



FINAL

TECHNICAL REPORT

**Confirmatory Sampling at the New
Class III Landfill and Soil Washing Area
Port Heiden Radio Relay Station
Port Heiden, Alaska**

Prepared for:

**611th Civil Engineer Squadron/Civil Engineering, Asset Management Flight,
Restoration Element**

and

Air Force Center for Engineering and the Environment

Contract No. FA8903-08-D-8770
Contract Task Order No. 0145

December 2010

EXECUTIVE SUMMARY

A remedial action for polychlorinated biphenyl (PCB)-contaminated soil at the Port Heiden Radio Relay Station was carried out between April and November of 2009. Approximately 1,500 cubic yards of PCB-contaminated soil was excavated and washed in a treatment facility constructed at the site and transported to an offsite Class III landfill, which was newly constructed for the purpose of storing the washed soil. The goal of the soil washing remedial action was to reduce concentration of PCBs in washed soil to below 10 milligrams per kilogram (mg/kg). Additional soils, with PCB levels between 1 mg/kg and 10 mg/kg, were excavated and placed into the new landfill without treatment.

Following implementation of the remedy, concerns were raised regarding whether the cleanup goals for the remedial action were adequately met during soil washing. Additionally, concerns have been raised regarding whether the soil washing activity may have contaminated the soil beneath the wash area and the surrounding surface drainage features.

In April 2010, the 611 Civil Engineer Squadron contracted with a neutral firm to provide independent confirmation sampling for the remedial work conducted in 2009. In June 2010, confirmation samples were collected from the Landfill and the Soil Washing Area, and were analyzed for total PCBs. Sample collection followed a State-approved work plan and the procedures outlined in 40 Code of Federal Regulations 761 (Toxic Substances Control Act). The analytical data was validated and all data was found to be usable.

Results from the soil washing area showed that 137 of 321 samples exceeded the regulatory limit of 1 mg/kg of total PCBs. The highest concentration of PCBs was 27 mg/kg.

Results from the landfill showed that 21 of 80 samples exceeded the landfill permit limit of 10 mg/kg. Four samples exceeded 50 mg/kg. The highest concentration was 74 mg/kg.

CONTENTS

EXECUTIVE SUMMARY	i
ACRONYMS AND ABBREVIATIONS	v
1. INTRODUCTION	1-1
1.1 Site History	1-1
1.2 Previous Investigations	1-2
1.3 2009 Remedial Action	1-5
1.4 Confirmatory Sampling	1-5
2. SCOPING	2-1
3. WORK PLAN	3-1
3.1 Soil Washing Area Sampling	3-1
3.2 Landfill Sampling	3-2
4. FIELD WORK	4-1
4.1 Mobilization and Sampling	4-1
4.2 Deviations from the Work Plan	4-1
5. SOIL WASHING AREA RESULTS	5-1
5.1 Site Conditions	5-1
5.2 Analytical Results	5-2
6. LANDFILL RESULTS	6-1
6.1 Site Conditions	6-1
6.2 Analytical Results	6-1
7. DATA QUALITY	7-1
7.1 Re-Analysis	7-1
7.2 Duplicate Result Comparison to Project Action Limits	7-2
7.3 Organization of Analytical Data Packages	7-2
8. REFERENCES	8-1

APPENDIXES

- A Photographs
- B Field Notes and Boring Logs
- C Summary of Analytical Data
- D Complete Analytical Data
- E Data Validation Reports (electronic only)
- F ADEC Laboratory Data Review Checklists
- G Re-Analysis of Samples and Comparison of Duplicates

FIGURES

- | | | |
|---|--|-----|
| 1 | Site Location Map | 1-3 |
| 2 | TSCA Sampling Grid for Composite Samples | 3-2 |
| 3 | Location of Landfill Borehole 25 | 4-2 |
| 4 | Sample Locations – Soil Wash Area | 5-3 |
| 5 | PCB Concentrations – Soil Wash Area | 5-5 |
| 6 | New Class III Landfill, Shallow Soil Sample Results, 2'–4' Below Grade | 6-3 |
| 7 | New Class III Landfill, Deep Soil Sample Results, 6'–8' Below Grade | 6-5 |

ACRONYMS AND ABBREVIATIONS

°F	degree Fahrenheit
ADEC	Alaska Department of Environmental Conservation
bgs	below ground surface
CES	Civil Engineer Squadron
CFR	Code of Federal Regulations
DEW	Distant Early Warning
EPA	Environmental Protection Agency, United States
FS	Feasibility Study
ft	foot or feet
LDC	Laboratory Data Consultants, Inc.
LOQ	limit of quantitation
mg/kg	milligram per kilogram
PAL	project action limit
PCB	polychlorinated biphenyl
QAPP	Quality Assurance Program Plan
RI	remedial investigation
RRS	Radio Relay Station
SOP	standard operating procedure
TSCA	Toxic Substances Control Act
U.S.	United States
USACE	U.S. Army Corps of Engineers
WACS	White Alice Communications System

1. INTRODUCTION

1.1 Site History

Port Heiden is located on the north side of the Alaska Peninsula, approximately 400 air miles southwest of Anchorage. Originally, the village of Meshik was located along the shoreline and the military chose the area as the site of Fort Morrow during World War II. Fort Morrow was shut down after the war, but the United States (U.S.) Air Force continued to operate facilities in the area until 1978. After the Air Force facility shut down, the town of Port Heiden gradually moved from the old village site to higher ground near the airport and the former military facilities in the area. Approximately 100 people live at Port Heiden.

The Air Force facility in Port Heiden was built on the site of Fort Morrow and was initially established as part of the White Alice Communications System (WACS). The White Alice sites formed a U.S. Air Force telecommunication link system in Alaska during the cold war for military and civilian purposes. Each site had large parabolic, tropospheric scatter antennas. The Air Force operated the WACS site in Port Heiden until 1969 when it was converted to a Radio Relay Station (RRS), which became obsolete in the 1970s and was abandoned in November 1978.

Port Heiden also served as one of 12 Distant Early Warning (DEW) Line radar stations in Alaska. From 1950 through 1959, 18 Aircraft Control and Warning and 12 DEW Line radar stations were constructed throughout Alaska to detect possible attacks from the Soviet Union. These numbers included an Aleutian segment of DEW Line stations consisting of the main station at Cold Bay and auxiliary stations at Port Heiden, Port Moller, Cape Sarichef, Driftwood Bay, and Nikolski.

All former military facilities related to Fort Morrow and the Port Heiden RRS have been demolished. The RRS site is now located approximately 1.5 miles north of the airport and 2.5 miles north of the nearest homes. The new landfill is located approximately 1 mile east of the town and the nearest homes. The new village landfill is in an area formerly occupied by dozens of buildings from Fort Morrow, but now otherwise empty. The location of both the former RRS and the new landfill is shown on Figure 1.

1.2 Previous Investigations

The following provides a brief chronological summary of the environmental investigations at the site:

- 1981 – 1986: Air Force 5099th Civil Engineer and Operations Squadron removed hazardous material and removed soil impacted by polychlorinated biphenyl (PCB) contamination.
- 1986 – 1988: United States Army Corps of Engineers (USACE) conducted site investigations and prepared bid documents for the complete demolition and restoration of site.
- 1990 – 1992: USACE and various contractors completely demolished the site and removed hazardous wastes and polychlorinated biphenyl (PCB)- and petroleum-impacted soil.
- 1995: 611 Civil Engineer Squadron (CES) conducted a preliminary assessment and site inspection, including collection of soil samples (EMCON Alaska 1996).
- 2000: 611 CES collected soil samples at those sites previously identified for further investigation.
- 2003: Under the Native American Lands Environmental Mitigation Program, USACE sampled all private drinking water supply wells in the community of Port Heiden.
- 2004: 611 CES initiated the remedial investigation (RI)/feasibility study (FS) process to identify any remaining contamination and evaluate risks.
- 2005: 611 CES finalized the RI/FS for work performed on 18 sites at the Port Heiden RRS from May through September 2004. The field investigation collected sufficient data to delineate the nature and extent of contamination present at the sites (USAF 2006).
- 2007: 611 CES awarded a performance-based contract for cleanup of sites at Port Heiden RRS, which included the proposed plan and record of decision (USAF 2009) and implemented remedial actions.
- 2008: 611 CES finalized the proposed plan for the Port Heiden RRS.

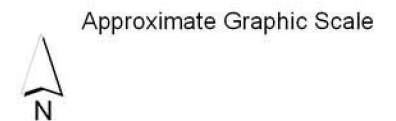
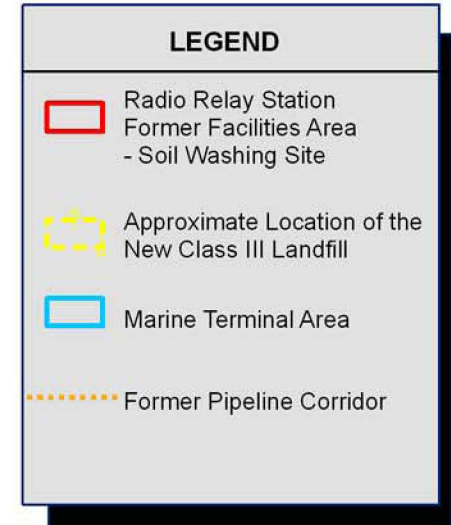
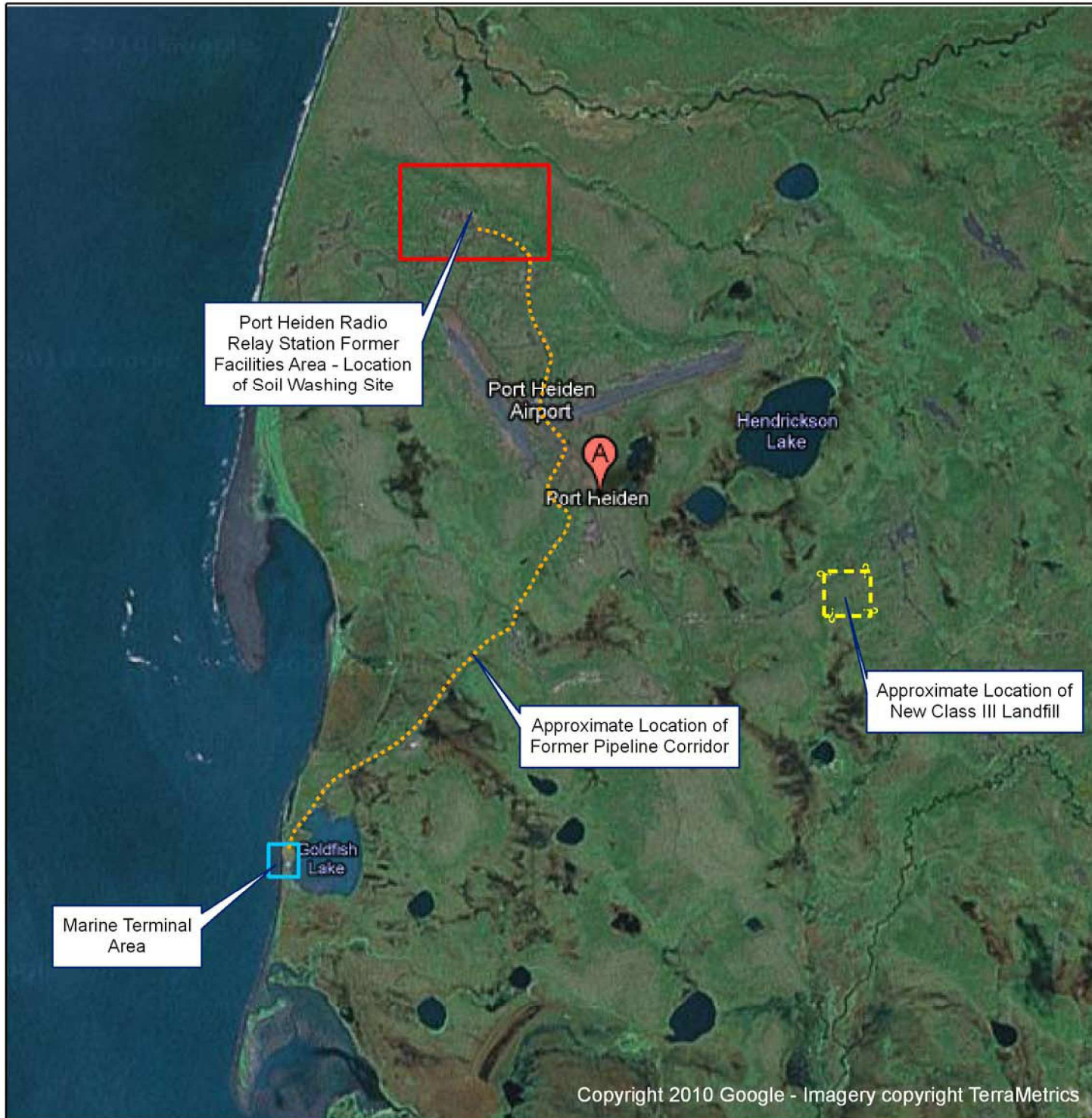


Figure 1
 Site Location Map
 Port Heiden Radio Relay Station
 Port Heiden, Alaska

1.3 2009 Remedial Action

The 611 CES implemented the remedial action for PCB-contaminated soil at the Port Heiden RRS between April and November of 2009. Approximately 1,500 cubic yards of PCB-contaminated soil was excavated and washed in a treatment facility constructed at the site and transported to an offsite Class III landfill, which was newly constructed for the purpose of storing the washed soil. The goal of the soil washing remedial action was to reduce concentration of PCBs in washed soil to below 10 milligrams per kilogram (mg/kg). Additional soils from the RRS, with PCB levels between 1 mg/kg and 10 mg/kg, were excavated and placed into the new landfill without treatment. This was in accordance with the landfill permit which allowed disposal of soils with up to 10 mg/kg of total PCBs.

1.4 Confirmatory Sampling

Following implementation of the remedy, concerns were raised regarding whether the cleanup goals for the remedial action were adequately met during soil washing. Additionally, concerns were raised regarding whether the soil washing activity may have contaminated the soil beneath the washing area and in the surrounding surface drainage features.

The 611 CES contracted with a neutral firm in 2010 to provide independent confirmation sampling for the remedial work that was conducted in 2009. The objectives of the 2010 sampling effort were as follows:

- Conduct subsurface soil sampling at the new landfill and confirm that concentrations of total PCBs in the new landfill do not exceed 10 mg/kg.
- Determine whether leachate exists in the landfill and obtain samples of any leachate that might exist.
- Conduct surface soil sampling of the soil washing area and surrounding surface drainage features to confirm that total PCB concentrations in the remaining surface soil do not exceed 1 mg/kg.

2. SCOPING

A scoping and kickoff meeting was held on 13 May 2010 with the Alaska Department of Environmental Conservation (ADEC), Air Force Center for Engineering and the Environment, 611 CES and the sampling contractor to discuss the confirmatory sampling and analysis of the two sites (the soil washing area and the landfill) and to coordinate the schedule for work plan development and field work. The following items were discussed:

- The Air Force wanted to screen all samples using RaPID Assay PCB test kits so they could be updated regarding findings in real time. Because screening samples are not acceptable for compliance purposes and because screening is time-intensive, this request was later reduced. A subset of landfill samples were to be screened to provide preliminary concentrations to the Air Force and a subset of soil washing area samples were to be screened to determine whether the sampling grid should be enlarged.
- PCB background samples should be collected to assess background PCBs near the treatment and drainage areas.

Specific to the soil washing area, the following items were discussed:

- Surface soil samples would be collected at the treatment area.
- Additional soil samples might need to be collected at the soil washing treatment drainage area(s).
- Grid sampling (in accordance with the Toxic Substances Control Act [TSCA]) would be applied to the soil treatment area.

Specific to the landfill, the following items were discussed:

- Sampling would be done in a uniform manner.
- ADEC suggested using discrete sampling rather than the multi-increment sampling approach. Discrete samples would address State and landfill standards. Samples would be taken from both the top and bottom of the fill layer in the landfill.
- ADEC also suggested that systematic random sampling is an adequate approach. Probably 20–30 samples per cell would be adequate. However, the number of samples would need to be statistically valid.

3. WORK PLAN

Based on these comments, a combined work plan was developed for both the soil washing area and the landfill. The work plan (AECOM 2010) was developed in the Uniform Federal Policy – Quality Assurance Program Plan (QAPP) format (DoD 2005). This format consists of a series of worksheets that are completed to provide both a work plan that describes the sampling procedures and a QAPP that outlines the data quality control procedures. Although many aspects of the work plan were common for both sites (lab analysis, administrative aspects, field screening, etc.), there were differences in the sampling technique for the two sites.

3.1 Soil Washing Area Sampling

Because the intent of the sampling of the soil washing area was to confirm that the site is clean and meets the requirements of 40 Code of Federal Regulations (CFR) 761 (TSCA), the confirmatory sampling procedures outlined in 40 CFR 761.283 and 761.289 were to be followed for the soil washing area. The procedure generally consists of marking out a 1.5 meter (5-foot [ft]) grid over the entire site and compositing nine sample aliquots that form a 10-ft square, as shown on Figure 2. These nine sample aliquots represent a 15-ft area of inference as indicated by the dashed line (Figure 2).

At each location on the 5-ft grid, approximately one sample aliquot of soil would be collected within the top 7.5 centimeters (3 inches). To form the composite samples, nine sample aliquots would be placed into a glass sample jar and stirred well with the spoon. The center point of each composite sample would be assigned a sample number. The site grid was to be oriented north-south and to cover the entire soil washing area based on diagrams available in draft reports about the 2009 remediation activities.

No screening of samples was planned within the main soil washing area. However, samples along the perimeter of the soil wash area were to be screened to determine whether additional laboratory samples would be required to define the lateral extent of contamination. All samples within the drainage swale were to be screened.

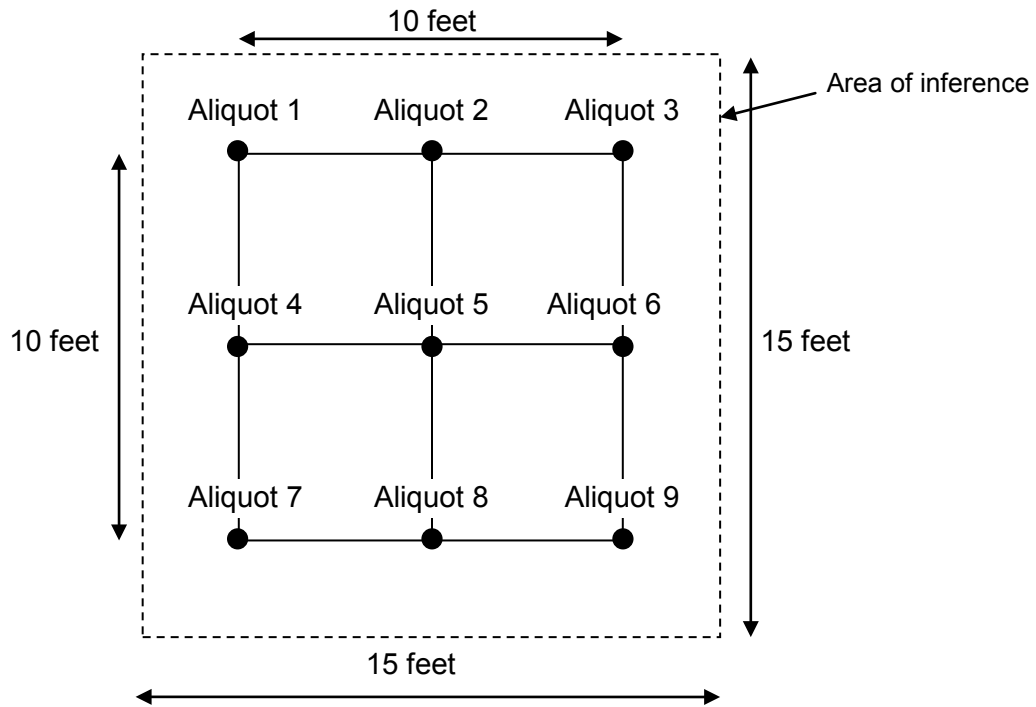


Figure 2: TSCA Sampling Grid for Composite Samples

If a sampling location was screened above 1 mg/kg, then a laboratory sample would be collected and the sampling grid would be stepped out in the area around the high sample and additional samples would be screened. This would continue until all perimeter samples showed screening results below 1 mg/kg thereby defining the boundary of contamination. Laboratory samples would be taken for the final perimeter locations to confirm clean soil outside the contaminated area.

3.2 Landfill Sampling

For the landfill, a sampling grid was designed using a statistical approach from Gilbert (1987). The sampling grid was sized to ensure that a hot spot 20 ft in diameter would be found. A diameter of 20 ft was assumed to represent a single truck load of soil that had been spread and compacted slightly. Based on this assumption and the Gilbert method, a grid spacing of 40 ft was initially chosen. After reviewing the design drawings for the landfill and given a desire to be conservative with the sampling, the actual grid spacing used was 10 meters by 10 meters (33 ft). This grid size required four rows of 10 sampling locations to

cover the entire landfill. An additional sampling location was planned for one of two small areas of fill that extended beyond the south boundary of the landfill in the 2009 reports.

For subsurface soil sampling, the ADEC field guidance (ADEC 2010) states that two laboratory samples should be collected from each boring. One sample should be collected from the interval that is most impacted based on field screening and observations. A second sample should be collected from saturated soils just above the water table.

Given that the PCB waste in the landfill was deposited between 2 ft below ground surface (bgs) and 8 ft bgs and then covered with 2 ft of clean soil and given that the water table is well below the bottom of the landfill, no water saturated soils were expected. Furthermore, the treated soils were blended in a cement truck and were expected to be relatively homogeneous. However, the washed soil did contain alcohol that could leach to the bottom of the landfill if the soil was not dried properly before placement.

Therefore, a sample was to be collected from 2 to 4 ft bgs and from 6 to 8 ft bgs. The second sample near the bottom of the landfill was to target soil that could be potentially moist/wet due to leaching of alcohol that was used as washing reagent. Samples were to be collected using a direct push drill rig using a stainless steel sampling tube with disposable plastic liners.

4. FIELD WORK

4.1 Mobilization and Sampling

The field team mobilized to Port Heiden on 7 June 2010. Field supplies were delivered later that same day by air cargo and a trailer on the airport was rented for use as a field lab and storage facility. The following day was spent documenting conditions at both sites and setting up field equipment. Sampling began on 9 June 2010 and continued until 14 June 2010.

The field team for this project consisted of the following:

- Three prime contractor sampling personnel
- Two subcontracted drilling personnel
- One subcontracted surveyor

Weather during the field work was generally rainy and very windy. Winds were usually mild in the mornings and increased in intensity as each day progressed. Temperatures were from 40 degrees Fahrenheit (°F) to 60°F.

From 9 June to 12 June, samples were collected at the soil washing area. On 13 June work moved to the landfill and all samples from the landfill were collected in a single day. On 14 June, work returned to the soil washing area and the final samples were collected there. Also on 14 June, all sampling locations at both sites were surveyed.

Appendix A provides a photo log of site conditions, and Appendix B provides field notes and boring logs.

4.2 Deviations from the Work Plan

Very limited information about either site was available during preparation of the work plan. Because of this, actual site conditions were slightly different than what was originally assumed. This difference required several minor field modifications to the work plan.

Deviation #1: The work plan (AECOM 2010) anticipated five separate grids would be used to cover the soil washing area. These five grids would be based on the location of the bermed areas constructed during the soil washing process. However, the site had been graded smooth and the various bermed areas were not readily apparent. Therefore, a

single grid connecting all of the bermed areas was used to cover the entire soil washing site. This grid was later expanded slightly based on screening results.

Deviation #2: The soil washing area was much larger than anticipated. This was due to the fact that the grading of the site had disturbed the soil far outside the boundaries of the bermed soil washing areas. Because contaminated soil might have been moved during the grading process, it was decided to sample all disturbed soils in the vicinity of the soil washing area. This caused the number of sampling locations to almost double from original estimates.

Deviation #3: Borehole 25 at the landfill was not drilled and the associated samples were not collected. This was due to the fact that the two areas of fill shown extending to the south of the landfill in the 2009 reports (Figure 3) were originally access roads and did not contain contaminated soil.



Figure 3: Location of Landfill Borehole 25

Deviation #4: Duplicate and matrix spike samples were not collected at the same locations as shown in the work plan (AECOM 2010). The work plan indicated random locations for the duplicate and matrix spike samples, but these quality control samples were instead collected at fixed intervals at the same frequency as shown in the work plan. Using fixed intervals was more time-efficient and reduced the chances for errors in sample management. The number of quality control samples was equal to those required by the work plan.

5. SOIL WASHING AREA RESULTS

5.1 Site Conditions

The soil washing area consisted of a large, bare gravel area with numerous erosion channels flowing toward the east corner of the site (Appendix A, Photo 1). The soil consisted of a combination of sandy silt and small gravel-sized pieces of pumice. Some fine silt and pumice gravels had been carried by water away from the original soil washing area and into a small swale at the east corner of the site. These materials had covered a portion of the mosses and grass in the swale (Appendix A, Photos 2 and 3).

The northwest edge of the site consisted of a makeshift road covered in a layer of pumice several inches thick (Appendix A, Photo 4). According to the draft reports about the soil washing process, this road was used as access to the site for trucks and heavy equipment. Another small, crude road exited the site to the north and apparently existed prior to the construction of the soil washing area. Vehicle tracks leading to this small road indicated that a vehicle had recently driven across the site (Appendix A, Photo 5).

The southwestern edge of the site was marked by a soil berm approximately 2 ft high (Appendix A, Photo 6). This appeared to be a remnant of the original soil washing area that was not demolished.

The southeast and northeast edges of the site were smeared by earth-moving equipment and the edges of the site were not readily discernable. There was a mixture of soil, moss, and roots amidst numerous equipment tracks in these areas (Appendix A, Photos 7 and 8). All disturbed soil in these areas was eventually sampled.

The north corner of the site included a large pile of soil at the end of the road. This pile appeared to have been pushed up into this location when the soil washing facility was being demolished because the soil pile contained bits of plastic liner and other small debris (Appendix A, Photo 9). This pile was also sampled.

The main soil washing area also contained various pieces of debris protruding from the soil. These included rusty cables, steel bars, and pieces of plastic and paper. The pieces of metal appeared rusty and old and are probably left from the former Air Force facilities on the site (Appendix A, Photo 10). The pieces of plastic and paper appeared to be relatively

new and were probably related to the soil washing activities on the site (Appendix A, Photo 11).

5.2 Analytical Results

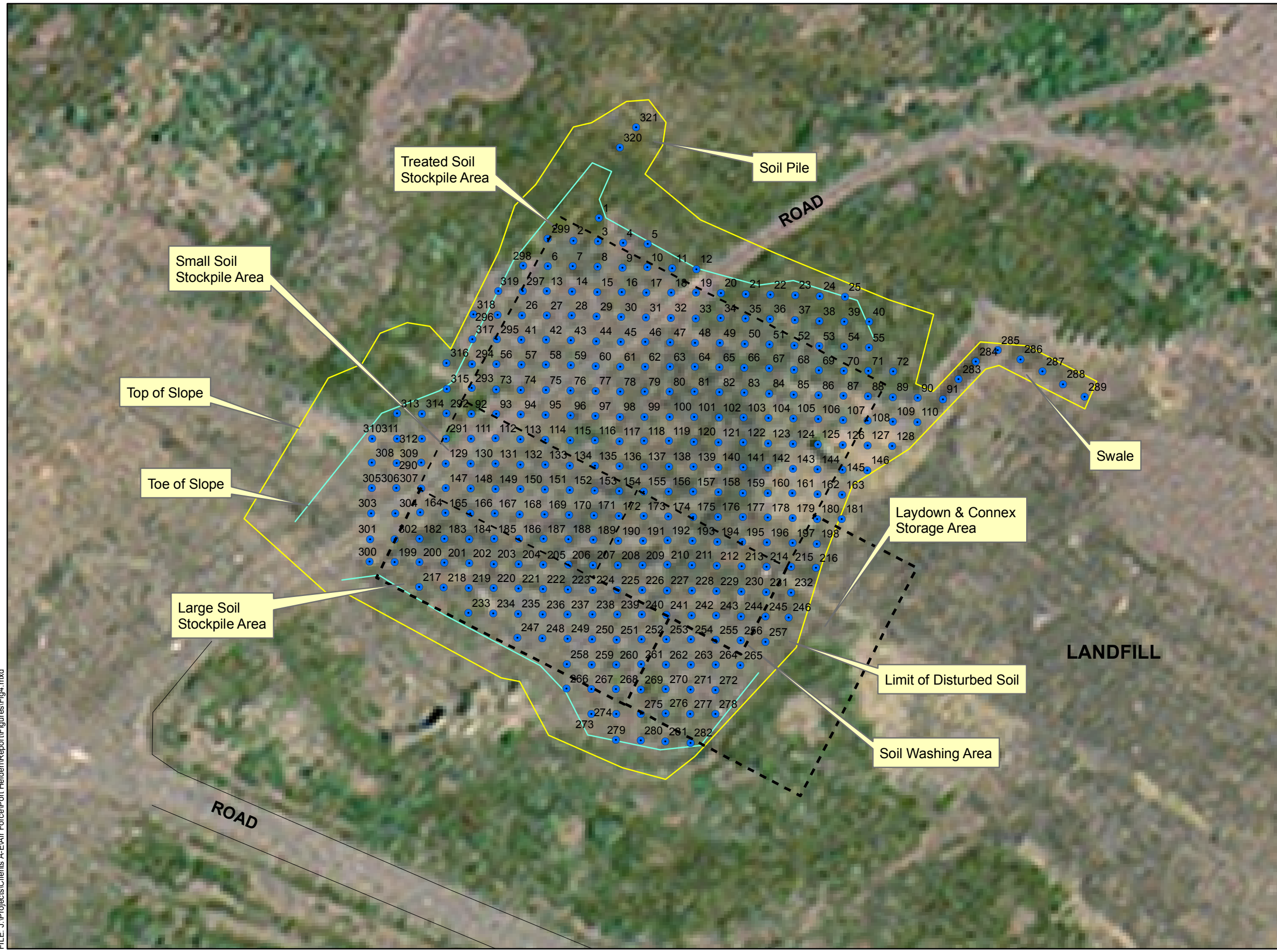
There were 321 composite samples collected at the soil washing area (not including quality control samples). Of these, 137 locations exceeded the TSCA cleanup standard of 1 mg/kg. The highest concentration was 27 mg/kg.

The highest concentrations were generally along the road at the northwest edge of the site and near the north-center of the site. The high concentrations near the north-center of the site appear to be in the same location as the containment berm that held treated soils prior to transport off site.

Several samples in the drainage swale at the east corner of the site also exceeded the cleanup standards. The concentration of PCBs in this swale appears to be higher at locations farther from the site.

Sampling locations for the soil washing area are shown on Figure 4. PCB concentrations for the soil washing area are shown on Figure 5. The analytical results and layout of the soil washing facility have been superimposed on an aerial photo of the site to show the surrounding topography and ground cover. The photo differs slightly from existing conditions because the only aerial photo available was taken in 2002 prior to the 2009 remediation project. A summary of analytical results for the soil washing area is included as Appendix C. Complete analytical results are included as Appendix D and Appendix E.

FILE: J:\Projects\Clients A-E\Air Force\Port Heiden\Report\Figures\Fig4.mxd



NOTES

1. PCB analytical results can be found in Appendix C.
2. Soil washing facility layout based on 2009 DMC report.
3. PCB contour interval is 2 mg/kg per contour line.

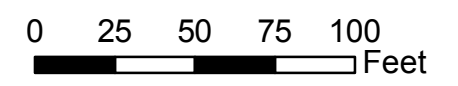
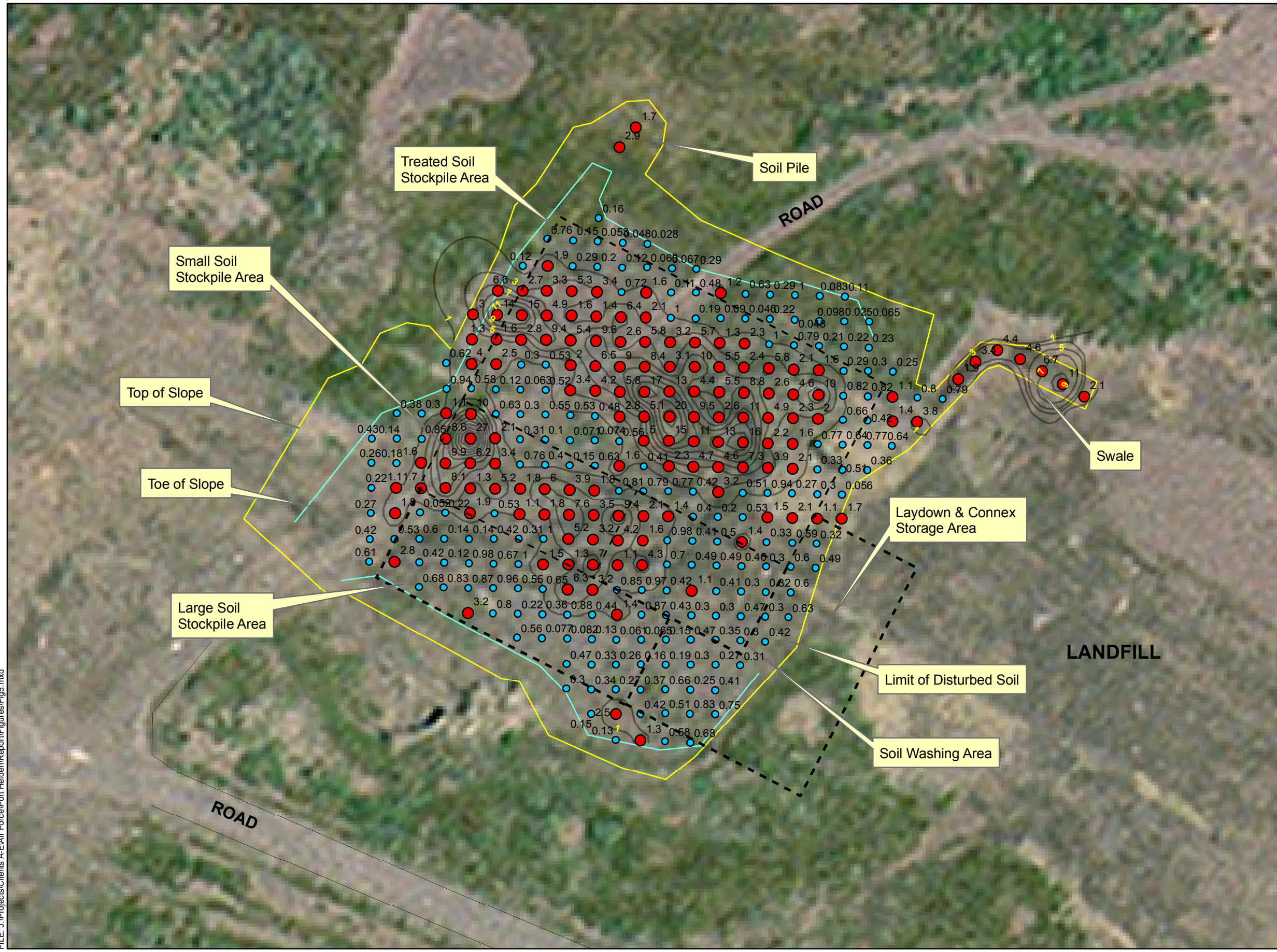


Figure 4
 Sample Locations - Soil Wash Area
 Port Heiden Radio Relay Station
 Port Heiden, Alaska
 Created: November 29, 2010

FILE: J:\Projects\Clients A-E\Air Force\Port Heiden\Report\Figures\Fig5.mxd



Legend

- Total PCBs < 1 mg/Kg
- Total PCBs > 1 mg/Kg
- PCB Concentration Contours (mg/kg)

NOTES

1. PCB analytical results can be found in Appendix C.
2. Soil washing facility layout based on 2009 DMC report.
3. PCB contour interval is 2 mg/kg per contour line.

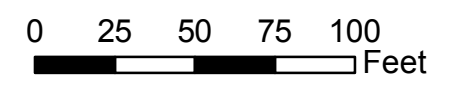


Figure 5
 PCB Concentrations - Soil Wash Area
 Port Heiden Radio Relay Station
 Port Heiden, Alaska
 Created: November 29, 2010

6. LANDFILL RESULTS

6.1 Site Conditions

The PCB portion of the landfill consisted of a large, fenced area covered with dark, bare soil. The surface of the landfill was uneven due to multiple equipment tracks and small depressions (Appendix A, Photo 12). The site was graded with the highest point being near the center of the landfill and drainage leading towards the edges of the site. Several large erosion channels were evident on the surface of the landfill (Appendix A, Photo 13) and the surface soil contained many small pieces of debris. The debris appeared to be small pieces of household trash that were mixed with the soil prior to the soil being placed on the landfill as cover.

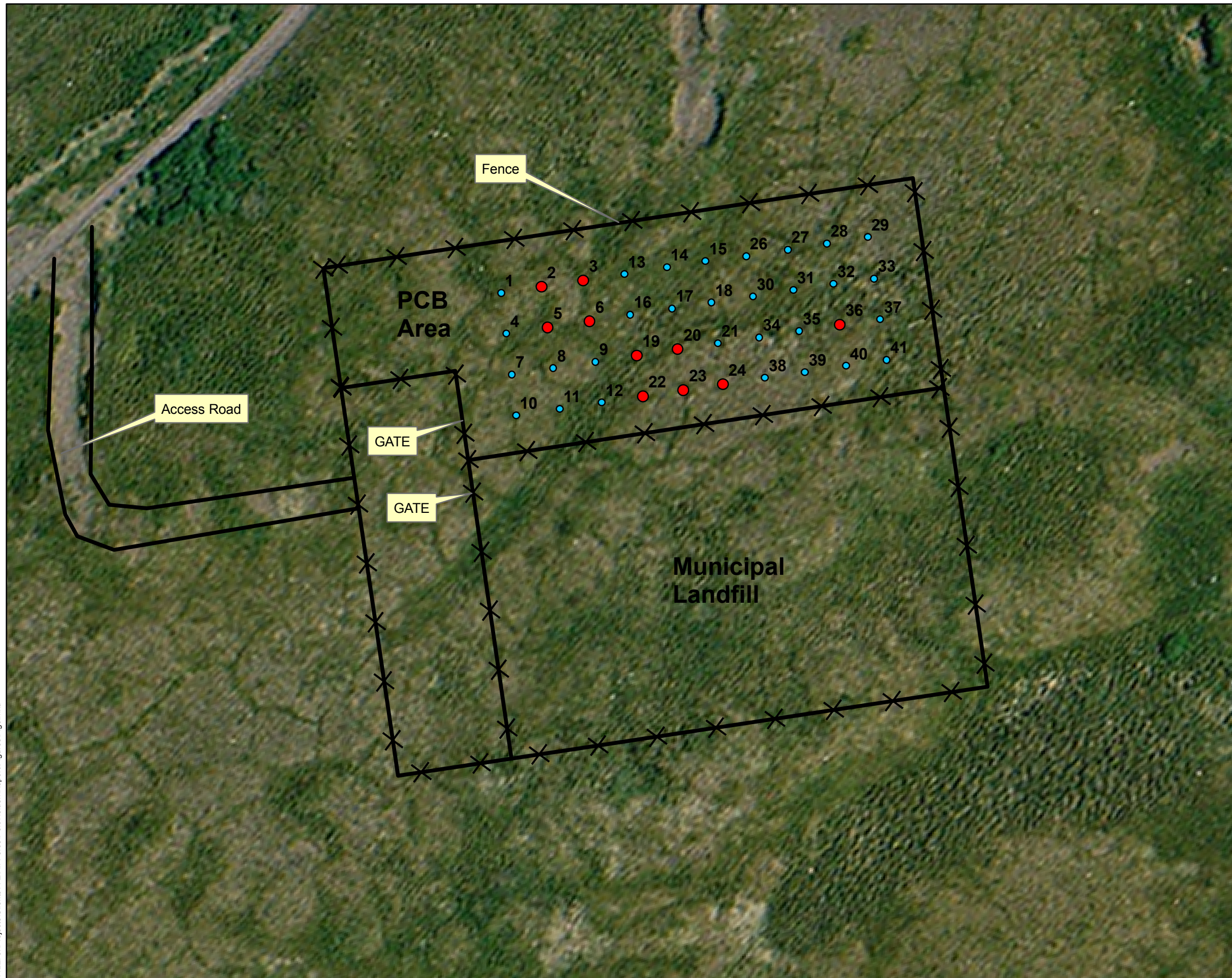
A small number of sandbags had been placed along the base of the north and east fences in an apparent effort to redirect eroding soil in those areas (Appendix A, Photo 14). Portions of a black liner were visible at the east end of the landfill (Appendix A, Photo 15).

The fence around the PCB area of the landfill was locked and in good condition. The gates leading to the municipal portion of the landfill were not locked.

6.2 Analytical Results

There were 80 discrete samples collected from the landfill (not including quality control samples). These consist of 40 samples taken near the top of the PCB-contaminated soil and 40 samples taken near the bottom of the PCB-contaminated soil. Of those 80 samples, 21 exceeded the landfill permit limit of 10 mg/kg. The highest concentration was 74 mg/kg. The highest concentrations of PCB contamination appear to be near the center of the landfill in cell 2.

Sampling locations that exceed the landfill permit of 10 mg/kg are shown on Figure 6 and Figure 7. The analytical results and layout of the existing landfill have been superimposed on an aerial photo to show the surrounding topography and ground cover. This photo was taken prior to the 2009 construction of the landfill, but shows the landfill location relative to the road. A summary of analytical results for the landfill is included as Appendix C. Complete analytical results are included as Appendix D and Appendix E.



Legend

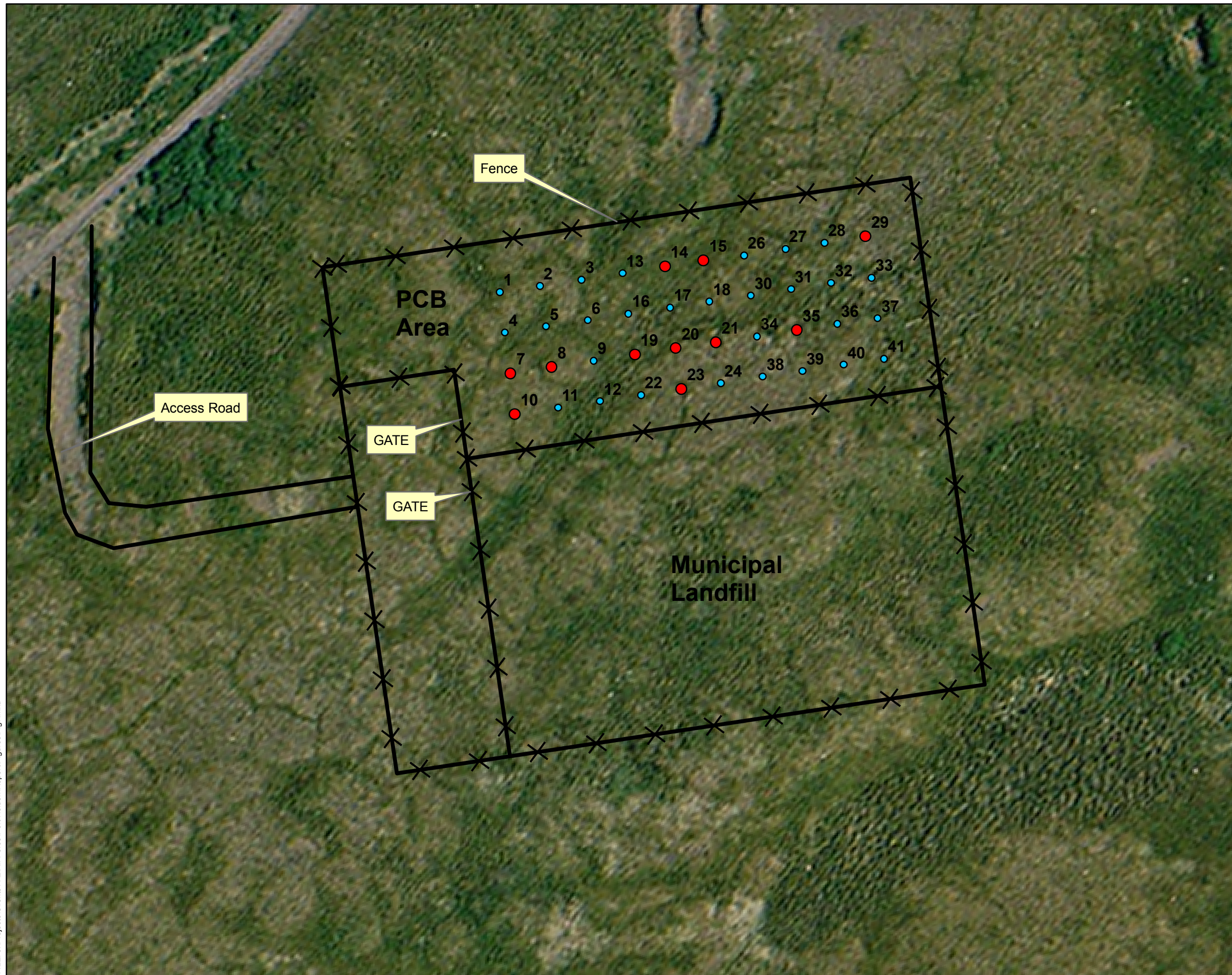
- Total PCBs < 10 mg/Kg
- Total PCBs > 10 mg/Kg

NOTES

1. PCB analytical results can be found in Appendix C.
2. Landfill layout based on 2010 survey.



Figure 6
New Class III Landfill
Shallow Soil Sample Results
2'-4' Below Grade
Port Heiden Radio Relay Station
Port Heiden, Alaska
Created: September 23, 2010



Legend

- Results <10 mg/Kg
- Results >10 mg/Kg

NOTES

1. PCB analytical results can be found in Appendix C.
2. Landfill layout based on 2010 survey.

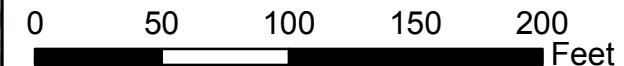


Figure 7
New Class III Landfill
Deep Soil Sample Results
6'-8' Below Grade
Port Heiden Radio Relay Station
Port Heiden, Alaska
Created: September 23, 2010

7. DATA QUALITY

Sample analysis and data validation were completed in accordance with the *Work Plan for Confirmatory Sampling at the New Class III Landfill and Soil Washing Area, Port Heiden, Alaska* (AECOM 2010). Samples were analyzed for PCBs by U.S. Environmental Protection Agency (EPA) method SW846 8082 at the TestAmerica laboratory located in Seattle, Washington (Appendix D). Analytical results were validated by Laboratory Data Consultants, Inc. (LDC). LDC's validation reports are included in Appendix E along with the qualified laboratory results forms. The validation reports include information regarding precision, accuracy, representativeness, completeness, comparability, and sensitivity. ADEC Laboratory Data Review Checklists are also provided in Appendix F.

Analytical results were found to be acceptable for project use, although some results were qualified due to minor quality control outliers or matrix interferences (J, UJ, or M flags). These results are fully usable.

All planned samples were collected and the project specified limits of quantitation (LOQs) were met. No data gaps are present based on the planned field activities.

7.1 Re-Analysis

Forty three samples were re-analyzed due to a deviation from the laboratory's Standard Operating Procedure (SOP) during sample extraction. The laboratory narrative for the affected data packages provides an explanation of this error. The laboratory's SOP requires three sonications with 1:1 methylene chloride and acetone. The first sonication was done in accordance with their SOP but the second two were done with methylene chloride only. All three should have been the 1:1 methylene chloride and acetone mix. This problem was identified by the prime contractor's chemist during sample analysis.

Samples were re-extracted following the SOP, but extraction occurred between 35 and 37 days after sample collection. EPA guidance cites a holding time of 14 days from sample collection to extraction (EPA 2008), but also cites a holding time of "none" in SW846 Chapter 2, Table 2-40 (EPA 2007). Because exceedance of a holding time can result in a potential low bias, results for the original analysis and re-analysis were compared (Appendix G, Table 1) and the highest value was preferentially selected for project use.

7.2 Duplicate Result Comparison to Project Action Limits

Collocated field duplicate and re-analysis results were reviewed to determine whether both results agree with the decision that the sample is either above or below the associated project action limit (PAL). Field duplicate results are summarized in Appendix G, Table 2. Samples with two sets of results compared to the PAL as follows:

- Eight collocated duplicates were taken from the landfill. Of these, six of the eight results showed both results as either being above or below the landfill permit concentration of 10 mg/kg. Results that did not agree were sample 01LF015SO0607N with parent and duplicate results of 8.9 and 16 mg/kg and sample 01LF035SO0608N with parent and duplicate results of 11 and 8.6 mg/kg.
- Nine samples from the landfill were analyzed twice. Of these, seven of the nine results were either both above or below the landfill permit concentration of 10 mg/kg. Results that did not agree were 01LF007SO0607N with parent and duplicate results of 6.7 and 14 mg/kg and sample 01LF010SO0507N with parent and duplicate results of 9.3 and 11 mg/kg.
- 33 collocated duplicates were taken from the soil washing area. Of these, 31 of the 33 results showed both results as either being above or below the soil washing standard of 1 mg/kg. Results that did not agree were 01SW020SO000.25N with parent and duplicate results of 1.2 and 0.74 mg/kg and 01SW180SO000.25N with parent and duplicate results of 0.94 and 1.1 mg/kg.
- 34 samples from the soil washing were analyzed twice. Of these, all 34 results were either both above or both below the soil washing standard of 1 mg/kg.

ADEC regulates on the maximum result regardless of whether it is from the parent/primary or duplicate result; therefore, the maximum detected concentration (whether from the parent or duplicate result) for each location will be used for comparison to standards.

7.3 Organization of Analytical Data Packages

The analytical data packages reviewed and validated by LDC are provided in Appendix D. These packages were submitted to LDC directly from TestAmerica-Seattle and include sampling results, quality control results, instrument print-outs (raw data), calibration information, and custody and shipping forms.

During the data validation process, re-submittals were requested from TestAmerica by LDC to include additional information needed to meet project requirements. In accordance with the *Department of Defense Quality Systems Manual for Environmental Laboratories* Version 4.1 (DoD 2009), changes to the reports were provided in supplemental submissions. LDC provided a letter that included a description of the files comprising each data package, reasons for re-submittals, and identification of final results for each data package. This letter is included in Appendix D along with further information describing the data deliverables and their organization.

8. REFERENCES

- 18 Alaska Administrative Code (AAC) 75. Oil and Other Hazardous Substances Pollution Control.
- 40 CFR 750 and 761. 1998. *Disposal of Polychlorinated Biphenyls (PCBs); Final Rule*. FR Volume 63, No. 124, p. 35383. 29 June, (10 September 2009 e-CFR version).
- AECOM Technical Services, Inc. 2010. *Work Plan for Confirmatory Sampling at the New Class III Landfill and Soil Washing Area, Port Heiden, Alaska*. Prepared for 611th Civil Engineer Squadron under Contract No. FA8903-08-D-8770. May.
- Alaska Department of Environmental Conservation (ADEC). 2009. *Draft Field Sampling Guidance*. Division of Spill Prevention and Response, Contaminated Sites Program. May.
- Department of Defense, United States (DoD). 2005. *Uniform Federal Policy for Quality Assurance Project Plans, Part 1: UFP-QAPP Manual*. Final Version 1. DoD: DTIC ADA 427785, EPA-505-B-04-900A. In conjunction with the U.S. Environmental Protection Agency and the Department of Energy. Washington: Intergovernmental Data Quality Task Force. March. Online updates available at: http://www.epa.gov/fedfac/pdf/ufp_qapp_v1_0305.pdf.
- . 2009. *Department of Defense Quality Systems Manual for Environmental Laboratories*. Version 4.1. Prepared by DoD Environmental Data Quality Workgroup, Department of Navy, Lead Service. 19 March.
- DMC Technologies, Inc. (DMC). 2010. *Port Heiden Remediation Draft Soil Washing Report*. Prepared for Weston Solutions, Inc. February.
- EMCON Alaska, Inc. 1996. *Final Preliminary Assessment/Site Inspection, Port Heiden Radio Relay Station*. Elmendorf Air Force Base, Alaska. March.
- Environmental Protection Agency, United States (EPA). 1998. *Disposal of Polychlorinated Biphenyls (PCBs); Final Rule (40 CFR 750, 761.61) [PCB Megarule]*. Federal Register 63(124): 35383–35474. June.

- . 2007. *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW-846*. 3rd ed., Revision 6. Office of Solid Waste. November. On-line updates at: <http://www.epa.gov/epawaste/hazard/testmethods/sw846/online/index.htm>.
- . 2008. *USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review*. EPA-540-R-09-01. (OSWER 9240.1-48). Office of Superfund Remediation and Technology Innovation. June.
- Gilbert, R.O. 1987. *Statistical Methods for Environmental Pollution Monitoring*. Van Nostrand Reinhold. NY.
- United States Air Force (USAF). 2006. *Final Remedial Investigation/Feasibility Study, Volume I, Port Heiden Radio Relay Station, Port Heiden, Alaska*. Prepared for 611th Civil Engineer Squadron under Contract No. F41624-03-D-8622. April.
- . 2009. *Record of Decision for Port Heiden Radio Relay Station, Port Heiden, Alaska*. Prepared by the United States Air Force, 611th Civil Engineer Squadron, Pacific Air Forces, Elmendorf Air Force Base, Alaska. February.
- Weston Solutions, Inc. 2010. 2010. *Draft Final Report Remedy Selection and Implementation, Demolition and Removal, Port Heiden Radio Relay Station, Port Heiden, Alaska*. Prepared under contract to 611th Civil Engineer Squadron. March.

Appendix A Photographs



Photo 1. Site Overview



Photo 2. West End of Swale



Photo 3. East End of Swale



Photo 4. Road Along Northwest Edge of Site



Photo 5. Road North of Site



Photo 6. Berm



Photo 7. Northeast Edge of Site



Photo 8. Southeast Edge of Site



Photo 9. Soil Pile



Photo 10. Metal Debris



Photo 11. Plastic Liner



Photo 12. Uneven Landfill Surface



Photo 13. Landfill Erosion

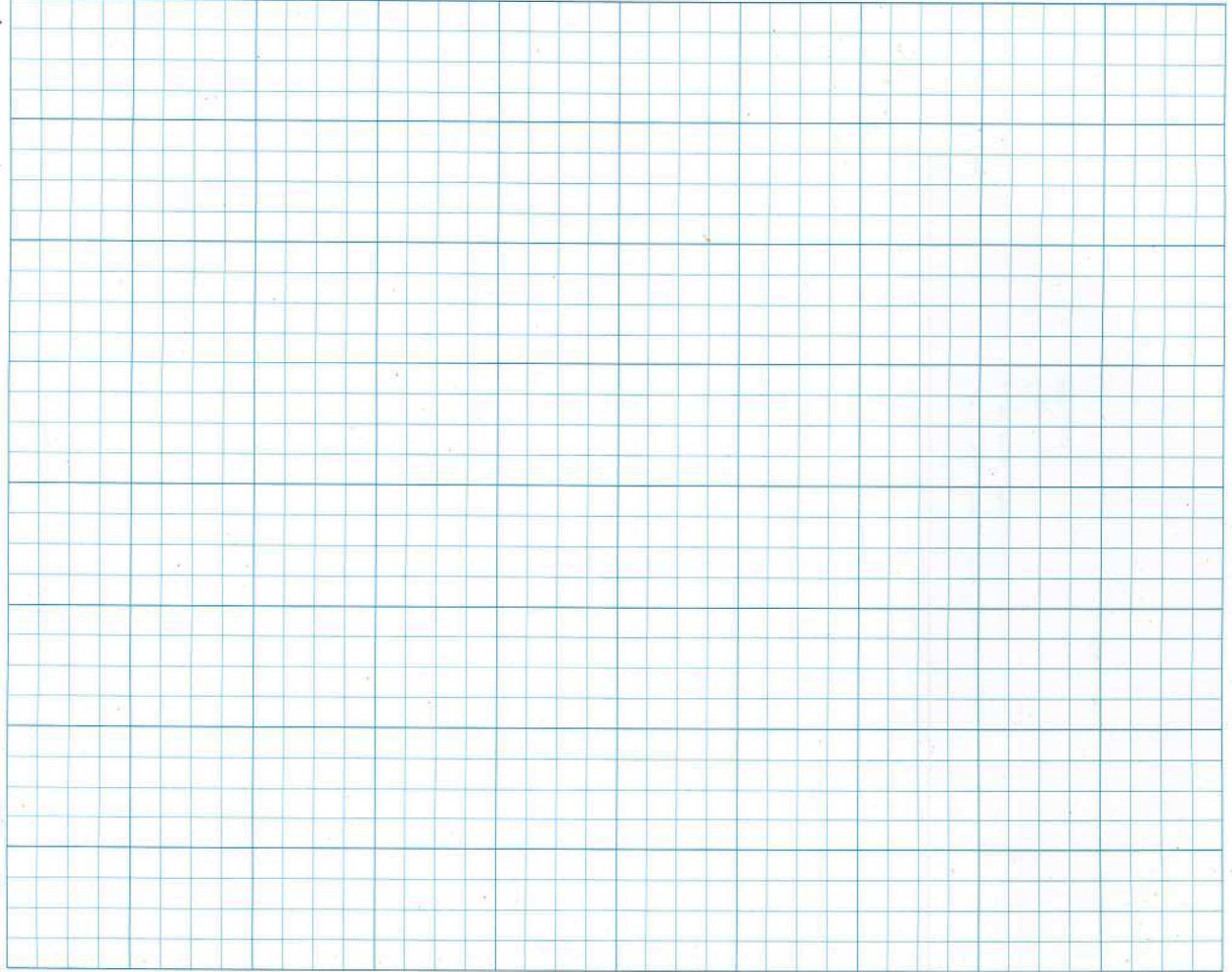


Photo 14. Sandbags and Liner



Photo 15. Liner Tear

Appendix B
Field Notes and Boring Logs



Handwritten signature
Small text below the signature, possibly a brand name or manufacturer information.



PROJECT: PORT MEIDEN CONFIRMATORY SAMPLING.

DATE: JUNE 9, 2010

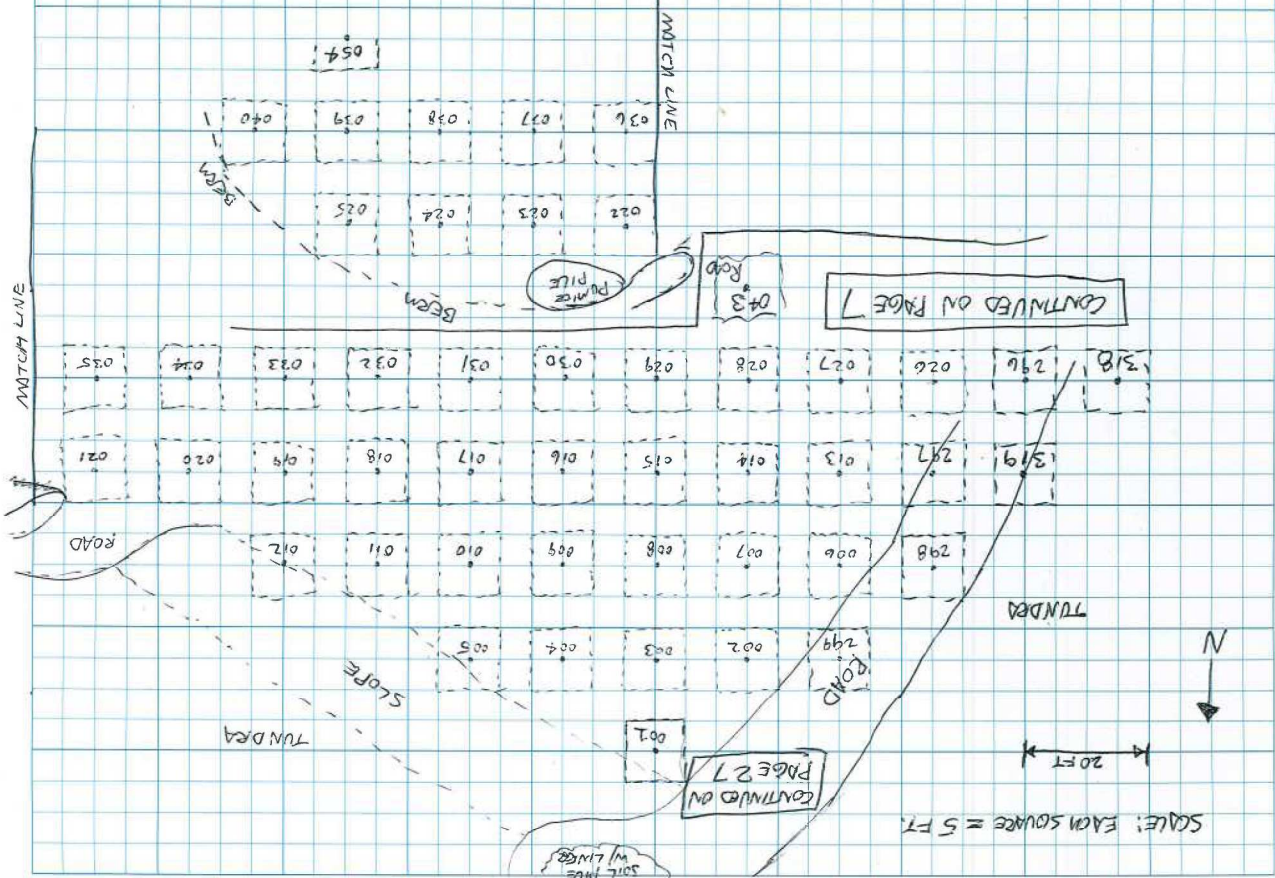
LOCATION: SOL WASHING AREA

SAMPLERS: JOHN JONES
QUINN MEELAN
KYLE WALDRON

WEATHER: LIGHT WIND
DRIZZLE
55° F

SAMPLE #	TIME	DESCRIPTION	COMMENTS
01SW001	16:45	GRAVELLY SILT, DARK BROWN, PUMICE	moist, SCREEN = ND
01SW002	17:00	GRAVELLY SAND, MUCH PUMICE, SAND AT 2"	SCREEN = ND
01SW003	17:15	GRAVELLY SILT, DARK BROWN, MOIST	
01SW004	17:30	GRAVEL, SAND, SILT, DARK BROWN, MOIST, PUMICE	
01SW005	17:35	GRAVELLY SILT, DARK BROWN, MOIST, SOME PUMICE	SCREEN = ND
01SW006	17:40	SAND AND PUMICE, MEDIUM BROWN, MOIST	SCREEN = 1.9 G
01SW007	17:45	GRAVELLY SILT, PUMICE, DARK BROWN, MOIST	
01SW008	17:50	GRAVELLY SILT, DARK BROWN, MOIST	
01SW009	17:53	GRAVELLY SILT, DARK BROWN, MOIST	
01SW010	17:57	GRAVELLY SILT, DARK BROWN, MOIST	
01SW011	17:58	GRAVELLY SILT, DARK BROWN, MOIST	FD
01SW012	18:03	GRAVELLY SILT, DARK BROWN, MOIST	
01SW013	18:04	GRAVELLY SILT, DARK BROWN, MOIST, PUMICE	SCREEN = ND
01SW014	18:08	SANDY SILT, PUMICE, DARK BROWN, MOIST	
01SW015	18:10	GRAVELLY SILT, PUMICE, DARK BROWN, MOIST	
01SW016	18:12	"	
01SW017	18:13	GRAVELLY SILT, DARK BROWN, MOIST	
01SW018	18:15	GRAVELLY SILT, PUMICE, DARK BROWN, MOIST	
01SW019	18:17	GRAVELLY SILT, DARK BROWN, MOIST	
01SW020	18:18	"	
01SW020	18:20	"	ms/msd

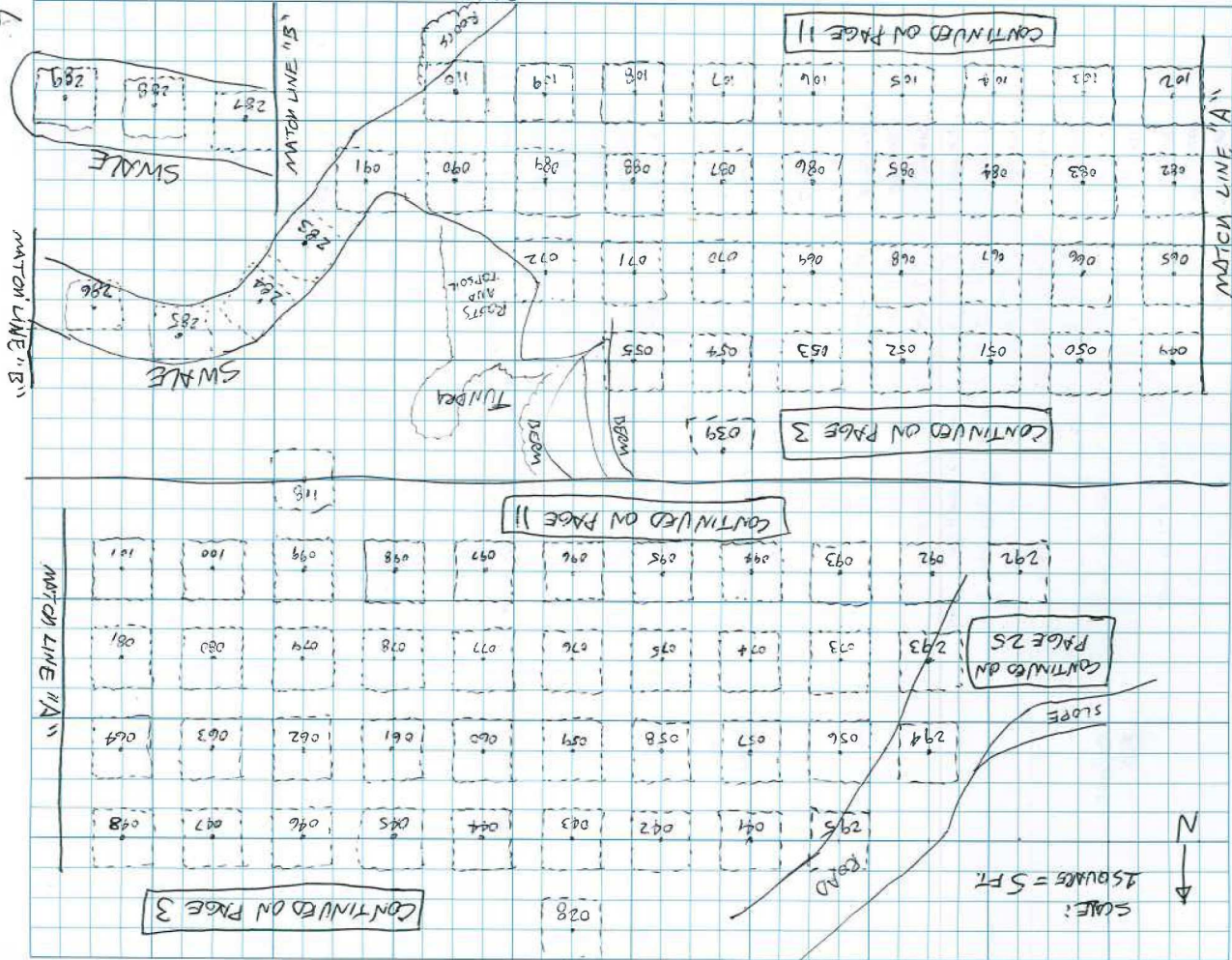
NOTE: ALL SAMPLES COLLECTED WITH SS SPAD.



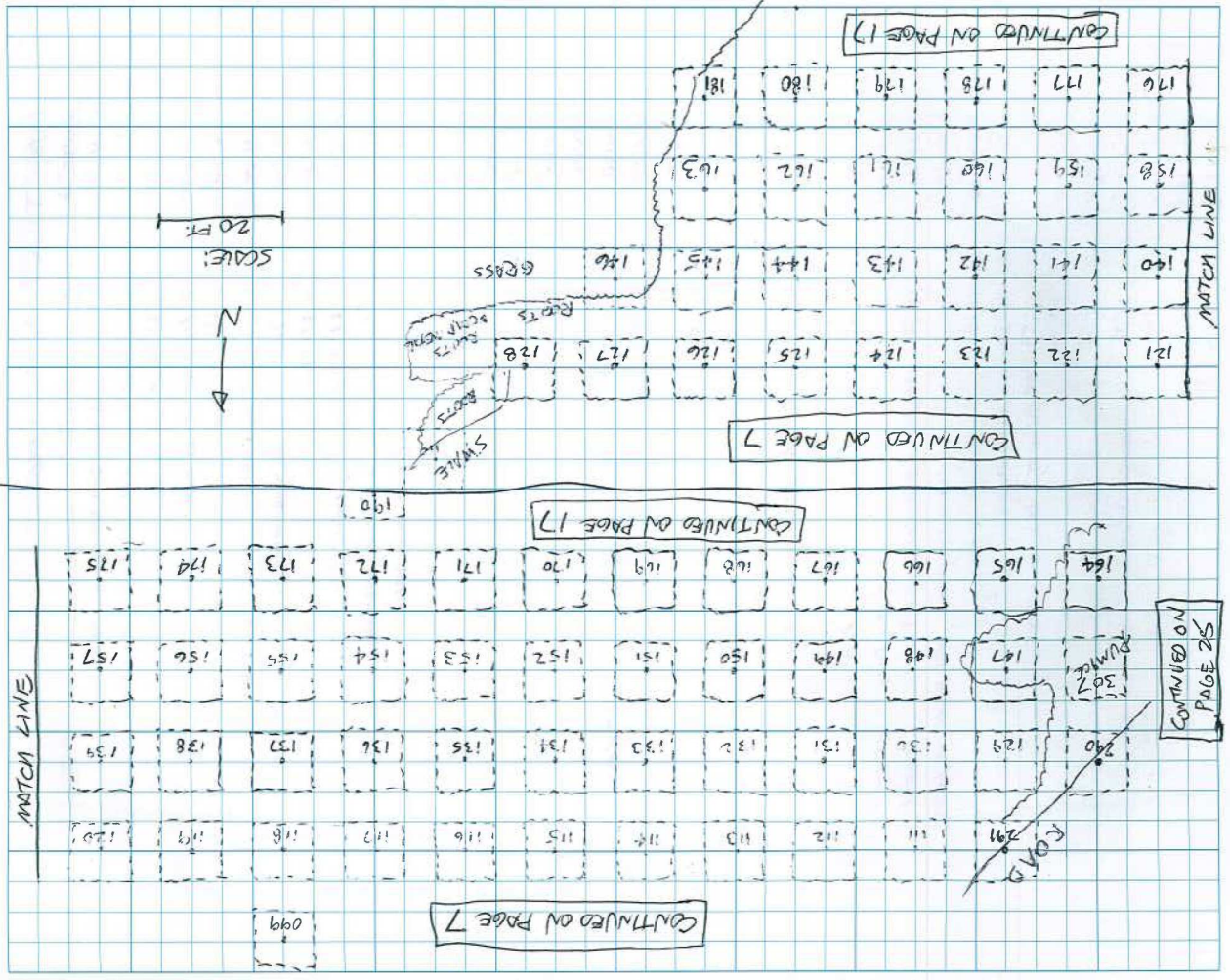
SAMPLE #	TIME	DESCRIPTION	COMMENTS
01SW020	18:21	GENUALLY SILTY, DARK BROWN, MOIST.	FD
01SW021	18:25	"	SCREEN = ND
01SW022	18:30	"	SCREEN = ND
01SW023	18:35	"	SCREEN = ND
01SW024	18:36	"	SCREEN = ND
01SW025	18:38 ³⁵	"	OLD PILES, TRASH / SCREEN = ND
01SW026	18:38	" WITH SOME PUMICE BY ROAD	SCREEN = 9.2
01SW027	18:43	" WITH MUCH PUMICE	
01SW028	18:44	"	
01SW029	18:49	" MUCH PUMICE	
01SW030	18:50	" MUCH PUMICE	
01SW030	18:51	" MUCH PUMICE	FD
01SW031	18:53	" MUCH PUMICE	
01SW032	18:54	GENUALLY SILTY, DARK BROWN, MOIST.	
01SW033	19:01	"	
01SW034	19:02	"	
01SW035	19:07	"	
01SW036	19:08	"	
01SW037	19:13	"	
01SW038	19:14	"	
01SW039	19:19	" WITH SOME PUMICE	M&M'S D
01SW040	19:20	" WITH SOME PUMICE	SCREEN = ND
01SW040	19:21	" WITH SOME PUMICE	FD

DATE: JUNE 10, 2010
 LOCATION: SOIL WASHING AREA
 SAMPLERS: JOHN JONES, QUINN NEELSON, KYLE WALDRON
 WEATHER: 50°F, CLOUDY, LIGHT WIND

SAMPLE #	TIME	DESCRIPTION	COMMENTS
01SW041	08:50	SANDY SILT, PUMICE, MED BROWN, MOIST	
01SW042	08:51	GRAVELLY SILT, SOME PUMICE, DARK BROWN, MOIST	
01SW043	08:55	SANDY SILT, PUMICE, DARK BROWN	
01SW044	08:56	"	
01SW045	09:00	GRAVELLY SILT, PUMICE, DARK BROWN, MOIST	
01SW046	09:01	"	
01SW047	09:06	"	
01SW048	09:07	GRAVELLY SILT, LITTLE PUMICE, DARK BROWN	
01SW049	09:13	GRAVELLY SILT, DARK BROWN, MOIST	
01SW050	09:14	"	
01SW051	09:15	"	FD
01SW052	09:18	" SOME PUMICE	
01SW053	09:24	" LITTLE PUMICE	
01SW054	09:32	GRAVELLY SILT, PUMICE, DARK BROWN, MOIST	
01SW055	09:35	" WITH ROOTS	SCREEN = ND
01SW056	09:36	SANDY SILT WITH MUCH PUMICE, MED BROWN, MOIST	SCREEN = 3,2
01SW057	09:42	GRAVELLY SILT, PUMICE, DARK BROWN, MOIST	
01SW058	09:43	"	
01SW059	09:47	" MUCH PUMICE	MS/MSD
01SW060	09:48	" MUCH PUMICE	FD
01SW061	09:49	" MUCH PUMICE	
01SW062	09:54	" LITTLE PUMICE	
01SW063	09:55	GRAVELLY SILT, DARK BROWN, MOIST	
01SW064	09:58	"	
01SW065	10:00	" BITS OF PAPER IN SILT	
01SW066	10:01	SANDY SILT, DRIVAGE PATH	
01SW067	10:04	" BARE ROCKS	
01SW068	10:05	GRAVELLY SILT, DARK BROWN, MOIST	
01SW069	10:08	"	
01SW070	10:09	"	
01SW071	10:14	"	
01SW072	10:15	"	FD



SAMPLE #	TIME	DESCRIPTION	COMMENTS
01SW104	15:30	GRAVELLY SILT, DARK BROWN, MOIST, IN DRAINAGE	PUMICE
01SW105	15:33	FINE SAND/SILT, IN WIDE DRAINAGE, MOIST.	
01SW106	15:37	SILT/SAND, IN NARROW DRAINAGE, SOME PUMICE, MOIST.	
01SW107	15:40	GRAVELLY SILT, DARK BROWN, MOIST.	
01SW108	15:43	" SOME PUMICE	
01SW109	15:45	" SOME SAND/PUMICE, PARTIALLY IN DRAINAGE	(W)
01SW110	15:50	SAND/SILT WITH PUMICE, IN DRAINAGE, MOIST.	WATER BY SCREEN = 1.9
01SW110	15:51	"	FD
01SW111	15:52	SILT WITH PUMICE/SAND	
01SW112	16:00	SAND/PUMICE, IN DRAINAGE, LIGHT BROWN	
01SW113	16:02	GRAVELLY SILT, SOME PUMICE, DARK BROWN, MOIST	
01SW114	16:04	"	
01SW115	16:08	"	
01SW116	16:12	"	
01SW117	16:13	"	
01SW118	16:15	"	
01SW119	16:17	"	
01SW120	16:21	"	MS/MSD
01SW120	16:22	"	FD
01SW121	16:23	"	
01SW122	16:25	" BITE OF LIMB	
01SW123	16:31	" SOUTH OF SOURCE PIT, ROOTS	
01SW124	16:32	" PRACTICALLY BURIED DRUM, ROOTS	
01SW125	16:37	" PIPES, SCRAP METAL, ROOTS	
01SW126	16:38	"	ROOTS
01SW127	16:43	" PIPES, SCRAP METAL, ROOTS	
01SW128	16:44	" IN DRAINAGE, SCRAP METAL, ROOTS	SCREEN = 10
01SW129	16:50	GRAVELLY SILT, SOME PUMICE, DARK BROWN	SCREEN = 1.6
01SW130	16:51	SANDY SILT, IN WIDE DRAINAGE, DARK BROWN AS FWD	(W)
01SW130	16:52	"	FD
01SW131	16:56	" IN DRAINAGE	
01SW132	16:59	GRAVELLY SILT, DARK BROWN, MOIST	
01SW133	17:03	"	
01SW134	17:04	"	
01SW135	17:08	" PIECES OF CANVAS	
01SW136	17:09	"	
01SW137	17:13	"	
01SW138	17:14	"	



Continued on Page 25

DATE: JUNE 10, 2010 (CONTINUED)

SAMPLE #	TIME	DESCRIPTION	COMMENTS
015W139	17:18	OPENLY SUN, DARK BROWN, MOIST	
015W140	17:19	"	ms/msd
015W140	17:20	"	FD
015W141	17:25	"	
015W142	17:28	"	
015W143	17:32	" , ROOTS	
015W144	17:34	" , RAISY, LUMBER	
015W145	17:37	" , ROOTS	
015W146	17:41	" , ROOTS, MOIST, TAN AREA	SCREEN END

Date: June 10, 2010

Collect equipment blanks

Sample 015W001 WQEB collect from spoon type used on 6/9/10
sampling
collected at 18:00Sample 015W002 WQEB collected from spoon type used on 6/10/10
sampling
collected at 18:15

SAMPLE #	TIME	DESCRIPTION	WEATHER: 40°F, WINDY,	LIGHT RAIN.
01SW 289	0905	TUMBLING SILT, DARK BROWN, MOIST		SCREEN = ND
01SW 288	0703	TUMBLING SILT, DARK BROWN, WITH LIGHT SILTY WATER		SCREEN = 3.9
01SW 287	0908	"		SCREEN = ND
01SW 286	0910	" WITH SOME FUMICE		SCREEN = ND
01SW 285	0915	" WITH MUCH FUMICE		SCREEN = ND
01SW 284	0919	EROSION SILT, FUMICE, MED BROWN, MOIST.		SCREEN = ND
01SW 283	0920	"		SCREEN = ND
01SW 163	0926	GRAVELLY SILT, DARK BROWN, MOIST		SCREEN = ND
01SW 181	0928	" WITH SURFACE FUMICE		SCREEN = ND
01SW 214	0936	" WITH ERODED SAND, MOIST		SCREEN = ND
01SW 246	0934	"		SCREEN = ND
01SW 257	0943	GRAVELLY SILT, DARK BROWN		SCREEN = ND
01SW 278	0943	"		SCREEN = ND
01SW 282	0949	"		SCREEN = ND
01SW 281	0950	"		SCREEN = ND
01SW 280	0953	"		SCREEN = ND
01SW 280	0954	"		SCREEN = ND
01SW 279	0955	"		SCREEN = ND
01SW 273	0957	"		SCREEN = ND
01SW 266	1007	" WITH FUMICE ON SURFACE		SCREEN = ND
01SW 247	1005	" GRAVELLY SILT, DARK BROWN		SCREEN = ND
01SW 233	1010	"		SCREEN = ND
01SW 217	1010	"		SCREEN = ND
01SW 199	1017	GRAVELLY SILT, FUMICE		SCREEN = ND
01SW 164	1016	" FUMICE		SCREEN = 1.0
01SW 290	1025	MED BROWN, SANDY SILT, FUMICE, IN ROAD		SCREEN = ND
01SW 291	1029	"		SCREEN = 7.4
01SW 292	1030	"		SCREEN = ND
01SW 293	1033	" IN DRAINAGE PATH		SCREEN = ND
01SW 294	1034	MED BROWN SILTY SAND, MUCH FUMICE, IN ROAD		SCREEN = 3.0
01SW 295	1040	"		SCREEN = 1.0
01SW 296	1039	"		SCREEN = 7.6
01SW 297	1047	"		SCREEN = 6.9
01SW 298	1046	"		SCREEN = ND
01SW 299	1053	"		SCREEN = ND
01SW 299	1054	"		SCREEN = ND

* DUPE 1026

* MS/MSD

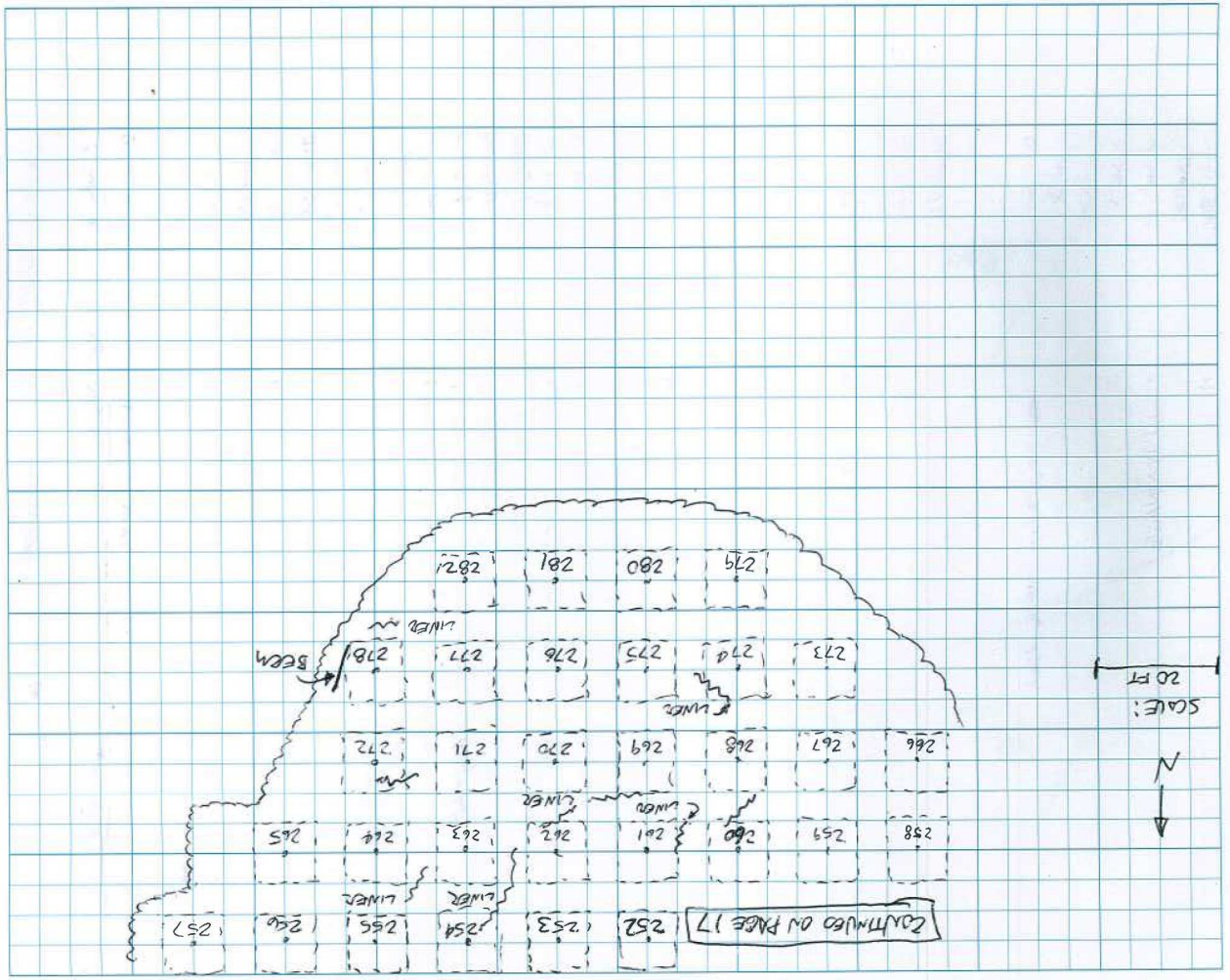
Freezer Dup

SAMPLE #	TIME	DESCRIPTION	WEATHER 40°F, CLOUDY, VERY WINDY	COMMENTS
01SW180	1511	GENERALLY SIFT DARK BROWN, MOIST		MS/MSD
01SW180	1512	"		FD
01SW182	1515	"		
01SW183	1517	"		
01SW184	1521	"		
01SW185	1524	"		
01SW186	1524	"		
01SW187	1527	"		
01SW188	1527	" SOME PUMICE		
01SW189	1531	" SOME PUMICE		
01SW190	1529	" SMALL STONES (4"), SANDSAC		
01SW190	1530	"		FD
01SW191	1535	GENERALLY SILT, DARK BROWN, MOIST.		
01SW192	1534	"		
01SW193	1539	" IN DRAINAGE PATH		
01SW194	1537	" SOME PUMICE		
01SW195	1543	" SOME PUMICE		
01SW196	1542	GENERALLY SILT, DARK BROWN, MOIST		
01SW197	15:50	"		
01SW198	1547	"		
01SW200	1551	"		MS/MSD
01SW200	1552	"		FD
01SW201	1556	"		
01SW202	1600	"		
01SW203	1559	"		
01SW204	1605	"		
01SW205	1602	"		
01SW206	1610	" SOME PUMICE		
01SW207	1607	" SOME PUMICE		
01SW208	1615	" SOME PUMICE, SMALL HILL		
01SW209	1611	" SOME PUMICE, SMALL HILL		
01SW210	1617	" SOME PUMICE		
01SW210	1618	" SOME PUMICE		FD
01SW211	1615	" IN DRAINAGE PATH		
01SW212	16:25"	"		
01SW213	16:21	" FEET		
01SW214	16:32	" SOME PUMICE		

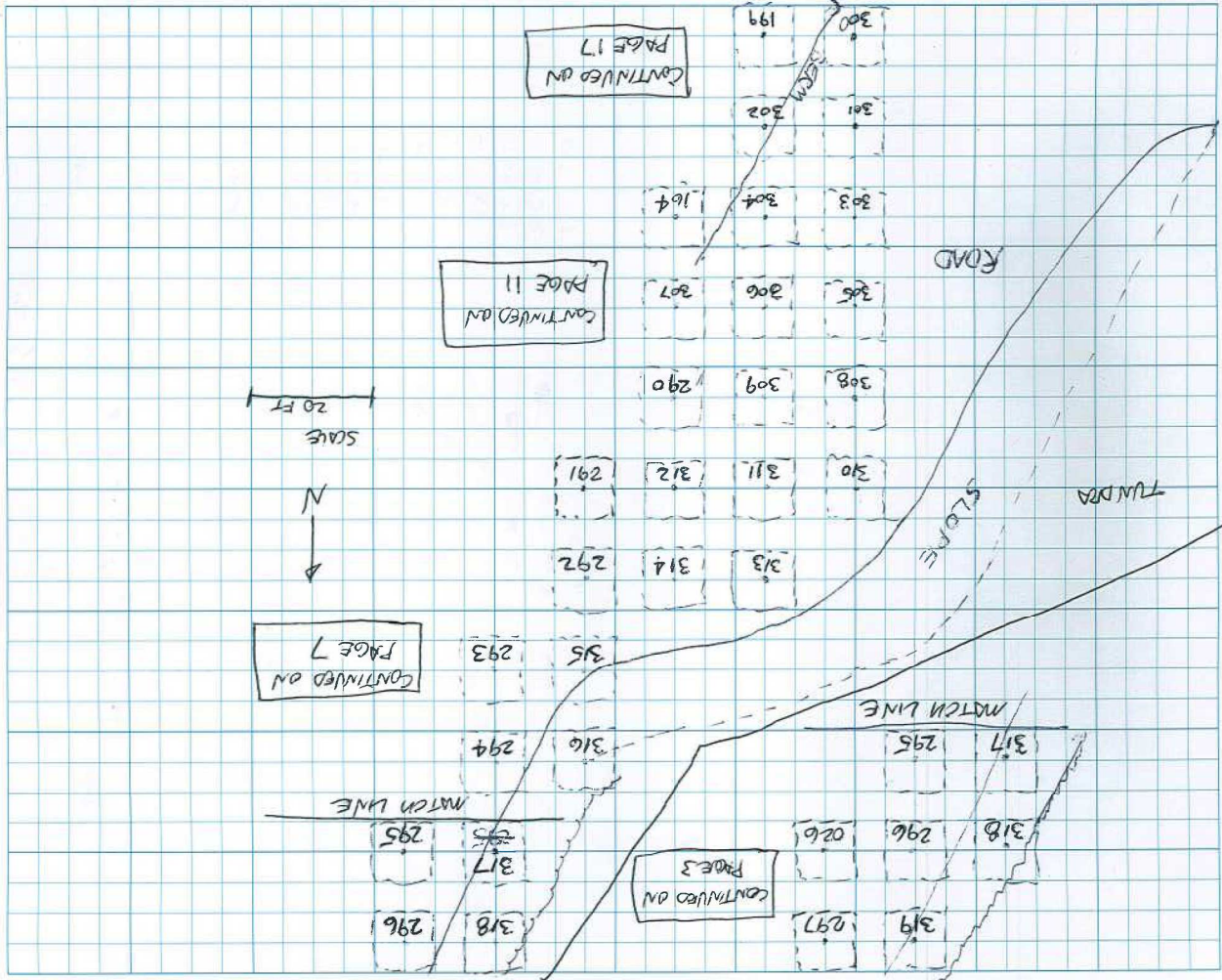
DATE: JUNE 12, 2010 (CONTINUED)

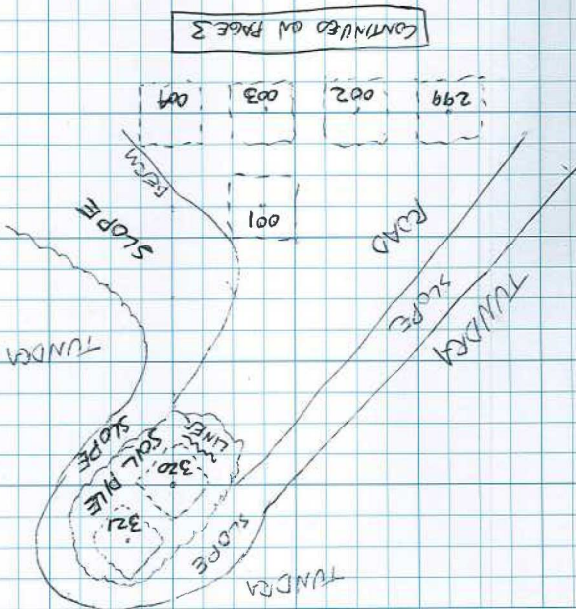
SAMPLE #	TIME	DESCRIPTION	COMMENTS
01SW 215	16:37	GRAVELLY SILT, DARK BROWN, MOIST	
01SW 218	16:18	"	
01SW 219	16:39	"	
01SW 220	16:47	"	
01SW 220	16:45	"	M/S/MSD FD
01SW 221	16:43	"	
01SW 222	16:46	"	
01SW 223	16:47	"	
01SW 224	16:50	"	
01SW 225	16:56	" SOME RUNICE, LUBER	
01SW 226	16:55	" SOME RUNICE	
01SW 227	17:00	" SOME RUNICE, IN DRAINAGE	
01SW 228	16:59	GRAVELLY SILT, DARK BROWN, MOIST	
01SW 229	17:06	"	
01SW 230	17:03	"	
01SW 230	17:04	"	FD
01SW 231	17:12	" ROOTS	
01SW 232	17:09	" ROOTS, IN DRAINAGE, SAND	
01SW 234	17:14	CONCRETE SILT, DARK BROWN, MOIST	
01SW 235	17:18	"	
01SW 236	17:17	"	
01SW 237	17:22	"	
01SW 238	17:22	" SOME RUNICE	
01SW 239	17:26	" SOME RUNICE, SMALL DEPRESSION	
01SW 240	17:26	" SOME RUNICE	M/S/MSD FD
01SW 240	17:27	" SOME RUNICE	
01SW 241	17:31	" SOME RUNICE	
01SW 242	17:35	" LITTLE RUNICE	
01SW 243	17:35	"	
01SW 244	17:37	"	
01SW 245	17:38	" IN DRAINAGE	

DATE: JUNE 14, 2010	TIME	DESCRIPTION	WEATHER: LIGHT RAIN, WIND 30 MPH +	COMMENTS
01SW240	09:18	GRAVELLY SILT, DARK BROWN, MOIST		
01SW245	09:03	"		
01SW250	09:24	"		DIPE 09:25
01SW251	09:10	"		
01SW252	09:30	"		
01SW253	09:12	"		
01SW254	09:17	"		
01SW255	09:10	"		
01SW256	09:40	"		
01SW258	09:42	"		
01SW259	09:48	"		
01SW260	09:50	"		
01SW261	09:51	"		MS/MSD
01SW262	09:58	"		FD
01SW263	10:00	"		
01SW264	10:01	"		
01SW265	10:03	"		
01SW267	10:05	"		
01SW268	10:08	"		
01SW269	10:11	"		
01SW270	10:12	"		
01SW270	10:13	"		FD
01SW271	10:18	"		
01SW272	10:18	"		
01SW274	10:25	"		
01SW275	10:24	"		
01SW276	10:30	"		
01SW277	10:30	"		
01SW300	10:38	GRAVELLY SILT, TO SILT FINENESS, IN F.L.		SCREEN = ND
01SW301	10:39	"		SCREEN = ND
01SW302	10:44	"		SCREEN = ND
01SW303	10:45	"		SCREEN = ND
01SW304	10:40	" IN DRUM WARE		SCREEN = ND
01SW305	10:49	"		SCREEN = ND
01SW306	10:57	"		SCREEN = ND



DATE	TIME	DESCRIPTION	CO. MARKS
JUNE 19, 2010 (CONTINUED)	10:55	GRAVELLY SILT, MUD, ON ROAD	SCREEN = ND
	10:59	"	SCREEN = ND
	11:00	"	SCREEN = ND
	11:05	"	SCREEN = ND
	11:06	"	FD
	11:07	GRAVELLY SILT, MUD, ON ROAD	SCREEN = ND
	11:09	"	SCREEN = ND
	11:10	"	SCREEN = ND
	11:14	"	SCREEN = ND
	11:17	"	SCREEN = 0.16
	11:10	GRAVELLY SILT, MUD, ON ROAD	SCREEN = ND
	11:21	"	SCREEN = ND
	11:24	"	SCREEN = ND
	11:27	"	SCREEN = 2.1
	11:29	GRAVELLY SILT, LINES, SOIL PILE	dup 11:30 US MS
	11:33	"	dup 11:34 US MS





© 2000 by [illegible]



Client: AFCEE		LFO1
Project Number: 60156225		
Site Location: LFO1 Landfill Port Hiden		
Drilling Method: Direct Push	Ground Elevation:	Sheet: 1 of 1
Sample Type(s): Macro Core	Boring Diameter:	Monitoring Well Installed:
Weather: ~50°F Sun	Logged By: QM	Screened Interval: _____
Drilling Contractor: Hammer Environmental	Date/Time Started: 6/13 0900	Depth of Boring: 8'
	Date/Time Finished: 6/13 0115	Water Level: NE (Not encountered)

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1		NA	3/4				Brown silty sand w/ occ gravel No odor. moist (~5%) (lab sample 2-4' BGS)	01LF001506204N	2-4
2									0901
3							(lab sample 5-6' BGS)	01LF0015060506N	5-6
4									0906
5			4/4				orange-brown silt, compact, very slight moisture (<1%), stiff		
6									
7							8' Bottom of boring		
8									

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	Project Number: 60156225		LFOZ
Site Location: LFO2 Landfill Port Heiden	Ground Elevation:		
Drilling Method: Direct Push	Date/Time Started: 6/13 0920		Sheet: 1 of
Sample Type(s): Mulfo core	Date/Time Finished: 6/13 0930		Monitoring Well Installed:
Weather:	Logged By: QM	Depth of Boring: 8'	Screened Interval:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Water Level:	

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			3.3/4				0-2' Brown sand w/ occ gravel No odor ~ 5% moisture	01LFO02500203N	2-3
2							2-7.0 silty sand w/ occ gravel ~ 5% moisture No odor (lab sample 2-3' bgs)		
3								01LFO02500607N	
4			3.8/4				(lab sample to 7.0 (EM) 6.0-7.0)		
5									
6									
7									6-7
8							7.0-8.0 orange brown silt, no odor, stiff, < 1% moisture		0922
							8' Bottom of boring		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE		LF03
Project Number: 60156225		
Site Location: LF03 Landfill Port Heiden		
Northing / Easting:		Ground Elevation:
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):		Boring Diameter:
Weather:		Screened Interval:
Logged By: gm		Date/Time Started: 6/13 0930
Drilling Contractor: Hammer Environmental		Depth of Boring: 8'
Ground Elevation:		Date/Time Finished: 6/13 0940
		Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			35/4				0-1.9 Brown silty sand w/ occ gravel ~5% moisture no odor (lab sample 2-3' bgs)	N F09005000710	2-3 0929
2									
3									
4									
5			4/4				(lab sample 6-7' bgs)	N F09005000710	6-7 0931
6									
7									
8							7-8' orange brown silt, stiff, ~1% moisture no odor 8' Bottom of boring		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by:

Date:



Client: AFCEE			LF04
Project Number: 60156225			
Site Location: LF04 Landfill Port Heiden			
Northing / Easting:	Ground Elevation:	Sheet: 1 of	
Drilling Method: Direct Push	Monitoring Well Installed:		
Sample Type(s):	Boring Diameter:	Screened Interval:	

Weather:	Logged By: <i>DM</i>	Date/Time Started: 6/13 0943	Depth of Boring: 8'
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13 0950	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)	
1							0-2' Brown sand (sw) w/ occ gravel no odor ~ 5% moisture	N50203N 01LF004500203N		
2			3/4			(Lab sample 2-3' bgs)			2-3	
3						2-5.3 Brown silty sand (sm) w/ occ gravel, no odor ~ 5% moisture, ~ 10-20% at ~ 2-2.5' bgs				
4							(Lab sample 4-5 bgs)	N50405N 01LF004500405N		
5										4-5
6							5.3-8' orange brown silt, stiff, no odor < 1% moisture			
7								01LF004500810		
8							8' Bottom of Boring EX-114			

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF05
Project Number: 60156225	
Site Location: LF05 Landfill Port Heiden	
Drilling Method: Direct Push	Sheet: 1 of
Sample Type(s): Macro Core	Monitoring Well Installed:
Drilling Contractor: Hammer Environmental	Screened Interval:
Weather:	Depth of Boring: 8
Logged By: BJM	Date/Time Started: 6/13 0955
Ground Elevation:	Date/Time Finished: 6/13 1000
Boring Diameter:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft.)
1			3.3				0-6.9 silty sand w/ occ gravel, brown ~ 5% moisture; higher % silt from 1.2-6.9' lbs	01LF005500203N	
2			4				2.3 → wood debris (plywood) (Lab sample 2.3-3.3)		2.3-3.3 0952
3									
4									
5							(5.9-6.9 Lab sample)	01LF005500607N	5.9-6.9
6			4/4				6.9-8 orange brown silt, stiff, < 1% moisture		
7							8' bottom of boring		0956
8									

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by

Date:



Client: AFCEE		
Project Number: 60156225		
Site Location: Landfill Port Heiden	LF07	
Drilling Method: Direct Push	Ground Elevation:	Sheet: 1 of
Sample Type(s): Macro Co.2	Boring Diameter:	Monitoring Well Installed:
		Screened Interval:

Weather:	Logged By: BM	Date/Time Started: 6/13 1012	Depth of Boring: 8'
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13 1025	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			2.7			SW	0-1.5 brown sand (sw) ~ 5% moisture no odor	01LF007500203N	2-2.7 (011)
2			4			SM	same as above but w/ silt (sm) (Lab sample 2-2.7') No odor		
3								01LF007500607N	6-7 (017)
4			4/4				6-7' (Lab sample)		
5						ML	7-8 orange brown silt stiff. < 1% moisture no odor		
6									
7									
8									
							Bottom of Boring		

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF08	
Project Number: 60156225		
Site Location: Port Heidem Landfill		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s): Macro Core	Boring Diameter:	Screened Interval:

Weather: ~50-66°F sun	Logged By: <u>GM</u>	Date/Time Started: <u>6/13 1030</u>	Depth of Boring: <u>8'</u>
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: <u>6/13 1043</u>	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			3.4/4			SVY 0-1.9 1.9	brown sand w/ occ gravel ~5%-10% moisture no odor	01LF008500203N	
2						SM 1.9-6.2 1.9-6.2	brown silty sand w/ occ gravel ~5% moisture, no odor (1.9-3 Lab sample)		1.9-3
3								01LF008500506N	
4			3.6/4				(5-6.2 Lab sample)		5-6.2
5									
6									
7						ML 6.2-8	orange brown silt, stiff no odor, < 1% moisture		
8							8' Bottom of boring		

1035
1045
GM
1040
1045
GM

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	LF09	
Project Number: 60156225		
Site Location: Port Heiden Landfill	Sheet: 1 of 1	
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s): macro core	Boring Diameter:	
Weather:	Screened Interval:	
Drilling Contractor: Hammer Environmental	Logged By: DM	Date/Time Started: 6/13/05
	Ground Elevation:	Date/Time Finished: 6/13/05
		Depth of Boring:
		Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S.	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			3.2/4			SM	0-6.7 Brown silty sand w/ occ gravel No odor ~ 5% moisture (3.2-3.2 Lab sample)	01LF0095002037	2.2-3.2 1045
2									
3									
4									
5									
6			3.4/4				(5.7-6.7 Lab sample)	01LF009500607N	5.7-6.7 1050
7						SW	6.7-7.2 gray well sorted sand; clean sand (no fines)		
8						ML	7.2-8 orange-brown silt, stiff < 1% moisture		
							8' Bottom of boring		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: _____

Date: _____

1.7
2.2



Client: AFCEE	Project Number: 60156225	LF12
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: <i>em</i>	Date/Time Started: 6/3 1115	Depth of Boring: 8
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/3 1120	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1						SM	<i>(em)</i> 0- 6 7 Brown silty sand w/ occ gravel no odor, ~5% moisture (2-3 lab sample)	01LF0125002037	2-3 1120
2		3.2/4							
3									
4								01LF012500607N	
5							<i>(em)</i> 6-7 lab sample		
6		3.6/4				ML	7-8' orange brown silt, stiff, no odor < 1% moisture	01LF012500607N	6-7 1123
7							8' bottom of boring		
8									

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF13	
Project Number: 60156225		
Site Location: Port Heiden Land Fill		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s): Macro Core	Boring Diameter:	Screened Interval:

Weather:	Logged By: <i>QJM</i>	Date/Time Started: 6/13 1130	Depth of Boring: 60'
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1									
2			3.8/4			SM	0-8.5 Silty ^(dm) Brown sand with silt & gravel to silty sand. Well sorted sand. No odor. gray liner material at 1.7'	01LF013500203N	2-2.8 1140
3						SM	(2-2.8 Lab sample		
4									
5			3.3/4						
6									
7									
8							(7.5-8.5 Lab sample	01LF013500809N	7.5-8.5 1145
9			4/4				8.5-10 orange brown silt, stiff, < 1% moisture grades to brown fine sand at 10'-12'		
10									
11									
12							12' Bottom of boring		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by

Date:



Client: AFCEE	LF14	
Project Number: 60156225		
Site Location: Port Heiden Land-Fill		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: DM	Date/Time Started: 6/13	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1						SM	0-7.9 ^{BRWN} Silty sand w/ ocl gravel. well sorted sand. No odor ~5% moisture.	01LF014500203N	1.8-3.3
2		2.9/4				SM	1.8 - gray plastic liner (1.8-3.3 Lab sample)		
3								01LF014500708N	
4									
5		3.6/4					(6.9-7.9 Lab sample)		
6								01LF014500708N	
7									
8						SW	gray clean sand from 7.9-8' bgs Top 0.6' ft SM slough		6.9-7.9
9						ML	Remaining core orange brown silt <1% moisture		
10		4/4							
11									
12									

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF15	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started:	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)	
1						SW	0-1.7 Brown SM silty sand w/ silt & occ gravel ~5% moisture no odor	01LF015500203N		
2			2.8/4				→ 1.7 gray plastic liner			
3							1.7-7.7 Brown silty sand w/ occ gravel ~5% moisture no odor		1.7-3 1159	
4						SM	(1.7-3 Lab sample Bos			
5			3.3/4				(6-7 Lab sample, collect duplicate 01LF015501517N @ 1207	01LF015500607N		
6							7.7-8.3 Lt gray ^{Fine} silty sand w/ occ gravel and coarse sand. SM Appears to be crushed pumice			6-7 1206
7						SW	Top 0.6' slough; 0.3' Lt gray SW as above orange brown silt, stiff, < 1% moisture (ML)			
8							8.3-12 orange Brown ML			
9			4/4			ML				
10										
11										
12							12' bottom of boring			

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____

1.2-3



Client: AFCEE	LF16	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: QM	Date/Time Started: 8/13 1335	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 8/13 1345	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft.)	
1			2.8			SW	0-2 Brown sand w/ silt and occ gravel ~5% moisture No odor	01LF016500203N		
2			4			SM	gray plastic liner 2-7.7 Brown silty sand w/ occ gravel ~5% moisture No odor		2-3	1320
3							(2-3' Lab sample)	01LF016500708N		
4			3/4				(6.7-7.7' Lab sample)		6.7-7.7	1330
5						SW	7.7-8.0 Gray clean well sorted sand No fines			
6						ML	8-11 orange-brown silt stiff, grades to fine sand (brown at 11 ft)			
7						ML ↓ SP	11-12 brown fine sand grades to med sand towards 12'			
8							12 ft bottom of boring.			

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by

Date:



Client: AFCEE	LF 17	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started: 6/13 1348	Depth of Boring: 8
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13 1355	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			2.7/4			SW	0-1.4' Brown sand w/ silt & dk gravel ~5% moisture no odor	OILFO17S00204N	2.1-3.6 1337
2						SW	1.4 gray plastic lines		
3						SW	1.4-7.0 same as above		
4							(1.4-2.4 Lab sample from top)		
5			3.4/4				(6-7 Lab sample)	OILFO17S00607N	6-7 1341
6						SW	7-7.4 gray clean sand		
7						ML	7.4-8.0 orange brown silt ~1% moisture		
8							8' bottom of boring		

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	LF18	
Project Number: 60156225		
Site Location: Port Heiden Landfill	Sheet: 1 of	
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s): Micro Core	Boring Diameter:	
Weather: ~50-60°F sun windy	Logged By: QM	Depth of Boring: 8'
Drilling Contractor: Hammer Environmental	Date/Time Started: 6/13 1358	Water Level:
	Date/Time Finished: 6/13 1405	

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1						SM	brown silty sand w/ occ gravel ~5% moisture no odor → 1.4 gray plastic liner	01LF018500203N	2.5 1346
2			2.8/4			SM			
3							SM as above (1.4-3 Lab sample 2')		
4									
5									
6									
7							(6.8-7.8 Lab sample		
8			3.2/4			SW	7.8-8 gray clean sand	01LF018500708N	6.8-7.8 1350
							8' bottom of boring		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	Project Number: 60156225		LF19
Site Location: Port Heiden Landfill	Ground Elevation:		
Drilling Method: Direct Push	Sample Type(s): MAC 10 core		Sheet: 1 of
Weather: ~50-60°F Sun Windy	Logged By: SM	Boring Diameter:	Monitoring Well Installed: 1
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Started: 6/15 1408	Screened Interval:
		Date/Time Finished: 6/13	Depth of Boring:
			Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1						SM	brown silty sand w/ occ gravel ~ 5% moisture no odor		
2			2.9/4			SM	1.3 gray plastic liner		
3						SM	same SM as above, no odor ~ 5% moisture		
4							(2-3' Lab sample)	01LF019500203N	2-3 1400
5									
6									
7							(6.5-7.8' Lab sample)	01LF019500208N	6.5-7.8 1403
8							7.8-8 gray clean sand		
							8' bottom of boring		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by

Date:



Client: AFCEE		LF 20
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started: 6/13	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			2.9/4			SM	Brown silty sand w/ occ gravel ~5% moisture no odor		
2									
3									
4						SM	→ 2.4' gray liner (plastic) (2.4-2.9 from top Lab sample ~3.0'-4.0' bgs	01LF020500304N	3.3-4 1409
5			3.3/4						
6									
7									
8									
9							(~7-9' bgs Lab sample collect MS/MSD and dup → 01LF0205001517N ① 1417	01LF020500709N	7-9 1416
10			4/4			ML	Top 0.7' slough 0.7-1.1 SM as above		
11						ML SP	1.1-3 orange brown silt, stiff, <1% 3-4 from top → brown fine sand		
12									

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE		LF 21
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started: 4/3 1435	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 4/3	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			3.6/4			SM	Brown silty sand w/ occ gravel ~5% moisture no odor No liner observed (2-3' bgs Lab sample)	01LF021502032	2.2-3.3 1425
2									
3									
4									
5			3.4/4						
6							Top-3' SM as above 3-3.2 gray SW sand (SM) 6-7 (SM) (6.5-7.5' bgs Lab sample) 3-3.2 gray SW sand	01LF021500708N	6.5-7.5 1427
7									
8							3.2-3.4 8' bottom of boring		

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF22	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: <i>QM</i>	Date/Time Started: <i>6/13 1450</i>	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: <i>6/13</i>	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top → 1.7 SM brown ocl gravel ~ 1% moist		
2							Liner at 1.7		2.5-
3							1.7-2.7 Lab sample; same SM as above but strong "trash" like odor		4 1438
4									
5							3.3 Top 3.3 same SM as above w/ ~5% moist strong "trash" odor for top 0.5'		
6							tab QM		6.2-
7							2-3.3 Lab sample		7.7 1443
8							3.3-3.6 orange brown MC stiff < 1% moist no odor		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	LF 23		
Project Number: 60156225			
Site Location:			
Drilling Method: Direct Push	Ground Elevation:	Sheet: 1 of	
Sample Type(s):	Boring Diameter:	Monitoring Well Installed:	
Weather:	Logged By: GM	Date/Time Started: 6/13 1500	Screened Interval:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13 1515	Depth of Boring: 12

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (ft.)
1							Top-1.7 SM brown occ gravel ~5% moist no odor		
2			2.7/4				1.7-2.1 silt brown (ML)		
3							2.1 gray plastic liner		
4							(2.1-2.7 Lab sample; brown sm as above	01LF023500304N	3.1
5							Top-3 sm as above		
6			3/4				(2-3 Lab sample	01LF023500708N	0.7
7									
8									
9							Top 0.8' slough		
10			3.6/4				0.2' ft of gray SW below slough		
11							1.3' ft of orange brown ML grades into brown fine sand for remainder of core.		
12							12' Bottom of boring		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by

Date:



Client: AFCEE	LF 24	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather: 50-60°F sun very windy	Logged By: QM	Date/Time Started: 6/13 1520	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							SW Top-1.7' Brown sand w/ silt & occ gravel ~5% moist no odor.	01LF024508204N	
2			2.8/4				1.7 gray plastic liner		
3							1.7-2.8 Light brown silty sand (SM) w/ occ gravel ~5% moist "trash" or chemical like odor collect LAB SAMPLE	01LF024508204N	2.4-1511
4							Top-2.8-- same sm as above but w/ wood debris. chemical like odor		4
5			3/4				(2-2.8 Lab sample		2.8-6.7
6							2.8-3 light gray clean sand (sw)	01LF024508204N	7.7-1519
7							8' bottom		
8									

NOTES: Hit a piece of wood at 4' bgs; move over ~6" and redrill.

Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	LF 27	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: <u>GW</u>	Date/Time Started: <u>4/13 1558</u>	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1									
2			3.5/4				Top - 1.8 Brown silty sand w/ occ gravel ~5% moist no odor	N15F0275007084	2.1-4 1545
3						1.8 gray plastic liner			
4							1.8 - 3.5 Brown sand w/ silt & occ gravel (SW) ~5% moist, no odor (collect lab sample for 1.8-3.5 interval)		
5							Top - 3 same sw as above; no odor ~5% moisture	N01F027500708N	6.5-7.8 1549
6			3.2/4				2-3' from top lab sample		
7									
8							3-3.3 FT orange brown silt, stiff <1% moist no odor		

NOTES: FT = from top of core

Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF 28	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: QM	Date/Time Started: 6/13 1607	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top - 1.7 Brown silty sand, occ gravel (SM) ~5% moist No odor	01LF028500607N	2.1 - 1556
2			3.3/4			1.7 gray plastic liner material	3.6		
3						1.7-3.0 Brown sand w/ silt and occ gravel (SP) ~5% moist; collect Lab sample			
4									
5							Top - 2.8 Brown sand (SP), no little fines occ gravel ~5% moist	01LF028500607N	6.4 - 1605
6			3.4/4			(2-2.8 Lab sample	7.3		
7									
8							2.8 woody debris (roots) dead tundra material		
9							2.8-3.4 silty sand w/ gravel (brown) (SM)		
10			3.6/4				Top 0.7' slough		
11							0.7-1.2 gray clean well sorted sand (SW)		
12							1.2-3.6 orange brown silt, stiff <1% moist no odor		
13									

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF 29	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started:	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			2.5				Top - 2.5 brown silty gravelly sand (SM) No liner observed	01LF029500204N	1.6 - 3.5
2			4			(1-2.2 Lab sample	1612		
3								01LF029500608N	5.8 - 7.7
4							Top - 2.7 same sml as above but w/ occ gravel and ~10% moisture no odor		1615
5			2.9				(1.3-2.7 Lab sample		
6							2.7-2.9 gray clean sand (SW)		
7							8' Bottom		
8									

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF 30	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: <i>Am</i>	Date/Time Started: 6/13 1636	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			3.4/4				Top - 1.8 Brown silty sand w/ occ gravel ~5% moist no odor	01LF0305002042	2.1 - 3.8
2						1.8 Gray plastic liner			1622
3						1.8 - 3.4 Brown sand w/ silt and occ gravel ~5% moist (SW)		01LF030500608N	6.4 - 7.8
4						(1.8-3.2) Lab sample - collect MS/MSD and dup 01LF030501012N @ 1623			1627
5						Top - 3.2 same SW as above w/ ~5% moist no odor			
6			3.4/4			(2-3.2) Lab sample; collect MS/MSD and dup. → 01LF030501617100W			
7						3.4 - 3.4 orange brown silt, stiff, < 1% moist no odor.			
8									

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE		LF 31
Project Number: 60156225		
Site Location:		
Northing / Easting:		Ground Elevation:
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):		Boring Diameter:
Weather:		Screened Interval:
Logged By:		Date/Time Started: 6/13
Drilling Contractor: Hammer Environmental		Depth of Boring: 8
Ground Elevation:		Date/Time Finished: 6/13 1650
		Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top-2 brown silty sand w/ o.c. gravel (SM)		
2			3/4				~5% moist no odor		
3							2-3 light brown sand w/ silt (SW)		
4							~5% moist no odor. collect		
5			2.9/4				Lab sample 2-3		2.7-4 1632
6							Top-2.7 same SW as above		
7							2-2.7 Lab sample		
8							2.7-2.9 orange brown silt, stiff, <1% moist no odor		6.8-7.7 1636
							8' bottom		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	LF 32	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: <i>QW</i>	Date/Time Started: <i>6/13</i>	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: <i>6/13</i>	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top-1.2 Brown silty sand w/ occ	01LF03Z500204N	1.8- 4 <i>AM</i> <i>QW</i>
2			2.6 4			1.2-2.6 Brown sand w/ silt & occ cobble (SM) 5% moist no odor (Collect lab sample 1.2-2.6)			
3							Top-3.7 SW as above, w/ 5% moist, slight chemical odor	01LF03Z500708N	7.0- 7.7 1646
4						3-3.7 Lab sample			
5			4 4			3.7-4 orange brown silt (ML)			
6									
7									
8									

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF 33	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started: 6/3/705	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1									
2			3.2				Top - 3.2 Brown silty sand w/ occ gravel (sm) ~ 5% moist no odor - No lines observed	01LF0335003042	2.5 - 3.8
3							2-3.0 Lab sample		
4							Top - 3.5 same sm as above	01LF0335007082	
5			3.7				2.7 - 3.5 Lab sample		
6									
7									
8							3.5-3.7 light gray sand, no fins (sw).		6.9 - 7.8
									1655

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE		LF 34
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):	Boring Diameter:	Screened Interval:
Weather: ~56°F overcast, very windy	Logged By:	Date/Time Started: 6/13 1712
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:
		Depth of Boring: 8
		Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top - 1.3 brown silty sand	01LF034500304N	
2			22/4			1.3 - 2.2 sand (sw) w occ gravel ~5% moist no odor			2.9 - 1703
3						(1.6 - 2 Lab sample			3.6
4								01LF034500507N	
5						Top - 2.7 SW as above, ~5% moist, no odor			5.3
6			3.1/4			1 - 2.7 Lab sample			7.5 1706
7									
8							2.7 - 3.1 orange silt, stiff, < 1% moist no odor		

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF 35	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started:	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top - 1.9 silty sand (sm) Brown occ gravel and occ organics	01LF035500204N	
2			3.2/4			1.9 Gray plastic liner			
3						1.9 - 3.2 sm as above but w/ less silt. ~5% moist, slight chem odor (Lab sample 1.9-3.0)	2.4 - 3.8		1712
4									
5							Top - 2.6 sm as above but w/ varying amount of silt and occ black plastic liner material and hemp rope fragments	01LF035500608N	
6			2.6/4			(1.5-2.4 lab sample; collect dup*)			
7							6.3 - 7.7		1723
8							Top - 0.3 sm as above w/ black plastic liner occ		
9							0.3 - 2.4 orange brown silt grades to brown fine sand at 2.4		
10							2.4 - 4 brown fine sand		
11									
12									

NOTES: * Duplicate: 01LF035501517N @ 1724

Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	LF 36	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started:	Depth of Boring: 12
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			3 3/4				Top - 3.2 Brown Silty sand (sm) w/ occ gravel ~5% moist no odor	01LF036500304N	2.7 - 3.8 (1731)
2						(2.3 - 3.2 Lab sample			
3								01LF036500506N	
4						Top - 2 SM as above; weaved plastic (eg. tarp) white at 1.7 rock in shoe			
5			2 1/4			1-2 Lab sample (5-6' bags)			
6									
7									
8							Top 0.5' slough		
9							0.6 - 2.3 orange brown ML grades to fine sand (brown) at 2.3		
10			4 1/4						
11									
12									

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by

Date:



Client: AFCEE	LF 37	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started: 6/13 1757	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top - 2' Silty sand w/ occ gravel brown ~ 5% moist no odor (SM)	01LF0375003042	2.3 - 4
2			3.5/4			2' gray plastic liner			
3							2-3.5' sm as described above (Lab sample 2-3.3')	01LF037500708N	6.7 - 7.8
4						Top - 3.7 same sm as above			
5			3.7/4				(2.5-3.5 Lab sample)		1747
6									
7									
8									

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE	LF 38	
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started:	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13 1810	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1			3 1/4				Top-3.1 sand w/ silt, occ gravel ~5% moist; no odor (sw)	01LF038500607N	2.6-3.9
2						(2-3 Lab sample			1753
3							Top-2.4 SW 9s described above	01LF038500607N	
4						(1.4-2.4 Lab sample			
5			3 2/4			2.4-3.2 orange brown ml			5.0-7.0
6						8' bottom			1757
7									
8									

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by: _____ Date: _____



Client: AFCEE		LF 39
Project Number: 60156225		
Site Location:		
Northing / Easting:		Ground Elevation: Sheet: 1 of
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):		Boring Diameter: Screened Interval:

Weather:		Logged By:	Date/Time Started: 6/13 1805	Depth of Boring:
Drilling Contractor: Hammer Environmental		Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1							Top-2.5 silty sand, w/ occ gravel, ~5% moist no odor (SM) (1.8-2.5 Lab sample)	01LF039800304N	2.9-4
2			2.5/4						
3									
4							Top-2.9 SM as above, ~5% moist no odor		
5									
6			3.1/4				(1.8-2.9 Lab sample)	01LF039800708N	6.3-7.7
7									
8							2.9-3.1 orange brown ML		

1803
1807

NOTES:

Date	Time	Depth to groundwater while drilling

Checked by

Date:



Client: AFCEE		LF40
Project Number: 60156225		
Site Location:		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push		Monitoring Well Installed:
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By:	Date/Time Started:	Depth of Boring:
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished:	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.)
1									
2									
3									
4									
5									
6									
7									
8									
			3.5/4				Top - 2.4 silty sand (brown) w/ occ gravel and occ organics (SM) 2.4 gray plastic liner 2.4 - 3.5 sm as described above (2.4 - 3.3 Lab sample Top - 4 sm as above (3-4 Lab sample, collect MS/MSD and dup 01LF040501516N @ 1817	01LF040500304N	2.7 - 3.8
			4/4					01LF040500708N	7.0 - 8.0

1811

1816

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____



Client: AFCEE	LF 41	
Project Number: 60156225		
Site Location: Port Heiden Landfill		
Northing / Easting:	Ground Elevation:	Sheet: 1 of
Drilling Method: Direct Push	Monitoring Well Installed:	
Sample Type(s):	Boring Diameter:	Screened Interval:

Weather:	Logged By: QM	Date/Time Started: 8/13 1825	Depth of Boring: 8
Drilling Contractor: Hammer Environmental	Ground Elevation:	Date/Time Finished: 6/13	Water Level:

Depth (ft)	Sample Depth (ft)	Blows per 6"	Recovery (inches)	PID Scan (ppm)	Headspace (ppm)	U.S.C.S	MATERIALS: Color, size, range, MAIN COMPONENT, minor component(s), moisture content, structure, angularity, maximum grain size, odor, and Geologic Unit (If Known)	Lab Sample ID	Lab Sample Depth (Ft.) (logs)
1							Top - 2.5 (sm) brown, silty sand or gravel ~ 5% moist no odor		
2			3.4/4				2.5 gray plastic liner		
3							2.5 - 3.2 Lab sample; same sm as describe above.		2.9 - 3.8 (1825)
4								01LF641500608N	
5			3.4/4				Top - 3.4 same sm as above		6.4 - 7.8 (1825)
6							2 - 3.2 Lab sample		
7									
8							8' bottom		

NOTES:	Date	Time	Depth to groundwater while drilling

Checked by _____ Date: _____

Appendix C
Summary of Analytical Data

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of Detection:	Limit of Quantitation	Units
			Beginning	Ending					
Landfill:									
01LF001	01LF001SO0204N	6/13/2010	2	4	PCB, TOTAL	3.8	0.015	0.29	MG/KG
01LF001	01LF001SO0506N	6/13/2010	5	6	PCB, TOTAL	7.8	0.015	0.28	MG/KG
01LF002	01LF002SO0203N	6/13/2010	2	3	PCB, TOTAL	11	0.15	2.9	MG/KG
01LF002	01LF002SO0607N	6/13/2010	6	7	PCB, TOTAL	7.8	0.015	0.29	MG/KG
01LF003	01LF003SO0203N	6/13/2010	2	3	PCB, TOTAL	12	0.15	2.8	MG/KG
01LF003	01LF003SO0607N	6/13/2010	6	7	PCB, TOTAL	1.1	0.014	0.27	MG/KG
01LF004	01LF004SO0203N	6/13/2010	2	3	PCB, TOTAL	7.3	0.015	0.28	MG/KG
01LF004	01LF004SO0405N	6/13/2010	4	5	PCB, TOTAL	5.3	0.014	0.27	MG/KG
01LF005	01LF005SO0203N	6/13/2010	2	3	PCB, TOTAL	14	0.15	2.8	MG/KG
01LF005	01LF005SO0607N	6/13/2010	6	7	PCB, TOTAL	5.8	0.015	0.29	MG/KG
01LF006	01LF006SO0203N	6/13/2010	2	3	PCB, TOTAL	14	0.14	2.6	MG/KG
01LF006	01LF006SO0607N	6/13/2010	6	7	PCB, TOTAL	0.77	0.0014	0.027	MG/KG
01LF007	01LF007SO0203N	6/13/2010	2	3	PCB, TOTAL	4.3 (J)	0.014	0.28	MG/KG
01LF007	01LF007SO0607N	6/13/2010	6	7	PCB, TOTAL	14 (J)	0.15	2.8	MG/KG
01LF008	01LF008SO0203N	6/13/2010	2	3	PCB, TOTAL	6.1 (J)	0.016	0.3	MG/KG
01LF008	01LF008SO0506N	6/13/2010	5	6	PCB, TOTAL	23 (J)	0.15	2.9	MG/KG
01LF009	01LF009SO0203N	6/13/2010	2	3	PCB, TOTAL	6.1 (J)	0.015	0.29	MG/KG
01LF009	01LF009SO0607N	6/13/2010	6	7	PCB, TOTAL	0.46 (J)	0.0015	0.028	MG/KG
01LF010	01LF010SO0203N	6/13/2010	2	3	PCB, TOTAL	3.7 (J)	0.015	0.28	MG/KG
01LF010	01LF010SO0507N	6/13/2010	5	7	PCB, TOTAL	11 (J)	0.016	0.3	MG/KG
01LF010(FD)	01LF010SO1517N(FD)	6/13/2010	5	7	PCB, TOTAL	12 (J)	0.15	2.9	MG/KG
01LF011	01LF011SO0203N	6/13/2010	2	3	PCB, TOTAL	5.6	0.014	0.28	MG/KG
01LF011(FD)	01LF011SO1012N(FD)	6/13/2010	2	3	PCB, TOTAL	4.7	0.014	0.27	MG/KG
01LF011	01LF011SO0607N	6/13/2010	6	7	PCB, TOTAL	4.6	0.015	0.29	MG/KG
01LF012	01LF012SO0203N	6/13/2010	2	3	PCB, TOTAL	6.6	0.015	0.29	MG/KG
01LF012	01LF012SO0607N	6/13/2010	6	7	PCB, TOTAL	0.67	0.0014	0.027	MG/KG
01LF013	01LF013SO0203N	6/13/2010	2	3	PCB, TOTAL	3.2	0.015	0.28	MG/KG
01LF013	01LF013SO0809N	6/13/2010	8	9	PCB, TOTAL	1.5	0.0069	0.13	MG/KG
01LF014	01LF014SO0203N	6/13/2010	2	3	PCB, TOTAL	1.4	0.0072	0.14	MG/KG
01LF014	01LF014SO0708N	6/13/2010	7	8	PCB, TOTAL	21	0.14	2.7	MG/KG
01LF015	01LF015SO0203N	6/13/2010	2	3	PCB, TOTAL	1.7	0.0071	0.14	MG/KG
01LF015	01LF015SO0607N	6/13/2010	6	7	PCB, TOTAL	8.9 (J)	0.014	0.27	MG/KG
01LF015(FD)	01LF015SO1517N(FD)	6/13/2010	6	7	PCB, TOTAL	16 (J)	0.14	2.7	MG/KG
01LF016	01LF016SO0203N	6/13/2010	2	3	PCB, TOTAL	1.1	0.0026	0.051	MG/KG
01LF016	01LF016SO0708N	6/13/2010	7	8	PCB, TOTAL	1.5	0.0067	0.13	MG/KG
01LF017	01LF017SO0204N	6/13/2010	2	4	PCB, TOTAL	1.9	0.0067	0.13	MG/KG
01LF017	01LF017SO0607N	6/13/2010	6	7	PCB, TOTAL	2.1	0.007	0.13	MG/KG
01LF018	01LF018SO0203N	6/13/2010	2	3	PCB, TOTAL	0.75	0.0015	0.028	MG/KG
01LF018	01LF018SO0708N	6/13/2010	7	8	PCB, TOTAL	0.55	0.0014	0.028	MG/KG
01LF019	01LF019SO0203N	6/13/2010	2	3	PCB, TOTAL	17	0.15	2.9	MG/KG
01LF019	01LF019SO0708N	6/13/2010	7	8	PCB, TOTAL	32	0.15	2.8	MG/KG
01LF020	01LF020SO0304N	6/13/2010	3	4	PCB, TOTAL	63	0.15	2.9	MG/KG
01LF020	01LF020SO0709N	6/13/2010	7	9	PCB, TOTAL	44	0.15	2.9	MG/KG
01LF020(FD)	01LF020SO1517N(FD)	6/13/2010	7	9	PCB, TOTAL	45	0.15	2.9	MG/KG
01LF021	01LF021SO0203N	6/13/2010	2	3	PCB, TOTAL	9.3	0.016	0.3	MG/KG
01LF021	01LF021SO0708N	6/13/2010	7	8	PCB, TOTAL	19	0.15	2.8	MG/KG
01LF022	01LF022SO0304N	6/13/2010	3	4	PCB, TOTAL	31	0.15	2.9	MG/KG
01LF022	01LF022SO0609N	6/13/2010	6	9	PCB, TOTAL	8.3	0.015	0.28	MG/KG
01LF023	01LF023SO0304N	6/13/2010	3	4	PCB, TOTAL	64	0.29	5.7	MG/KG
01LF023	01LF023SO0708N	6/13/2010	7	8	PCB, TOTAL	68	0.3	5.7	MG/KG

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of Detection:	Limit of Quantitation	Units
			Beginning	Ending					
01LF024	01LF024SO0204N	6/13/2010	2	4	PCB, TOTAL	74	0.3	5.8	MG/KG
01LF024	01LF024SO0708N	6/13/2010	7	8	PCB, TOTAL	0.017 (J)	0.0014	0.027	MG/KG
01LF026	01LF026SO0204N	6/13/2010	2	4	PCB, TOTAL	7.1	0.015	0.28	MG/KG
01LF026(FD)	01LF026SO1012N(FD)	6/13/2010	2	4	PCB, TOTAL	6.7	0.014	0.27	MG/KG
01LF026	01LF026SO0608N	6/13/2010	6	8	PCB, TOTAL	4.9	0.014	0.27	MG/KG
01LF027	01LF027SO0204N	6/13/2010	2	4	PCB, TOTAL	3	0.014	0.27	MG/KG
01LF027	01LF027SO0708N	6/13/2010	7	8	PCB, TOTAL	4.1	0.015	0.29	MG/KG
01LF028	01LF028SO0204N	6/13/2010	2	4	PCB, TOTAL	0.94	0.0014	0.026	MG/KG
01LF028	01LF028SO0607N	6/13/2010	6	7	PCB, TOTAL	3.2	0.015	0.29	MG/KG
01LF029	01LF029SO0204N	6/13/2010	2	4	PCB, TOTAL	4.3	0.014	0.28	MG/KG
01LF029	01LF029SO0608N	6/13/2010	6	8	PCB, TOTAL	13	0.16	3	MG/KG
01LF030	01LF030SO00204N	6/13/2010	2	4	PCB, TOTAL	3.9	0.014	0.28	MG/KG
01LF030(FD)	01LF030SO01012N(FD)	6/13/2010	2	4	PCB, TOTAL	5.7	0.015	0.28	MG/KG
01LF030	01LF030SO00608N	6/13/2010	6	8	PCB, TOTAL	0.52	0.0015	0.029	MG/KG
01LF031	01LF031SO0304N	6/13/2010	3	4	PCB, TOTAL	2.2	0.014	0.28	MG/KG
01LF031	01LF031SO0708N	6/13/2010	7	8	PCB, TOTAL	0.059	0.0014	0.027	MG/KG
01LF032	01LF032SO0204N	6/13/2010	2	4	PCB, TOTAL	1.6	0.0073	0.14	MG/KG
01LF032	01LF032SO0708N	6/13/2010	7	8	PCB, TOTAL	0.01 (J)	0.0014	0.028	MG/KG
01LF033	01LF033SO0304N	6/13/2010	3	4	PCB, TOTAL	1.8	0.007	0.13	MG/KG
01LF033	01LF033SO0708N	6/13/2010	7	8	PCB, TOTAL	7.4	0.016	0.3	MG/KG
01LF034	01LF034SO0304N	6/13/2010	3	4	PCB, TOTAL	0.014 (J)	0.0016	0.03	MG/KG
01LF034	01LF034SO0507N	6/13/2010	5	7	PCB, TOTAL	0.0078 (J)	0.0014	0.028	MG/KG
01LF035	01LF035SO0204N	6/13/2010	2	4	PCB, TOTAL	0.0041 (J)	0.0016	0.031	MG/KG
01LF035	01LF035SO0608N	6/13/2010	6	8	PCB, TOTAL	11	0.15	2.9	MG/KG
01LF035(FD)	01LF035SO1517N(FD)	6/13/2010	6	8	PCB, TOTAL	8.6	0.029	0.56	MG/KG
01LF036	01LF036SO0304N	6/13/2010	3	4	PCB, TOTAL	22	0.16	3	MG/KG
01LF036	01LF036SO0506N	6/13/2010	5	6	PCB, TOTAL	5	0.014	0.27	MG/KG
01LF037	01LF037SO0304N	6/13/2010	3	4	PCB, TOTAL	3	0.015	0.28	MG/KG
01LF037	01LF037SO0708N	6/13/2010	7	8	PCB, TOTAL	7.4	0.015	0.28	MG/KG
01LF038	01LF038SO0304N	6/13/2010	3	4	PCB, TOTAL	ND (0.011)	0.011	0.028	MG/KG
01LF038	01LF038SO0607N	6/13/2010	6	7	PCB, TOTAL	ND (0.012)	0.012	0.029	MG/KG
01LF039	01LF039SO0304N	6/13/2010	3	4	PCB, TOTAL	4.6	0.015	0.3	MG/KG
01LF039	01LF039SO0708N	6/13/2010	7	8	PCB, TOTAL	9.6	0.15	2.8	MG/KG
01LF040	01LF040SO0304N	6/13/2010	3	4	PCB, TOTAL	1.4	0.0031	0.06	MG/KG
01LF040	01LF040SO0608N	6/13/2010	6	8	PCB, TOTAL	1.4	0.0076	0.15	MG/KG
01LF040(FD)	01LF040SO1517N(FD)	6/13/2010	6	8	PCB, TOTAL	1.2	0.0075	0.14	MG/KG
01LF041	01LF041SO0304N	6/13/2010	3	4	PCB, TOTAL	3.1	0.014	0.26	MG/KG
01LF041	01LF041SO0608N	6/13/2010	6	8	PCB, TOTAL	8.3	0.015	0.29	MG/KG

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID: Soil Washing:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of Detection:	Limit of Quantitation	Units
			Beginning	Ending					
01SW001	01SW001SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.16	0.0016	0.03	MG/KG
01SW002	01SW002SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.15	0.0014	0.027	MG/KG
01SW003	01SW003SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.053	0.0015	0.029	MG/KG
01SW004	01SW004SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.048	0.0016	0.03	MG/KG
01SW005	01SW005SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.028 (J)	0.0017	0.032	MG/KG
01SW006	01SW006SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1.9	0.0076	0.15	MG/KG
01SW007	01SW007SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.29	0.0015	0.028	MG/KG
01SW008	01SW008SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.2	0.0015	0.029	MG/KG
01SW009	01SW009SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.12	0.0015	0.029	MG/KG
01SW010	01SW010SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.063 (J)	0.0016	0.03	MG/KG
01SW010(FD)	01SW010SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	0.033 (J)	0.0016	0.03	MG/KG
01SW011	01SW011SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.067	0.0015	0.029	MG/KG
01SW012	01SW012SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.29	0.0017	0.032	MG/KG
01SW013	01SW013SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	3.3	0.015	0.3	MG/KG
01SW014	01SW014SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	5.3	0.015	0.29	MG/KG
01SW015	01SW015SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	3.4	0.015	0.29	MG/KG
01SW016	01SW016SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.72	0.0077	0.15	MG/KG
01SW017	01SW017SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1.6	0.0079	0.15	MG/KG
01SW018	01SW018SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.11	0.0016	0.031	MG/KG
01SW019	01SW019SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.48	0.0015	0.028	MG/KG
01SW020	01SW020SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1.2	0.008	0.15	MG/KG
01SW020(FD)	01SW020SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	0.74 (J)	0.0016	0.03	MG/KG
01SW021	01SW021SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.63	0.0015	0.028	MG/KG
01SW022	01SW022SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.29	0.0014	0.027	MG/KG
01SW023	01SW023SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1	0.0015	0.028	MG/KG
01SW024	01SW024SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.083	0.0016	0.031	MG/KG
01SW025	01SW025SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.11	0.0017	0.033	MG/KG
01SW026	01SW026SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	15	0.075	1.4	MG/KG
01SW027	01SW027SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	4.9	0.015	0.28	MG/KG
01SW028	01SW028SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1.6	0.0075	0.14	MG/KG
01SW029	01SW029SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1.4	0.0078	0.15	MG/KG
01SW030	01SW030SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	6.4	0.015	0.28	MG/KG
01SW030(FD)	01SW030SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	5.8	0.015	0.3	MG/KG
01SW031	01SW031SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	2.1	0.015	0.3	MG/KG
01SW032	01SW032SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1	0.0072	0.14	MG/KG
01SW033	01SW033SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.19	0.0015	0.029	MG/KG
01SW034	01SW034SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.09	0.0015	0.028	MG/KG
01SW035	01SW035SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.046	0.0014	0.028	MG/KG
01SW036	01SW036SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.22	0.0014	0.028	MG/KG
01SW037	01SW037SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.048	0.0016	0.03	MG/KG
01SW038	01SW038SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.098	0.0016	0.031	MG/KG
01SW039	01SW039SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.025 (J)	0.0016	0.031	MG/KG
01SW040	01SW040SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.065	0.0015	0.028	MG/KG
01SW040(FD)	01SW040SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	0.052	0.0014	0.027	MG/KG
01SW041	01SW041SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.8	0.015	0.3	MG/KG
01SW042	01SW042SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	9.4	0.15	2.9	MG/KG
01SW043	01SW043SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.4	0.014	0.27	MG/KG
01SW044	01SW044SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	9.6	0.017	0.32	MG/KG
01SW045	01SW045SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.6	0.015	0.29	MG/KG
01SW046	01SW046SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.8	0.015	0.28	MG/KG
01SW047	01SW047SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	3.2	0.015	0.29	MG/KG
01SW048	01SW048SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.7	0.015	0.28	MG/KG
01SW049	01SW049SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	1.3	0.0077	0.15	MG/KG
01SW050	01SW050SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.3	0.015	0.29	MG/KG
01SW050(FD)	01SW050SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	2.2	0.015	0.29	MG/KG
01SW051	01SW051SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	1	0.0073	0.14	MG/KG
01SW052	01SW052SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.79	0.0015	0.029	MG/KG
01SW053	01SW053SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.21	0.0015	0.029	MG/KG
01SW054	01SW054SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.22	0.0015	0.029	MG/KG
01SW055	01SW055SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.23	0.0015	0.029	MG/KG
01SW056	01SW056SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	2.5	0.0073	0.14	MG/KG
01SW057	01SW057SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.3	0.0016	0.03	MG/KG
01SW058	01SW058SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.53	0.0014	0.027	MG/KG
01SW059	01SW059SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2	0.0074	0.14	MG/KG

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of Detection:	Limit of Quantitation	Units
			Beginning	Ending					
01SW060	01SW060SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	6.4	0.015	0.28	MG/KG
01SW060(FD)	01SW060SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	6.5	0.015	0.28	MG/KG
01SW061	01SW061SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	9	0.14	2.7	MG/KG
01SW062	01SW062SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	8.4	0.015	0.28	MG/KG
01SW063	01SW063SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	3.1	0.014	0.28	MG/KG
01SW064	01SW064SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	10	0.14	2.7	MG/KG
01SW065	01SW065SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.5	0.015	0.28	MG/KG
01SW066	01SW066SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.4	0.014	0.27	MG/KG
01SW067	01SW067SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.8	0.014	0.28	MG/KG
01SW068	01SW068SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.1	0.0077	0.15	MG/KG
01SW069	01SW069SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	1.6	0.0076	0.15	MG/KG
01SW070	01SW070SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.29	0.0015	0.029	MG/KG
01SW070(FD)	01SW070SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	0.2	0.0015	0.028	MG/KG
01SW071	01SW071SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.3	0.0016	0.03	MG/KG
01SW072	01SW072SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.25	0.0016	0.031	MG/KG
01SW073	01SW073SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.12	0.0015	0.029	MG/KG
01SW074	01SW074SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.063	0.0015	0.029	MG/KG
01SW075	01SW075SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.52	0.0014	0.027	MG/KG
01SW076	01SW076SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	3.4	0.0074	0.14	MG/KG
01SW077	01SW077SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	4.2	0.014	0.27	MG/KG
01SW078	01SW078SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.8	0.014	0.28	MG/KG
01SW079	01SW079SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	17	0.14	2.7	MG/KG
01SW080	01SW080SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	13	0.15	2.8	MG/KG
01SW080(FD)	01SW080SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	13	0.14	2.7	MG/KG
01SW081	01SW081SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	4.4	0.015	0.28	MG/KG
01SW082	01SW082SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.5	0.015	0.28	MG/KG
01SW083	01SW083SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	8.8	0.015	0.29	MG/KG
01SW084	01SW084SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.6	0.014	0.27	MG/KG
01SW085	01SW085SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	4.6	0.015	0.3	MG/KG
01SW086	01SW086SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	10	0.15	2.8	MG/KG
01SW087	01SW087SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.82	0.0015	0.03	MG/KG
01SW088	01SW088SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.82	0.0014	0.028	MG/KG
01SW089	01SW089SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	1.1	0.0015	0.03	MG/KG
01SW090	01SW090SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.66	0.0015	0.029	MG/KG
01SW090(FD)	01SW090SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	0.8	0.0015	0.029	MG/KG
01SW091	01SW091SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.79	0.003	0.057	MG/KG
01SW092	01SW092SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	10	0.015	0.29	MG/KG
01SW093	01SW093SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.63	0.0015	0.03	MG/KG
01SW094	01SW094SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.3	0.0015	0.028	MG/KG
01SW095	01SW095SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.55	0.0015	0.029	MG/KG
01SW096	01SW096SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.53	0.0015	0.028	MG/KG
01SW097	01SW097SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.48	0.0014	0.028	MG/KG
01SW098	01SW098SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.8	0.014	0.27	MG/KG
01SW099	01SW099SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.1	0.015	0.29	MG/KG
01SW100	01SW100SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	20	0.14	2.7	MG/KG
01SW100(FD)	01SW100SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	15	0.14	2.7	MG/KG
01SW101	01SW101SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	9.5	0.015	0.28	MG/KG
01SW102	01SW102SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.6	0.14	2.7	MG/KG
01SW103	01SW103SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	11	0.14	2.6	MG/KG
01SW104	01SW104SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	4.9	0.0075	0.14	MG/KG
01SW105	01SW105SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.3	0.0071	0.14	MG/KG
01SW106	01SW106SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2	0.0077	0.15	MG/KG
01SW107	01SW107SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.66	0.0015	0.029	MG/KG
01SW108	01SW108SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.42	0.0016	0.031	MG/KG
01SW109	01SW109SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	1.4	0.0076	0.15	MG/KG
01SW110	01SW110SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.3	0.008	0.15	MG/KG
01SW110(FD)	01SW110SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	3.8	0.0082	0.16	MG/KG
01SW111	01SW111SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	27	0.14	2.8	MG/KG
01SW112	01SW112SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.1	0.0074	0.14	MG/KG
01SW113	01SW113SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.31	0.0015	0.029	MG/KG
01SW114	01SW114SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.1	0.0015	0.03	MG/KG
01SW115	01SW115SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.071	0.0016	0.03	MG/KG
01SW116	01SW116SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.074	0.0015	0.029	MG/KG
01SW117	01SW117SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.56	0.0015	0.028	MG/KG
01SW118	01SW118SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5	0.015	0.28	MG/KG
01SW119	01SW119SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	15	0.074	1.4	MG/KG

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of Detection:	Limit of Quantitation	Units
			Beginning	Ending					
01SW120	01SW120SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	11	0.071	1.4	MG/KG
01SW120(FD)	01SW120SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	8.9	0.015	0.29	MG/KG
01SW121	01SW121SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	13	0.071	1.4	MG/KG
01SW122	01SW122SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	16	0.073	1.4	MG/KG
01SW123	01SW123SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.2	0.0076	0.15	MG/KG
01SW124	01SW124SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	1.6	0.0076	0.15	MG/KG
01SW125	01SW125SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.77	0.0015	0.029	MG/KG
01SW126	01SW126SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.64	0.0015	0.028	MG/KG
01SW127	01SW127SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.77	0.0015	0.03	MG/KG
01SW128	01SW128SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.64	0.0015	0.03	MG/KG
01SW129	01SW129SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	9.9	0.015	0.29	MG/KG
01SW130	01SW130SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.2	0.015	0.29	MG/KG
01SW130(FD)	01SW130SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	6.2	0.015	0.29	MG/KG
01SW131	01SW131SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	3.4	0.015	0.29	MG/KG
01SW132	01SW132SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.76	0.0015	0.029	MG/KG
01SW133	01SW133SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.4	0.0015	0.029	MG/KG
01SW134	01SW134SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.15	0.0015	0.029	MG/KG
01SW135	01SW135SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.63	0.0015	0.028	MG/KG
01SW136	01SW136SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	1.6	0.0029	0.056	MG/KG
01SW137	01SW137SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.41	0.0015	0.029	MG/KG
01SW138	01SW138SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.3	0.007	0.14	MG/KG
01SW139	01SW139SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	4.7	0.016	0.31	MG/KG
01SW140	01SW140SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	3.9	0.015	0.29	MG/KG
01SW140(FD)	01SW140SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	4.6	0.015	0.29	MG/KG
01SW141	01SW141SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	7.3	0.015	0.29	MG/KG
01SW142	01SW142SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	3.9	0.016	0.3	MG/KG
01SW143	01SW143SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.1	0.0074	0.14	MG/KG
01SW144	01SW144SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.33	0.0016	0.03	MG/KG
01SW145	01SW145SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.51	0.0015	0.03	MG/KG
01SW146	01SW146SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.36	0.0016	0.031	MG/KG
01SW147	01SW147SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	8.1 (J)	0.015	0.28	MG/KG
01SW148	01SW148SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.3 (J)	0.013	0.25	MG/KG
01SW149	01SW149SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	5.2 (J)	0.015	0.29	MG/KG
01SW150	01SW150SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.8 (J)	0.0071	0.14	MG/KG
01SW150(FD)	01SW150SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.7 (J)	0.0072	0.14	MG/KG
01SW151	01SW151SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	6 (J)	0.015	0.29	MG/KG
01SW152	01SW152SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.9 (J)	0.014	0.27	MG/KG
01SW153	01SW153SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.8 (J)	0.0071	0.14	MG/KG
01SW154	01SW154SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.81 (J)	0.0014	0.026	MG/KG
01SW155	01SW155SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.79 (J)	0.0014	0.027	MG/KG
01SW156	01SW156SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.77 (J)	0.0015	0.028	MG/KG
01SW157	01SW157SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.42 (J)	0.0014	0.027	MG/KG
01SW158	01SW158SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.2 (J)	0.014	0.26	MG/KG
01SW159	01SW159SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.51 (J)	0.0014	0.027	MG/KG
01SW160	01SW160SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.94 (J)	0.0015	0.028	MG/KG
01SW160(FD)	01SW160SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.48 (J)	0.0015	0.028	MG/KG
01SW161	01SW161SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.27 (J)	0.0013	0.024	MG/KG
01SW162	01SW162SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.3 (J)	0.0014	0.027	MG/KG
01SW163	01SW163SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.056	0.0015	0.029	MG/KG
01SW164	01SW164SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.052	0.0014	0.028	MG/KG
01SW165	01SW165SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.22 (J)	0.0015	0.028	MG/KG
01SW166	01SW166SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.9 (J)	0.0073	0.14	MG/KG
01SW167	01SW167SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.53	0.0014	0.028	MG/KG
01SW168	01SW168SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.1	0.0015	0.028	MG/KG
01SW169	01SW169SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.8	0.0074	0.14	MG/KG
01SW170	01SW170SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	5	0.015	0.28	MG/KG
01SW170(FD)	01SW170SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	7.6	0.015	0.28	MG/KG
01SW171	01SW171SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.5	0.015	0.28	MG/KG
01SW172	01SW172SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	9.4	0.014	0.27	MG/KG
01SW173	01SW173SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	2.1	0.0072	0.14	MG/KG
01SW174	01SW174SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.4	0.0074	0.14	MG/KG
01SW175	01SW175SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.4	0.0014	0.027	MG/KG
01SW176	01SW176SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.2	0.0014	0.028	MG/KG
01SW177	01SW177SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.53	0.0015	0.029	MG/KG
01SW178	01SW178SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.5	0.0078	0.15	MG/KG
01SW179	01SW179SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	2.1	0.007	0.13	MG/KG

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of Detection:	Limit of Quantitation	Units
			Beginning	Ending					
01SW180	01SW180SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.94	0.0015	0.029	MG/KG
01SW180(FD)	01SW180SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.1	0.0015	0.029	MG/KG
01SW181	01SW181SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.7	0.015	0.28	MG/KG
01SW182	01SW182SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.6	0.0015	0.029	MG/KG
01SW183	01SW183SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.14	0.0016	0.03	MG/KG
01SW184	01SW184SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.14	0.0016	0.03	MG/KG
01SW185	01SW185SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.42	0.0015	0.03	MG/KG
01SW186	01SW186SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.31	0.0015	0.029	MG/KG
01SW187	01SW187SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1	0.0016	0.03	MG/KG
01SW188	01SW188SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	5.2	0.015	0.29	MG/KG
01SW189	01SW189SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.2	0.014	0.28	MG/KG
01SW190	01SW190SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.7	0.015	0.29	MG/KG
01SW190(FD)	01SW190SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	4.2	0.015	0.28	MG/KG
01SW191	01SW191SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.6	0.0069	0.13	MG/KG
01SW192	01SW192SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.98	0.0015	0.028	MG/KG
01SW193	01SW193SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.41 (J)	0.0014	0.028	MG/KG
01SW194	01SW194SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.5	0.0014	0.027	MG/KG
01SW195	01SW195SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.4	0.0028	0.055	MG/KG
01SW196	01SW196SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.33	0.0015	0.029	MG/KG
01SW197	01SW197SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.59	0.0015	0.028	MG/KG
01SW198	01SW198SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.32	0.0016	0.03	MG/KG
01SW199	01SW199SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	2.8	0.015	0.29	MG/KG
01SW200	01SW200SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.42 (M)	0.0015	0.029	MG/KG
01SW200(FD)	01SW200SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.32 (J)	0.0016	0.03	MG/KG
01SW201	01SW201SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.12 (J)	0.0015	0.029	MG/KG
01SW202	01SW202SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.98	0.0015	0.029	MG/KG
01SW203	01SW203SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.67	0.0015	0.028	MG/KG
01SW204	01SW204SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1	0.0077	0.15	MG/KG
01SW205	01SW205SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.5	0.003	0.058	MG/KG
01SW206	01SW206SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.3	0.0028	0.055	MG/KG
01SW207	01SW207SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	7	0.015	0.3	MG/KG
01SW208	01SW208SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.1	0.0015	0.028	MG/KG
01SW209	01SW209SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	4.3	0.015	0.28	MG/KG
01SW210	01SW210SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.7	0.0014	0.027	MG/KG
01SW210(FD)	01SW210SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.56	0.0015	0.028	MG/KG
01SW211	01SW211SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.49	0.0015	0.028	MG/KG
01SW212	01SW212SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.49	0.0014	0.026	MG/KG
01SW213	01SW213SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.46	0.0014	0.028	MG/KG
01SW214	01SW214SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.3	0.0015	0.029	MG/KG
01SW215	01SW215SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.6	0.0015	0.028	MG/KG
01SW216	01SW216SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.49	0.0015	0.03	MG/KG
01SW217	01SW217SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.68	0.0015	0.029	MG/KG
01SW218	01SW218SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.83	0.0016	0.03	MG/KG
01SW219	01SW219SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.87 (J)	0.0015	0.029	MG/KG
01SW220	01SW220SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.96 (J)	0.0016	0.03	MG/KG
01SW220(FD)	01SW220SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.74 (J)	0.0016	0.03	MG/KG
01SW221	01SW221SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.55 (J)	0.0015	0.029	MG/KG
01SW222	01SW222SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.65 (J)	0.0014	0.027	MG/KG
01SW223	01SW223SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	6.3	0.014	0.28	MG/KG
01SW224	01SW224SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.2	0.015	0.28	MG/KG
01SW225	01SW225SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.85	0.0014	0.028	MG/KG
01SW226	01SW226SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.97	0.0015	0.028	MG/KG
01SW227	01SW227SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.42	0.0015	0.028	MG/KG
01SW228	01SW228SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.1	0.0028	0.054	MG/KG
01SW229	01SW229SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.41	0.0014	0.028	MG/KG
01SW230	01SW230SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.25	0.0014	0.027	MG/KG
01SW230(FD)	01SW230SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.3	0.0014	0.028	MG/KG
01SW231	01SW231SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.32	0.0015	0.029	MG/KG
01SW232	01SW232SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.6	0.0016	0.03	MG/KG
01SW233	01SW233SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.2	0.015	0.29	MG/KG
01SW234	01SW234SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.8	0.0015	0.029	MG/KG
01SW235	01SW235SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.22	0.0014	0.028	MG/KG
01SW236	01SW236SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.36	0.0015	0.028	MG/KG
01SW237	01SW237SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.88	0.0015	0.028	MG/KG
01SW238	01SW238SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.44	0.0015	0.029	MG/KG
01SW239	01SW239SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.4	0.003	0.058	MG/KG

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of Detection:	Limit of Quantitation	Units
			Beginning	Ending					
01SW240	01SW240SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.87 (J)	0.0015	0.029	MG/KG
01SW240(FD)	01SW240SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.5 (J)	0.0015	0.028	MG/KG
01SW241	01SW241SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.43	0.0015	0.028	MG/KG
01SW242	01SW242SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.3	0.0014	0.028	MG/KG
01SW243	01SW243SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.3	0.0015	0.029	MG/KG
01SW244	01SW244SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.47	0.0016	0.03	MG/KG
01SW245	01SW245SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.3	0.0015	0.029	MG/KG
01SW246	01SW246SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.63	0.0015	0.029	MG/KG
01SW247	01SW247SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.56	0.0015	0.029	MG/KG
01SW248	01SW248SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.077	0.0015	0.028	MG/KG
01SW249	01SW249SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.082	0.0015	0.028	MG/KG
01SW250	01SW250SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.12	0.0015	0.029	MG/KG
01SW250(FD)	01SW250SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.13	0.0015	0.029	MG/KG
01SW251	01SW251SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.061	0.0015	0.029	MG/KG
01SW252	01SW252SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.065	0.0015	0.029	MG/KG
01SW253	01SW253SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.15	0.0014	0.028	MG/KG
01SW254	01SW254SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.47	0.0015	0.029	MG/KG
01SW255	01SW255SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.35	0.0015	0.029	MG/KG
01SW256	01SW256SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.3	0.0015	0.029	MG/KG
01SW257	01SW257SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.42	0.0014	0.027	MG/KG
01SW258	01SW258SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.47	0.0015	0.03	MG/KG
01SW259	01SW259SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.33	0.0015	0.029	MG/KG
01SW260	01SW260SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.046 (M)	0.0015	0.029	MG/KG
01SW260(FD)	01SW260SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.26 (J)	0.0015	0.029	MG/KG
01SW261	01SW261SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.16	0.0014	0.027	MG/KG
01SW262	01SW262SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.19	0.0014	0.027	MG/KG
01SW263	01SW263SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.3	0.0015	0.029	MG/KG
01SW264	01SW264SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.27	0.0014	0.028	MG/KG
01SW265	01SW265SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.31	0.0015	0.028	MG/KG
01SW266	01SW266SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.3	0.0015	0.028	MG/KG
01SW267	01SW267SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.34	0.0015	0.029	MG/KG
01SW268	01SW268SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.27	0.0014	0.028	MG/KG
01SW269	01SW269SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.37	0.0015	0.028	MG/KG
01SW270	01SW270SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.43	0.0015	0.03	MG/KG
01SW270(FD)	01SW270SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.66	0.0015	0.029	MG/KG
01SW271	01SW271SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.25	0.0015	0.028	MG/KG
01SW272	01SW272SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.41	0.0015	0.028	MG/KG
01SW273	01SW273SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.15	0.0015	0.029	MG/KG
01SW274	01SW274SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	2.5	0.015	0.29	MG/KG
01SW275	01SW275SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.42	0.0015	0.028	MG/KG
01SW276	01SW276SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.51	0.0015	0.029	MG/KG
01SW277	01SW277SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.83	0.0015	0.029	MG/KG
01SW278	01SW278SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.75	0.0015	0.028	MG/KG
01SW279	01SW279SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.13	0.0015	0.028	MG/KG
01SW280	01SW280SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.3	0.0029	0.055	MG/KG
01SW280(FD)	01SW280SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.2	0.0073	0.14	MG/KG
01SW281	01SW281SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.58	0.0014	0.027	MG/KG
01SW282	01SW282SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.68	0.0015	0.029	MG/KG
01SW283	01SW283SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.9	0.0079	0.15	MG/KG
01SW284	01SW284SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.4	0.016	0.3	MG/KG
01SW285	01SW285SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	4.4	0.017	0.32	MG/KG
01SW286	01SW286SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	4.6	0.017	0.32	MG/KG
01SW287	01SW287SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	6.7	0.016	0.31	MG/KG
01SW288	01SW288SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	11	0.015	0.3	MG/KG
01SW289	01SW289SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	2.1	0.0076	0.15	MG/KG
01SW290	01SW290SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.4	0.008	0.15	MG/KG
01SW290(FD)	01SW290SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.6	0.0077	0.15	MG/KG
01SW291	01SW291SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	8.6	0.015	0.29	MG/KG
01SW292	01SW292SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.1	0.008	0.15	MG/KG
01SW293	01SW293SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.58	0.0014	0.027	MG/KG
01SW294	01SW294SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	4	0.014	0.27	MG/KG
01SW295	01SW295SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.6	0.0074	0.14	MG/KG
01SW296	01SW296SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	14	0.15	2.9	MG/KG
01SW297	01SW297SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	2.7	0.015	0.28	MG/KG
01SW298	01SW298SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.12	0.0015	0.029	MG/KG
01SW299	01SW299SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.61	0.0015	0.029	MG/KG
01SW299(FD)	01SW299SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.76	0.0015	0.03	MG/KG

TABLE 1

TOTAL PCB RESULTS
Landfill and Soil Wash Area Confirmatory Sampling
Port Heiden Radio Relay Station, Port Heiden, Alaska

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Detection Limit/Limit of	Limit of Quantitation	Units
			Beginning	Ending					
01SW300	01SW300SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.33	0.0016	0.03	MG/KG
01SW301	01SW301SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.42	0.0016	0.03	MG/KG
01SW302	01SW302SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.53	0.0016	0.031	MG/KG
01SW303	01SW303SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.27	0.0015	0.03	MG/KG
01SW304	01SW304SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	1.8	0.0078	0.15	MG/KG
01SW305	01SW305SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.22	0.0016	0.031	MG/KG
01SW306	01SW306SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	1.1	0.0017	0.033	MG/KG
01SW307	01SW307SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	1.7	0.0078	0.15	MG/KG
01SW308	01SW308SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.26	0.0016	0.031	MG/KG
01SW309	01SW309SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.18	0.0016	0.031	MG/KG
01SW310	01SW310SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.43	0.0016	0.031	MG/KG
01SW310(FD)	01SW310SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.37	0.0016	0.03	MG/KG
01SW311	01SW311SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.14	0.0016	0.03	MG/KG
01SW312	01SW312SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.85	0.0016	0.03	MG/KG
01SW313	01SW313SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.38	0.0016	0.031	MG/KG
01SW314	01SW314SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.3	0.0016	0.031	MG/KG
01SW315	01SW315SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.94 (J)	0.0015	0.029	MG/KG
01SW316	01SW316SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.62 (J)	0.0016	0.03	MG/KG
01SW317	01SW317SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	1.3 (J)	0.016	0.31	MG/KG
01SW318	01SW318SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	3 (J)	0.015	0.28	MG/KG
01SW319	01SW319SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	6.6 (J)	0.015	0.29	MG/KG
01SW320	01SW320SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	2.2 (J)	0.015	0.28	MG/KG
01SW320(FD)	01SW320SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	2.9 (J)	0.015	0.29	MG/KG
01SW321	01SW321SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	1.7 (J)	0.015	0.3	MG/KG
01SW321(FD)	01SW321SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	1.1 (J)	0.003	0.058	MG/KG

Notes: All analyses performed by Test America, Tacoma, Washington. Data validation performed by Laboratory Data Consultants, Inc.
Grey shaded values indicate exceedance of the associated screening criterion of 1 mg/Kg for soil washing samples (SW) and 10 mg/Kg for samples from the landfill (LF).

(1) Number in parentheses represents limit of detection (LOD) for the associated analyte.

FD field duplicate

ft bgs feet below ground surface

mg/Kg milligrams/kilogram on a dry weight basis

ND Not detected

Validation Flag Definitions (denoted by letter codes within parentheses):

UJ The analyte was not detected above the limit of detection (LOD). However, the LOD is approximate.

M The result is estimated due to matrix effects.

J Estimated concentration.

Reporting Limits (Taken from DoD Quality Systems Manual for Environmental Laboratories, Version 4.1, April 22, 2009):

Detection Limit (DL) - Reported in association with detected results. The smallest analyte concentration that can be demonstrated to be different from zero at the 99% level of confidence.

Limit of Detection (LOD) - Reported in association with non-detected results. The smallest amount of a substance that must be present in a sample in order to be detected at a 99% level of confidence.

Limit of Quantitation (LOQ) - The lowest concentration that produces a quantitation result within specified limits of precision and bias.

Appendix D
Complete Analytical Data

DATA PACKAGE ORGANIZATION

Data packages are provided in the DVD included with this appendix. Results were submitted to LDC by TestAmerica-Seattle in six sample delivery groups (SDGs) and there is a file for each on the DVD. Within each file folder are files and sub-folders that contain the original data package and re-submittals.

The original data package includes sampling results, quality control results, instrument print-outs (raw data), calibration information, and custody and shipping forms. When re-submittals were requested, only affected information was provided. All other results were compliant and re-submission was not required.

A description of the files comprising each data package, reasons for re-submittals, and identification of final results for each data package is presented below and summarized in the attached letter from LDC. The discussion below uses the sample IDs provided by the laboratory rather than the site sample IDs. A cross reference between these IDs is provided in Table D.1.

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
Landfill:			
01LF001	01LF001SO0204N	580-20006-68	6/13/2010
01LF001	01LF001SO0506N	580-20006-69	6/13/2010
01LF002	01LF002SO0203N	580-20006-70	6/13/2010
01LF002	01LF002SO0607N	580-20006-71	6/13/2010
01LF003	01LF003SO0203N	580-20006-72	6/13/2010
01LF003	01LF003SO0607N	580-20006-73	6/13/2010
01LF004	01LF004SO0203N	580-20006-78	6/13/2010
01LF004	01LF004SO0405N	580-20006-79	6/13/2010
01LF005	01LF005SO0203N	580-20006-76	6/13/2010
01LF005	01LF005SO0607N	580-20006-77	6/13/2010
01LF006	01LF006SO0203N	580-20006-74	6/13/2010
01LF006	01LF006SO0607N	580-20006-75	6/13/2010
01LF007	01LF007SO0203N	580-20006-80	6/13/2010
01LF007	01LF007SO0607N	580-20006-81	6/13/2010
01LF008	01LF008SO0203N	580-20006-82	6/13/2010
01LF008	01LF008SO0506N	580-20006-83	6/13/2010
01LF009	01LF009SO0203N	580-20006-84	6/13/2010
01LF009	01LF009SO0607N	580-20006-85	6/13/2010
01LF010	01LF010SO0203N	580-20006-86	6/13/2010
01LF010	01LF010SO0507N	580-20006-87	6/13/2010
01LF010(FD)	01LF010SO1517N(FD)	580-20006-88	6/13/2010
01LF011	01LF011SO0203N	580-20006-1	6/13/2010
01LF011	01LF011SO0607N	580-20006-2	6/13/2010
01LF011(FD)	01LF011SO1012N(FD)	580-20006-3	6/13/2010
01LF012	01LF012SO0203N	580-20006-4	6/13/2010
01LF012	01LF012SO0607N	580-20006-5	6/13/2010
01LF013	01LF013SO0203N	580-20006-6	6/13/2010
01LF013	01LF013SO0809N	580-20006-7	6/13/2010
01LF014	01LF014SO0203N	580-20006-8	6/13/2010
01LF014	01LF014SO0708N	580-20006-9	6/13/2010
01LF015	01LF015SO0203N	580-20006-11	6/13/2010
01LF015	01LF015SO0607N	580-20006-12	6/13/2010
01LF015(FD)	01LF015SO1517N(FD)	580-20006-10	6/13/2010
01LF016	01LF016SO0203N	580-20006-13	6/13/2010
01LF016	01LF016SO0708N	580-20006-14	6/13/2010
01LF017	01LF017SO0204N	580-20006-15	6/13/2010
01LF017	01LF017SO0607N	580-20006-16	6/13/2010
01LF018	01LF018SO0203N	580-20006-17	6/13/2010
01LF018	01LF018SO0708N	580-20006-18	6/13/2010
01LF019	01LF019SO0203N	580-20006-19	6/13/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01LF019	01LF019SO0708N	580-20006-20	6/13/2010
01LF020	01LF020SO0304N	580-20006-22	6/13/2010
01LF020	01LF020SO0709N	580-20006-23	6/13/2010
01LF020(FD)	01LF020SO1517N(FD)	580-20006-21	6/13/2010
01LF021	01LF021SO0203N	580-20006-66	6/13/2010
01LF021	01LF021SO0708N	580-20006-67	6/13/2010
01LF022	01LF022SO0304N	580-20006-64	6/13/2010
01LF022	01LF022SO0609N	580-20006-65	6/13/2010
01LF023	01LF023SO0304N	580-20006-62	6/13/2010
01LF023	01LF023SO0708N	580-20006-63	6/13/2010
01LF024	01LF024SO0204N	580-20006-60	6/13/2010
01LF024	01LF024SO0708N	580-20006-61	6/13/2010
01LF026	01LF026SO0204N	580-20006-57	6/13/2010
01LF026	01LF026SO0608N	580-20006-58	6/13/2010
01LF026(FD)	01LF026SO1012N(FD)	580-20006-59	6/13/2010
01LF027	01LF027SO0204N	580-20006-55	6/13/2010
01LF027	01LF027SO0708N	580-20006-56	6/13/2010
01LF028	01LF028SO0204N	580-20006-53	6/13/2010
01LF028	01LF028SO0607N	580-20006-54	6/13/2010
01LF029	01LF029SO0204N	580-20006-51	6/13/2010
01LF029	01LF029SO0608N	580-20006-52	6/13/2010
01LF030	01LF030SO00204N	580-20006-48	6/13/2010
01LF030	01LF030SO00608N	580-20006-49	6/13/2010
01LF030(FD)	01LF030SO01012N(FD)	580-20006-50	6/13/2010
01LF031	01LF031SO0304N	580-20006-46	6/13/2010
01LF031	01LF031SO0708N	580-20006-47	6/13/2010
01LF032	01LF032SO0204N	580-20006-44	6/13/2010
01LF032	01LF032SO0708N	580-20006-45	6/13/2010
01LF033	01LF033SO0304N	580-20006-42	6/13/2010
01LF033	01LF033SO0708N	580-20006-43	6/13/2010
01LF034	01LF034SO0304N	580-20006-40	6/13/2010
01LF034	01LF034SO0507N	580-20006-41	6/13/2010
01LF035	01LF035SO0204N	580-20006-37	6/13/2010
01LF035	01LF035SO0608N	580-20006-38	6/13/2010
01LF035(FD)	01LF035SO1517N(FD)	580-20006-39	6/13/2010
01LF036	01LF036SO0304N	580-20006-35	6/13/2010
01LF036	01LF036SO0506N	580-20006-36	6/13/2010
01LF037	01LF037SO0304N	580-20006-33	6/13/2010
01LF037	01LF037SO0708N	580-20006-34	6/13/2010
01LF038	01LF038SO0304N	580-20006-31	6/13/2010
01LF038	01LF038SO0607N	580-20006-32	6/13/2010
01LF039	01LF039SO0304N	580-20006-29	6/13/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01LF039	01LF039SO0708N	580-20006-30	6/13/2010
01LF040	01LF040SO0304N	580-20006-26	6/13/2010
01LF040	01LF040SO0608N	580-20006-27	6/13/2010
01LF040(FD)	01LF040SO1517N(FD)	580-20006-28	6/13/2010
01LF041	01LF041SO0304N	580-20006-24	6/13/2010
01LF041	01LF041SO0608N	580-20006-25	6/13/2010
Soil Washing:			
01SW001	01SW001SO000.25N	580-19941-10	6/9/2010
01SW002	01SW002SO000.25N	580-19941-11	6/9/2010
01SW003	01SW003SO000.25N	580-19931-1	6/9/2010
01SW004	01SW004SO000.25N	580-19931-2	6/9/2010
01SW005	01SW005SO000.25N	580-19941-12	6/9/2010
01SW006	01SW006SO000.25N	580-19941-13	6/9/2010
01SW007	01SW007SO000.25N	580-19931-3	6/9/2010
01SW008	01SW008SO000.25N	580-19931-4	6/9/2010
01SW009	01SW009SO000.25N	580-19931-5	6/9/2010
01SW010	01SW010SO000.25N	580-19931-6	6/9/2010
01SW010(FD)	01SW010SO0203N(FD)	580-19931-7	6/9/2010
01SW011	01SW011SO000.25N	580-19931-8	6/9/2010
01SW012	01SW012SO000.25N	580-19941-14	6/9/2010
01SW013	01SW013SO000.25N	580-19931-9	6/9/2010
01SW014	01SW014SO000.25N	580-19931-10	6/9/2010
01SW015	01SW015SO000.25N	580-19931-11	6/9/2010
01SW016	01SW016SO000.25N	580-19931-12	6/9/2010
01SW017	01SW017SO000.25N	580-19931-13	6/9/2010
01SW018	01SW018SO000.25N	580-19931-14	6/9/2010
01SW019	01SW019SO000.25N	580-19931-15	6/9/2010
01SW020	01SW020SO000.25N	580-19931-16	6/9/2010
01SW020(FD)	01SW020SO0203N(FD)	580-19931-17	6/9/2010
01SW021	01SW021SO000.25N	580-19941-15	6/9/2010
01SW022	01SW022SO000.25N	580-19941-16	6/9/2010
01SW023	01SW023SO000.25N	580-19941-17	6/9/2010
01SW024	01SW024SO000.25N	580-19941-18	6/9/2010
01SW025	01SW025SO000.25N	580-19941-19	6/9/2010
01SW026	01SW026SO000.25N	580-19941-20	6/9/2010
01SW027	01SW027SO000.25N	580-19931-18	6/9/2010
01SW028	01SW028SO000.25N	580-19931-19	6/9/2010
01SW029	01SW029SO000.25N	580-19931-20	6/9/2010
01SW030	01SW030SO000.25N	580-19931-21	6/9/2010
01SW030(FD)	01SW030SO0203N(FD)	580-19931-22	6/9/2010
01SW031	01SW031SO000.25N	580-19931-23	6/9/2010
01SW032	01SW032SO000.25N	580-19931-24	6/9/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW033	01SW033SO000.25N	580-19931-25	6/9/2010
01SW034	01SW034SO000.25N	580-19931-26	6/9/2010
01SW035	01SW035SO000.25N	580-19931-27	6/9/2010
01SW036	01SW036SO000.25N	580-19931-28	6/9/2010
01SW037	01SW037SO000.25N	580-19931-29	6/9/2010
01SW038	01SW038SO000.25N	580-19931-30	6/9/2010
01SW039	01SW039SO000.25N	580-19931-31	6/9/2010
01SW040	01SW040SO000.25N	580-19941-21	6/9/2010
01SW040(FD)	01SW040SO0203N(FD)	580-19931-32	6/9/2010
01SW041	01SW041SO000.25N	580-19931-33	6/10/2010
01SW042	01SW042SO000.25N	580-19931-34	6/10/2010
01SW043	01SW043SO000.25N	580-19931-35	6/10/2010
01SW044	01SW044SO000.25N	580-19931-36	6/10/2010
01SW045	01SW045SO000.25N	580-19931-37	6/10/2010
01SW046	01SW046SO000.25N	580-19931-38	6/10/2010
01SW047	01SW047SO000.25N	580-19931-39	6/10/2010
01SW048	01SW048SO000.25N	580-19931-40	6/10/2010
01SW049	01SW049SO000.25N	580-19931-41	6/10/2010
01SW050	01SW050SO000.25N	580-19931-42	6/10/2010
01SW050(FD)	01SW050SO0203N(FD)	580-19931-43	6/10/2010
01SW051	01SW051SO000.25N	580-19931-44	6/10/2010
01SW052	01SW052SO000.25N	580-19931-45	6/10/2010
01SW053	01SW053SO000.25N	580-19931-46	6/10/2010
01SW054	01SW054SO000.25N	580-19931-47	6/10/2010
01SW055	01SW055SO000.25N	580-19941-22	6/9/2010
01SW056	01SW056SO000.25N	580-19941-23	6/9/2010
01SW057	01SW057SO000.25N	580-19931-48	6/10/2010
01SW058	01SW058SO000.25N	580-19931-49	6/10/2010
01SW059	01SW059SO000.25N	580-19931-50	6/10/2010
01SW060	01SW060SO000.25N	580-19931-51	6/10/2010
01SW060(FD)	01SW060SO0203N(FD)	580-19931-52	6/10/2010
01SW061	01SW061SO000.25N	580-19931-53	6/10/2010
01SW062	01SW062SO000.25N	580-19931-54	6/10/2010
01SW063	01SW063SO000.25N	580-19931-55	6/10/2010
01SW064	01SW064SO000.25N	580-19931-56	6/10/2010
01SW065	01SW065SO000.25N	580-19931-57	6/10/2010
01SW066	01SW066SO000.25N	580-19931-58	6/10/2010
01SW067	01SW067SO000.25N	580-19931-59	6/10/2010
01SW068	01SW068SO000.25N	580-19931-60	6/10/2010
01SW069	01SW069SO000.25N	580-19931-61	6/10/2010
01SW070	01SW070SO000.25N	580-19931-62	6/10/2010
01SW070(FD)	01SW070SO0203N(FD)	580-19931-63	6/10/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW071	01SW071SO000.25N	580-19931-64	6/10/2010
01SW072	01SW072SO000.25N	580-19941-24	6/10/2010
01SW073	01SW073SO000.25N	580-19931-65	6/10/2010
01SW074	01SW074SO000.25N	580-19931-66	6/10/2010
01SW075	01SW075SO000.25N	580-19931-67	6/10/2010
01SW076	01SW076SO000.25N	580-19931-68	6/10/2010
01SW077	01SW077SO000.25N	580-19931-69	6/10/2010
01SW078	01SW078SO000.25N	580-19931-70	6/10/2010
01SW079	01SW079SO000.25N	580-19931-71	6/10/2010
01SW080	01SW080SO000.25N	580-19931-72	6/10/2010
01SW080(FD)	01SW080SO0203N(FD)	580-19931-73	6/10/2010
01SW081	01SW081SO000.25N	580-19931-74	6/10/2010
01SW082	01SW082SO000.25N	580-19931-75	6/10/2010
01SW083	01SW083SO000.25N	580-19931-76	6/10/2010
01SW084	01SW084SO000.25N	580-19931-77	6/10/2010
01SW085	01SW085SO000.25N	580-19931-78	6/10/2010
01SW086	01SW086SO000.25N	580-19931-79	6/10/2010
01SW087	01SW087SO000.25N	580-19931-80	6/10/2010
01SW088	01SW088SO000.25N	580-19931-81	6/10/2010
01SW089	01SW089SO000.25N	580-19937-4	6/10/2010
01SW090	01SW090SO000.25N	580-19941-25	6/10/2010
01SW090(FD)	01SW090SO0203N(FD)	580-19937-5	6/10/2010
01SW091	01SW091SO000.25N	580-19941-26	6/10/2010
01SW092	01SW092SO000.25N	580-19941-27	6/10/2010
01SW093	01SW093SO000.25N	580-19937-6	6/10/2010
01SW094	01SW094SO000.25N	580-19937-7	6/10/2010
01SW095	01SW095SO000.25N	580-19937-8	6/10/2010
01SW096	01SW096SO000.25N	580-19937-9	6/10/2010
01SW097	01SW097SO000.25N	580-19937-10	6/10/2010
01SW098	01SW098SO000.25N	580-19937-11	6/10/2010
01SW099	01SW099SO000.25N	580-19937-12	6/10/2010
01SW100	01SW100SO000.25N	580-19937-13	6/10/2010
01SW100(FD)	01SW100SO0203N(FD)	580-19937-14	6/10/2010
01SW101	01SW101SO000.25N	580-19937-15	6/10/2010
01SW102	01SW102SO000.25N	580-19937-16	6/10/2010
01SW103	01SW103SO000.25N	580-19937-17	6/10/2010
01SW104	01SW104SO000.25N	580-19937-18	6/10/2010
01SW105	01SW105SO000.25N	580-19937-19	6/10/2010
01SW106	01SW106SO000.25N	580-19937-20	6/10/2010
01SW107	01SW107SO000.25N	580-19937-21	6/10/2010
01SW108	01SW108SO000.25N	580-19937-22	6/10/2010
01SW109	01SW109SO000.25N	580-19937-23	6/10/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW110	01SW110SO000.25N	580-19941-28	6/10/2010
01SW110(FD)	01SW110SO0203N(FD)	580-19937-24	6/10/2010
01SW111	01SW111SO000.25N	580-19937-25	6/10/2010
01SW112	01SW112SO000.25N	580-19937-26	6/10/2010
01SW113	01SW113SO000.25N	580-19937-27	6/10/2010
01SW114	01SW114SO000.25N	580-19937-28	6/10/2010
01SW115	01SW115SO000.25N	580-19937-29	6/10/2010
01SW116	01SW116SO000.25N	580-19937-30	6/10/2010
01SW117	01SW117SO000.25N	580-19937-31	6/10/2010
01SW118	01SW118SO000.25N	580-19937-32	6/10/2010
01SW119	01SW119SO000.25N	580-19937-33	6/10/2010
01SW120	01SW120SO000.25N	580-19937-34	6/10/2010
01SW120(FD)	01SW120SO0203N(FD)	580-19937-35	6/10/2010
01SW121	01SW121SO000.25N	580-19937-36	6/10/2010
01SW122	01SW122SO000.25N	580-19937-37	6/10/2010
01SW123	01SW123SO000.25N	580-19937-38	6/10/2010
01SW124	01SW124SO000.25N	580-19937-39	6/10/2010
01SW125	01SW125SO000.25N	580-19937-40	6/10/2010
01SW126	01SW126SO000.25N	580-19937-41	6/10/2010
01SW127	01SW127SO000.25N	580-19937-42	6/10/2010
01SW128	01SW128SO000.25N	580-19941-29	6/10/2010
01SW129	01SW129SO000.25N	580-19941-30	6/10/2010
01SW130	01SW130SO000.25N	580-19937-43	6/10/2010
01SW130(FD)	01SW130SO0203N(FD)	580-19937-44	6/10/2010
01SW131	01SW131SO000.25N	580-19937-45	6/10/2010
01SW132	01SW132SO000.25N	580-19937-46	6/10/2010
01SW133	01SW133SO000.25N	580-19937-47	6/10/2010
01SW134	01SW134SO000.25N	580-19937-48	6/10/2010
01SW135	01SW135SO000.25N	580-19937-49	6/10/2010
01SW136	01SW136SO000.25N	580-19937-50	6/10/2010
01SW137	01SW137SO000.25N	580-19937-51	6/10/2010
01SW138	01SW138SO000.25N	580-19937-52	6/10/2010
01SW139	01SW139SO000.25N	580-19937-53	6/10/2010
01SW140	01SW140SO000.25N	580-19941-4	6/10/2010
01SW140(FD)	01SW140SO0203N(FD)	580-19937-54	6/10/2010
01SW141	01SW141SO000.25N	580-19937-55	6/10/2010
01SW142	01SW142SO000.25N	580-19941-5	6/10/2010
01SW143	01SW143SO000.25N	580-19941-6	6/10/2010
01SW144	01SW144SO000.25N	580-19941-7	6/10/2010
01SW145	01SW145SO000.25N	580-19941-8	6/10/2010
01SW146	01SW146SO000.25N	580-19941-9	6/10/2010
01SW147	01SW147SO000.25N	580-20029-1	6/12/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW148	01SW148SO000.25N	580-20029-2	6/12/2010
01SW149	01SW149SO000.25N	580-20029-3	6/12/2010
01SW150	01SW150SO000.25N	580-20029-4	6/12/2010
01SW150(FD)	01SW150SO0203N(FD)	580-20029-5	6/12/2010
01SW151	01SW151SO000.25N	580-20029-6	6/12/2010
01SW152	01SW152SO000.25N	580-20029-7	6/12/2010
01SW153	01SW153SO000.25N	580-20029-8	6/12/2010
01SW154	01SW154SO000.25N	580-20029-9	6/12/2010
01SW155	01SW155SO000.25N	580-20029-10	6/12/2010
01SW156	01SW156SO000.25N	580-20029-11	6/12/2010
01SW157	01SW157SO000.25N	580-20029-12	6/12/2010
01SW158	01SW158SO000.25N	580-20029-13	6/12/2010
01SW159	01SW159SO000.25N	580-20029-14	6/12/2010
01SW160	01SW160SO000.25N	580-20029-16	6/12/2010
01SW160(FD)	01SW160SO0203N(FD)	580-20029-15	6/12/2010
01SW161	01SW161SO000.25N	580-20029-17	6/12/2010
01SW162	01SW162SO000.25N	580-20029-18	6/12/2010
01SW163	01SW163SO000.25N	580-20029-45	6/12/2010
01SW164	01SW164SO000.25N	580-20029-46	6/12/2010
01SW165	01SW165SO000.25N	580-20029-19	6/12/2010
01SW166	01SW166SO000.25N	580-20029-20	6/12/2010
01SW167	01SW167SO000.25N	580-20029-21	6/12/2010
01SW168	01SW168SO000.25N	580-20029-22	6/12/2010
01SW169	01SW169SO000.25N	580-20029-23	6/12/2010
01SW170	01SW170SO000.25N	580-20029-26	6/12/2010
01SW170(FD)	01SW170SO0203N(FD)	580-20029-25	6/12/2010
01SW171	01SW171SO000.25N	580-20029-27	6/12/2010
01SW172	01SW172SO000.25N	580-20029-28	6/12/2010
01SW173	01SW173SO000.25N	580-20029-29	6/12/2010
01SW174	01SW174SO000.25N	580-20029-30	6/12/2010
01SW175	01SW175SO000.25N	580-20029-31	6/12/2010
01SW176	01SW176SO000.25N	580-20029-32	6/12/2010
01SW177	01SW177SO000.25N	580-20029-33	6/12/2010
01SW178	01SW178SO000.25N	580-20029-34	6/12/2010
01SW179	01SW179SO000.25N	580-20029-35	6/12/2010
01SW180	01SW180SO000.25N	580-20029-36	6/12/2010
01SW180(FD)	01SW180SO0203N(FD)	580-20029-37	6/12/2010
01SW181	01SW181SO000.25N	580-20029-81	6/12/2010
01SW182	01SW182SO000.25N	580-20029-38	6/12/2010
01SW183	01SW183SO000.25N	580-20029-39	6/12/2010
01SW184	01SW184SO000.25N	580-19941-32	6/12/2010
01SW185	01SW185SO000.25N	580-19941-36	6/12/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW186	01SW186SO000.25N	580-19941-39	6/12/2010
01SW187	01SW187SO000.25N	580-19941-42	6/12/2010
01SW188	01SW188SO000.25N	580-19941-43	6/12/2010
01SW189	01SW189SO000.25N	580-20029-24	6/12/2010
01SW190	01SW190SO000.25N	580-19941-31	6/12/2010
01SW190(FD)	01SW190SO0203N(FD)	580-19941-34	6/12/2010
01SW191	01SW191SO000.25N	580-19941-38	6/12/2010
01SW192	01SW192SO000.25N	580-19941-41	6/12/2010
01SW193	01SW193SO000.25N	580-20029-42	6/12/2010
01SW194	01SW194SO000.25N	580-20029-40	6/12/2010
01SW195	01SW195SO000.25N	580-19941-33	6/12/2010
01SW196	01SW196SO000.25N	580-19941-35	6/12/2010
01SW197	01SW197SO000.25N	580-19941-37	6/12/2010
01SW198	01SW198SO000.25N	580-19941-40	6/12/2010
01SW199	01SW199SO000.25N	580-20029-80	6/12/2010
01SW200	01SW200SO000.25N	580-20029-44	6/12/2010
01SW200(FD)	01SW200SO0203N(FD)	580-20029-43	6/12/2010
01SW201	01SW201SO000.25N	580-20029-41	6/12/2010
01SW202	01SW202SO000.25N	580-20026-25	6/12/2010
01SW203	01SW203SO000.25N	580-20026-26	6/12/2010
01SW204	01SW204SO000.25N	580-20026-27	6/12/2010
01SW205	01SW205SO000.25N	580-20026-28	6/12/2010
01SW206	01SW206SO000.25N	580-20026-29	6/12/2010
01SW207	01SW207SO000.25N	580-20026-30	6/12/2010
01SW208	01SW208SO000.25N	580-20026-31	6/12/2010
01SW209	01SW209SO000.25N	580-20026-32	6/12/2010
01SW210	01SW210SO000.25N	580-20026-33	6/12/2010
01SW210(FD)	01SW210SO0203N(FD)	580-20026-34	6/12/2010
01SW211	01SW211SO000.25N	580-20026-35	6/12/2010
01SW212	01SW212SO000.25N	580-20026-36	6/12/2010
01SW213	01SW213SO000.25N	580-20026-37	6/12/2010
01SW214	01SW214SO000.25N	580-20026-38	6/12/2010
01SW215	01SW215SO000.25N	580-20026-39	6/12/2010
01SW216	01SW216SO000.25N	580-20029-78	6/12/2010
01SW217	01SW217SO000.25N	580-20029-79	6/12/2010
01SW218	01SW218SO000.25N	580-20026-40	6/12/2010
01SW219	01SW219SO000.25N	580-20026-41	6/12/2010
01SW220	01SW220SO000.25N	580-20026-42	6/12/2010
01SW220(FD)	01SW220SO0203N(FD)	580-20026-43	6/12/2010
01SW221	01SW221SO000.25N	580-20026-44	6/12/2010
01SW222	01SW222SO000.25N	580-20026-45	6/12/2010
01SW223	01SW223SO000.25N	580-20026-24	6/12/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW224	01SW224SO000.25N	580-20026-23	6/12/2010
01SW225	01SW225SO000.25N	580-20026-22	6/12/2010
01SW226	01SW226SO000.25N	580-20026-21	6/12/2010
01SW227	01SW227SO000.25N	580-20026-20	6/12/2010
01SW228	01SW228SO000.25N	580-20026-19	6/12/2010
01SW229	01SW229SO000.25N	580-20026-18	6/12/2010
01SW230	01SW230SO000.25N	580-20026-16	6/12/2010
01SW230(FD)	01SW230SO0203N(FD)	580-20026-17	6/12/2010
01SW231	01SW231SO000.25N	580-20026-15	6/12/2010
01SW232	01SW232SO000.25N	580-20026-14	6/12/2010
01SW233	01SW233SO000.25N	580-20029-77	6/12/2010
01SW234	01SW234SO000.25N	580-20026-13	6/12/2010
01SW235	01SW235SO000.25N	580-20026-12	6/12/2010
01SW236	01SW236SO000.25N	580-20026-1	6/12/2010
01SW237	01SW237SO000.25N	580-20026-2	6/12/2010
01SW238	01SW238SO000.25N	580-20026-3	6/12/2010
01SW239	01SW239SO000.25N	580-20026-4	6/12/2010
01SW240	01SW240SO000.25N	580-20026-5	6/12/2010
01SW240(FD)	01SW240SO0203N(FD)	580-20026-6	6/12/2010
01SW241	01SW241SO000.25N	580-20026-7	6/12/2010
01SW242	01SW242SO000.25N	580-20026-8	6/12/2010
01SW243	01SW243SO000.25N	580-20026-9	6/12/2010
01SW244	01SW244SO000.25N	580-20026-10	6/12/2010
01SW245	01SW245SO000.25N	580-20026-11	6/12/2010
01SW246	01SW246SO000.25N	580-20029-76	6/12/2010
01SW247	01SW247SO000.25N	580-20029-75	6/12/2010
01SW248	01SW248SO000.25N	580-20026-94	6/14/2010
01SW249	01SW249SO000.25N	580-20026-100	6/14/2010
01SW250	01SW250SO000.25N	580-20026-99	6/14/2010
01SW250(FD)	01SW250SO0203N(FD)	580-20026-98	6/14/2010
01SW251	01SW251SO000.25N	580-20026-97	6/14/2010
01SW252	01SW252SO000.25N	580-20026-96	6/14/2010
01SW253	01SW253SO000.25N	580-20026-95	6/14/2010
01SW254	01SW254SO000.25N	580-20026-93	6/14/2010
01SW255	01SW255SO000.25N	580-20026-92	6/14/2010
01SW256	01SW256SO000.25N	580-20026-91	6/14/2010
01SW257	01SW257SO000.25N	580-20029-74	6/12/2010
01SW258	01SW258SO000.25N	580-20026-90	6/14/2010
01SW259	01SW259SO000.25N	580-20026-89	6/14/2010
01SW260	01SW260SO000.25N	580-20026-87	6/14/2010
01SW260(FD)	01SW260SO0203N(FD)	580-20026-88	6/14/2010
01SW261	01SW261SO000.25N	580-20026-86	6/14/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW262	01SW262SO000.25N	580-20026-85	6/14/2010
01SW263	01SW263SO000.25N	580-20026-84	6/14/2010
01SW264	01SW264SO000.25N	580-20026-83	6/14/2010
01SW265	01SW265SO000.25N	580-20026-82	6/14/2010
01SW266	01SW266SO000.25N	580-20029-73	6/12/2010
01SW267	01SW267SO000.25N	580-20026-81	6/14/2010
01SW268	01SW268SO000.25N	580-20026-80	6/14/2010
01SW269	01SW269SO000.25N	580-20026-79	6/14/2010
01SW270	01SW270SO000.25N	580-20026-77	6/14/2010
01SW270(FD)	01SW270SO0203N(FD)	580-20026-78	6/14/2010
01SW271	01SW271SO000.25N	580-20026-76	6/14/2010
01SW272	01SW272SO000.25N	580-20026-75	6/14/2010
01SW273	01SW273SO000.25N	580-20029-72	6/12/2010
01SW274	01SW274SO000.25N	580-20026-74	6/14/2010
01SW275	01SW275SO000.25N	580-20026-73	6/14/2010
01SW276	01SW276SO000.25N	580-20026-72	6/14/2010
01SW277	01SW277SO000.25N	580-20026-71	6/14/2010
01SW278	01SW278SO000.25N	580-20029-70	6/12/2010
01SW279	01SW279SO000.25N	580-20029-69	6/12/2010
01SW280	01SW280SO000.25N	580-20029-71	6/12/2010
01SW280(FD)	01SW280SO0203N(FD)	580-20029-68	6/12/2010
01SW281	01SW281SO000.25N	580-20029-67	6/12/2010
01SW282	01SW282SO000.25N	580-20029-66	6/12/2010
01SW283	01SW283SO000.25N	580-20029-65	6/12/2010
01SW284	01SW284SO000.25N	580-20029-64	6/12/2010
01SW285	01SW285SO000.25N	580-20029-63	6/12/2010
01SW286	01SW286SO000.25N	580-20029-62	6/12/2010
01SW287	01SW287SO000.25N	580-20029-61	6/12/2010
01SW288	01SW288SO000.25N	580-20029-60	6/12/2010
01SW289	01SW289SO000.25N	580-20029-59	6/12/2010
01SW290	01SW290SO000.25N	580-20029-57	6/12/2010
01SW290(FD)	01SW290SO0203N(FD)	580-20029-58	6/12/2010
01SW291	01SW291SO000.25N	580-20029-56	6/12/2010
01SW292	01SW292SO000.25N	580-20029-55	6/12/2010
01SW293	01SW293SO000.25N	580-20029-54	6/12/2010
01SW294	01SW294SO000.25N	580-20029-53	6/12/2010
01SW295	01SW295SO000.25N	580-20029-50	6/12/2010
01SW296	01SW296SO000.25N	580-20029-49	6/12/2010
01SW297	01SW297SO000.25N	580-20029-48	6/12/2010
01SW298	01SW298SO000.25N	580-20029-47	6/12/2010
01SW299	01SW299SO000.25N	580-20029-52	6/12/2010
01SW299(FD)	01SW299SO0203N(FD)	580-20029-51	6/12/2010

TABLE D.1: Cross Reference for Laboratory IDs

Location ID:	Field Sample ID	Lab Sample ID	Sampling Date
01SW300	01SW300SO000.25N	580-20026-70	6/14/2010
01SW301	01SW301SO000.25N	580-20026-69	6/14/2010
01SW302	01SW302SO000.25N	580-20026-68	6/14/2010
01SW303	01SW303SO000.25N	580-20026-67	6/14/2010
01SW304	01SW304SO000.25N	580-20026-66	6/14/2010
01SW305	01SW305SO000.25N	580-20026-65	6/14/2010
01SW306	01SW306SO000.25N	580-20026-64	6/14/2010
01SW307	01SW307SO000.25N	580-20026-63	6/14/2010
01SW308	01SW308SO000.25N	580-20026-62	6/14/2010
01SW309	01SW309SO000.25N	580-20026-61	6/14/2010
01SW310	01SW310SO000.25N	580-20026-60	6/14/2010
01SW310(FD)	01SW310SO0203N(FD)	580-20026-59	6/14/2010
01SW311	01SW311SO000.25N	580-20026-58	6/14/2010
01SW312	01SW312SO000.25N	580-20026-57	6/14/2010
01SW313	01SW313SO000.25N	580-20026-56	6/14/2010
01SW314	01SW314SO000.25N	580-20026-55	6/14/2010
01SW315	01SW315SO000.25N	580-20026-54	6/14/2010
01SW316	01SW316SO000.25N	580-20026-53	6/14/2010
01SW317	01SW317SO000.25N	580-20026-52	6/14/2010
01SW318	01SW318SO000.25N	580-20026-51	6/14/2010
01SW319	01SW319SO000.25N	580-20026-50	6/14/2010
01SW320	01SW320SO000.25N	580-20026-48	6/14/2010
01SW320(FD)	01SW320SO0203N(FD)	580-20026-49	6/14/2010
01SW321	01SW321SO000.25N	580-20026-47	6/14/2010
01SW321(FD)	01SW321SO0203N(FD)	580-20026-46	6/14/2010

D.1 Data Package Explanation for 580-19931-1

Seven data files were submitted to support TestAmerica – Seattle data package 580-19931-1. These were the original, complete data package to include sample results and raw data, quality control results and raw data, and calibration information as well as re-submittals that were requested during the data review and validation process.

The original data package was provided in three files:

Name	Size	Date Modified
J19931-1 Std_Tal_L4_Package_Mini Final Report (1 of 3).pdf	48148 KB	7/12/10
J19931-1 Std_Tal_L4_Package_Mini Final Report (2 of 3).pdf	54524 KB	7/12/10
J19931-1 Std_Tal_L4_Package_Mini Final Report (3 of 3).pdf	3056 KB	7/12/10

A re-submittal was requested to include results for the summation analyte "Polychlorinated biphenyls, Total" and to replace the reporting limit (RL) and method detection limit (MDL) with the limit of quantitation (LOQ), limit of detection (LOD), and detection limit (DL) as specified in the work plan (AECOM 2010). The addendum was provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J19931-1 Std_Tal_L4_Package_Mini Rev(1) Final Report.pdf	45820 KB	8/3/10	19931 Rev 1	580-19931-1 through -14 580-19931-16 through -40

The above addendum file includes final results for all samples except 580-19931-15 and 580-19931-41 through -60.

Sample 580-19931-15 was incorrectly reported from a dilution in the revised forms and samples 580-19931-41 through -60 were inadvertently reported from the alternate column when the revised forms were generated. Re-submittals were requested. Final results for samples 580-19931-41 through -60 were reported from the column used in the original report and presented in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J19931-1 Std_Tal_L4_Package_Mini Rev(2) Final Report.pdf	18586KB	8/12/10	19931 Rev 2	580-19931-41 though -60

For the above, the laboratory indicated that results from both columns are equally as accurate. TestAmerica noted that there are slight differences between the columns, similar to what you would see with sample duplicates. The columns are calibrated the same way at the same time. Results for the column originally reported were used since these results were assessed in the third party data review.

Results for sample 580-19931-15 were reported at a 1x dilution in the original submittal (PCB 1260 result 0.48 mg/kg) and at a 5x dilution in the Rev 1 re-submittal (PCB 1260 result 2.4 mg/kg). The sample run log in the original report notes the sample was analyzed at a 1x dilution. The error was observed by TestAmerica and they provided the corrected results in the following files. Both files present the same data in different formats:

Name	Size	Date Modified	Sub-folder	Reported Results
SampDatasheet[Std_Tal_L4_Packag e_Mini].pdf	42 KB	8/12/10	19931 Rev 2	580-19931-15
Method 8082_Sample_Data [Std_Tal_L4_Package_Mini]2.pdf	347 KB	8/12/10	19931 Rev 2	

D.2 Data Package Explanation for 580-19937-1

Seven data files were submitted to support TestAmerica – Seattle data package 580-19937-1. These were the original, complete data package to include sample results and raw data, quality control results and raw data, and calibration information as well as re-submittals that were requested during the data review and validation process.

The original data package was provided in two files:

Name	Size	Date Modified
J19937-1 Std_Tal_L4_Package_Mini Final Report (1 of 2).pdf	45041 KB	7/12/10
J19937-1 Std_Tal_L4_Package_Mini Final Report (2 of 2).pdf	35273 KB	7/12/10

A re-submittal was requested to include results for the summation analyte "Polychlorinated biphenyls, Total" and to replace the RL and MDL with the LOQ, LOD, and DL as specified in the work plan (AECOM 2010). The addendum was provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J19937-1 Std_Tal_L4_Package_Mini Rev(1) Final Report.pdf	36672 KB	8/3/10	19937 Rev 1	580-19937-2 through -22 580-19937-43 through -55

The above addendum file includes final results for samples 580-19937-2 through -22 and -43 through -55. Sample 580-19937-1 was incorrectly calculated and samples 580-19937-23 through -42 were inadvertently reported from the alternate column when the revised forms were generated. Re-submittals were requested.

The re-submittal of results for samples 580-19937-23 through -42 was provided in an incorrect format in the following file (which was not used) and a re-submittal was requested:

Name	Size	Date Modified	Sub-folder	Reported Results
J19937-1 Std_Tal_L4_Package_Mini Rev(2) Final Report.pdf	10950 KB	8/12/10	19937 Rev 2	None

Final results for samples 580-19937-23 through -42 were reported from the column used in the original report and presented in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
Method 8082_Sample_Data [Std_TAL_L4_Package_Mini].zip	5191 KB	8/12/10	19937 Rev 2	580-19937-23 through -42

For the above, the laboratory indicated that results from both columns are equally as accurate. TestAmerica noted that there are slight differences between the columns, similar to what you would see with sample duplicates. The columns are calibrated the same way at the same time. Results for the column originally reported were used since these results were assessed in the third party data review.

Results for sample 580-19937-1 had been incorrectly calculated by adding detections below the detection limit, resulting in a detected value with a J flag for total PCBs. The results reported in the re-submittal (which was not used) were also incorrectly calculated in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J19937-1 19937-1 sample 1 form1.pdf	175 KB	8/12/10	19937 Rev 2	None

Final, corrected results were provided for sample 580-19937-1 in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J19937-1 sample 1 form 1 revised.pdf	150 KB	8/13/10	19937 Rev 3	580-19937-1

D.3 Data Package Explanation for 580-19941-1

Four data files were submitted to support TestAmerica – Seattle data package 580-19941-1. These were the original, complete data package to include sample results and raw data, quality control results and raw data, and calibration information as well as re-submittals that were requested during the data review and validation process.

The original data package was provided in two files:

Name	Size	Date Modified
J19941-1Std_Tal_L4_Package_Mini Final Report (1 of 2).pdf	39031 KB	7/12/10
J19941-1Std_Tal_L4_Package_Mini Final Report (2 of 2).pdf	29793 KB	7/12/10

A re-submittal was requested to include results for the summation analyte "Polychlorinated biphenyls, Total" and to replace the RL and MDL with the LOQ, LOD, and DL as specified in the work plan (AECOM 2010). The addendum was provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J19941-1 Std_Tal_L4_Package_Mini Rev(1) Final Report.pdf	26331 KB	8/3/10	19941 Rev 1	580-19941-1 through 9 580-19941-24 through -43

The above addendum file includes final results for samples 580-19941-1 through 9 and -24 through -43. Samples 580-19941-10 through -23 were inadvertently reported from the alternate column when the revised forms were generated. Re-submittals were requested. Final results for samples 580-19941-10 through -23 were reported from the column used in the original report and presented in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J19941-1 Std_Tal_L4_Package_Mini Rev(2) Final Report.pdf	12938 KB	8/12/10	19941 Rev 2	580-19941-10 through -23

For the above, the laboratory indicated that results from both columns are equally as accurate. TestAmerica noted that there are slight differences between the columns, similar to what you would see with sample duplicates. The columns are calibrated the same way

at the same time. Results for the column originally reported were used since these results were assessed in the third party data review.

D.4 Data Package Explanation for 580-20006-1&2

There were two submittals for data package 580-20006; the original submittal (580-20006-1) and a second submittal for samples that were re-extracted and re-analyzed due to a deviation from the laboratory's SOP during sample extraction (580-20006-2). For samples that were re-analyzed, two sets of final results are presented from the laboratory, one for the original analysis and one for the re-analysis.

Seven data files were submitted to support TestAmerica – Seattle data packages 580-20006-1&2. These were the original, complete data package to include sample results and raw data, quality control results and raw data, and calibration information as well as re-submittals that were requested during the data review and validation process.

The original data package was provided in three files:

Name	Size	Date Modified
J20006-1 Std_Tal_L4_Package_Mini Final Report (1 of 3).pdf	38127 KB	7/21/10
J20006-1 Std_Tal_L4_Package_Mini Final Report (2 of 3).pdf	44778 KB	7/21/10
J20006-1 Std_Tal_L4_Package_Mini Final Report (3 of 3).pdf	51081 KB	7/21/10

Additionally, samples 580-20006-80 through -88 were re-extracted and re-analyzed. Final results for the re-analysis, which were not included in the original submission, were reported in the following files:

Name	Size	Date Modified	Sub-folder	Reported Results
J20006-2 Std_Tal_L4_Package_Mini Final Report.pdf	15941 KB	7/30/10	-	580-20006-80 through -88 (Re-analysis)
20006-2 ICV forms.pdf	3705 KB	8/16/10	-	

A re-submittal to the original data package was requested to include results for the summation analyte "Polychlorinated biphenyls, Total" and to replace the RL and MDL with the LOQ, LOD, and DL as specified in the work plan (AECOM 2010). The addendum was provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J20006-1 Std_Tal_L4_Package_Mini Rev(1) Final Report.pdf	51892 KB	8/3/10	20006 Rev 1	580-20006-24 through -48 580-20006-67 through -88

The above addendum file includes final results for samples 580-20006-24 through -48 and -67 through -88. Samples 580-20006-1 through-23 and -49 through -66 were inadvertently reported from the alternate column when the revised forms were generated. Re-submittals were requested. Final results for samples 580-2006-1 through -23 and -49 through-66 were reported from the column used in the original report and presented in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J20006-1 Std_Tal_L4_Package_Mini Rev(2) Final Report.pdf	31379 KB	8/12/10	20006 Rev 2	580-20006-1 through -23 580-20006-49 through -66

For the above, the laboratory indicated that results from both columns are equally as accurate. TestAmerica noted that there are slight differences between the columns, similar to what you would see with sample duplicates. The columns are calibrated the same way at the same time. Results for the column originally reported were used since these results were assessed in the third party data review.

D.5 Data Package Explanation for 580-20026-1&2

There were two submittals for data package 580-20026; the original submittal (580-20026-1) and a second submittal for samples that were re-extracted and re-analyzed due to a deviation from the laboratory's SOP during sample extraction (580-20026-2). For samples that were re-analyzed, two sets of final results are presented from the laboratory, one for the original analysis and one for the re-analysis.

Ten data files were submitted to support TestAmerica – Seattle data packages 580-20026-1&2. These were the original, complete data packages to include sample results and raw data, quality control results and raw data, and calibration information as well as re-submittals that were requested during the data review and validation process.

The original data package was provided in three files:

Name	Size	Date Modified
J20026-1 Std_Tal_L4_Package_Mini Final Report (1 of 3).pdf	44083 KB	7/21/10
J20026-1 Std_Tal_L4_Package_Mini Final Report (2 of 3).pdf	58338 KB	9/16/10
J20026-1 Std_Tal_L4_Package_Mini Final Report (3 of 3).pdf	5507 KB	7/21/10

For the above, the original file “J20026-1 Std_Tal_L4_Package_Mini Final Report (2 of 3).pdf” was corrupt and a working version was provided at a later date than the other files supporting the original data package.

Additionally, samples 580-20026-41 through -54 were re-extracted and re-analyzed. Results for the re-analysis, which were not included in the original submission, were reported in the following files:

Name	Size	Date Modified	Sub-folder	Reported Results
J20026-2 Std_Tal_L4_Package_Mini Final Report.pdf	35560 KB	7/30/10	-	580-20026-41 through -48 (Re-analysis) 580-20026-50 through -53 (Re-analysis)
20026-2 ICV forms.pdf	6782 KB	8/16/10	-	

The above files present final results for re-analysis of samples 580-20026-41 through -48 and -50 through -53.

A re-submittal to the original data package was requested to include results for the summation analyte "Polychlorinated biphenyls [PCBs], Total" and to replace the RL and MDL with the LOQ, LOD, and DL as specified in the work plan (AECOM 2010). The addendum was provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
20026-1 revision 2 form 1s.pdf	26135 KB	8/27/10	20026 Rev	580-20026-1 through -100

The above addendum file includes final results for samples 580-20026-1 through -100.

Re-submittals were also requested to the re-analysis results to correct results and provide missing information.

Total PCB results for re-analysis sample 580-20026-49 were incorrectly calculated in the original file. Results for PCB-1260 were reported at 2.0 mg/kg and no other PCBs were detected. However, PCB-Total was reported at 2.4 mg/kg. The result for PCB-Total was corrected to 2.0 mg/kg and final results for re-analysis sample 580-20026-49 were reported in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
20026-49 Form 1.pdf	249 KB	8/16/10	20026 Rev	580-20026-49 (Re-analysis)

Results for re-analysis sample 580-20026-54 were incorrectly assigned a 10x dilution in file "J20026-2 Std_Tal_L4_Package_Mini Final Report.pdf". Results were corrected and final results for re-analysis sample 580-20026-54 were reported in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
580-20026-2 sample 54 form 1.pdf	256 KB	8/19/10	20026 Rev	580-20026-54 (Re-analysis)

Results for the LCS/MS/MSD for the re-extraction batch 580-67976 did not include PCB-1016. These results were reported in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
67976 form 3s.pdf	24 KB	8/16/10	20026 Rev	LCS/MS/MSD results for batch 580-67976 (Re-analysis)

The summary results form for 580-67979-BLK did not include results for PCB-1260 or Total PCBs. This information was provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
Method Blank batch 67979.pdf	252 KB	8/16/10	20026 Rev	Method Blank 580-67979-BLK (Re-analysis)

D.6 Data Package Explanation for 580-20029-1&2

There were two submittals for data package 580-20029; the original submittal (580-20029-1) and a second submittal for samples that were re-extracted and re-analyzed due to a deviation from the laboratory's SOP during sample extraction (580-20029-2). For samples that were re-analyzed, two sets of final results are presented from the laboratory, one for the original analysis and one for the re-analysis.

Seven data files were submitted to support TestAmerica – Seattle data package 580-20029-1&2. These were the original, complete data package to include sample results and raw data, quality control results and raw data, and calibration information as well as re-submittals that were requested during the data review and validation process.

The original data package was provided in two files:

Name	Size	Date Modified
J20029-1 Std_Tal_L4_Package_Mini Final Report (1 of 2).pdf	27663 KB	7/16/10
J20029-1 Std_Tal_L4_Package_Mini Final Report (2 of 2).pdf	64806 KB	7/16/10

Additionally, samples 580-20029-1 through -20 were re-extracted and re-analyzed. Final results for the re-analyses were reported in the following files:

Name	Size	Date Modified	Sub-folder	Reported Results
J20029-2 Std_Tal_L4_Package_Mini Final Report.pdf	26619 KB	7/30/10	-	580-20029-1 through -20 (Re-analysis)
J20029-2 ICV forms.pdf	4141 KB	8/16/10	-	

A re-submittal to the original data package was requested to include results for the summation analyte "Polychlorinated biphenyls, Total" and to replace the RL and MDL with the LOQ, LOD, and DL as specified in the work plan (AECOM 2010). The addendum was provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
J20029-1 Std_Tal_L4_Package_Mini Rev(1) Final Report.pdf	37557 KB	8/3/10	20029 Rev1	None
20029-1 Sample Form 1s.pdf	26227 KB	8/13/10	20029 Rev1	None

During LDC's review of results from the above files, it was observed that one sample (20029-25) had an incorrect dilution. The lab provided all forms again as Rev2 and no further review of the above files was performed. The above files are not to be used.

Final results for samples 580-20029-1 through -81 were provided in the following file:

Name	Size	Date Modified	Sub-folder	Reported Results
20029-1 Revision 2 form 1s.pdf	26105 KB	8/27/10	20029 Rev2	580-20029-1 through -81

References

AECOM Technical Services, Inc. 2010. *Work Plan for Confirmatory Sampling at the New Class III Landfill and Soil Washing Area, Port Heiden, Alaska*. Prepared under contract to 611 Civil Engineer Squadron. May.

Appendix E
Data Validation Reports (electronic only)

Appendix F
ADEC Laboratory Data Review Checklists

Laboratory Data Review Checklist

Completed by:	Cathy Larson
Title:	Project Chemist
Date:	9/15/10
CS Report Name:	Confirmatory Sampling at the New Class III Landfill and Soil Washing Area Port Heiden Radio Relay Station, Port Heiden, Alaska
Report Date:	October 2010
Consultant Firm:	AECOM
Laboratory Name:	TestAmerica Seattle
Laboratory Report Number:	19931-1
ADEC File Number:	
ADEC RecKey Number:	

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

Yes. Laboratory No. UST-022

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

No analyses were transferred.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

Yes

b. Correct analyses requested?

Yes No Comments:

Yes

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No Comments:

Yes

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

Not applicable

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

Yes. No problems were observed.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes No Comments:

Not applicable. No sample receipt problems were observed.

e. Data quality or usability affected? Explain.

Comments:

Data quality and usability were not affected by sample receipt.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

Yes

b. Discrepancies, errors or QC failures identified by the lab?

Yes No Comments:

Yes

c. Were all corrective actions documented?

Yes No Comments:

Yes

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative did not comment on data usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

Yes

b. All applicable holding times met?

Yes No

Comments:

Yes

c. All soils reported on a dry weight basis?

Yes No

Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

Yes

e. Data quality or usability affected?

Comments:

No

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

Yes

ii. All method blank results less than PQL?

Yes No

Comments:

Yes.

iii. If above PQL, what samples are affected?

Comments:

Not applicable

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

No. Data qualifiers were not necessary.

v. Data quality or usability affected? Explain.

Comments:

No data was affected by method blank contamination

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes. An LCS was included with each analytical batch. MS/MSD results are also available for four samples included with this data set.

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No Comments:

NA

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No Comments:

All LCS recoveries were in control. The MSD recoveries for three MS/MSD pair exceeded the upper control limit of 40-140% for PCB1016. Associated results were not detected and qualification was not required.

MS/MSD recoveries were not evaluated for results in which the parent concentration was more than 4 times the spiked amount.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No Comments:

No. The RPD limit of <20% was exceeded for one MS/MSD pair with an RPD of 40%. Associated results were not detected and qualification was not required.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

No samples were affected by %R or RPDs outside of acceptable limits.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

No

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

No

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No

Comments:

Yes

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No

Comments:

No. One sample was associated with a low surrogate recovery.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Yes. Results for sample 01SW020SO0203N were qualified as estimated; detects “J” and nondetects “UJ”.

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Data usability was not affected. Results for the qualified sample have potential for a low bias.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

Yes No

Comments:

NA

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes No

Comments:

NA

iii. All results less than PQL?

Yes No

Comments:

NA

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No

Comments:

Yes

ii. Submitted blind to lab?

Yes No

Comments:

Yes

iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No

Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Field duplicate results were in control for seven of the eight duplicate pairs included in this data package. Only the parent and duplicate sample with high RPDs were qualified as estimated. Details are provided in the Data Validation Report (DVR) prepared by Laboratory Data Consultants, Inc. (LDC).

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

i. All results less than PQL?

Yes No Comments:

Two field blanks were collected and reported in laboratory report 580-19937-1. Target compounds were not detected.

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes No Comments:

Yes. Other data qualifiers assigned are described in the DVR prepared by LDC.

Laboratory Data Review Checklist

Completed by:	Cathy Larson
Title:	Project Chemist
Date:	9/15/10
CS Report Name:	Confirmatory Sampling at the New Class III Landfill and Soil Washing Area Port Heiden Radio Relay Station, Port Heiden, Alaska
Report Date:	October 2010
Consultant Firm:	AECOM
Laboratory Name:	TestAmerica Seattle
Laboratory Report Number:	19937-1
ADEC File Number:	
ADEC RecKey Number:	

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

Yes. Laboratory No. UST-022

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

No analyses were transferred.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

Yes

b. Correct analyses requested?

Yes No Comments:

Yes

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No Comments:

Yes

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

Not applicable

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

Yes. No problems were observed.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes No Comments:

Yes. Discrepancies in sample ID between the CoC and sample label were identified by the laboratory. These were resolved and documented in the laboratory narrative. Other discrepancies between the CoC sample identifier and the sample identifier logged in by the laboratory were observed as follows:

Lab No.	Incorrect ID	Correct ID
19937-5	01SW090SO0203.25N	01SW090SO0203N
19937-54	01SW140SO000.25N	01SW140SO0203N

Corrections were made for the reported results.

e. Data quality or usability affected? Explain.

Comments:

Data quality and usability were not affected by sample receipt.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

Yes

b. Discrepancies, errors or QC failures identified by the lab?

Yes No Comments:

Yes

c. Were all corrective actions documented?

Yes No

Comments:

Yes

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative did not comment on data usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

Yes

b. All applicable holding times met?

Yes No

Comments:

Yes

c. All soils reported on a dry weight basis?

Yes No

Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

Yes

e. Data quality or usability affected?

Comments:

No

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

Yes

ii. All method blank results less than PQL?

Yes No

Comments:

Yes.

iii. If above PQL, what samples are affected?

Comments:

Not applicable

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

No. Data qualifiers were not necessary.

v. Data quality or usability affected? Explain.

Comments:

No data was affected by method blank contamination

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No

Comments:

Yes. An LCS was included with each analytical batch. MS/MSD results are also available for two samples included with this data set.

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No

Comments:

NA

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No

Comments:

All LCS recoveries were in control. MS/MSD recoveries were within control limits with the exceptions of results in which the parent concentration was more than 4 times the spiked amount or the MS/MSD was diluted out due to high analyte concentration.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No

Comments:

RPDs were in control with the exception of results in which the parent concentration was more than 4 times the spiked amount.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

No samples were affected by %R or RPDs outside of acceptable limits.

Comments:

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

No

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

No

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No

Comments:

Yes

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No

Comments:

Yes

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Not applicable

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Data usability was not affected.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

Yes No

Comments:

NA

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes No

Comments:

NA

iii. All results less than PQL?

Yes No

Comments:

NA

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No

Comments:

Yes

ii. Submitted blind to lab?

Yes No

Comments:

Yes

iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2) / 2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No

Comments:

Yes

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

i. All results less than PQL?

Yes No Comments:

Three field blanks were collected and results reported in laboratory report 580-19937-1. Target compounds were not detected.

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes No Comments:

No data qualifiers were assigned to results in this laboratory report.

Laboratory Data Review Checklist

Completed by:	Cathy Larson
Title:	Project Chemist
Date:	9/15/10
CS Report Name:	Confirmatory Sampling at the New Class III Landfill and Soil Washing Area Port Heiden Radio Relay Station, Port Heiden, Alaska
Report Date:	October 2010
Consultant Firm:	AECOM
Laboratory Name:	TestAmerica Seattle
Laboratory Report Number:	19941-1
ADEC File Number:	
ADEC RecKey Number:	

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

Yes. Laboratory No. UST-022

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

No analyses were transferred.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

Yes

b. Correct analyses requested?

Yes No Comments:

Yes

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No Comments:

No. Cooler temperatures were 6.5 °C and 8.1 °C which is outside the 4 ± 2 °C.

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

Not applicable

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

No problems were observed.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes No Comments:

Yes. Discrepancies in sample ID were identified. Upon review, sample 19941-32 was originally incorrectly identified as 01SW189SO000.25. The correct sample ID was 01SW184SO000.25.

e. Data quality or usability affected? Explain.

Comments:

No qualifiers were assigned. Although elevated temperatures were observed, PCBs are not expected to degrade significantly during shipping or storage.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

Yes

b. Discrepancies, errors or QC failures identified by the lab?

Yes No Comments:

Yes

c. Were all corrective actions documented?

Yes No Comments:

Yes

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative did not comment on data usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

Yes

b. All applicable holding times met?

Yes No

Comments:

Yes

c. All soils reported on a dry weight basis?

Yes No

Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

Yes

e. Data quality or usability affected?

Comments:

No

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

Yes

ii. All method blank results less than PQL?

Yes No

Comments:

Yes.

iii. If above PQL, what samples are affected?

Comments:

Not applicable

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

No. Data qualifiers were not necessary.

v. Data quality or usability affected? Explain.

Comments:

No data was affected by method blank contamination

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes. An LCS was included with each analytical batch. MS/MSD results are also available for three samples included with this data set.

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No Comments:

NA

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No Comments:

All LCS recoveries were in control. MS/MSD recoveries were within control limits with the exceptions of results in which the parent concentration was more than 4 times the spiked amount.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No Comments:

RPDs were in control with the exception of results in which the parent concentration was more than 4 times the spiked amount.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

No samples were affected by %R or RPDs outside of acceptable limits.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

No

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

No

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No

Comments:

Yes

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No

Comments:

Yes

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Not applicable

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Data usability was not affected.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

Yes No

Comments:

NA

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes No

Comments:

NA

iii. All results less than PQL?

Yes No

Comments:

NA

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No

Comments:

Yes

ii. Submitted blind to lab?

Yes No

Comments:

Yes

iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

Yes

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

No

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

i. All results less than PQL?

Three field blanks were collected and results reported in this laboratory report. Target compounds were not detected.

Yes No Comments:

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes No Comments:

Yes. Data qualifiers were assigned to indicate results between the detection limit (DL) and limit of quantitation (LOQ) are estimated. Further detail is provided in the Data Validation Report (DVR) prepared by Laboratory Data Consultants (LDC).

Laboratory Data Review Checklist

Completed by:

Title:

Date:

CS Report Name:

Report Date:

Consultant Firm:

Laboratory Name:

Laboratory Report Number:

ADEC File Number:

ADEC RecKey Number:

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

b. Correct analyses requested?

Yes No Comments:

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No Comments:

Yes

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

Not applicable

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

Yes. No problems were observed.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes. Discrepancies in sample ID were identified. Upon review, sample 20006-44 was originally incorrectly identified as 01LF032SO0304. The correct sample ID was 01LF032SO0204. No other discrepancies or problems were observed.

Yes No Comments:

e. Data quality or usability affected? Explain.

Comments:

Data quality and usability were not affected by sample receipt.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

Yes

b. Discrepancies, errors or QC failures identified by the lab?

Yes No Comments:

Yes

c. Were all corrective actions documented?

Yes No

Comments:

No. Report 20006-2 presented re-analysis results for samples contained in Report 20006-1 which had been extracted with an alternate solvent. The reason for the re-analysis was not clear in the case narrative. Samples in Report 20006-2 were re-analyzed with the method specified extraction solvent. Information was communicated by phone.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative did not comment on data usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

Yes

b. All applicable holding times met?

Yes No

Comments:

No. The UFP-QAPP hold time specified on Worksheet #19 of "none" was met. This hold time was based on SW846 Table 2-40A. However, EPA Functional Guidelines used for data review have a hold time of 14 days to extraction for PCBs in soil. This hold time was not met for samples that were re-extracted and reported in package 20006-2. Samples in this report were extracted 37 days from sample collection.

c. All soils reported on a dry weight basis?

Yes No

Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

Yes

e. Data quality or usability affected?

Comments:

Data extracted outside the holding time are considered to have the potential for low bias. All samples extracted outside the holding time were samples that had been re-extracted and re-analyzed. Results between the original and re-analysis compare well indicating the extended hold time to extraction did not affect data quality. For these samples, the highest detected concentrations were reported. Details are provided in the Data Validation Report (DVR) prepared by Laboratory Data Consultants, Inc. (LDC).

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No Comments:

Yes

ii. All method blank results less than PQL?

Yes No Comments:

Yes

iii. If above PQL, what samples are affected?

Comments:

No samples were affected.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

No. Data qualifiers were not necessary.

v. Data quality or usability affected? Explain.

Comments:

No data was affected by method blank contamination

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No Comments:

Yes. An LCS was included with each analytical batch. Results for five MS/MSD pairs are also available for project samples included with this data set.

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No Comments:

NA

- iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No Comments:

All LCS recoveries were in control. The recovery for one MS/MSD pair exceeded the control limit of 40-140% for PCB1016 with recoveries of 172/166%.

Other MS/MSD recoveries were outside QC limits; however, no action was taken since either the sample was diluted by 50x or the parent concentration was more than 4 times the spike concentration.

- iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No Comments:

The RPD limit of <20% was exceeded for two MS/MSD pair. No action was taken since either the sample was diluted by 50x or the parent concentration was more than 4 times the spike concentration.

- v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

Qualification was not required. Results associated with the high recoveries were not detected.

- vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

No flags were assigned.

- vii. Data quality or usability affected? (Use comment box to explain)

Comments:

No

c. Surrogates – Organics Only

- i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No Comments:

Yes

- ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No Comments:

No.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Data qualifiers were not required. Surrogates for several samples were out of control due to dilution that was performed due to high analyte concentration.

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Data quality was not affected.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

Yes No

Comments:

NA

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes No

Comments:

NA

iii. All results less than PQL?

Yes No

Comments:

NA

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No

Comments:

Yes

ii. Submitted blind to lab?

Yes No

Comments:

Yes

iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration

R_2 = Field Duplicate Concentration

Yes No

Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Field duplicate results were in control for seven of the eight duplicate pairs included in this data package. Only the parent and duplicate sample with high RPDs were qualified as estimated. Details are provided in the DVR prepared by LDC.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

i. All results less than PQL?

Yes No

Comments:

Three field blanks were collected and reported in laboratory report 580-19937-1. Target compounds were not detected.

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes No

Comments:

Yes. Other data qualifiers assigned are described in the DVR prepared by LDC.

Laboratory Data Review Checklist

Completed by: Cathy Larson

Title: Project Chemist

Date: 9/13/10

CS Report Name: Confirmatory Sampling at the New Class III Landfill and Soil Washing Area
Port Heiden Radio Relay Station, Port Heiden, Alaska

Report Date: October 2010

Consultant Firm: AECOM

Laboratory Name: TestAmerica Seattle

Laboratory Report Number: 20026-1/-2

ADEC File Number:

ADEC RecKey Number:

1. Laboratory

- a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

Yes. Laboratory No. UST-022

- b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

No analyses were transferred.

2. Chain of Custody (COC)

- a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

Yes

- b. Correct analyses requested?

Yes No Comments:

Yes

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No Comments:

Yes

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

Not applicable

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

Yes. No problems were observed.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

Yes No Comments:

Not applicable. No sample receipt problems were observed.

e. Data quality or usability affected? Explain.

Comments:

Data quality and usability were not affected by sample receipt.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

Yes

b. Discrepancies, errors or QC failures identified by the lab?

Yes No Comments:

Yes

c. Were all corrective actions documented?

Yes No Comments:

No. Report 20026-2 presented re-analysis results for samples contained in Report 20026-1 which had been extracted with an alternate solvent. The reason for the re-analysis was not clear in the case narrative. Samples in Report 20026-2 were re-analyzed with the method specified extraction solvent. Information was communicated by phone.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative did not comment on data usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

Yes

b. All applicable holding times met?

Yes No

Comments:

No. The UFP-QAPP hold time specified on Worksheet #19 of "none" was met. This hold time was based on SW846 Table 2-40A. However, EPA Functional Guidelines used for data review have a hold time of 14 days to extraction. This hold time was not met for samples that were re-extracted and reported in package 20026-2. Samples in this report were extracted between 35 and 37 days from sample collection.

c. All soils reported on a dry weight basis?

Yes No

Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

Yes

e. Data quality or usability affected?

Comments:

Data extracted outside the holding time are considered to have the potential for low bias. All samples extracted outside the holding time were samples that had been re-extracted and re-analyzed. Results between the original and re-analysis compare well indicating the extended hold time to extraction did not affect data quality. For these samples, the highest detected concentrations were reported. Details are provided in the Data Validation Report (DVR) prepared by Laboratory Data Consultants, Inc. (LDC).

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

Yes

ii. All method blank results less than PQL?

Yes No

Comments:

Yes. One detect above the detection limit but less than the PQL (or limit of quantitation).

iii. If above PQL, what samples are affected?

Comments:

No samples were affected. Sample concentrations were greater than 5x the method blank concentration.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

No. Data qualifiers were not necessary.

v. Data quality or usability affected? Explain.

Comments:

No data was affected by method blank contamination

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No

Comments:

Yes. An LCS was included with each analytical batch. MS/MSD results are also available for nine samples included with this data set.

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No

Comments:

NA

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No

Comments:

All LCS recoveries were in control. The MS recovery for one MS/MSD pair exceeded the control limit of 60-130% for PCB1260 with a recovery of 140%.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No

Comments:

No. The RPD limit of <20% was exceeded for one MS/MSD pair with an RPD of 22%.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

Qualification was limited to the parent of the spiked sample 01SW260SO000.25N since results for the other MS/MSD pairs were in control.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Yes. The affected result is M qualified to indicate matrix interference.

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

Qualified results are usable but considered to be estimated.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No

Comments:

Yes

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No

Comments:

No.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

Data qualifiers were not required. Surrogates for two samples were out of control due to dilution that was performed due to high analyte concentration.

iv. Data quality or usability affected? (Use the comment box to explain.)

Comments:

Data quality was not affected.

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

NA

Yes No Comments:

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC?
(If not, a comment explaining why must be entered below)

Yes No Comments:

NA

iii. All results less than PQL?

Yes No Comments:

NA

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No Comments:

Yes

ii. Submitted blind to lab?

Yes No Comments:

Yes

iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Field duplicate results were in control for seven of the nine duplicate pairs included in this data package. Only the parent and duplicate sample with high RPDs were qualified as estimated. Details are provided in the DVR prepared by LDC.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

i. All results less than PQL?

Yes No Not Applicable Comments:

Two field blanks were collected and reported in laboratory report 580-19937-1. Target compounds were not detected.

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes No Not Applicable Comments:

Yes. Other data qualifiers assigned are described in the DVR prepared by LDC.

Laboratory Data Review Checklist

Completed by:	Cathy Larson
Title:	Project Chemist
Date:	9/16/10
CS Report Name:	Confirmatory Sampling at the New Class III Landfill and Soil Washing Area Port Heiden Radio Relay Station, Port Heiden, Alaska
Report Date:	October 2010
Consultant Firm:	AECOM
Laboratory Name:	TestAmerica Seattle
Laboratory Report Number:	20029-1/-2
ADEC File Number:	
ADEC RecKey Number:	

1. Laboratory

a. Did an ADEC CS approved laboratory receive and perform all of the submitted sample analyses?

Yes No Comments:

Yes. Laboratory No. UST-022

b. If the samples were transferred to another "network" laboratory or sub-contracted to an alternate laboratory, was the laboratory performing the analyses ADEC CS approved?

Yes No Comments:

No analyses were transferred.

2. Chain of Custody (COC)

a. COC information completed, signed, and dated (including released/received by)?

Yes No Comments:

Yes

b. Correct analyses requested?

Yes No Comments:

Yes

3. Laboratory Sample Receipt Documentation

a. Sample/cooler temperature documented and within range at receipt ($4^{\circ} \pm 2^{\circ} \text{C}$)?

Yes No Comments:

Yes

b. Sample preservation acceptable – acidified waters, Methanol preserved VOC soil (GRO, BTEX, Volatile Chlorinated Solvents, etc.)?

Yes No Comments:

Not applicable

c. Sample condition documented – broken, leaking (Methanol), zero headspace (VOC vials)?

Yes No Comments:

Yes. No problems were observed.

d. If there were any discrepancies, were they documented? For example, incorrect sample containers/preservation, sample temperature outside of acceptable range, insufficient or missing samples, etc.?

No discrepancies were observed.

Yes No Comments:

e. Data quality or usability affected? Explain.

Comments:

Data quality and usability were not affected by sample receipt.

4. Case Narrative

a. Present and understandable?

Yes No Comments:

Yes

b. Discrepancies, errors or QC failures identified by the lab?

Yes No Comments:

Yes

c. Were all corrective actions documented?

Yes No Comments:

No. Report 20029-2 presented re-analysis results for samples contained in Report 20029-1 which had been extracted with an alternate solvent. The reason for the re-analysis was not clear in the case narrative. Samples in Report 20029-2 were re-analyzed with the method specified extraction solvent. Information was communicated by phone.

d. What is the effect on data quality/usability according to the case narrative?

Comments:

The case narrative did not comment on data usability.

5. Samples Results

a. Correct analyses performed/reported as requested on COC?

Yes No

Comments:

Yes

b. All applicable holding times met?

Yes No

Comments:

No. The UFP-QAPP hold time specified on Worksheet #19 of "none" was met. This hold time was based on SW846 Table 2-40A. However, the EPA Functional Guidelines used for data review has a hold time of 14 days to extraction for PCBs in soil. This hold time was not met for samples that were re-extracted and reported in package 20029-2. Samples in this report were extracted 37 days from sample collection.

c. All soils reported on a dry weight basis?

Yes No

Comments:

Yes

d. Are the reported PQLs less than the Cleanup Level or the minimum required detection level for the project?

Yes No

Comments:

Yes

e. Data quality or usability affected?

Comments:

Data extracted outside the holding time are considered to have the potential for low bias. All samples extracted outside the holding time were samples that had been re-extracted and re-analyzed. Results between the original and re-analysis compare well indicating the extended hold time to extraction did not affect data quality. For these samples, the highest detected concentrations were reported. Details are provided in the Data Validation Report (DVR) prepared by Laboratory Data Consultants, Inc. (LDC).

6. QC Samples

a. Method Blank

i. One method blank reported per matrix, analysis and 20 samples?

Yes No

Comments:

Yes

ii. All method blank results less than PQL?

Yes No

Comments:

Yes. However detections were observed in the method blank. Associated results had concentrations greater than 5 times the method blank and qualification was not required.

iii. If above PQL, what samples are affected?

Comments:

No samples were affected.

iv. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No

Comments:

No. Data qualifiers were not necessary.

v. Data quality or usability affected? Explain.

Comments:

No data was affected by method blank contamination

b. Laboratory Control Sample/Duplicate (LCS/LCSD)

i. Organics – One LCS/LCSD reported per matrix, analysis and 20 samples? (LCS/LCSD required per AK methods, LCS required per SW846)

Yes No

Comments:

Yes. An LCS was included with each analytical batch. Results for six MS/MSD pairs are also available for project samples included with this data set.

ii. Metals/Inorganics – one LCS and one sample duplicate reported per matrix, analysis and 20 samples?

Yes No

Comments:

NA

iii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods: AK101 60%-120%, AK102 75%-125%, AK103 60%-120%; all other analyses see the laboratory QC pages)

Yes No

Comments:

All LCS recoveries were in control. The recoveries for one MS/MSD pair were less than the control limit of 60-130% for PCB1260 with recoveries of -96/-45%. The associated detected results in the parent sample were qualified (M) to indicate the potential for matrix interference.

Other MS/MSD recoveries were outside QC limits; however, no action was taken since the sample concentration was more than 4 times the spike concentration.

iv. Precision – All relative percent differences (RPD) reported and less than method or laboratory limits? And project specified DQOs, if applicable. RPD reported from LCS/LCSD, MS/MSD, and or sample/sample duplicate. (AK Petroleum methods 20%; all other analyses see the laboratory QC pages)

Yes No Comments:

The RPD limit of <20% was exceeded for one MS/MSD pair. No action was taken since the parent concentration was more than 4 times the spike concentration.

v. If %R or RPD is outside of acceptable limits, what samples are affected?

Comments:

Qualification for the low MS/MSD recoveries was limited to the spiked sample 01SW200SO000.25N.

vi. Do the affected sample(s) have data flags? If so, are the data flags clearly defined?

Yes No Comments:

Yes. An M flag was assigned to PCB 1260 and total PCB results for sample 01SW200SO000.25N to indicate the potential for matrix interference.

vii. Data quality or usability affected? (Use comment box to explain)

Comments:

Data are usable as qualified.

c. Surrogates – Organics Only

i. Are surrogate recoveries reported for organic analyses – field, QC and laboratory samples?

Yes No Comments:

Yes

ii. Accuracy – All percent recoveries (%R) reported and within method or laboratory limits? And project specified DQOs, if applicable. (AK Petroleum methods 50-150 %R; all other analyses see the laboratory report pages)

Yes No Comments:

No.

iii. Do the sample results with failed surrogate recoveries have data flags? If so, are the data flags clearly defined?

Yes No Comments:

One of the 81 samples analyzed with this laboratory report had a surrogate recovery of 9% which is less than the control limits of 60-125%. Associated not detected results were rejected (R) and detected results were qualified as estimated (J). This sample was analyzed twice so usable results were available.

iv. Data quality or usability affected? (Use the comment box to explain.)

Data quality was not affected.

Comments:

d. Trip blank – Volatile analyses only (GRO, BTEX, Volatile Chlorinated Solvents, etc.): Water and Soil

i. One trip blank reported per matrix, analysis and for each cooler containing volatile samples? (if not, enter explanation below.)

Yes No Comments:

NA

ii. Is the cooler used to transport the trip blank and VOA samples clearly indicated on the COC? (If not, a comment explaining why must be entered below)

Yes No Comments:

NA

iii. All results less than PQL?

Yes No Comments:

NA

iv. If above PQL, what samples are affected?

Comments:

NA

v. Data quality or usability affected? Explain.

Comments:

NA

e. Field Duplicate

i. One field duplicate submitted per matrix, analysis and 10 project samples?

Yes No Comments:

Yes

ii. Submitted blind to lab?

Yes

Yes No Comments:

iii. Precision – All relative percent differences (RPD) less than specified DQOs?
(Recommended: 30% water, 50% soil)

$$\text{RPD (\%)} = \text{Absolute value of: } \frac{(R_1 - R_2)}{((R_1 + R_2)/2)} \times 100$$

Where R_1 = Sample Concentration
 R_2 = Field Duplicate Concentration

Yes No Comments:

No

iv. Data quality or usability affected? (Use the comment box to explain why or why not.)

Comments:

Field duplicate results were in control for seven of the eight duplicate pairs included in this data package. Only the parent and duplicate sample with high RPDs were qualified as estimated. Details are provided in the DVR prepared by LDC.

f. Decontamination or Equipment Blank (If not applicable, a comment stating why must be entered below.)

Yes No Not Applicable

i. All results less than PQL?

Yes No Comments:

Three field blanks were collected and reported in laboratory report 580-19937-1. Target compounds were not detected.

ii. If above PQL, what samples are affected?

Comments:

NA

iii. Data quality or usability affected? Explain.

Comments:

NA

7. Other Data Flags/Qualifiers (ACOE, AFCEE, Lab Specific, etc.)

a. Defined and appropriate?

Yes No

Comments:

Yes. Other data qualifiers assigned are described in the DVR prepared by LDC.

Appendix G
Re-Analysis of Samples and Comparison of Duplicates

Table 1: Comparison of Re-Extraction Results

Field Sample ID:	Lab ID	PCB-1260 Original Analysis	PCB-1260 Re-Extraction	Units
Landfill:				
01LF007SO0203N	580-20006-80	4.3	4.3	MG/KG
01LF007SO0607N	580-20006-81	6.7	14	MG/KG
01LF008SO0203N	580-20006-82	4	6.1	MG/KG
01LF008SO0506N	580-20006-83	23	12	MG/KG
01LF009SO0203N	580-20006-84	4.6	6.1	MG/KG
01LF009SO0607N	580-20006-85	0.43	0.46	MG/KG
01LF010SO0203N	580-20006-86	3.4	3.7	MG/KG
01LF010SO0507N	580-20006-87	9.3	11	MG/KG
01LF010SO1517N	580-20006-88	11	12	MG/KG
Soil Washing:				
01SW147SO000.25N	580-20029-1	8.1	6.1	MG/KG
01SW148SO000.25N	580-20029-2	1.2	1.3	MG/KG
01SW149SO000.25N	580-20029-3	5.2	3.7	MG/KG
01SW150SO000.25N	580-20029-4	1.8	1.4	MG/KG
01SW150SO0203N	580-20029-5	1.7	1.5	MG/KG
01SW151SO000.25N	580-20029-6	6	4.6	MG/KG
01SW152SO000.25N	580-20029-7	3.9	3	MG/KG
01SW153SO000.25N	580-20029-8	1.8	1.2	MG/KG
01SW154SO000.25N	580-20029-9	0.81	0.061	MG/KG
01SW155SO000.25N	580-20029-10	0.79	0.59	MG/KG
01SW156SO000.25N	580-20029-11	0.77	0.7	MG/KG
01SW157SO000.25N	580-20029-12	0.42	0.33	MG/KG
01SW158SO000.25N	580-20029-13	3.2	2.2	MG/KG
01SW159SO000.25N	580-20029-14	0.51	0.46	MG/KG
01SW160SO000.25N	580-20029-16	0.94	0.67	MG/KG
01SW160SO0203N	580-20029-15	0.48	0.45	MG/KG
01SW161SO000.25N	580-20029-17	0.26	0.27	MG/KG
01SW162SO000.25N	580-20029-18	0.3	0.27	MG/KG
01SW165SO000.25N	580-20029-19	0.22	0.19	MG/KG
01SW166SO000.25N	580-20029-20	1.9	1.2	MG/KG
01SW219SO000.25N	580-20026-41	0.78	0.87	MG/KG
01SW220SO000.25N	580-20026-42	0.96	0.8	MG/KG
01SW220SO0203N	580-20026-43	0.74	0.73	MG/KG
01SW221SO000.25N	580-20026-44	0.55	0.51	MG/KG
01SW222SO000.25N	580-20026-45	0.53	0.65	MG/KG
01SW315SO000.25N	580-20026-54	0.94	0.84	MG/KG
01SW316SO000.25N	580-20026-53	0.42	0.62	MG/KG
01SW317SO000.25N	580-20026-52	1.1	1.3	MG/KG
01SW318SO000.25N	580-20026-51	3	3	MG/KG
01SW319SO000.25N	580-20026-50	5.4	6.6	MG/KG
01SW320SO000.25N	580-20026-48	2.2	2.2	MG/KG
01SW320SO0203N	580-20026-49	2.9	2	MG/KG
01SW321SO000.25N	580-20026-47	1.4	1.7	MG/KG
01SW321SO0203N	580-20026-46	1.1	1.1	MG/KG

Notes:

FD
ft bgs
mg/Kg

Grey shaded values indicate exceedance of the associated screening criterion of 1 mg/Kg for soil washing samples (SW) and 10 mg/Kg for samples from the landfill (LF).
field duplicate
feet below ground surface
milligrams/kilogram on a dry weight basis

Validation Flag Definitions (denoted by letter codes within parentheses):

M The result is estimated due to matrix effects.
J Estimated concentration.

Table 2. Duplicate Comparison

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Units
			Beginning	Ending			
Landfill:							
01LF010	01LF010SO0507N	6/13/2010	5	7	PCB, TOTAL	11 (J)	MG/KG
01LF010(FD)	01LF010SO1517N(FD)	6/13/2010	5	7	PCB, TOTAL	12 (J)	MG/KG
01LF011	01LF011SO0203N	6/13/2010	2	3	PCB, TOTAL	5.6	MG/KG
01LF011(FD)	01LF011SO1012N(FD)	6/13/2010	2	3	PCB, TOTAL	4.7	MG/KG
01LF015	01LF015SO0607N	6/13/2010	6	7	PCB, TOTAL	8.9 (J)	MG/KG
01LF015(FD)	01LF015SO1517N(FD)	6/13/2010	6	7	PCB, TOTAL	16 (J)	MG/KG
01LF020	01LF020SO0709N	6/13/2010	7	9	PCB, TOTAL	44	MG/KG
01LF020(FD)	01LF020SO1517N(FD)	6/13/2010	7	9	PCB, TOTAL	45	MG/KG
01LF026	01LF026SO0204N	6/13/2010	2	4	PCB, TOTAL	7.1	MG/KG
01LF026(FD)	01LF026SO1012N(FD)	6/13/2010	2	4	PCB, TOTAL	6.7	MG/KG
01LF030	01LF030SO00204N	6/13/2010	2	4	PCB, TOTAL	3.9	MG/KG
01LF030(FD)	01LF030SO01012N(FD)	6/13/2010	2	4	PCB, TOTAL	5.7	MG/KG
01LF035	01LF035SO0608N	6/13/2010	6	8	PCB, TOTAL	11	MG/KG
01LF035(FD)	01LF035SO1517N(FD)	6/13/2010	6	8	PCB, TOTAL	8.6	MG/KG
01LF040	01LF040SO0608N	6/13/2010	6	8	PCB, TOTAL	1.4	MG/KG
01LF040(FD)	01LF040SO1517N(FD)	6/13/2010	6	8	PCB, TOTAL	1.2	MG/KG
Soil Washing:							
01SW010	01SW010SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.063 (J)	MG/KG
01SW010(FD)	01SW010SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	0.033 (J)	MG/KG
01SW020	01SW020SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	1.2	MG/KG
01SW020(FD)	01SW020SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	0.74 (J)	MG/KG
01SW030	01SW030SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	6.4	MG/KG
01SW030(FD)	01SW030SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	5.8	MG/KG
01SW040	01SW040SO000.25N	6/9/2010	0	0.25	PCB, TOTAL	0.065	MG/KG
01SW040(FD)	01SW040SO0203N(FD)	6/9/2010	0	0.25	PCB, TOTAL	0.052	MG/KG
01SW050	01SW050SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.3	MG/KG
01SW050(FD)	01SW050SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	2.2	MG/KG
01SW060	01SW060SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	6.4	MG/KG
01SW060(FD)	01SW060SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	6.5	MG/KG
01SW070	01SW070SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.29	MG/KG
01SW070(FD)	01SW070SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	0.2	MG/KG
01SW080	01SW080SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	13	MG/KG
01SW080(FD)	01SW080SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	13	MG/KG
01SW090	01SW090SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	0.66	MG/KG
01SW090(FD)	01SW090SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	0.8	MG/KG
01SW100	01SW100SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	20	MG/KG
01SW100(FD)	01SW100SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	15	MG/KG
01SW110	01SW110SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	2.3	MG/KG
01SW110(FD)	01SW110SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	3.8	MG/KG
01SW120	01SW120SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	11	MG/KG

Table 2. Duplicate Comparison

Location ID:	Field Sample ID:	Sampling Date:	Sample Depth (ft bgs)		Analyte	Result	Units
			Beginning	Ending			
01SW120(FD)	01SW120SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	8.9	MG/KG
01SW130	01SW130SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	5.2	MG/KG
01SW130(FD)	01SW130SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	6.2	MG/KG
01SW140	01SW140SO000.25N	6/10/2010	0	0.25	PCB, TOTAL	3.9	MG/KG
01SW140(FD)	01SW140SO0203N(FD)	6/10/2010	0	0.25	PCB, TOTAL	4.6	MG/KG
01SW150	01SW150SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.8 (J)	MG/KG
01SW150(FD)	01SW150SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.7 (J)	MG/KG
01SW160	01SW160SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.94 (J)	MG/KG
01SW160(FD)	01SW160SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.48 (J)	MG/KG
01SW170	01SW170SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	5	MG/KG
01SW170(FD)	01SW170SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	7.6	MG/KG
01SW180	01SW180SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.94	MG/KG
01SW180(FD)	01SW180SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.1	MG/KG
01SW190	01SW190SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	3.7	MG/KG
01SW190(FD)	01SW190SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	4.2	MG/KG
01SW200	01SW200SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.42 (M)	MG/KG
01SW200(FD)	01SW200SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.32 (J)	MG/KG
01SW210	01SW210SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.7	MG/KG
01SW210(FD)	01SW210SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.56	MG/KG
01SW220	01SW220SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.96 (J)	MG/KG
01SW220(FD)	01SW220SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.74 (J)	MG/KG
01SW230	01SW230SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.25	MG/KG
01SW230(FD)	01SW230SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.3	MG/KG
01SW240	01SW240SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.87 (J)	MG/KG
01SW240(FD)	01SW240SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.5 (J)	MG/KG
01SW250	01SW250SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.12	MG/KG
01SW250(FD)	01SW250SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.13	MG/KG
01SW260	01SW260SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.046	MG/KG
01SW260(FD)	01SW260SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.26	MG/KG
01SW270	01SW270SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.43	MG/KG
01SW270(FD)	01SW270SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.66	MG/KG
01SW280	01SW280SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.3	MG/KG
01SW280(FD)	01SW280SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.2	MG/KG
01SW290	01SW290SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	1.4	MG/KG
01SW290(FD)	01SW290SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	1.6	MG/KG
01SW299	01SW299SO000.25N	6/12/2010	0	0.25	PCB, TOTAL	0.61	MG/KG
01SW299(FD)	01SW299SO0203N(FD)	6/12/2010	0	0.25	PCB, TOTAL	0.76	MG/KG
01SW310	01SW310SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	0.43	MG/KG
01SW310(FD)	01SW310SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	0.37	MG/KG
01SW320	01SW320SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	2.2 (J)	MG/KG
01SW320(FD)	01SW320SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	2.9 (J)	MG/KG
01SW321	01SW321SO000.25N	6/14/2010	0	0.25	PCB, TOTAL	1.7 (J)	MG/KG
01SW321(FD)	01SW321SO0203N(FD)	6/14/2010	0	0.25	PCB, TOTAL	1.1 (J)	MG/KG

Table 2. Duplicate Comparison

Location ID:	Field Sample ID:	Sampling	Sample Depth (ft bgs)		Analyte	Result	Units
		Date:	Beginning	Ending			
Notes:	Grey shaded values indicate exceedance of the associated screening criterion of 1 mg/Kg for soil washing samples (SW) and 10 mg/Kg for samples from the landfill (LF).						
FD	field duplicate						
ft bgs	feet below ground surface						
mg/Kg	milligrams/kilogram on a dry weight basis						

Validation Flag Definitions (denoted by letter codes within parentheses):

M The result is estimated due to matrix effects.
J Estimated concentration.