0.33
Fluoranthene	1.1	0.29	99	93	3.5	69	58	5.1
Fluorene	1.1 U	0.1 U	4.7	4.9	0.18	2.2	2.2	0.19
Indeno(1,2,3-cd)pyrene	4	0.46	4	4.1	0.14	3.2	2.8	2.2
Naphthalene	1.9 U	0.18 U	2.6	2.1	0.077 J	1.8 U	1.9 U	1
Pentachlorophenol	170	7.8	240 D	400 D	14	73	69	20 D
Phenanthrene	1.6 U	0.13 J	11	12	0.59	4	4.1	1.5
Pyrene	1.4 J	0.27	83	79	2.1	66	64	5.3

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Sample ID: Sample Location: Sample Depth (ft):	MB333SB04 CPA222 4	MB334SB10 CPA222 10	MB335SS00 CPA227 0	MB336SS00 CPA227 0	MB337SB04 CPA227 4	MB338SB10 CPA227 10	MB339SB10 CPA227 10	MB340SS00 CPA231 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	NA	NA	45,000
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	NA	NA	760

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Sample ID: Sample Location: Sample Depth (ft):	MB341SS00 CPA231 0	MB342SB04 CPA231 4	MB343SB04 CPA231 4	MB344SB10 CPA231 10	MB345SS00 CPA233 0	MB346SB04 CPA233 4	MB347SB10 CPA233 10	MB348SS00 CPA241 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	71	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	14	NA	NA
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	NA	NA	46,662 E
1234678-HpCDF	NA	NA	NA	NA	NA	NA	NA	9,542 E
123478-HxCDD	NA	NA	NA	NA	NA	NA	NA	8,057 E
123478-HxCDF	NA	NA	NA	NA	NA	NA	NA	4,177 E
1234789-HpCDF	NA	NA	NA	NA	NA	NA	NA	1,646 E
123678-HxCDD	NA	NA	NA	NA	NA	NA	NA	12,198 E
123678-HxCDF	NA	NA	NA	NA	NA	NA	NA	1,505 E
12378-PeCDD	NA	NA	NA	NA	NA	NA	NA	3,748 E
12378-PeCDF	NA	NA	NA	NA	NA	NA	NA	1,183 E
123789-HxCDD	NA	NA	NA	NA	NA	NA	NA	12,387 E
123789-HxCDF	NA	NA	NA	NA	NA	NA	NA	122.9242 E
234678-HxCDF	NA	NA	NA	NA	NA	NA	NA	970.6896 E
23478-PeCDF	NA	NA	NA	NA	NA	NA	NA	1,010 E
2378-TCDD	NA	NA	NA	NA	NA	NA	NA	226.0473 E
2378-TCDF	NA	NA	NA	NA	NA	NA	NA	409.5472 E
OCDD	NA	NA	NA	NA	NA	NA	NA	97,737 E
OCDF	NA	NA	NA	NA	NA	NA	NA	40,952 E
TOTAL HpCDD	NA	NA	NA	NA	NA	NA	NA	91,091 E
TOTAL HpCDF	NA	NA	NA	NA	NA	NA	NA	25,447 E
TOTAL HxCDD	NA	NA	NA	NA	NA	NA	NA	41,753 E
TOTAL HxCDF	NA	NA	NA	NA	NA	NA	NA	29,393 E
TOTAL PeCDD	NA	NA	NA	NA	NA	NA	NA	15,550 E
TOTAL PeCDF	NA	NA	NA	NA	NA	NA	NA	10,252 E
TOTAL TCDD	NA	NA	NA	NA	NA	NA	NA	2,197 E
TOTAL TCDF	NA	NA	NA	NA	NA	NA	NA	2,134 E
Metals (mg/kg)								
Arsenic	52	2.9	2.4	1.5	770	450	19	110
Copper	NA	NA	NA	NA	NA	470	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	580,000	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	3,300	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB341SS00 CPA231 0	MB342SB04 CPA231 4	MB343SB04 CPA231 4	MB344SB10 CPA231 10	MB345SS00 CPA233 0	MB346SB04 CPA233 4	MB347SB10 CPA233 10	MB348SS00 CPA241 0
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	2.4	NA	NA
pH (pH)								
pH	NA	NA	NA	NA	NA	5.52	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	280	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.077 U	0.073 U	0.074 U	0.072 U	0.78 U	0.76 U	0.073 U	0.73 U
2-Methylnaphthalene	0.4	0.15 U	0.15 U	0.15 U	1.6 U	1.5 U	0.15 U	1.5 U
Acenaphthene	0.19	0.12	0.095 U	0.093 U	1 U	0.97 U	0.094 U	0.93 U
Acenaphthylene	0.53	0.077 U	0.079 U	0.077 U	5.1	2.7	0.077 U	1.8
Anthracene	2	0.23	0.14 U	0.14 U	7.4	4.2	0.14 U	4.3
Benzo(a)anthracene	1.5	0.073 J	0.11 U	0.1 U	6.7	4.4	0.11 U	17
Benzo(a)pyrene	3.5	0.11 U	0.11 U	0.11 U	31	25	0.16	59
Benzo(b)fluoranthene	4.3	0.11 J	0.081 J	0.24 U	54	43	0.24 J	66
Benzo(g,h,i)perylene	0.17 U	0.065 J	0.13 J	0.16 U	16	8.9	0.16 U	1.6 U
Benzo(k)fluoranthene	1.7	0.19 U	0.19 U	0.19 U	23	12	0.1 J	18
Chrysene	3.6	0.085 U	0.087 U	0.084 U	11	9.8	0.071 J	24
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.12 U	0.12 U	4	2.5	0.12 U	3.8
Fluoranthene	4.8	0.33	0.11 U	0.11 U	14	10	0.084 J	13
Fluorene	0.22	0.11	0.11 U	0.1 U	1.2	0.76 J	0.11 U	0.71 J
Indeno(1,2,3-cd)pyrene	2	0.071 U	0.081	0.071 U	19	9.9	0.076	11
Naphthalene	0.87	0.18 U	0.18 U	0.18 U	1.9 U	1.9 U	0.18 U	1.8 U
Pentachlorophenol	24	0.39	0.29 U	0.28 U	160	150	0.38	430 D
Phenanthrene	1.8	0.44	0.16 U	0.15 U	1.6 J	0.92 J	0.16 U	1.7
Pyrene	5.9	0.25	0.15 U	0.14 U	13	8.7	0.1 J	20
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	16,000	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	520	NA	NA

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Summary of Analytical Data
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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB349SS01 CPA241 1	MB350SS00 CPA218 0	MB351SB04 CPA218 4	MB352SB10 CPA218 10	MB353SS00 CPA219 0	MB354SB04 CPA219 4	MB355SB10 CPA219 10	MB356SS00 CPA221 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	NA	NA	58
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	NA	NA	15
Metals (mg/kg)								
Arsenic	59	11	2.7	4.2	8.1	2.4	2.4	44
Copper	NA	NA	NA	NA	NA	NA	NA	68
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	NA	NA	520
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	NA	NA	79
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	NA	NA	1 U
pH (pH)								
pH	NA	NA	NA	NA	NA	NA	NA	5.6
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	NA	NA	240
SVOCs (mg/kg)								
2-Chloronaphthalene	0.07 U	0.07 U	0.071 U	0.075 U	0.075 U	0.073 U	0.076 U	0.074 U
2-Methylnaphthalene	0.14 U	0.14 U	0.14 U	0.15 U	0.13 J	0.15 U	0.15 U	0.15 U
Acenaphthene	0.089 U	0.09 U	0.091 U	0.096 U	0.13	0.093 U	0.097 U	0.094 U
Acenaphthylene	0.13	0.074 U	0.064 J	0.079 U	0.081	0.077 U	0.081 U	0.078 U
Anthracene	0.13 U	0.13 J	0.19	0.14 U	0.32	0.14 J	0.072 J	0.11 J
Benzo(a)anthracene	0.25	0.1 U	0.2	0.14	0.31	0.09 J	0.13	0.16
Benzo(a)pyrene	4	0.24	0.45	0.21	0.5	0.14	0.12 U	0.26
Benzo(b)fluoranthene	2	0.94	1.2	0.36	0.61	0.24 J	0.079 J	0.43
Benzo(g,h,i)perylene	0.89	0.2	0.25	0.16 J	0.5	0.16 J	0.17 U	0.16 U
Benzo(k)fluoranthene	0.5	0.18 J	0.094 J	0.066 J	0.18 J	0.19 U	0.2 U	0.36
Chrysene	0.52	0.16	0.27	0.18	0.43	0.085 U	0.089	0.35
Dibenz(a,h)anthracene	0.35	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Fluoranthene	0.4	0.12	0.78	0.081 J	0.54	0.16	0.15	0.62
Fluorene	0.1 U	0.1 U	0.1 U	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	1.2	0.29	0.36	0.18	0.63	0.21	0.074 U	0.091
Naphthalene	0.17 U	0.17 U	0.18 U	0.18 U	0.43	0.09 J	0.19 U	0.18 U
Pentachlorophenol	8.5	1.5	3.8	2.7	0.66	0.22 J	0.29 U	8.5
Phenanthrene	0.15 U	0.079 J	0.28	0.16 U	0.34	0.077 J	0.15 J	0.16 U
Pyrene	0.32	0.14	0.53	0.1 J	0.52	0.13 J	0.17	0.38

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Sample ID: Sample Location: Sample Depth (ft):	MB349SS01 CPA241 1	MB350SS00 CPA218 0	MB351SB04 CPA218 4	MB352SB10 CPA218 10	MB353SS00 CPA219 0	MB354SB04 CPA219 4	MB355SB10 CPA219 10	MB356SS00 CPA221 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	NA	NA	1,800
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	NA	NA	110

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Sample ID: Sample Location: Sample Depth (ft):	MB357SB04 CPA221 4	MB358SB10 CPA221 10	MB359SS00 CPA224 0	MB360SS00 CPA224 0	MB361SB04 CPA224 4	MB362SB10 CPA224 10	MB363SS00 CPA226 0	MB364SB04 CPA226 4
Chemical								
Ammonia (mg/kg)								
Ammonia	26	NA	NA	NA	NA	NA	13	NA
CEC (meq/100g)								
Cation Exchange Capacity	14	NA	NA	NA	NA	NA	13	NA
Metals (mg/kg)								
Arsenic	6.3	6.2	150	230	4.2	11	680	770
Copper	13	NA	NA	NA	NA	NA	1,700	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	600	NA	NA	NA	NA	NA	420	NA
Total Phenanthrene Degraders	16	NA	NA	NA	NA	NA	6.6	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	NA	NA	NA	NA	1.2	NA
pH (pH)								
pH	6.22	NA	NA	NA	NA	NA	5.43	NA
Phosphorus (mg/kg)								
Total Phosphorus	210	NA	NA	NA	NA	NA	270	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.075 U	0.073 U	0.074 U	0.075 U	0.076 U	0.074 U	0.074 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U
Acenaphthene	0.096 U	0.097 U	0.094 U	0.095 U	0.096 U	0.068 J	0.095 U	0.095 U
Acenaphthylene	0.079 U	0.08 U	0.35	0.4	0.08 U	0.081 U	0.078 U	0.079 U
Anthracene	0.14 U	0.15 U	0.83	0.85	0.074 J	0.14 J	0.14 U	0.14 U
Benzo(a)anthracene	0.11 U	0.11 U	0.67	0.54	0.11 U	0.072 J	0.11 U	0.11 U
Benzo(a)pyrene	0.11 U	0.11 U	1.4	1.6	0.14	0.087 J	0.11 U	0.11 U
Benzo(b)fluoranthene	0.25 U	0.25 U	2.1	2.6	0.12 J	0.12 J	0.25 U	0.068 J
Benzo(g,h,i)perylene	0.17 U	0.17 U	0.84	0.85	0.17 U	0.11 J	0.16 U	0.17 U
Benzo(k)fluoranthene	0.19 U	0.2 U	0.61	0.68	0.095 J	0.083 J	0.19 U	0.19 U
Chrysene	0.087 U	0.088 U	1	0.74	0.088 U	0.13	0.086 U	0.086 U
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.16	0.17	0.12 U	0.12 U	0.12 U	0.12 U
Fluoranthene	0.11 U	0.11 U	1.2	0.84	0.11 U	0.15	0.068 J	0.075 J
Fluorene	0.11 U	0.11 U	0.15	0.098 J	0.11 U	0.11 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.073 U	0.074 U	0.92	0.96	0.074 U	0.074 U	0.072 U	0.073 U
Naphthalene	0.18 U	0.19 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U
Pentachlorophenol	0.29 U	0.29 U	44 D	13	2.9 U	0.19 J	0.28 U	0.28 U
Phenanthrene	0.16 U	0.16 U	0.22	0.21	0.16 U	0.16 U	0.16 U	0.16 U
Pyrene	0.15 U	0.15 U	0.87	0.75	0.15 U	0.15	0.15 U	0.15 U

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB357SB04 CPA221 4	MB358SB10 CPA221 10	MB359SS00 CPA224 0	MB360SS00 CPA224 0	MB361SB04 CPA224 4	MB362SB10 CPA224 10	MB363SS00 CPA226 0	MB364SB04 CPA226 4
Chemical								
TOC (mg/kg)								
TOC	300	NA	NA	NA	NA	NA	1,300	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	36	NA	NA	NA	NA	NA	230	NA

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB365SB10 CPA226 10	MB366SS00 CPA229 0	MB367SB04 CPA229 4	MB368SB10 CPA229 10	MB369SB04 CPA230 4	MB370SB10 CPA230 10	MB371SB10 CPA230 10	MB372SS00 CPA232 0
Chemical								
Metals (mg/kg)								
Arsenic	1,100	2.4	2.4	2.5	12	18	39	930
Copper	NA	NA	NA	NA	NA	NA	92	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.073 U	0.074 U	0.075 U	0.075 U	0.074 U	0.074 U	0.73 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	1.5 U
Acenaphthene	0.096 U	0.094 U	0.095 U	0.097 U	0.096 U	0.095 U	0.095 U	0.94 U
Acenaphthylene	0.08 U	0.077 U	0.078 U	0.08 U	0.08 U	0.078 U	0.079 U	1.7
Anthracene	0.14 U	0.14 U	0.14 U	0.15 U	0.22	0.079 J	0.14 U	4.7
Benzo(a)anthracene	0.11 U	0.078 J	0.11 U	0.11 U	0.14	0.11 U	0.11 U	1.9
Benzo(a)pyrene	0.11 U	0.11 U	0.11 U	0.11 U	0.18	0.14	0.11 U	24
Benzo(b)fluoranthene	0.25 U	0.073 J	0.25 U	0.25 U	0.27	0.096 J	0.25 U	29
Benzo(g,h,i)perylene	0.17 U	0.16 U	0.16 U	0.17 U	0.15 J	0.16 U	0.17 U	5
Benzo(k)fluoranthene	0.19 U	0.19 U	0.19 U	0.2 U	0.14 J	0.19 U	0.19 U	7.9
Chrysene	0.087 U	0.085 U	0.086 U	0.088 U	0.22	0.086 U	0.087 U	8.8
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	1.3
Fluoranthene	0.11 U	0.08 J	0.11 U	0.11 U	0.35	0.068 J	0.11 U	3.7
Fluorene	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.78 J
Indeno(1,2,3-cd)pyrene	0.073 U	0.071 U	0.072 U	0.074 U	0.16	0.072 U	0.073 U	5.6
Naphthalene	0.18 U	0.18 U	0.18 U	0.19 U	0.19 U	0.18 U	0.18 U	1.8 U
Pentachlorophenol	0.29 U	0.28 U	0.28 U	0.29 U	0.47	0.15 J	0.29 U	710 D
Phenanthrene	0.16 U	0.16 U	0.16 U	0.16 U	0.19	0.16 U	0.16 U	0.97 J
Pyrene	0.15 U	0.086 J	0.15 U	0.15 U	0.37	0.15 U	0.15 U	10

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB373SB04 CPA232 4	MB374SB10 CPA232 10	MB375SS00 CPA235 0	MB376SB04 CPA235 4	MB377SB10 CPA235 10	MB378SS00 CPA236 0	MB379SB04 CPA236 4	MB379SS00 CPA236 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	7	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	13	NA	NA	NA
Metals (mg/kg)								
Arsenic	82	34	2.4	7.5	2.7	78	15	46
Copper	NA	NA	NA	NA	12	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	560	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	43	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	1 U	NA	NA	NA
pH (pH)								
pH	NA	NA	NA	NA	6.37	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	210	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.074 U	0.068 U	0.069 U	0.07 U	0.073 U	0.07 U	0.074 U	0.072 U
2-Methylnaphthalene	0.4	0.14	0.21	0.14 U	0.15 U	0.14 U	0.15 U	0.085 J
Acenaphthene	2.4	0.42	0.076 J	0.09 U	0.12	0.09 U	0.094 U	0.093 U
Acenaphthylene	0.44	0.13	0.22	0.063 J	0.077 U	0.18	0.15	0.16
Anthracene	3.3	0.98	0.66	0.13 J	0.13 J	0.48	0.35	0.61
Benzo(a)anthracene	3.8	0.69	1.6	0.095 J	0.11 U	0.31	0.33	1.5
Benzo(a)pyrene	7.7	1.5	1.8	0.26	0.11 U	1.1	0.56	1.3
Benzo(b)fluoranthene	7.3	1.6	3.2	0.44	0.088 J	1.4	0.83	2.4
Benzo(g,h,i)perylene	1.9	0.45	0.15 U	0.18	0.065 J	0.43	0.27	0.65
Benzo(k)fluoranthene	1.6	0.53	1.2	0.13 J	0.19 U	0.41	0.38	0.63
Chrysene	4.7	1.1	2.2	0.12	0.085 U	0.51	0.4	0.9
Dibenz(a,h)anthracene	0.67	0.14	0.3	0.11 U	0.12 U	0.11 J	0.12 U	0.12
Fluoranthene	12	2.4	2.4	0.12	0.13	0.52	0.52	1.1
Fluorene	2.4	0.65	0.078 J	0.1 U	0.098 J	0.1 U	0.11 U	0.091 J
Indeno(1,2,3-cd)pyrene	2.2	0.47	1.4	0.15	0.071 U	0.56	0.32	0.89
Naphthalene	0.29	0.17 U	0.81	0.17 U	0.18 U	0.17 U	0.18 U	0.18
Pentachlorophenol	56 D	11	0.22 J	0.58	0.91	12	9.2	300 D
Phenanthrene	4.5	1.8	1.4	0.067 J	0.18	0.17	0.17	0.41
Pyrene	6.8	1.3	2	0.12 J	0.082 J	0.43	0.44	1.5

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Sample ID: Sample Location: Sample Depth (ft):	MB373SB04 CPA232 4	MB374SB10 CPA232 10	MB375SS00 CPA235 0	MB376SB04 CPA235 4	MB377SB10 CPA235 10	MB378SS00 CPA236 0	MB379SB04 CPA236 4	MB379SS00 CPA238 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	1,500	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	70	NA	NA	NA

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB380SB04 CPA238 4	MB380SB10 CPA236 10	MB381SB04 CPA238 4	MB382SB10 CPA238 10	MB383SS00 CPA240 0	MB384SB04 CPA240 4	MB385SB10 CPA240 10	MB386SS00 CPA242 0
Chemical								
Ammonia (mg/kg)								
Ammonia	15	NA	69	NA	9	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	14	NA	14	NA	12	NA	NA	NA
Metals (mg/kg)								
Arsenic	13	3	16	3	2.4	2.9	2.6	2.2
Copper	25	NA	30	NA	13	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	1,100	NA	2,000	NA	63,000	NA	NA	NA
Total Phenanthrene Degraders	72	NA	99	NA	8,600	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	2.3	NA	2.3	NA	1 U	NA	NA	NA
pH (pH)								
pH	5.69	NA	5.58	NA	6.35	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	220	NA	210	NA	240	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.073 U	0.07 U	0.069 U	0.071 U	0.074 U	0.073 U	0.072 U
2-Methylnaphthalene	0.15 U	0.15 U	0.14 U	0.14	0.14 U	0.15 U	0.15 U	0.14 U
Acenaphthene	0.093 U	0.093 U	0.089 U	0.064 J	0.091 U	0.095 U	0.093 U	0.092 U
Acenaphthylene	0.083	0.077 U	0.074 U	0.073 U	0.076 U	0.079 U	0.077 U	0.076 U
Anthracene	0.25	0.14 U	0.24	0.11 J	0.14 U	0.085 J	0.14 U	0.14 U
Benzo(a)anthracene	0.24	0.11 U	0.23	0.07 J	0.2	0.12	0.11 U	0.1 U
Benzo(a)pyrene	0.56	0.09 J	0.61	0.062 J	0.19	0.46	0.065 J	0.15
Benzo(b)fluoranthene	0.97	0.24 U	1.3	0.11 J	0.48	1	0.098 J	0.32
Benzo(g,h,i)perylene	0.2	0.16 U	0.25	0.15 U	0.16 U	0.16 J	0.16 U	0.16 U
Benzo(k)fluoranthene	0.24	0.19 U	0.37	0.18 U	0.064 J	0.21	0.19 U	0.064 J
Chrysene	0.55	0.085 U	0.64	0.092	0.28	0.29	0.085 U	0.14
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U
Fluoranthene	0.45	0.11 U	0.5	0.15	0.28	0.14	0.13	0.12
Fluorene	0.1 U	0.11 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.24	0.071 U	0.22	0.068 U	0.14	0.23	0.071 U	0.15
Naphthalene	0.18 U	0.18 U	0.17 U	0.35	0.078 J	0.18 U	0.18 U	0.18 U
Pentachlorophenol	280 D	2.2	2,300 D	3.2	1.2	2.5	0.48	30 D
Phenanthrene	0.098 J	0.08 J	0.15 U	0.11 J	0.17	0.16 U	0.086 J	0.15 U
Pyrene	1.2	0.14 U	1.6	0.14	0.21	0.11 J	0.11 J	0.097 J

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB380SB04 CPA238 4	MB380SB10 CPA236 10	MB381SB04 CPA238 4	MB382SB10 CPA238 10	MB383SS00 CPA240 0	MB384SB04 CPA240 4	MB385SB10 CPA240 10	MB386SS00 CPA242 0
Chemical								
TOC (mg/kg)								
TOC	1,700	NA	2,600	NA	1,800	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	140	NA	97	NA	78	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB387SB04 CPA242 4	MB388SB10 CPA242 10	MB389SB04 CPA243 4	MB390SB10 CPA243 10	MB391SB10 CPA243 10	MB392SS01 CPA219 1	MB393SS01 CPA226 1	MB394SS01 CPA232 1
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	27	31	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	12	10	NA	NA	NA
Metals (mg/kg)								
Arsenic	4.1	2.1	5.4	6.4	6.2	2.6	790	640
Copper	NA	NA	NA	15	17	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	57,000	62,000	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	14,000	7,200	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	1 U	1 U	NA	NA	NA
pH (pH)								
pH	NA	NA	NA	4.99	5.09	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	210	200	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.076 U	0.075 U	0.074 U	0.075 U	0.071 U	0.073 U	0.072 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.14 U	0.15 U	0.14 U
Acenaphthene	0.093 U	0.097 U	0.096 U	0.094 U	0.096 U	0.091 U	0.094 U	0.092 U
Acenaphthylene	0.077 U	0.08 U	0.079 U	0.078 U	0.08 U	0.075 U	0.078 U	0.66
Anthracene	0.14 U	0.15 U	29 UD	28 UD	29 UD	0.071 J	0.14 U	2.1
Benzo(a)anthracene	0.11 U	0.11 U	0.32	0.15	0.3	0.1 U	0.078 J	0.76
Benzo(a)pyrene	0.11 U	0.089 J	0.11 J	0.11 J	0.41	0.063 J	0.11 U	11
Benzo(b)fluoranthene	0.23 J	0.074 J	0.52	0.85	0.77	0.069 J	0.11 J	11
Benzo(g,h,i)perylene	0.16 U	0.17 U	0.17 U	0.16 U	0.17 U	0.1 J	0.16 U	2.6
Benzo(k)fluoranthene	0.19 U	0.2 U	0.44	0.15 J	0.24	0.18 U	0.19 U	3.8
Chrysene	0.12	0.11	0.41	0.64	0.63	0.063 J	0.085 U	1.7
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.11 U	0.12 U	0.83
Fluoranthene	0.27	0.17	22 UD	21 UD	22 UD	0.082 J	0.11 U	1.4
Fluorene	0.1 U	0.11 U	0.11 U	0.11 U	0.093 J	0.1 U	0.11 U	0.2
Indeno(1,2,3-cd)pyrene	0.071 U	0.074 U	0.073 U	0.072 U	0.073 U	0.079	0.072 U	2.9
Naphthalene	0.18 U	0.19 U	0.18 U	0.18 U	0.08 J	0.079 J	0.18 U	0.18 U
Pentachlorophenol	340 D	4.2	41,000 D	55,000 D	20,000 D	0.25 J	0.067 J	140 D
Phenanthrene	0.16 U	0.16 U	32 UD	32 UD	32 UD	0.086 J	0.16 U	0.33
Pyrene	0.21	0.16	0.15 U	0.7	0.72	0.14 U	0.14 U	1.5

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Sample ID: Sample Location: Sample Depth (ft):	MB387SB04 CPA242 4	MB388SB10 CPA242 10	MB389SB04 CPA243 4	MB390SB10 CPA243 10	MB391SB10 CPA243 10	MB392SS01 CPA219 1	MB393SS01 CPA226 1	MB394SS01 CPA232 1
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	12,000	8,400	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	110	65	NA	NA	NA

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB395SS01 CPA238 1	MB397SB04 CPA241 4	MB398SB10 CPA241 10	MB399SS01 CPA233 1
Chemical				
Ammonia (mg/kg)				
Ammonia	NA	NA	17	NA
CEC (meq/100g)				
Cation Exchange Capacity	NA	NA	13	NA
Metals (mg/kg)				
Arsenic	33	45	18	630
Copper	NA	NA	18	NA
Natural Biological Activity (CFU/g)				
Heterotrophic Plate Count	NA	NA	2,100,000	NA
Total Phenanthrene Degraders	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)				
Nitrate/Nitrite	NA	NA	1	NA
pH (pH)				
pH	NA	NA	5.87	NA
Phosphorus (mg/kg)				
Total Phosphorus	NA	NA	190	NA
SVOCs (mg/kg)				
2-Chloronaphthalene	0.068 U	0.073 U	0.071 U	0.74 U
2-Methylnaphthalene	0.14 U	0.15 U	0.14 U	1.5 U
Acenaphthene	0.087 U	0.11	0.091 U	0.95 U
Acenaphthylene	0.45	0.33	0.18	0.79 U
Anthracene	0.98	0.96	0.34	5.3
Benzo(a)anthracene	0.63	3.6	0.28	6.9
Benzo(a)pyrene	0.93	9.2	1.4	29
Benzo(b)fluoranthene	1.4	13	1.7	63
Benzo(g,h,i)perylene	0.81	1.9	1.3	10
Benzo(k)fluoranthene	0.46	3.1	0.49	13
Chrysene	0.95	6.7	0.8	18
Dibenz(a,h)anthracene	0.11 U	0.72	0.25	2.9
Fluoranthene	1.7	9.4	0.57	31
Fluorene	0.12	0.1 U	0.084 J	0.94 J
Indeno(1,2,3-cd)pyrene	0.8	2.4	1.1	13
Naphthalene	0.17 U	0.18 U	0.17 U	1.8 U
Pentachlorophenol	3.8	3,700 D	76 D	230
Phenanthrene	0.43	0.57	0.15 U	1.4 J
Pyrene	1.2	11	0.73	18

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Central Processing Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB395SS01 CPA238 1	MB397SB04 CPA241 4	MB398SB10 CPA241 10	MB399SS01 CPA233 1
Chemical				
TOC (mg/kg)				
TOC	NA	NA	2,500	NA
Total Kjeldahl Nitrogen (mg/kg)				
Total Kjeldahl Nitrogen	NA	NA	240	NA

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB067GB01 SEW435 8	MB600SS00 SEW310 0	MB601SB04 SEW310 4	MB602SB10 SEW310 10	MB603SB04 SEW311 4	MB604SB10 SEW311 10	MB605SB04 SEW312 4	MB606SB10 SEW312 10
Chemical								
Metals (mg/kg)								
Arsenic	2.9	7	2.2	2	3.3	2	6.5	3.3
Copper	NA	NA	NA	NA	NA	NA	NA	13
SVOCs (mg/kg)								
2-Chloronaphthalene	0.22	0.071 U	0.069 U	0.078 U	0.072 U	0.074 U	0.072 U	0.075 U
2-Methylnaphthalene	0.31	0.14 U	0.14 U	0.16 U	0.15 U	0.15 U	0.14 U	0.15 U
Acenaphthene	110 D	0.091 U	0.089 U	0.1 U	0.093 U	0.095 U	0.092 U	0.096 U
Acenaphthylene	7.8	0.075 U	0.074 U	0.083 U	0.077 U	0.079 U	0.076 U	0.079 U
Anthracene	86 D	0.14 U	0.13 U	0.15 U	0.14 U	0.14 U	0.14 U	0.14 U
Benzo(a)anthracene	90 D	0.1 U	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U
Benzo(a)pyrene	35 D	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U
Benzo(b)fluoranthene	78 D	0.24 U	0.23 U	0.26 U	0.24 U	0.25 U	0.24 U	0.25 U
Benzo(g,h,i)perylene	12	0.16 U	0.15 U	0.17 U	0.16 U	0.17 U	0.16 U	0.17 U
Benzo(k)fluoranthene	11	0.18 U	0.18 U	0.2 U	0.19 U	0.19 U	0.19 U	0.19 U
Chrysene	85 D	0.083 U	0.081 U	0.091 U	0.084 U	0.087 U	0.084 U	0.087 U
Dibenz(a,h)anthracene	2.9	0.11 U	0.11 U	0.12 U	0.12 U	0.12 U	0.11 U	0.12 U
Fluoranthene	430 D	0.069 J	0.1 U	0.11 U	0.11 U	0.11 U	0.1 U	0.095 J
Fluorene	13	0.1 U	0.1 U	0.11 U	0.1 U	0.11 U	0.1 U	0.11 U
Indeno(1,2,3-cd)pyrene	13	0.069 U	0.068 U	0.076 U	0.071 U	0.073 U	0.07 U	0.073 U
Naphthalene	0.85	0.17 U	0.17 U	0.19 U	0.18 U	0.18 U	0.18 U	0.18 U
Pentachlorophenol	7.5	0.27 U	0.27 U	0.3 U	0.28 U	0.29 U	0.27 U	0.29 U
Phenanthrene	11	0.15 U	0.15 U	0.17 U	0.15 U	0.16 U	0.15 U	0.1 J
Pyrene	310 D	0.069 J	0.14 U	0.15 U	0.14 U	0.15 U	0.14 U	0.15 U

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB607SB04 SEW309 4	MB608SB04 SEW309 4	MB609SB10 SEW309 10	MB610SB04 SEW308 4	MB611SB10 SEW308 10	MB612SS00 SEW308 0	MB613SB04 SEW307 4	MB614SB10 SEW307 10
Chemical								
Metals (mg/kg)								
Arsenic	2.5	2.4	2	2.2	1.5	2.9	2.1	2.1
SVOCs (mg/kg)								
2-Chloronaphthalene	0.079 U	0.072 U	0.07 U	0.077 U	0.075 U	0.075 U	0.075 U	0.078 U
2-Methylnaphthalene	0.16 U	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U	0.15 U	0.16 U
Acenaphthene	0.1 U	0.092 U	0.09 U	0.098 U	0.096 U	0.096 U	0.096 U	0.1 U
Acenaphthylene	0.084 U	0.076 U	0.075 U	0.081 U	0.079 U	0.08 U	0.079 U	0.082 U
Anthracene	0.15 U	0.14 U	0.14 U	0.15 U	0.14 U	0.14 U	0.14 U	0.15 U
Benzo(a)anthracene	0.11 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Benzo(a)pyrene	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.11 U	0.12 U
Benzo(b)fluoranthene	0.26 U	0.066 J	0.23 U	0.25 U	0.25 U	0.25 U	0.25 U	0.26 U
Benzo(g,h,i)perylene	0.18 U	0.16 U	0.16 U	0.17 U	0.17 U	0.17 U	0.17 U	0.17 U
Benzo(k)fluoranthene	0.21 U	0.19 U	0.18 U	0.2 U	0.19 U	0.19 U	0.19 U	0.2 U
Chrysene	0.092 U	0.084 U	0.082 U	0.089 U	0.087 U	0.087 U	0.087 U	0.091 U
Dibenz(a,h)anthracene	0.13 U	0.12 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U
Fluoranthene	0.12 U	0.077 J	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Fluorene	0.11 U	0.1 U	0.1 U	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.077 U	0.07 U	0.069 U	0.075 U	0.073 U	0.073 U	0.073 U	0.076 U
Naphthalene	0.19 U	0.18 U	0.17 U	0.19 U	0.18 U	0.18 U	0.18 U	0.19 U
Pentachlorophenol	0.3 U	0.28 U	0.27 U	0.29 U	0.29 U	0.29 U	0.29 U	0.3 U
Phenanthrene	0.17 U	0.15 U	0.15 U	0.16 U	0.16 U	0.16 U	0.16 U	0.17 U
Pyrene	0.16 U	0.14 U	0.14 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB615SB04 SEW302 4	MB616SB10 SEW302 10	MB617SB04 SEW303 4	MB618SB10 SEW303 10	MB619SB04 SEW304 4	MB620SB10 SEW304 10	MB621SB04 SEW294 4	MB622SB04 SEW294 4
Chemical								
Metals (mg/kg)								
Arsenic	**6.4**	**2.2**	**2.6**	**1.7**	**4.5**	**2.3**	**290**	**300**
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.076 U	0.072 U	0.074 U	0.074 U	0.074 U	0.071 U	0.07 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.14 U	0.14 U
Acenaphthene	0.093 U	0.098 U	0.093 U	0.095 U	0.094 U	0.096 U	**0.086 J**	0.089 U
Acenaphthylene	0.077 U	0.081 U	0.077 U	0.078 U	0.078 U	0.079 U	0.076 U	0.074 U
Anthracene	0.14 U	0.15 U	0.14 U	0.14 U	**0.083 J**	0.14 U	**0.08 J**	**0.074 J**
Benzo(a)anthracene	0.11 U	**0.14**	0.1 U	0.11 U	**0.29**	0.11 U	0.1 U	**0.15**
Benzo(a)pyrene	0.11 U	**0.13**	0.11 U	0.11 U	**0.29**	0.11 U	**0.25**	0.11 U
Benzo(b)fluoranthene	0.24 U	**0.13 J**	0.24 U	0.25 U	**0.39**	0.25 U	**0.37**	**0.31**
Benzo(g,h,i)perylene	0.16 U	0.17 U	0.16 U	0.16 U	**0.11 J**	0.17 U	0.16 U	0.16 U
Benzo(k)fluoranthene	0.19 U	0.2 U	0.19 U	0.19 U	**0.18 J**	0.19 U	**0.11 J**	**0.084 J**
Chrysene	0.085 U	**0.15**	0.085 U	0.086 U	**0.39**	0.087 U	**0.15**	**0.078 J**
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.11 U	0.11 U
Fluoranthene	0.11 U	**0.28**	0.11 U	0.11 U	**0.77**	0.11 U	0.1 U	0.1 U
Fluorene	0.11 U	0.11 U	0.1 U	0.11 U	0.11 U	0.11 U	0.1 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.071 U	0.075 U	0.071 U	0.072 U	**0.17**	0.073 U	**0.084**	**0.11**
Naphthalene	0.18 U	0.19 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.17 U
Pentachlorophenol	0.28 U	0.29 U	0.28 U	0.28 U	0.28 U	0.29 U	**1**	**1.7**
Phenanthrene	0.16 U	0.16 U	0.16 U	0.16 U	**0.12 J**	0.16 U	0.15 U	0.15 U
Pyrene	0.14 U	**0.24**	0.14 U	0.15 U	**0.58**	0.15 U	**0.078 J**	**0.098 J**

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB623SB10 SEW294 10	MB624SS00 SEW295 0	MB625SB04 SEW295 4	MB626SB10 SEW295 10	MB627SB04 SEW296 4	MB628SB10 SEW296 10	MB629SS00 SEW297 0	MB630SB04 SEW297 4
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	11	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	15	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	250	3.5	23	6.2	9.4	2.3	3.4	1.3
Copper	NA	NA	16	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	14,000	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	67	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	1 U	NA	NA	NA	NA	NA
pH (pH)								
pH	NA	NA	7.6	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	460	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.069 U	0.071 U	0.072 U	0.076 U	0.073 U	0.077 U	0.076 U
2-Methylnaphthalene	0.15 U	0.14 U	0.14 U	0.14 U	0.15 U	0.15 U	0.16 U	0.15 U
Acenaphthene	0.094 U	0.089 U	0.092 U	0.092 U	0.097 U	0.093 U	0.29	0.098 U
Acenaphthylene	0.078 U	0.074 U	0.076 U	0.076 U	0.08 U	0.077 U	0.23	0.081 U
Anthracene	0.13 J	0.13 U	0.14 U	0.14 U	0.15 U	0.14 U	1.9	0.15 U
Benzo(a)anthracene	0.21	0.1 U	0.1 U	0.15	0.11 U	0.1 U	5.2	0.068 J
Benzo(a)pyrene	0.14	0.11 U	0.11 U	0.093 J	0.12 U	0.11 U	3.7	0.14
Benzo(b)fluoranthene	0.58	0.11 J	0.24 U	0.14 J	0.076 J	0.24 U	5.6	0.22 J
Benzo(g,h,i)perylene	0.084 J	0.15 U	0.16 U	0.16 U	0.17 U	0.16 U	1.4	0.07 J
Benzo(k)fluoranthene	0.16 J	0.18 U	0.19 U	0.068 J	0.2 U	0.19 U	2.1	0.2 U
Chrysene	0.43	0.11	0.083 U	0.11	0.088 U	0.085 U	6.2	0.1
Dibenz(a,h)anthracene	0.12 U	0.11 U	0.11 U	0.11 U	0.12 U	0.12 U	0.23	0.12 U
Fluoranthene	0.39	0.1 U	0.1 U	0.23	0.11 U	0.11 U	13	0.15
Fluorene	0.11 U	0.1 U	0.1 U	0.1 U	0.11 U	0.1 U	0.14	0.11 U
Indeno(1,2,3-cd)pyrene	0.17	0.068 U	0.07 U	0.07 U	0.074 U	0.071 U	2.2	0.088
Naphthalene	0.18 U	0.17 U	0.18 U	0.18 U	0.19 U	0.18 U	0.13 J	0.19 U
Pentachlorophenol	2.8	0.27 U	0.27 U	0.28 U	0.29 U	0.28 U	0.2 J	0.29 U
Phenanthrene	0.16 U	0.15 U	0.15 U	0.15 U	0.16 U	0.16 U	3	0.16 U
Pyrene	0.29	0.14 U	0.14 U	0.19	0.15 U	0.14 U	11	0.13 J

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB623SB10 SEW294 10	MB624SS00 SEW295 0	MB625SB04 SEW295 4	MB626SB10 SEW295 10	MB627SB04 SEW296 4	MB628SB10 SEW296 10	MB629SS00 SEW297 0	MB630SB04 SEW297 4
Chemical								
TOC (mg/kg)								
TOC	NA	NA	5,700	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	80	NA	NA	NA	NA	NA

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB631SB10 SEW297 10	MB632SB04 SEW288 4	MB633SB04 SEW288 4	MB634SB10 SEW288 6	MB635SS00 SEW289 0	MB636SB04 SEW289 4	MB637SB10 SEW289 10	MB638SS00 SEW283 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	11	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	17	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	3.2	34	33	3.9	2.6	2.6	2.4	100
Copper	NA	NA	NA	13	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	690	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	130	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	1 U	NA	NA	NA	NA
pH (pH)								
pH	NA	NA	NA	6.84	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	380	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.076 U	0.074 U	0.07 U	0.071 U	0.072 U	0.07 U	0.071 U	0.078 U
2-Methylnaphthalene	0.15 U	0.15 U	0.14 U	0.14 U	0.15 U	0.14 U	0.14 U	0.16 U
Acenaphthene	0.097 U	0.095 U	0.09 U	0.091 U	0.093 U	0.09 U	0.09 U	0.1 U
Acenaphthylene	0.08 U	0.079 U	0.075 U	0.075 U	0.077 U	0.075 U	0.075 U	0.083 U
Anthracene	0.15 U	0.068 J	0.063 J	0.14 U	0.14 U	0.14 U	0.14 U	0.099 J
Benzo(a)anthracene	0.068 J	0.075 J	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U
Benzo(a)pyrene	0.068 J	0.077 J	0.11 U	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U
Benzo(b)fluoranthene	0.12 J	0.14 J	0.17 J	0.24 U	0.24 U	0.23 U	0.24 U	0.079 J
Benzo(g,h,i)perylene	0.17 U	0.17 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U	0.17 U
Benzo(k)fluoranthene	0.2 U	0.19 U	0.081 J	0.18 U	0.19 U	0.18 U	0.18 U	0.2 U
Chrysene	0.094	0.12	0.083	0.082 U	0.084 U	0.082 U	0.082 U	0.12
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.13 U
Fluoranthene	0.085 J	0.092 J	0.077 J	0.1 U	0.11 U	0.1 U	0.1 U	0.11 J
Fluorene	0.11 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.085	0.073 U	0.069 U	0.069 U	0.071 U	0.069 U	0.069 U	0.077 U
Naphthalene	0.19 U	0.18 U	0.17 U	0.17 U	0.18 U	0.17 U	0.17 U	0.19 U
Pentachlorophenol	0.29 U	0.28 U	0.15 J	0.27 U	0.28 U	0.27 U	0.27 U	0.26 J
Phenanthrene	0.16 U	0.16 U	0.15 U	0.15 U	0.15 U	0.15 U	0.15 U	0.17 U
Pyrene	0.078 J	0.083 J	0.14 U	0.14 U	0.14 U	0.14 U	0.14 U	0.07 J

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB631SB10 SEW297 10	MB632SB04 SEW288 4	MB633SB04 SEW288 4	MB634SB10 SEW288 6	MB635SS00 SEW289 0	MB636SB04 SEW289 4	MB637SB10 SEW289 10	MB638SS00 SEW283 0
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	670	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	65	NA	NA	NA	NA

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB639SB04 SEW283 4	MB640SB10 SEW283 10	MB641SS00 SEW287 0	MB642SB04 SEW287 4	MB643SB10 SEW287 10	MB644SS00 SEW301 0	MB645SB04 SEW301 4	MB646SB04 SEW301 4
Chemical								
Ammonia (mg/kg)								
Ammonia	14	NA	34	NA	NA	43	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	16	NA	19	NA	NA	13	NA	NA
Metals (mg/kg)								
Arsenic	4.6	9.2	190	38	29	260	42	29
Copper	14	NA	140	NA	NA	54	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	110,000	NA	8,600	NA	NA	5,900	NA	NA
Total Phenanthrene Degraders	7,700	NA	270	NA	NA	200	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	1 U	NA	NA	1 U	NA	NA
pH (pH)								
pH	6.98	NA	6.88	NA	NA	6.23	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	460	NA	530	NA	NA	650	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.072 U	0.078 U	0.071 U	0.07 U	0.07 U	1.4 U	1.4 U
2-Methylnaphthalene	0.15 U	0.14 U	0.17	0.14 U	0.14 U	0.14 U	110	110
Acenaphthene	0.093 U	0.092 U	0.094 J	0.09 U	0.09 U	0.064 J	140	120
Acenaphthylene	0.077 U	0.076 U	0.34	0.075 U	0.075 U	1.4	1.5 J	1.5 U
Anthracene	0.14 U	0.14 U	0.97	0.14 U	0.14 U	4.4	41	44
Benzo(a)anthracene	0.18	0.1 U	1	0.1	0.1 U	1.1	17	17
Benzo(a)pyrene	0.14	0.11 U	2.2	0.099 J	0.11 U	16	7.4	7.1
Benzo(b)fluoranthene	0.16 J	0.24 U	2.9	0.17 J	0.23 U	0.23 U	12	11
Benzo(g,h,i)perylene	0.16 U	0.16 U	0.82	0.16 U	0.16 U	5.7	1.4 J	1.5 J
Benzo(k)fluoranthene	0.078 J	0.19 U	1.4	0.087 J	0.18 U	4.2	3.7	5.4
Chrysene	0.15	0.084 U	1.8	0.13	0.082 U	4.9	21	22
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.31	0.11 U	0.11 U	1.3	2.3 U	2.3 U
Fluoranthene	0.24	0.1 U	1.8	0.075 J	0.1 U	2.8	110	110
Fluorene	0.11 U	0.1 U	0.14	0.1 U	0.1 U	0.62	100	93
Indeno(1,2,3-cd)pyrene	0.071 U	0.07 U	1.4	0.069 U	0.069 U	8.5	2.6	3.1
Naphthalene	0.18 U	0.18 U	0.36	0.17 U	0.17 U	0.078 J	200	180
Pentachlorophenol	0.28 U	0.28 U	6	0.073 J	0.27 U	14	43	41
Phenanthrene	0.16 U	0.15 U	0.6	0.15 U	0.15 U	2.6	210	230
Pyrene	0.22	0.14 U	1.3	0.067 J	0.14 U	2.9	76	79

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Sample ID: Sample Location: Sample Depth (ft):	MB639SB04 SEW283 4	MB640SB10 SEW283 10	MB641SS00 SEW287 0	MB642SB04 SEW287 4	MB643SB10 SEW287 10	MB644SS00 SEW301 0	MB645SB04 SEW301 4	MB646SB04 SEW301 4
Chemical								
TOC (mg/kg)								
TOC	1,600	NA	21,000	NA	NA	7,000	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	37	NA	200	NA	NA	290	NA	NA

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB647SB10 SEW301 10	MB650SS00 SEW305 0	MB651SB04 SEW305 4	MB652SB10 SEW305 10	MB653SB04 SEW306 4	MB654SB10 SEW306 10	MB655SS00 SEW279 0	MB656SB04 SEW279 4
Chemical								
Ammonia (mg/kg)								
Ammonia	46	NA	NA	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	17	NA	NA	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	87	47	3.6	2.4	2.4	2.8	4	2
Copper	26	NA	NA	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	14,000	NA	NA	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	3,100	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	NA	NA	NA	NA	NA	NA
pH (pH)								
pH	7.68	NA	NA	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	420	NA	NA	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	1.5 U	0.079 U	0.11 U	0.069 U	0.071 U	0.12 U	0.07 U	0.074 U
2-Methylnaphthalene	66	0.16 U	0.23 U	0.18	0.14 U	0.24 U	0.14 U	0.15 U
Acenaphthene	94	0.1 U	0.15 U	0.68	0.091 U	0.15 U	0.089 U	0.094 U
Acenaphthylene	1.5 J	0.28	0.12 U	0.073 U	0.076 U	0.12 U	0.082	0.078 U
Anthracene	36	1.1	0.22 U	0.53	0.14 U	0.23 U	0.2	0.14 U
Benzo(a)anthracene	12	1	0.16 U	0.23	0.1 U	0.17 U	0.4	0.1 J
Benzo(a)pyrene	7.9	4.8	0.17 U	0.091 J	0.11 U	0.18 U	0.6	0.11
Benzo(b)fluoranthene	11	5.3	0.38 U	0.22 J	0.24 U	0.39 U	1	0.091 J
Benzo(g,h,i)perylene	2.4 J	1.6	0.25 U	0.15 U	0.16 U	0.26 U	0.21	0.16 U
Benzo(k)fluoranthene	4.7	0.97	0.3 U	0.18 U	0.19 U	0.3 U	0.4	0.066 J
Chrysene	15	2	0.13 U	0.23	0.083 U	0.14 U	0.84	0.14
Dibenz(a,h)anthracene	2.5 U	0.13 U	0.18 U	0.11 U	0.11 U	0.19 U	0.11 U	0.12 U
Fluoranthene	82	0.93	0.17 U	1.3	0.1 U	0.17 U	1.5	0.17
Fluorene	67	0.12	0.16 U	0.83	0.1 U	0.17 U	0.1 U	0.11 U
Indeno(1,2,3-cd)pyrene	4.8	2.3	0.11 U	0.068 U	0.07 U	0.11 U	0.28	0.072 U
Naphthalene	130	0.19 U	0.34	0.23	0.18 U	0.29 U	0.082 J	0.18 U
Pentachlorophenol	24	9.3	0.44 U	0.27 U	0.27 U	0.45 U	0.29	0.28 U
Phenanthrene	140	0.38	0.12 J	2.2	0.15 U	0.25 U	0.5	0.091 J
Pyrene	54	1	0.22 U	0.69	0.14 U	0.23 U	0.95	0.22

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB647SB10 SEW301 10	MB650SS00 SEW305 0	MB651SB04 SEW305 4	MB652SB10 SEW305 10	MB653SB04 SEW306 4	MB654SB10 SEW306 10	MB655SS00 SEW279 0	MB656SB04 SEW279 4
Chemical								
TOC (mg/kg)								
TOC	4,500	NA	NA	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	300	NA	NA	NA	NA	NA	NA	NA

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB657SB10 SEW279 10	MB658SS00 SEW280 0	MB659SS01 SEW280 1	MB660SB04 SEW280 4	MB661SB10 SEW280 10	MB662SS00 SEW281 0	MB663SB04 SEW281 4	MB664SB10 SEW281 10
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	85	NA	32
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	13	NA	15
Metals (mg/kg)								
Arsenic	2.3	19	5.3	4.1	2.6	5.7	4.3	2.1
Copper	NA	NA	NA	NA	NA	32	NA	13
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	850,000	NA	19,000
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	90,000	NA	170
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	1 U	NA	1 U
pH (pH)								
pH	NA	NA	NA	NA	NA	6.27	NA	7.38
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	440	NA	460
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	1.4 U	0.07 U	0.069 U	0.074 U	0.073 U	0.074 U	0.069 U
2-Methylnaphthalene	0.15 U	2.8 U	0.083 J	0.14 U	0.15 U	0.15 U	0.15 U	0.14 U
Acenaphthene	0.094 U	1.8 U	0.069 J	0.077 J	0.095 U	0.094 U	0.095 U	0.089 U
Acenaphthylene	0.078 U	1.2 J	0.84	0.18	0.079 U	0.6	0.2	0.073 U
Anthracene	0.14 U	4.7	2.1	0.93	0.18	2.4	0.64	0.068 J
Benzo(a)anthracene	0.11 U	6	1.2	0.7	0.26	1.8	0.48	0.1 U
Benzo(a)pyrene	0.11 U	16	4.6	1.4	0.26	3.1	0.74	0.11 U
Benzo(b)fluoranthene	0.24 U	18	5.1	2.1	0.6	4.7	1	0.23 U
Benzo(g,h,i)perylene	0.16 U	5.7	1.5	0.56	0.12 J	1.4	0.36	0.15 U
Benzo(k)fluoranthene	0.19 U	6.7	1.1	0.74	0.2	1.8	0.56	0.18 U
Chrysene	0.085 U	15	2.9	1.7	0.45	3.1	0.79	0.081 U
Dibenz(a,h)anthracene	0.12 U	2.2 U	0.41	0.085 J	0.12 U	0.23	0.076 J	0.11 U
Fluoranthene	0.11 U	20	2.2	1.6	0.59	2.8	0.67	0.1 U
Fluorene	0.11 U	2 U	0.18	0.075 J	0.11 U	0.11	0.11 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.072 U	7.6	2.4	0.73	0.18	2	0.52	0.068 U
Naphthalene	0.18 U	3.4 U	0.14 J	0.087 J	0.18 U	0.12 J	0.18 U	0.17 U
Pentachlorophenol	0.28 U	56	8.8	14	2.6	0.77	0.11 J	0.27 U
Phenanthrene	0.16 U	1.4 J	0.37	0.23	0.14 J	0.43	0.11 J	0.15 U
Pyrene	0.14 U	22	2.1	5.2	0.53	2.6	0.65	0.14 U

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB657SB10 SEW279 10	MB658SS00 SEW280 0	MB659SS01 SEW280 1	MB660SB04 SEW280 4	MB661SB10 SEW280 10	MB662SS00 SEW281 0	MB663SB04 SEW281 4	MB664SB10 SEW281 10
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	8,800	NA	690
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	230	NA	52

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB665SB10 SEW281 10	MB666SB04 SEW285 4	MB667SB10 SEW285 9	MB668SB04 SEW286 4	MB669SB04 SEW292 4	MB670SB10 SEW292 10	MB672SB04 SEW284 4	MB673SB10 SEW284 10
Chemical								
Ammonia (mg/kg)								
Ammonia	12	NA	NA	16	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	15	NA	NA	16	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	2.1	150	7.7	2.6	5.9	74	3.6	2.9
Copper	13	NA	NA	14	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	5,400	NA	NA	250,000	NA	NA	NA	NA
Total Phenanthrene Degraders	200	NA	NA	18,000	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	NA	1 U	NA	NA	NA	NA
pH (pH)								
pH	7.6	NA	NA	6.94	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	450	NA	NA	460	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.072 U	1.4 U	0.074 U	0.071 U	0.072 U	1.5 U	0.072 U	0.068 U
2-Methylnaphthalene	0.14 U	2.9 U	0.07 J	0.14 U	0.15 U	3 U	0.14 U	0.14 U
Acenaphthene	0.092 U	1.8 U	0.087 J	0.091 U	0.085 J	1.9 U	0.092 U	0.087 U
Acenaphthylene	0.076 U	1.5 U	3.1	0.076 U	0.077 U	1.6 U	0.066 J	0.072 U
Anthracene	0.14 U	3.8	4.5	0.14 U	0.22	1.4 J	0.25	0.11 J
Benzo(a)anthracene	0.11	10	1.7	0.1 U	0.19	5.1	0.7	0.21
Benzo(a)pyrene	0.084 J	12	11	0.11 U	0.085 J	7.1	0.95	0.23
Benzo(b)fluoranthene	0.078 J	15	12	0.24 U	0.2 J	8.1	1.5	0.5
Benzo(g,h,i)perylene	0.16 U	2.7 J	4.7	0.16 U	0.16 U	2 J	0.27	0.093 J
Benzo(k)fluoranthene	0.19 U	7.8	2.9	0.18 U	0.073 J	3.8 J	0.65	0.24
Chrysene	0.08 J	17	4	0.083 U	0.23	8.8	1.1	0.6
Dibenz(a,h)anthracene	0.11 U	2.3 U	0.97	0.11 U	0.12 U	2.4 U	0.12 U	0.11 U
Fluoranthene	0.14	28	2	0.1 U	1	13	2.2	1.3
Fluorene	0.1 U	2.1 U	0.68	0.1 U	0.1 U	2.2 U	0.1 U	0.098 U
Indeno(1,2,3-cd)pyrene	0.07 U	3.7	6.9	0.07 U	0.071 U	2.5	0.37	0.13
Naphthalene	0.18 U	3.5 U	0.18 U	0.18 U	0.18 U	3.7 U	0.18 U	0.17 U
Pentachlorophenol	0.28 U	14	1	0.27 U	0.34	11	19	2.5
Phenanthrene	0.15 U	6.3	0.14 J	0.15 U	0.84	3.2 U	0.15 J	0.15 U
Pyrene	0.13 J	21	1.8	0.14 U	0.55	4.1	3.2	1.5

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB665SB10 SEW281 10	MB666SB04 SEW285 4	MB667SB10 SEW285 9	MB668SB04 SEW286 4	MB669SB04 SEW292 4	MB670SB10 SEW292 10	MB672SB04 SEW284 4	MB673SB10 SEW284 10
Chemical								
TOC (mg/kg)								
TOC	1,100	NA	NA	840	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	56	NA	NA	370	NA	NA	NA	NA

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB674SB04 SEW286 4	MB675SB10 SEW286 10	MB676SS00 SEW290 0	MB677SB04 SEW290 4	MB678SB10 SEW290 10	MB679SB10 SEW282 10	MB680SB04 SEW282 4	MB681SS00 SEW291 0
Chemical								
Ammonia (mg/kg)								
Ammonia	7	NA	NA	NA	NA	NA	NA	68
CEC (meq/100g)								
Cation Exchange Capacity	15	NA	NA	NA	NA	NA	NA	22
Dioxin (ppt)								
1234678-HpCDD	NA	NA	90,974 E	NA	NA	NA	NA	NA
1234678-HpCDF	NA	NA	27,173 E	NA	NA	NA	NA	NA
123478-HxCDD	NA	NA	625.3773 E	NA	NA	NA	NA	NA
123478-HxCDF	NA	NA	5,835 E	NA	NA	NA	NA	NA
1234789-HpCDF	NA	NA	2,341 E	NA	NA	NA	NA	NA
123678-HxCDD	NA	NA	17,750 E	NA	NA	NA	NA	NA
123678-HxCDF	NA	NA	1,742 E	NA	NA	NA	NA	NA
12378-PeCDD	NA	NA	325.439 E	NA	NA	NA	NA	NA
12378-PeCDF	NA	NA	2,030 E	NA	NA	NA	NA	NA
123789-HxCDD	NA	NA	2,694 E	NA	NA	NA	NA	NA
123789-HxCDF	NA	NA	259.5227 E	NA	NA	NA	NA	NA
234678-HxCDF	NA	NA	1,400 E	NA	NA	NA	NA	NA
23478-PeCDF	NA	NA	1,505 E	NA	NA	NA	NA	NA
2378-TCDD	NA	NA	31.5343 E	NA	NA	NA	NA	NA
2378-TCDF	NA	NA	844.4672 E	NA	NA	NA	NA	NA
OCDD	NA	NA	137,881 E	NA	NA	NA	NA	NA
OCDF	NA	NA	27,410 E	NA	NA	NA	NA	NA
TOTAL HpCDD	NA	NA	172,130 E	NA	NA	NA	NA	NA
TOTAL HpCDF	NA	NA	71,329 E	NA	NA	NA	NA	NA
TOTAL HxCDD	NA	NA	58,979 E	NA	NA	NA	NA	NA
TOTAL HxCDF	NA	NA	96,501 E	NA	NA	NA	NA	NA
TOTAL PeCDD	NA	NA	2,187 E	NA	NA	NA	NA	NA
TOTAL PeCDF	NA	NA	28,313 E	NA	NA	NA	NA	NA
TOTAL TCDD	NA	NA	483.7503 E	NA	NA	NA	NA	NA
TOTAL TCDF	NA	NA	2,076 E	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	2.6	2.5	27	4.3	2.4	4.6	2.8	6.7
Copper	14	NA	NA	NA	NA	NA	NA	20
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	130,000	NA	NA	NA	NA	NA	NA	2,900,000
Total Phenanthrene Degraders	13,000	NA	NA	NA	NA	NA	NA	30,000

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB674SB04 SEW286 4	MB675SB10 SEW286 10	MB676SS00 SEW290 0	MB677SB04 SEW290 4	MB678SB10 SEW290 10	MB679SB10 SEW282 10	MB680SB04 SEW282 4	MB681SS00 SEW291 0
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	1 U	NA	NA	NA	NA	NA	NA	1 U
pH (pH)								
pH	7.18	NA	NA	NA	NA	NA	NA	6.72
Phosphorus (mg/kg)								
Total Phosphorus	480	NA	NA	NA	NA	NA	NA	700
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.075 U	0.36 U	0.072 U	0.071 U	0.072 U	0.069 U	0.075 U
2-Methylnaphthalene	0.15 U	0.15 U	0.73 U	0.15 U	0.14 U	0.14 U	0.14 U	0.15 U
Acenaphthene	0.093 U	0.096 U	0.47 U	0.093 U	0.09 U	0.092 U	0.089 U	0.096 U
Acenaphthylene	0.077 U	0.08 U	1.3	0.077 U	0.075 U	0.076 U	0.073 U	0.08 U
Anthracene	0.14 U	0.14 U	4.2	0.14 U	0.14 U	0.14 U	0.13 U	0.14 U
Benzo(a)anthracene	0.11 U	0.11 U	2.5	0.1 U	0.065 J	0.1 U	0.1 U	0.11 U
Benzo(a)pyrene	0.11 U	0.11 U	34	0.28	0.15	0.11 U	0.11 U	0.11 U
Benzo(b)fluoranthene	0.24 U	0.25 U	35	0.42	0.29	0.24 U	0.23 U	0.12 J
Benzo(g,h,i)perylene	0.16 U	0.17 U	13	0.11 J	0.1 J	0.16 U	0.15 U	0.17 U
Benzo(k)fluoranthene	0.19 U	0.19 U	9.9	0.098 J	0.12 J	0.19 U	0.18 U	0.19 U
Chrysene	0.085 U	0.087 U	12	0.28	0.16	0.084 U	0.081 U	0.087 U
Dibenz(a,h)anthracene	0.12 U	0.12 U	3	0.12 U	0.11 U	0.11 U	0.11 U	0.12 U
Fluoranthene	0.11 U	0.11 U	3.9	0.13	0.12	0.1 U	0.1 U	0.093 J
Fluorene	0.11 U	0.11 U	0.77	0.1 U	0.1 U	0.1 U	0.099 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.071 U	0.073 U	15	0.12	0.14	0.07 U	0.068 U	0.073 U
Naphthalene	0.18 U	0.18 U	0.89 U	0.18 U	0.17 U	0.18 U	0.17 U	0.18 U
Pentachlorophenol	0.28 U	0.29 U	77	0.92	0.81	0.28 U	0.27 U	0.12 J
Phenanthrene	0.16 U	0.16 U	1.3	0.15 U	0.15 U	0.15 U	0.15 U	0.16 U
Pyrene	0.14 U	0.15 U	4.9	0.28	0.23	0.14 U	0.14 U	0.08 J
TOC (mg/kg)								
TOC	890	NA	NA	NA	NA	NA	NA	20,000
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	140	NA	NA	NA	NA	NA	NA	36

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB682SB04 SEW291 4	MB683SB10 SEW291 10	MB684SB04 SEW293 4	MB685SB10 SEW293 10	MB686SB04 SEW298 4	MB687SB10 SEW298 10	MB688SB04 SEW299 4	MB689SB10 SEW299 10
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	45	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	15	NA	NA	NA
Metals (mg/kg)								
Arsenic	2.5	2.1	230	8.5	2.8	1.9	2.1	2.4
Copper	NA	NA	NA	NA	12	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	490	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	9.9	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	1 U	NA	NA	NA
pH (pH)								
pH	NA	NA	NA	NA	7.31	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	420	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.071 U	0.07 U	0.075 U	0.071 U	0.07 U	0.071 U	0.072 U	NA
2-Methylnaphthalene	0.14 U	0.14 U	0.15 U	0.14 U	0.14 U	0.14 U	0.14 U	NA
Acenaphthene	0.091 U	0.09 U	0.097 U	0.091 U	0.1	0.091 U	0.092 U	NA
Acenaphthylene	0.075 U	0.074 U	0.3	0.075 U	0.074 U	0.075 U	0.076 U	NA
Anthracene	0.14 U	0.13 U	1	0.14 U	0.11 J	0.14 U	0.14 U	NA
Benzo(a)anthracene	0.1 U	0.1 U	1.5	0.1 U	0.076 J	0.1 U	0.1 U	NA
Benzo(a)pyrene	0.11 U	0.11 U	2.8	0.11 U	0.11 U	0.11 U	0.11 U	NA
Benzo(b)fluoranthene	0.24 U	0.23 U	4.4	0.065 J	0.07 J	0.24 U	0.24 U	NA
Benzo(g,h,i)perylene	0.16 U	0.16 U	0.77	0.16 U	0.16 U	0.16 U	0.16 U	NA
Benzo(k)fluoranthene	0.18 U	0.18 U	1.1	0.18 U	0.18 U	0.18 U	0.19 U	NA
Chrysene	0.083 U	0.081 U	3.3	0.083 U	0.11	0.083 U	0.083 U	NA
Dibenz(a,h)anthracene	0.11 U	0.11 U	0.27	0.11 U	0.11 U	0.11 U	0.11 U	NA
Fluoranthene	0.1 U	0.1 U	3.5	0.1 U	0.38	0.2	0.1 U	NA
Fluorene	0.1 U	0.1 U	0.12	0.1 U	0.16	0.1 U	0.1 U	NA
Indeno(1,2,3-cd)pyrene	0.07 U	0.068 U	1.1	0.069 U	0.069 U	0.07 U	0.07 U	NA
Naphthalene	0.17 U	0.17 U	0.091 J	0.17 U	0.17 U	0.18 U	0.18 U	NA
Pentachlorophenol	0.27 U	0.27 U	11	0.14 J	0.27 U	0.18 J	0.27 U	NA
Phenanthrene	0.15 U	0.15 U	0.58	0.15 U	0.59	0.18	0.15 U	NA
Pyrene	0.14 U	0.14 U	2.6	0.14 U	0.24	0.11 J	0.14 U	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB682SB04 SEW291 4	MB683SB10 SEW291 10	MB684SB04 SEW293 4	MB685SB10 SEW293 10	MB686SB04 SEW298 4	MB687SB10 SEW298 10	MB688SB04 SEW299 4	MB689SB10 SEW299 10
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	1,100	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	85	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB690SS00 SEW293 0	MB692SB04 SEW300 4	MB693SB04 SEW300 4	MB694SB10 SEW300 9
Chemical				
Ammonia (mg/kg)				
Ammonia	NA	NA	NA	37
CEC (meq/100g)				
Cation Exchange Capacity	NA	NA	NA	15
Dioxin (ppt)				
1234678-HpCDD	92,172 E	NA	NA	NA
1234678-HpCDF	12,670 E	NA	NA	NA
123478-HxCDD	2,427 E	NA	NA	NA
123478-HxCDF	2,491 E	NA	NA	NA
1234789-HpCDF	956.3702 E	NA	NA	NA
123678-HxCDD	14,178 E	NA	NA	NA
123678-HxCDF	649.1928 E	NA	NA	NA
12378-PeCDD	2,810 E	NA	NA	NA
12378-PeCDF	421.7787 E	NA	NA	NA
123789-HxCDD	8,587 E	NA	NA	NA
123789-HxCDF	EN	NA	NA	NA
234678-HxCDF	590.5524 E	NA	NA	NA
23478-PeCDF	506.9846 E	NA	NA	NA
2378-TCDD	868.239 E	NA	NA	NA
2378-TCDF	105.8722 E	NA	NA	NA
OCDD	137,039 E	NA	NA	NA
OCDF	19,523 E	NA	NA	NA
TOTAL HpCDD	179,913 E	NA	NA	NA
TOTAL HpCDF	46,821 E	NA	NA	NA
TOTAL HxCDD	87,186 E	NA	NA	NA
TOTAL HxCDF	39,195 E	NA	NA	NA
TOTAL PeCDD	18,035 E	NA	NA	NA
TOTAL PeCDF	8,652 E	NA	NA	NA
TOTAL TCDD	7,159 E	NA	NA	NA
TOTAL TCDF	624.2977 E	NA	NA	NA
Metals (mg/kg)				
Arsenic	330	2.2	2.4	1.9
Copper	NA	NA	NA	13
Natural Biological Activity (CFU/g)				
Heterotrophic Plate Count	NA	NA	NA	650
Total Phenanthrene Degraders	NA	NA	NA	3

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Southeast Waste Disposal Trench Data

Sample ID: Sample Location: Sample Depth (ft):	MB690SS00 SEW293 0	MB692SB04 SEW300 4	MB693SB04 SEW300 4	MB694SB10 SEW300 9
Chemical				
Nitrate/Nitrite (mg/kg)				
Nitrate/Nitrite	NA	NA	NA	1 U
pH (pH)				
pH	NA	NA	NA	7.21
Phosphorus (mg/kg)				
Total Phosphorus	NA	NA	NA	440
SVOCs (mg/kg)				
2-Chloronaphthalene	0.073 U	0.07 U	0.073 U	0.074 U
2-Methylnaphthalene	0.12 J	0.14 U	0.15 U	0.15 U
Acenaphthene	0.14	0.09 U	0.094 U	0.094 U
Acenaphthylene	1.5	0.075 U	0.077 U	0.078 U
Anthracene	5.8	0.14 U	0.14 U	0.14 U
Benzo(a)anthracene	12	0.1 U	0.11 U	0.11 U
Benzo(a)pyrene	16	0.11 U	0.11 U	0.11 U
Benzo(b)fluoranthene	28 D	0.23 U	0.24 U	0.25 U
Benzo(g,h,i)perylene	4.5	0.16 U	0.16 U	0.16 U
Benzo(k)fluoranthene	3.3	0.18 U	0.19 U	0.19 U
Chrysene	23	0.082 U	0.085 U	0.086 U
Dibenz(a,h)anthracene	0.97	0.11 U	0.12 U	0.12 U
Fluoranthene	14	0.1 U	0.11 U	0.11 U
Fluorene	0.58	0.1 U	0.11 U	0.11 U
Indeno(1,2,3-cd)pyrene	6.2	0.069 U	0.071 U	0.072 U
Naphthalene	0.25	0.17 U	0.18 U	0.18 U
Pentachlorophenol	61 D	0.27 U	0.28 U	0.28 U
Phenanthrene	1.9	0.15 U	0.16 U	0.16 U
Pyrene	19	0.14 U	0.14 U	0.15 U
TOC (mg/kg)				
TOC	NA	NA	NA	740
Total Kjeldahl Nitrogen (mg/kg)				
Total Kjeldahl Nitrogen	NA	NA	NA	67

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Tank Farm Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB068GB01 TFA436 1	MB069GB01 TFA437 1	MB070GB01 TFA438 8	MB071GB01 TFA439 5	MB078GB01 TFA436 1	MB500SB04 TFA248 4	MB501SB10 TFA248 10	MB502SB04 TFA253 4
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	24	NA	82
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	16	NA	14
Metals (mg/kg)								
Arsenic	12.8	25.5	3	2.1	10.5	2.1	1.3	8.4
Copper	NA	NA	NA	NA	NA	12	NA	15
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	2,400	NA	10,000
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	200	NA	33
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	1 U	NA	1 U
pH (pH)								
pH	NA	NA	NA	NA	NA	7.11	NA	7.54
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	400	NA	320
SVOCs (mg/kg)								
2-Chloronaphthalene	0.059 U	0.054 U	0.37	0.05 U	0.063 U	0.072 U	0.077 U	14 U
2-Methylnaphthalene	0.12 U	0.11 U	8.8	0.1 U	0.19	0.14 U	2.6	540
Acenaphthene	0.075 U	0.07 U	27 D	0.064 U	0.081 U	0.092 U	1	310
Acenaphthylene	0.062 U	0.058 U	0.92	0.053 U	0.13	0.076 U	0.082 U	15 U
Anthracene	0.11 U	0.1 U	28 D	0.097 U	0.68	1.8	3.1	190
Benzo(a)anthracene	0.085 U	0.078 U	17 D	0.1	1.5	2	1.3	63
Benzo(a)pyrene	0.089 U	0.086	7.4	0.077 U	0.89	1.7	0.68	22 J
Benzo(b)fluoranthene	0.16 J	0.12 J	12	0.17 U	1.5	3.3	1.2	34 J
Benzo(g,h,i)perylene	0.12 J	0.086 J	2.2	0.11 U	0.45	0.82	0.17 U	32 U
Benzo(k)fluoranthene	0.1 J	0.14 U	6.3	0.13 U	0.63	0.98	0.38	13 J
Chrysene	0.069 U	0.063 U	20 D	0.059 U	1.7	3.6	1.9	69
Dibenz(a,h)anthracene	0.094 U	0.087 U	0.55	0.08 U	0.1 U	0.17	0.12 U	23 U
Fluoranthene	0.2	0.079 U	60 D	0.12	2.8	9.9	6.7	400
Fluorene	0.085 U	0.078 U	15	0.072 U	0.091 U	0.1 U	1.6	260
Indeno(1,2,3-cd)pyrene	0.058 U	0.083	2.4	0.049 U	0.44	0.92	0.35	14 U
Naphthalene	0.091 J	0.13 U	13	0.12 U	0.33	0.18 U	0.19 U	560
Pentachlorophenol	49 D	0.43	4.3	0.49	750 D	390 D	320 D	56 U
Phenanthrene	0.13 U	0.12 U	65 D	0.11 U	0.89	0.15 U	4.5	860
Pyrene	0.27	0.11 U	48 D	0.15	3.2	15	0.15 U	220

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Sample ID: Sample Location: Sample Depth (ft):	MB068GB01 TFA436 1	MB069GB01 TFA437 1	MB070GB01 TFA438 8	MB071GB01 TFA439 5	MB078GB01 TFA436 1	MB500SB04 TFA248 4	MB501SB10 TFA248 10	MB502SB04 TFA253 4
Chemical								
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	8,000	NA	20,000
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	180	NA	68

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Tank Farm Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB503SB10 TFA253 10	MB504SB04 TFA254 4	MB505SB10 TFA254 10	MB506SB04 TFA245 4	MB507SB10 TFA245 10	MB508SB04 TFA246 4	MB509SB10 TFA246 10	MB510SB04 TFA247 4
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	20	NA	NA	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	17	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	6.4	3.9	3.3	2.9	2.6	2.6	2.5	3.1
Copper	NA	NA	15	NA	NA	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	16,000	NA	NA	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	1 U	NA	NA	NA	NA	NA
pH (pH)								
pH	NA	NA	7.1	NA	NA	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	500	NA	NA	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	15 U	0.075 U	0.075 U	0.07 U	0.07 U	0.071 U	0.07 U	0.073 U
2-Methylnaphthalene	840	0.1 J	0.088 J	0.14 U	0.14 U	0.14 U	0.14 U	0.15 U
Acenaphthene	650	0.097 U	0.096 U	0.09 U	0.089 U	0.092 U	0.09 U	0.094 U
Acenaphthylene	13 J	0.08 U	0.079 U	0.075 U	0.074 U	0.076 U	0.074 U	0.078 U
Anthracene	380	0.33	0.081 J	0.14 U	0.13 U	0.14 U	0.14 U	0.14 U
Benzo(a)anthracene	120	0.071 J	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U
Benzo(a)pyrene	45	0.11 J	0.11 U	0.077 J	0.11 U	0.11 U	0.11 U	0.11 U
Benzo(b)fluoranthene	75	0.26	0.17 J	0.14 J	0.23 U	0.24 U	0.23 U	0.24 U
Benzo(g,h,i)perylene	33 U	0.17 U	0.17 U	0.16 U	0.16 U	0.16 U	0.16 U	0.16 U
Benzo(k)fluoranthene	28 J	0.2 U	0.19 U	0.18 U	0.18 U	0.19 U	0.18 U	0.19 U
Chrysene	130	0.21	0.12	0.087	0.081 U	0.083 U	0.082 U	0.086 U
Dibenz(a,h)anthracene	24 U	0.12 U	0.12 U	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U
Fluoranthene	750	0.39	0.22	0.12	0.1 U	0.08 J	0.1 U	0.11 U
Fluorene	600	0.11 U	0.11 U	0.1 U	0.1 U	0.1 U	0.1 U	0.11 U
Indeno(1,2,3-cd)pyrene	15 U	0.074 U	0.073 U	0.069 U	0.068 U	0.07 U	0.069 U	0.072 U
Naphthalene	1,000	0.097 J	0.11 J	0.077 J	0.17 U	0.18 U	0.17 U	0.18 U
Pentachlorophenol	57 U	13	3.1	0.22 J	0.1 J	0.27 U	0.27 U	0.084 J
Phenanthrene	1,700	0.64	0.21	0.089 J	0.15 U	0.15 U	0.15 U	0.16 U
Pyrene	410	0.32	0.15	0.075 J	0.14 U	0.068 J	0.14 U	0.14 U

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Sample ID: Sample Location: Sample Depth (ft):	MB503SB10 TFA253 10	MB504SB04 TFA254 4	MB505SB10 TFA254 10	MB506SB04 TFA245 4	MB507SB10 TFA245 10	MB508SB04 TFA246 4	MB509SB10 TFA246 10	MB510SB04 TFA247 4
Chemical								
TOC (mg/kg)								
TOC	NA	NA	4,600	NA	NA	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	140	NA	NA	NA	NA	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB511SB10 TFA247 10	MB512SB04 TFA249 4	MB513SB10 TFA249 10	MB514SB04 TFA252 4	MB515SB10 TFA252 10	MB516SS00 TFA251 0	MB517SB04 TFA251 4	MB518SB10 TFA251 10
Chemical								
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	**27,973 E**	NA	NA
1234678-HpCDF	NA	NA	NA	NA	NA	**7,251 E**	NA	NA
123478-HxCDD	NA	NA	NA	NA	NA	**1,214 E**	NA	NA
123478-HxCDF	NA	NA	NA	NA	NA	**2,705 E**	NA	NA
1234789-HpCDF	NA	NA	NA	NA	NA	**1,561 E**	NA	NA
123678-HxCDD	NA	NA	NA	NA	NA	**8,029 E**	NA	NA
123678-HxCDF	NA	NA	NA	NA	NA	**1,016 E**	NA	NA
12378-PeCDD	NA	NA	NA	NA	NA	**875.1392 E**	NA	NA
12378-PeCDF	NA	NA	NA	NA	NA	**819.6333 E**	NA	NA
123789-HxCDD	NA	NA	NA	NA	NA	**3,038 E**	NA	NA
123789-HxCDF	NA	NA	NA	NA	NA	**148.7037 E**	NA	NA
234678-HxCDF	NA	NA	NA	NA	NA	**1,140 E**	NA	NA
23478-PeCDF	NA	NA	NA	NA	NA	**649.3357 E**	NA	NA
2378-TCDD	NA	NA	NA	NA	NA	**202.8848 E**	NA	NA
2378-TCDF	NA	NA	NA	NA	NA	**285.164 E**	NA	NA
OCDD	NA	NA	NA	NA	NA	**64,601 E**	NA	NA
OCDF	NA	NA	NA	NA	NA	**25,719 E**	NA	NA
TOTAL HpCDD	NA	NA	NA	NA	NA	**54,258 E**	NA	NA
TOTAL HpCDF	NA	NA	NA	NA	NA	**18,722 E**	NA	NA
TOTAL HxCDD	NA	NA	NA	NA	NA	**22,783 E**	NA	NA
TOTAL HxCDF	NA	NA	NA	NA	NA	**17,764 E**	NA	NA
TOTAL PeCDD	NA	NA	NA	NA	NA	**6,665 E**	NA	NA
TOTAL PeCDF	NA	NA	NA	NA	NA	**5,893 E**	NA	NA
TOTAL TCDD	NA	NA	NA	NA	NA	**1,893 E**	NA	NA
TOTAL TCDF	NA	NA	NA	NA	NA	**1,054 E**	NA	NA
Metals (mg/kg)								
Arsenic	**2.8**	**3.5**	**2.6**	**8.2**	**3**	NA	**3.2**	**2.7**
SVOCs (mg/kg)								
2-Chloronaphthalene	0.074 U	0.074 U	0.075 U	0.077 U	0.082 U	NA	0.078 U	**0.37**
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.15 U	0.16 U	NA	0.16 U	0.15 U
Acenaphthene	0.095 U	0.095 U	0.096 U	0.098 U	0.1 U	NA	**150 D**	**270 D**
Acenaphthylene	0.079 U	**0.15**	0.079 U	0.081 U	0.087 U	NA	**7.1**	**8.7**
Anthracene	0.14 U	**0.28**	0.14 U	0.15 U	**0.12 J**	NA	**150 D**	**62 D**
Benzo(a)anthracene	0.11 U	**1.6**	**0.079 J**	0.11 U	0.12 U	NA	**150 D**	**92 D**
Benzo(a)pyrene	0.11 U	**1.4**	**0.079 J**	0.12 U	0.12 U	NA	**59 D**	**32 D**

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Sample ID: Sample Location: Sample Depth (ft):	MB511SB10 TFA247 10	MB512SB04 TFA249 4	MB513SB10 TFA249 10	MB514SB04 TFA252 4	MB515SB10 TFA252 10	MB516SS00 TFA251 0	MB517SB04 TFA251 4	MB518SB10 TFA251 10
Chemical								
Benzo(b)fluoranthene	0.25 U	3.1	0.14 J	0.26 U	0.27 U	NA	140 D	67 D
Benzo(g,h,i)perylene	0.17 U	0.38	0.17 U	0.17 U	0.18 U	NA	14	11
Benzo(k)fluoranthene	0.19 U	0.97	0.19 U	0.2 U	0.21 U	NA	51 D	37 J D
Chrysene	0.087 U	2.5	0.12	0.089 U	0.095 U	NA	150 D	76 D
Dibenz(a,h)anthracene	0.12 U	0.093 J	0.12 U	0.12 U	0.13 U	NA	0.13 U	0.12 U
Fluoranthene	0.11 U	12	0.31	0.11 U	0.12 U	NA	890 D	590 D
Fluorene	0.11 U	0.11 U	0.11 U	0.11 U	0.12 U	NA	74 D	97 D
Indeno(1,2,3-cd)pyrene	0.073 U	0.52	0.073 U	0.075 U	0.08 U	NA	21	16
Naphthalene	0.18 U	0.22	0.18 U	0.19 U	0.2 U	NA	0.86	1.2
Pentachlorophenol	0.29 U	93 D	2.5	0.87	0.23 J	NA	59 J D	25
Phenanthrene	0.16 U	0.28	0.16 U	0.16 U	0.17 U	NA	130 D	250 D
Pyrene	0.15 U	9.2	0.27	0.15 U	0.16 U	NA	500 D	290 D

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Tank Farm Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB519SB04 TFA250 4	MB520SB10 TFA250 10	MB521SB04 TFA255 4	MB522SB10 TFA255 10	MB523SS00 TFA256 0	MB524SB04 TFA256 4	MB525SB10 TFA256 10	MB526SB04 TFA257 4
Chemical								
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	24,286 E	NA	NA	NA
1234678-HpCDF	NA	NA	NA	NA	5,122 E	NA	NA	NA
123478-HxCDD	NA	NA	NA	NA	789.2993 E	NA	NA	NA
123478-HxCDF	NA	NA	NA	NA	1,449 E	NA	NA	NA
1234789-HpCDF	NA	NA	NA	NA	658.0827 E	NA	NA	NA
123678-HxCDD	NA	NA	NA	NA	5,828 E	NA	NA	NA
123678-HxCDF	NA	NA	NA	NA	473.3595 E	NA	NA	NA
12378-PeCDD	NA	NA	NA	NA	390.4916 E	NA	NA	NA
12378-PeCDF	NA	NA	NA	NA	330.2095 E	NA	NA	NA
123789-HxCDD	NA	NA	NA	NA	1,594 E	NA	NA	NA
123789-HxCDF	NA	NA	NA	NA	63.5481 E	NA	NA	NA
234678-HxCDF	NA	NA	NA	NA	469.057 E	NA	NA	NA
23478-PeCDF	NA	NA	NA	NA	294.385 E	NA	NA	NA
2378-TCDD	NA	NA	NA	NA	51.4608 E	NA	NA	NA
2378-TCDF	NA	NA	NA	NA	79.844 E	NA	NA	NA
OCDD	NA	NA	NA	NA	87,732 E	NA	NA	NA
OCDF	NA	NA	NA	NA	43,259 E	NA	NA	NA
TOTAL HpCDD	NA	NA	NA	NA	46,219 E	NA	NA	NA
TOTAL HpCDF	NA	NA	NA	NA	13,804 E	NA	NA	NA
TOTAL HxCDD	NA	NA	NA	NA	19,409 E	NA	NA	NA
TOTAL HxCDF	NA	NA	NA	NA	16,920 E	NA	NA	NA
TOTAL PeCDD	NA	NA	NA	NA	1,510 E	NA	NA	NA
TOTAL PeCDF	NA	NA	NA	NA	6,542 E	NA	NA	NA
TOTAL TCDD	NA	NA	NA	NA	371.9315 E	NA	NA	NA
TOTAL TCDF	NA	NA	NA	NA	406.1073 E	NA	NA	NA
Metals (mg/kg)								
Arsenic	4.1	3.3	4	2.8	NA	4.6	2.4	3
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.075 U	0.073 U	0.072 U	NA	0.074 U	0.072 U	0.077 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U	0.09 J	NA	0.15 U	0.14 U	0.15 U
Acenaphthene	2	0.067 J	0.094 U	0.093 U	NA	0.35	0.16	0.098 U
Acenaphthylene	1.5	0.39	0.17	0.083	NA	0.43	0.32	0.28
Anthracene	3.2	0.71	0.26	0.11 J	NA	0.94	0.86	0.66
Benzo(a)anthracene	3.4	0.34	0.067 J	0.1 J	NA	0.9	1.1	1.1
Benzo(a)pyrene	4.8	0.59	0.16	0.11	NA	1.4	0.91	1.2

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Sample ID: Sample Location: Sample Depth (ft):	MB519SB04 TFA250 4	MB520SB10 TFA250 10	MB521SB04 TFA255 4	MB522SB10 TFA255 10	MB523SS00 TFA256 0	MB524SB04 TFA256 4	MB525SB10 TFA256 10	MB526SB04 TFA257 4
Chemical								
Benzo(b)fluoranthene	7.6	1.1	0.26	0.13 J	NA	2.9	1.8	1.1
Benzo(g,h,i)perylene	7.3	1.2	0.17	0.069 J	NA	0.59	0.4	0.49
Benzo(k)fluoranthene	2	0.28	0.19 U	0.19 U	NA	0.85	0.59	0.38
Chrysene	4.5	0.62	0.15	0.13	NA	1.4	1.4	1.3
Dibenz(a,h)anthracene	0.58	0.12 U	0.12 U	0.12 U	NA	0.12 U	0.12 U	0.12 U
Fluoranthene	8.1	0.48	0.17	0.17	NA	2.3	2.4	2.2
Fluorene	0.92	0.14	0.082 J	0.1 U	NA	0.19	0.21	0.095 J
Indeno(1,2,3-cd)pyrene	5	0.86	0.17	0.071 U	NA	0.99	0.65	0.65
Naphthalene	0.093 J	0.18 U	0.18 U	0.18 U	NA	0.18 U	0.079 J	0.19 U
Pentachlorophenol	1.2	5.6	0.77	0.3	NA	5.2	0.32	0.1 J
Phenanthrene	1.9	0.15 J	0.18 U	0.077 J	NA	0.57	1.2	1.2
Pyrene	6.4	0.5	0.19	0.18	NA	2.3	2.2	2.4

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Sample ID: Sample Location: Sample Depth (ft):	MB527SB10 TFA257 10
Chemical	
Metals (mg/kg)	
Arsenic	3.1
SVOCs (mg/kg)	
2-Chloronaphthalene	0.093 U
2-Methylnaphthalene	0.19 U
Acenaphthene	0.12 U
Acenaphthylene	0.1
Anthracene	0.35
Benzo(a)anthracene	0.083 J
Benzo(a)pyrene	0.14 U
Benzo(b)fluoranthene	0.61
Benzo(g,h,i)perylene	0.21 U
Benzo(k)fluoranthene	0.24 U
Chrysene	0.11 U
Dibenz(a,h)anthracene	0.15 U
Fluoranthene	0.11 J
Fluorene	0.094 J
Indeno(1,2,3-cd)pyrene	0.091 U
Naphthalene	0.23 U
Pentachlorophenol	0.48
Phenanthrene	0.086 J
Pyrene	0.096 J

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Creosote Tank Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB072GB01 CTA441 4	MB550SB04 CTA258 4	MB551SB10 CTA258 10	MB552SB04 CTA259 4	MB553SB10 CTA259 10	MB554SB04 CTA260 4	MB555SB10 CTA260 10	MB558SS00 CTA262 0
Chemical								
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	NA	NA	11.5041 E
1234678-HpCDF	NA	NA	NA	NA	NA	NA	NA	2.5441 E
123478-HxCDD	NA	NA	NA	NA	NA	NA	NA	N
123478-HxCDF	NA	NA	NA	NA	NA	NA	NA	N
1234789-HpCDF	NA	NA	NA	NA	NA	NA	NA	N
123678-HxCDD	NA	NA	NA	NA	NA	NA	NA	N
123678-HxCDF	NA	NA	NA	NA	NA	NA	NA	N
12378-PeCDD	NA	NA	NA	NA	NA	NA	NA	N
12378-PeCDF	NA	NA	NA	NA	NA	NA	NA	N
123789-HxCDD	NA	NA	NA	NA	NA	NA	NA	N
123789-HxCDF	NA	NA	NA	NA	NA	NA	NA	N
234678-HxCDF	NA	NA	NA	NA	NA	NA	NA	N
23478-PeCDF	NA	NA	NA	NA	NA	NA	NA	N
2378-TCDD	NA	NA	NA	NA	NA	NA	NA	N
2378-TCDF	NA	NA	NA	NA	NA	NA	NA	0.5515 E
OCDD	NA	NA	NA	NA	NA	NA	NA	127.4979 E
OCDF	NA	NA	NA	NA	NA	NA	NA	5.4608 E
TOTAL HpCDD	NA	NA	NA	NA	NA	NA	NA	23.7884 E
TOTAL HpCDF	NA	NA	NA	NA	NA	NA	NA	7.8525 E
TOTAL HxCDD	NA	NA	NA	NA	NA	NA	NA	10.5292 E
TOTAL HxCDF	NA	NA	NA	NA	NA	NA	NA	2.8692 E
TOTAL PeCDD	NA	NA	NA	NA	NA	NA	NA	N
TOTAL PeCDF	NA	NA	NA	NA	NA	NA	NA	N
TOTAL TCDD	NA	NA	NA	NA	NA	NA	NA	N
TOTAL TCDF	NA	NA	NA	NA	NA	NA	NA	0.5515 E
Metals (mg/kg)								
Arsenic	4.5	2.4	2.3	5.9	2.2	2.8	2.3	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.054 U	0.072 U	0.07 U	0.076 U	0.069 U	0.069 U	0.078 U	NA
2-Methylnaphthalene	0.11 U	0.14 U	0.14 U	3.1	0.15	0.14 U	0.16 U	NA
Acenaphthene	0.69 U	0.092 U	0.089 U	9	0.24	0.089 U	0.1 U	NA
Acenaphthylene	0.057 U	0.076 U	0.074 U	0.079 J	0.074 U	0.074 U	0.083 U	NA
Anthracene	1 U	0.074 J	0.064 J	4.2	0.13 J	0.16	0.15 U	NA
Benzo(a)anthracene	0.77 U	0.1 U	0.11	2.3	0.1	0.28	0.11 U	NA
Benzo(a)pyrene	0.082 U	0.15	0.17	0.92	0.13	0.22	0.12 U	NA

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Creosote Tank Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB072GB01 CTA441 4	MB550SB04 CTA258 4	MB551SB10 CTA258 10	MB552SB04 CTA259 4	MB553SB10 CTA259 10	MB554SB04 CTA260 4	MB555SB10 CTA260 10	MB558SS00 CTA262 0
Chemical								
Benzo(b)fluoranthene	0.18 U	0.19 J	0.24	1.4	0.19 J	0.19 J	0.26 U	NA
Benzo(g,h,i)perylene	0.12 U	0.12 J	0.088 J	0.18	0.062 J	0.074 J	0.17 U	NA
Benzo(k)fluoranthene	0.14 U	0.19 U	0.064 J	0.79	0.18 U	0.09 J	0.2 U	NA
Chrysene	0.62 U	0.083 U	0.15	2.5	0.13	0.32	0.091 U	NA
Dibenz(a,h)anthracene	0.086 U	0.11 U	0.11 U	0.12 U	0.11 U	0.11 U	0.13 U	NA
Fluoranthene	0.78 U	0.072 J	0.24	13	0.4	0.44	0.11 U	NA
Fluorene	0.77 U	0.1 U	0.1 U	7.4	0.2	0.1 U	0.11 U	NA
Indeno(1,2,3-cd)pyrene	0.052 U	0.07 U	0.11	0.32	0.068 U	0.068 J	0.077 U	NA
Naphthalene	0.13 U	0.18 U	0.17 U	2.7	0.33	0.17 U	0.07 J	NA
Pentachlorophenol	2.1 U	0.1 J	0.086 J	3.2	0.52	0.14 J	0.11 J	NA
Phenanthrene	0.11 U	0.15 U	0.15 U	16	0.38	0.4	0.17 U	NA
Pyrene	1.1 U	0.068 J	0.26	8.8	0.38	0.43	0.16 U	NA

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Creosote Tank Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB559SB04 CTA262 4	MB560SB10 CTA262 10	MB561SB10 CTA262 10	MB562SB04 CTA263 4	MB563SB10 CTA263 10	MB564SB04 CTA264 4	MB565SB10 CTA264 10	MB566SS00 CTA268 0
Chemical								
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	NA	NA	NA	6,752 E
1234678-HpCDF	NA	NA	NA	NA	NA	NA	NA	656.1178 E
123478-HxCDD	NA	NA	NA	NA	NA	NA	NA	128.8274 E
123478-HxCDF	NA	NA	NA	NA	NA	NA	NA	114.6555 E
1234789-HpCDF	NA	NA	NA	NA	NA	NA	NA	54.2227 E
123678-HxCDD	NA	NA	NA	NA	NA	NA	NA	542.7723 E
123678-HxCDF	NA	NA	NA	NA	NA	NA	NA	57.0128 E
12378-PeCDD	NA	NA	NA	NA	NA	NA	NA	71.2585 E
12378-PeCDF	NA	NA	NA	NA	NA	NA	NA	20.8789 E
123789-HxCDD	NA	NA	NA	NA	NA	NA	NA	262.1444 E
123789-HxCDF	NA	NA	NA	NA	NA	NA	NA	2.5025 E
234678-HxCDF	NA	NA	NA	NA	NA	NA	NA	36.4339 E
23478-PeCDF	NA	NA	NA	NA	NA	NA	NA	20.441 E
2378-TCDD	NA	NA	NA	NA	NA	NA	NA	5.7386 E
2378-TCDF	NA	NA	NA	NA	NA	NA	NA	11.3437 E
OCDD	NA	NA	NA	NA	NA	NA	NA	16,051 E
OCDF	NA	NA	NA	NA	NA	NA	NA	1,854 E
TOTAL HpCDD	NA	NA	NA	NA	NA	NA	NA	12,614 E
TOTAL HpCDF	NA	NA	NA	NA	NA	NA	NA	2,278 E
TOTAL HxCDD	NA	NA	NA	NA	NA	NA	NA	2,211 E
TOTAL HxCDF	NA	NA	NA	NA	NA	NA	NA	2,056 E
TOTAL PeCDD	NA	NA	NA	NA	NA	NA	NA	285.0117 E
TOTAL PeCDF	NA	NA	NA	NA	NA	NA	NA	478.7056 E
TOTAL TCDD	NA	NA	NA	NA	NA	NA	NA	43.6227 E
TOTAL TCDF	NA	NA	NA	NA	NA	NA	NA	52.2729 E
Metals (mg/kg)								
Arsenic	1.6	1.9	2	9.2	6.4	3.3	2	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.074 U	0.077 U	0.074 U	0.073 U	0.072 U	0.076 U	NA
2-Methylnaphthalene	250 D	260 D	370 D	0.15 U	0.15 U	0.14 U	0.15 U	NA
Acenaphthene	180 D	190 D	270 D	0.094 U	0.065 J	0.092 U	0.097 U	NA
Acenaphthylene	4.3	5	6.2	0.095	0.077 U	0.076 U	0.081 U	NA
Anthracene	27 D	35 D	42 D	0.22	0.14 J	0.14 U	0.15 U	NA
Benzo(a)anthracene	34 D	36 D	49 D	0.52	0.17	0.1 U	0.11 U	NA
Benzo(a)pyrene	12	15	20	0.44	0.18	0.11 U	0.12 U	NA

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Creosote Tank Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB559SB04 CTA262 4	MB560SB10 CTA262 10	MB561SB10 CTA262 10	MB562SB04 CTA263 4	MB563SB10 CTA263 10	MB564SB04 CTA264 4	MB565SB10 CTA264 10	MB566SS00 CTA268 0
Chemical								
Benzo(b)fluoranthene	19	21 J D	27 D	0.72	0.25	0.24 U	0.25 U	NA
Benzo(g,h,i)perylene	2.2	2.7	3.7	0.2	0.069 J	0.16 U	0.17 U	NA
Benzo(k)fluoranthene	7.9	7.2	10	0.31	0.069 J	0.19 U	0.2 U	NA
Chrysene	28 D	35 D	43 D	0.94	0.28	0.084 U	0.089 U	NA
Dibenz(a,h)anthracene	0.75	0.77	0.92	0.12 U	0.12 U	0.11 U	0.12 U	NA
Fluoranthene	250 D	300 D	400 D	2.1	0.58	0.1 U	0.11 U	NA
Fluorene	180 D	210 D	250 D	0.11 U	0.13	0.1 U	0.11 U	NA
Indeno(1,2,3-cd)pyrene	3.4	4.3	5.7	0.25	0.099	0.07 U	0.074 U	NA
Naphthalene	520 D	550 D	690 D	0.18 U	0.18 U	0.18 U	0.19 U	NA
Pentachlorophenol	0.28 U	0.28 U	0.29 U	3.5	1.3	0.22 J	0.072 J	NA
Phenanthrene	470 D	550 D	670 D	0.16 J	0.65	0.15 U	0.16 U	NA
Pyrene	120 D	150 D	190 D	1.8	0.45	0.14 U	0.15 U	NA

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Creosote Tank Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB567SB04 CTA265 4	MB568SB10 CTA265 10	MB569SB04 CTA266 4	MB570SB10 CTA266 10	MB571SB04 CTA267 4	MB572SB10 CTA267 10	MB573SB04 CTA268 4	MB574SB04 CTA268 4
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	15	6	6.7	NA	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	13	13	12	NA	NA	NA
Metals (mg/kg)								
Arsenic	2.8	2.3	2.4	2.2	2.9	3.8	3.6	3
Copper	NA	NA	10	11	14	NA	NA	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	64,000	18,000	40,000	NA	NA	NA
Total Phenanthrene Degraders	NA	NA	200	5,000	1,300	NA	NA	NA
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	1 U	1 U	1 U	NA	NA	NA
pH (pH)								
pH	NA	NA	6.25	6.19	6.43	NA	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	220	190	200	NA	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.075 U	0.071 U	0.074 U	0.071 U	0.072 U	0.073 U	0.075 U	0.072 U
2-Methylnaphthalene	0.15 U	0.14 U	0.15 U	0.14 U	0.15 U	0.15 U	0.15 U	0.14 U
Acenaphthene	0.096 U	0.091 U	0.095 U	0.091 U	0.18	0.084 J	0.096 U	0.092 U
Acenaphthylene	0.079 U	0.14	0.079 U	0.076 U	0.11	0.077 U	0.08 U	0.076 U
Anthracene	0.11 J	0.75	0.14 U	0.14 U	0.21	0.14 U	0.14 U	0.07 J
Benzo(a)anthracene	0.19	4.3	0.094 J	0.1 U	0.12	0.11 U	0.08 J	0.16
Benzo(a)pyrene	0.26	5.3	0.077 J	0.11 U	0.092 J	0.11 U	0.21	0.11 J
Benzo(b)fluoranthene	0.66	10	0.14 J	0.24 U	0.11 J	0.24 U	0.39	0.21 J
Benzo(g,h,i)perylene	0.15 J	0.92	0.17 U	0.16 U	0.16 U	0.16 U	0.078 J	0.16 U
Benzo(k)fluoranthene	0.2	2.5	0.19 U	0.19 U	0.19 U	0.19 U	0.11 J	0.078 J
Chrysene	0.35	5.7	0.1	0.083 U	0.085	0.085 U	0.14	0.3
Dibenz(a,h)anthracene	0.069 J	0.11 U	0.12 U	0.11 U	0.12 U	0.12 U	0.12 U	0.11 U
Fluoranthene	0.3	1.5	0.14	0.1 U	0.21	0.11 U	0.088 J	0.24
Fluorene	0.11 U	0.33	0.11 U	0.1 U	0.075 J	0.11 U	0.11 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.17	1.3	0.073 U	0.07 U	0.073	0.071 U	0.073 U	0.07 U
Naphthalene	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U	0.18 U
Pentachlorophenol	0.1 J	0.27 U	0.23 J	0.27 U	0.52	0.073 J	0.091 J	0.07 J
Phenanthrene	0.13 J	0.62	0.1 J	0.15 U	0.17	0.16 U	0.16 U	0.093 J
Pyrene	0.25	1.5	0.13 J	0.14 U	0.58	0.2	0.067 J	0.24

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Creosote Tank Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB567SB04 CTA265 4	MB568SB10 CTA265 10	MB569SB04 CTA266 4	MB570SB10 CTA266 10	MB571SB04 CTA267 4	MB572SB10 CTA267 10	MB573SB04 CTA268 4	MB574SB04 CTA268 4
Chemical								
TOC (mg/kg)								
TOC	NA	NA	1,900	640	670	NA	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	54	40	100	NA	NA	NA

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Creosote Tank Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB575SB10 CTA268 10	MB576SB04 CTA269 4	MB577SB10 CTA269 10
Chemical			
Metals (mg/kg)			
Arsenic	2.8	4.4	3
SVOCs (mg/kg)			
2-Chloronaphthalene	0.073 U	0.073 U	0.073 U
2-Methylnaphthalene	0.15 U	0.15 U	0.15 U
Acenaphthene	0.14	0.094 U	0.093 U
Acenaphthylene	0.077 U	0.078 U	0.077 U
Anthracene	0.17	0.14 U	0.14 U
Benzo(a)anthracene	0.24	0.11 U	0.1 U
Benzo(a)pyrene	0.55	0.11 U	0.11 U
Benzo(b)fluoranthene	0.59	0.24 U	0.24 U
Benzo(g,h,i)perylene	0.54	0.16 U	0.16 U
Benzo(k)fluoranthene	0.16 J	0.19 U	0.19 U
Chrysene	0.3	0.085 U	0.085 U
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.12 U
Fluoranthene	1.1	0.11 U	0.11 U
Fluorene	0.065 J	0.11 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.42	0.072 U	0.071 U
Naphthalene	0.18 U	0.18 U	0.18 U
Pentachlorophenol	0.28 U	0.12 J	0.28 U
Phenanthrene	0.86	0.16 U	0.16 U
Pyrene	1.2	0.14 U	0.14 U

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Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB073GB01 CDA443 1	MB450SS00 CDA350 0	MB451SB04 CDA351 4	MB452SB10 CDA351 10	MB453SB04 CDA352 4	MB454SB10 CDA352 6	MB455SB04 CDA353 4	MB456SB10 CDA353 10
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	25	71	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	14	15	NA
Dioxin (ppt)								
1234678-HpCDD	NA	17,320 E	NA	NA	NA	NA	NA	NA
1234678-HpCDF	NA	1,788 E	NA	NA	NA	NA	NA	NA
123478-HxCDD	NA	87.3239 E	NA	NA	NA	NA	NA	NA
123478-HxCDF	NA	743.572 E	NA	NA	NA	NA	NA	NA
1234789-HpCDF	NA	222.7394 E	NA	NA	NA	NA	NA	NA
123678-HxCDD	NA	614.3521 E	NA	NA	NA	NA	NA	NA
123678-HxCDF	NA	127.7563 E	NA	NA	NA	NA	NA	NA
12378-PeCDD	NA	23.9247 E	NA	NA	NA	NA	NA	NA
12378-PeCDF	NA	28.9871 E	NA	NA	NA	NA	NA	NA
123789-HxCDD	NA	320.6173 E	NA	NA	NA	NA	NA	NA
123789-HxCDF	NA	5.9295 E	NA	NA	NA	NA	NA	NA
234678-HxCDF	NA	65.1593 E	NA	NA	NA	NA	NA	NA
23478-PeCDF	NA	100.1774 E	NA	NA	NA	NA	NA	NA
2378-TCDD	NA	N	NA	NA	NA	NA	NA	NA
2378-TCDF	NA	12.114 E	NA	NA	NA	NA	NA	NA
OCDD	NA	35,226 E	NA	NA	NA	NA	NA	NA
OCDF	NA	6,163 E	NA	NA	NA	NA	NA	NA
TOTAL HpCDD	NA	32,446 E	NA	NA	NA	NA	NA	NA
TOTAL HpCDF	NA	8,008 E	NA	NA	NA	NA	NA	NA
TOTAL HxCDD	NA	3,403 E	NA	NA	NA	NA	NA	NA
TOTAL HxCDF	NA	4,562 E	NA	NA	NA	NA	NA	NA
TOTAL PeCDD	NA	165.5023 E	NA	NA	NA	NA	NA	NA
TOTAL PeCDF	NA	991.4325 E	NA	NA	NA	NA	NA	NA
TOTAL TCDD	NA	372.3456 E	NA	NA	NA	NA	NA	NA
TOTAL TCDF	NA	689.8133 E	NA	NA	NA	NA	NA	NA
Metals (mg/kg)								
Arsenic	2.5	15	2.8	2.4	2.3	2.5	14	11
Copper	NA	19	NA	NA	NA	14	23	NA
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	230,000	710,000	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	9,600	150,000	NA

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Sample ID: Sample Location: Sample Depth (ft):	MB073GB01 CDA443 1	MB450SS00 CDA350 0	MB451SB04 CDA351 4	MB452SB10 CDA351 10	MB453SB04 CDA352 4	MB454SB10 CDA352 6	MB455SB04 CDA353 4	MB456SB10 CDA353 10
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	1.1	1 U	NA
pH (pH)								
pH	NA	NA	NA	NA	NA	6.59	5.91	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	230	200	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.053 U	0.071 U	0.076 U	0.075 U	0.074 U	0.073 U	0.073 U	0.079 U
2-Methylnaphthalene	0.11 U	0.69	0.15 U	0.15 U	0.15 U	0.15 U	0.79	0.5
Acenaphthene	0.068 U	0.11	0.097 U	0.096 U	0.095 U	0.094 U	0.36	0.36
Acenaphthylene	0.056 U	0.1	0.08 U	0.08 U	0.079 U	0.078 U	0.41	0.31
Anthracene	0.1 U	0.78	0.15 U	0.15 U	0.14 U	0.14 U	1.8	0.97
Benzo(a)anthracene	0.076 U	0.6	0.11 U	0.11 U	0.11 U	0.11 U	2.9	0.89
Benzo(a)pyrene	0.08 U	1.4	0.087 J	0.12	0.11 U	0.11 U	1.8	0.54
Benzo(b)fluoranthene	0.18 U	2.7	0.13 J	0.095 J	0.25 U	0.24 U	4.4	2.1
Benzo(g,h,i)perylene	0.12 U	0.75	0.17 U	0.17 U	0.16 U	0.16 U	0.59	0.34
Benzo(k)fluoranthene	0.14 U	0.58	0.11 J	0.2 U	0.19 U	0.19 U	0.87	0.37
Chrysene	0.061 U	1.6	0.088 U	0.088 U	0.086 U	0.085 U	3.8	1.7
Dibenz(a,h)anthracene	0.084 U	0.11 U	0.12 U	0.12 U	0.12 U	0.12 U	0.12 U	0.13 U
Fluoranthene	0.077 U	1.3	0.11 U	0.11 U	0.11 U	0.11 U	3.6	1.6
Fluorene	0.076 U	0.065 J	0.11 U	0.11 U	0.11 U	0.11 U	0.31	0.34
Indeno(1,2,3-cd)pyrene	0.052 U	0.9	0.074 U	0.074 U	0.072 U	0.072 U	0.9	0.53
Naphthalene	0.13 U	0.81	0.19 U	0.18 U	0.18 U	0.18 U	17	4
Pentachlorophenol	0.2 U	4.2	0.29 U	0.29 U	0.28 U	0.28 U	0.35	0.34
Phenanthrene	0.11 U	1.1	0.16 U	0.16 U	0.16 U	0.16 U	1.3	0.85
Pyrene	0.1 U	0.95	0.15 U	0.15 U	0.15 U	0.14 U	1.9	0.9
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	4,100	13,000	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	170	540	NA

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Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB457SB04 CDA354 4	MB458SB10 CDA354 10	MB459SS00 CDA355 0	MB460SB04 CDA355 4	MB461SB04 CDA355 4	MB462SB10 CDA355 10	MB463SB04 CDA356 4	MB464SB10 CDA356 6
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	55	NA	NA	NA	NA	40
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	16	NA	NA	NA	NA	15
Metals (mg/kg)								
Arsenic	5.8	2	13	17	15	16	3.8	2.7
Copper	NA	NA	24	NA	NA	NA	NA	13
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	460,000	NA	NA	NA	NA	440,000
Total Phenanthrene Degraders	NA	NA	5,500	NA	NA	NA	NA	7,200
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	1 U	NA	NA	NA	NA	1 U
pH (pH)								
pH	NA	NA	5.97	NA	NA	NA	NA	6.2
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	210	NA	NA	NA	NA	180
SVOCs (mg/kg)								
2-Chloronaphthalene	0.093 U	0.073 U	0.076 U	0.073 U	0.077 U	0.086 U	0.073 U	0.074 U
2-Methylnaphthalene	0.19 U	0.15 U	0.82	0.2	0.32	130 D	0.15 U	0.15 U
Acenaphthene	0.12 U	0.093 U	0.28	0.16	0.31	42 D	0.093 U	0.095 U
Acenaphthylene	0.098 U	0.077 U	0.31	0.4	0.42	0.092 U	0.077 U	0.078 U
Anthracene	0.18	0.14 U	0.89	3.8	3.7	7.6	0.14 U	0.14 U
Benzo(a)anthracene	0.16	0.1 U	1.3	3.1	2.7	3.7	0.11 U	0.11 U
Benzo(a)pyrene	0.1 J	0.11 U	1.6	2.6	0.97	2	0.077 J	0.074 J
Benzo(b)fluoranthene	0.68	0.067 J	1.9	3.7	3.2	2.8	0.12 J	0.098 J
Benzo(g,h,i)perylene	0.13 J	0.16 U	0.61	0.69	0.76	0.59	0.16 U	0.16 U
Benzo(k)fluoranthene	0.15 J	0.19 U	0.48	1	0.88	0.78	0.19 U	0.19 U
Chrysene	0.33	0.085 U	1.4	3.4	3	3.5	0.11	0.089
Dibenz(a,h)anthracene	0.15 U	0.12 U	0.13	0.12 U	0.13	0.14 U	0.12 U	0.12 U
Fluoranthene	0.32	0.11 U	0.94	5	4.4	24	0.092 J	0.11 U
Fluorene	0.13 U	0.1 U	0.27	0.46	0.58	31 D	0.1 U	0.11 U
Indeno(1,2,3-cd)pyrene	0.19	0.071 U	0.77	0.95	0.97	0.8	0.071 U	0.072 U
Naphthalene	0.35	0.18 U	18	1.4	0.93	2,200 D	0.18 U	0.18 U
Pentachlorophenol	0.44	0.28 U	0.076 J	0.28 U	0.3 U	0.16 J	0.28	0.28 U
Phenanthrene	0.18 J	0.16 U	0.77	3.2	3.5	18	0.16 U	0.16 U
Pyrene	0.19	0.14 U	0.63	2.9	2.8	13	0.14 U	0.15 U

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Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB457SB04 CDA354 4	MB458SB10 CDA354 10	MB459SS00 CDA355 0	MB460SB04 CDA355 4	MB461SB04 CDA355 4	MB462SB10 CDA355 10	MB463SB04 CDA356 4	MB464SB10 CDA356 6
Chemical								
TOC (mg/kg)								
TOC	NA	NA	9,500	NA	NA	NA	NA	2,000
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	510	NA	NA	NA	NA	140

Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB465SB04 CDA357 4	MB466SB10 CDA357 10	MB467SS00 CDA358 0	MB468SB04 CDA358 4	MB469SB10 CDA358 10	MB470SB04 CDA359 4	MB471SB10 CDA359 10	MB472SB10 CDA359 10
Chemical								
Metals (mg/kg)								
Arsenic	3.6	2.7	2.3	3	2	5.7	4.2	2.9
SVOCs (mg/kg)								
2-Chloronaphthalene	0.073 U	0.072 U	0.07 U	0.071 U	0.07 U	0.07 U	0.074 U	0.07 U
2-Methylnaphthalene	0.15 U	0.14 U	0.14 U	0.14 U	0.13 J	0.14 U	0.18	0.14 J
Acenaphthene	0.094 U	0.092 U	0.089 U	0.091 U	0.066 J	0.089 U	0.085 J	0.09 U
Acenaphthylene	0.078 U	0.076 U	0.074 U	0.075 U	0.17	0.074 U	0.078 U	0.075 U
Anthracene	0.17	0.17	0.14	0.15	0.53	0.17	0.14 J	0.16
Benzo(a)anthracene	0.21	0.13	0.35	0.33	0.94	0.15	0.14	0.2
Benzo(a)pyrene	0.27	0.13	0.46	0.16	2	0.26	0.57	0.71
Benzo(b)fluoranthene	0.71	0.32	1	0.46	3	0.72	0.46	0.62
Benzo(g,h,i)perylene	0.21	0.18	0.39	0.16 U	0.77	0.24	0.33	0.42
Benzo(k)fluoranthene	0.18 J	0.13 J	0.31	0.065 J	1.3	0.18 U	0.19 U	0.18 U
Chrysene	0.45	0.23	0.39	0.42	1.8	0.26	0.28	0.37
Dibenz(a,h)anthracene	0.12 U	0.11 U	0.07 J	0.11 U	0.15	0.11 U	0.12 U	0.067 J
Fluoranthene	0.41	0.3	0.33	0.62	2.5	0.28	0.14	0.2
Fluorene	0.11 U	0.1 U	0.1 U	0.1 U	0.076 J	0.1 U	0.11 U	0.1 U
Indeno(1,2,3-cd)pyrene	0.24	0.19	0.51	0.07 U	0.94	0.23	0.33	0.51
Naphthalene	0.09 J	0.085 J	0.17 J	0.18 U	0.38	0.12 J	0.49	0.45
Pentachlorophenol	0.42	0.24 J	0.064 J	0.27 U	0.97	0.26 J	0.28 U	0.27 U
Phenanthrene	0.16	0.15	0.2	0.29	0.73	0.17	0.21	0.27
Pyrene	0.31	0.25	0.27	0.53	1.7	0.2	0.087 J	0.12 J

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Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB473SB04 CDA360 4	MB474SB10 CDA360 10	MB475SB04 CDA361 4	MB476SB10 CDA361 10	MB477SS00 CDA362 0	MB478SB04 CDA362 4	MB479SB10 CDA362 10	MB480SS00 CDA363 0
Chemical								
Ammonia (mg/kg)								
Ammonia	NA	NA	NA	NA	NA	9	NA	NA
CEC (meq/100g)								
Cation Exchange Capacity	NA	NA	NA	NA	NA	16	NA	NA
Dioxin (ppt)								
1234678-HpCDD	NA	NA	NA	NA	31,768 E	NA	NA	NA
1234678-HpCDF	NA	NA	NA	NA	2,294 E	NA	NA	NA
123478-HxCDD	NA	NA	NA	NA	EN	NA	NA	NA
123478-HxCDF	NA	NA	NA	NA	622.7724 E	NA	NA	NA
1234789-HpCDF	NA	NA	NA	NA	205.5234 E	NA	NA	NA
123678-HxCDD	NA	NA	NA	NA	976.8437 E	NA	NA	NA
123678-HxCDF	NA	NA	NA	NA	132.0573 E	NA	NA	NA
12378-PeCDD	NA	NA	NA	NA	37.6596 E	NA	NA	NA
12378-PeCDF	NA	NA	NA	NA	70.63 E	NA	NA	NA
123789-HxCDD	NA	NA	NA	NA	307.9654 E	NA	NA	NA
123789-HxCDF	NA	NA	NA	NA	13.6018 E	NA	NA	NA
234678-HxCDF	NA	NA	NA	NA	132.9495 E	NA	NA	NA
23478-PeCDF	NA	NA	NA	NA	115.8903 E	NA	NA	NA
2378-TCDD	NA	NA	NA	NA	N	NA	NA	NA
2378-TCDF	NA	NA	NA	NA	34.9978 E	NA	NA	NA
OCDD	NA	NA	NA	NA	66,494 E	NA	NA	NA
OCDF	NA	NA	NA	NA	5,766 E	NA	NA	NA
TOTAL HpCDD	NA	NA	NA	NA	65,135 E	NA	NA	NA
TOTAL HpCDF	NA	NA	NA	NA	9,588 E	NA	NA	NA
TOTAL HxCDD	NA	NA	NA	NA	4,795 E	NA	NA	NA
TOTAL HxCDF	NA	NA	NA	NA	6,731 E	NA	NA	NA
TOTAL PeCDD	NA	NA	NA	NA	111.6083 E	NA	NA	NA
TOTAL PeCDF	NA	NA	NA	NA	1,385 E	NA	NA	NA
TOTAL TCDD	NA	NA	NA	NA	6.5339 E	NA	NA	NA
TOTAL TCDF	NA	NA	NA	NA	84.7941 E	NA	NA	NA
Metals (mg/kg)								
Arsenic	6.7	2.9	96	3.6	6	2.5	2.3	94
Natural Biological Activity (CFU/g)								
Heterotrophic Plate Count	NA	NA	NA	NA	NA	470	NA	NA
Total Phenanthrene Degraders	NA	NA	NA	NA	NA	10	NA	NA

Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB473SB04 CDA360 4	MB474SB10 CDA360 10	MB475SB04 CDA361 4	MB476SB10 CDA361 10	MB477SS00 CDA362 0	MB478SB04 CDA362 4	MB479SB10 CDA362 10	MB480SS00 CDA363 0
Chemical								
Nitrate/Nitrite (mg/kg)								
Nitrate/Nitrite	NA	NA	NA	NA	NA	1 U	NA	NA
pH (pH)								
pH	NA	NA	NA	NA	NA	5.96	NA	NA
Phosphorus (mg/kg)								
Total Phosphorus	NA	NA	NA	NA	NA	460	NA	NA
SVOCs (mg/kg)								
2-Chloronaphthalene	0.07 U	0.073 U	0.075 U	0.07 U	0.07 U	0.068 U	0.072 U	0.071 U
2-Methylnaphthalene	0.14 U	0.15 U	0.15 U	0.14 U	0.14 U	0.14 U	0.33	0.14 U
Acenaphthene	0.09 U	0.094 U	0.096 U	0.09 U	0.089 U	0.088 U	0.72	0.086 J
Acenaphthylene	0.075 U	0.078 U	0.079 U	0.074 U	0.44	0.072 U	0.071 J	0.071 J
Anthracene	0.11 J	0.14 U	0.2	0.14 U	1.5	0.13 U	0.99	0.18
Benzo(a)anthracene	0.18	0.11 U	0.35	0.1 U	0.6	0.099 U	0.52	0.38
Benzo(a)pyrene	0.3	0.11 U	0.44	0.11 U	2.8	0.067 J	0.45	0.43
Benzo(b)fluoranthene	0.64	0.065 J	1.5	0.079 J	3.4	0.14 J	0.87	0.74
Benzo(g,h,i)perylene	0.12 J	0.16 U	0.48	0.16 U	1.8	0.15 U	0.72	0.28
Benzo(k)fluoranthene	0.24	0.19 U	0.22	0.18 U	1.2	0.18 U	0.19 U	0.29
Chrysene	0.48	0.097	0.84	0.082 U	1.6	0.09	0.61	0.41
Dibenz(a,h)anthracene	0.11 U	0.12 U	0.09 J	0.11 U	0.11 U	0.11 U	0.12 U	0.071 J
Fluoranthene	0.41	0.11 U	0.85	0.1 U	1.3	0.061 J	1.4	0.53
Fluorene	0.1 U	0.11 U	0.11 U	0.1 U	0.1	0.098 U	0.61	0.1 U
Indeno(1,2,3-cd)pyrene	0.18	0.072 U	0.52	0.069 U	2.1	0.067 U	0.65	0.38
Naphthalene	0.17 U	0.18 U	0.14 J	0.17 U	0.12 J	0.17 U	2.3	0.16 J
Pentachlorophenol	0.59	0.28 U	2.1	0.27 U	5.3	0.11 J	0.28 U	0.27 U
Phenanthrene	0.12 J	0.16 U	0.26	0.15 U	0.33	0.15 U	2.4	0.25
Pyrene	0.31	0.14 U	0.49	0.14 U	1.6	0.14 U	0.97	0.45
TOC (mg/kg)								
TOC	NA	NA	NA	NA	NA	790	NA	NA
Total Kjeldahl Nitrogen (mg/kg)								
Total Kjeldahl Nitrogen	NA	NA	NA	NA	NA	120	NA	NA

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Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB481SB04 CDA363 4	MB482SB10 CDA363 10	MB483SB04 CDA364 4	MB484SB10 CDA364 10	MB488SB10 CDA356 6
Chemical					
Ammonia (mg/kg)					
Ammonia	NA	NA	NA	NA	23
CEC (meq/100g)					
Cation Exchange Capacity	NA	NA	NA	NA	14
Metals (mg/kg)					
Arsenic	4.6	6.9	44	41	2.7
Copper	NA	NA	NA	NA	13
Natural Biological Activity (CFU/g)					
Heterotrophic Plate Count	NA	NA	NA	NA	330,000
Total Phenanthrene Degraders	NA	NA	NA	NA	19,000
Nitrate/Nitrite (mg/kg)					
Nitrate/Nitrite	NA	NA	NA	NA	1 U
pH (pH)					
pH	NA	NA	NA	NA	6.07
Phosphorus (mg/kg)					
Total Phosphorus	NA	NA	NA	NA	180
SVOCs (mg/kg)					
2-Chloronaphthalene	0.072 U	0.075 U	0.079 U	0.076 U	0.074 U
2-Methylnaphthalene	0.15 U	0.15 U	0.11 J	0.081 J	0.15 U
Acenaphthene	0.093 U	0.096 U	0.093 J	0.097 U	0.095 U
Acenaphthylene	0.077 U	0.08 U	0.17	0.12	0.079 U
Anthracene	0.14 U	0.15 U	0.59	0.4	0.14 U
Benzo(a)anthracene	0.1 U	0.11 U	1.8	1.3	0.075 J
Benzo(a)pyrene	0.11 U	0.11 U	2.9	2.1	0.11 U
Benzo(b)fluoranthene	0.24 U	0.14 J	6.1	4.1	0.12 J
Benzo(g,h,i)perylene	0.16 U	0.17 U	1	0.8	0.17 U
Benzo(k)fluoranthene	0.19 U	0.089 J	0.77	1	0.19 U
Chrysene	0.084 U	0.14	3.3	2.4	0.1
Dibenz(a,h)anthracene	0.12 U	0.12 U	0.23	0.18	0.12 U
Fluoranthene	0.11 U	0.11	3.5	2.3	0.12
Fluorene	0.1 U	0.11 U	0.12	0.081 J	0.11 U
Indeno(1,2,3-cd)pyrene	0.071 U	0.074 U	1.2	1.1	0.073 U
Naphthalene	0.18 U	0.19 U	0.27	0.18 J	0.18 U
Pentachlorophenol	0.28 U	0.087 J	0.93	0.52	0.29 U
Phenanthrene	0.15 U	0.16 U	1.1	0.54	0.16 U
Pyrene	0.14 U	0.091 J	2.4	1.7	0.1 J

Appendix A
Summary of Analytical Data
McCormick and Baxter
Portland, Oregon

Creosote Dock Area Data

Sample ID: Sample Location: Sample Depth (ft):	MB481SB04 CDA363 4	MB482SB10 CDA363 10	MB483SB04 CDA364 4	MB484SB10 CDA364 10	MB488SB10 CDA356 6
Chemical					
TOC (mg/kg)					
TOC	NA	NA	NA	NA	2,600
Total Kjeldahl Nitrogen (mg/kg)					
Total Kjeldahl Nitrogen	NA	NA	NA	NA	130

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B

B Quality Assurance Reports

B-1 RD Data Validation Memoranda - February 1997

B-2 EPA Dioxin Data Validation Memoranda - March 1997

B 3 EPA Composite Dioxin Data Validation Memoranda - June 1997

B-4 Supplemental RD Data Validation Memoranda - October 1997

B-1 RD Data Validation Memoranda February 1997

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International Specialists in the Environment

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MEMORANDUM

DATE: February 12, 1997

TO: Kevin Smith, Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, Chemist, E & E, Seattle, WA MW

THRU: Andrew Hafferty, Chemist, E & E, Seattle, WA AH

SUBJ: **Organic Data Quality Assurance Review, McCormick and Baxter Removal Site, Portland, OR**

REF: OT9080

The data quality assurance review of 46 soil samples collected from the McCormick and Baxter Removal site in Portland, Oregon, has been completed. Polynuclear Aromatic Hydrocarbon Compounds (EPA Method 8270) analyses were performed by Sound Analytical Services, Tacoma, WA.

The samples were numbered:

MB134SB04	MB135SB10	MB131SS00	MB132SB04	MB133SB10	MB136SB04
MB137SB10	MB141SS00	MB114SB04	MB115SB10	MB145SS00	MB146SB04
MB147SB10	MB143SB04	MB144SB10	MB138SS00	MB142SS00	MB139SB04
MB140SB10	MB600SS00	MB601SB04	MB602SB10	MB603SB04	MB604SB10
MB605SB04	MB606SB10	MB607SB04	MB608SB04	MB700SS00	MB701SB04
MB702SB10	MB703SS00	MB704SS00	MB705SB04	MB706SB10	MB650SS00
MB651SB04	MB652SB10	MB653SB04	MB654SB10	MB609SB10	MB612SS00
MB610SB04	MB611SB10	MB613SB04	MB614SB10		

<u>Data Qualifications</u>:

1. Sample Holding Times: Acceptable.

The samples were maintained at 4°C (± 2°C). The samples were collected on December 13 or 14, 1996, were extracted by December 18, 1996, and were analyzed by December 24, 1996, therefore meeting QC criteria of less than 7 days between collection and extraction and less than 40 days between extraction and analysis for soil samples.

2. GC/MS Tuning Criteria: Acceptable.

Decafluorotriphenylphosphine (DFTPP) tuning of the mass spectrometer was conducted at the beginning of the 12-hour analytical sequence for the associated samples, all results were normalized to m/z 198, all calculations were verified as correct, and all results were within the required criteria.

3. Initial Calibration: Acceptable.

Calculations were verified as correct for at least one analyte per internal standard. All percent relative standard deviations (%RSDs) were less than the control limit of 30.0 %, and all individual relative response factors (RRFs) and average RRFs for the initial calibration were greater than the 0.050 control limit.

4. Continuing Calibration: Satisfactory.

Calculations were verified as correct for at least one analyte per internal standard. All individual RRFs for the continuing calibration were greater than the 0.050 control limit, and all percent differences (% Ds) were less than the control limit of 25.0 %, except the following:

ANALYTE	% D	ASSOCIATED SAMPLE	QUALIFIER
Benzo(b)fluoranthene	- 26.6 %	MB143SB04	J

5. Internal Standards: Acceptable.

Areas of the internal standards were within the control limits of 50 % to 200 % of the associated 12-hour calibration standard. Retention times were within 30 seconds of the 12-hour standard.

6. Error Determination: Not Performed.

Samples necessary for site specific bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

7. Blanks: Acceptable.

A method blank was analyzed at the required frequency of every 12 hours beginning with the DFTPP injection for each matrix, preparation technique, and analysis system. A method blank was analyzed for the appropriate type of analysis. No target analytes were detected in any associated blanks.

8. System Monitoring Compounds (SMC): Satisfactory.

All recoveries of the system monitoring compounds (surrogates) were greater than 10 %. Several samples had one surrogate outlier which slightly exceeded the upper QC limit; no action was taken based on one surrogate outlier per sample. Sample MB143SB04 had three surrogates with recoveries greater than listed QC limits; all positive results associated with the undiluted sample analysis were qualified as estimated quantities (J).

9. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

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10. Matrix Spikes: Acceptable.

Recoveries of all spiked analytes were within the required control limits for both the matrix spike and matrix spike duplicate analyses except for one pyrene recovery; no action was taken based on this discrepancy.

11. Duplicates: Acceptable.

Relative percent differences (RPDs) of all spiked analytes were within the required control limits.

12. Target Compound Identification: Acceptable.

All target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12 hour standard, all ions present in the standard mass spectrum were present in the sample mass spectrum, the abundance of these ions agreed within ± 20 % between the standard and sample spectrum, and all ions present at greater than 10 % in the sample mass spectrum but not in the standard mass spectrum were accounted for.

13. Target Compound Quantitation and CRQLs: Acceptable.

Concentrations of all reported analytes were correctly calculated.

14. Laboratory Contact: Not Required.

Laboratory contact was not required.

15. Overall Assessment of Data for Use

Several samples were diluted and reanalyzed due to high analyte concentrations in the original analysis. Where applicable, the laboratory listed the diluted analysis results on the original data sheet along with a "D" qualifier, indicating the result is from a diluted analysis.

Laboratory-provided "J" qualfiers are provided in the "Flag" column of each data sheet to indicate a result that is greater than the Contract Required Quantitation Limit but less than the Practical Quantitation Limit.

The overall usefulness of the data is based on the criteria outlined in the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004), and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (EPA 540/R-94/012). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

<u>Data Qualifiers and Definitions</u>

U - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or because quality control criteria limits were not met.

UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because Quality Control criteria were not met.

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB134SB04
Lab ID:	61603-01
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	92.92

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	88		23	120
2 - Fluorobiphenyl	74		30	115
p - Terphenyl - d14	76		18	137
Phenol - d5	86		24	113
2 - Fluorophenol	96		25	121
2,4,6 - Tribromophenol	81		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	240000	3500	
2-Methylnaphthalene	92000	2800	
2-Chloronaphthalene	ND	1400 U	
Acenaphthylene	ND	1500 U	
Acenaphthene	95000	1800	
Fluorene	110000	2000	
Pentachlorophenol	160000	5400	
Phenanthrene	240000	3000	
Anthracene	43000	2700	
Fluoranthene	130000	2100	
Pyrene	79000	2800	
Benzo(a)anthracene	28000	2000	
Chrysene	30000	1600	
Benzo(b)fluoranthene	22000	4700	
Benzo(k)fluoranthene	8100	3700	
Benzo(a)pyrene	11000	2100	
Indeno(1,2,3-cd)pyrene	3300	1400	
Dibenz(a,h)anthracene	ND	2300 U	
Benzo(g,h,i)perylene	1700	3100	J

MN 1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB135SB10
Lab ID:	61603-02
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	91.75

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	98		23	120
2 - Fluorobiphenyl	51		30	115
p - Terphenyl - d14	68		18	137
Phenol - d5	85		24	113
2 - Fluorophenol	67		25	121
2,4,6 - Tribromophenol	76		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	620000	8600	D
2-Methylnaphthalene	230000	2800	
2-Chloronaphthalene	ND	1400 U	
Acenaphthylene	2900	1500	
Acenaphthene	230000	1800	
Fluorene	220000	2000	
Pentachlorophenol	220000	5400	
Phenanthrene	400000	3000	
Anthracene	74000	2700	
Fluoranthene	190000	2000	
Pyrene	110000	2800	
Benzo(a)anthracene	39000	2000	
Chrysene	46000	1600	
Benzo(b)fluoranthene	ND	4700 U	
Benzo(k)fluoranthene	14000	3700	
Benzo(a)pyrene	14000	2100	
Indeno(1,2,3-cd)pyrene	3400	1400	
Dibenz(a,h)anthracene	ND	2200 U	
Benzo(g,h,i)perylene	2500	3100	J

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB131SS00
Lab ID:	61603-03
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	90.88

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	96		23	120
2 - Fluorobiphenyl	86		30	115
p - Terphenyl - d14	119		18	137
Phenol - d5	89		24	113
2 - Fluorophenol	84		25	121
2,4,6 - Tribromophenol	109		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	160	170	J
2-Methylnaphthalene	80	140	J
2-Chloronaphthalene	ND	71 U	
Acenaphthylene	ND	75 U	
Acenaphthene	65	91	J
Fluorene	86	100	J
Pentachlorophenol	8700	270	
Phenanthrene	380	150	
Anthracene	140	140	
Fluoranthene	500	100	
Pyrene	440	140	
Benzo(a)anthracene	200	100	
Chrysene	340	83	
Benzo(b)fluoranthene	420	240	
Benzo(k)fluoranthene	180	180	J
Benzo(a)pyrene	220	110	
Indeno(1,2,3-cd)pyrene	120	69	
Dibenz(a,h)anthracene	ND	110 U	
Benzo(g,h,i)perylene	98	160	J

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB132SB04
Lab ID:	61603-04
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	92

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	88		23	120
2 - Fluorobiphenyl	84		30	115
p - Terphenyl - d14	77		18	137
Phenol - d5	66		24	113
2 - Fluorophenol	65		25	121
2,4,6 - Tribromophenol	69		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	73	
Acenaphthylene	ND	78	
Acenaphthene	ND	94	
Fluorene	ND	110	
Pentachlorophenol	3900	280	
Phenanthrene	120	160	J
Anthracene	100	140	J
Fluoranthene	530	110	
Pyrene	490	140	
Benzo(a)anthracene	300	110	
Chrysene	400	85	
Benzo(b)fluoranthene	730	240	
Benzo(k)fluoranthene	270	190	
Benzo(a)pyrene	310	110	
Indeno(1,2,3-cd)pyrene	150	72	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	120	160	J

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB133SB10
Lab ID:	61603-05
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	92.67

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	94		23	120
2 - Fluorobiphenyl	69		30	115
p - Terphenyl - d14	128		18	137
Phenol - d5	92		24	113
2 - Fluorophenol	71		25	121
2,4,6 - Tribromophenol	101		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180 U	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	73	
Acenaphthylene	ND	78	
Acenaphthene	ND	94	
Fluorene	ND	110	
Pentachlorophenol	2300	280	
Phenanthrene	ND	160 U	
Anthracene	ND	140 U	
Fluoranthene	97	110	J
Pyrene	110	140	J
Benzo(a)anthracene	ND	110 U	
Chrysene	88	85	
Benzo(b)fluoranthene	140	240	J
Benzo(k)fluoranthene	80	190	J
Benzo(a)pyrene	ND	110 U	
Indeno(1,2,3-cd)pyrene	ND	72	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	160 U	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB136SB04
Lab ID:	61603-06
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	66.43

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	86		23	120
2 - Fluorobiphenyl	62		30	115
p - Terphenyl - d14	60		18	137
Phenol - d5	74		24	113
2 - Fluorophenol	104		25	121
2,4,6 - Tribromophenol	85		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	16000	4700	
2-Methylnaphthalene	39000	3800	
2-Chloronaphthalene	ND	1900 U	
Acenaphthylene	2100	2000	
Acenaphthene	110000	2400	
Fluorene	100000	2800	
Pentachlorophenol	370000	7300	
Phenanthrene	130000	4100	
Anthracene	28000	3700	
Fluoranthene	79000	2800	
Pyrene	42000	3800	
Benzo(a)anthracene	18000	2800	
Chrysene	25000	2200	
Benzo(b)fluoranthene	16000	6400	
Benzo(k)fluoranthene	7200	5000	
Benzo(a)pyrene	8900	2900	
Indeno(1,2,3-cd)pyrene	2700	1900	
Dibenz(a,h)anthracene	ND	3100 U	
Benzo(g,h,i)perylene	2600	4300	J

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB137SB10
Lab ID:	61603-07
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	89.34

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	79		23	120
2 - Fluorobiphenyl	76		30	115
p - Terphenyl - d14	78		18	137
Phenol - d5	74		24	113
2 - Fluorophenol	87		25	121
2,4,6 - Tribromophenol	82		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	9500	3600	
2-Methylnaphthalene	19000	3000	
2-Chloronaphthalene	ND	1500 U	
Acenaphthylene	ND	1600 U	
Acenaphthene	26000	1900	
Fluorene	29000	2100	
Pentachlorophenol	120000	5700	
Phenanthrene	52000	3200	
Anthracene	8100	2900	
Fluoranthene	31000	2200	
Pyrene	19000	2900	
Benzo(a)anthracene	5100	2100	
Chrysene	8900	1700	
Benzo(b)fluoranthene	4700	4900	J
Benzo(k)fluoranthene	2700	3800	J
Benzo(a)pyrene	1900	2300	J
Indeno(1,2,3-cd)pyrene	ND	1400 U	
Dibenz(a,h)anthracene	ND	2400 U	
Benzo(g,h,i)perylene	ND	3300 U	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB141SS00
Lab ID:	61603-08
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	94.51

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	90		23	120
2 - Fluorobiphenyl	92		30	115
p - Terphenyl - d14	92		18	137
Phenol - d5	74		24	113
2 - Fluorophenol	90		25	121
2,4,6 - Tribromophenol	88		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	400000	3300	
2-Methylnaphthalene	320000	2700	
2-Chloronaphthalene	3100	1300	
Acenaphthylene	6500	1400	
Acenaphthene	380000	1700	
Fluorene	220000	1900	
Pentachlorophenol	350000	5200	
Phenanthrene	490000	7200	D
Anthracene	92000	2600	
Fluoranthene	330000	2000	
Pyrene	210000	2700	
Benzo(a)anthracene	42000	1900	
Chrysene	45000	1600	
Benzo(b)fluoranthene	18000	4500	
Benzo(k)fluoranthene	9000	3500	
Benzo(a)pyrene	11000	2100	
Indeno(1,2,3-cd)pyrene	2200	1300	
Dibenz(a,h)anthracene	ND	2200	
Benzo(g,h,i)perylene	2000	3000	J

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB114SB04
Lab ID:	61603-09
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/18/96
% Solids	94.27

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	89		23	120
2 - Fluorobiphenyl	76		30	115
p - Terphenyl - d14	72		18	137
Phenol - d5	92		24	113
2 - Fluorophenol	127	X9	25	121
2,4,6 - Tribromophenol	82		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	1000000	17000	D
2-Methylnaphthalene	300000	2700	
2-Chloronaphthalene	2000	1400	
Acenaphthylene	3400	1400	
Acenaphthene	160000	1700	
Fluorene	120000	2000	
Pentachlorophenol	180000	5200	
Phenanthrene	270000	2900	
Anthracene	58000	2600	
Fluoranthene	110000	2000	
Pyrene	63000	2700	
Benzo(a)anthracene	15000	2000	
Chrysene	14000	1600	
Benzo(b)fluoranthene	6600	4500	
Benzo(k)fluoranthene	2500	3500	J
Benzo(a)pyrene	4000	2100	
Indeno(1,2,3-cd)pyrene	ND	1300 U	
Dibenz(a,h)anthracene	ND	2200 U	
Benzo(g,h,i)perylene	ND	3000 U	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB115SB10
Lab ID:	61603-10
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	93.36

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	99		23	120
2 - Fluorobiphenyl	94		30	115
p - Terphenyl - d14	89		18	137
Phenol - d5	88		24	113
2 - Fluorophenol	115		25	121
2,4,6 - Tribromophenol	95		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	2000000	17000	D
2-Methylnaphthalene	630000	14000	D
2-Chloronaphthalene	3200	1400	
Acenaphthylene	6500	1500	
Acenaphthene	290000	1800	
Fluorene	210000	2000	
Pentachlorophenol	140000	5300	
Phenanthrene	430000	3000	
Anthracene	ND	2700 U	
Fluoranthene	150000	2000	
Pyrene	100000	2700	
Benzo(a)anthracene	19000	2000	
Chrysene	20000	1600	
Benzo(b)fluoranthene	11000	4600	
Benzo(k)fluoranthene	4900	3600	
Benzo(a)pyrene	6300	2100	
Indeno(1,2,3-cd)pyrene	1300	1400	J
Dibenz(a,h)anthracene	ND	2200 U	
Benzo(g,h,i)perylene	ND	3100 U	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB145SS00
Lab ID:	61603-11
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.38

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	139	X9	23	120
2 - Fluorobiphenyl	71		30	115
p - Terphenyl - d14	67		18	137
Phenol - d5	76		24	113
2 - Fluorophenol	104		25	121
2,4,6 - Tribromophenol	95		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	290000	3400	
2-Methylnaphthalene	75000	2800	
2-Chloronaphthalene	ND	1400 U	
Acenaphthylene	1500	1500	
Acenaphthene	58000	1800	
Fluorene	47000	2000	
Pentachlorophenol	93000	5400	
Phenanthrene	120000	3000	
Anthracene	30000	2700	
Fluoranthene	96000	2000	
Pyrene	54000	2800	
Benzo(a)anthracene	12000	2000	
Chrysene	11000	1600	
Benzo(b)fluoranthene	6200	4700	
Benzo(k)fluoranthene	3900	3600	
Benzo(a)pyrene	4200	2100	
Indeno(1,2,3-cd)pyrene	ND	1400 U	
Dibenz(a,h)anthracene	ND	2200 U	
Benzo(g,h,i)perylene	ND	3100 U	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB146SB04
Lab ID:	61603-12
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.91

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	122	X9	23	120
2 - Fluorobiphenyl	95		30	115
p - Terphenyl - d14	87		18	137
Phenol - d5	83		24	113
2 - Fluorophenol	110		25	121
2,4,6 - Tribromophenol	89		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	440000	3500	
2-Methylnaphthalene	330000	2900	
2-Chloronaphthalene	2100	1400	
Acenaphthylene	2800	1500	
Acenaphthene	230000	1800	
Fluorene	180000	2100	
Pentachlorophenol	170000	5500	
Phenanthrene	390000	3100	
Anthracene	65000	2800	
Fluoranthene	190000	2100	
Pyrene	100000	2800	
Benzo(a)anthracene	24000	2100	
Chrysene	22000	1700	
Benzo(b)fluoranthene	11000	4800	
Benzo(k)fluoranthene	5100	3700	
Benzo(a)pyrene	7000	2200	
Indeno(1,2,3-cd)pyrene	1400	1400	
Dibenz(a,h)anthracene	ND	2300	
Benzo(g,h,i)perylene	ND	3200	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB147SB10
Lab ID:	61603-13
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.32

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	95		23	120
2 - Fluorobiphenyl	135	X9	30	115
p - Terphenyl - d14	93		18	137
Phenol - d5	84		24	113
2 - Fluorophenol	106		25	121
2,4,6 - Tribromophenol	81		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	530000	8600	D
2-Methylnaphthalene	370000	2800	
2-Chloronaphthalene	2400	1400	
Acenaphthylene	3200	1500	
Acenaphthene	250000	1800	
Fluorene	180000	2000	
Pentachlorophenol	170000	5400	
Phenanthrene	380000	3000	
Anthracene	62000	2700	
Fluoranthene	180000	2000	
Pyrene	100000	2800	
Benzo(a)anthracene	23000	2000	
Chrysene	23000	1600	
Benzo(b)fluoranthene	11000	4700	
Benzo(k)fluoranthene	5800	3600	
Benzo(a)pyrene	7900	2100	
Indeno(1,2,3-cd)pyrene	1400	1400	
Dibenz(a,h)anthracene	ND	2200 V	
Benzo(g,h,i)perylene	ND	3100 V	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB143SB04
Lab ID:	61603-14
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/24/96
% Solids	82.88

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	132	X9	23	120
2 - Fluorobiphenyl	118	X9	30	115
p - Terphenyl - d14	152	X9	18	137
Phenol - d5	90		24	113
2 - Fluorophenol	113		25	121
2,4,6 - Tribromophenol	37		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	1100000	40000	D
2-Methylnaphthalene	500000 J	3300	
2-Chloronaphthalene	ND	1600 U	
Acenaphthylene	12000 J	1700	
Acenaphthene	620000	21000	D
Fluorene	720000	24000	D
Pentachlorophenol	1900000	16000	D
Phenanthrene	1100000	35000	D
Anthracene	380000 J	3200	
Fluoranthene	830000	24000	D
Pyrene	490000	32000	D
Benzo(a)anthracene	260000 J	2400	
Chrysene	260000 J	1900	
Benzo(b)fluoranthene	210000 J	5500	
Benzo(k)fluoranthene	61000 J	4300	
Benzo(a)pyrene	99000 J	2500	
Indeno(1,2,3-cd)pyrene	25000 J	1600	
Dibenz(a,h)anthracene	6900 J	2600	
Benzo(g,h,i)perylene	16000 J	3700	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB144SB10
Lab ID:	61603-15
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.65

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	114		23	120
2 - Fluorobiphenyl	112		30	115
p - Terphenyl - d14	126		18	137
Phenol - d5	73		24	113
2 - Fluorophenol	86		25	121
2,4,6 - Tribromophenol	77		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	53000	8500	
2-Methylnaphthalene	43000	7000	
2-Chloronaphthalene	ND	3500 U	
Acenaphthylene	3200	3700	J
Acenaphthene	95000	4400	
Fluorene	97000	5000	
Pentachlorophenol	410000	13000	
Phenanthrene	150000	7400	
Anthracene	53000	6700	
Fluoranthene	130000	5100	
Pyrene	91000	6900	
Benzo(a)anthracene	31000	5000	
Chrysene	41000	4000	
Benzo(b)fluoranthene	35000	12000	
Benzo(k)fluoranthene	11000	9000	
Benzo(a)pyrene	12000	5300	
Indeno(1,2,3-cd)pyrene	6600	3400	
Dibenz(a,h)anthracene	ND	5500 U	
Benzo(g,h,i)perylene	ND	7700 U	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB138SS00
Lab ID:	61603-16
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	90.22

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	93		23	120
2 - Fluorobiphenyl	115		30	115
p - Terphenyl - d14	99		18	137
Phenol - d5	92		24	113
2 - Fluorophenol	124	X9	25	121
2,4,6 - Tribromophenol	99		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	32000	3800	
2-Methylnaphthalene	13000	3100	
2-Chloronaphthalene	ND	1500	U
Acenaphthylene	ND	1600	U
Acenaphthene	20000	2000	
Fluorene	20000	2200	
Pentachlorophenol	100000	5900	
Phenanthrene	28000	3300	
Anthracene	29000	3000	
Fluoranthene	38000	2200	
Pyrene	25000	3000	
Benzo(a)anthracene	8800	2200	
Chrysene	13000	1800	
Benzo(b)fluoranthene	10000	5100	
Benzo(k)fluoranthene	4800	4000	
Benzo(a)pyrene	4200	2300	
Indeno(1,2,3-cd)pyrene	2300	1500	
Dibenz(a,h)anthracene	ND	2500	U
Benzo(g,h,i)perylene	ND	3400	U

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB142SS00
Lab ID:	61603-17
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	89.63

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	84		23	120
2 - Fluorobiphenyl	112		30	115
p - Terphenyl - d14	93		18	137
Phenol - d5	76		24	113
2 - Fluorophenol	107		25	121
2,4,6 - Tribromophenol	90		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	23000	3500	
2-Methylnaphthalene	7300	2900	
2-Chloronaphthalene	ND	1400 U	
Acenaphthylene	ND	1500 U	
Acenaphthene	10000	1800	
Fluorene	12000	2100	
Pentachlorophenol	44000	5500	
Phenanthrene	21000	3100	
Anthracene	7500	2800	
Fluoranthene	18000	2100	
Pyrene	9800	2800	
Benzo(a)anthracene	3600	2100	
Chrysene	6300	1700	
Benzo(b)fluoranthene	4500	4800	J
Benzo(k)fluoranthene	2400	3700	J
Benzo(a)pyrene	2000	2200	J
Indeno(1,2,3-cd)pyrene	ND	1400 U	
Dibenz(a,h)anthracene	ND	2300 U	
Benzo(g,h,i)perylene	ND	3200 U	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB139SB04
Lab ID:	61603-18
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	83.53

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	104		23	120
2 - Fluorobiphenyl	120	X9	30	115
p - Terphenyl - d14	127		18	137
Phenol - d5	82		24	113
2 - Fluorophenol	120		25	121
2,4,6 - Tribromophenol	55		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	6100000	190000	D
2-Methylnaphthalene	2000000	160000	D
2-Chloronaphthalene	7500	3900	
Acenaphthylene	26000	4100	
Acenaphthene	1900000	100000	D
Fluorene	2900000	110000	D
Pentachlorophenol	8100000	300000	D
Phenanthrene	5100000	170000	D
Anthracene	5300000	150000	D
Fluoranthene	2000000	110000	D
Pyrene	1200000	7700	
Benzo(a)anthracene	490000	5600	
Chrysene	610000	4600	
Benzo(b)fluoranthene	280000	13000	
Benzo(k)fluoranthene	140000	10000	
Benzo(a)pyrene	140000	5900	
Indeno(1,2,3-cd)pyrene	38000	3800	
Dibenz(a,h)anthracene	ND	6200	U
Benzo(g,h,i)perylene	27000	8700	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB140SB10
Lab ID:	61603-19
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	88.4

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	85		23	120
2 - Fluorobiphenyl	111		30	115
p - Terphenyl - d14	102		18	137
Phenol - d5	71		24	113
2 - Fluorophenol	76		25	121
2,4,6 - Tribromophenol	78		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	2600000	96000	D
2-Methylnaphthalene	560000	7800	
2-Chloronaphthalene	ND	3900 U	
Acenaphthylene	11000	4100	
Acenaphthene	820000	5000	
Fluorene	790000	5600	
Pentachlorophenol	1100000	15000	
Phenanthrene	1900000	83000	D
Anthracene	610000	7500	
Fluoranthene	680000	5700	
Pyrene	420000	7700	
Benzo(a)anthracene	180000	5600	
Chrysene	180000	4500	
Benzo(b)fluoranthene	ND	13000 U	
Benzo(k)fluoranthene	55000	10000	
Benzo(a)pyrene	69000	5900	
Indeno(1,2,3-cd)pyrene	11000	3800	
Dibenz(a,h)anthracene	ND	6200 U	
Benzo(g,h,i)perylene	6900	8700	J

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB600SS00
Lab ID:	61603-20
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.73

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	89		23	120
2 - Fluorobiphenyl	97		30	115
p - Terphenyl - d14	71		18	137
Phenol - d5	66		24	113
2 - Fluorophenol	80		25	121
2,4,6 - Tribromophenol	82		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	170	
2-Methylnaphthalene	ND	140	
2-Chloronaphthalene	ND	71	
Acenaphthylene	ND	75	
Acenaphthene	ND	91	
Fluorene	ND	100	
Pentachlorophenol	ND	270	
Phenanthrene	ND	150	
Anthracene	ND	140	
Fluoranthene	69	100	J
Pyrene	69	140	J
Benzo(a)anthracene	ND	100	
Chrysene	ND	83	
Benzo(b)fluoranthene	ND	240	
Benzo(k)fluoranthene	ND	180	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	69	
Dibenz(a,h)anthracene	ND	110	
Benzo(g,h,i)perylene	ND	160	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB601SB04
Lab ID:	61603-21
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	93.46

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	88		23	120
2 - Fluorobiphenyl	98		30	115
p - Terphenyl - d14	73		18	137
Phenol - d5	64		24	113
2 - Fluorophenol	87		25	121
2,4,6 - Tribromophenol	57		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	170	U
2-Methylnaphthalene	ND	140	
2-Chloronaphthalene	ND	69	
Acenaphthylene	ND	74	
Acenaphthene	ND	89	
Fluorene	ND	100	
Pentachlorophenol	ND	270	
Phenanthrene	ND	150	
Anthracene	ND	130	
Fluoranthene	ND	100	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	81	
Benzo(b)fluoranthene	ND	230	
Benzo(k)fluoranthene	ND	180	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	68	
Dibenz(a,h)anthracene	ND	110	
Benzo(g,h,i)perylene	ND	150	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB602SB10
Lab ID:	61603-22
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	89.15

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	87		23	120
2 - Fluorobiphenyl	95		30	115
p - Terphenyl - d14	73		18	137
Phenol - d5	65		24	113
2 - Fluorophenol	87		25	121
2,4,6 - Tribromophenol	66		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	190	
2-Methylnaphthalene	ND	160	
2-Chloronaphthalene	ND	78	
Acenaphthylene	ND	83	
Acenaphthene	ND	100	
Fluorene	ND	110	
Pentachlorophenol	ND	300	
Phenanthrene	ND	170	
Anthracene	ND	150	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	91	
Benzo(b)fluoranthene	ND	260	
Benzo(k)fluoranthene	ND	200	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	76	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB603SB04
Lab ID:	61603-23
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.99

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	86		23	120
2 - Fluorobiphenyl	99		30	115
p - Terphenyl - d14	77		18	137
Phenol - d5	62		24	113
2 - Fluorophenol	85		25	121
2,4,6 - Tribromophenol	53		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	72	
Acenaphthylene	ND	77	
Acenaphthene	ND	93	
Fluorene	ND	100	
Pentachlorophenol	ND	280	
Phenanthrene	ND	150	
Anthracene	ND	140	
Fluoranthene	ND	110	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	84	
Benzo(b)fluoranthene	ND	240	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	71	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	160	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB604SB10
Lab ID:	61603-24
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	87.91

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	78		23	120
2 - Fluorobiphenyl	110		30	115
p - Terphenyl - d14	87		18	137
Phenol - d5	79		24	113
2 - Fluorophenol	102		25	121
2,4,6 - Tribromophenol	90		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	74	
Acenaphthylene	ND	79	
Acenaphthene	ND	95	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	ND	160	
Anthracene	ND	140	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	87	
Benzo(b)fluoranthene	ND	250	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	73	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB605SB04
Lab ID:	61603-25
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	94.36

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	92		23	120
2 - Fluorobiphenyl	97		30	115
p - Terphenyl - d14	71		18	137
Phenol - d5	62		24	113
2 - Fluorophenol	86		25	121
2,4,6 - Tribromophenol	55		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	140	
2-Chloronaphthalene	ND	72	
Acenaphthylene	ND	76	
Acenaphthene	ND	92	
Fluorene	ND	100	
Pentachlorophenol	ND	270	
Phenanthrene	ND	150	
Anthracene	ND	140	
Fluoranthene	ND	100	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	84	
Benzo(b)fluoranthene	ND	240	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	70	
Dibenz(a,h)anthracene	ND	110	
Benzo(g,h,i)perylene	ND	160	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB606SB10
Lab ID:	61603-26
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	88.9

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	92		23	120
2 - Fluorobiphenyl	92		30	115
p - Terphenyl - d14	74		18	137
Phenol - d5	59		24	113
2 - Fluorophenol	79		25	121
2,4,6 - Tribromophenol	45		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	75	
Acenaphthylene	ND	79	
Acenaphthene	ND	96	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	100	160	J
Anthracene	ND	140	
Fluoranthene	95	110	J
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	87	
Benzo(b)fluoranthene	ND	250	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	73	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB607SB04
Lab ID:	61603-27
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	87.88

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	89		23	120
2 - Fluorobiphenyl	98		30	115
p - Terphenyl - d14	72		18	137
Phenol - d5	64		24	113
2 - Fluorophenol	85		25	121
2,4,6 - Tribromophenol	72		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	190	U
2-Methylnaphthalene	ND	160	
2-Chloronaphthalene	ND	79	
Acenaphthylene	ND	84	
Acenaphthene	ND	100	
Fluorene	ND	110	
Pentachlorophenol	ND	300	
Phenanthrene	ND	170	
Anthracene	ND	150	
Fluoranthene	ND	120	
Pyrene	ND	160	
Benzo(a)anthracene	ND	110	
Chrysene	ND	92	
Benzo(b)fluoranthene	ND	260	
Benzo(k)fluoranthene	ND	210	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	77	
Dibenz(a,h)anthracene	ND	130	
Benzo(g,h,i)perylene	ND	180	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB608SB04
Lab ID:	61603-28
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	88.89

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	93		23	120
2 - Fluorobiphenyl	101		30	115
p - Terphenyl - d14	74		18	137
Phenol - d5	63		24	113
2 - Fluorophenol	90		25	121
2,4,6 - Tribromophenol	63		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	140	
2-Chloronaphthalene	ND	72	
Acenaphthylene	ND	76	
Acenaphthene	ND	92	
Fluorene	ND	100	
Pentachlorophenol	ND	280	
Phenanthrene	ND	150	
Anthracene	ND	140	
Fluoranthene	77	100	J
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	84	
Benzo(b)fluoranthene	66	240	J
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	70	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	160	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB700SS00
Lab ID:	61603-29
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	89.62

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	84		23	120
2 - Fluorobiphenyl	95		30	115
p - Terphenyl - d14	71		18	137
Phenol - d5	65		24	113
2 - Fluorophenol	89		25	121
2,4,6 - Tribromophenol	85		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	190 U	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	76	
Acenaphthylene	ND	81	
Acenaphthene	ND	97	
Fluorene	ND	110	
Pentachlorophenol	130	290	J
Phenanthrene	ND	160 U	
Anthracene	ND	150 U	
Fluoranthene	72	110	J
Pyrene	ND	150 U	
Benzo(a)anthracene	ND	110 U	
Chrysene	94	89	
Benzo(b)fluoranthene	170	250	J
Benzo(k)fluoranthene	ND	200 U	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	74	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB701SB04
Lab ID:	61603-30
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	90.98

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	87		23	120
2 - Fluorobiphenyl	97		30	115
p - Terphenyl - d14	68		18	137
Phenol - d5	66		24	113
2 - Fluorophenol	88		25	121
2,4,6 - Tribromophenol	74		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	75	
Acenaphthylene	ND	80	
Acenaphthene	ND	96	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	ND	160	
Anthracene	ND	150	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	88	
Benzo(b)fluoranthene	ND	250	
Benzo(k)fluoranthene	ND	200	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	74	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB702SB10
Lab ID:	61603-31
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	89.91

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	88		23	120
2 - Fluorobiphenyl	97		30	115
p - Terphenyl - d14	69		18	137
Phenol - d5	59		24	113
2 - Fluorophenol	82		25	121
2,4,6 - Tribromophenol	65		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	73	
Acenaphthylene	ND	77	
Acenaphthene	ND	93	
Fluorene	ND	100	
Pentachlorophenol	ND	280	
Phenanthrene	ND	160	
Anthracene	ND	140	
Fluoranthene	ND	110	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	85	
Benzo(b)fluoranthene	ND	240	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	71	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	160	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB703SS00
Lab ID:	61603-32
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	90.97

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	79		23	120
2 - Fluorobiphenyl	98		30	115
p - Terphenyl - d14	79		18	137
Phenol - d5	71		24	113
2 - Fluorophenol	89		25	121
2,4,6 - Tribromophenol	94		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180 U	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	73	
Acenaphthylene	ND	78	
Acenaphthene	ND	94	
Fluorene	ND	110	
Pentachlorophenol	230	280	J
Phenanthrene	91	160	J
Anthracene	ND	140 U	
Fluoranthene	99	110	J
Pyrene	87	150	J
Benzo(a)anthracene	ND	110 U	
Chrysene	95	86	
Benzo(b)fluoranthene	150	240	J
Benzo(k)fluoranthene	ND	190 U	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	72	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	160	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB704SS00
Lab ID:	61603-33
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.95

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	86		23	120
2 - Fluorobiphenyl	96		30	115
p - Terphenyl - d14	69		18	137
Phenol - d5	62		24	113
2 - Fluorophenol	86		25	121
2,4,6 - Tribromophenol	84		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	75	
Acenaphthylene	ND	79	
Acenaphthene	ND	96	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	ND	160	
Anthracene	ND	140	
Fluoranthene	97	110	J
Pyrene	ND	150	
Benzo(a)anthracene	67	110	J
Chrysene	160	87	
Benzo(b)fluoranthene	180	250	J
Benzo(k)fluoranthene	67	190	J
Benzo(a)pyrene	97	110	J
Indeno(1,2,3-cd)pyrene	ND	73	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB705SB04
Lab ID:	61603-34
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	93.11

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	89		23	120
2 - Fluorobiphenyl	103		30	115
p - Terphenyl - d14	73		18	137
Phenol - d5	66		24	113
2 - Fluorophenol	90		25	121
2,4,6 - Tribromophenol	82		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	72	
Acenaphthylene	ND	77	
Acenaphthene	ND	93	
Fluorene	ND	100	
Pentachlorophenol	ND	280	
Phenanthrene	ND	160	
Anthracene	ND	140	
Fluoranthene	ND	110	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	85	
Benzo(b)fluoranthene	ND	240	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	71	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	160	

MW
H7-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB706SB10
Lab ID:	61603-35
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	91.54

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	122	X9	23	120
2 - Fluorobiphenyl	100		30	115
p - Terphenyl - d14	75		18	137
Phenol - d5	77		24	113
2 - Fluorophenol	92		25	121
2,4,6 - Tribromophenol	83		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	140	
2-Chloronaphthalene	ND	72	
Acenaphthylene	ND	76	
Acenaphthene	ND	92	
Fluorene	ND	100	
Pentachlorophenol	ND	280	
Phenanthrene	ND	150	
Anthracene	ND	140	
Fluoranthene	ND	100	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	84	
Benzo(b)fluoranthene	ND	240	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	71	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	160	

MW
1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB650SS00
Lab ID:	61603-36
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	83.19

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	91		23	120
2 - Fluorobiphenyl	99		30	115
p - Terphenyl - d14	79		18	137
Phenol - d5	70		24	113
2 - Fluorophenol	89		25	121
2,4,6 - Tribromophenol	94		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	190 U	
2-Methylnaphthalene	ND	160 U	
2-Chloronaphthalene	ND	79 U	
Acenaphthylene	280	83	
Acenaphthene	ND	100 U	
Fluorene	120	110	
Pentachlorophenol	9300	300	
Phenanthrene	380	170	
Anthracene	1100	150	
Fluoranthene	930	110	
Pyrene	1000	160	
Benzo(a)anthracene	1000	110	
Chrysene	2000	92	
Benzo(b)fluoranthene	5300	260	
Benzo(k)fluoranthene	970	200	
Benzo(a)pyrene	4800	120	
Indeno(1,2,3-cd)pyrene	2300	77	
Dibenz(a,h)anthracene	ND	130 U	
Benzo(g,h,i)perylene	1600	180	

MW 1797

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB651SB04
Lab ID:	61603-37
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	61.45

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	91		23	120
2 - Fluorobiphenyl	93		30	115
p - Terphenyl - d14	73		18	137
Phenol - d5	74		24	113
2 - Fluorophenol	89		25	121
2,4,6 - Tribromophenol	93		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	340	280	
2-Methylnaphthalene	ND	230	
2-Chloronaphthalene	ND	110	
Acenaphthylene	ND	120	
Acenaphthene	ND	150	
Fluorene	ND	160	
Pentachlorophenol	ND	440	
Phenanthrene	120	240	J
Anthracene	ND	220	
Fluoranthene	ND	170	
Pyrene	ND	220	
Benzo(a)anthracene	ND	160	
Chrysene	ND	130	
Benzo(b)fluoranthene	ND	380	
Benzo(k)fluoranthene	ND	300	
Benzo(a)pyrene	ND	170	
Indeno(1,2,3-cd)pyrene	ND	110	
Dibenz(a,h)anthracene	ND	180	
Benzo(g,h,i)perylene	ND	250	

1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB652SB10
Lab ID:	61603-38
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	92.82

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	98		23	120
2 - Fluorobiphenyl	101		30	115
p - Terphenyl - d14	74		18	137
Phenol - d5	67		24	113
2 - Fluorophenol	83		25	121
2,4,6 - Tribromophenol	55		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	230	170	
2-Methylnaphthalene	180	140	
2-Chloronaphthalene	ND	69 U	
Acenaphthylene	ND	73 U	
Acenaphthene	680	89	
Fluorene	830	100	
Pentachlorophenol	ND	270 U	
Phenanthrene	2200	150	
Anthracene	530	130	
Fluoranthene	1300	100	
Pyrene	690	140	
Benzo(a)anthracene	230	100	
Chrysene	230	81	
Benzo(b)fluoranthene	220	230	J
Benzo(k)fluoranthene	ND	180 U	
Benzo(a)pyrene	91	110	J
Indeno(1,2,3-cd)pyrene	ND	68 U	
Dibenz(a,h)anthracene	ND	110 U	
Benzo(g,h,i)perylene	ND	150 U	

MW 1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB653SB04
Lab ID:	61603-39
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	88.72

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	96		23	120
2 - Fluorobiphenyl	101		30	115
p - Terphenyl - d14	76		18	137
Phenol - d5	60		24	113
2 - Fluorophenol	81		25	121
2,4,6 - Tribromophenol	81		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	U
2-Methylnaphthalene	ND	140	
2-Chloronaphthalene	ND	71	
Acenaphthylene	ND	76	
Acenaphthene	ND	91	
Fluorene	ND	100	
Pentachlorophenol	ND	270	
Phenanthrene	ND	150	
Anthracene	ND	140	
Fluoranthene	ND	100	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	83	
Benzo(b)fluoranthene	ND	240	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	70	
Dibenz(a,h)anthracene	ND	110	
Benzo(g,h,i)perylene	ND	160	

MW
1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB654SB10
Lab ID:	61603-40
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	58.95

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	90		23	120
2 - Fluorobiphenyl	89		30	115
p - Terphenyl - d14	58		18	137
Phenol - d5	64		24	113
2 - Fluorophenol	78		25	121
2,4,6 - Tribromophenol	87		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	290	
2-Methylnaphthalene	ND	240	
2-Chloronaphthalene	ND	120	
Acenaphthylene	ND	120	
Acenaphthene	ND	150	
Fluorene	ND	170	
Pentachlorophenol	ND	450	
Phenanthrene	ND	250	
Anthracene	ND	230	
Fluoranthene	ND	170	
Pyrene	ND	230	
Benzo(a)anthracene	ND	170	
Chrysene	ND	140	
Benzo(b)fluoranthene	ND	390	
Benzo(k)fluoranthene	ND	300	
Benzo(a)pyrene	ND	180	
Indeno(1,2,3-cd)pyrene	ND	110	
Dibenz(a,h)anthracene	ND	190	
Benzo(g,h,i)perylene	ND	260	

MW
1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB609SB10
Lab ID:	61603-41
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	92.4

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	99		23	120
2 - Fluorobiphenyl	101		30	115
p - Terphenyl - d14	78		18	137
Phenol - d5	59		24	113
2 - Fluorophenol	83		25	121
2,4,6 - Tribromophenol	72		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	170	
2-Methylnaphthalene	ND	140	
2-Chloronaphthalene	ND	70	
Acenaphthylene	ND	75	
Acenaphthene	ND	90	
Fluorene	ND	100	
Pentachlorophenol	ND	270	
Phenanthrene	ND	150	
Anthracene	ND	140	
Fluoranthene	ND	100	
Pyrene	ND	140	
Benzo(a)anthracene	ND	100	
Chrysene	ND	82	
Benzo(b)fluoranthene	ND	230	
Benzo(k)fluoranthene	ND	180	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	69	
Dibenz(a,h)anthracene	ND	110	
Benzo(g,h,i)perylene	ND	160	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB612SS00
Lab ID:	61603-42
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	92.83

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	82		23	120
2 - Fluorobiphenyl	101		30	115
p - Terphenyl - d14	72		18	137
Phenol - d5	54		24	113
2 - Fluorophenol	79		25	121
2,4,6 - Tribromophenol	83		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	75	
Acenaphthylene	ND	80	
Acenaphthene	ND	96	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	ND	160	
Anthracene	ND	140	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	87	
Benzo(b)fluoranthene	ND	250	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	73	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

MW
1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB610SB04
Lab ID:	61603-43
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/19/96
% Solids	90.72

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	82		23	120
2 - Fluorobiphenyl	105		30	115
p - Terphenyl - d14	76		18	137
Phenol - d5	56		24	113
2 - Fluorophenol	81		25	121
2,4,6 - Tribromophenol	89		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	190	U
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	77	
Acenaphthylene	ND	81	
Acenaphthene	ND	98	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	ND	160	
Anthracene	ND	150	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	89	
Benzo(b)fluoranthene	ND	250	
Benzo(k)fluoranthene	ND	200	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	75	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

MW 1-7-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB611SB10
Lab ID:	61603-44
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/20/96
% Solids	93

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	90		23	120
2 - Fluorobiphenyl	101		30	115
p - Terphenyl - d14	77		18	137
Phenol - d5	55		24	113
2 - Fluorophenol	82		25	121
2,4,6 - Tribromophenol	93		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	75	
Acenaphthylene	ND	79	
Acenaphthene	ND	96	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	ND	160	
Anthracene	ND	140	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	87	
Benzo(b)fluoranthene	ND	250	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	73	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

MW 1-7-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB613SB04
Lab ID:	61603-45
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/20/96
% Solids	89.3

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	77		23	120
2 - Fluorobiphenyl	102		30	115
p - Terphenyl - d14	74		18	137
Phenol - d5	54		24	113
2 - Fluorophenol	78		25	121
2,4,6 - Tribromophenol	91		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	180	U
2-Methylnaphthalene	ND	150	
2-Chloronaphthalene	ND	75	
Acenaphthylene	ND	79	
Acenaphthene	ND	96	
Fluorene	ND	110	
Pentachlorophenol	ND	290	
Phenanthrene	ND	160	
Anthracene	ND	140	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	87	
Benzo(b)fluoranthene	ND	250	
Benzo(k)fluoranthene	ND	190	
Benzo(a)pyrene	ND	110	
Indeno(1,2,3-cd)pyrene	ND	73	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

MN 1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB614SB10
Lab ID:	61603-46
Date Received:	12/16/96
Date Prepared:	12/18/96
Date Analyzed:	12/20/96
% Solids	89.42

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	80		23	120
2 - Fluorobiphenyl	100		30	115
p - Terphenyl - d14	90		18	137
Phenol - d5	55		24	113
2 - Fluorophenol	80		25	121
2,4,6 - Tribromophenol	98		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	190	
2-Methylnaphthalene	ND	160	
2-Chloronaphthalene	ND	78	
Acenaphthylene	ND	82	
Acenaphthene	ND	100	
Fluorene	ND	110	
Pentachlorophenol	ND	300	
Phenanthrene	ND	170	
Anthracene	ND	150	
Fluoranthene	ND	110	
Pyrene	ND	150	
Benzo(a)anthracene	ND	110	
Chrysene	ND	91	
Benzo(b)fluoranthene	ND	260	
Benzo(k)fluoranthene	ND	200	
Benzo(a)pyrene	ND	120	
Indeno(1,2,3-cd)pyrene	ND	76	
Dibenz(a,h)anthracene	ND	120	
Benzo(g,h,i)perylene	ND	170	

MW 1-17-97

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MEMORANDUM

DATE: February 12, 1997

TO: Kevin Smith, Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, Chemist, E & E, Seattle, WA MW

THRU: Andrew Hafferty, Chemist, E & E, Seattle, WA

SUBJ: **Inorganic Data Quality Assurance Review, McCormick and Baxter Removal Site, Portland, OR**

REF: OT9080

The data quality assurance review of 46 soil samples collected from the McCormick and Baxter Removal site in Portland, Oregon, has been completed. Arsenic and Copper analyses (EPA Method 6020) were performed by Sound Analytical Services, Tacoma, WA.

Samples analyzed for copper are **bolded**. The samples are numbered:

MB134SB04	MB135SB10	MB131SS00	MB132SB04	MB133SB10	MB136SB04
MB137SB10	MB141SS00	MB114SB04	MB115SB10	MB145SS00	MB146SB04
MB147SB10	MB143SB04	MB144SB10	MB138SS00	MB142SS00	MB139SB04
MB140SB10	MB600SS00	MB601SB04	MB602SB10	MB603SB04	MB604SB10
MB605SB04	**MB606SB10**	MB607SB04	MB608SB04	MB700SS00	MB701SB04
MB702SB10	MB703SS00	MB704SS00	MB705SB04	MB706SB10	MB650SS00
MB651SB04	MB652SB10	MB653SB04	MB654SB10	MB609SB10	MB612SS00
MB610SB04	MB611SB10	MB613SB04	MB614SB10		

Data Qualifications:

I Sample Holding Time: Acceptable.

The samples were collected on December 13 or 14, 1996, and were analyzed by December 26, 1996, therefore meeting QC criteria of less than 6 months between collection and analysis for arsenic and copper.

II Initial and Continuing Calibration: Satisfactory.

A calibration standard and blank were analyzed at the beginning of the sequence and after every 10 samples. No sample results were greater than 110 % of the highest calibration standard. All ICP initial calibration results were within QC limits of 90 % to 110 %, except:

Calibration	Analyte	Recovery	Associated Samples
CCV3	Arsenic	117 %	MB138SS00, MB144SB10, MB142SS00, MB601SB04, MB600SS00

CCV - Continuing Calibration Verification

Positive arsenic results not within 5 analyses of an acceptable calibration analysis were qualified as estimated quantities (J).

III Blanks: Satisfactory.

A method blank was analyzed for each 20 samples. There were no detections in any blanks, except:

Blank	Analyte	Concentration
CCB3	Arsenic	0.8 ug/L

CCB - Continuing Calibration Blank

All arsenic results less than 5 times the blank concentration were qualified as not detected (U).

IV ICP Interference Check Sample: Not Reported.

An Interference Check Sample was analyzed but not reported.

V Precision and Bias Determination: Not Performed.

Samples necessary to determine site specific precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets. Matrix spike sample results were within the QC limits of 75 % to 125 %.

All duplicate results were within QC limits, except:

Sample	Element	Relative Percent Difference	QC Limits
MB606SB10D	Arsenic	39.5 %	< 35 %
MB614SB10D	Arsenic	104.7 %	< 35 %
MB614SB10DD	Arsenic	100 %	< 35 %

Based on the duplicate QC outliers, all arsenic results (except samples MB114SB04, MB143SB04, MB139SB04 and MB140SB10) were flagged as estimated quantities (J or UJ).

VI Performance Evaluation Sample Analysis: Not Performed.

Performance evaluation samples were not provided to the laboratory. The Laboratory Control Sample (LCS) results were within QC limits of 80 % to 120 % recovery.

VII Optional Instrument QC

A. ICP Serial Dilution: Satisfactory.

All serial dilution results presented were within QC limits, but serial dilution analyses were not performed on all samples with results greater than 50 times the instrument detection limit (IDL); all results greater than 50 times the IDL without a serial dilution are flagged as estimated quantities (J).

B. Atomic Absorption QC: Not Performed.

Atomic absorption analyses were not performed.

VIII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" (EPA 540/R-94/013). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.

UJ - The material was analyzed for, but not detected. The reported detection limit is estimated because Quality Control criteria were not met.

U.S. EPA - CLP

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB134SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-01

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _92.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	8.0	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB135SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-02

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.7	D	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB131SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-03

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _90.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	7.0	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB132SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-04

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _92.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	5.0	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB133SB10

ab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

ab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

atrix (soil/water): SOIL_ Lab Sample ID: 61603-05

evel (low/med): LOW__ Date Received: 12/16/96

Solids: _92.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	3.0	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB136SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-06

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _66.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	116	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB137SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-07

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	180	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB141SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-08

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _94.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	50.9	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB114SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-9

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _94.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	417	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB115SB10

ab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

ab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

atrix (soil/water): SOIL_ Lab Sample ID: 61603-10

evel (low/med): LOW__ Date Received: 12/16/96

Solids: _93.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	259	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB145SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-11

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	123	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB146SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-12

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	160	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB147SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-13

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	136	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB143SB04

ab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

ab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

atrix (soil/water): SOIL_ Lab Sample ID: 61603-14

evel (low/med): LOW__ Date Received: 12/16/96

Solids: _82.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	616	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB144SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-15

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	22.6	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB138SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-16

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	9.0			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB142SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-17

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.4			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB139SB04

ab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

ab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

atrix (soil/water): SOIL_ Lab Sample ID: 61603-18

evel (low/med): LOW__ Date Received: 12/16/96

Solids: _83.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	3540	S		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB140SB10

ab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

ab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

atrix (soil/water): SOIL_ Lab Sample ID: 61603-19

evel (low/med): LOW__ Date Received: 12/16/96

Solids: _88.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	354	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB600SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-20

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	7.0	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB601SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-21

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _93.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.2			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB602SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-22

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.1	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB603SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-23

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _92.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	3.2	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB604SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-24

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _87.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.0	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB605SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-25

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _94.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	6.5	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB606SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-26

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _88.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	3.3	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB607SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-27

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _87.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.5	U		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MM 1/7/97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB608SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-28

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _88.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.4	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB700SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-29

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	7.1	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB701SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-30

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.4	D	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB702SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-31

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.0	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB703SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-32

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	5.7	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB704SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-33

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	10.7	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB705SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-34

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _93.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	6.0	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB706SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-35

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.6	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB650SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-36

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _83.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	47.3	J		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB651SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-37

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _91.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.4	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB652SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-38

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _92.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.4	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB653SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-39

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _88.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.4	U		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB654SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-40

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _58.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.8	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW H7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB609SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-41

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _92.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.0	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB612SS00

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-42

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _92.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.9	U		M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB610SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-43

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _90.7

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.2	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB611SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-44

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	1.6	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB613SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-45

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.0	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB614SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603A SDG No.: 61603A

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-46

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.1	U	J	M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB134SB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603C SDG No.: 61603C

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-01

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _92.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	24.2			M_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB137SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603C SDG No.: 61603C

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-07

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _89.3

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	61.4	J		M_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW H7-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

MB606SB10

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: _____ SAS No.: 61603C SDG No.: 61603C

Matrix (soil/water): SOIL_ Lab Sample ID: 61603-26

Level (low/med): LOW__ Date Received: 12/16/96

% Solids: _88.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__				NR
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___	13.8			M_
7439-89-6	Iron_____				NR
7439-92-1	Lead_____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc_____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MW 1-17-97

ecology and environment, inc.
International Specialists in the Environment

1500 First Interstate Center, 999 Third Avenue
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: February 12, 1997

TO: Kevin Smith, Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, Chemist, E & E, Seattle, WA MW

THRU: Andrew Hafferty, Chemist, E & E, Seattle, WA

SUBJ: **Organic Data Quality Assurance Review, McCormick and Baxter Removal Site, Portland, OR**

REF: OT90S0

The data quality assurance review of 2 soil samples collected from the McCormick and Baxter Removal site in Portland, Oregon, has been completed. Total Kjeldahl Nitrogen (EPA Method 351.3), Total Phosphorus (EPA Method 365.1), Cation Exchange Capacity (EPA Method 9081), Natural Biological Activity (EPA Method 9215A), pH (EPA Method 9045), Total Organic Carbon (EPA Method 9060), Ammonia Nitrogen (EPA Method 350.2), and Nitrate and Nitrite as Nitrogen (EPA Method 300.0) analyses were performed by Sound Analytical Services, Tacoma, WA.

The samples were numbered: MB134SB04 MB137SB10

Data Qualifications:.

The samples were collected on December 13, 1996 and were maintained at 4°C (± 2°C). All analyses met the applicable holding times per method.

Total Kjeldahl Nitrogen: Acceptable.

All analyses were performed on December 19, 1996. The Matrix Spike (MS) analysis recovery was 86%. The Relative Percent Difference (RPD) for the duplicate analysis was 8.7 %. There was no detection in the method blank. All standard analyses were within 2 % of the true values. In the reviewers' professional judgment, all Total Kjeldahl Nitrogen results are acceptable.

Total Phosphorus: Acceptable.

All analyses were performed on December 30, 1996. The method blank result was below the quantitation limit. The batch MS/MS Duplicate (MSD) recoveries were not applicable as the sample concentration was greater than four times the spike concentration. The Quality Control (QC) sample result was within 4 % difference of the true value. The duplicate results were within 6 % RPD. The correlation coefficient for the four-point initial calibration was > 0.999. In the reviewers' professional judgment, all Total Phosphorus results are acceptable.

Cation Exchange Capacity: Acceptable.

All analyses were performed on December 24, 1996. The duplicate RPD was 0 %. The blank spike recovery was 99.5 %. In the reviewers' professional judgment, all Cation Exchange Capacity results are acceptable.

Natural Biological Activity: Validation Not Performed.

All analyses were performed on December 23, 1996. No validation was performed for Natural Biological Activity.

pH: Acceptable.

All analyses were performed on December 17, 1996. Results for all standards were within 1 % of the true values. The batch duplicate result was within 0.3 % RPD of the original result. In the reviewers' professional judgment, all pH results are acceptable.

Total Organic Carbon: Acceptable.

All analyses were performed on December 24, 1996. There were no detections in any blank. The QC sample result was within 2 % of the true value. All standards were within 10 % of the true values. The batch MS/MSD recoveries were 92 % and 100 %, respectively. In the reviewers' professional judgment, all Total Organic Carbon results are acceptable.

Ammonia Nitrogen: Acceptable.

All analyses were performed on December 28, 1996. The standard was within 5 % of the true value. There were no detections in any blank. The MS/MSD recoveries were 85 % and 91 %, respectively. In the reviewers' professional judgment, all Ammonia Nitrogen results are acceptable.

Nitrate and Nitrite as Nitrogen: Acceptable.

All analyses were performed on December 20, 1996. There were no detections in any blank. The initial calibration correlation coefficients were 0.999. All continuing calibration results were within 10 % of the true values. The batch MS recovery was 100 %. The batch duplicate % difference was 0 %. The blank spike recovery was 82 %. The laboratory control standard result was within 10 % of the true value. In the reviewers' professional judgment, all Nitrate/Nitrite results are acceptable.

The overall usefulness of the data is based on the criteria outlined in the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004), the applicable method used for analysis, and, when applicable; the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (EPA 540/R-94/012). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

SOUND ANALYTICAL SERVICES, INC.

ANALYTICAL & ENVIRONMENTAL CHEMISTS

4813 PACIFIC HIGHWAY EAST, TACOMA, WASHINGTON 98424 - TELEPHONE (206)922-2310 - FAX (206)922-5047

Report To: Ecology & Environment Date:

Report On: Analysis of Soil Report No.: 61603

IDENTIFICATION:
Samples received on 12-16-96
Project: OT9060 McCormick & Baxter - Soil

ANALYSIS:

Lab Sample No. 61603-1 Client ID: MB134SB04

General Chemistry

Parameter	Method	Result	PQL
Nitrate + Nitrite Nitrogen, mg/kg	EPA 300.0	ND U	1.0
Total Phosphorus, mg/kg	EPA 365.1	430	20
Total Kjeldahl Nitrogen, mg/kg	EPA 351.3	12,000	115
Ammonia Nitrogen, mg/kg	EPA 350.2	18	5
pH	EPA 9045	8.15	N/A

ND - Not Detected
PQL - Practical Quantitation Limit
N/A - Not Applicable

Mr 1-17-97

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This report is intended solely for the use of the person or company to whom it is addressed. This laboratory accepts responsibility only for the due performance of analysis in accordance with

SOUND ANALYTICAL SERVICES, INC.

Ecology & Envionment
Project: OT9060 McCormick & Baxter - Soil
Report No. 61603
*date

Lab Sample No. 61603-1 Client ID: MB134SB04

Cation Exchange Capacity by EPA Method 9081
Date Analyzed: 12-24-96
Units: meq/100g

Parameter	Result
Cation Exchange Capacity	14

Natural Biological Activity
Date Analyzed: 1-6-97
Units: CFU/g

Parameter	Method	Result
Heterotrophic Plate Count	SM 9215A	12,000
Total Phenanthrene Degraders	SM 9215A	0

MM 1-17-97

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SOUND ANALYTICAL SERVICES, INC.

Ecology & Envionment
Project: OT9060 McCormick & Baxter - Soil
Report No. 61603
*date

Lab Sample No. 61603-7 Client ID: MB137SB10

General Chemistry

Parameter	Method	Result	POL
Nitrate + Nitrite Nitrogen, mg/kg	EPA 300.0	ND	1.0
Total Phosphorus, mg/kg	EPA 365.1	500	20
Total Kjeldahl Nitrogen, mg/kg	EPA 351.3	390	115
Ammonia Nitrogen, mg/kg	EPA 350.2	230	5
pH	EPA 9045	6.24	N/A

ND - Not Detected
POL - Practical Quantitation Limit
N/A - Not Applicable

MW 1-17-97

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SOUND ANALYTICAL SERVICES, INC.

Ecology & Envionment
Project: OT9060 McCormick & Baxter - Soil
Report No. 61603
*date

Lab Sample No. 61603-7 Client ID: MB137SB10

Cation Exchange Capacity by EPA Method 9081
Date Analyzed: 12-24-96
Units: meq/100g

Parameter	Result
Cation Exchange Capacity	17

Natural Biological Activity
Date Analyzed: 1-6-97
Units: CFU/g

Parameter	Method	Result
Heterotrophic Plate Count	SM 9215A	1,000,000
Total Phenanthrene Degraders	SM 9215A	44,000

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB134SB04
Lab ID:	61603-01
Date Received:	12/16/96
Date Prepared:	12/24/96
Date Analyzed:	12/24/96
Dilution Factor	1
% Solids	91.85

Total Organic Carbon by PSEP

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	MDL	Flags
TOC	12000	100	

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1-17-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB137SB10
Lab ID:	61603-07
Date Received:	12/16/96
Date Prepared:	12/24/96
Date Analyzed:	12/24/96
Dilution Factor	1
% Solids	87.63

Total Organic Carbon by PSEP

Sample results are on a dry weight basis.

Analyte	Result (mg/kg)	MDL	Flags
TOC	7900	100	

MW
1-17-97

B-2 EPA Dioxin Data Validation Memoranda
March 1997

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 10
1200 Sixth Avenue
Seattle, Washington 98101

March 13, 1997

Reply to
Attn of: OEA-095

MEMORANDUM

Subject: Data Validation Report for Polychlorinated Dioxins (PCDD) and Polychlorinated Furans (PCDF) Analysis of Samples from McCormick and Baxter Site

From: Ginna Grepo-Grove, Chemist
Quality Assurance & Data Management Unit, OEA

To: Howard Orlean, RPM
Office of Environmental Cleanup

CC: Kevin Smith, Ecology and Environment

The quality assurance (QA) review of 21 soil samples collected from the above referenced site has been completed. These samples were analyzed for PCDD/PCDF in accordance with the USEPA SW846 Method 8290 Revision 0 (9/94) by Triangle Laboratories, Inc. of Research Triangle Park, NC. The following samples were reviewed in this report:

MB019SS00	MB206SS00	MB087SS00	MB401SS00
MB258SS00	MB141SS00	MB138SS00	MB142SS00
MB700SS00	MB801SS00	MB755SS00	MB676SS00
MB690SS00	MB477SS00	MB558SS00	MB566SS00
MB516SS00	MB523SS00	MB304SS00	MB348SS00
MB450SS00			

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the Project Sampling and Analysis Plan, USEPA SW846 Method 8290- "PCDDs and PCDFs by High Resolution Gas Chromatography/ High Resolution Mass Spectrometry (HRGC/HRMS), Revision 0 and the USEPA CLP National Functional Guidelines for Organic Data Review (2/94).

The conclusions presented herein are based on the information provided for the review.

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Holding Time - Acceptable

All of the samples were extracted within 30 days of sample collection and were analyzed within 30 days of sample extraction date. All of the samples met the technical and method required holding times. None of the reported results were qualified on this basis.

Instrument Performance - Acceptable

GC/MS Performance Standards were analyzed with every analytical sequence. The frequency of analysis of the performance check standard was met. The minimum resolving power of 10,000 was attained; the exact mass of m/z 380.9760 was within 5 ppm, each lock-mass is within 10% of full scale and the signal-to-noise (S/N) ratio is $\geq$10%.

Initial Calibrations - Acceptable

Three GC/MS systems were used in the analyses. The initial calibrations performed for both DB5 and DB225 columns met the method specified acceptance criteria for all instruments. The percent relative standard deviations (%RSDs) for both native and labeled compounds were less than 15%. All of the ion abundance ratios, S/N ratios and retention times were within the control limits.

Retention Time Window and Isomer Specificity Check - Acceptable

The frequency of analysis, the retention times and resolution as expressed by the percent valley criteria were met. The % valley between 2,3,7,8-tetrachlorodibenzodioxin (TCDD) and the closest tetrachlorodibenzofuran (TCDF) isomer was less than 25%. The retention times for all of the polychlorinated dibenzofuran and dibenzodioxin homologues were established and properly labeled from the first to the last eluters. All of the ion abundances and S/N ratios were within the method specified control limits.

Continuing Calibrations - Acceptable

The continuing calibration verification standards (CCVs) met the criteria for frequency of analysis, the ion abundance ratios, the retention time, the chromatographic resolution, the S/N ratios and the percent differences (%D). None of the data were qualified on this basis.

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Compound Quantitation and Detection Limits

All of the samples were analyzed at the method required quantitation limits. The responses of some of the PCDD/PCDF isomers exceeded the normal dynamic range of the mass spectrometer detection system. Most of the samples were re-analyzed at a dilution and the diluted results were reported by the laboratory. However, still, some of the concentrations of the target compounds were outside the calibration range. These results were qualified as estimated, "J". Data users should consider these values as the minimum amount present in the samples.

All of the 2,3,7,8-TCDF initially detected in the DB5 column were confirmed on the DB225 column. The concentrations of 2,3,7,8-TCDF detected in the samples were within 25% difference for both columns used. Due to poor chromatographic resolution of 2,3,7,8-TCDF in the DB225 column, it is recommended that the data users use the value calculated off the DB5 column.

Blanks

The frequency of analysis of laboratory blank was met. Background levels for some of the target compounds were detected in the method and clean-up blanks. Compounds that were detected in the samples at concentrations that were less than 5 times the values reported in their associated blank were qualified as non-detects, "U".

Analytical Sequence - Acceptable

All of the standards, blanks, samples and QC samples were analyzed in accordance with the method-specified analytical sequence.

Internal Standards

All of the applicable technical acceptance criteria for the internal standards (IS) were met by most of the analyses performed. Some of the IS recoveries exceeded the control limits due to the interferences caused by the presence of high concentrations of some of the PCDD/PCDF homologues native to the samples. The target compounds associated with these out of control IS were already qualified due to peak saturation, no further qualification are required on this basis.

Surrogate Recoveries - Acceptable

The samples' surrogate recoveries ranged from 48% - 151%. All of the surrogate recoveries were acceptable. None of the data were qualified on this basis.

Duplicate Sample Analysis - Not Performed

Matrix Spike/Matrix Spike Duplicate (MS/MSD) Analyses

Samples MB138SS00 and MB477SS00 were analyzed for matrix spike and matrix spike duplicate. The frequency of analysis of MS/MSD was met. Some of the spike recoveries cannot be determined due to the presence of high concentrations of some of the target compounds native to the samples. None of the data were qualified on this basis.

Compound Identification

The detected compounds should meet the ion abundance and signal-to-noise (S/N) ratios and the retention times criteria specified by the method.

Detected compounds with diphenyl ether interferences and/or poor peak resolutions were qualified as estimated, "J". These results are more likely to be high biased. Some of the "Totals" reported were qualified as estimated, "J" because the concentrations reported were derived from all peaks with S/N ratios >2.5, regardless of the ion abundance ratios or other ion and diphenyl ether interferences. Because of this, accuracy and precision of results for these analytes cannot be determined.

Laboratory Contact

The laboratory was not contacted for this review.

Overall Assessment

All of the samples were analyzed in accordance with the method specifications. Data results, as qualified, are acceptable and can be used for all purposes.

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DATA QUALIFIERS

U	-	The analyte was not detected at or above the reported result.
J	-	The analyte was positively identified. The associated numerical result is an estimate.
R	-	The data are unusable for all purposes.
N	-	There is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

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FROM: Kevin Smith

Sound Analytical

TLI Project: 40199B
Client Sample: MB558SS00

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: T9703

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-37-1	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/18/97	ConCal:	T970334
Sample Size:	10.750 g	Dilution Factor:	n/a	% Moisture:	6.7
Dry Weight:	10.030 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	HLM	% Solids:	93.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	0.2				—
1,2,3,7,8-PeCDD	ND	0.3				—
1,2,3,4,7,8-HxCDD	ND	0.3				—
1,2,3,6,7,8-HxCDD	ND	0.3				—
1,2,3,7,8,9-HxCDD	ND	0.3				—
1,2,3,4,6,7,8-HpCDD	11.5			1.13	31:16	—
1,2,3,4,6,7,8,9-OCDD	127			0.85	33:39	—
2,3,7,8-TCDF	0.55			0.68	19:04	—
1,2,3,7,8-PeCDF	ND	0.2				—
2,3,4,7,8-PeCDF	ND	0.2				—
1,2,3,4,7,8-HxCDF	ND	0.3				—
1,2,3,6,7,8-HxCDF	ND	0.2				—
2,3,4,6,7,8-HxCDF	ND	0.3				—
1,2,3,7,8,9-HxCDF	ND	0.3				—
1,2,3,4,6,7,8-HpCDF	2.5			1.10	30:23	—
1,2,3,4,7,8,9-HpCDF	ND	0.5				—
1,2,3,4,6,7,8,9-OCDF	5.5			0.96	33:45	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		0.2		—
Total PeCDD	ND		0.3		—
Total HxCDD	10.5	1			4
Total HpCDD	23.8	2			—
Total TCDF	0.55	1			—
Total PeCDF	ND		0.2		—
Total HxCDF	2.9	2			4
Total HpCDF	7.9	2			4

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Sound Analytical

TLI Project: 40199B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB566SS00 — Analysis File: T970351

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-37-2	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/18/97	ConCal:	T970334
Sample Size:	11.240 g	Dilution Factor:	n/a	% Moisture:	11.0
Dry Weight:	10.004 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	HLM	% Solids:	89.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	5.7			0.78	19:56	—
1,2,3,7,8-PeCDD	71.3			1.53	24:53	—
1,2,3,4,7,8-HxCDD	129			1.21	28:15	—
1,2,3,6,7,8-HxCDD	543			1.23	28:20	—
1,2,3,7,8,9-HxCDD	262			1.23	28:38	—
1,2,3,4,6,7,8-HpCDD	6750			1.01	31:13	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	16050			0.93	33:38	~~S~~ J
2,3,7,8-TCDF	9.5			0.82	19:01	—
1,2,3,7,8-PeCDF	20.9			1.51	23:41	—
2,3,4,7,8-PeCDF	20.4			1.56	24:29	—
1,2,3,4,7,8-HxCDF	115			1.27	27:29	—
1,2,3,6,7,8-HxCDF	57.0			1.24	27:35	—
2,3,4,6,7,8-HxCDF	36.4			1.29	28:07	~~PR~~ J
1,2,3,7,8,9-HxCDF	2.5			1.34	28:51	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	656			1.04	30:21	—
1,2,3,4,7,8,9-HpCDF	54.2			1.05	31:34	—
1,2,3,4,6,7,8,9-OCDF	1850			0.90	33:44	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	43.6	11		47.3	J
Total PeCDD	285	10		289	—
Total HxCDD	2210	7			—
Total HpCDD	12610	2			~~S~~ J
Total TCDF	52.3	8		66.0	~~E~~ J
Total PeCDF	479	10		599	~~E~~ J
Total HxCDF	2060	12		2070	—
Total HpCDF	2280	3			—

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB566SS00 — Analysis File: P97041

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-37-2	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/22/97	ConCal:	P970411
Sample Size:	11.240 g	Dilution Factor:	n/a	% Moisture:	11.0
Dry Weight:	10.004 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	89.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	11.3			0.78	21:10	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	157	78.4	40%-130%	0.77	21:09	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	20:10	—

Data Reviewer: Rosi V. West 02/03/97

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TLI Project: 40199B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB516SS00 — Analysis File: T970352

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-37-3	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/18/97	ConCal:	T970334
Sample Size:	11.030 g	Dilution Factor:	n/a	% Moisture:	9.3
Dry Weight:	10.004 g	Blank File:	T970513	% Lipid:	n/a
GC Column:	DB-5	Analyst:	HLM	% Solids:	90.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	203			0.75	19:55	—
1,2,3,7,8-PeCDD	875			1.56	24:52	—
1,2,3,4,7,8-HxCDD	1210			1.23	28:15	~~PR~~ J
1,2,3,6,7,8-HxCDD	8030			1.08	28:20	~~S~~ J
1,2,3,7,8,9-HxCDD	3040			1.21	28:38	—
1,2,3,4,6,7,8-HpCDD	27970			0.99	31:15	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	64600			0.95	33:42	~~S~~ J
2,3,7,8-TCDF	311			0.81	19:00	—
1,2,3,7,8-PeCDF	820			1.52	23:41	—
2,3,4,7,8-PeCDF	649			1.53	24:29	—
1,2,3,4,7,8-HxCDF	2710			1.20	27:29	—
1,2,3,6,7,8-HxCDF	1020			1.21	27:35	—
2,3,4,6,7,8-HxCDF	1140			1.27	28:07	~~PR~~ J
1,2,3,7,8,9-HxCDF	149			1.25	28:50	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	7250			1.02	30:20	~~S~~ J
1,2,3,4,7,8,9-HpCDF	1560			1.06	31:34	—
1,2,3,4,6,7,8,9-OCDF	25720			0.93	33:46	~~Q,S~~ J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	1890	15		1890	—
Total PeCDD	6660	11			—
Total HxCDD	22780	5		28930	~~S~~ J
Total HpCDD	54260	2			~~Q,S~~ J
Total TCDF	1050	13		1100	— J
Total PeCDF	5890	11		9380	~~S~~ J
Total HxCDF	17760	11		23320	~~S~~ J
Total HpCDF	18720	4			~~S~~ J

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB516SS00 — Analysis File: P97041

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-37-3	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/22/97	ConCal:	P970411
Sample Size:	11.030 g	Dilution Factor:	n/a	% Moisture:	9.3
Dry Weight:	10.004 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	90.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	285			0.73	21:11	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	170	85.1	40%-130%	0.76	21:09	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:11	—

Data Reviewer: VC for Rose West 02/05/97

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TLI Project: 40199B
Client Sample: MB523SS00

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: T970353

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-37-4	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/18/97	ConCal:	T970334
Sample Size:	10.690 g	Dilution Factor:	n/a	% Moisture:	6.4
Dry Weight:	10.006 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	HLM	% Solids:	93.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	51.5			0.82	19:57	—
1,2,3,7,8-PeCDD	390			1.55	24:53	—
1,2,3,4,7,8-HxCDD	789			1.22	28:16	—
1,2,3,6,7,8-HxCDD	5830			1.09	28:20	~~S~~ J
1,2,3,7,8,9-HxCDD	1590			1.22	28:38	—
1,2,3,4,6,7,8-HpCDD	24290			1.00	31:14	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	87730			0.94	33:40	~~S~~ J
2,3,7,8-TCDF	99.6			0.78	19:02	—
1,2,3,7,8-PeCDF	330			1.55	23:42	—
2,3,4,7,8-PeCDF	294			1.59	24:30	—
1,2,3,4,7,8-HxCDF	1450			1.27	27:29	—
1,2,3,6,7,8-HxCDF	473			1.26	27:35	—
2,3,4,6,7,8-HxCDF	469			1.26	28:07	~~PR~~ J
1,2,3,7,8,9-HxCDF	63.5			1.21	28:51	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	5120			1.02	30:20	~~S~~ J
1,2,3,4,7,8,9-HpCDF	658			1.02	31:34	—
1,2,3,4,6,7,8,9-OCDF	43260			0.94	33:45	~~S~~ J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	372	14		408	—
Total PeCDD	1510	11			—
Total HxCDD	19410	7			~~S~~ J
Total HpCDD	46220	2			~~S~~ J
Total TCDF	406	11		430	— J
Total PeCDF	6540	11		7310	~~E~~ J
Total HxCDF	16920	11		16990	~~S~~ J
Total HpCDF	13800	4			~~S~~ J

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB523SS00 — Analysis File: P970411

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-37-4	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/22/97	ConCal:	P970411
Sample Size:	10.690 g	Dilution Factor:	n/a	% Moisture:	6.4
Dry Weight:	10.006 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	93.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	79.8			0.76	21:11	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	130	65.1	40%-130%	0.76	21:09	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:11	—

Data Reviewer: Rose V. West 02/03/97

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TLI Project: 40199B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB304SS00 — Analysis File: T970354

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-37-5	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/18/97	ConCal:	T970334
Sample Size:	11.670 g	Dilution Factor:	n/a	% Moisture:	14.3
Dry Weight:	10.001 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	HLM	% Solids:	85.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	155			0.79	19:56	—
1,2,3,7,8-PeCDD	889			1.53	24:52	—
1,2,3,4,7,8-HxCDD	1780			1.21	28:15	—
1,2,3,6,7,8-HxCDD	6940			1.08	28:20	~~S~~ J
1,2,3,7,8,9-HxCDD	3110			1.22	28:37	—
1,2,3,4,6,7,8-HpCDD	34340			0.99	31:14	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	119680			0.94	33:39	~~S~~ J
2,3,7,8-TCDF	169			0.79	19:01	—
1,2,3,7,8-PeCDF	477			1.64	23:41	—
2,3,4,7,8-PeCDF	462			1.53	24:29	—
1,2,3,4,7,8-HxCDF	2440			1.26	27:29	—
1,2,3,6,7,8-HxCDF	659			1.20	27:35	—
2,3,4,6,7,8-HxCDF	574			1.28	28:07	~~PR~~ J
1,2,3,7,8,9-HxCDF	86.9			1.26	28:51	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	5660			1.01	30:20	~~S~~ J
1,2,3,4,7,8,9-HpCDF	1180			1.04	31:34	~~Q~~ J
1,2,3,4,6,7,8,9-OCDF	65590			0.94	33:45	~~Q,S~~ J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	1110	15		1130	—
Total PeCDD	3850	12			—
Total HxCDD	27500	7			~~S~~ J
Total HpCDD	67610	2			~~Q,S~~ J
Total TCDF	722	12		741	J
Total PeCDF	6230	13		11110	J
Total HxCDF	18420	11		18520	~~S~~ J
Total HpCDF	16230	4			~~S~~ J

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB304SS00 — Analysis File: P9704C

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-37-5	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/22/97	ConCal:	P970411
Sample Size:	11.670 g	Dilution Factor:	n/a	% Moisture:	14.3
Dry Weight:	10.001 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	85.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	126			0.77	21:11	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	148	74.0	40%-130%	0.77	21:10	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.84	20:10	—

Data Reviewer: Rose V. West 02/03/97

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TLI Project: 40199B — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB450SS00 — Analysis File: T970684

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-38-1	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/30/97	ConCal:	T970681
Sample Size:	10.650 g	Dilution Factor:	2X	% Moisture:	5.9
Dry Weight:	10.022 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	94.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	4.4				—
1,2,3,7,8-PeCDD	23.9			1.68	23:57	—
1,2,3,4,7,8-HxCDD	87.3			1.27	27:28	—
1,2,3,6,7,8-HxCDD	614			1.22	27:33	—
1,2,3,7,8,9-HxCDD	321			1.25	27:51	—
1,2,3,4,6,7,8-HpCDD	17320			1.01	30:28	—
1,2,3,4,6,7,8,9-OCDD	35230			0.93	32:54	~~B~~ J
2,3,7,8-TCDF	16.1			0.82	17:37	—
1,2,3,7,8-PeCDF	29.0			1.61	22:41	—
2,3,4,7,8-PeCDF	100			1.55	23:33	—
1,2,3,4,7,8-HxCDF	744			1.25	26:39	—
1,2,3,6,7,8-HxCDF	128			1.30	26:45	—
2,3,4,6,7,8-HxCDF	65.2			1.27	27:19	~~PR~~ J
1,2,3,7,8,9-HxCDF	5.9			1.41	28:04	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	1790			1.05	29:35	—
1,2,3,4,7,8,9-HpCDF	223			1.11	30:50	—
1,2,3,4,6,7,8,9-OCDF	6160			0.87	32:59	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	372	4			
Total PeCDD	166	10		228	J
Total HxCDD	3400	6		3450	—
Total HpCDD	32450	2			—
Total TCDF	690	6		718	—
Total PeCDF	991	8		1090	J
Total HxCDF	4560	9		4630	J
Total HpCDF	8010	4			—

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB450SS00 — Analysis File: P97041

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-38-1	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/22/97	ConCal:	P970411
Sample Size:	10.650 g	Dilution Factor:	n/a	% Moisture:	5.9
Dry Weight:	10.022 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	94.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	12.1			0.85	21:11	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	197	98.9	40%-130%	0.76	21:09	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	20:11	—

Data Reviewer: Rose V. West 02/03/97

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TLI Project: 40199B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB348SS00 — Analysis File: T970355

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-39-1	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/18/97	ConCal:	T970334
Sample Size:	10.870 g	Dilution Factor:	n/a	% Moisture:	7.8
Dry Weight:	10.022 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	HLM	% Solids:	92.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	226			0.78	19:57	—
1,2,3,7,8-PeCDD	3750			1.51	24:54	—
1,2,3,4,7,8-HxCDD	8060			1.08	28:17	~~S~~ J
1,2,3,6,7,8-HxCDD	12200			1.05	28:22	~~S~~ J
1,2,3,7,8,9-HxCDD	12390			1.08	28:38	~~S~~ J
1,2,3,4,6,7,8-HpCDD	46660			1.00	31:17	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	97740			0.95	33:42	~~S~~ J
2,3,7,8-TCDF	505			0.77	19:02	—
1,2,3,7,8-PeCDF	1180			1.55	23:42	—
2,3,4,7,8-PeCDF	1010			1.58	24:30	—
1,2,3,4,7,8-HxCDF	4180			1.18	27:30	—
1,2,3,6,7,8-HxCDF	1500			1.26	27:36	—
2,3,4,6,7,8-HxCDF	971			1.29	28:08	~~PR~~ J
1,2,3,7,8,9-HxCDF	123			1.25	28:52	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	9540			1.01	30:21	~~S~~ J
1,2,3,4,7,8,9-HpCDF	1650			1.07	31:35	—
1,2,3,4,6,7,8,9-OCDF	40950			0.93	33:46	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	2200	12		2250	—
Total PeCDD	15550	11			—
Total HxCDD	41750	5		66920	~~S~~ J
Total HpCDD	91090	2			~~S~~ J
Total TCDF	2130	11		2220	J
Total PeCDF	10250	14		16990	~~S~~ J
Total HxCDF	29390	13		29630	~~S~~ J
Total HpCDF	25450	3		25630	~~S~~ J

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TLI Project: 40199B
Client Sample: MB348SS00

Method 8290 TCDD/TCDF Analysis (DB-225)
Analysis File: P9704

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-39-1	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/22/97	ConCal:	P970411
Sample Size:	10.870 g	Dilution Factor:	n/a	% Moisture:	7.8
Dry Weight:	10.022 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	92.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	410			0.74	21:11	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	134	67.0	40%-130%	0.76	21:11	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:12	—

Data Reviewer: Rose V. West 02/03/97

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TLI Project: 40199B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB676SS00 — Analysis File: T970575

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-40-1	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/26/97	ConCal:	T970566
Sample Size:	11.300 g	Dilution Factor:	5X	% Moisture:	11.5
Dry Weight:	10.001 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	88.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	31.5			0.70	19:15	—
1,2,3,7,8-PeCDD	325			1.55	24:23	—
1,2,3,4,7,8-HxCDD	625			1.20	27:48	~~PR~~ J
1,2,3,6,7,8-HxCDD	17750			1.23	27:53	—
1,2,3,7,8,9-HxCDD	2690			1.24	28:12	—
1,2,3,4,6,7,8-HpCDD	90970			1.00	30:50	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	137880			0.93	33:18	~~S~~ J
2,3,7,8-TCDF	906			0.78	18:16	—
1,2,3,7,8-PeCDF	2030			1.50	23:07	—
2,3,4,7,8-PeCDF	1510			1.52	23:58	—
1,2,3,4,7,8-HxCDF	5830			1.27	27:00	—
1,2,3,6,7,8-HxCDF	1740			1.28	27:07	—
2,3,4,6,7,8-HxCDF	1400			1.29	27:40	—
1,2,3,7,8,9-HxCDF	260			1.23	28:25	—
1,2,3,4,6,7,8-HpCDF	27170			1.02	29:56	~~S~~ J
1,2,3,4,7,8,9-HpCDF	2340			1.05	31:09	—
1,2,3,4,6,7,8,9-OCDF	27410			0.88	33:21	~~Q~~ J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	484	10		517	—
Total PeCDD	2190	12			—
Total HxCDD	58980	7			—
Total HpCDD	172130	2			~~S~~ J
Total TCDF	2080	12		2170	J
Total PeCDF	28310	12		29300	J
Total HxCDF	96500	11		96850	~~S~~ J
Total HpCDF	71330	3			~~S~~ J

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB676SS00 — Analysis File: P97041

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-40-1	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/22/97	ConCal:	P970411
Sample Size:	11.300 g	Dilution Factor:	n/a	% Moisture:	11.5
Dry Weight:	10.001 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	88.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	844			0.75	21:12	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	133	66.7	40%-130%	0.76	21:11	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	20:13	—

Data Reviewer: Rose V. West 02/03/97

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TLI Project: 40199B
Client Sample: MB690SS00

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: T970576

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-40-2	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/26/97	ConCal:	T970566
Sample Size:	10.870 g	Dilution Factor:	5X	% Moisture:	7.8
Dry Weight:	10.022 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	92.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	868			0.77	19:11	—
1,2,3,7,8-PeCDD	2810			1.60	24:22	—
1,2,3,4,7,8-HxCDD	2430			1.22	27:48	~~PR~~ J
1,2,3,6,7,8-HxCDD	14180			1.22	27:53	—
1,2,3,7,8,9-HxCDD	8590			1.23	28:11	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	92170			1.01	30:50	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	137040			0.94	33:18	~~S~~ J
2,3,7,8-TCDF	114			0.79	18:15	—
1,2,3,7,8-PeCDF	422			1.63	23:08	—
2,3,4,7,8-PeCDF	507			1.48	23:58	—
1,2,3,4,7,8-HxCDF	2490			1.27	27:00	—
1,2,3,6,7,8-HxCDF	649			1.37	27:07	—
2,3,4,6,7,8-HxCDF	591			1.28	27:40	~~PR~~ J
1,2,3,7,8,9-HxCDF	EMPC		54.2			~~PR~~ J
1,2,3,4,6,7,8-HpCDF	12670			1.05	29:55	—
1,2,3,4,7,8,9-HpCDF	956			1.03	31:09	—
1,2,3,4,6,7,8,9-OCDF	19520			0.88	33:20	~~Q~~ J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	7160	13		7270	J
Total PeCDD	18030	11		18130	—
Total HxCDD	87190	7			—
Total HpCDD	179910	2			~~S~~ J
Total TCDF	624	9		670	J
Total PeCDF	8650	12		9200	J
Total HxCDF	39200	10		39330	J
Total HpCDF	46820	3			~~S~~ J

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB690SS00 — Analysis File: P970420

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-40-2	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/23/97	ConCal:	P970411
Sample Size:	10.870 g	Dilution Factor:	n/a	% Moisture:	7.8
Dry Weight:	10.022 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MM	% Solids:	92.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	106			0.73	21:14	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	166	83.4	40%-130%	0.74	21:13	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:14	—

Data Reviewer: Rose V. West 02/03/97

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TLI Project: 40199B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB477SS00 — Analysis File: T970577

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPX2372S
TLI ID:	152-40-3	Date Extracted:	01/02/97	ICal:	TF53286
		Date Analyzed:	01/26/97	ConCal:	T970566
Sample Size:	10.780 g	Dilution Factor:	5X	% Moisture:	7.1
Dry Weight:	10.015 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	92.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	2.7				—
1,2,3,7,8-PeCDD	37.7			1.68	24:23	—
1,2,3,4,7,8-HxCDD	EMPC		74.7			~~PR~~ J
1,2,3,6,7,8-HxCDD	977			1.29	27:53	—
1,2,3,7,8,9-HxCDD	308			1.24	28:12	—
1,2,3,4,6,7,8-HpCDD	31770			1.04	30:48	—
1,2,3,4,6,7,8,9-OCDD	66490			0.92	33:15	~~S~~ J
2,3,7,8-TCDF	29.0			0.67	18:16	—
1,2,3,7,8-PeCDF	70.6			1.66	23:08	—
2,3,4,7,8-PeCDF	116			1.51	23:58	—
1,2,3,4,7,8-HxCDF	623			1.28	27:01	—
1,2,3,6,7,8-HxCDF	132			1.24	27:07	—
2,3,4,6,7,8-HxCDF	133			1.23	27:41	~~PR~~ J
1,2,3,7,8,9-HxCDF	13.6			1.30	28:26	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	2290			1.05	29:56	—
1,2,3,4,7,8,9-HpCDF	206			1.02	31:09	—
1,2,3,4,6,7,8,9-OCDF	5770			0.88	33:19	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	6.5	1		14.6	— J
Total PeCDD	112	5		137	— J
Total HxCDD	4790	6		4880	—
Total HpCDD	65130	2			—
Total TCDF	84.8	7		126	~~E~~ J
Total PeCDF	1380	10		1570	~~E~~ J
Total HxCDF	6730	11			—
Total HpCDF	9590	3			—

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TLI Project: 40199B — Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB477SS00 — Analysis File: P970421

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/23/96	Spike File:	SPC2NF2S
TLI ID:	152-40-3	Date Extracted:	01/02/97	ICal:	PF22206
		Date Analyzed:	01/23/97	ConCal:	P970411
Sample Size:	10.780 g	Dilution Factor:	n/a	% Moisture:	7.1
Dry Weight:	10.015 g	Blank File:	T970349	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	92.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	35.0			0.71	21:12	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	163	81.4	40%-130%	0.75	21:11	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:13	—

Data Reviewer: Rose V. West 02/03/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB019SS00 — Analysis File: T970570

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPX2372S
TLI ID:	151-19-1	Date Extracted:	01/21/97	ICal:	TF53286
		Date Analyzed:	01/26/97	ConCal:	T970566
Sample Size:	12.820 g	Dilution Factor:	5X	% Moisture:	21.7
Dry Weight:	10.038 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	78.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	94.8			0.74	19:15	—
1,2,3,7,8-PeCDD	1220			1.60	24:23	—
1,2,3,4,7,8-HxCDD	1500			1.32	27:49	—
1,2,3,6,7,8-HxCDD	13230			1.22	27:54	—
1,2,3,7,8,9-HxCDD	3230			1.22	28:13	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	66320			1.00	30:50	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	133050			0.83	33:17	~~S~~ J
2,3,7,8-TCDF	276			0.81	18:16	—
1,2,3,7,8-PeCDF	809			1.49	23:09	—
2,3,4,7,8-PeCDF	605			1.54	23:59	—
1,2,3,4,7,8-HxCDF	EMPC		3910			~~E~~ J
1,2,3,6,7,8-HxCDF	1230			1.27	27:08	—
2,3,4,6,7,8-HxCDF	881			1.25	27:41	~~PR~~ J
1,2,3,7,8,9-HxCDF	80.9			1.26	28:25	—
1,2,3,4,6,7,8-HpCDF	12200			1.05	29:57	—
1,2,3,4,7,8,9-HpCDF	1420			1.05	31:11	—
1,2,3,4,6,7,8,9-OCDF	56520			0.91	33:22	~~SQ~~ J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	318	10		345	—
Total PeCDD	3240	9			—
Total HxCDD	34540	6			—
Total HpCDD	113900	2			~~S~~ J
Total TCDF	2270	8		2860	~~E~~ J
Total PeCDF	19800	10		23330	~~E~~ J
Total HxCDF	45260	9		51020	~~E~~ J
Total HpCDF	44800	3			~~S~~ J

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB019SS00 Analysis File: P970511C

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPC2NF2S
TLI ID:	151-19-1	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/27/97	ConCal:	P970504
Sample Size:	12.820 g	Dilution Factor:	5X	% Moisture:	21.7
Dry Weight:	10.038 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MS	% Solids:	78.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	242			0.74	21:54	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	161	80.7	40%-130%	0.77	21:53	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	20:51	—

Data Reviewer: S.A.P. 02/01/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB206SS00 — Analysis File: T970571

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPX2372S
TLI ID:	151-19-2	Date Extracted:	01/21/97	ICal:	TF53286
		Date Analyzed:	01/26/97	ConCal:	T970566
Sample Size:	12.410 g	Dilution Factor:	5X	% Moisture:	19.4
Dry Weight:	10.002 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	80.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	1560			0.77	19:11	—
1,2,3,7,8-PeCDD	22660			1.61	24:21	—
1,2,3,4,7,8-HxCDD	29670			1.19	27:49	—
1,2,3,6,7,8-HxCDD	67960			1.05	27:54	S J
1,2,3,7,8,9-HxCDD	38200			1.10	28:12	S J
1,2,3,4,6,7,8-HpCDD	118110			1.00	30:53	S J
1,2,3,4,6,7,8,9-OCDD	222320			0.94	33:17	S J
2,3,7,8-TCDF	10060			0.79	18:13	—
1,2,3,7,8-PeCDF	22520			1.49	23:06	—
2,3,4,7,8-PeCDF	20870			1.48	23:57	—
1,2,3,4,7,8-HxCDF	44630			1.07	27:02	S J
1,2,3,6,7,8-HxCDF	25720			1.17	27:07	S J
2,3,4,6,7,8-HxCDF	19050			1.28	27:40	PR J
1,2,3,7,8,9-HxCDF	3920			1.14	28:23	—
1,2,3,4,6,7,8-HpCDF	50600			1.01	29:59	—
1,2,3,4,7,8,9-HpCDF	24790			1.02	31:10	Q J
1,2,3,4,6,7,8,9-OCDF	138210			0.96	33:21	QS J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	5000	11		5190	—
Total PeCDD	55940	9		55990	—
Total HxCDD	193900	6		256940	QS J
Total HpCDD	212800	2			QS J
Total TCDF	51080	13		51810	J
Total PeCDF	117050	9		245830	ES J
Total HxCDF	146350	7		333840	QS J
Total HpCDF	158590	3		160560	QS J

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB206SS00 Analysis File: P97051

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPC2NF2S
TLI ID:	151-19-2	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/27/97	ConCal:	P970504
Sample Size:	12.410 g	Dilution Factor:	n/a	% Moisture:	19.4
Dry Weight:	10.002 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MS	% Solids:	80.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	9400			0.79	21:56	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	126	63.2	40%-130%	0.80	21:55	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:51	—

Data Reviewer: S.A. P 02/01/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB087SS00 — Analysis File: T970821

Client Project:	Wood Treatment Site			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPX2372S
TLI ID:	151-19-3	Date Extracted:	01/21/97	1st CCal:	T970818
		Date Analyzed:	02/04/97	End CCal:	T970835
Sample Size:	11.000 g	Dilution Factor:	5X	% Moisture:	8.4
Dry Weight:	10.076 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	91.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	4.2			0.80	18:30	—
1,2,3,7,8-PeCDD	20.0			1.67	23:52	—
1,2,3,4,7,8-HxCDD	33.0			1.13	27:23	—
1,2,3,6,7,8-HxCDD	183			1.26	27:28	—
1,2,3,7,8,9-HxCDD	64.0			1.17	27:46	—
1,2,3,4,6,7,8-HpCDD	3800			1.04	30:24	—
1,2,3,4,6,7,8,9-OCDD	25970			0.84	32:49	—
2,3,7,8-TCDF	6.8			0.65	17:31	—
1,2,3,7,8-PeCDF	20.9			1.62	22:35	—
2,3,4,7,8-PeCDF	18.9			1.66	23:27	—
1,2,3,4,7,8-HxCDF	EMPC		74.2			~~E~~ J
1,2,3,6,7,8-HxCDF	35.6			1.38	26:41	—
2,3,4,6,7,8-HxCDF	22.8			1.32	27:14	~~PRB~~ J
1,2,3,7,8,9-HxCDF	4.9			1.28	27:58	~~B~~ —
1,2,3,4,6,7,8-HpCDF	391			1.06	29:31	—
1,2,3,4,7,8,9-HpCDF	35.2			1.01	30:46	~~B~~ — ok
1,2,3,4,6,7,8,9-OCDF	1090			0.88	32:54	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	9.2	3			—
Total PeCDD	56.6	5		61.9	—
Total HxCDD	611	6			—
Total HpCDD	5210	2			—
Total TCDF	24.7	4		44.2	~~E~~ J
Total PeCDF	359	8		426	~~E~~ J
Total HxCDF	894	8		994	J
Total HpCDF	1310	3			—

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB087SS00 Analysis File: P970520

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPC2NF2S
TLI ID:	151-19-3	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970519
Sample Size:	11.000 g	Dilution Factor:	5X	% Moisture:	8.4
Dry Weight:	10.076 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	91.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	7.8			0.88	21:54	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	119	60.0	40%-130%	0.77	21:53	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	20:51	—

Data Reviewer: S. A. P. 02/01/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB401SS00 — Analysis File: T970797

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPX2372S
TLI ID:	151-19-4	Date Extracted:	01/21/97	ICal:	TF53286
		Date Analyzed:	02/04/97	ConCal:	T970786
Sample Size:	11.640 g	Dilution Factor:	5X	% Moisture:	13.5
Dry Weight:	10.069 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	VC	% Solids:	86.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	12.1			0.83	18:21	—
1,2,3,7,8-PeCDD	107			1.41	23:49	—
1,2,3,4,7,8-HxCDD	236			1.10	27:20	—
1,2,3,6,7,8-HxCDD	2190			1.21	27:25	—
1,2,3,7,8,9-HxCDD	489			1.16	27:44	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	49560			1.01	30:22	—
1,2,3,4,6,7,8,9-OCDD	237950			0.92	32:49	~~S~~ J
2,3,7,8-TCDF	57.2			0.83	17:25	—
1,2,3,7,8-PeCDF	143			1.54	22:31	—
2,3,4,7,8-PeCDF	126			1.69	23:24	—
1,2,3,4,7,8-HxCDF	EMPC		993			~~E~~ J
[illegible]3,6,7,8-HxCDF	318			1.23	26:39	—
[illegible],4,6,7,8-HxCDF	184			1.29	27:12	—
1,2,3,7,8,9-HxCDF	EMPC		8.2			~~B~~ ok
1,2,3,4,6,7,8-HpCDF	4710			1.06	29:28	—
1,2,3,4,7,8,9-HpCDF	371			1.00	30:44	—
1,2,3,4,6,7,8,9-OCDF	12690			0.91	32:53	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	43.0	2		57.8	—
Total PeCDD	329	5		344	—
Total HxCDD	6310	6			—
Total HpCDD	70420	2			—
Total TCDF	318	10		326	—
Total PeCDF	3110	9		3520	J
Total HxCDF	13940	7		15200	J
Total HpCDF	18700	3			—

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB401SS00 Analysis File: P970514

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPC2NF2S
TLI ID:	151-19-4	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970504
Sample Size:	11.640 g	Dilution Factor:	5X	% Moisture:	13.5
Dry Weight:	10.069 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MS	% Solids:	86.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	58.4			0.84	21:51	PR

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	146	73.4	40%-130%	0.77	21:51	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:49	—

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB258SS00 — Analysis File: T970583

Client Project:	Wood Treatment Site			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPX2372S
TLI ID:	151-19-5	Date Extracted:	01/21/97	1st CCal:	T970579
		Date Analyzed:	01/26/97	End CCal:	T970598
Sample Size:	12.730 g	Dilution Factor:	5X	% Moisture:	21.2
Dry Weight:	10.031 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	78.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	40.2			0.76	19:15	—
1,2,3,7,8-PeCDD	281			1.54	24:24	—
1,2,3,4,7,8-HxCDD	633			1.19	27:49	—
1,2,3,6,7,8-HxCDD	2220			1.23	27:54	—
1,2,3,7,8,9-HxCDD	1030			1.25	28:13	~~PR~~
1,2,3,4,6,7,8-HpCDD	39320			1.00	30:49	~~S~~
1,2,3,4,6,7,8,9-OCDD	88940			0.91	33:14	~~S~~
2,3,7,8-TCDF	46.7			0.70	18:19	—
1,2,3,7,8-PeCDF	133			1.43	23:10	—
2,3,4,7,8-PeCDF	144			1.51	24:00	—
1,2,3,4,7,8-HxCDF	EMPC		1970			~~E~~
1,2,3,6,7,8-HxCDF	315			1.12	27:08	—
2,3,4,6,7,8-HxCDF	EMPC		171			~~PRE~~
1,2,3,7,8,9-HxCDF	11.2			1.21	28:25	~~B~~
1,2,3,4,6,7,8-HpCDF	7200			1.07	29:56	—
1,2,3,4,7,8,9-HpCDF	668			1.05	31:11	—
1,2,3,4,6,7,8,9-OCDF	33400			0.88	33:19	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	483	10		508	—
Total PeCDD	1230	9		1610	—
Total HxCDD	9150	6		9170	—
Total HpCDD	53950	2			~~S~~
Total TCDF	259	7		510	~~E~~
Total PeCDF	2910	9		4170	~~E~~
Total HxCDF	13190	9		15920	~~E~~
Total HpCDF	32750	3			~~S~~

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB258SS00 Analysis File: P970515

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/16/96	Spike File:	SPC2NF2S
TLI ID:	151-19-5	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970504
Sample Size:	12.730 g	Dilution Factor:	5X	% Moisture:	21.2
Dry Weight:	10.031 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MS	% Solids:	78.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	49.7			0.82	21:53	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	151	75.6	40%-130%	0.80	21:52	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:51	—

Data Reviewer: S.A.P. 02/01/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB141SS00 — Analysis File: T970584

Client Project:	Wood Treatment Site			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPX2372S
TLI ID:	151-32-1	Date Extracted:	01/21/97	1st CCal:	T970579
		Date Analyzed:	01/26/97	End CCal:	T970598
Sample Size:	10.650 g	Dilution Factor:	5X	% Moisture:	5.9
Dry Weight:	10.022 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	94.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	2.0				—
1,2,3,7,8-PeCDD	11.8			1.63	24:23	—
1,2,3,4,7,8-HxCDD	129			1.24	27:49	—
1,2,3,6,7,8-HxCDD	4870			1.25	27:54	—
1,2,3,7,8,9-HxCDD	347			1.24	28:13	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	24570			0.99	30:51	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	54110			0.93	33:20	~~S~~ J
2,3,7,8-TCDF	121			0.78	18:15	—
1,2,3,7,8-PeCDF	606			1.52	23:08	—
2,3,4,7,8-PeCDF	628			1.51	23:58	—
1,2,3,4,7,8-HxCDF	7900			1.15	27:01	~~S~~ J
1,2,3,6,7,8-HxCDF	1270			1.25	27:08	—
2,3,4,6,7,8-HxCDF	EMPC		573			~~PRE~~ J
1,2,3,7,8,9-HxCDF	244			1.23	28:24	—
1,2,3,4,6,7,8-HpCDF	10710			1.05	29:58	~~S~~ J
1,2,3,4,7,8,9-HpCDF	3310			1.11	31:11	—
1,2,3,4,6,7,8,9-OCDF	27270			0.96	33:25	~~SQ~~ J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	EMPC			8.9	—
Total PeCDD	33.0	4		42.2	—
Total HxCDD	11570	6			—
Total HpCDD	44250	2			~~QS~~ J
Total TCDF	392	11		796	~~E~~ J
Total PeCDF	8940	12		10120	~~E~~ J
Total HxCDF	40450	9		41750	~~S~~ J
Total HpCDF	28720	3			~~QS~~ J

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB141SS00 Analysis File: P970516

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPC2NF2S
TLI ID:	151-32-1	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970504
Sample Size:	10.650 g	Dilution Factor:	5X	% Moisture:	5.9
Dry Weight:	10.022 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	94.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	121			0.85 ✓	21:54	PR_

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	199	99.7	40%-130%	0.77 ✓	21:54	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82 ✓	20:51	—

Data Reviewer: S.A.P. 02/01/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB138SS00 — Analysis File: T970585

Client Project:	Wood Treatment Site			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPX2372S
TLI ID:	151-32-2A	Date Extracted:	01/21/97	1st CCal:	T970579
		Date Analyzed:	01/26/97	End CCal:	T970598
Sample Size:	11.230 g	Dilution Factor:	5X	% Moisture:	10.7
Dry Weight:	10.028 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	89.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	3.9				—
1,2,3,7,8-PeCDD	25.9			1.40	24:23	—
1,2,3,4,7,8-HxCDD	77.7			1.23	27:49	—
1,2,3,6,7,8-HxCDD	777			1.20	27:54	—
1,2,3,7,8,9-HxCDD	190			1.24	28:13	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	18530			1.00	30:48	—
1,2,3,4,6,7,8,9-OCDD	53830			0.92	33:13	~~S~~ J
2,3,7,8-TCDF	23.4			0.85	18:17	—
1,2,3,7,8-PeCDF	63.0			1.36	23:10	—
2,3,4,7,8-PeCDF	93.7			1.45	23:58	—
1,2,3,4,7,8-HxCDF	303			1.26	27:01	—
1,2,3,6,7,8-HxCDF	73.9			1.20	27:08	—
2,3,4,6,7,8-HxCDF	87.4			1.32	27:41	~~PR~~ J
1,2,3,7,8,9-HxCDF	ND	3.6				—
1,2,3,4,6,7,8-HpCDF	1890			1.09	29:56	—
1,2,3,4,7,8,9-HpCDF	142			1.17	31:10	—
1,2,3,4,6,7,8,9-OCDF	4090			0.85	33:19	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	11.0	2		15.5	—
Total PeCDD	103	4		123	—
Total HxCDD	2780	6			—
Total HpCDD	28020	2			—
Total TCDF	111	6		148	~~E~~ J
Total PeCDF	959	7		1150	~~E~~ J
Total HxCDF	4520	9		4580	J
Total HpCDF	6610	3			—

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB138SS00 Analysis File: P970521

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPC2NF2S
TLI ID:	151-32-2A	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970519
Sample Size:	11.230 g	Dilution Factor:	5X	% Moisture:	10.7
Dry Weight:	10.028 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	89.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	25.6			0.76	21:53	PR

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	148	74.1	40%-130%	0.78	21:53	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:51	—

Data Reviewer: S.A. 02/01/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB142SS00 — Analysis File: T970588

Client Project:	Wood Treatment Site			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPX2372S
TLI ID:	151-32-3	Date Extracted:	01/21/97	1st CCal:	T970579
		Date Analyzed:	01/26/97	End CCal:	T970598
Sample Size:	11.530 g	Dilution Factor:	5X	% Moisture:	13.0
Dry Weight:	10.031 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	87.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	3.5				—
1,2,3,7,8-PeCDD	13.8			1.65	24:24	—
1,2,3,4,7,8-HxCDD	46.9			1.32	27:49	—
1,2,3,6,7,8-HxCDD	471			1.24	27:54	—
1,2,3,7,8,9-HxCDD	130			1.17	28:14	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	13060			1.01	30:49	—
1,2,3,4,6,7,8,9-OCDD	32780			0.92	33:14	~~S~~ J
2,3,7,8-TCDF	14.0			0.86	18:18	—
1,2,3,7,8-PeCDF	42.4			1.77	23:10	—
2,3,4,7,8-PeCDF	29.8			1.38	23:59	—
1,2,3,4,7,8-HxCDF	192			1.28	27:02	—
1,2,3,6,7,8-HxCDF	51.7			1.34	27:08	—
2,3,4,6,7,8-HxCDF	68.3			1.35	27:42	~~PR~~ J
1,2,3,7,8,9-HxCDF	5.2			1.19	28:25	~~B~~ J
1,2,3,4,6,7,8-HpCDF	1210			1.05	29:57	—
1,2,3,4,7,8,9-HpCDF	76.8			0.97	31:12	—
1,2,3,4,6,7,8,9-OCDF	2320			0.86	33:19	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		3.5		—
Total PeCDD	29.2	3		63.9	—
Total HxCDD	1760	6			—
Total HpCDD	20520	2			—
Total TCDF	63.4	5		78.3	~~E~~ J
Total PeCDF	606	8		723	~~E~~ J
Total HxCDF	2760	8		2840	J
Total HpCDF	4310	3			—

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB142SS00 Analysis File: P970526

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPC2NF2S
TLI ID:	151-32-3	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970519
Sample Size:	11.530 g	Dilution Factor:	5X	% Moisture:	13.0
Dry Weight:	10.031 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	87.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	15.4			0.79	21:52	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	153	76.6	40%-130%	0.76	21:52	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:51	—

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB700SS00 — Analysis File: T970685

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPX2372S
TLI ID:	151-32-4	Date Extracted:	01/21/97	ICal:	TF53286
		Date Analyzed:	01/30/97	ConCal:	T970681
Sample Size:	11.350 g	Dilution Factor:	2X	% Moisture:	10.9
Dry Weight:	10.113 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	89.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	EMPC		4.5			—
1,2,3,7,8-PeCDD	64.7			1.59	23:57	—
1,2,3,4,7,8-HxCDD	84.8			1.23	27:27	—
1,2,3,6,7,8-HxCDD	529			1.26	27:32	—
1,2,3,7,8,9-HxCDD	141			1.23	27:51	—
1,2,3,4,6,7,8-HpCDD	9900			1.02	30:28	—
1,2,3,4,6,7,8,9-OCDD	64810			0.87	32:53	—
2,3,7,8-TCDF	16.1			0.75	17:38	—
1,2,3,7,8-PeCDF	34.9			1.43	22:41	—
2,3,4,7,8-PeCDF	37.5			1.48	23:31	—
1,2,3,4,7,8-HxCDF	EMPC		244			~~E~~ J
1,2,3,6,7,8-HxCDF	65.8			1.12	26:45	—
2,3,4,6,7,8-HxCDF	29.3			1.29	27:18	~~PRB~~ J
1,2,3,7,8,9-HxCDF	ND	1.8				—
1,2,3,4,6,7,8-HpCDF	1230			1.03	29:35	—
1,2,3,4,7,8,9-HpCDF	97.2			0.98	30:49	—
1,2,3,4,6,7,8,9-OCDF	17450			0.86	32:58	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	6.6	1		14.4	—
Total PeCDD	147	4		188	J
Total HxCDD	1270	6			—
Total HpCDD	10500	2			—
Total TCDF	75.9	5		96.7	~~E~~ J
Total PeCDF	790	8		978	~~E~~ J
Total HxCDF	2470	8		2760	~~E~~ J
Total HpCDF	4880	3			—

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB700SS00 Analysis File: U970505

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPC2NF2S
TLI ID:	151-32-4	Date Extracted:	01/21/97	ICal:	UF2D206
		Date Analyzed:	02/01/97	ConCal:	U970493
Sample Size:	11.350 g	Dilution Factor:	5X	% Moisture:	10.9
Dry Weight:	10.113 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MM	% Solids:	89.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	11.1			0.79	21:52	___

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	33.8	17.1	40%-130%	0.76	21:51	V___

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:49	___

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB801SS00 — Analysis File: T970590

Client Project:	Wood Treatment Site			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPX2372S
TLI ID:	151-32-5	Date Extracted:	01/21/97	1st CCal:	T970579
		Date Analyzed:	01/26/97	End CCal:	T970598
Sample Size:	24.760 g	Dilution Factor:	5X	% Moisture:	59.6
Dry Weight:	10.003 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MM	% Solids:	40.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	35.3			0.83	19:13	
1,2,3,7,8-PeCDD	191			1.52	24:22	
1,2,3,4,7,8-HxCDD	290			1.27	27:47	
1,2,3,6,7,8-HxCDD	2290			1.23	27:53	
1,2,3,7,8,9-HxCDD	692			1.22	28:12	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	29770			0.99	30:48	~~S~~ J
1,2,3,4,6,7,8,9-OCDD	58040			0.92	33:14	~~S~~ J
2,3,7,8-TCDF	EMPC		33.6			J
1,2,3,7,8-PeCDF	103			1.58	23:09	
2,3,4,7,8-PeCDF	85.1			1.57	23:59	
1,2,3,4,7,8-HxCDF	EMPC		512			~~E~~ J
1,2,3,6,7,8-HxCDF	149			1.38	27:07	
2,3,4,6,7,8-HxCDF	180			1.30	27:42	~~PR~~ J
1,2,3,7,8,9-HxCDF	EMPC		9.4			~~B~~
1,2,3,4,6,7,8-HpCDF	3070			1.08	29:55	
1,2,3,4,7,8,9-HpCDF	200			0.95	31:11	
1,2,3,4,6,7,8,9-OCDF	3500			0.85	33:19	

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	229	8		246	
Total PeCDD	603	6		768	J
Total HxCDD	6740	6			
Total HpCDD	42580	2			~~S~~ J
Total TCDF	149	5		476	~~E~~ J
Total PeCDF	2030	8		2800	~~E~~ J
Total HxCDF	7360	7		8140	J
Total HpCDF	10780	3			

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB801SS00 Analysis File: P97052

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPC2NF2S
TLI ID:	151-32-5	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970519
Sample Size:	24.760 g	Dilution Factor:	5X	% Moisture:	59.6
Dry Weight:	10.003 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	40.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	30.0			0.82	21:49	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	108	54.1	40%-130%	0.79	21:52	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	20:51	—

Data Reviewer: S.A. P. 02/01/97

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TLI Project: 40199Ar1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB755SS00 — Analysis File: T970640

Client Project:	Wood Treatment Site			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPX2372S
TLI ID:	151-32-6	Date Extracted:	01/21/97	1st CCal:	T970627
		Date Analyzed:	01/28/97	End CCal:	T970642
Sample Size:	12.590 g	Dilution Factor:	5X	% Moisture:	20.4
Dry Weight:	10.022 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-5	Analyst:	MS	% Solids:	79.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	17.2			0.74	18:57	—
1,2,3,7,8-PeCDD	145			1.35	24:12	—
1,2,3,4,7,8-HxCDD	201			1.28	27:39	—
1,2,3,6,7,8-HxCDD	670			1.27	27:44	—
1,2,3,7,8,9-HxCDD	330			1.21	28:03	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	14250			1.01	30:39	—
1,2,3,4,6,7,8,9-OCDD	75150			0.90	33:03	~~B~~ J
2,3,7,8-TCDF	20.3			0.82	18:01	—
1,2,3,7,8-PeCDF	43.2			1.40	22:56	—
2,3,4,7,8-PeCDF	77.7			1.54	23:47	—
1,2,3,4,7,8-HxCDF	EMPC		807			~~E~~ J
1,2,3,6,7,8-HxCDF	EMPC		104			J
2,3,4,6,7,8-HxCDF	EMPC		82.7			~~PRE~~ J
1,2,3,7,8,9-HxCDF	7.1			1.10	28:15	~~B~~ J
1,2,3,4,6,7,8-HpCDF	3120			1.05	29:45	—
1,2,3,4,7,8,9-HpCDF	269			0.97	31:01	—
1,2,3,4,6,7,8,9-OCDF	17070			0.88	33:08	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	109	2		150	—
Total PeCDD	350	5		506	—
Total HxCDD	2490	6			—
Total HpCDD	18570	2			—
Total TCDF	114	7		212	~~E~~ J
Total PeCDF	1210	10		1630	~~E~~ J
Total HxCDF	4260	6		5420	~~E~~ J
Total HpCDF	13700	3			—

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TLI Project: 40199Ar1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB755SS00 Analysis File: P9705

Client Project:	Wood Treatment Site				
Sample Matrix:	SOIL	Date Received:	12/17/96	Spike File:	SPC2NF2S
TLI ID:	151-32-6	Date Extracted:	01/21/97	ICal:	PF22206
		Date Analyzed:	01/28/97	ConCal:	P970519
Sample Size:	12.590 g	Dilution Factor:	5X	% Moisture:	20.4
Dry Weight:	10.022 g	Blank File:	T970568	% Lipid:	n/a
GC Column:	DB-225	Analyst:	DL	% Solids:	79.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	12.9			0.85	21:54	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	123	61.4	40%-130%	0.77	21:52	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:51	—

Data Reviewer: S.A. P 02/01/97

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B-3 EPA Composite Dioxin Data Validation Memoranda - June 1997

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June 23, 1997

Reply to
Attn of: OEA-095

MEMORANDUM

Subject: Data Validation Report for Polychlorinated Dibenzodioxins (PCDD) and Polychlorinated Dibenzofurans (PCDF) Analysis of Samples from McCormick and Baxter Site

From: Ginna Grepo-Grove, Chemist
Quality Assurance & Data Management Unit, OEA

To: Howard Orlean, RPM
Office of Environmental Cleanup

CC: Kevin Smith, Ecology and Environment

The quality assurance (QA) review of 27 soil samples collected from the above referenced site has been completed. These samples were analyzed for PCDD/PCDF in accordance with the USEPA SW846 Method 8290 Revision 0 (9/94) by Triangle Laboratories, Inc. of Research Triangle Park, NC. The following samples were reviewed in this report:

MB020CP00	MB021CP00	MB022CP00	MB004CP00
MB005CP00	MB007CP00	MB008CP00	MB011CP00
MB13CCP10	MB13ACP10	MB018CP10	MB023CP00
MB019CP00	MB13BCP04	MB016CP04/A	MB017CP10
MB001CP00	MB002CP00	MB003CP00	MB006CP00
MB009CP00	MB010CP04	MB012CP10	MB31ACP10
MB031CP11	MB012CP11	MB13CCP11	

DATA QUALIFICATIONS

The following comments refer to the laboratory performance in meeting the Quality Control Specifications outlined in the Project Sampling and Analysis Plan, USEPA SW846 Method 8290- "PCDDs and PCDFs by High Resolution Gas Chromatography/ High Resolution Mass Spectrometry (HRGC/HRMS), Revision 0 and the USEPA CLP National Functional Guidelines for Organic Data Review (2/94).

The conclusions presented herein are based on the information provided for the review.

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Holding Time - Acceptable

All of the samples were extracted within 30 days of sample collection and were analyzed within 30 days of sample extraction date. All of the samples met the technical and method required holding times. None of the reported results were qualified on this basis. Note: The sample collection date written on the first page of the chain-of-custody (COC) form was incorrect. All of the samples were collected on 4/16/97. Correction was made on the original COC by Ecology and Environment (Kim Connors).

Instrument Performance - Acceptable

GC/MS Performance Standards were analyzed with every analytical sequence. The frequency of analysis of the performance check standard was met. The minimum resolving power of 10,000 was attained; the exact mass of m/z 380.9760 was within 5 ppm, each lock-mass is within 10% of full scale and the signal-to-noise (S/N) ratio is $\geq$10%.

Initial Calibrations - Acceptable

Six GC/MS systems were used in the analyses. The initial calibrations performed for both DB5 and DB225 columns met the method specified acceptance criteria for all instruments. The percent relative standard deviations (%RSDs) for both native and labeled compounds were less than 25%. All of the ion abundance ratios, S/N ratios and retention times were within the control limits. None of the data were qualified on this basis.

Retention Time Window and Isomer Specificity Check - Acceptable

The frequency of analysis, the retention times and resolution as expressed by the percent valley criteria were met. The % valley between 2,3,7,8-tetrachlorodibenzodioxin (TCDD) and the closest tetrachlorodibenzofuran (TCDF) isomer was less than 25%. The retention times for all of the polychlorinated dibenzofuran and dibenzodioxin homologues were established and properly labeled from the first to the last eluters. All of the ion abundances and S/N ratios were within the method specified control limits.

Continuing Calibrations - Acceptable

The continuing calibration verification standards (CCVs) met the criteria for frequency of analysis, the ion abundance ratios, the retention time, the chromatographic resolution, the S/N ratios and the percent differences (%D). None of the data were qualified on this basis.

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Compound Quantitation and Detection Limits

All of the samples were analyzed at the method required quantitation limits. The responses of some of the PCDD/PCDF isomers exceeded the normal dynamic range of the mass spectrometer detection system. Some of the samples were re-analyzed at a dilution for heptachlorodibenzo-p-dioxin (hpcdd) and octachlorodibenzo-p-dioxin (OCDD). The diluted results were reported by the laboratory.

All of the 2,3,7,8-TCDF initially detected in the DB5 column were confirmed on the DB225 column. The concentrations of 2,3,7,8-TCDF detected in the samples were within 25% difference for both columns used.

Blanks

The frequency of analysis of laboratory blank was met. Background levels for some of the target compounds were detected in the method and clean-up blanks. Compounds that were detected in the samples at concentrations that were less than 5 times the values reported in their associated blank were qualified as non-detects, "U".

Analytical Sequence - Acceptable

All of the standards, blanks, samples and QC samples were analyzed in accordance with the method-specified analytical sequence.

Internal Standards

All of the applicable technical acceptance criteria for the internal standards (IS) were met by most of the analyses performed. Some of the IS recoveries exceeded the control limits due to the interferences caused by the presence of high concentrations of some of the PCDD/PCDF homologues native to the samples. The target compounds associated with these out of control IS were already qualified due to peak saturation or poor chromatographic resolution, no further qualification are required on this basis.

Surrogate Recoveries - Acceptable

The samples' surrogate recoveries were acceptable. None of the data were qualified on this basis.

Duplicate Sample Analysis - Not Performed

Laboratory Control Sample/Duplicate (LCS/LCSD) Analyses

An LCS/LCSD pair was analyzed per analytical sequence. The frequency of analysis, the recoveries and the relative percent differences (RPDs) criteria for all LCS and LCSD analyses were within the control limits. None of the data were qualified on this basis.

Compound Identification

The detected compounds should meet the ion abundance and signal-to-noise (S/N) ratios and the retention times criteria specified by the method.

Detected compounds with diphenyl ether interferences, poor peak resolutions and ion instabilities were qualified as estimated, "J". These results are more likely to be high biased. Some of the "Totals" reported were qualified as estimated, "J" because the concentrations reported were derived from all peaks with S/N ratios >2.5, regardless of the ion abundance ratios or other ion and diphenyl ether interferences. Because of this, accuracy and precision of results for these analytes cannot be determined.

Laboratory Contact

The laboratory was contacted on 6/24/97 to obtain the raw data for the initial calibrations associated with all of the analyses performed.

Overall Assessment

All of the samples were analyzed in accordance with the method specifications. Data results, as qualified, are acceptable and can be used for all purposes.

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DATA QUALIFIERS

U	-	The analyte was not detected at or above the reported result.
J	-	The analyte was positively identified. The associated numerical result is an estimate.
R	-	The data are unusable for all purposes.
N	-	There is evidence the analyte is present in this sample.
NJ	-	There is evidence that the analyte is present. The associated numerical result is an estimate.
UJ	-	The analyte was not detected at or above the reported estimated result. The associated numerical value is an estimate of the quantitation limit of the analyte in this sample.

Sound Analytical

TLI Project: 41442Ar3 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB020CP00 — Analysis File: W971399

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-24	Date Extracted:	04/29/97	ICal:	WF54307
		Date Analyzed:	05/01/97	ConCal:	W971396
Sample Size:	1.010 g	Dilution Factor:	n/a	% Moisture:	10.3
Dry Weight:	0.906 g	Blank File:	W971398	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	89.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	15.1			0.79	20:39	—
1,2,3,7,8-PeCDD	EMPC		157			—
1,2,3,4,7,8-HxCDD	484			1.23	28:41	—
1,2,3,6,7,8-HxCDD	1200			1.21	28:45	—
1,2,3,7,8,9-HxCDD	1260			1.22	29:01	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	31590			1.01	31:37	—
2,3,7,8-TCDF	35.1			0.71	19:47	—
1,2,3,7,8-PeCDF	138			1.52	24:13	—
2,3,4,7,8-PeCDF	252			1.47	24:59	—
1,2,3,4,7,8-HxCDF	1790			1.25	27:55	—
1,2,3,6,7,8-HxCDF	321			1.24	28:01	—
2,3,4,6,7,8-HxCDF	219			1.24	28:33	~~PR~~ J
1,2,3,7,8,9-HxCDF	29.8			1.23	29:14	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	6590			1.04	30:45	—
1,2,3,4,7,8,9-HpCDF	565			1.01	31:58	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	290	14			—
Total PeCDD	1410	11		1570	J
Total HxCDD	11020	7		11020	J
Total HpCDD	70580	2			—
Total TCDF	186	9		224	~~E~~ J
Total PeCDF	3310	11		3510	J
Total HxCDF	14940	10		15030	J
Total HpCDF	23150	3			—

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TLI Project: 41442Ar3 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB020CP00 — Analysis File: T973167

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-24	Date Extracted:	04/29/97	ICal:	TF53286
		Date Analyzed:	05/07/97	ConCal:	T973153
Sample Size:	1.010 g	Dilution Factor:	10X	% Moisture:	10.3
Dry Weight:	0.906 g	Blank File:	W971398	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BR	% Solids:	89.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	282290			0.84	34:42	—
1,2,3,4,6,7,8,9-OCDF	7900			0.89	34:49	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	2460	55.6	25%-130%	0.87	34:42	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.26	29:43	—

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TLI Project: 41442Ar3 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB020CP00 Analysis File: X971167

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-24	Date Extracted:	04/29/97	ICal:	XF24087
		Date Analyzed:	05/02/97	ConCal:	X971158
Sample Size:	1.010 g	Dilution Factor:	n/a	% Moisture:	10.3
Dry Weight:	0.906 g	Blank File:	W971398	% Lipid:	n/a
GC Column:	DB-225	Analyst:	GG	% Solids:	89.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	30.2			0.87	24:45	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1400	63.5	40%-130%	0.78	24:44	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.77	23:30	—

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TLI Project: 41442Ar3 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB021CP00 — Analysis File: W971400

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-25	Date Extracted:	04/29/97	ICal:	WF54307
		Date Analyzed:	05/01/97	ConCal:	W971396
Sample Size:	1.020 g	Dilution Factor:	n/a	% Moisture:	14.6
Dry Weight:	0.871 g	Blank File:	W971398	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	85.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	14.8			0.80	20:38	—
1,2,3,7,8-PeCDD	113			1.46	25:21	—
1,2,3,4,7,8-HxCDD	314			1.19	28:40	—
1,2,3,6,7,8-HxCDD	1320			1.25	28:45	—
1,2,3,7,8,9-HxCDD	837			1.19	29:02	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	22960			1.00	31:36	—
1,2,3,4,6,7,8,9-OCDD	157250			0.85	34:01	—
2,3,7,8-TCDF	23.6			0.66	19:46	—
1,2,3,7,8-PeCDF	75.9			1.34	24:12	—
2,3,4,7,8-PeCDF	108			1.35	24:59	—
1,2,3,4,7,8-HxCDF	422			1.25	27:55	—
1,2,3,6,7,8-HxCDF	134			1.35	28:01	—
2,3,4,6,7,8-HxCDF	134			1.14	28:32	~~PR~~ J
1,2,3,7,8,9-HxCDF	EMPC		16.5			~~PR~~ J
1,2,3,4,6,7,8-HpCDF	2630			1.02	30:44	—
1,2,3,4,7,8,9-HpCDF	165			1.11	31:57	—
1,2,3,4,6,7,8,9-OCDF	2310			0.87	34:07	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	145	9		203	J
Total PeCDD	823	11		859	J
Total HxCDD	7790	7			—
Total HpCDD	44750	2			—
Total TCDF	123	8		160	~~E~~ J
Total PeCDF	1910	11		2040	—
Total HxCDF	6750	10		6810	—
Total HpCDF	8820	3			—

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TLI Project: 41442Ar3 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB022CP00 — Analysis File: W971401

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-26	Date Extracted:	04/29/97	ICal:	WF54307
		Date Analyzed:	05/01/97	ConCal:	W971396
Sample Size:	1.040 g	Dilution Factor:	n/a	% Moisture:	15.1
Dry Weight:	0.883 g	Blank File:	W971398	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	84.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	38.2			0.89	20:37	—
1,2,3,7,8-PeCDD	384			1.60	25:20	—
1,2,3,4,7,8-HxCDD	766			1.21	28:40	—
1,2,3,6,7,8-HxCDD	4650			1.23	28:44	—
1,2,3,7,8,9-HxCDD	1840			1.23	29:02	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	78830			1.02	31:36	—
2,3,7,8-TCDF	91.7			0.70	19:46	—
1,2,3,7,8-PeCDF	297			1.54	24:12	—
2,3,4,7,8-PeCDF	321			1.40	24:58	—
1,2,3,4,7,8-HxCDF	1080			1.26	27:54	—
1,2,3,6,7,8-HxCDF	371			1.22	28:01	—
[illegible],6,7,8-HxCDF	360			1.23	28:32	~~PR~~ J
1,2,3,7,8,9-HxCDF	44.3			1.24	29:14	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	6550			1.04	30:44	—
1,2,3,4,7,8,9-HpCDF	395			0.99	31:56	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	254	10		288	J
Total PeCDD	1530	12			—
Total HxCDD	20020	7			—
Total HpCDD	137710	2			—
Total TCDF	443	10		504	J
Total PeCDF	7430	11		7740	J
Total HxCDF	21920	11		22110	J
Total HpCDF	22220	3			—

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TLI Project: 41442Ar3 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB022CP00 — Analysis File: T973168

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-26	Date Extracted:	04/29/97	ICal:	TF53286
		Date Analyzed:	05/07/97	ConCal:	T973153
Sample Size:	1.040 g	Dilution Factor:	10X	% Moisture:	15.1
Dry Weight:	0.883 g	Blank File:	W971398	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BR	% Solids:	84.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	568120 ✓			0.83 ✓	34:42	—
1,2,3,4,6,7,8,9-OCDF	10480 ✓			0.81 ✓	34:49	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	2030	44.8	25%-130%	0.99	34:41	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.28	29:43	—

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TLI Project: 41442Ar3 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB022CP00 Analysis File: X971169

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-26	Date Extracted:	04/29/97	ICal:	XF24087
		Date Analyzed:	05/02/97	ConCal:	X971158
Sample Size:	1.040 g	Dilution Factor:	n/a	% Moisture:	15.1
Dry Weight:	0.883 g	Blank File:	W971398	% Lipid:	n/a
GC Column:	DB-225	Analyst:	KB	% Solids:	84.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	88.1			0.77	24:46	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1460	64.4	40%-130%	0.77	24:43	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	23:29	—

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TLI Project: 41442B
Client Sample: MB004CP00

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: T973223

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-4	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.217 g	Dilution Factor:	5X	% Moisture:	17.0
Dry Weight:	1.010 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BJG	% Solids:	83.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	EMPC		20.6			J
1,2,3,7,8-PeCDD	EMPC		149			J
1,2,3,4,7,8-HxCDD	314			1.23	29:23	—
1,2,3,6,7,8-HxCDD	1360			1.17	29:27	—
1,2,3,7,8,9-HxCDD	844			1.13	29:45	—
1,2,3,4,6,7,8-HpCDD	33280			1.04	32:15	—
1,2,3,4,6,7,8,9-OCDD	244680			0.84	34:43	—
2,3,7,8-TCDF	56.1			0.84	20:53	—
1,2,3,7,8-PeCDF	EMPC		85.3			J
2,3,4,7,8-PeCDF	144			1.37	25:49	—
1,2,3,4,7,8-HxCDF	EMPC		1230			~~E~~ J
1,2,3,6,7,8-HxCDF	863			1.29	28:44	—
2,3,4,6,7,8-HxCDF	140			1.43	29:14	~~PR~~ J
1,2,3,7,8,9-HxCDF	ND	71.4				—
1,2,3,4,6,7,8-HpCDF	3470			1.07	31:25	—
1,2,3,4,7,8,9-HpCDF	382			1.02	32:36	—
1,2,3,4,6,7,8,9-OCDF	11600			0.88	34:50	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	428	8		473	J
Total PeCDD	838	6		1400	J
Total HxCDD	7560	7			—
Total HpCDD	62460	2			—
Total TCDF	56.1	1		235	~~E~~ J
Total PeCDF	2070	7		2780	~~E~~ J
Total HxCDF	8800	8		10240	~~E~~ J
Total HpCDF	15950	3			—

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TLI Project: 41442B Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB004CP00 Analysis File: P972226

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-4	Date Extracted:	04/22/97	ICal:	PF22206
		Date Analyzed:	05/07/97	ConCal:	P972224
Sample Size:	1.217 g	Dilution Factor:	n/a	% Moisture:	17.0
Dry Weight:	1.010 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	83.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	EMPC		19.0			~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1520	76.8	40%-130%	0.73	21:51	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:50	—

Data Reviewer: Rose V. West 05/14/97

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TLI Project: 41442B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB005CP00 — Analysis File: T973224

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-5	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.079 g	Dilution Factor:	5X	% Moisture:	7.2
Dry Weight:	1.001 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BJG	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	EMPC		15.1			J
1,2,3,7,8-PeCDD	152			1.67	26:10	—
1,2,3,4,7,8-HxCDD	253			1.13	29:22	PR J
1,2,3,6,7,8-HxCDD	5280			1.25	29:27	—
1,2,3,7,8,9-HxCDD	754			1.26	29:45	—
1,2,3,4,6,7,8-HpCDD	85380			1.02	32:15	—
2,3,7,8-TCDF	66.6			0.89	20:51	—
1,2,3,7,8-PeCDF	221			1.58	25:03	—
2,3,4,7,8-PeCDF	194			1.60	25:48	—
1,2,3,4,7,8-HxCDF	1110			1.36	28:38	—
1,2,3,6,7,8-HxCDF	315			1.35	28:44	—
2,3,4,6,7,8-HxCDF	EMPC		551			PR J
1,2,3,7,8,9-HxCDF	EMPC		48.6			PR J
1,2,3,4,6,7,8-HpCDF	6510			1.03	31:24	—
1,2,3,4,7,8,9-HpCDF	374			1.08	32:35	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	68.7	3		83.9	J
Total PeCDD	267	3		516	J
Total HxCDD	12840	7			—
Total HpCDD	140760	2			—
Total TCDF	248	5		1000	E J
Total PeCDF	4640	12		5490	E J
Total HxCDF	21770	6		23670	J
Total HpCDF	23990	3			—

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TLI Project: 41442B
Client Sample: MB005CP00

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: T973234

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-5	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.079 g	Dilution Factor:	10X	% Moisture:	7.2
Dry Weight:	1.001 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	570870			0.84 ✓	34:43	—
1,2,3,4,6,7,8,9-OCDF	5960			0.82 ✓	34:49	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	4630	116	25%-130%	0.96 ✓	34:43	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.07 ✓	29:44	—

Data Reviewer: Rose V. West 05/14/97

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TLI Project: 41442B Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB005CP00 Analysis File: P972227

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-5	Date Extracted:	04/22/97	ICal:	PF22206
		Date Analyzed:	05/07/97	ConCal:	P972224
Sample Size:	1.079 g	Dilution Factor:	n/a	% Moisture:	7.2
Dry Weight:	1.001 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	52.8			0.74	21:53	~~PR~~

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1600	80.2	40%-130%	0.72	21:53	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.78	20:51	—

Data Reviewer: Rosel West 05/14/97

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TLI Project: 41442B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB007CP00 — Analysis File: W142804

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-7	Date Extracted:	04/22/97	ICal:	WF54307
		Date Analyzed:	05/03/97	ConCal:	W971422
Sample Size:	1.086 g	Dilution Factor:	n/a	% Moisture:	7.1
Dry Weight:	1.009 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	92.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	10.4			0.72	20:36	—
1,2,3,7,8-PeCDD	136			1.55	25:20	—
1,2,3,4,7,8-HxCDD	382			1.15	28:39	—
1,2,3,6,7,8-HxCDD	3370			1.20	28:44	—
1,2,3,7,8,9-HxCDD	874			1.18	29:01	—
1,2,3,4,6,7,8-HpCDD	64510			1.01	31:35	—
2,3,7,8-TCDF	77.5			0.74	19:46	—
1,2,3,7,8-PeCDF	265			1.48	24:10	—
2,3,4,7,8-PeCDF	288			1.46	24:57	—
1,2,3,4,7,8-HxCDF	2490			1.26	27:53	—
1,2,3,6,7,8-HxCDF	545			1.22	28:00	—
2,3,4,6,7,8-HxCDF	571			1.28	28:31	~~PR~~ J
1,2,3,7,8,9-HxCDF	82.1			1.11	29:14	~~PR~~ J
1,2,3,4,6,7,8-HpCDF	14920			1.05	30:44	—
1,2,3,4,7,8,9-HpCDF	851			1.05	31:55	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	69.7	4		82.8	J
Total PeCDD	474	9		580	—
Total HxCDD	12720	7			—
Total HpCDD	110040	2			—
Total TCDF	324	8		718	~~E~~ J
Total PeCDF	6390	12		7560	~~E~~ J
Total HxCDF	30940	14		30970	J
Total HpCDF	57150	4			—

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TLI Project: 41442B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB007CP00 — Analysis File: T973235

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-7	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.086 g	Dilution Factor:	10X	% Moisture:	7.1
Dry Weight:	1.009 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	92.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	476750			0.84 ✓	34:43	—
1,2,3,4,6,7,8,9-OCDF	32610			0.88 ✓	34:50	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	3960	100.0	25%-130%	0.84 ✓	34:43	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.22 ✓	29:44	—

Data Reviewer: Rose V. West 05/14/97

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TLI Project: 41442B · Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB007CP00 Analysis File: P972228

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-7	Date Extracted:	04/22/97	ICal:	PF22206
		Date Analyzed:	05/07/97	ConCal:	P972224
Sample Size:	1.086 g	Dilution Factor:	n/a	% Moisture:	7.1
Dry Weight:	1.009 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	92.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	74.1			0.71	21:52	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1690	85.2	40%-130%	0.76	21:52	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.80	20:50	—

Data Reviewer: Rosie West 05/14/97

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TLI Project: 41442B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB008CP00 — Analysis File: T973227

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-8	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.183 g	Dilution Factor:	5X	% Moisture:	16.0
Dry Weight:	0.994 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BJG	% Solids:	84.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	50.1			0.89	21:39	—
1,2,3,7,8-PeCDD	595			1.68	26:11	—
1,2,3,4,7,8-HxCDD	1340			1.32	29:22	—
1,2,3,6,7,8-HxCDD	8020			1.21	29:27	—
1,2,3,7,8,9-HxCDD	2960			1.24	29:45	—
1,2,3,4,6,7,8-HpCDD	154730			1.03	32:16	—
2,3,7,8-TCDF	164			0.77	20:52	—
1,2,3,7,8-PeCDF	433			1.61	25:04	—
2,3,4,7,8-PeCDF	486			1.42	25:49	—
1,2,3,4,7,8-HxCDF	EMPC		3830			E
1,2,3,6,7,8-HxCDF	1220			1.26	28:44	—
2,3,4,6,7,8-HxCDF	812			1.24	29:15	PR
1,2,3,7,8,9-HxCDF	77.4			1.24	29:58	PR
1,2,3,4,6,7,8-HpCDF	14620			1.07	31:25	—
1,2,3,4,7,8,9-HpCDF	1360			1.05	32:36	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	258	5		285	—
Total PeCDD	1870	9		2190	—
Total HxCDD	29860	7			—
Total HpCDD	269600	2			—
Total TCDF	934	7		1740	E
Total PeCDF	11930	8		14680	E
Total HxCDF	39620	8		46680	E
Total HpCDF	57540	3			—

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TLI Project: 41442B — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB008CP00 — Analysis File: T973248

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-8	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/10/97	ConCal:	T973236
Sample Size:	1.183 g	Dilution Factor:	10X	% Moisture:	16.0
Dry Weight:	0.994 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	84.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	837170			0.84	34:44	—
1,2,3,4,6,7,8,9-OCDF	22240			0.85	34:51	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	3030	75.3	25%-130%	0.99	34:44	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.31	29:45	—

Data Reviewer: Rosi V. West 05/14/97

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TLI Project: 41442B · Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB008CP00 Analysis File: P972229

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-8	Date Extracted:	04/22/97	ICal:	PF22206
		Date Analyzed:	05/07/97	ConCal:	P972224
Sample Size:	1.183 g	Dilution Factor:	n/a	% Moisture:	16.0
Dry Weight:	0.994 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	84.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	119			0.72	21:54	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1650	81.8	40%-130%	0.78	21:53	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:51	—

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TLI Project: 41442B — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB011CP00 — Analysis File: W142808

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-11.	Date Extracted:	04/22/97	ICal:	WF54307
		Date Analyzed:	05/03/97	ConCal:	W971422
Sample Size:	1.246 g	Dilution Factor:	n/a	% Moisture:	21.1
Dry Weight:	0.983 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	78.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	4.5			0.81	20:38	—
1,2,3,7,8-PeCDD	55.0			1.48	25:20	—
1,2,3,4,7,8-HxCDD	EMPC		98.9			—
1,2,3,6,7,8-HxCDD	698			1.28	28:44	—
1,2,3,7,8,9-HxCDD	248			1.20	29:01	—
1,2,3,4,6,7,8-HpCDD	16240			1.01	31:35	—
1,2,3,4,6,7,8,9-OCDD	120780			0.83	33:59	—
2,3,7,8-TCDF	24.0			0.79	19:45	—
1,2,3,7,8-PeCDF	72.2			1.42	24:11	—
2,3,4,7,8-PeCDF	79.9			1.63	24:57	—
1,2,3,4,7,8-HxCDF	EMPC		664			E J
1,2,3,6,7,8-HxCDF	126			1.32	28:00	—
2,3,4,6,7,8-HxCDF	382			1.32	28:31	PR J
1,2,3,7,8,9-HxCDF	72.6			1.28	29:14	PR J
1,2,3,4,6,7,8-HpCDF	2890			1.03	30:44	—
1,2,3,4,7,8,9-HpCDF	226			1.01	31:56	—
1,2,3,4,6,7,8,9-OCDF	4590			0.88	34:05	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	24.6	4		28.3	—
Total PeCDD	180	7		211	—
Total HxCDD	3110	6		3200	—
Total HpCDD	29880	2			—
Total TCDF	105	6		163	E J
Total PeCDF	1560	10		1880	E J
Total HxCDF	7640	10		8480	E J
Total HpCDF	12260	3			—

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TLI Project: 41442B Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB011CP00 Analysis File: P972230

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-11	Date Extracted:	04/22/97	ICal:	PF22206
		Date Analyzed:	05/07/97	ConCal:	P972224
Sample Size:	1.246 g	Dilution Factor:	n/a	% Moisture:	21.1
Dry Weight:	0.983 g	Blank File:	W971411	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BB	% Solids:	78.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	22.1			0.77	21:54	~~PR~~ J

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	1610	79.0	40%-130%	0.77	21:52	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	20:51	—

Data Reviewer: Rose V West 05/14/97

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TLI Project: 41442C
Client Sample: MB13CCP10

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: T973231

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-13	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.069 g	Dilution Factor:	10X	% Moisture:	6.4
Dry Weight:	1.001 g	Blank File:	T972955	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	93.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	437				
1,2,3,7,8-PeCDD	ND	853				
1,2,3,4,7,8-HxCDD	EMPC		1330			J
1,2,3,6,7,8-HxCDD	7280			1.35	29:28	
1,2,3,7,8,9-HxCDD	3120			1.31	29:46	
1,2,3,4,6,7,8-HpCDD	166400			1.09	32:16	
1,2,3,4,6,7,8,9-OCDD	922380			0.83	34:43	
2,3,7,8-TCDF	359			0.77	20:54	
1,2,3,7,8-PeCDF	ND	577				
2,3,4,7,8-PeCDF	EMPC		969			J
1,2,3,4,7,8-HxCDF	2040			1.28	28:40	
1,2,3,6,7,8-HxCDF	910			1.38	28:45	
2,3,4,6,7,8-HxCDF	1430			1.28	29:16	
1,2,3,7,8,9-HxCDF	189			1.39	29:58	
1,2,3,4,6,7,8-HpCDF	11220			1.00	31:25	
1,2,3,4,7,8,9-HpCDF	ND	878				
1,2,3,4,6,7,8,9-OCDF	18210			0.94	34:50	

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		437		
Total PeCDD	ND		853		
Total HxCDD	29750	5		31080	J
Total HpCDD	307380	2			
Total TCDF	359	1			
Total PeCDF	3570	1		4530	J
Total HxCDF	24280	8		24450	
Total HpCDF	44250	2			

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TLI Project: 41442C Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB13CCP10 Analysis File: X971205

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-13	Date Extracted:	04/22/97	ICal:	XF24087
		Date Analyzed:	05/04/97	ConCal:	X971194
Sample Size:	1.069 g	Dilution Factor:	n/a	% Moisture:	6.4
Dry Weight:	1.001 g	Blank File:	T972955	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MS	% Solids:	93.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	148			0.74	24:41	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	802	40.1	40%-130%	0.79	24:39	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.78	23:25	—

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TLI Project: 41442C — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB13ACP10 — Analysis File: T973232

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-16	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.074 g	Dilution Factor:	5X	% Moisture:	7.2
Dry Weight:	0.997 g	Blank File:	T972955	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	76.3				—
1,2,3,7,8-PeCDD	ND	119				—
1,2,3,4,7,8-HxCDD	ND	130				—
1,2,3,6,7,8-HxCDD	165			1.38	29:29	—
1,2,3,7,8,9-HxCDD	ND	115				—
1,2,3,4,6,7,8-HpCDD	4390			0.92	32:16	—
1,2,3,4,6,7,8,9-OCDD	35240			0.85	34:43	—
2,3,7,8-TCDF	ND	65.3				—
1,2,3,7,8-PeCDF	ND	78.1				—
2,3,4,7,8-PeCDF	ND	75.6				—
1,2,3,4,7,8-HxCDF	ND	89.2				—
1,2,3,6,7,8-HxCDF	ND	71.7				—
2,3,4,6,7,8-HxCDF	89.1			1.40	29:15	~~B~~
1,2,3,7,8,9-HxCDF	ND	98.6				—
1,2,3,4,6,7,8-HpCDF	383			0.96	31:25	—
1,2,3,4,7,8,9-HpCDF	ND	150				—
1,2,3,4,6,7,8,9-OCDF	1400			0.87	34:50	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		76.3		—
Total PeCDD	ND		119		—
Total HxCDD	535	2		743	—
Total HpCDD	8140	2			—
Total TCDF	ND		65.3		
Total PeCDF	EMPC			107	PR
Total HxCDF	423	2		685	
Total HpCDF	1640	2			—

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TLI Project: 41442C
Client Sample: MB018CP10

Method 8290 PCDD/PCDF Analysis (b)
Analysis File: T973356

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-22	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/14/97	ConCal:	T973348
Sample Size:	1.091 g	Dilution Factor:	n/a	% Moisture:	8.5
Dry Weight:	0.998 g	Blank File:	T972955	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	91.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	4.9				—
1,2,3,7,8-PeCDD	ND	8.2				—
1,2,3,4,7,8-HxCDD	12.2			1.30	29:24	—
1,2,3,6,7,8-HxCDD	23.1			1.33	29:28	—
1,2,3,7,8,9-HxCDD	43.2			1.13	29:44	—
1,2,3,4,6,7,8-HpCDD	1160			1.07	32:16	—
1,2,3,4,6,7,8,9-OCDD	5080			0.82	34:44	—
2,3,7,8-TCDF	ND	4.0				—
1,2,3,7,8-PeCDF	ND	5.5				—
2,3,4,7,8-PeCDF	ND	5.3				—
1,2,3,4,7,8-HxCDF	6.5			1.07	28:38	—
1,2,3,6,7,8-HxCDF	ND	6.4				—
2,3,4,6,7,8-HxCDF	ND	7.9				—
1,2,3,7,8,9-HxCDF	ND	8.8				—
1,2,3,4,6,7,8-HpCDF	19.9			1.18	31:26	—
1,2,3,4,7,8,9-HpCDF	ND	13.5				—
1,2,3,4,6,7,8,9-OCDF	EMPC		18.8			J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		4.9		—
Total PeCDD	EMPC			15.7	J
Total HxCDD	565	7			—
Total HpCDD	3490	2			—
Total TCDF	ND		4.0		—
Total PeCDF	ND		5.4		—
Total HxCDF	45.7	3			—
Total HpCDF	70.6	2			—

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TLI Project: 41442C — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB023CP00 — Analysis File: T973233

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-27	Date Extracted:	04/22/97	ICal:	TF53286
		Date Analyzed:	05/09/97	ConCal:	T973220
Sample Size:	1.135 g	Dilution Factor:	5X	% Moisture:	10.1
Dry Weight:	1.020 g	Blank File:	T972955	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BB	% Solids:	89.9

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	58.1				—
1,2,3,7,8-PeCDD	ND	86.4				—
1,2,3,4,7,8-HxCDD	ND	96.0				—
1,2,3,6,7,8-HxCDD	326			1.25	29:28	—
1,2,3,7,8,9-HxCDD	EMPC		117			J
1,2,3,4,6,7,8-HpCDD	6690			1.00	32:16	—
1,2,3,4,6,7,8,9-OCDD	53040			0.86	34:43	—
2,3,7,8-TCDF	ND	42.7				—
1,2,3,7,8-PeCDF	ND	59.1				—
2,3,4,7,8-PeCDF	ND	57.2				—
1,2,3,4,7,8-HxCDF	EMPC		218			~~E~~ J
1,2,3,6,7,8-HxCDF	EMPC		43.6			J
2,3,4,6,7,8-HxCDF	EMPC		65.8			~~E~~ J
1,2,3,7,8,9-HxCDF	ND	71.0				—
1,2,3,4,6,7,8-HpCDF	457			0.97	31:25	—
1,2,3,4,7,8,9-HpCDF	ND	98.8				—
1,2,3,4,6,7,8,9-OCDF	1420			0.98	34:51	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		58.1		—
Total PeCDD	ND		86.4		—
Total HxCDD	816	2		1180	—
Total HpCDD	13330	2			—
Total TCDF	145	1		226	~~E~~ J
Total PeCDF	517	2		1160	~~E~~ J
Total HxCDF	1380	4		1820	~~E~~ J
Total HpCDF	2070	2			—

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TLI Project: 41442Ar5 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB019CP00 — Analysis File: T973380

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-23A	Date Extracted:	05/09/97	ICal:	TF53286
		Date Analyzed:	05/14/97	ConCal:	T973378
Sample Size:	11.350 g	Dilution Factor:	n/a	% Moisture:	10.9
Dry Weight:	10.113 g	Blank File:	T973379	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	89.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	11.2			0.77	21:41	—
1,2,3,7,8-PeCDD	113			1.46	26:11	—
1,2,3,4,7,8-HxCDD	242			1.18	29:23	—
1,2,3,6,7,8-HxCDD	1400			1.23	29:28	—
1,2,3,7,8,9-HxCDD	521			1.23	29:46	—
2,3,7,8-TCDF	28.3			0.87	20:53	—
1,2,3,7,8-PeCDF	85.2			1.62	25:05	—
2,3,4,7,8-PeCDF	90.5			1.50	25:49	—
1,2,3,4,7,8-HxCDF	403			1.29	28:39	~~PR~~ J
1,2,3,6,7,8-HxCDF	142			1.24	28:46	—
2,3,4,6,7,8-HxCDF	165			1.33	29:16	~~PR~~ J
1,2,3,7,8,9-HxCDF	EMPC		12.3			~~PRB~~ J
1,2,3,4,6,7,8-HpCDF	2070			1.06	31:26	—
1,2,3,4,7,8,9-HpCDF	178			1.17	32:37	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	101	10		105	J
Total PeCDD	419	9		512	—
Total HxCDD	5470	7			—
Total TCDF	141	11		181	~~E~~ J
Total PeCDF	2110	12		2330	J
Total HxCDF	6880	8		7170	J
Total HpCDF	7030	4			—

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TLI Project: 41442Ar5 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB019CP00 — Analysis File: T973487

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-23A	Date Extracted:	05/09/97	ICal:	TF53286
		Date Analyzed:	05/20/97	ConCal:	T973482
Sample Size:	11.350 g	Dilution Factor:	10X	% Moisture:	10.9
Dry Weight:	10.113 g	Blank File:	T973379	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	89.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	29170			1.01 ✓	31:59	—
1,2,3,4,6,7,8,9-OCDD	202650			0.83 ✓	34:26	—
1,2,3,4,6,7,8,9-OCDF	4720			0.89 ✓	34:33	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	50810	2			—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	115	58.1	25%-130%	1.09 ✓	31:59	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	279	70.6	25%-130%	1.20 ✓	34:26	RO

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.25 ✓	29:27	—

Data Reviewer: Rose V. West 05/21/97

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TLI Project: 41442Ar5 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB019CP00 Analysis File: X971366

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF2S
TLI ID:	164-94-23A	Date Extracted:	05/09/97	ICal:	XF21266
		Date Analyzed:	05/16/97	ConCal:	X971357
Sample Size:	11.350 g	Dilution Factor:	n/a	% Moisture:	10.9
Dry Weight:	10.113 g	Blank File:	T973379	% Lipid:	n/a
GC Column:	DB-225	Analyst:	MS	% Solids:	89.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	19.4			0.77 ✓	22:59	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	139	70.1	40%-130%	0.78 ✓	22:58	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.78 ✓	21:55	—

Data Reviewer: Rose V. West 05/21/97

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB13BCP04 — Analysis File: T973460

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-14	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.050 g	Dilution Factor:	n/a	% Moisture:	7.3
Dry Weight:	0.973 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	WK	% Solids:	92.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	3600			0.73	21:39	—
1,2,3,7,8-PeCDD	16790			1.57	26:10	—
1,2,3,4,7,8-HxCDD	24530			1.23	29:22	—
1,2,3,6,7,8-HxCDD	85800			1.24	29:27	—
1,2,3,7,8,9-HxCDD	65200			1.21	29:44	~~PR~~ J
2,3,7,8-TCDF	977			0.84	20:52	—
1,2,3,7,8-PeCDF	2830			1.69	25:04	—
2,3,4,7,8-PeCDF	2210			1.61	25:48	—
1,2,3,4,7,8-HxCDF	14260			1.30	28:38	~~PR~~ J
1,2,3,6,7,8-HxCDF	4680			1.09	28:44	—
2,3,4,6,7,8-HxCDF	4330			1.36	29:15	~~PR~~ J
1,2,3,7,8,9-HxCDF	474			1.22	29:56	~~B~~ —
1,2,3,4,6,7,8-HpCDF	103560			1.08	31:24	—
1,2,3,4,7,8,9-HpCDF	6230			1.10	32:35	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	27790	13			—
Total PeCDD	93960	10		94360	J
Total HxCDD	626120	7			—
Total TCDF	3910	10		5290	~~E~~ J
Total PeCDF	47700	10		61140	~~E~~ J
Total HxCDF	256280	9		262900	J
Total HpCDF	391690	3			—

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB13BCP04 — Analysis File: T973517

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-14	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.050 g	Dilution Factor:	10X	% Moisture:	7.3
Dry Weight:	0.973 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	92.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	1521100			1.04	31:56	—
1,2,3,4,6,7,8,9-OCDD	6920080			0.89	34:23	~~J~~
1,2,3,4,6,7,8,9-OCDF	135240			0.88	34:29	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	3090150	2			—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	12640	123	25%-130%	0.98	31:55	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	28870	140	25%-130%	1.10	34:23	~~RO~~

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.36	29:24	—

Data Reviewer: S.A.P. 05/22/97

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TLI Project: 41442Cr1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB13BCP04 Analysis File: U971457

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-14	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/20/97	ConCal:	U971451
Sample Size:	1.050 g	Dilution Factor:	n/a	% Moisture:	7.3
Dry Weight:	0.973 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	KB	% Solids:	92.7

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	1140			0.77 ✓	22:20	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	7860	76.4	40%-130%	0.82 ✓	22:19	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.85 ✓	21:19	—

Data Reviewer: Sherri Lewis 05/22/97

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB012CP11 — Analysis File: T973461

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-17	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	9.7
Dry Weight:	0.930 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	WK	% Solids:	90.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	45.0				—
1,2,3,7,8-PeCDD	364			1.74	26:11	—
1,2,3,4,7,8-HxCDD	1790			1.21	29:22	—
1,2,3,6,7,8-HxCDD	20190			1.22	29:27	—
1,2,3,7,8,9-HxCDD	4870			1.21	29:45	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	565440			1.02	32:16	—
2,3,7,8-TCDF	629			0.87	20:53	—
1,2,3,7,8-PeCDF	1720			1.59	25:05	—
2,3,4,7,8-PeCDF	1480			1.45	25:49	—
1,2,3,4,7,8-HxCDF	8590			1.29	28:39	~~PR~~ J
1,2,3,6,7,8-HxCDF	3490			1.33	28:45	—
2,3,4,6,7,8-HxCDF	1550			1.39	29:15	~~PRB~~ J
1,2,3,7,8,9-HxCDF	322			1.24	29:57	~~B~~ —
1,2,3,4,6,7,8-HpCDF	54950			1.08	31:25	—
1,2,3,4,7,8,9-HpCDF	2610			1.10	32:36	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	197	1			—
Total PeCDD	1670	6		2620	J
Total HxCDD	83470	6		84550	J
Total HpCDD	1019970	2			—
Total TCDF	1900	6		2290	~~E~~ J
Total PeCDF	25820	9		27880	J
Total HxCDF	126040	9		129140	—
Total HpCDF	214300	3			—

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB012CP11 — Analysis File: T973518

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-17	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.030 g	Dilution Factor:	5X	% Moisture:	9.7
Dry Weight:	0.930 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	90.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	4583940			0.84	34:22	—
1,2,3,4,6,7,8,9-OCDF	118370			0.91	34:29	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	29510	137	25%-130%	0.92	34:22	—

Recovery Standard	Ratio	RT	Flags
$^{37}Cl_{12}$-1,2,3,7,8,9-HxCDD	1.20	29:24	—

Data Reviewer: S.A. 05/22/97

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TLI Project: 41442Cr1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB012CP11 Analysis File: U971458

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-17	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/20/97	ConCal:	U971451
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	9.7
Dry Weight:	0.930 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	KB	% Solids:	90.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	596			0.84	22:20	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	7100	66.0	40%-130%	0.82	22:20	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.85	21:19	—

Data Reviewer: Sherri Lewis 05/22/97

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB13CCP11 — Analysis File: T973463

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-19	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.050 g	Dilution Factor:	n/a	% Moisture:	7.2
Dry Weight:	0.974 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	WK	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	906			0.82	21:40	—
1,2,3,7,8-PeCDD	9500			1.69	26:11	—
1,2,3,4,7,8-HxCDD	17730			1.22	29:22	—
1,2,3,6,7,8-HxCDD	75990			1.23	29:27	—
1,2,3,7,8,9-HxCDD	25390			1.26	29:45	~~PR~~ J
2,3,7,8-TCDF	1740			0.82	20:53	—
1,2,3,7,8-PeCDF	3670			1.54	25:04	—
2,3,4,7,8-PeCDF	3510			1.46	25:49	—
1,2,3,4,7,8-HxCDF	20460			1.33	28:38	~~PR~~ J
1,2,3,6,7,8-HxCDF	6250			1.28	28:45	—
2,3,4,6,7,8-HxCDF	8160			1.32	29:15	~~PR~~ J
1,2,3,7,8,9-HxCDF	597			1.41	29:57	~~B~~ J
1,2,3,4,6,7,8-HpCDF	119860			1.08	31:25	—
1,2,3,4,7,8,9-HpCDF	8900			1.05	32:36	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	2220	7		2600	—
Total PeCDD	20450	7		21660	—
Total HxCDD	222760	7			—
Total TCDF	5500	9		6650	~~E~~ J
Total PeCDF	58960	11		61970	J
Total HxCDF	272310	10		273550	J
Total HpCDF	390530	3			—

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB13CCP11 — Analysis File: T973519

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-19	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.050 g	Dilution Factor:	10X	% Moisture:	7.2
Dry Weight:	0.974 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	1429530			1.07	31:56	—
1,2,3,4,6,7,8,9-OCDD	.13E+8			0.84	34:22	—
1,2,3,4,6,7,8,9-OCDF	195220			0.84	34:29	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	1981580	2			—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	7310	71.2	25%-130%	1.10	31:57	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	11090	54.0	25%-130%	1.07	34:22	RO

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.18	29:23	—

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Data Reviewer: S.A. 05/22/97

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TLI Project: 41442Cr1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB13CCP11 Analysis File: U971459

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-19	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/20/97	ConCal:	U971451
Sample Size:	1.050 g	Dilution Factor:	n/a	% Moisture:	7.2
Dry Weight:	0.974 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	KB	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	1520			0.80	22:19	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	10410	101	40%-130%	0.73	22:18	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.85	21:02	—

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Data Reviewer: Sha-Lewis 05/22/97

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TLI Project: 41442Cr1 Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB016CP04/MB016CP04-A Analysis File: T973464

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	*	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.070 g	Dilution Factor:	n/a	% Moisture:	6.8
Dry Weight:	0.997 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	WK	% Solids:	93.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	45.6				—
1,2,3,7,8-PeCDD	EMPC		197			—
1,2,3,4,7,8-HxCDD	357			1.35	29:23	B
1,2,3,6,7,8-HxCDD	1110			1.18	29:28	—
1,2,3,7,8,9-HxCDD	1010			1.22	29:45	PRB J
1,2,3,4,6,7,8-HpCDD	19500			1.02	32:16	—
1,2,3,4,6,7,8,9-OCDD	100480			0.86	34:44	—
2,3,7,8-TCDF	ND	32.6				—
1,2,3,7,8-PeCDF	ND	44.5				—
2,3,4,7,8-PeCDF	ND	40.8				—
1,2,3,4,7,8-HxCDF	188			1.11	28:40	B
1,2,3,6,7,8-HxCDF	ND	33.7				—
2,3,4,6,7,8-HxCDF	EMPC		57.6			PRB J
1,2,3,7,8,9-HxCDF	ND	47.0				—
1,2,3,4,6,7,8-HpCDF	961			1.13	31:25	B
1,2,3,4,7,8,9-HpCDF	ND	50.6				—
1,2,3,4,6,7,8,9-OCDF	1090			0.92	34:51	B

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	92.1	1		223	—
Total PeCDD	574	4		1460	J
Total HxCDD	9010	7			—
Total HpCDD	41790	2			—
Total TCDF	ND		32.6		—
Total PeCDF	319	1		519	J
Total HxCDF	2320	4		2380	J
Total HpCDF	3350	2			—

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TLI Project: **41442Cr1** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **MB016CP04/MB016CP04-A** Analysis File: **U971468**

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	*	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.070 g	Dilution Factor:	n/a	% Moisture:	6.8
Dry Weight:	0.997 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	93.2

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	ND	26.9				—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	6410	63.9	40%-130%	0.74	22:22	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.81	21:22	—

Quality Control Notes:

TLI ID: 164-94-20 & 165-24-1

Data Reviewer: Sue Lewis 05/22/97

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB017CP10 — Analysis File: T973465

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-21	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	10.5
Dry Weight:	0.922 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	89.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	98.5			0.80	21:40	—
1,2,3,7,8-PeCDD	EMPC		165			—
1,2,3,4,7,8-HxCDD	345			1.34	29:22	~~B~~
1,2,3,6,7,8-HxCDD	4060			1.26	29:28	—
1,2,3,7,8,9-HxCDD	982			1.18	29:45	~~PRB~~ J
1,2,3,4,6,7,8-HpCDD	121980			1.04	32:16	—
2,3,7,8-TCDF	100			0.86	20:53-	—
1,2,3,7,8-PeCDF	298			1.57	25:04	—
2,3,4,7,8-PeCDF	EMPC		217			—
1,2,3,4,7,8-HxCDF	1160			1.34	28:39	~~PR~~ J
1,2,3,6,7,8-HxCDF	308			1.15	28:45	~~B~~
2,3,4,6,7,8-HxCDF	407			1.29	29:15	~~PRB~~
1,2,3,7,8,9-HxCDF	76.6			1.34	29:57	~~B~~
1,2,3,4,6,7,8-HpCDF	8010			1.05	31:25	—
1,2,3,4,7,8,9-HpCDF	440			1.15	32:36	~~B~~

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	438	3		780	J
Total PeCDD	728	4		1540	J
Total HxCDD	21040	7		21090	J
Total HpCDD	289750	2			—
Total TCDF	163	2		315	J
Total PeCDF	3860	7		4550	J
Total HxCDF	24340	10		24530	J
Total HpCDF	34040	3			—

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TLI Project: 41442Cr1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB017CP10 — Analysis File: T973520

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-21	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.030 g	Dilution Factor:	5X	% Moisture:	10.5
Dry Weight:	0.922 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	89.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	1278330			0.84	34:22	—
1,2,3,4,6,7,8,9-OCDF	8960			0.94	34:29	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	21530	99.3	25%-130%	0.87	34:21	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.18	29:24	—

Data Reviewer: S.A. 05/22/97

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TLI Project: 41442Cr1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB017CP10 Analysis File: U971469

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-21	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	10.5
Dry Weight:	0.922 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	89.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	73.9			0.86	22:23	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	6010	55.4	40%-130%	0.78	22:22	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.79	21:21	—

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mgf 6/20/97

Data Reviewer: Sheri Lewis 05/22/97

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB001CP00 — Analysis File: T973469

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-1	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	10.5
Dry Weight:	0.922 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	89.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	EMPC		109			J
1,2,3,7,8-PeCDD	1160			1.59	26:11	—
1,2,3,4,7,8-HxCDD	2270			1.17	29:21	—
1,2,3,6,7,8-HxCDD	1390			1.26	29:27	—
1,2,3,7,8,9-HxCDD	4270			1.26	29:44	—
1,2,3,4,6,7,8-HpCDD	212730			1.03	32:15	—
2,3,7,8-TCDF	311			0.80	20:53	~~PR~~ J
1,2,3,7,8-PeCDF	672			1.57	25:04	—
2,3,4,7,8-PeCDF	580			1.49	25:48	—
1,2,3,4,7,8-HxCDF	2360			1.23	28:38	~~PR~~ J
1,2,3,6,7,8-HxCDF	1130			1.40	28:44	—
2,3,4,6,7,8-HxCDF	2940			1.26	29:15	~~PR~~ J
1,2,3,7,8,9-HxCDF	EMPC		159			~~B~~
1,2,3,4,6,7,8-HpCDF	21500			1.09	31:24	—
1,2,3,4,7,8,9-HpCDF	1750			0.88	32:35	—
1,2,3,4,6,7,8,9-OCDF	34910			0.90	34:50	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	EMPC			204	J
Total PeCDD	2740	6		3500	J
Total HxCDD	32780	6		33290	J
Total HpCDD	332310	2			—
Total TCDF	527	2		1650	J
Total PeCDF	16560	10		17530	J
Total HxCDF	59660	8		61020	J
Total HpCDF	76240	3			—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB001CP00 — Analysis File: T973521

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-1	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.030 g	Dilution Factor:	5X	% Moisture:	10.5
Dry Weight:	0.922 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	89.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	1255280			0.84	34:23	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	32760	151	25%-130%	0.89	34:22	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.34	29:24	—

Data Reviewer: Sue Lewis 05/23/97

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TLI Project: 41442Br1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB001CP00 Analysis File: U971470

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-1	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	10.5
Dry Weight:	0.922 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	89.5

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	223			0.80	22:23	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	5010	46.2	40%-130%	0.75	22:21	—

Recovery Standard	Ratio	RT*	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	21:20	—

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Data Reviewer: Sherri Lewis 05/22/97

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB002CP00 — Analysis File: T973470

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-2	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.040 g	Dilution Factor:	n/a	% Moisture:	19.9
Dry Weight:	0.833 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	80.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	403			0.78	21:40	—
1,2,3,7,8-PeCDD	4730			1.71	26:11	—
1,2,3,4,7,8-HxCDD	8100			1.24	29:23	—
1,2,3,6,7,8-HxCDD	62270			1.26	29:28	—
1,2,3,7,8,9-HxCDD	17310			1.29	29:45	—
2,3,7,8-TCDF	1370			0.81	20:54	—
1,2,3,7,8-PeCDF	3410			1.56	25:05	—
2,3,4,7,8-PeCDF	2470			1.50	25:49	—
1,2,3,4,7,8-HxCDF	11530			1.22	28:39	—
1,2,3,6,7,8-HxCDF	5560			1.26	28:45	—
2,3,4,6,7,8-HxCDF	11740			1.32	29:15	~~PR~~ R
1,2,3,7,8,9-HxCDF	624			1.16	29:58	~~B~~ —
1,2,3,4,6,7,8-HpCDF	73240			1.06	31:25	—
1,2,3,4,7,8,9-HpCDF	4350			1.11	32:37	—
1,2,3,4,6,7,8,9-OCDF	31620			0.92	34:52	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	928	3		1150	J
Total PeCDD	17730	9			—
Total HxCDD	200560	6		202180	—
Total TCDF	12040	9		12270	J
Total PeCDF	88540	11		91410	J
Total HxCDF	276530	9		277490	—
Total HpCDF	224220	3			—

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TLI Project: **41442Br1** Method 8290 PCDD/PCDF Analysis (b)
Client Sample: **MB002CP00** Analysis File: **T973522**

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-2	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.040 g	Dilution Factor:	10X	% Moisture:	19.9
Dry Weight:	0.833 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	80.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	979050			1.02	31:56	—
1,2,3,4,6,7,8,9-OCDD	3356970			0.85	34:21	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	1547180	2			—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	11570	96.4	25%-130%	1.09	31:55	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	27890	116	25%-130%	0.88	34:21	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.40	29:23	—

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TLI Project: 41442Br1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB002CP00 Analysis File: U971471

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-2	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.040 g	Dilution Factor:	n/a	% Moisture:	19.9
Dry Weight:	0.833 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	HLM	% Solids:	80.1

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	882			0.75	22:21	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	6870	57.2	40%-130%	0.74	22:20	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.82	21:20	—

Data Reviewer: Shu-Lewis 05/22/97

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB003CP00 — Analysis File: T973471

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-3	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/18/97	End CCal:	T973474
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	15.0
Dry Weight:	0.876 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	85.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	720			0.79	21:41	—
1,2,3,7,8-PeCDD	10000			1.74	26:11	—
1,2,3,4,7,8-HxCDD	19670			1.25	29:24	—
1,2,3,6,7,8-HxCDD	166700			1.25	29:28	—
1,2,3,7,8,9-HxCDD	36620			1.25	29:46	—
2,3,7,8-TCDF	3940			0.86	20:53	—
1,2,3,7,8-PeCDF	8940			1.55	25:05	—
2,3,4,7,8-PeCDF	7920			1.54	25:49	—
1,2,3,4,7,8-HxCDF	EMPC		33930			~~PR~~ J
1,2,3,6,7,8-HxCDF	14160			1.28	28:45	—
1,2,3,4,6,7,8-HxCDF	27650			1.32	29:16	~~PR~~ J
1,2,3,7,8,9-HxCDF	1600			1.28	29:58	—
1,2,3,4,6,7,8-HpCDF	212140			1.06	31:26	—
1,2,3,4,7,8,9-HpCDF	14980			1.03	32:37	—
1,2,3,4,6,7,8,9-OCDF	352690			0.90	34:53	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	2560	6		3190	J
Total PeCDD	28810	9		29700	J
Total HxCDD	478530	7			—
Total TCDF	21490	9		23330	J
Total PeCDF	240980	10		256860	J
Total HxCDF	790510	10		831800	J
Total HpCDF	794450	3			—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB003CP00 — Analysis File: T973523

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-3	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.030 g	Dilution Factor:	10X	% Moisture:	15.0
Dry Weight:	0.876 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	85.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	2080530			1.03	31:56	—
1,2,3,4,6,7,8,9-OCDD	.11E+8			0.85	34:22	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	3259440	2	3267940		—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	13330	117	25%-130%	1.16	31:56	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	16500	72.3	25%-130%	0.98	34:22	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.43	29:24	—

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TLI Project: 41442Br1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB003CP00 Analysis File: U971474

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-3	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.030 g	Dilution Factor:	n/a	% Moisture:	15.0
Dry Weight:	0.876 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BJG	% Solids:	85.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	3140 ✓			0.76 ✓	22:21	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	9240	81.0	40%-130%	0.77 ✓	22:20	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83 ✓	21:19	—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB006CP00 — Analysis File: T973472

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-6	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/19/97	End CCal:	T973474
Sample Size:	1.070 g	Dilution Factor:	n/a	% Moisture:	7.2
Dry Weight:	0.993 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	49.4				—
1,2,3,7,8-PeCDD	458			1.61	26:11	—
1,2,3,4,7,8-HxCDD	1050			1.39	29:23	—
1,2,3,6,7,8-HxCDD	5660			1.21	29:28	—
1,2,3,7,8,9-HxCDD	2480			1.35	29:45	—
1,2,3,4,6,7,8-HpCDD	90160			1.01	32:16	—
1,2,3,4,6,7,8,9-OCDD	445230			0.82	34:44	—
2,3,7,8-TCDF	142			0.77	20:52	—
1,2,3,7,8-PeCDF	EMPC		222			J
2,3,4,7,8-PeCDF	288			1.64	25:49	—
1,2,3,4,7,8-HxCDF	1430			1.17	28:39	~~PR~~ J
1,2,3,6,7,8-HxCDF	1640			1.32	28:45	~~PR~~ J
2,3,4,6,7,8-HxCDF	EMPC		1190			~~PRB~~ J
1,2,3,7,8,9-HxCDF	ND	45.7				—
1,2,3,4,6,7,8-HpCDF	11300			1.08	31:26	—
1,2,3,4,7,8,9-HpCDF	731			1.08	32:37	~~B~~ —
1,2,3,4,6,7,8,9-OCDF	14600			0.92	34:51	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	235	1		308	J
Total PeCDD	650	2		1200	J
Total HxCDD	23120	7		23560	J
Total HpCDD	148300	2			—
Total TCDF	789	4		921	J
Total PeCDF	6780	4		8490	~~E~~ J
Total HxCDF	37610	7		39330	J
Total HpCDF	41720	3			—

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TLI Project: 41442Br1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB006CP00 Analysis File: U971473

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-6	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.070 g	Dilution Factor:	n/a	% Moisture:	7.2
Dry Weight:	0.993 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BJG	% Solids:	92.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	EMPC		111			—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	5970	59.3	40%-130%	0.77	22:21	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	21:21	—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB009CP00 — Analysis File: T973473

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-9	Date Extracted:	05/14/97	1st CCal:	T973458
		Date Analyzed:	05/19/97	End CCal:	T973474
Sample Size:	1.100 g	Dilution Factor:	n/a	% Moisture:	29.2
Dry Weight:	0.779 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	70.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	EMPC		255			J
1,2,3,7,8-PeCDD	2560			1.63	26:11	—
1,2,3,4,7,8-HxCDD	6430			1.29	29:23	—
1,2,3,6,7,8-HxCDD	35120			1.23	29:27	—
1,2,3,7,8,9-HxCDD	13220			1.21	29:45	—
1,2,3,4,6,7,8-HpCDD	771530			1.03	32:16	—
2,3,7,8-TCDF	EMPC		676			—
1,2,3,7,8-PeCDF	1940			1.42	25:04	—
2,3,4,7,8-PeCDF	1820			1.55	25:49	—
1,2,3,4,7,8-HxCDF	9160			1.21	28:39	~~PR~~ J
1,2,3,6,7,8-HxCDF	3430			1.34	28:45	—
2,3,4,6,7,8-HxCDF	8150			1.27	29:14	~~PR~~ J
1,2,3,7,8,9-HxCDF	519			1.22	29:58	~~B~~
1,2,3,4,6,7,8-HpCDF	86930			1.07	31:25	—
1,2,3,4,7,8,9-HpCDF	7990			1.11	32:36	—
1,2,3,4,6,7,8,9-OCDF	232610			0.90	34:52	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	1790	7		2170	J
Total PeCDD	8790	7		10050	J
Total HxCDD	137890	7		139830	J
Total HpCDD	1273810	2			~~E~~ J
Total TCDF	3220	7		4780	~~E~~ J
Total PeCDF	43320	10		55830	~~E~~ J
Total HxCDF	185840	8		212980	~~E~~ J
Total HpCDF	384980	3			—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB009CP00 — Analysis File: T973524

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-9	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.100 g	Dilution Factor:	10X	% Moisture:	29.2
Dry Weight:	0.779 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	70.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	6351830			0.84	34:23	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	32250	126	25%-130%	0.94	34:23	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.17	29:25	—

Data Reviewer: Sherlewis 05/23/97

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TLI Project: **41442Br1** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **MB009CP00** Analysis File: **U971475**

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-9	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.100 g	Dilution Factor:	n/a	% Moisture:	29.2
Dry Weight:	0.779 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BJG	% Solids:	70.8

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	565			0.79	22:21	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	10200	79.5	40%-130%	0.78	22:19	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.88	21:19	—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB010CP04 — Analysis File: T973485

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-10	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/20/97	ConCal:	T973482
Sample Size:	1.000 g	Dilution Factor:	n/a	% Moisture:	3.6
Dry Weight:	0.964 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	96.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	46.9				—
1,2,3,7,8-PeCDD	ND	59.7				—
1,2,3,4,7,8-HxCDD	63.4			1.39	29:06	B
1,2,3,6,7,8-HxCDD	3200			1.19	29:10	—
1,2,3,7,8,9-HxCDD	EMPC		260			~~B~~ U
1,2,3,4,6,7,8-HpCDD	95080			0.99	31:59	—
2,3,7,8-TCDF	84.5			0.73	20:27	—
1,2,3,7,8-PeCDF	389			1.62	24:45	—
2,3,4,7,8-PeCDF	489			1.72	25:29	—
1,2,3,4,7,8-HxCDF	5280			1.26	28:21	—
1,2,3,6,7,8-HxCDF	837			1.22	28:27	~~B~~
2,3,4,6,7,8-HxCDF	1410			1.27	28:56	~~PRB~~ J
1,2,3,7,8,9-HxCDF	195			1.09	29:40	~~B~~ U
1,2,3,4,6,7,8-HpCDF	19700			1.07	31:08	—
1,2,3,4,7,8,9-HpCDF	2770			1.11	32:19	—
1,2,3,4,6,7,8,9-OCDF	61740			0.87	34:33	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	ND		46.9		—
Total PeCDD	ND		59.7		—
Total HxCDD	9870	6		10130	—
Total HpCDD	172590	2			—
Total TCDF	84.5	1			—
Total PeCDF	6270	9		7180	~~E~~ J
Total HxCDF	59270	10		59440	J
Total HpCDF	107040	3			—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB010CP04 — Analysis File: T973525

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-10	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.000 g	Dilution Factor:	5X	% Moisture:	3.6
Dry Weight:	0.964 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	96.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8,9-OCDD	1064680			0.85	34:23	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	29250	141	25%-130%	0.88	34:22	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.24	29:24	—

Data Reviewer: Shu-Lewis 05/23/97

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TLI Project: 41442Br1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB010CP04 Analysis File: U971476

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-10	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.000 g	Dilution Factor:	n/a	% Moisture:	3.6
Dry Weight:	0.964 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BJG	% Solids:	96.4

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	119			0.68	22:21	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	7420	71.5	40%-130%	0.75	22:21	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.84	21:20	—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB012CP10 — Analysis File: T973489

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-12	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/20/97	ConCal:	T973482
Sample Size:	1.040 g	Dilution Factor:	n/a	% Moisture:	10.7
Dry Weight:	0.929 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	89.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	ND	52.2				—
1,2,3,7,8-PeCDD	811			1.43	25:52	—
1,2,3,4,7,8-HxCDD	3510			1.26	29:06	—
1,2,3,6,7,8-HxCDD	72520			1.21	29:11	—
1,2,3,7,8,9-HxCDD	10680			1.22	29:28	—
2,3,7,8-TCDF	2650			0.80	20:27	—
1,2,3,7,8-PeCDF	6040			1.68	24:46	—
2,3,4,7,8-PeCDF	4670			1.58	25:30	—
1,2,3,4,7,8-HxCDF	23330			1.26	28:22	—
1,2,3,6,7,8-HxCDF	6980			1.26	28:28	—
2,3,4,6,7,8-HxCDF	5730			1.30	28:58	~~PR~~ J
1,2,3,7,8,9-HxCDF	1550			1.39	29:40	—
1,2,3,4,6,7,8-HpCDF	148060			1.06	31:09	—
1,2,3,4,7,8,9-HpCDF	10680			1.06	32:20	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	EMPC			342	J
Total PeCDD	3830	7		4360	J
Total HxCDD	251940	7		252020	J
Total TCDF	10660	8		11630	J
Total PeCDF	80540	11		80690	J
Total HxCDF	451280	12		451660	J
Total HpCDF	580710	3			—

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TLI Project: 41442Br1 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB012CP10 — Analysis File: T973526

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPX2371S
TLI ID:	164-94-12	Date Extracted:	05/14/97	ICal:	TF53286
		Date Analyzed:	05/21/97	ConCal:	T973513
Sample Size:	1.040 g	Dilution Factor:	10X	% Moisture:	10.7
Dry Weight:	0.929 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-5	Analyst:	KAS	% Solids:	89.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	1976830			1.04	31:56	—
1,2,3,4,6,7,8,9-OCDD	.10E+8			0.89	34:23	—
1,2,3,4,6,7,8,9-OCDF	150390			0.89	34:29	Q J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	3552170	2			J

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	11680	109	25%-130%	1.24	31:56	RO
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	35350	164	25%-130%	1.21	34:23	RO,Q

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.29	29:23	—

Data Reviewer: Sherlewis 05/23/97

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TLI Project: 41442Br1 Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: MB012CP10 Analysis File: U971477

Client Project:	McCormick & Baxter				
Sample Matrix:	Soil	Date Received:	04/17/97	Spike File:	SPC2NF1S
TLI ID:	164-94-12	Date Extracted:	05/14/97	ICal:	UF2D206
		Date Analyzed:	05/21/97	ConCal:	U971466
Sample Size:	1.040 g	Dilution Factor:	n/a	% Moisture:	10.7
Dry Weight:	0.929 g	Blank File:	T973459	% Lipid:	n/a
GC Column:	DB-225	Analyst:	BJG	% Solids:	89.3

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	2930			0.84	22:23	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	5250	48.8	40%-130%	0.82	22:21	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	21:21	—

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TLI Project: 41442Cr2 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB031ACP10 — Analysis File: S973280

Client Project:	McCormick & Baxter			ICal:	SF52067
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2372S
TLI ID:	164-94-15	Date Extracted:	05/17/97	1st CCal:	S973272
		Date Analyzed:	05/23/97	End CCal:	S973290
Sample Size:	1.090 g	Dilution Factor:	n/a	% Moisture:	9.0
Dry Weight:	0.992 g	Blank File:	S973251	% Lipid:	n/a
GC Column:	DB-5	Analyst:	WK	% Solids:	91.0

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	8.3			0.75	21:45	—
1,2,3,7,8-PeCDD	29.1			1.58	26:16	—
1,2,3,4,7,8-HxCDD	28.7			1.14	29:27	~~Q~~ J
1,2,3,6,7,8-HxCDD	151			1.21	29:33	—
1,2,3,7,8,9-HxCDD	137			1.24	29:50	~~PR~~ J
1,2,3,4,6,7,8-HpCDD	3230			0.98	32:22	—
1,2,3,4,6,7,8,9-OCDD	34230			0.86	34:53	—
2,3,7,8-TCDF	4.9			0.78	21:00	—
1,2,3,7,8-PeCDF	7.5			1.62	25:10	—
2,3,4,7,8-PeCDF	8.3			1.45	25:54	—
1,2,3,4,7,8-HxCDF	EMPC		89.2			~~PRE~~ J
1,2,3,6,7,8-HxCDF	16.0			1.18	28:50	—
2,3,4,6,7,8-HxCDF	13.4			1.40	29:20	~~PR~~ J
1,2,3,7,8,9-HxCDF	ND	6.3				—
1,2,3,4,6,7,8-HpCDF	391			1.04	31:31	—
1,2,3,4,7,8,9-HpCDF	26.5			0.98	32:43	—
1,2,3,4,6,7,8,9-OCDF	751			0.86	35:00	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	99.2	10		106	J
Total PeCDD	205	9		249	J
Total HxCDD	1240	7			—
Total HpCDD	6290	2			—
Total TCDF	9.5	2		48.6	~~E~~ J
Total PeCDF	145	7		250	~~E~~ J
Total HxCDF	608	7		892	~~E~~ J
Total HpCDF	1460	3			—

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TLI Project: 41442Cr3 — Method 8290 PCDD/PCDF Analysis (b)
Client Sample: MB030CP11 — Analysis File: T973654

Client Project:	McCormick & Baxter			ICal:	TF53286
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371Z
TLI ID:	164-94-18	Date Extracted:	05/22/97	1st CCal:	T973646
		Date Analyzed:	05/26/97	End CCal:	T973662
Sample Size:	1.110 g	Dilution Factor:	n/a	% Moisture:	10.4
Dry Weight:	0.995 g	Blank File:	T973651	% Lipid:	n/a
GC Column:	DB-5	Analyst:	BR	% Solids:	89.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDD	9.5			0.65	21:23	—
1,2,3,7,8-PeCDD	216			1.49	25:56	—
1,2,3,4,7,8-HxCDD	1010			1.19	29:10	PR J
1,2,3,6,7,8-HxCDD	12150			1.21	29:15	—
1,2,3,7,8,9-HxCDD	2850			1.21	29:34	PR J
2,3,7,8-TCDF	393			0.81	20:36	—
1,2,3,7,8-PeCDF	1050			1.51	24:51	—
2,3,4,7,8-PeCDF	1140			1.55	25:35	—
1,2,3,4,7,8-HxCDF	5280			1.28	28:26	PR J
1,2,3,6,7,8-HxCDF	1020			1.29	28:32	—
2,3,4,6,7,8-HxCDF	1060			1.26	29:02	PR J
1,2,3,7,8,9-HxCDF	208			1.34	29:46	PR J

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total TCDD	122	7		169	J
Total PeCDD	1240	12			—
Total HxCDD	51390	7			—
Total TCDF	1300	9		1570	E J
Total PeCDF	17210	11		17780	J
Total HxCDF	74420	11		76100	J

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	9620	95.7	40%-130%	0.75	20:35	—
$^{13}C_{12}$-2,3,7,8-TCDD	8830	87.8	40%-130%	0.79	21:22	—
$^{13}C_{12}$-1,2,3,7,8-PeCDF	8320	82.8	40%-130%	1.48	24:50	—
$^{13}C_{12}$-1,2,3,7,8-PeCDD	8620	85.8	40%-130%	1.47	25:55	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDF	9430	93.9	40%-130%	0.50	28:31	—
$^{13}C_{12}$-1,2,3,6,7,8-HxCDD	9100	90.6	40%-130%	1.24	29:15	—

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TLI Project: 41442Cr3 — Method 8290 PCDD/PCDF Analysis (b)

Client Sample: MB030CP11 — Analysis File: T973724

Client Project:	McCormick & Baxter				
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPX2371Z
TLI ID:	164-94-18	Date Extracted:	05/22/97	ICal:	TF53286
		Date Analyzed:	05/29/97	ConCal:	T973710
Sample Size:	1.110 g	Dilution Factor:	10X	% Moisture:	10.4
Dry Weight:	0.995 g	Blank File:	T973651	% Lipid:	n/a
GC Column:	DB-5	Analyst:	DL	% Solids:	89.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
1,2,3,4,6,7,8-HpCDD	354550			1.01	31:51	—
1,2,3,4,6,7,8,9-OCDD	2705080			0.84	34:18	—
1,2,3,4,6,7,8-HpCDF	28870			1.06	31:01	—
1,2,3,4,7,8,9-HpCDF	2270			0.98	32:12	—
1,2,3,4,6,7,8,9-OCDF	71410			0.88	34:24	—

Totals	Conc. (ppt)	Number	DL	EMPC	Flags
Total HpCDD	632990	2			—
HpCDF	113890	3			—

Internal Standards	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDF	9630	95.8	25%-130%	0.41	31:01	—
$^{13}C_{12}$-1,2,3,4,6,7,8-HpCDD	10310	103	25%-130%	1.10	31:51	—
$^{13}C_{12}$-1,2,3,4,6,7,8,9-OCDD	21760	108	25%-130%	0.98	34:18	—

Surrogate Standard (Type B)	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4,7,8,9-HpCDF	10650	106	25%-130%	0.38	32:11	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,7,8,9-HxCDD	1.16	29:20	—

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TLI Project: **41442Cr3** Method 8290 TCDD/TCDF Analysis (DB-225)
Client Sample: **MB030CP11** Analysis File: **U971602**

Client Project:	McCormick & Baxter			ICal:	UF2D206
Sample Matrix:	SOIL	Date Received:	04/17/97	Spike File:	SPC2NF1Z
TLI ID:	164-94-18	Date Extracted:	05/22/97	1st CCal:	U971593
		Date Analyzed:	05/27/97	End CCal:	U971606
Sample Size:	1.110 g	Dilution Factor:	n/a	% Moisture:	10.4
Dry Weight:	0.995 g	Blank File:	T973651	% Lipid:	n/a
GC Column:	DB-225	Analyst:	KAS	% Solids:	89.6

Analytes	Conc. (ppt)	DL	EMPC	Ratio	RT	Flags
2,3,7,8-TCDF	371			0.77	22:12	—

Internal Standard	Conc. (ppt)	% Recovery	QC Limits	Ratio	RT	Flags
$^{13}C_{12}$-2,3,7,8-TCDF	8750	87.1	40%-130%	0.78	22:12	—

Recovery Standard	Ratio	RT	Flags
$^{13}C_{12}$-1,2,3,4-TCDD	0.83	21:14	—

Data Reviewer: _____ 05/30/97

ok

C2NF_PSR v2.00, LARS 6.09.01

Triangle Laboratories, Inc.®
801 Capitola Drive • Durham, North Carolina 27713
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Printed: 15:46 05/30/97

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B-4 Supplemental RD Data Validation Memoranda
October 1997

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International Specialists in the Environment

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MEMORANDUM

DATE: October 31, 1997

TO: Kevin Smith, Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, Chemist, E & E, Seattle, WA MW

THRU: Alasdair Turner, Chemist, E & E, Seattle, WA AT

SUBJ: **Organic Data Quality Assurance Review, McCormick and Baxter Site, Portland, Oregon**

REF: OH4080

The data quality assurance review of five soil samples collected from the McCormick and Baxter site in Portland, Oregon, has been completed. Polycyclic Aromatic Hydrocarbon (PAH) and Pentachlorophenol (PCP) analyses (EPA Method 8270) were performed by Sound Analytical Services, Tacoma, Washington.

The samples were numbered:

MB034GB01 MB035GB02 MB036GB01 MB037GB04 MB030GB01

Data Qualifications:

1. Sample Holding Times: Acceptable.

The samples were maintained at 4°C (± 2°C). The samples were collected on October 2, 1997, and were extracted and analyzed by October 8, 1997, therefore meeting QC criteria of less than 14 days between collection and extraction and less than 40 days between extraction and analysis.

2. GC/MS Tuning Criteria: Acceptable.

All results were normalized to m/z 198, all calculations were verified as correct, and all results were within the required criteria. Decafluorotriphenylphosphine (DFTPP) tuning of the mass spectrometer was conducted at the beginning of the 12-hour analytical sequence.

3. Initial Calibration: Acceptable.

Calculations were verified as correct for at least one analyte per internal standard. All percent relative standard deviations (%RSDs) were less than the control limit of 30.0 % and all individual and average relative response factors for the initial calibration were greater than the 0.050 control limit.

4. Continuing Calibration: Acceptable.

Calculations were verified as correct for at least one analyte per internal standard. All individual PAH and PCP RRFs for the continuing calibration were greater than the 0.050 control limit and all percent differences (% Ds) were less than the control limit of 25.0 %.

5. Internal Standards: Acceptable.

Retention times were within 30 seconds of the 12-hour standard. Areas of the internal standards were within the control limits of 50 % to 200 % of the associated 12-hour calibration standard.

6. Error Determination: Not Performed.

Samples necessary for bias and precision determination were not provided to the laboratory. All samples were flagged RND (Recovery Not Determined) and PND (Precision Not Determined), although the flags are not found on the Form I's.

7. Blanks: Acceptable.

A method blank was analyzed at the required frequency of every 12 hours beginning with the DFTPP injection for each matrix, preparation technique, and analysis system. A method blank was analyzed for the appropriate type of analysis. No target analytes (PAHs and PCP) were detected in any associated blanks.

8. System Monitoring Compounds: Acceptable.

All recoveries of the system monitoring compounds (surrogates) were greater than 10 % and were within QC limits.

9. Performance Evaluation Samples: Not Provided.

Performance evaluation samples were not provided to the laboratory.

10. Matrix Spikes: Acceptable.

PAH and PCP matrix spike and blank spike results were within QC limits.

11. Duplicates: Acceptable.

PAH and PCP matrix spike duplicate results were within QC limits.

12. Target Compound Identification: Acceptable.

All PAH and PCP target compounds reported by the laboratory met identification criteria of relative retention times (RRT) within 0.06 RRT units of the 12-hour standard, all ions present in the standard mass spectrum were present in the sample mass spectrum, the abundance of these ions agreed within ± 20 % between the standard and sample spectrum, and all ions present at greater than 10 % in the sample mass spectrum but not in the standard mass spectrum were accounted for.

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13. Target Compound Quantitation and CRQLs: Acceptable.

Concentrations of all PAH and PCP reported analytes were correctly calculated.

14. Laboratory Contact: Not Required.

Laboratory contact was not required.

15. Overall Assessment of Data for Use

Sample results less than the quantitation limit but greater than the instrument detection limit were qualified by the laboratory as estimated quantities (J).

The overall usefulness of the data is based on the criteria outlined in the OSWER Directive "Quality Assurance/Quality Control Guidance for Removal Activities, Data Validation Procedures" (EPA/540/G-90/004), EPA SW-846 Method 8270, and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review" (EPA 540/R-94/012). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

U - The material was analyzed for but was not detected. The associated numerical value is the estimated sample quantitation limit.

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or because quality control criteria limits were not met.

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB034GB01
Lab ID:	67899-01
Date Received:	10/3/97
Date Prepared:	10/7/97
Date Analyzed:	10/7/97
% Solids	92.54

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	85		23	120
2 - Fluorobiphenyl	79		30	115
p - Terphenyl - d14	78		18	137
Phenol - d5	69		24	113
2 - Fluorophenol	62		25	121
2,4,6 - Tribromophenol	80		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	130	
2-Methylnaphthalene	ND	100	
2-Chloronaphthalene	ND	51	
Acenaphthylene	ND	55	
Acenaphthene	ND	66	
Fluorene	ND	74	
Pentachlorophenol	ND	200	
Phenanthrene	ND	110	
Anthracene	ND	99	
Fluoranthene	ND	75	
Pyrene	ND	100	
Benzo(a)anthracene	ND	74	
Chrysene	ND	60	
Benzo(b)fluoranthene	ND	170	
Benzo(k)fluoranthene	ND	130	
Benzo(a)pyrene	ND	78	
Indeno(1,2,3-cd)pyrene	ND	50	
Dibenz(a,h)anthracene	ND	82	
Benzo(g,h,i)perylene	ND	110	

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SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB035GB04
Lab ID:	67899-02
Date Received:	10/3/97
Date Prepared:	10/7/97
Date Analyzed:	10/7/97
% Solids	94.36

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	89		23	120
2 - Fluorobiphenyl	83		30	115
p - Terphenyl - d14	81		18	137
Phenol - d5	72		24	113
2 - Fluorophenol	77		25	121
2,4,6 - Tribromophenol	80		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	130	
2-Methylnaphthalene	ND	100	
2-Chloronaphthalene	ND	52	
Acenaphthylene	ND	55	
Acenaphthene	ND	67	
Fluorene	ND	75	
Pentachlorophenol	ND	200	
Phenanthrene	ND	110	
Anthracene	ND	100	
Fluoranthene	ND	76	
Pyrene	ND	100	
Benzo(a)anthracene	ND	75	
Chrysene	ND	61	
Benzo(b)fluoranthene	ND	170	
Benzo(k)fluoranthene	ND	140	
Benzo(a)pyrene	ND	79	
Indeno(1,2,3-cd)pyrene	ND	51	
Dibenz(a,h)anthracene	ND	83	
Benzo(g,h,i)perylene	ND	120	

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10-3-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB036GB01
Lab ID:	67899-03
Date Received:	10/3/97
Date Prepared:	10/7/97
Date Analyzed:	10/7/97
% Solids	92.39

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	Recovery Limits High
Nitrobenzene - d5	89		23	120
2 - Fluorobiphenyl	83		30	115
p - Terphenyl - d14	80		18	137
Phenol - d5	72		24	113
2 - Fluorophenol	66		25	121
2,4,6 - Tribromophenol	75		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	120	
2-Methylnaphthalene	ND	100	
2-Chloronaphthalene	ND	50	
Acenaphthylene	74	54	
Acenaphthene	ND	65	
Fluorene	ND	73	
Pentachlorophenol	ND	190	
Phenanthrene	500	110	
Anthracene	80	97	J
Fluoranthene	840	73	
Pyrene	1200	100	
Benzo(a)anthracene	460	73	
Chrysene	540	59	
Benzo(b)fluoranthene	580	170	
Benzo(k)fluoranthene	250	130	
Benzo(a)pyrene	620	77	
Indeno(1,2,3-cd)pyrene	390	49	
Dibenz(a,h)anthracene	ND	81	
Benzo(g,h,i)perylene	550	110	

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10-31-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB037GB04
Lab ID:	67899-04
Date Received:	10/3/97
Date Prepared:	10/7/97
Date Analyzed:	10/7/97
% Solids	89.84

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	84		23	120
2 - Fluorobiphenyl	81		30	115
p - Terphenyl - d14	79		18	137
Phenol - d5	70		24	113
2 - Fluorophenol	69		25	121
2,4,6 - Tribromophenol	76		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	130 U	
2-Methylnaphthalene	ND	110	
2-Chloronaphthalene	ND	53	
Acenaphthylene	ND	57	
Acenaphthene	ND	68	
Fluorene	ND	77	
Pentachlorophenol	ND	200	
Phenanthrene	300	110	
Anthracene	ND	100 U	
Fluoranthene	360	78	
Pyrene	460	110	
Benzo(a)anthracene	170	77	
Chrysene	240	62	
Benzo(b)fluoranthene	250	180	
Benzo(k)fluoranthene	100	140	J
Benzo(a)pyrene	240	81	
Indeno(1,2,3-cd)pyrene	160	52	
Dibenz(a,h)anthracene	ND	85 U	
Benzo(g,h,i)perylene	210	120	

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10-31-97

SOUND ANALYTICAL SERVICES, INC.

Client Name	Ecology & Environment
Client ID:	MB030GB01
Lab ID:	67899-05
Date Received:	10/3/97
Date Prepared:	10/7/97
Date Analyzed:	10/7/97
% Solids	89.56

Semivolatile Organics by USEPA Method 8270

Surrogate	% Recovery	Flags	Recovery Limits Low	High
Nitrobenzene - d5	83		23	120
2 - Fluorobiphenyl	88		30	115
p - Terphenyl - d14	83		18	137
Phenol - d5	67		24	113
2 - Fluorophenol	66		25	121
2,4,6 - Tribromophenol	82		19	122

Sample results are on a dry weight basis.

Analyte	Result (ug/kg)	PQL	Flags
Naphthalene	ND	130	
2-Methylnaphthalene	ND	110	
2-Chloronaphthalene	ND	54	
Acenaphthylene	ND	57	
Acenaphthene	ND	69	
Fluorene	ND	77	
Pentachlorophenol	ND	210	
Phenanthrene	ND	110	
Anthracene	ND	100	
Fluoranthene	ND	78	
Pyrene	ND	110	
Benzo(a)anthracene	ND	78	
Chrysene	ND	63	
Benzo(b)fluoranthene	ND	180	
Benzo(k)fluoranthene	ND	140	
Benzo(a)pyrene	ND	82	
Indeno(1,2,3-cd)pyrene	ND	52	
Dibenz(a,h)anthracene	ND	86	
Benzo(g,h,i)perylene	ND	120	

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MEMORANDUM

DATE: October 31, 1997

TO: Kevin Smith, Project Manager, E & E, Seattle, WA

FROM: Mark Woodke, Chemist, E & E, Seattle, WA MW

THRU: Alasdair Turner, Chemist, E & E, Seattle, WA AT

SUBJ: **Inorganic Data Quality Assurance Review, McCormick and Baxter Site, Portland, Oregon**

REF: OH40S0

The data quality assurance review of five soil samples collected from the McCormick and Baxter site in Portland, Oregon, has been completed. Arsenic analyses (EPA Method 6020) were performed by Sound Analytical Services, Inc., Tacoma, Washington.

The samples were numbered:

MB034GB01 MB035GB02 MB036GB01 MB037GB04 MB030GB01

Data Qualifications:

I **Sample Holding Time: Acceptable.**

The samples were collected on October 2, 1997, and were analyzed by October 8, 1997, for arsenic, therefore meeting QC criteria of less than 6 months between collection and analysis.

II **Initial and Continuing Calibration: Acceptable.**

A calibration standard and blank were analyzed at the beginning of the analysis and after every 10 samples. All ICP initial and continuing calibration results were within QC limits of 90 % to 110 %.

III **Blanks: Acceptable.**

A method blank was analyzed at the required frequency. There were no detections in any blanks.

IV ICP Interference Check Sample: Not Applicable.

Interference Check Sample analyses were not performed; no action was taken by the data reviewer based on this as none of the interferents were detected in significant (interfering) quantities in the samples.

V Precision and Bias Determination: Not Performed.

Samples necessary to determine precision and bias were not provided to the laboratory. All results were flagged "PND" (Precision Not Determined) and "RND" (Recovery Not Determined), although the flags do not appear on the data sheets. Matrix spike sample results were within the QC limits of 75 % to 125 %, except:

Sample	Element	Recovery
97100500MS	Copper	149

Associated sample results were qualified as estimated quantities (J).

All duplicate results were within QC limits.

VI Performance Evaluation Sample Analysis: Not Performed.

Performance evaluation samples were not provided to the laboratory. All laboratory control sample results were within QC limits of 80 % - 120 % recovery.

VII Optional Instrument QC

A. ICP Serial Dilution: Satisfactory.

All serial dilution results in sample 97100500 exceeded the QC limits of $\leq$ 10 % difference, therefore all results were qualified as estimated quantities (J).

B. Atomic Absorption QC: Not Performed.

Atomic absorption analyses were not performed.

VIII Overall Assessment of Data for Use

The overall usefulness of the data is based on the criteria outlined in the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004) and, when applicable, the Office of Emergency and Remedial Response Publication "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" (EPA 540/R-94/013). Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifiers and Definitions

J - The associated numerical value is an estimated quantity because the reported concentrations were less than the contract required detection limits or because quality control criteria limits were not met.

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

34GB01

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: N/A___ SAS No.: 67899_ SDG No.: 34GB01

Matrix (soil/water): SOIL_ Lab Sample ID: 67899-1

Level (low/med): LOW__ Date Received: 10/03/97

% Solids: _92.5

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	3.0			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MMR 10-31-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

35GB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: N/A___ SAS No.: 67899_ SDG No.: 34GB01

Matrix (soil/water): SOIL_ Lab Sample ID: 67899-2

Level (low/med): LOW__ Date Received: 10/03/97

% Solids: _94.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	1.9			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments: MW 10-31-97

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

36GB01

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: N/A___ SAS No.: 67899_ SDG No.: 34GB01

Matrix (soil/water): SOIL_ Lab Sample ID: 67899-3

Level (low/med): LOW__ Date Received: 10/03/97

% Solids: _92.4

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.5			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

37GB04

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: N/A___ SAS No.: 67899_ SDG No.: 34GB01

Matrix (soil/water): SOIL_ Lab Sample ID: 67899-4

Level (low/med): LOW__ Date Received: 10/03/97

% Solids: _89.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	2.4			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

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INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

30GB01

Lab Name: SOUND_ANALYTICAL_SERVICES Contract: E&E_____

Lab Code: SAS___ Case No.: N/A___ SAS No.: 67899_ SDG No.: 34GB01

Matrix (soil/water): SOIL_ Lab Sample ID: 67899-5

Level (low/med): LOW__ Date Received: 10/03/97

% Solids: _89.6

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum_				NR
7440-36-0	Antimony_				NR
7440-38-2	Arsenic__	5.2			M_
7440-39-3	Barium___				NR
7440-41-7	Beryllium				NR
7440-43-9	Cadmium__				NR
7440-70-2	Calcium__				NR
7440-47-3	Chromium_				NR
7440-48-4	Cobalt___				NR
7440-50-8	Copper___				NR
7439-89-6	Iron____				NR
7439-92-1	Lead____				NR
7439-95-4	Magnesium				NR
7439-96-5	Manganese				NR
7439-97-6	Mercury__				NR
7440-02-0	Nickel___				NR
7440-09-7	Potassium				NR
7782-49-2	Selenium_				NR
7440-22-4	Silver___				NR
7440-23-5	Sodium___				NR
7440-28-0	Thallium_				NR
7440-62-2	Vanadium_				NR
7440-66-6	Zinc____				NR
0000-00-0	Molybdenu				NR

Color Before: _____ Clarity Before: _____ Texture: _____

Color After: _____ Clarity After: _____ Artifacts: _____

Comments:

MMR 10-31-97

C

Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB004SS00	MB008SS00	MB014SS00	MB022SS00	MB023SS00	MB057SS00	MB063SS00	MB065SS00
Sample Location:	LSA16	LSA2	LSA9	LSA20	LSA8	SSA69	SSA77	SSA79
Depth (feet):	0	0	0	0	0	0	0	0
Ammonia (mg/kg)	9.8	4.8	93	25 U	25 U	10	72	260
Cation Exchange Capacity (meq/100g)	15	9.2	14	11	11	12	10	14
Copper (mg/kg)	30.6	46.9	183	17	57	18.9	444	112
Heterotrophic Plate Count (CFU/g)	35000	62000	2300	15000	290000	11000	83000	2000
Nitrate/Nitrite (mg/kg)	1 U	1 U	2.1	1 U	1 U	1 U	1 U	120
pH (pH)	7.04	6.23	5.11	5.17	5.93	6.04	5.08	6.77
TOC (mg/kg)	1700	1900	6900	4100	7300	1800	14000	5100
Total Kjeldahl Nitrogen (mg/kg)	200	94	120	25 U	25 U	280	400	10 U
Total Phenanthrene Degraders (CFU/g)	3400	1900	67	310	9000	0	3500	33
Total Phosphorus (mg/kg)	520	690	510	520	510	410	710	460

Key:

CFU = Colony Forming Units.
g = Grams.
kg = Kilograms.
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U = Not detected at detection limit shown.

Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB068SS00	MB070SS00	MB079SS00	MB081SS00	MB084SS00	MB092SS01	MB108SB10	MB120SB04
Sample Location:	SSA80	SSA89	SSA95	SSA98	SSA91	SSA99	FWD202	FWD213
Depth (feet):	0	0	0	0	0	1	10	4
Ammonia (mg/kg)	260	NA	41	40 U	25 U	25 U	22	29
Cation Exchange Capacity (meq/100g)	13	NA	21	13	19	14	14	17
Copper (mg/kg)	135	52	130	58	210	17	19	0.8
Heterotrophic Plate Count (CFU/g)	9600	NA	260000	29000	49000	20000	1500000	390
Nitrate/Nitrite (mg/kg)	2.5	NA	1 U	1 U	1 U	1.1	1 U	1 U
pH (pH)	5.85	NA	5.26	5.41	5.86	6.5	6.79	6.77
TOC (mg/kg)	18000	NA	14000	7200	19000	1900	1200	9800
Total Kjeldahl Nitrogen (mg/kg)	400	NA	500	40 U	25 U	25 U	160	110
Total Phenanthrene Degraders (CFU/g)	700	NA	20000	0	900	1900	740000	390
Total Phosphorus (mg/kg)	460	NA	550	580	430	420	20 U	420

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB121SB10	MB122SS00	MB128SS00	MB134SB04	MB137SB10	MB204SS00	MB208SS00	MB262SS00
Sample Location:	FWD213	FWD210	FWD208	FWD212	FWD217	PDA25	PDA31	EYA38
Depth (feet):	10	0	0	4	10	0	0	0
Ammonia (mg/kg)	NA	0.5 U	15	18	230	96	27	48
Cation Exchange Capacity (meq/100g)	NA	13	13	14	17	22	13	24
Copper (mg/kg)	18	13	25	24	61	2600	390	960
Heterotrophic Plate Count (CFU/g)	NA	750	320	12000	1000000	200000	610000	330000
Nitrate/Nitrite (mg/kg)	NA	1 U	2.6	1 U	1 U	6.6	1 U	1.8
pH (pH)	NA	6.85	5.57	8.15	6.24	5.54	6.73	5.41
TOC (mg/kg)	NA	700	3800	12000	7900	27000	NA	35000
Total Kjeldahl Nitrogen (mg/kg)	NA	5 U	140	12000	390	820	500	1100
Total Phenanthrene Degraders (CFU/g)	NA	40	50	0	44000	940	28000	13000
Total Phosphorus (mg/kg)	NA	460	470	430	500	520	610	550

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB263SS00	MB264SS00	MB266SB04	MB300SS00	MB324SS00	MB325SS00	MB328SS00	MB340SS00
Sample Location:	EYA41	EYA45	EYA45	CPA223	CPA244	CPA244	CPA220	CPA231
Depth (feet):	0	0	4	0	0	0	0	0
Ammonia (mg/kg)	5.9	20	NA	NA	32	28	76	49
Cation Exchange Capacity (meq/100g)	12	12	NA	NA	11	13	20	16
Copper (mg/kg)	55	120	15	57	100	96	140	120
Heterotrophic Plate Count (CFU/g)	150000	190000	NA	NA	810000	92000	110000	280000
Nitrate/Nitrite (mg/kg)	1 U	1 U	NA	NA	1 U	1 U	2.3	1 U
pH (pH)	6.31	6.25	NA	NA	7.01	7.01	6.1	6.26
TOC (mg/kg)	7600	14000	NA	NA	14000	12000	27000	45000
Total Kjeldahl Nitrogen (mg/kg)	89	20	NA	NA	100	260	520	760
Total Phenanthrene Degraders (CFU/g)	26000	1600	NA	NA	340000	75000	20000	64000
Total Phosphorus (mg/kg)	680	470	NA	NA	200	220	240	210

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB346SB04	MB356SS00	MB357SB04	MB363SS00	MB371SB10	MB377SB10	MB380SB04	MB381SB04
Sample Location:	CPA233	CPA221	CPA221	CPA226	CPA230	CPA235	CPA238	CPA238
Depth (feet):	4	0	4	0	10	10	4	4
Ammonia (mg/kg)	71	58	26	13	NA	7	15	69
Cation Exchange Capacity (meq/100g)	14	15	14	13	NA	13	14	14
Copper (mg/kg)	470	68	13	1700	92	12	25	30
Heterotrophic Plate Count (CFU/g)	580000	520	600	420	NA	560	1100	2000
Nitrate/Nitrite (mg/kg)	2.4	1 U	1 U	1.2	NA	1 U	2.3	2.3
pH (pH)	5.52	5.6	6.22	5.43	NA	6.37	5.69	5.58
TOC (mg/kg)	16000	1800	300	1300	NA	1500	1700	2600
Total Kjeldahl Nitrogen (mg/kg)	520	110	36	230	NA	70	140	97
Total Phenanthrene Degraders (CFU/g)	3300	79	16	6.6	NA	43	72	99
Total Phosphorus (mg/kg)	280	240	210	270	NA	210	220	210

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB383SS00	MB390SB10	MB391SB10	MB398SB10	MB400SS00	MB450SS00	MB454SB10	MB455SB04
Sample Location:	CPA240	CPA243	CPA243	CPA241	AA100	CDA350	CDA352	CDA353
Depth (feet):	0	10	10	10	0	0	6	4
Ammonia (mg/kg)	9	27	31	17	19	NA	25	71
Cation Exchange Capacity (meq/100g)	12	12	10	13	10	NA	14	15
Copper (mg/kg)	13	15	17	18	16	19	14	23
Heterotrophic Plate Count (CFU/g)	63000	57000	62000	2100000	9600	NA	230000	710000
Nitrate/Nitrite (mg/kg)	1 U	1 U	1 U	1	1 U	NA	1.1	1 U
pH (pH)	6.35	4.99	5.09	5.87	6.97	NA	6.59	5.91
TOC (mg/kg)	1800	12000	8400	2500	1300	NA	4100	13000
Total Kjeldahl Nitrogen (mg/kg)	78	110	65	240	190	NA	170	540
Total Phenanthrene Degraders (CFU/g)	8600	14000	7200	0	330	NA	9600	150000
Total Phosphorus (mg/kg)	240	210	200	190	470	NA	230	200

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB459SS00	MB464SB10	MB478SB04	MB488SB10	MB500SB04	MB502SB04	MB505SB10	MB569SB04
Sample Location:	CDA355	CDA356	CDA362	CDA356	TFA248	TFA253	TFA254	CTA266
Depth (feet):	0	6	4	10	4	4	10	4
Ammonia (mg/kg)	55	40	9	23	24	82	20	15
Cation Exchange Capacity (meq/100g)	16	15	16	14	16	14	17	13
Copper (mg/kg)	24	13	NA	13	12	15	15	10
Heterotrophic Plate Count (CFU/g)	460000	440000	470	330000	2400	10000	16000	64000
Nitrate/Nitrite (mg/kg)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
pH (pH)	5.97	6.2	5.96	6.07	7.11	7.54	7.1	6.25
TOC (mg/kg)	9500	2000	790	2600	8000	20000	4600	1900
Total Kjeldahl Nitrogen (mg/kg)	510	140	120	130	180	68	140	54
Total Phenanthrene Degraders (CFU/g)	5500	7200	10	19000	200	33	0	200
Total Phosphorus (mg/kg)	210	180	460	180	400	320	500	220

Key:

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB570SB10	MB571SB04	MB606SB10	MB625SB04	MB634SB10	MB639SB04	MB641SS00	MB644SS00
Sample Location:	CTA266	CTA267	SEW312	SEW295	SEW288	SEW283	SEW287	SEW301
Depth (feet):	10	4	10	4	6	4	0	0
Ammonia (mg/kg)	6	6.7	NA	11	11	14	34	43
Cation Exchange Capacity (meq/100g)	13	12	NA	15	17	16	19	13
Copper (mg/kg)	11	14	13	16	13	14	140	54
Heterotrophic Plate Count (CFU/g)	18000	40000	NA	14000	690	110000	8600	5900
Nitrate/Nitrite (mg/kg)	1 U	1 U	NA	1 U	1 U	1 U	1 U	1 U
pH (pH)	6.19	6.43	NA	7.6	6.84	6.98	6.88	6.23
TOC (mg/kg)	640	670	NA	5700	670	1600	21000	7000
Total Kjeldahl Nitrogen (mg/kg)	40	100	NA	80	65	37	200	290
Total Phenanthrene Degraders (CFU/g)	5000	1300	NA	67	130	7700	270	200
Total Phosphorus (mg/kg)	190	200	NA	460	380	460	530	650

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB647SB10	MB662SS00	MB664SB10	MB665SB10	MB668SB04	MB674SB04	MB681SS00	MB686SB04
Sample Location:	SEW301	SEW281	SEW281	SEW281	SEW286	SEW286	SEW291	SEW298
Depth (feet):	10	0	10	10	4	4	0	4
Ammonia (mg/kg)	46	85	32	12	16	7	68	45
Cation Exchange Capacity (meq/100g)	17	13	15	15	16	15	22	15
Copper (mg/kg)	26	32	13	13	14	14	20	12
Heterotrophic Plate Count (CFU/g)	14000	850000	19000	5400	250000	130000	2900000	490
Nitrate/Nitrite (mg/kg)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
pH (pH)	7.68	6.27	7.38	7.6	6.94	7.18	6.72	7.31
TOC (mg/kg)	4500	8800	890	1100	840	890	20000	1100
Total Kjeldahl Nitrogen (mg/kg)	300	230	52	56	370	140	36	85
Total Phenanthrene Degraders (CFU/g)	3100	90000	170	200	18000	13000	30000	9.9
Total Phosphorus (mg/kg)	420	440	460	450	460	480	700	420

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Table C-1

SUMMARY OF DATA - BIOLOGICAL PARAMETERS
McCORMICK AND BAXTER
PORTLAND, OREGON

Sample ID:	MB694SB10	MB707SB04	MB720SB04	MB722SB04	MB750SS00	MB751SS00	MB800SS00
Sample Location:	SEW300	PPA275	PPA277	PPA275	ACC47	ACC53	SCA59
Depth (feet):	9	4	4	4	0	0	0
Ammonia (mg/kg)	37	13	6.9	NA	25	120	130
Cation Exchange Capacity (meq/100g)	15	13	13	NA	17	33	51
Copper (mg/kg)	13	16	13	NA	29	170	30
Heterotrophic Plate Count (CFU/g)	650	1000000	1500000	800000	2500	3100000	1800000
Nitrate/Nitrite (mg/kg)	1 U	1 U	1 U	NA	1 U	1 U	1 U
pH (pH)	7.21	6.61	6.3	NA	6.21	5.91	5.96
TOC (mg/kg)	740	2200	750	NA	14000	57000	81000
Total Kjeldahl Nitrogen (mg/kg)	67	140	66	NA	190	820	1700
Total Phenanthrene Degraders (CFU/g)	3	190000	320000	2700	250	24000	360000
Total Phosphorus (mg/kg)	440	410	460	NA	600	510	280

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