Oline Storage Yard
1915 Marine View Drive
Tacoma, Washington

Draft Cleanup Action Plan

FSID: 2452753

Issued by:
Washington State Department of Ecology
Toxics Cleanup Program
Southwest Regional Office
Olympia, Washington

April 2014

Table of Contents

List of Figures

INTRODUCTION

This proposed polychlorinated biphenyls (PCBs) cleanup action plan has been developed for the site known as the Oline Storage Yard located at 1915 Marine View Drive in Tacoma, Washington (Site). This plan was developed in accordance with Washington State Department of Ecology's (Ecology's) letter dated January 8, 2014 which modified Section VII WORK TO BE PERFORMED, Subsection E of Agreed Order DE – 8796 dated January 3, 2012. The letter expressed Ecology's opinion that a separate Feasibility Study could be replaced by a Technical Memo based on the remedial investigation, from which a Draft Cleanup Action Plan could be developed by Ecology. Based on the results of the Remedial Investigation, it was determined by Ecology that the only remedial alternative that needed to be considered was removal of contaminated soil and concrete, by excavation, with proper disposal off-site at a Subtitle D landfill, in accordance with a Waste Disposal Authorization. This was provided to Ecology, dated January 29, 2014. The plan complies with the Washington State Model Toxics Cleanup Act (MTCA), the United States Toxic Substance Cleanup Act (TSCA), and their respective regulations. Technical oversight of the cleanup action will be provided by Environmental Partners, Inc. (EPI).

Figure 1 presents a depiction of the Site location and Figure 2 is a depiction of the Site with relevant features.

1.0 PCB CLEANUP ACTION PLAN

Based on site Remedial Investigations regarding nature and extent of contamination at the Site, the proposed method for PCB cleanup at the Site is excavation with off-site disposal. Specifics regarding the proposed PCB cleanup are described in the following sections.

1.1 Bulk PCB Remediation Waste Cleanup

Bulk PCB remediation wastes (*i.e.*, soil and concrete) have been previously characterized for the presence and concentration of PCBs. Two separate areas have been identified as having PCB concentrations greater than the cleanup level of 1.0 milligram per kilogram (mg/kg). Section 1.1.1 provides a description of each of the proposed remedial excavation areas. Figures 3 and 4 present proposed remedial excavation and verification soil sample locations.

1.1.1 Remedial Excavation Areas

A total of two PCB remedial areas were identified during assessment and characterization activities at the subject property. These proposed excavation areas include:

1. Area of Concern 1 (AOC 1): The proposed AOC 1 excavation area is located in the central portion of the subject property and is where the alleged PCB-containing above ground storage tank (AST) was located on a concrete pad. The area identified for remedial excavation is irregular shaped, totaling approximately 340-feet^2, to a depth of approximately 4-inches, and an estimated volume of approximately 113-feet^3 (approximately 4.2-yards^3).

   A total of 10 verification soil samples are proposed for the remedial excavation at AOC 1. The proposed limits of excavation and verification soil sample locations are depicted on Figure 3.

2. AOC 2: The proposed AOC 2 excavation area is southeast of AOC 1 and is centered on the reported location of EPA sample 08464308. The area identified for remedial excavation is approximately 265-feet^2, to a depth of approximately 12-inches, and an estimated volume of approximately 265-feet^3 (approximately 10-yards^3).

   A total of 8 verification soil samples are proposed for the remedial excavation at AOC 2. The proposed limits of excavation and locations of proposed verification soil samples are depicted on Figure 4.

3. Areas of surface contamination by petroleum hydrocarbons: There are various small areas scattered around the lower level of the site where soil has been stained on the surface. Based on visual observation and field screening, all the stained areas appeared to be stained with light to heavy oils and grease. Areas to be remediated will be determined by visual observation. The areas will require scraping the stained material up and doing confirmation sampling to confirm removal to levels that are below MTCA TPH standards. Total volume of all the areas is estimated to be less than 10 yards.

   Excavated areas will be backfilled with clean soil or gravel and compacted as necessary.

Disposal of excavated bulk PCB remediation waste is discussed in Section 1.2.

1.1.2 Remedial Excavation Plan

Prior to commencing remedial activities, each excavation area will be cordoned to limit access during excavation and to manage ingress and egress from the excavation areas. Approaches to each excavation area will be lined with disposable polyethylene to minimize the potential spread of PCB contaminated soil and dust to otherwise non-contaminated areas. Disposal of used polyethylene is discussed in Section 1.2.

Excavation of the areas identified in Section 1.3.1 will be completed using both mechanized equipment (*i.e.*, backhoe) and, when necessary, hand operated implements (*i.e.*, shovel). Mechanized equipment is the preferred method for excavation but will be augmented with hand excavation if and when necessary.

Excavated soil and concrete will be placed in polyethylene lined transport trailers, labeled as “Bulk PCB Remediation Waste”, and transported to a disposal facility as described in Section 1.2.

Upon reaching the proposed horizontal and vertical limits of excavation, verification soil samples will be collected and analyzed for the presence and concentration of PCBs. Verification soil sample concentrations will be compared to the established cleanup level of 1.0 mg/kg. Compliance with MTCA and Chapter 40 of the Code of Federal Regulations (specifically, 40 CFR §761.61(a)) will be complete once residual concentrations are equal to or less than 1.0 mg/kg.

To minimize fugitive dust during remedial excavation activities, all excavation areas will be wetted with potable water prior to, and during, excavation activities. Water will be sprayed onto the planned excavation area in a manner that will provide moisture but will not generate run-off or free water in excavated materials. As necessary, water may be reapplied during excavation activities.

1.1.3 Excavation Equipment Decontamination

In compliance with 40 CFR §761.79(g), the decontamination procedure for all non-disposable, non-porous excavating equipment will consist of the following:

1. Scrub with a phosphate-free detergent (*i.e.*, Liqui-nox® or Alconox®);
2. Rinse with potable water;
3. Rinse with an organic solvent (*e.g.*, diesel fuel, kerosene, hexane, acetone, etc.);
4. Scrub with a phosphate-free detergent to remove organic solvent;
5. Rinse with potable water.

Spent decontamination wash and rinse liquids will be segregated based on miscibility with water (*i.e.*, phosphate-free detergent wash and water will be placed into one container, organic solvents and alcohol will be placed in another container). Representative samples from each spent decontamination liquid container will be analyzed for waste disposal characterization.

Disposal of decontamination liquids is discussed in Section 1.2.

1.2 Waste Disposal

Several waste streams will be generated during remedial excavation activities. Anticipated waste streams include soil and concrete described in Section 1.1, polyethylene sheeting described in Section 1.1.2, decontamination liquids described in Section 1.1.3, and used personal protective equipment (PPE) that will be used during remedial excavation, equipment decontamination activities, and verification soil sampling.

Bulk PCB remediation wastes including soil and concrete shall be disposed in accordance with 40 CFR §761.61(a)(5)(i)(B)(2)(*ii*) and (*ii*). Based on documented PCB concentrations of less than 50 mg/kg, excavated materials described in Section 1.1 will be disposed at a Subtitle D municipal solid waste (MSW) landfill. Prior to disposal, a Waste Disposal Authorization for the described waste will be obtained from Tacoma Pierce County Health Department.

Petroleum hydrocarbon contaminated soils will be disposed at a Subtitle D MSW landfill.

Liquids generated during PCBs remediation activities shall be disposed in accordance with 40 CFR §761.61(a)(5)(iv) and §761.79(g). Liquids generated during decontamination of equipment described in Section 1.1.3 will be segregated as to phase and each will be characterized to determine appropriate disposal. Characterization includes collection of representative samples and laboratory analysis for the presence and concentration of PCBs.

PPE shall be disposed in accordance with 40 CFR §761.61(a)(5)(v). Anticipated PPE that may be used during remedial activities include nitrile glove liners, leather outer-gloves, Tyvek® coveralls, Tyvek®

boot covers, oil- and chemically-resistant polyvinyl chloride (PVC) boots, and polyethylene sheeting. Disposal of used PPE will be at a Subtitle D MSW landfill.

2.0 CLEANUP VERIFICATION SAMPLING AND ANALYSIS PLAN

Verification soil samples will be collected from beneath the removed concrete pad, excavation floors, and excavation sidewalls to confirm that cleanup goals have been met. All soil samples will be analyzed for the presence and concentration of PCBs or petroleum hydrocarbons. Final verification sample analytical results will be compared to the established cleanup level of 1.0 mg/kg to ensure compliance with both MTCA and federal regulations.

2.1 Methodology

The following sections describe procedures for collection of verification soil samples after remedial excavation activities. Previously identified PCB impacted non-porous surfaces and liquid materials were disposed prior to demolition activities and additional items of these media are not anticipated.

Sampling equipment will be new and disposable when possible to eliminate the possibility of cross-contamination. However, if disposable equipment is not appropriate, sampling devices will be decontaminated prior to the collection of each sample.

2.1.1 Sampling Equipment Decontamination Procedure

All reusable, non-disposable sampling equipment will be decontaminated prior to sample collection. The decontamination procedure for all non-disposable sampling equipment will consist of the following double wash/rinse procedure:

1. Scrub with a phosphate-free detergent (*i.e.*, Liqui-nox® or Alconox®);
2. Rinse with distilled water;
3. Rinse with an organic solvent (*e.g.*, hexane, acetone, etc.);
4. Rinse with distilled water; and
5. Final rinse with isopropyl alcohol.

Spent decontamination wash and rinse liquids will be segregated based on miscibility with water (*i.e.*, phosphate-free detergent wash and water will be placed into one container, organic solvents and alcohol will be placed in another container). Representative samples will be collected from each spent decontamination liquid container for waste disposal characterization. Samples will be analyzed for the presence and concentration of PCBs to characterize for appropriate waste disposal. Disposal of spent sampling equipment decontamination liquids are discussed in Section 1.2.

2.1.2 Soil Sample Collection Locations

Proposed verification soil sample locations for PCBs are presented on Figures 3 and 4. Excavation floor sample locations are based on a 10-foot equilateral triangular grid pattern while excavation sidewall sample locations are based on collection of a sample at approximately every 10 linear feet at one-half the vertical distance of the sidewall (i.e., for an excavation 12-inches deep the sidewall sample would be collected from 6-inch below the top of excavation). The 10-foot equilateral triangular grid pattern for excavation floor samples is off-set 5-feet east from the 10-foot equilateral triangular grid pattern used during PCB characterization sampling.

Sample locations for petroleum hydrocarbons are scattered around the site in small locations. Areas to be remediated will be determined by visual observation. Verification samples will be collected in the bottom of each scraped area at the rate of one sample per excavation area or every 400 square feet.

2.1.3 Field Documentation

The collection of each verification soil sample will be recorded in the site-specific field book. Additionally, if free liquids or non-porous surface materials are encountered during remedial excavation, representative samples will be collected of these media. Sampling information that will be recorded in the field notebook includes:

1. General weather conditions;
2. Time and date;
3. Sample media (*i.e.,* soil, concrete, oil, water);
4. Sample location descriptor (e.g., alpha-numeric soil grid node);
5. If soil, a description of soil type using the USCS classification system (ASTM D2488-89);
6. If soil, description of layering, mottling, or other features;
7. Location of sample collection including depth of sample; and
8. Miscellaneous comments or observations concerning sample collection.

Copies of field documentation notes will be included in the final report described in Section 3.

2.1.4 Sample Custody and Transport

Samples will be in the custody of the field sampler(s) from the time of sample collection until the samples are transferred or dispatched properly. Samples will be retained in coolers with sufficient ice to maintain an internal temperature of 4^{o}C. Upon transfer of sample containers to subsequent custodians, the persons transferring custody of the sample container will sign a “Chain-of-Custody/Analysis Request Form”. A signed and dated seal will be placed on each shipping container prior to shipping. Upon receipt of samples at the laboratory, the shipping seal will be broken, and the condition of samples recorded by the receiver. Chain-of-Custody records will be included in the analytical report prepared by the laboratory and provided in the final report described in Section 3.

In addition to sample name, date, time, and analyses requested, EPI will alert the laboratory as to the presence of visible oil, if present, for any sample so that precautionary sample extraction cleanup procedures can be implemented as described in Section 2.3.1.1.

2.2 Quality Assurance Plan

Quality assurance and quality control (QA/QC) measures will be taken to evaluate laboratory precision. QA/QC measures are separated into two phases: collection of blind duplicate soil samples and equipment blank samples; and, laboratory internal QC matrix spike samples, matrix spike duplicate samples, laboratory duplicate samples, and method blanks, as well as other QC samples, as required for individual methods. Laboratory QA/QC procedures and method detection limits for the contract lab are, at a minimum, consistent with EPA's SW-846 methods and are in compliance with the National Environmental Laboratory Accreditation Conference Institute (NELACI).

2.2.1 Collection of Blind Duplicates and Equipment Blanks

EPI will collect blind duplicate soil samples during verification sampling of excavations. For every 20 discrete soil samples, one blind duplicate soil sample will be collected. Blind duplicate samples will be handled similar to the discreet sample with the exception of sample name. Blind duplicate soil samples will be given the descriptor "BDx", with the "x" being the sequential number of the blind duplicate (*e.g.*, BD1 for the first blind duplicate, BD2 for the second, etc.). The collection location of each blind duplicate will be noted in the site specific field book along with relevant data concerning original sample ID, time, date, sampling personnel, etc. However, the blind duplicate location will not be revealed to the laboratory prior to extraction and analysis.

EPI will collect one equipment blank sample per week when non-disposable equipment is used for verification soil sampling. If verification soil sampling is conducted entirely with disposable equipment, an equipment blank will not be collected that week of sampling. The equipment blank will consist of collected distilled water that has been used as the final rinse during decontamination procedures described in Section 2.1.1. Equipment blank samples will be given the descriptor "EBx", with the "x" being the sequential number of the equipment blank sample (*e.g.*, EB1 for the first equipment blank, EB2 for the second, etc.). The collection of each equipment blank sample will be noted in the site specific field book along with relevant data concerning time, date, sampling personnel, etc.

2.3 Laboratory Analytical Plan

A laboratory licensed by the Washington State for the analysis of PCBs will be used for analysis of all verification samples. The extraction and analytical methods used will be from the EPA reference *SW-846 Test Methods for Evaluating Solid Waste*.

2.3.1 Extraction Methods

Verification soil samples for PCB aroclors will be extracted using SW-846 Method 3540C (Soxhlet method). Extraction for liquids, if necessary, will be performed using Method 3540C.

2.3.1.1 Extraction Cleanup Method

Since the subject property has been used for scrap metal recovery from heavy equipment (i.e., trucks, fork lifts, etc.), some petroleum hydrocarbons may be present in the verification soil samples. To minimize interference during PCB analysis, samples may be subjected to cleanup procedures including gel permeation chromatography (GPC) methods. GPC cleanup will only be used during rerun of samples that do not meet the minimum surrogate recovery criteria described in Section 2.3.1.2.

2.3.1.2 Surrogate Recovery Criteria

Acceptable analytical method matrix spike surrogate recoveries will occur between 50 to 150% of the matrix spike. Surrogate recoveries that fall out of these criteria will be flagged. If recovery of a particular sample does not meet this acceptance criteria and sufficient, non-extracted sample volume remains, an additional extraction will be collected and subjected to the GPC method described in Section 2.3.1.1 prior to analysis.

2.3.2 Analytical Methods

SW-846 Method 8082 will be used to analyze samples for the presence and concentration of PCBs. Method NWTPH-Dx will be used to analyze samples for the presence and concentrations of petroleum hydrocarbons.

2.3.3 Data Validation

The following criteria will be used to evaluate verification soil sample analytical data for validity:

1. Sample collection techniques;
2. Sample Chain-of-Custody protocol;
3. Use of extraction cleanup methods, if necessary;
4. Laboratory detection limit;
5. Surrogate recoveries compliance;
6. Comparative blind duplicate results; and
7. Analytical laboratory data qualifier(s), if reported.

3. REPORTING

Following completion of PCB and petroleum hydrocarbon remedial excavations and receipt of final analytical reports, a Remedial Action Report documenting cleanup will be prepared and submitted to Ecology and EPA - Region 10. In compliance with MTCA and 40 CFR §761.125(c)(5), the report will include the following:

A. Identification of the source of the spill/release.

B. Estimated dates of spill/release occurrences.

C. The date and time cleanup was completed or terminated (if cleanup was delayed by emergency or adverse weather: the nature and duration of the delay).

D. A brief description of the spill/release locations and the nature of the materials contaminated. This information will also state that the spill/release occurred in restricted access locations.

E. Pre-cleanup sampling data used to establish the spill boundaries if required because of insufficient visible traces and a brief description of the sampling methodology used to establish the spill boundaries.

F. Approximate depths of soil excavations and the volume of soil removed.

G. Post-cleanup verification sampling data and, if not otherwise apparent from the documentation, a brief description of the sampling methodology and the analytical technique used.

In addition to the above items, remediation waste disposal manifests, remediation waste disposal certificates, verification analytical reports, data summary tables, figures depicting final excavation limits, and other pertinent information will be included in the final report.

In compliance with 40 CFR §761.79(f)(2), the final report will be kept on record at the Site address or other designated address for the Estate of Don Oline for a minimum of 10-years following the completion of the PCBs cleanup in accordance with WAC 173-34-850.

4. SCHEDULE

The following presents the remediation schedule once Ecology has issued the Final PCB Cleanup Action Plan following the opportunity for public comment:

Week 1: Mobilization of excavation equipment and preparation of decontamination facilities.

Week 1: Remedial excavation of concrete/soil and collection of verification soil samples.

Weeks 2 - 3: Laboratory analysis and evaluation of analytical data.

Week 4: Preparation of PCB Remedial Action Report.

Week 5: Submittal of Draft PCB Remedial Action Report.

Week 6: Submittal of Final PCB Remedial Action Report.

The Remedial Action Report will be submitted within 30 days of receipt of final analytical results and disposal certificates. Upon submittal and approval of a Remedial Action Report documenting compliance with the cleanup levels set forth in the CAP, the Estate will not be required to record an

Environmental Covenant to restrict future uses at the property.

5. REFERENCES

Final Remedial Investigation Work Plan, Environmental Partners, Inc., May 7, 2013

EPI Inventory of Liquid Wastes, Environmental Partners, Inc., May 26 & 27, 2013

EPA PCB Analyses, Region 10 EPA, June 20, 2013

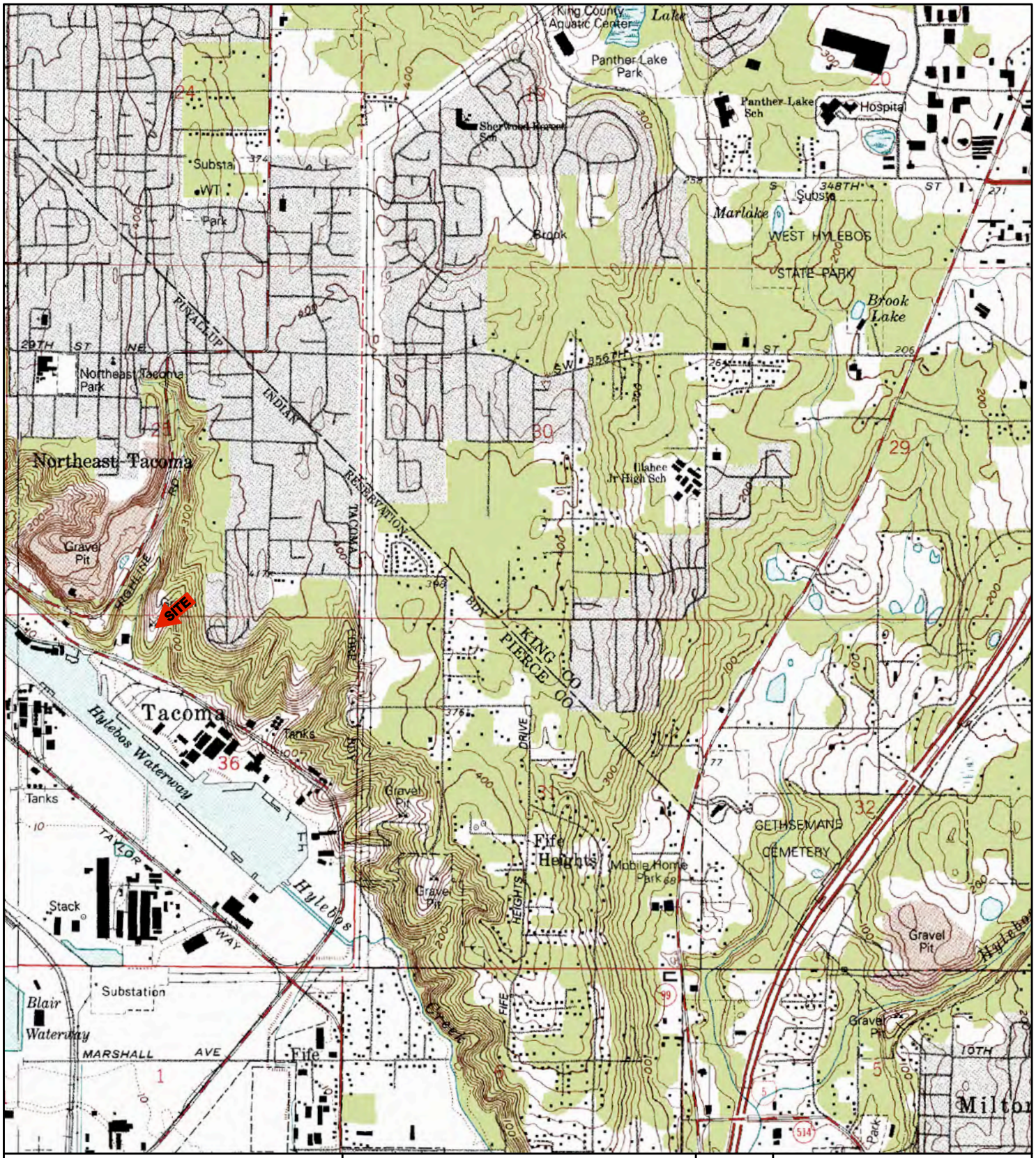
EPI Sampling Site Map, Environmental Partners, Inc., August 21, 2013

EPI Sampling Summary Data Tables and Figures, Environmental Partners, Inc., August 21, 2013

Final Remedial Investigation Report Oline Storage Yard, Environmental Partners, Inc., December 10, 2013

Letter Approving Final Remedial Investigation Report, Ecology Marv Coleman, January 8, 2014

Technical Memorandum – Proposed PCB Cleanup Action Plan, Environmental Partners, Inc., January 29, 2014



KEY:

SOURCE: USGS 7.5 MINUTE QUADRANGLE (TOPOGRAPHIC)

POVERTY BAY, WA
1961

REVISED 1994

SCALE = 1:24,000

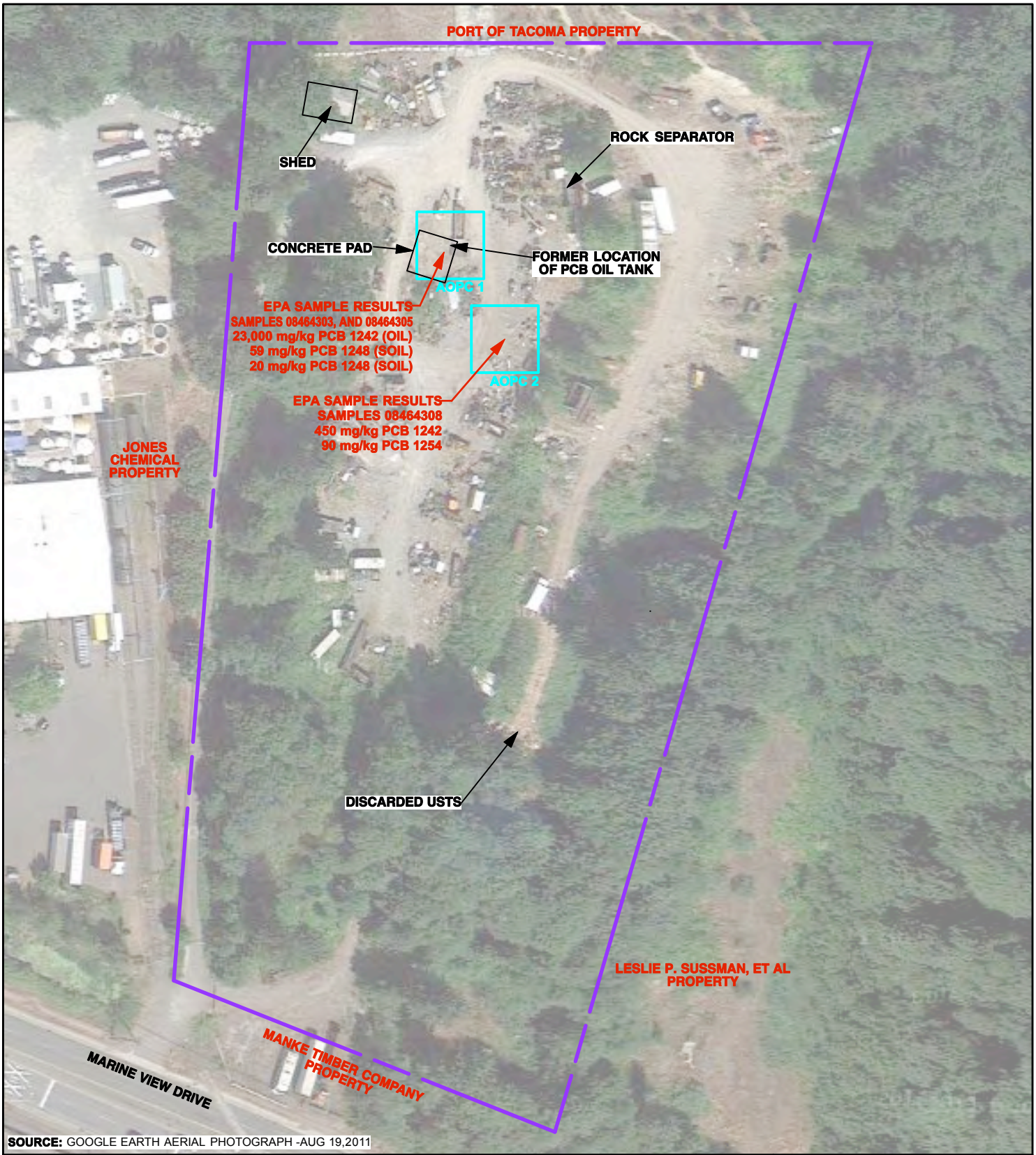
ENVIRONMENTAL PARTNERS INC
295 NE Gilman Boulevard, Suite 201
Issaquah, Washington 98027

FIGURE 1

GENERAL VICINITY MAP

PROJECT	60701.2
PREPARED FOR	ESTATE OF DON OLINE
LOCATION	1915 MARINE VIEW DRIVE TACOMA, WASHINGTON

SHEET	DRAWN BY	REVIEWED BY	DATE
1 OF 1	JLB	JLB	11/12/13



SOURCE: GOOGLE EARTH AERIAL PHOTOGRAPH -AUG 19,2011

KEY:

APPROXIMATE PROPERTY BOUNDARY

AREA OF POTENTIAL CONCERN (AOPC)

N

0 25 50 100

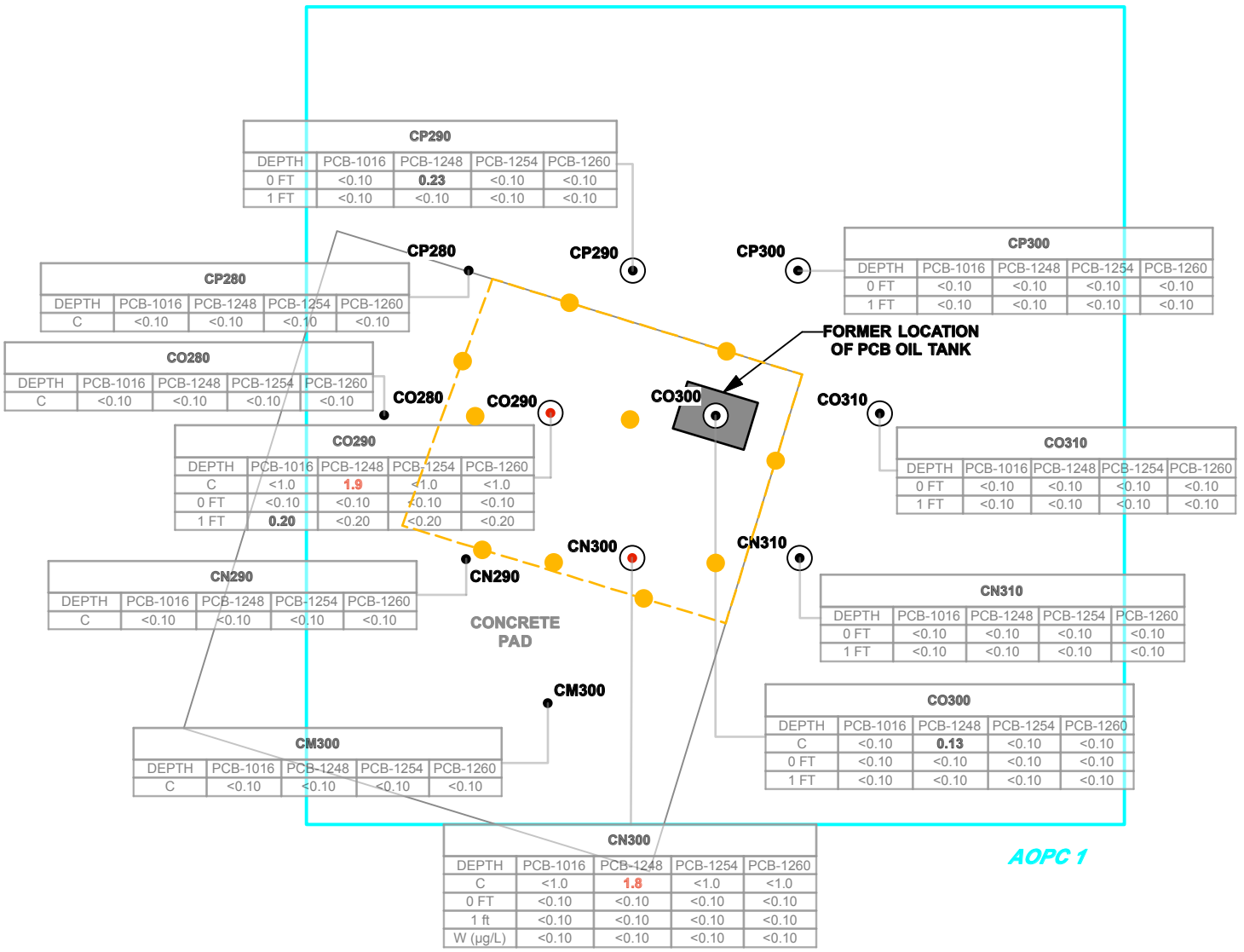
APPROXIMATE SCALE: 1" = 100'

ENVIRONMENTAL PARTNERS INC
295 NE Gilman Boulevard, Suite 201
Issaquah, Washington 98027

FIGURE 2

SITE REPRESENTATION

PROJECT	60701.2		
PREPARED FOR	ESTATE OF DON OLINE		
LOCATION	1915 MARINE VIEW DRIVE TACOMA, WASHINGTON		
SHEET 1 OF 1	***DRAWN BY*** JLB	***REVIEWED BY*** JLB	***DATE*** 11/12/13



SAMPLE ID — CB110

DEPTH	PCB-1016	PCB-1248
CONCRETE — C	<0.10	1.9
0 FT	<0.10	<0.10
1 FT	<0.10	<0.10
WATER — W (µg/L)	<0.10	<0.10

PCB-1248: POLYCHLORINATED BIPHENYL (PCB)

< INDICATES RESULT IS **NOT** DETECTED ABOVE REPORTING LIMIT.

BOLD VALUE INDICATES THAT RESULT **IS** ABOVE REPORTING LIMIT.

RED VALUE INDICATES THAT RESULT IS ABOVE THE MTCA METHOD A SOIL CLEANUP LEVEL FOR UNRESTRICTED LAND USES.

ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM UNLESS OTHERWISE NOTED.

KEY:

- AREA OF POTENTIAL CONCERN (AOPC)
- CO280 — DPT SOIL BORING
- PROPOSED REMEDIAL EXCAVATION AREA
- PROPOSED VERIFICATION SAMPLE LOCATION

0 2.5 5 10

APPROXIMATE SCALE: 1" = 10'

N

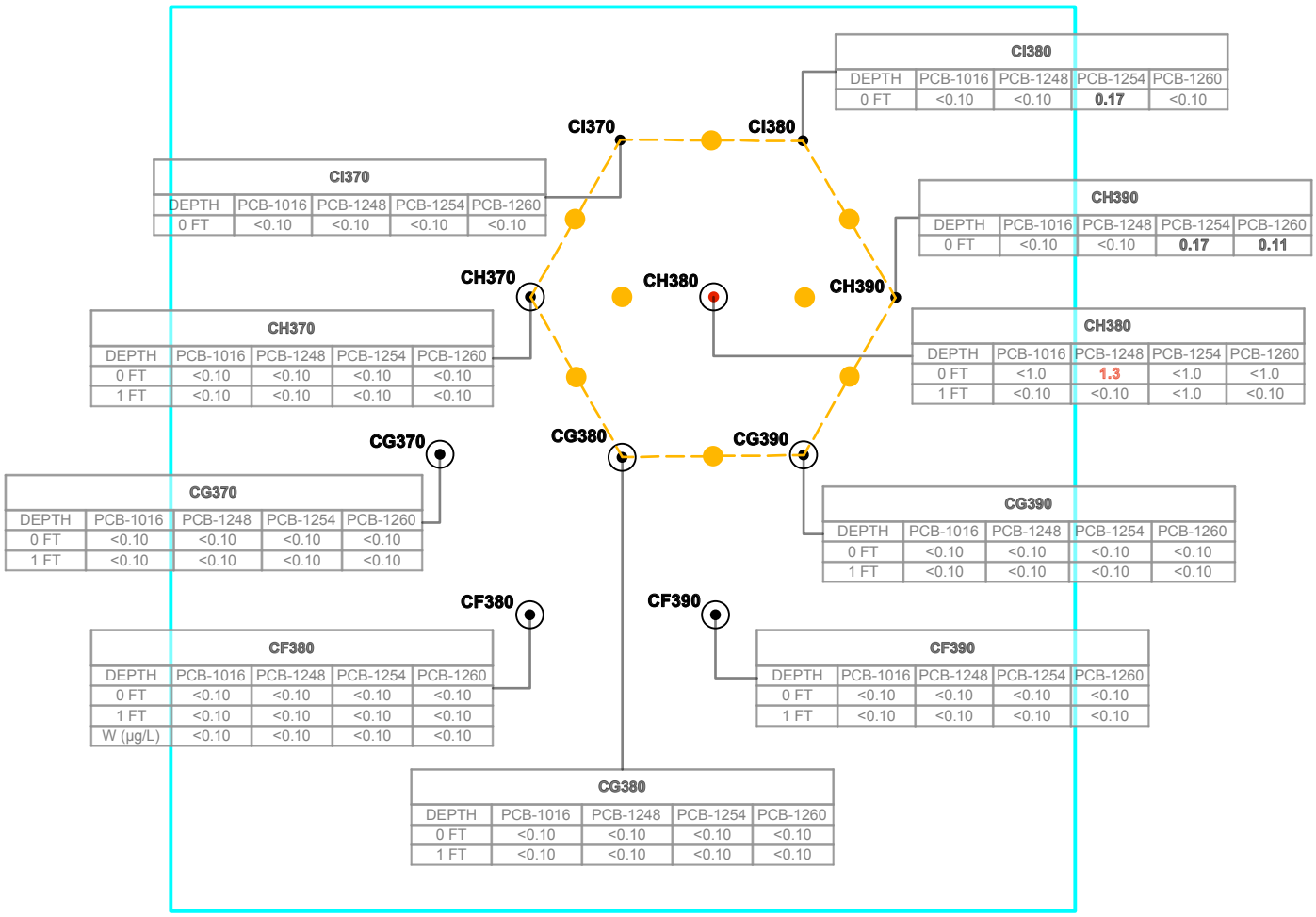
ENVIRONMENTAL PARTNERS INC
295 NE Gilman Boulevard, Suite 201
Issaquah, Washington 98027

FIGURE 3

AOPC 1
PROPOSED EXCAVATION

PROJECT	60701.2
PREPARED FOR	ESTATE OF DON OLINE
LOCATION	1915 MARINE VIEW DRIVE TACOMA, WASHINGTON

SHEET	DRAWN BY	REVIEWED BY	DATE
1 OF 1	ARM	JLB	01/28/14



AOPC 2
CENTERED ON THE REPORTED LOCATION
OF EPA SOIL SAMPLE 08464308

SAMPLE ID — **CB110**

DEPTH	PCB-1016	PCB-1248
0 FT	<0.10	1.9
1 FT	<0.10	<0.10
WATER — W (µg/L)	<0.10	<0.10

PCB-1248 — POLYCHLORINATED BIPHENYL (PCB)

< INDICATES RESULT IS **NOT** DETECTED ABOVE REPORTING LIMIT.

BOLD VALUE INDICATES THAT RESULT **IS** ABOVE REPORTING LIMIT.

RED VALUE INDICATES THAT RESULT IS ABOVE THE MTCA METHOD A SOIL CLEANUP LEVEL FOR UNRESTRICTED LAND USES.

ALL CONCENTRATIONS IN MILLIGRAMS PER KILOGRAM (MG/KG) UNLESS OTHERWISE NOTED.

KEY:

- AREA OF POTENTIAL CONCERN (AOPC)
- CO280 — DPT SOIL BORING
- PROPOSED REMEDIAL EXCAVATION AREA
- PROPOSED VERIFICATION SAMPLE LOCATION

0 2.5 5 10

APPROXIMATE SCALE: 1" = 10'

N

ENVIRONMENTAL PARTNERS INC
295 NE Gilman Boulevard, Suite 201
Issaquah, Washington 98027

FIGURE 4

AOPC 2
PROPOSED EXCAVATION

PROJECT	60701.2
PREPARED FOR	ESTATE OF DON OLINE
LOCATION	1915 MARINE VIEW DRIVE TACOMA, WASHINGTON

SHEET	***DRAWN BY***	***REVIEWED BY***	***DATE***
1 OF 1	ARM	JLB	01/28/14