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Subject: Excavation of polychlorinated biphenyl-contaminated soil at the Building 855 lagoon at Lawrence Livermore National Laboratory Site 300

Dear Mr. Park, Ms. Setian, and Ms. Timm:

This letter report summarizes activities conducted at the former Building 855 lagoon to: (1) characterize the extent of polychlorinated biphenyl (PCB) contamination in soil, (2) remove PCB and dioxin/furan-contaminated soil, and (3) verify the achievement of cleanup standards.

1. Introduction

PCBs have been detected in surface and shallow subsurface soil at concentrations exceeding the U.S. Environmental Protection Agency's (EPA) industrial soil Preliminary Remediation Goal (PRG) (U.S. EPA, 2004) in the former Building 855 lagoon. The Building 855 lagoon is located in the Building 854 Operable Unit (OU) in the southwest portion of the Lawrence Livermore National Laboratory (LLNL) Site 300 experimental test site. An unacceptable risk was identified for onsite workers that could be exposed to PCBs in soil in this area. As a result, the excavation of PCB-contaminated soil from the former Building 855 lagoon was specified in the Remedial Design for the Building 854 OU.

This letter report describes:

- Background information (Section 2),
- Additional PCB characterization sampling results (Section 3),
- Soil excavation and disposal activities (Section 4),
- The sampling methodology used to verify compliance with cleanup standards (Section 5), and
- The results of post-excavation verification sampling (Section 6).

2. Background

In 1995, soil sampling and analysis was conducted in the Building 854 OU as part of the characterization effort for this area. The results from this sampling effort were reported in the *Building 854 OU Characterization Summary* (Ziagos and Reber-Cox, 1998). Analytical results indicated that PCBs were present in one surface soil sample collected from the former Building 855 rinsewater lagoon at concentrations that exceeded the EPA industrial soil PRG of 0.74 mg/kg. The presence of PCBs in this sample is likely the result of past discharges of wastewater from Building 855 to the lagoon. PCBs have not been detected in any ground water samples collected in the Building 854 OU.

The baseline human health risk assessment identified a risk of 7×10^{-5} to onsite workers from incidental ingestion and direct dermal contact with PCB-contaminated surface soil at the Building 855 lagoon. This estimate assumed an onsite worker would spend 8 hours a day, 5 days a week, for 30 years working near the contaminated soil.

The U.S. Department of Energy (DOE) agreed to conduct additional sampling to more fully characterize the extent of PCB contamination in soil in the Building 854 OU. The results of this characterization effort are described in Section 3.

3. Additional PCB Characterization Sampling Results

Additional surface and subsurface sampling and analysis was conducted in the Building 854 OU between 2003 and 2005 to characterize the areal and vertical extent of PBC contamination. The PCB compounds detected in samples during this period included Arochlor 1248 and 1254. To evaluate these soil data, the concentrations of these Arochlor compounds were added to obtain the total PCB concentration in the soil sample. The total PCB concentration for the sample was compared to the EPA industrial soil PRG of 0.74 mg/kg to determine the extent of contamination.

During the first quarter of 2003, 38 surface soil samples were collected to better define the areal extent of PCB contamination in the Building 854 OU based on the sampling plan included in the *Building 854 Characterization Summary* (Ferry and Kearns, 2002). The analytical results for these samples were presented in the *Interim Remedial Design for the Building 854 Operable Unit* (Daily et al., 2003).

Only one sample (3SS-854-112) contained PCBs at concentrations above the EPA industrial soil PRG of 0.74 mg/kg for PCBs. This sample was collected from near the center of the former Building 855 lagoon and contained total PCBs at a concentration of 8.3 mg/kg. The total toxicity equivalent concentration for dioxin/furan compounds in a sample collected from location 3SS-854-112 was 6.25×10^{-5} mg/kg; above the industrial soil PRG of 1.6×10^{-5} mg/kg.

In April 2003, LLNL collected soil samples from the former Building 855 disposal lagoon to profile the vertical extent of PCB contamination. The samples were collected from two locations (3SS-854-112 and 3SS-854-200) at 0.5 foot intervals from 0 ft to 2.5 ft (Figure 1). PCBs were detected at a concentration of 0.9 mg/kg, slightly above the PCB PRG of 0.74 mg/kg, in the 0.5 ft sample from location 3SS-854-112. PCBs were also detected at concentrations above the PRG in soil collected at all depths from sample location 3SS-854-200 located directly under the former outfall trench. The PCB concentrations ranged from 10 mg/kg at the ground surface to 62 mg/kg at a depth of 1.5 ft in samples collected at this location.

Because PCBs were still detected at concentrations above the PRG in soil samples collected at the maximum sample collection depth of 2.5 ft from location 3SS-854-200, LLNL conducted additional depth sampling in September 2003. Samples were collected from three to six feet from hand-augered boreholes B-854-112 and B-854-200 within the former Building 855 disposal lagoon (Figure 1). PCBs were detected above the PRG at all depths in borehole B-854-200 next to the former outfall trench. The six ft sample from this location contained 33.4 mg/kg PCB. No PCBs were detected at any depth above the reporting limit in borehole B-854-112, located near the center of the former lagoon.

As the hand augering of the boreholes drilled in September of 2003 could only reach a depth of 6 ft and PCBs were detected at this depth in borehole B-854-200, DOE/LLNL drilled and sampled two additional boreholes to a depth of 20.5 ft using a drilling rig in January 2005. The locations of these boreholes (B-855-2107 and B-855-2108) are shown in Figure 1. Soil samples from borehole B-855-2107, located closest to the drain outfall, contained a maximum PCB concentration of 110 mg/kg at 3 ft. No PCBs were detected above the soil PRG of 0.74 mg/kg below 3 ft to a depth of 20 ft in this borehole. PCBs were detected at a concentration of 2.7 mg/kg in a sample collected at 0.5 ft from borehole B-855-2108. No PCBs were detected at concentrations exceeding the soil PRG in samples collected below 0.5 ft to a depth of 20 ft.

Table 1 shows the analytical results for the samples located within the lagoon during the 2003 and 2005 sampling events prior to soil excavation. The results of the 2003 and 2005 PCB characterization sampling indicate that PCB and dioxin/furan soil contamination is present at concentrations above the EPA industrial soil PRG in surface and shallow subsurface soil at the former Building 855 rinsewater lagoon. Maximum PCB and dioxin/furan concentrations were detected in surface and subsurface soil sample location 3SS/B-854-200 collected near the drainage outfall trench. PCBs concentrations were above the PRG in soil samples collected in this location to a depth of six feet. PCBs were also detected at much lower concentrations but above the PRG to depth of 0.5 ft in soil samples collected from location 3SS/B-854-112.

4. Soil Excavation and Disposal

Based on the soil sample analytical results described in Section 3, DOE/LLNL prepared an excavation plan designed to remove soil contaminated with PCBs and/or dioxin/furans at concentrations above EPA industrial soil PRGs from the former Building 855 lagoon. The excavation area is shown in Figure 2.

Prior to soil excavation activities, utility and biological surveys were conducted in order to obtain ground disturbance/excavation permits. A Hazard Assessment was also performed to establish personnel protective equipment requirements.

Soil excavation began on May 2, 2005. Soil was first removed from a 10 ft wide by 14 ft long area located adjacent to the outfall trench to a depth of 8 ft. This is the location (3SS/B-854-200) where the highest PCB concentrations were detected and exceeded the PRG to a depth of six feet. Because PCB concentrations were much lower and were detected at much shallower depths in samples collected toward the center of the Building 855 lagoon, the backhoe excavated increasingly shallower soil as it moved away from the initial excavation. As shown in Figure 3, the next area of soil excavated was a 5 ft wide by 14 ft long area to a depth of 3 ft, and finally a 5 ft wide by 14 ft long area to a depth of 1 ft near the center of the lagoon (near the location of SS/B-854-112). Approximately 100 cubic yards of soil were excavated.

The excavated soil was placed in roll-off bins and prepared for shipment by LLNL Radioactive and Hazardous Waste Management (RHWM) personnel. The soil is scheduled for shipment to the Kettleman City Landfill for disposal.

still on site?

Surface soil samples were collected from the bottom of the excavation area according to the sampling collection and analysis methodology described in Section 5 to verify compliance with soil PCB and dioxin/furan cleanup standards.

5. Verification Sampling Methodology

This section describes the methodology that was used to verify that the soil remaining following excavation meets the cleanup standards for PCBs and dioxin/furans. The results of the verification sampling are discussed in Section 6.

DOE employed statistical methods from Chapter 6, Section 6.3.4 of EPA guidance for risk-based standard, "Methods for Evaluating the Attainment of Cleanup Standards, Volume 1: Soils and Solid Media" (U.S. EPA, 1989). These methods base the decision of whether cleanup standards have been achieved on the 95% upper confidence limit (UCL) for the average PCB concentration. This is consistent with the exposure scenario used to develop the risk-based concentration limit. In this guidance, if a 95% UCL for the average is less than the PCB PRG (0.74 mg/kg), then the cleanup is considered successful. In addition to guidance in EPA 1989, DOE also followed guidance in "Statistical Methods for Environmental Pollution Monitoring" (Gilbert, 1987) and "Nondetects and Data Analysis - Statistics for Censored Environmental Data" (Helsel, 2005). These books contain additional guidance on how to properly implement the statistical method and how to deal with non-detections.

DOE planned to collect thirty samples, because unless the results are highly skewed, thirty are sufficient for the UCL to actually achieve the desired confidence level. Sample locations were selected using a random number generator. Locations were selected until all samples fell in or near the excavation area. Due to an error, only fifteen samples were collected. Having fewer samples than planned does not change the confidence level (95%) but it does result in a larger confidence interval. Thus, if the UCL calculated using 15 samples exceeds the PRG, the first remedy is to collect the missing 15 samples and recalculate the UCL. If the new UCL is above the PRG, then the cleanup is considered to have failed.

6. Post-Excavation Verification Sample Results

Following excavation, surface soil samples were collected and analyzed for PCBs and dioxin/furans to verify achievement of the cleanup standards. The sampling locations are shown in Figure 3. The PCB and dioxin/furan analytical results for these verification sampling are discussed in Sections 6.1 and 6.2, respectively.

6.1. PCB Verification Sample Results

As discussed in Section 5, fifteen verification samples were collected from the excavation area for PCB analysis. Samples were collected using the LLNL Environmental Restoration Division Standard Operating Procedure 1.12, "Surface Soil Sampling" (Goodrich and Depue, 2003). The samples were analyzed for PCBs by EPA Method 8082 at an offsite certified analytical laboratory. Reporting limits for this analytical method ranged from 0.025 to 0.005 mg/kg.

The analytical results for the PCB verification samples are shown in Figure 3 and presented in Table 2. The fifteen verification sample locations are shown on Figure 3 as 1, 2, 3, 4, etc. These sample location numbers correspond to the final digit in the sample identification (ID) number listed in Table 2. For example, sample location 1 on Figure 3 is Sample ID number 300-EXP-079-1 in Table 2.

Because PCBs were detected in only one verification sample (300-EXP-079-5), a second analysis was run on a sample extract to validate the result. The average of the two results was used for the 95% UCL calculation. PCBs were not detected above the analytical method reporting limit in two samples (300-EXP-079-1 and -2). Therefore, the 95% UCL was calculated following guidance in Helsel (2005).

This resulted in a UCL of 0.22 mg/kg. Since the 95% UCL falls below the PCB soil PRG of 0.74 mg/kg, DOE/LLNL considers these results to verify that the PCB-contaminated soil has been excavated to meet the cleanup criteria.

6.2. Dioxin/furan Verification Sample Results

Dioxin and furan verification sampling was also conducted following excavation. The same locations that were sampled for PCBs were also sampled for dioxins/furans. The procedures that were agreed upon with EPA for the Building 850 dioxin/furan soil verification sampling were used for the Building 855 lagoon sampling. These dioxin/furan samples were composited into five samples. The dioxin/furan decision rule for meeting cleanup standards is that the average concentration must be less than or equal to the current industrial PRG of 1.6×10^{-5} mg/kg (1.0×10^{-6} risk), while no single sample is contaminated above 5×10^{-6} risk.

The composite samples were analyzed at an offsite certified analytical laboratory by EPA Method 8290. Reporting limits varied depending on the analyte and ranged from 10 to 50 parts per trillion (1E-12 to 5E-12). To evaluate the results, the toxic equivalent concentration (TEC) for the composite sample was calculated by multiplying the individual dioxin/furan compound concentration by the associated Toxicity Equivalence Factor (TEF). The TEF is defined as an order of magnitude estimate of the toxicity of the various dioxin and furan compounds relative to the toxicity of 2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD). The sum of the resultant TECs is the total TEC for the sample. Table 3 presents the TEC calculation results for the dioxin/furan samples.

The TECs calculated for all the samples collected following the initial excavation were above the PRG. As a result, another three feet (or 30 cubic yards) of soil were removed from the entire excavation area. Only 3 more feet could be excavated due to the limitations of the available excavating equipment (backhoe).

Following this second excavation, five composite samples were collected for dioxin and furan analysis. The TEC was calculated for these composite samples and are shown in Table 4. The TEC calculated for four of the five verification samples were above the PRG for dioxin. However, the dioxin method blank for two samples (300-ESP-079-COMP6 and –COMP7) was contaminated which could have caused elevated dioxin results. Two of the samples (300-ESP-079-COMP7 and –COMP10 both had interferences that obstructed the measurement of 2,3,7,8-tetrachlorodibenzofuran (2,3,7,8-TCDF) which caused the laboratory to report the estimated maximum possible concentration. The total TCDF concentration reported for sample 300-EXP-079-COMP10 was below the method detection limit. If the suspect results are disqualified, the average TEC is below the dioxin PRG (1.10×10^{-5}).

The 30 cubic yards of soil removed during the second excavation are not classified as hazardous waste. It met the disposal criteria for the Altamont Sanitary Landfill where it will be transported for disposal.

7. Summary

PCBs, dioxins, and furans were identified in soil at the Building 855 lagoon at concentrations that exceeded EPA's industrial soil PRGs and posed an unacceptable risk to onsite workers. In May 2005, approximately 100 cubic yards of soil contaminated with PCBs, dioxins, and furans were removed from the lagoon to mitigate this risk.

Following the excavation, fifteen discrete soil samples were collected for PCB analysis. The 95% UCL for the average PCB concentration detected in the fifteen soil samples were well below the 0.74 mg/kg PRG for PCBs. Therefore, DOE/LLNL considers these results to verify that the PCB-contaminated soil has been excavated to meet the cleanup standards.

Five composite samples were collected for dioxin/furan analyses. To evaluate the dioxin/furan analytical results, the TEC for the composite samples was calculated by multiplying the individual dioxin/furan compound concentrations by the associated TEF. The TECs calculated for all the samples collected following the initial excavation were above the PRG. As a result, an additional three feet of soil was removed from the excavation area on June 28, 2005. Following this second excavation, five composite samples were collected for dioxin and furan analysis. The TEC calculated for four of the five verification samples were slightly above the PRG for dioxin. However, the results for three samples can be disqualified based on contamination in the method blank for two samples and interference in the 2,3,7,8 TCDF analysis for one sample for which the total TCDF results were below method detection limits. The average TEC for dioxins and furans is at or near the PRG (1.10×10^{-5}).

DOE/LLNL considers the soil excavation to be complete because:

PCB concentrations in soil are below EPA's industrial soil PRG.

- The dioxin/furan levels remaining in soil are at or near EPA's industrial soil PRG.
- The soil from the second excavation is classified as non-hazardous by landfill disposal criteria, and therefore can be disposed of at a sanitary landfill. Therefore, it would pose a greater exposure risk to transport and dispose of the waste than would posed by leaving the soil in place and covering it with 4 to 8 feet of clean fill.

Upon concurrence with the regulatory agencies, the excavation will be backfilled to normal grade with clean, local soil.

Because the remaining soil contains PCBs and dioxin/furans at concentrations above the residential PRGs for PCBs and dioxin/furans, this will be noted in the Site 300 Ten-Year Comprehensive Plan. It will state that if land use at Site 300 were to change from industrial to residential in the future, the need for further cleanup of soil at Building 855 lagoon would be discussed with the regulatory agencies.

Please provide written confirmation of your agency's concurrence that the soil cleanup at the Building 855 lagoon is complete. If you do not concur that cleanup is complete or if you have any questions regarding this information, please contact me at (925) 422-0670.

Sincerely,

Claire Holtzapple
Site 300 Remedial Project Manager
Environmental Stewardship Division

Enclosure

cc w/o enclosure:
B. Bookless, LLNL
E. Raber, LLNL
J. Yow, LLNL

References

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Acronyms and Abbreviations

DOE =	Department of Energy	RHWM =	Radioactive and Hazardous Waste
EPA =	Environmental Protection Agency		Management
ft =	foot or feet	TCDD =	2,3,7,8-tetrachlorobenzo-p-dioxin
mg/kg =	milligrams per kilogram	TCDF =	2,3,7,8-tetrachlorodibenzofuran
OU =	Operable unit	TEC =	Toxic Equivalent Concentration
PCB =	Polychlorinated biphenyls	TEF =	Toxicity Equivalence Factor
PRG=	Preliminary remediation goal		

Table 1. PCB concentrations (wet weight) in the Building 855 lagoon as determined by EPA Method 8082 prior to the excavation.

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
3SS-854-113	0	29-Jan-03	<0.007	0.007	PCB 1016
3SS-854-113	0	29-Jan-03	<0.007	0.007	PCB 1221
3SS-854-113	0	29-Jan-03	<0.007	0.007	PCB 1232
3SS-854-113	0	29-Jan-03	<0.007	0.007	PCB 1242
3SS-854-113	0	29-Jan-03	<0.007	0.007	PCB 1248
3SS-854-113	0	29-Jan-03	0.023	0.007	PCB 1254
3SS-854-113	0	29-Jan-03	<0.007	0.007	PCB 1260
3SS-854-114	0	29-Jan-03	<0.007	0.007	PCB 1016
3SS-854-114	0	29-Jan-03	<0.007	0.007	PCB 1221
3SS-854-114	0	29-Jan-03	<0.007	0.007	PCB 1232
3SS-854-114	0	29-Jan-03	<0.007	0.007	PCB 1242
3SS-854-114	0	29-Jan-03	<0.007	0.007	PCB 1248
3SS-854-114	0	29-Jan-03	<0.007	0.007	PCB 1254
3SS-854-114	0	29-Jan-03	<0.007	0.007	PCB 1260
3SS-854-112	0	29-Jan-03	<0.35	0.35	PCB 1016
3SS-854-112	0	29-Jan-03	<0.35	0.35	PCB 1221
3SS-854-112	0	29-Jan-03	<0.35	0.35	PCB 1232
3SS-854-112	0	29-Jan-03	<0.35	0.35	PCB 1242
3SS-854-112	0	29-Jan-03	3.6	0.35	PCB 1248
3SS-854-112	0	29-Jan-03	4.7	0.35	PCB 1254
3SS-854-112	0	29-Jan-03	<0.35	0.35	PCB 1260
3SS-854-112	0.5	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-112	0.5	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-112	0.5	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-112	0.5	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-112	0.5	23-Apr-03	0.9	0.1	PCB 1248
3SS-854-112	0.5	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-112	0.5	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-112	1	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-112	1	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-112	1	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-112	1	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-112	1	23-Apr-03	0.4	0.1	PCB 1248

Table 1 continued. (Page 2 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
3SS-854-112	1	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-112	1	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-112	1.5	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-112	1.5	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-112	1.5	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-112	1.5	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-112	1.5	23-Apr-03	0.2	0.1	PCB 1248
3SS-854-112	1.5	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-112	1.5	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-112	2	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-112	2	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-112	2	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-112	2	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-112	2	23-Apr-03	0.2	0.1	PCB 1248
3SS-854-112	2	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-112	2	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-112	2.5	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-112	2.5	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-112	2.5	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-112	2.5	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-112	2.5	23-Apr-03	0.5	0.1	PCB 1248
3SS-854-112	2.5	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-112	2.5	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-112	3	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-112	3	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-112	3	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-112	3	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-112	3	23-Apr-03	0.3	0.1	PCB 1248
3SS-854-112	3	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-112	3	23-Apr-03	<0.1	0.1	PCB 1260
B-854-112	3.5	10-Sep-03	<1	1	PCB 1016
B-854-112	3.5	10-Sep-03	<1	1	PCB 1221
B-854-112	3.5	10-Sep-03	<1	1	PCB 1232

Table 1 continued. (Page 3 of 10)

Location	Sample depth	Sampled date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
B-854-112	3.5	10-Sep-03	<1	1	PCB 1242
B-854-112	3.5	10-Sep-03	<1	1	PCB 1248
B-854-112	3.5	10-Sep-03	<1	1	PCB 1254
B-854-112	3.5	10-Sep-03	<1	1	PCB 1260
B-854-112	4	10-Sep-03	<1	1	PCB 1016
B-854-112	4	10-Sep-03	<1	1	PCB 1221
B-854-112	4	10-Sep-03	<1	1	PCB 1232
B-854-112	4	10-Sep-03	<1	1	PCB 1242
B-854-112	4	10-Sep-03	<1	1	PCB 1248
B-854-112	4	10-Sep-03	<1	1	PCB 1254
B-854-112	4	10-Sep-03	<1	1	PCB 1260
B-854-112	4.5	10-Sep-03	<1	1	PCB 1016
B-854-112	4.5	10-Sep-03	<1	1	PCB 1221
B-854-112	4.5	10-Sep-03	<1	1	PCB 1232
B-854-112	4.5	10-Sep-03	<1	1	PCB 1242
B-854-112	4.5	10-Sep-03	<1	1	PCB 1248
B-854-112	4.5	10-Sep-03	<1	1	PCB 1254
B-854-112	4.5	10-Sep-03	<1	1	PCB 1260
B-854-112	5	10-Sep-03	<1	1	PCB 1016
B-854-112	5	10-Sep-03	<1	1	PCB 1221
B-854-112	5	10-Sep-03	<1	1	PCB 1232
B-854-112	5	10-Sep-03	<1	1	PCB 1242
B-854-112	5	10-Sep-03	<1	1	PCB 1248
B-854-112	5	10-Sep-03	<1	1	PCB 1254
B-854-112	5	10-Sep-03	<1	1	PCB 1260
B-854-112	5.5	10-Sep-03	<1	1	PCB 1016
B-854-112	5.5	10-Sep-03	<1	1	PCB 1221
B-854-112	5.5	10-Sep-03	<1	1	PCB 1232
B-854-112	5.5	10-Sep-03	<1	1	PCB 1242
B-854-112	5.5	10-Sep-03	<1	1	PCB 1248
B-854-112	5.5	10-Sep-03	<1	1	PCB 1254
B-854-112	5.5	10-Sep-03	<1	1	PCB 1260
B-854-112	6	10-Sep-03	<1	1	PCB 1016

Table 1 continued. (Page 4 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
B-854-112	6	10-Sep-03	<1	1	PCB 1221
B-854-112	6	10-Sep-03	<1	1	PCB 1232
B-854-112	6	10-Sep-03	<1	1	PCB 1242
B-854-112	6	10-Sep-03	<1	1	PCB 1248
B-854-112	6	10-Sep-03	<1	1	PCB 1254
B-854-112	6	10-Sep-03	<1	1	PCB 1260
3SS-854-200	0	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-200	0	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-200	0	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-200	0	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-200	0	23-Apr-03	10	0.1	PCB 1248
3SS-854-200	0	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-200	0	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-200	0.5	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-200	0.5	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-200	0.5	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-200	0.5	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-200	0.5	23-Apr-03	59	0.1	PCB 1248
3SS-854-200	0.5	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-200	0.5	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-200	1	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-200	1	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-200	1	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-200	1	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-200	1	23-Apr-03	26	0.1	PCB 1248
3SS-854-200	1	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-200	1	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-200	1.5	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-200	1.5	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-200	1.5	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-200	1.5	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-200	1.5	23-Apr-03	62	0.1	PCB 1248
3SS-854-200	1.5	23-Apr-03	<0.1	0.1	PCB 1254

Table 1 continued. (Page 5 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
3SS-854-200	1.5	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-200	2	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-200	2	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-200	2	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-200	2	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-200	2	23-Apr-03	22	0.1	PCB 1248
3SS-854-200	2	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-200	2	23-Apr-03	<0.1	0.1	PCB 1260
3SS-854-200	2.5	23-Apr-03	<0.1	0.1	PCB 1016
3SS-854-200	2.5	23-Apr-03	<0.1	0.1	PCB 1221
3SS-854-200	2.5	23-Apr-03	<0.1	0.1	PCB 1232
3SS-854-200	2.5	23-Apr-03	<0.1	0.1	PCB 1242
3SS-854-200	2.5	23-Apr-03	21	0.1	PCB 1248
3SS-854-200	2.5	23-Apr-03	<0.1	0.1	PCB 1254
3SS-854-200	2.5	23-Apr-03	<0.1	0.1	PCB 1260
B-854-200	3	10-Sep-03	<10	10	PCB 1016
B-854-200	3	10-Sep-03	<10	10	PCB 1221
B-854-200	3	10-Sep-03	<10	10	PCB 1232
B-854-200	3	10-Sep-03	<10	10	PCB 1242
B-854-200	3	10-Sep-03	46.2	10	PCB 1248
B-854-200	3	10-Sep-03	<10	10	PCB 1254
B-854-200	3	10-Sep-03	<10	10	PCB 1260
B-854-200	3.5	10-Sep-03	<1	1	PCB 1016
B-854-200	3.5	10-Sep-03	<1	1	PCB 1221
B-854-200	3.5	10-Sep-03	<1	1	PCB 1232
B-854-200	3.5	10-Sep-03	<1	1	PCB 1242
B-854-200	3.5	10-Sep-03	52	1	PCB 1248
B-854-200	3.5	10-Sep-03	<1	1	PCB 1254
B-854-200	3.5	10-Sep-03	<1	1	PCB 1260
B-854-200	4	10-Sep-03	<1	1	PCB 1016
B-854-200	4	10-Sep-03	<1	1	PCB 1221
B-854-200	4	10-Sep-03	<1	1	PCB 1232
B-854-200	4	10-Sep-03	<1	1	PCB 1242

Table 1 continued. (Page 6 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
B-854-200	4	10-Sep-03	26	1	PCB 1248
B-854-200	4	10-Sep-03	<1	1	PCB 1254
B-854-200	4	10-Sep-03	<1	1	PCB 1260
B-854-200	4.5	10-Sep-03	<1	1	PCB 1016
B-854-200	4.5	10-Sep-03	<1	1	PCB 1221
B-854-200	4.5	10-Sep-03	<1	1	PCB 1232
B-854-200	4.5	10-Sep-03	<1	1	PCB 1242
B-854-200	4.5	10-Sep-03	17.9	1	PCB 1248
B-854-200	4.5	10-Sep-03	<1	1	PCB 1254
B-854-200	4.5	10-Sep-03	<1	1	PCB 1260
B-854-200	5	10-Sep-03	<1	1	PCB 1016
B-854-200	5	10-Sep-03	<1	1	PCB 1221
B-854-200	5	10-Sep-03	<1	1	PCB 1232
B-854-200	5	10-Sep-03	<1	1	PCB 1242
B-854-200	5	10-Sep-03	20.3	1	PCB 1248
B-854-200	5	10-Sep-03	<1	1	PCB 1254
B-854-200	5	10-Sep-03	<1	1	PCB 1260
B-854-200	5.5	10-Sep-03	<1	1	PCB 1016
B-854-200	5.5	10-Sep-03	<1	1	PCB 1221
B-854-200	5.5	10-Sep-03	<1	1	PCB 1232
B-854-200	5.5	10-Sep-03	<1	1	PCB 1242
B-854-200	5.5	10-Sep-03	41.3	1	PCB 1248
B-854-200	5.5	10-Sep-03	<1	1	PCB 1254
B-854-200	5.5	10-Sep-03	<1	1	PCB 1260
B-854-200	6	10-Sep-03	<1	1	PCB 1016
B-854-200	6	10-Sep-03	<1	1	PCB 1221
B-854-200	6	10-Sep-03	<1	1	PCB 1232
B-854-200	6	10-Sep-03	<1	1	PCB 1242
B-854-200	6	10-Sep-03	33.4	1	PCB 1248
B-854-200	6	10-Sep-03	<1	1	PCB 1254
B-854-200	6	10-Sep-03	<1	1	PCB 1260
B-855-2107	0.5	20-Jan-05	<2	2	PCB 1016
B-855-2107	0.5	20-Jan-05	<2	2	PCB 1221

Table 1 continued. (Page 7 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
B-855-2107	0.5	20-Jan-05	<2	2	PCB 1232
B-855-2107	0.5	20-Jan-05	<2	2	PCB 1242
B-855-2107	0.5	20-Jan-05	20	2	PCB 1248
B-855-2107	0.5	20-Jan-05	<2	2	PCB 1254
B-855-2107	0.5	20-Jan-05	<2	2	PCB 1260
B-855-2107	3	20-Jan-05	<100	100	PCB 1016
B-855-2107	3	20-Jan-05	<100	100	PCB 1221
B-855-2107	3	20-Jan-05	<100	100	PCB 1232
B-855-2107	3	20-Jan-05	<100	100	PCB 1242
B-855-2107	3	20-Jan-05	110	100	PCB 1248
B-855-2107	3	20-Jan-05	<100	100	PCB 1254
B-855-2107	3	20-Jan-05	<100	100	PCB 1260
B-855-2107	5.5	20-Jan-05	<0.02	0.02	PCB 1016
B-855-2107	5.5	20-Jan-05	<0.02	0.02	PCB 1221
B-855-2107	5.5	20-Jan-05	<0.02	0.02	PCB 1232
B-855-2107	5.5	20-Jan-05	<0.02	0.02	PCB 1242
B-855-2107	5.5	20-Jan-05	0.041	0.02	PCB 1248
B-855-2107	5.5	20-Jan-05	<0.02	0.02	PCB 1254
B-855-2107	5.5	20-Jan-05	<0.02	0.02	PCB 1260
B-855-2107	8	20-Jan-05	<0.02	0.02	PCB 1016
B-855-2107	8	20-Jan-05	<0.02	0.02	PCB 1221
B-855-2107	8	20-Jan-05	<0.02	0.02	PCB 1232
B-855-2107	8	20-Jan-05	<0.02	0.02	PCB 1242
B-855-2107	8	20-Jan-05	<0.02	0.02	PCB 1248
B-855-2107	8	20-Jan-05	<0.02	0.02	PCB 1254
B-855-2107	8	20-Jan-05	<0.02	0.02	PCB 1260
B-855-2107	10.5	20-Jan-05	<0.02	0.02	PCB 1016
B-855-2107	10.5	20-Jan-05	<0.02	0.02	PCB 1221
B-855-2107	10.5	20-Jan-05	<0.02	0.02	PCB 1232
B-855-2107	10.5	20-Jan-05	<0.02	0.02	PCB 1242
B-855-2107	10.5	20-Jan-05	<0.02	0.02	PCB 1248
B-855-2107	10.5	20-Jan-05	<0.02	0.02	PCB 1254
B-855-2107	10.5	20-Jan-05	<0.02	0.02	PCB 1260
B-855-2107	13	20-Jan-05	<0.02	0.02	PCB 1016

Table 1 continued. (Page 8 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
B-855-2107	13	20-Jan-05	<0.02	0.02	PCB 1221
B-855-2107	13	20-Jan-05	<0.02	0.02	PCB 1232
B-855-2107	13	20-Jan-05	<0.02	0.02	PCB 1242
B-855-2107	13	20-Jan-05	<0.02	0.02	PCB 1248
B-855-2107	13	20-Jan-05	<0.02	0.02	PCB 1254
B-855-2107	13	20-Jan-05	<0.02	0.02	PCB 1260
B-855-2107	15.5	20-Jan-05	<0.1	0.1	PCB 1016
B-855-2107	15.5	20-Jan-05	<0.1	0.1	PCB 1221
B-855-2107	15.5	20-Jan-05	<0.1	0.1	PCB 1232
B-855-2107	15.5	20-Jan-05	<0.1	0.1	PCB 1242
B-855-2107	15.5	20-Jan-05	0.37	0.1	PCB 1248
B-855-2107	15.5	20-Jan-05	<0.1	0.1	PCB 1254
B-855-2107	15.5	20-Jan-05	<0.1	0.1	PCB 1260
B-855-2107	18	20-Jan-05	<0.02	0.02	PCB 1016
B-855-2107	18	20-Jan-05	<0.02	0.02	PCB 1221
B-855-2107	18	20-Jan-05	<0.02	0.02	PCB 1232
B-855-2107	18	20-Jan-05	<0.02	0.02	PCB 1242
B-855-2107	18	20-Jan-05	0.032	0.02	PCB 1248
B-855-2107	18	20-Jan-05	<0.02	0.02	PCB 1254
B-855-2107	18	20-Jan-05	<0.02	0.02	PCB 1260
B-855-2107	20.5	20-Jan-05	<0.02	0.02	PCB 1016
B-855-2107	20.5	20-Jan-05	<0.02	0.02	PCB 1221
B-855-2107	20.5	20-Jan-05	<0.02	0.02	PCB 1232
B-855-2107	20.5	20-Jan-05	<0.02	0.02	PCB 1242
B-855-2107	20.5	20-Jan-05	<0.02	0.02	PCB 1248
B-855-2107	20.5	20-Jan-05	<0.02	0.02	PCB 1254
B-855-2107	20.5	20-Jan-05	<0.02	0.02	PCB 1260
B-855-2108	0.5	24-Jan-05	<0.25	0.25	PCB 1016
B-855-2108	0.5	24-Jan-05	<0.25	0.25	PCB 1221
B-855-2108	0.5	24-Jan-05	<0.25	0.25	PCB 1232
B-855-2108	0.5	24-Jan-05	<0.25	0.25	PCB 1242
B-855-2108	0.5	24-Jan-05	2.7	0.25	PCB 1248
B-855-2108	0.5	24-Jan-05	<0.25	0.25	PCB 1254

Table 1 continued. (Page 9 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
B-855-2108	0.5	24-Jan-05	<0.25	0.25	PCB 1260
B-855-2108	3	24-Jan-05	<0.025	0.025	PCB 1016
B-855-2108	3	24-Jan-05	<0.025	0.025	PCB 1221
B-855-2108	3	24-Jan-05	<0.025	0.025	PCB 1232
B-855-2108	3	24-Jan-05	<0.025	0.025	PCB 1242
B-855-2108	3	24-Jan-05	0.29	0.025	PCB 1248
B-855-2108	3	24-Jan-05	<0.025	0.025	PCB 1254
B-855-2108	3	24-Jan-05	<0.025	0.025	PCB 1260
B-855-2108	5.5	24-Jan-05	<0.005	0.005	PCB 1016
B-855-2108	5.5	24-Jan-05	<0.005	0.005	PCB 1221
B-855-2108	5.5	24-Jan-05	<0.005	0.005	PCB 1232
B-855-2108	5.5	24-Jan-05	<0.005	0.005	PCB 1242
B-855-2108	5.5	24-Jan-05	0.047	0.005	PCB 1248
B-855-2108	5.5	24-Jan-05	<0.005	0.005	PCB 1254
B-855-2108	5.5	24-Jan-05	<0.005	0.005	PCB 1260
B-855-2108	8	24-Jan-05	<0.02	0.02	PCB 1016
B-855-2108	8	24-Jan-05	<0.005	0.005	PCB 1221
B-855-2108	8	24-Jan-05	<0.005	0.005	PCB 1232
B-855-2108	8	24-Jan-05	<0.005	0.005	PCB 1242
B-855-2108	8	24-Jan-05	<0.005	0.005	PCB 1248
B-855-2108	8	24-Jan-05	<0.005	0.005	PCB 1254
B-855-2108	8	24-Jan-05	<0.005	0.005	PCB 1260
B-855-2108	10.5	24-Jan-05	<0.005	0.005	PCB 1016
B-855-2108	10.5	24-Jan-05	<0.005	0.005	PCB 1221
B-855-2108	10.5	24-Jan-05	<0.005	0.005	PCB 1232
B-855-2108	10.5	24-Jan-05	<0.005	0.005	PCB 1242
B-855-2108	10.5	24-Jan-05	<0.005	0.005	PCB 1248
B-855-2108	10.5	24-Jan-05	<0.005	0.005	PCB 1254
B-855-2108	10.5	24-Jan-05	<0.005	0.005	PCB 1260
B-855-2108	13	24-Jan-05	<0.005	0.005	PCB 1016
B-855-2108	13	24-Jan-05	<0.005	0.005	PCB 1221
B-855-2108	13	24-Jan-05	<0.005	0.005	PCB 1232
B-855-2108	13	24-Jan-05	<0.005	0.005	PCB 1242

Table 1 continued. (Page 10 of 10)

Location	Sample depth	Sample date	Result (mg/kg)	Reporting limit (mg/kg)	Analyte
B-855-2108	13	24-Jan-05	<0.005	0.005	PCB 1248
B-855-2108	13	24-Jan-05	<0.005	0.005	PCB 1254
B-855-2108	13	24-Jan-05	<0.005	0.005	PCB 1260
B-855-2108	15.5	24-Jan-05	<0.005	0.005	PCB 1016
B-855-2108	15.5	24-Jan-05	<0.005	0.005	PCB 1221
B-855-2108	15.5	24-Jan-05	<0.005	0.005	PCB 1232
B-855-2108	15.5	24-Jan-05	<0.005	0.005	PCB 1242
B-855-2108	15.5	24-Jan-05	<0.005	0.005	PCB 1248
B-855-2108	15.5	24-Jan-05	<0.005	0.005	PCB 1254
B-855-2108	15.5	24-Jan-05	<0.005	0.005	PCB 1260
B-855-2108	18	24-Jan-05	<0.005	0.005	PCB 1016
B-855-2108	18	24-Jan-05	<0.005	0.005	PCB 1221
B-855-2108	18	24-Jan-05	<0.005	0.005	PCB 1232
B-855-2108	18	24-Jan-05	<0.005	0.005	PCB 1242
B-855-2108	18	24-Jan-05	<0.005	0.005	PCB 1248
B-855-2108	18	24-Jan-05	<0.005	0.005	PCB 1254
B-855-2108	18	24-Jan-05	<0.005	0.005	PCB 1260
B-855-2108	20.5	24-Jan-05	<0.005	0.005	PCB 1016
B-855-2108	20.5	24-Jan-05	<0.005	0.005	PCB 1221
B-855-2108	20.5	24-Jan-05	<0.005	0.005	PCB 1232
B-855-2108	20.5	24-Jan-05	<0.005	0.005	PCB 1242
B-855-2108	20.5	24-Jan-05	0.045	0.005	PCB 1248
B-855-2108	20.5	24-Jan-05	<0.005	0.005	PCB 1254
B-855-2108	20.5	24-Jan-05	<0.005	0.005	PCB 1260

Table 2. Post excavation PCB verification sampling results.

Sample ID	Dry Weight Results	Reporting Limit	Units	Analyte
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1016
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1221
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1232
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1242
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1248
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1254
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1260
300-EXP-079-1	<0.005	0.005	mg/kg	PCB 1268
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1016
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1221
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1232
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1242
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1248
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1254
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1260
300-EXP-079-2	<0.005	0.005	mg/kg	PCB 1268
300-EXP-079-3	<0.05	0.05	mg/kg	PCB 1016
300-EXP-079-3	<0.05	0.05	mg/kg	PCB 1221
300-EXP-079-3	<0.05	0.05	mg/kg	PCB 1232
300-EXP-079-3	<0.05	0.05	mg/kg	PCB 1242
300-EXP-079-3	0.48	0.05	mg/kg	PCB 1248
300-EXP-079-3	<0.05	0.05	mg/kg	PCB 1254
300-EXP-079-3	<0.05	0.05	mg/kg	PCB 1260
300-EXP-079-3	<0.05	0.05	mg/kg	PCB 1268
300-EXP-079-4	<0.005	0.005	mg/kg	PCB 1016
300-EXP-079-4	<0.005	0.005	mg/kg	PCB 1221
300-EXP-079-4	<0.005	0.005	mg/kg	PCB 1232
300-EXP-079-4	<0.005	0.005	mg/kg	PCB 1242
300-EXP-079-4	0.11	0.005	mg/kg	PCB 1248
300-EXP-079-4	<0.005	0.005	mg/kg	PCB 1254
300-EXP-079-4	<0.005	0.005	mg/kg	PCB 1260
300-EXP-079-4	<0.005	0.005	mg/kg	PCB 1268
300-EXP-079-5	<0.05	0.05	mg/kg	PCB 1016
300-EXP-079-5	<0.05	0.05	mg/kg	PCB 1221
300-EXP-079-5	<0.05	0.05	mg/kg	PCB 1232

Table 2 continued. (Page 2 of 4)

Sample ID	Dry Weight Results	Reporting Limit	Units	Analyte
300-EXP-079-5	<0.05	0.05	mg/kg	PCB 1242
300-EXP-079-5	0.82/0.3*	0.05	mg/kg	PCB 1248
300-EXP-079-5	<0.05	0.05	mg/kg	PCB 1254
300-EXP-079-5	<0.05	0.05	mg/kg	PCB 1260
300-EXP-079-5	<0.05	0.05	mg/kg	PCB 1268
300-EXP-079-6	<0.025	0.025	mg/kg	PCB 1016
300-EXP-079-6	<0.025	0.025	mg/kg	PCB 1221
300-EXP-079-6	<0.025	0.025	mg/kg	PCB 1232
300-EXP-079-6	<0.025	0.025	mg/kg	PCB 1242
300-EXP-079-6	0.22	0.025	mg/kg	PCB 1248
300-EXP-079-6	<0.025	0.025	mg/kg	PCB 1254
300-EXP-079-6	<0.025	0.025	mg/kg	PCB 1260
300-EXP-079-6	<0.025	0.025	mg/kg	PCB 1268
300-EXP-079-7	<0.025	0.025	mg/kg	PCB 1016
300-EXP-079-7	<0.025	0.025	mg/kg	PCB 1221
300-EXP-079-7	<0.025	0.025	mg/kg	PCB 1232
300-EXP-079-7	<0.025	0.025	mg/kg	PCB 1242
300-EXP-079-7	0.23	0.025	mg/kg	PCB 1248
300-EXP-079-7	<0.025	0.025	mg/kg	PCB 1254
300-EXP-079-7	<0.025	0.025	mg/kg	PCB 1260
300-EXP-079-7	<0.025	0.025	mg/kg	PCB 1268
300-EXP-079-8	<0.025	0.025	mg/kg	PCB 1016
300-EXP-079-8	<0.025	0.025	mg/kg	PCB 1221
300-EXP-079-8	<0.025	0.025	mg/kg	PCB 1232
300-EXP-079-8	<0.025	0.025	mg/kg	PCB 1242
300-EXP-079-8	0.17	0.025	mg/kg	PCB 1248
300-EXP-079-8	<0.025	0.025	mg/kg	PCB 1254
300-EXP-079-8	<0.025	0.025	mg/kg	PCB 1260
300-EXP-079-8	<0.025	0.025	mg/kg	PCB 1268
300-EXP-079-9	<0.005	0.005	mg/kg	PCB 1016
300-EXP-079-9	<0.005	0.005	mg/kg	PCB 1221
300-EXP-079-9	<0.005	0.005	mg/kg	PCB 1232
300-EXP-079-9	<0.005	0.005	mg/kg	PCB 1242
300-EXP-079-9	0.062	0.005	mg/kg	PCB 1248
300-EXP-079-9	<0.005	0.005	mg/kg	PCB 1254

Table 2 continued. (Page 3 of 4)

Sample ID	Dry Weight Results	Reporting Limit	Units	Analyte
300-EXP-079-9	<0.005	0.005	mg/kg	PCB 1260
300-EXP-079-9	<0.005	0.005	mg/kg	PCB 1268
300-EXP-079-10	<0.025	0.025	mg/kg	PCB 1016
300-EXP-079-10	<0.025	0.025	mg/kg	PCB 1221
300-EXP-079-10	<0.025	0.025	mg/kg	PCB 1232
300-EXP-079-10	<0.025	0.025	mg/kg	PCB 1242
300-EXP-079-10	0.16	0.025	mg/kg	PCB 1248
300-EXP-079-10	<0.025	0.025	mg/kg	PCB 1254
300-EXP-079-10	<0.025	0.025	mg/kg	PCB 1260
300-EXP-079-10	<0.025	0.025	mg/kg	PCB 1268
300-EXP-079-11	<0.005	0.005	mg/kg	PCB 1016
300-EXP-079-11	<0.005	0.005	mg/kg	PCB 1221
300-EXP-079-11	<0.005	0.005	mg/kg	PCB 1232
300-EXP-079-11	<0.005	0.005	mg/kg	PCB 1242
300-EXP-079-11	0.038	0.005	mg/kg	PCB 1248
300-EXP-079-11	<0.005	0.005	mg/kg	PCB 1254
300-EXP-079-11	<0.005	0.005	mg/kg	PCB 1260
300-EXP-079-11	<0.005	0.005	mg/kg	PCB 1268
300-EXP-079-12	<0.025	0.025	mg/kg	PCB 1016
300-EXP-079-12	<0.025	0.025	mg/kg	PCB 1221
300-EXP-079-12	<0.025	0.025	mg/kg	PCB 1232
300-EXP-079-12	<0.025	0.025	mg/kg	PCB 1242
300-EXP-079-12	0.14	0.025	mg/kg	PCB 1248
300-EXP-079-12	<0.025	0.025	mg/kg	PCB 1254
300-EXP-079-12	<0.025	0.025	mg/kg	PCB 1260
300-EXP-079-12	<0.025	0.025	mg/kg	PCB 1268
300-EXP-079-13	<0.005	0.005	mg/kg	PCB 1016
300-EXP-079-13	<0.005	0.005	mg/kg	PCB 1221
300-EXP-079-13	<0.005	0.005	mg/kg	PCB 1232
300-EXP-079-13	<0.005	0.005	mg/kg	PCB 1242
300-EXP-079-13	0.0062	0.005	mg/kg	PCB 1248
300-EXP-079-13	<0.005	0.005	mg/kg	PCB 1254
300-EXP-079-13	<0.005	0.005	mg/kg	PCB 1260
300-EXP-079-13	<0.005	0.005	mg/kg	PCB 1268
300-EXP-079-14	<0.005	0.005	mg/kg	PCB 1016

Table 2 continued. (Page 4 of 4)

Sample ID	Dry Weight Results	Reporting Limit	Units	Analyte
300-EXP-079-14	<0.005	0.005	mg/kg	PCB 1221
300-EXP-079-14	<0.005	0.005	mg/kg	PCB 1232
300-EXP-079-14	<0.005	0.005	mg/kg	PCB 1242
300-EXP-079-14	0.018	0.005	mg/kg	PCB 1248
300-EXP-079-14	<0.005	0.005	mg/kg	PCB 1254
300-EXP-079-14	<0.005	0.005	mg/kg	PCB 1260
300-EXP-079-14	<0.005	0.005	mg/kg	PCB 1268
300-EXP-079-15	<0.025	0.025	mg/kg	PCB 1016
300-EXP-079-15	<0.025	0.025	mg/kg	PCB 1221
300-EXP-079-15	<0.025	0.025	mg/kg	PCB 1232
300-EXP-079-15	<0.025	0.025	mg/kg	PCB 1242
300-EXP-079-15	0.11	0.025	mg/kg	PCB 1248
300-EXP-079-15	<0.025	0.025	mg/kg	PCB 1254
300-EXP-079-15	<0.025	0.025	mg/kg	PCB 1260
300-EXP-079-15	<0.025	0.025	mg/kg	PCB 1268

*** Sample was re-extracted and reanalyzed to verify the initial result.**

Table 3. Dioxin verification sample toxicity equivalent concentrations (TECs) in mg/kg calculated using the World Health Organization toxicity equivalency factors (1998) for the initial excavation.

Compound	300-EXP-079-COMP1 TEC	300-EXP-079-COMP2 TEC	300-EXP-079-COMP3 TEC	300-EXP-079-COMP4 TEC	300-EXP-079-COMP5 TEC
2,3,7,8-TCDD	ND	ND	ND	ND	ND
Total TCDD	ND	ND	ND	ND	ND
1,2,3,7,8-PeCDD	ND	ND	ND	ND	ND
Total PeCDD	ND	ND	ND	ND	ND
1,2,3,4,7,8-HxCDD	ND	ND	ND	ND	ND
1,2,3,6,7,8-HxCDD	ND	ND	ND	ND	ND
1,2,3,7,8,9-HxCDD	ND	ND	ND	ND	ND
Total HxCDD	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-HpCDD	ND	ND	ND	ND	ND
Total HpCDD	ND	ND	ND	ND	ND
OCDD	2.80E-07	3.20E-07	3.00E-07	2.80E-07	4.40E-07
2,3,7,8-TCDF	2.20E-05	1.90E-05	2.70E-05	2.80E-05	3.40E-05
Total TCDF	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
1,2,3,7,8-PeCDF	ND	ND	ND	ND	ND
2,3,4,7,8-PeCDF	ND	ND	ND	ND	ND
Total PeCDF	ND	ND	ND	ND	ND
1,2,3,4,7,8-HxCDF	ND	ND	ND	ND	ND
1,2,3,6,7,8-HxCDF	ND	ND	ND	ND	ND
2,3,4,6,7,8-HxCDF	ND	ND	ND	ND	ND
1,2,3,7,8,9-HxCDF	ND	ND	ND	ND	ND
Total HxCDF	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-HpCDF	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-HpCDF	ND	ND	ND	ND	ND
Total HpCDF	ND	ND	ND	ND	ND
OCDF	ND	ND	ND	ND	ND
Total toxicity equivalent concentration (TEC)	**2.23E-05**	**1.93E-05**	**2.73E-05**	**2.83E-05**	**3.44E-05**

ND = Analyte not detected above EPA Method 8290 detection limit.

Table 4. Dioxin verification sample toxicity equivalent concentrations (TECs) in mg/kg calculated using the World Health Organization toxicity equivalency factors (1998) for the secondary excavation.

Compound	300-EXP-079-COMP6 TEC	300-EXP-079-COMP7 TEC	300-EXP-079-COMP8 TEC	300-EXP-079-COMP9 TEC	300-EXP-079-COMP10 TEC
2,3,7,8-TCDD	ND	ND	ND	ND	ND
Total TCDD	ND	ND	ND	ND	ND
1,2,3,7,8-PeCDD	ND	ND	ND	ND	ND
Total PeCDD	0.00E+00	ND	ND	ND	ND
1,2,3,4,7,8-HxCDD	ND	ND	ND	ND	ND
1,2,3,6,7,8-HxCDD	ND	ND	ND	ND	ND
1,2,3,7,8,9-HxCDD	ND	ND	ND	ND	ND
Total HxCDD	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-HpCDD	ND	ND	ND	ND	ND
Total HpCDD	ND	ND	ND	ND	ND
OCDD	3.60E-07	2.50E-07	ND	ND	2.30E-07
2,3,7,8-TCDF	8.00E-05 **B**	2.30E-05 **BI**	2.20E-05	ND	3.30E-05 **I**
Total TCDF	0.00E+00	0.00E+00	0.00E+00	ND	ND
1,2,3,7,8-PeCDF	ND	ND	ND	ND	ND
2,3,4,7,8-PeCDF	ND	ND	ND	ND	ND
Total PeCDF	ND	ND	ND	ND	ND
1,2,3,4,7,8-HxCDF	ND	ND	ND	ND	ND
1,2,3,6,7,8-HxCDF	ND	ND	ND	ND	ND
2,3,4,6,7,8-HxCDF	ND	ND	ND	ND	ND
1,2,3,7,8,9-HxCDF	ND	ND	ND	ND	ND
Total HxCDF	ND	ND	ND	ND	ND
1,2,3,4,6,7,8-HpCDF	ND	ND	ND	ND	ND
1,2,3,4,7,8,9-HpCDF	ND	ND	ND	ND	ND
Total HpCDF	ND	ND	ND	ND	ND
OCDF	ND	ND	ND	ND	ND
Total toxicity equivalent concentration (TEC)	**8.04E-05**	**2.33E-05**	**2.20E-05**	**2.83E-05**	**3.44E-05**

B = 0.11 ng/kg 2,3,7,8-TCDF was detected in the associated method blank.
ND = Analyte not detected above EPA Method 8290 detection limit.
I = Interference-estimated maximum possible concentration.

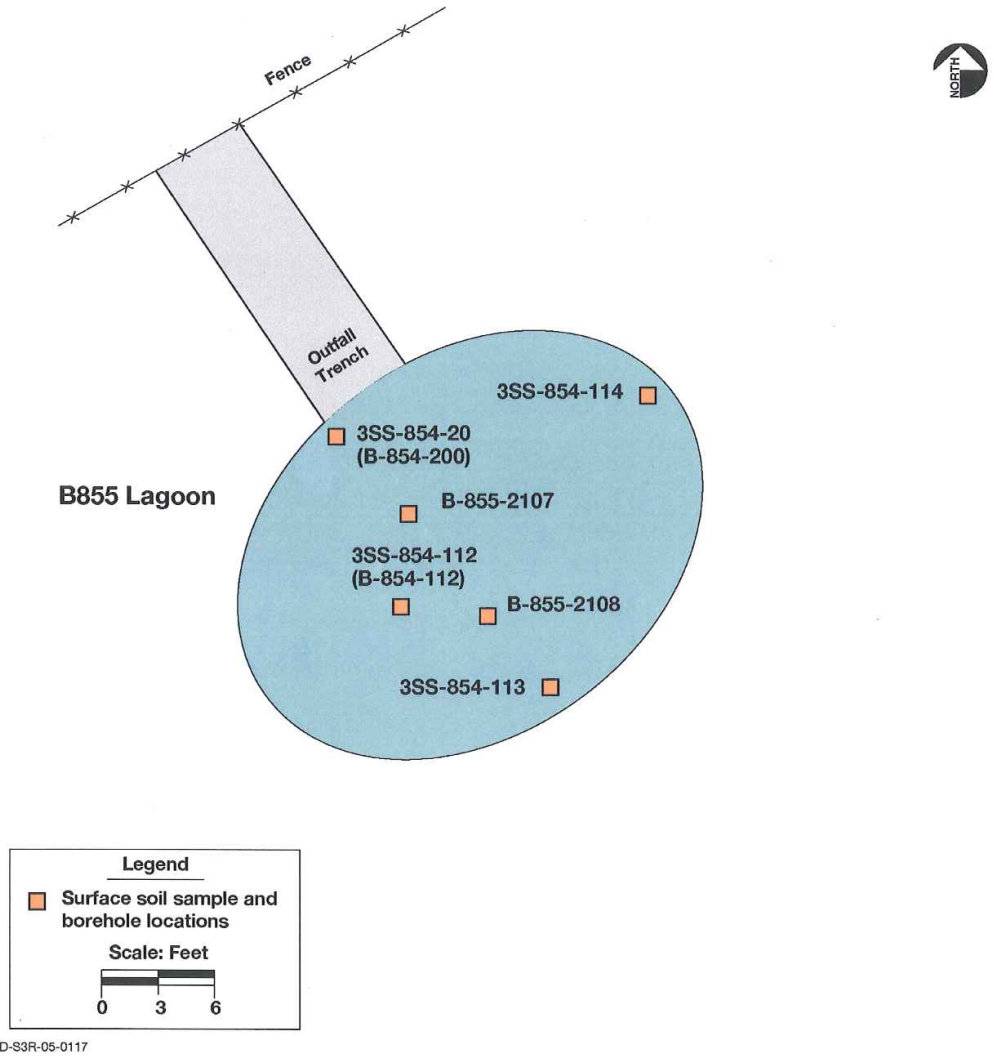

Figure 1. Surface soil sample and borehole locations at the Building 855 former disposal lagoon in the Building 854 OU.

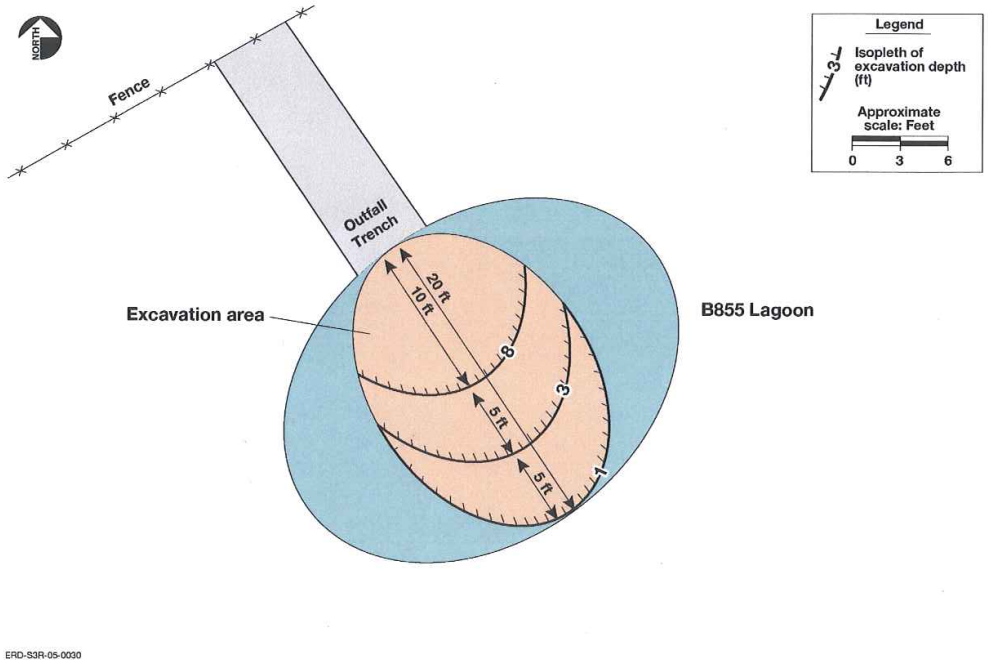

Figure 2. Building 855 lagoon excavation area.

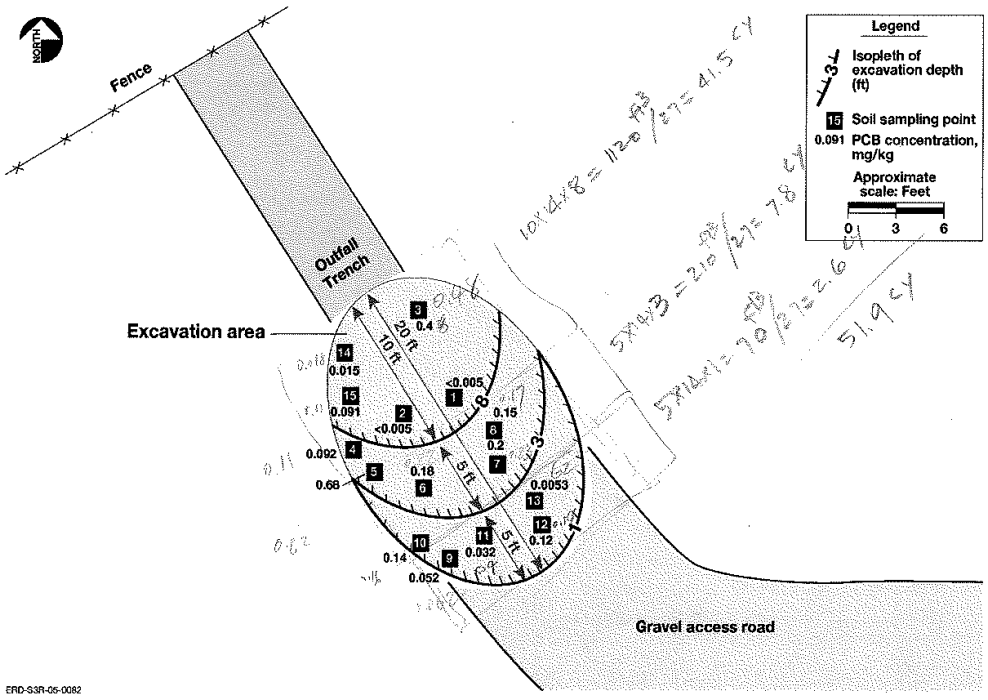

Figure 3. Verification soil sample locations and PCB analytical results in the Building 855 former disposal lagoon in the Building 854 OU.