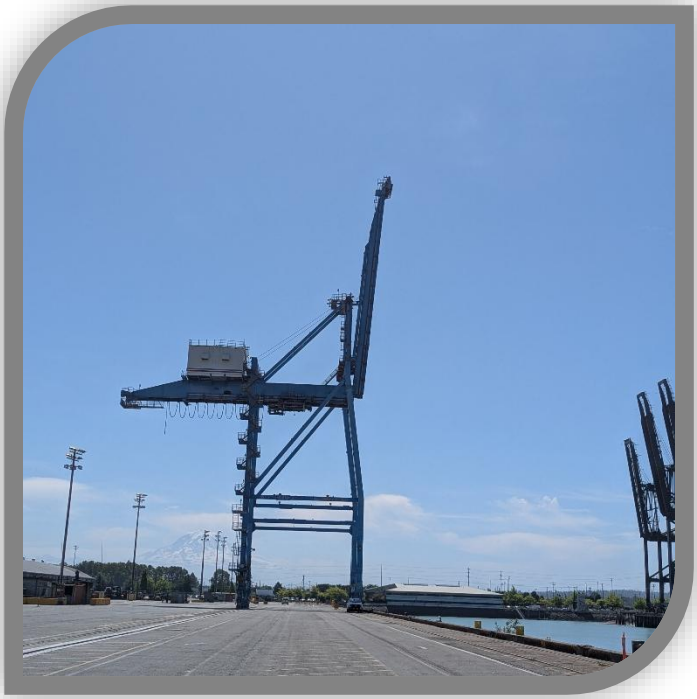
Hazardous Building Materials Assessment

Port of Tacoma
Crane 2078
Tacoma, WA

Original Assessment Date:
06 August 2019

Revised Assessment Date:
10 June 2025



Prepared for: Port of Tacoma
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PO Box 1837
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Prepared by: DH Environmental, Inc.
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Seattle, WA 98134

On-Call Environmental Support Services
Contract Number: 071789
Task Order No. 09

EXECUTIVE SUMMARY

The Port of Tacoma retained DH Environmental, Inc. (DH Environmental) to conduct a hazardous building materials (HBM) assessment of a ship-to-shore crane located at 1101 Port of Tacoma Road in Tacoma, Washington. On August 6, 2019, DH Environmental provided two AHERA-accredited building inspectors to perform the assessment. The crane was reassessed on June 10, 2025, to verify that the crane conditions had not changed; during this reassessment, additional oil samples were collected. The scope of services included evaluating the crane for hazardous building materials in preparation for its planned demolition.

DH Environmental assessed the crane for the following hazardous building materials:

- Asbestos-containing materials (ACM);
- Lead-based paints (LBP)
- Polychlorinated Biphenyls (PCBs)
- Other hazardous building materials (universal waste, refrigerant gases, propane cylinders and smoke detectors)

Five (5) bulk samples of suspect asbestos-containing materials were collected and analyzed using polarized light microscopy (PLM). None of the materials sampled and analyzed were found to contain asbestos greater than the 1% reporting limit by PLM.

Twenty-four (24) samples were collected and analyzed using an X-ray fluorescence analyzer (XRF). Eight of the samples were found to contain lead above the established threshold of 1 mg/cm², these materials were found on the exterior of crane 2078.

Five (5) samples of suspected PCB-containing hydraulic oil, caulking, grease, and paint were collected and analyzed for PCBs by EPA Method 8082. All samples were below the regulatory limit of 50 mg/kg for PCBs. The locations of the sample collections are shown in both Figure 2. Table 3 below shows the results of the PCB sample.

Three (3) samples of suspected PCB-containing oil were collected on June 10, 2025, and analyzed for PCBs using EPA Method 8082. All samples were found to be below the regulatory threshold of 50 mg/kg for PCBs.

Other hazardous materials such as fluorescent lamps, light ballasts, mercury switches, fire extinguishers, high intensity discharge lamps, and batteries were identified during the inspection and are inventoried in the report.

PROJECT INFORMATION

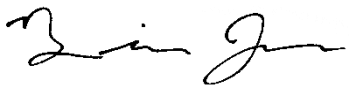
Project Title	1101 Port of Tacoma Road – Crane 2078 Hazardous Building Materials Assessment
Assessment Conducted by	DH Environmental, Inc. 1011 SW Klickitat Way, Suite 107 Seattle, WA 98134
Project Owner	Port of Tacoma
Contract Vehicle	Port of Tacoma On-Call Environmental Support Services Contract Number: 071789 Task Order No. 09
Owner's Representative	Joe Caldwell Project Manager
Assessment Personnel	Brian Johnson, OHST, CET AHERA Accredited Building Inspector Certified Lead Risk Assessor Travis Forslund, CHMP AHERA Accredited Building Inspector
Survey Date(s)	06 August 2019 / Revised 10 June 2025
Report Delivery Date	22 August 2019 & 23 June 2025
Report Prepared by	 Brian Johnson, OHST, CET AHERA Accredited Building Inspector Certified Lead Risk Assessor EHS Program Manager
Report Reviewed by	 Expires 12/01/2025 David Hill, PE, CHMM AHERA Accredited Project Designer Principal DH Environmental, Inc.

Table of Contents

List of Figures

1.0 INTRODUCTION

The Port of Tacoma retained DH Environmental to conduct an HBM assessment of a ship-to-shore crane located at 1101 Port of Tacoma Road in Tacoma, Washington. On August 6, 2019, DH Environmental provided two AHERA-accredited building inspectors to perform the assessment. The crane was reassessed on June 10, 2025, to verify that the crane conditions had not changed; during this reassessment, additional oil samples were collected.

1.1 Scope of Services

The scope of the services included assessing parts of the crane for hazardous building materials in anticipation of forthcoming demolition in accordance with 40 CFR 763, Puget Sound Clean Air Agency Regulation III, Article 4.02(a), and the Washington State Dangerous Waste Regulations (WAC 173-303).

DH Environmental assessed the crane for the following hazardous building materials:

- Asbestos-containing materials (ACM);
- Lead-based paints (LBP)
- Polychlorinated Biphenyls (PCBs)
- Other hazardous building materials:
    - universal waste
    - refrigerant gases (CFCs)
    - smoke detectors
    - propane cylinders

1.2 Assessment Objective

The objective of this hazardous building materials assessment is to assist the Port of Tacoma with communicating the presence of hazardous building materials and the presence, location, and quantity of ACM to employees, vendors, and contractors working in the project area. In addition, this assessment is meant to satisfy the requirements for an asbestos survey for the Puget Sound Clean Air Agency (PSCAA) and a good-faith inspection as required by Washington State Department of Labor and Industries' Division of Occupational Safety and Health (DOSH) regulations prior to building demolition or renovation. Regulations require that a complete copy of this assessment be kept in a conspicuous location on-site at all times during activities that may impact known and suspect ACM.

2.0 SITE DESCRIPTION

Crane 2078 is located at the Husky Terminal Pier 7 in Tacoma, WA. The Port of Tacoma used this crane to load and offload intermodal containers from container ships.

Crane 2078 was manufactured in 1979. Container cranes consist of a lateral movement system, supporting framework, crane boom, hook, operating cabin, and machine house. The machine house rooms, doors, and frames are of metal construction. The interior of the machine house consists of metal floors, rubber insulation mats, metal walls, metal roof, and insulation.

Figure 1 is a site map/vicinity map showing the crane locations both locally and regionally. Figure 2 shows sample locations.

3.0 ASBESTOS CONTAINING MATERIALS ASSESSMENT

3.1 Applicable ACM Regulations

The Washington State Department of Labor and Industries' Division of Occupational Safety and Health (DOSH) and the Puget Sound Clean Air Agency regulate building materials that contain more than 1 percent asbestos as ACM for protection of human health and the environment.

DOSH regulates worker exposure to airborne asbestos fibers during general work activities and construction and demolition activities (WAC 296-62-077). Worker exposure to airborne asbestos fibers must be below the Permissible Exposure Level (PEL) of an 8-hour time-weighted average (8-hr TWA) of 0.1 fiber per cubic centimeter (f/cc) of air. DOSH regulations establish engineering controls and work practices that are designed to mitigate workers exposure to asbestos in the workplace.

The Puget Sound Clean Air Agency (PSCAA) regulates the release of airborne asbestos fibers in King County and surrounding areas. Specifically, PSCAA under Article IV, Regulation Ill regulates emissions of asbestos during building renovation and demolition projects. This regulation requires that an asbestos survey be conducted prior to demolition, that PSCAA be notified prior to commencing with demolition activities, that ACM be removed prior to demolition, and that asbestos-containing waste materials be properly removed and disposed of in a manner that prevents the release of airborne asbestos fibers. In addition, the United States Environmental Protection Agency (USEPA) requires asbestos abatement workers and supervisors to be trained and certified in accordance with 40 CFR 763 Subpart E, Appendix C. DOSH has analogous training requirements for abatement workers in WAC 296-65. The EPA and DOSH training and certification requirements apply to abatement work for buildings at the subject property.

3.2 Sampling Methodology

The ACM sampling methodology conducted for this assessment was conducted in accordance with Puget Sound Clean Air Agency Guidance Document 66-149, Asbestos Survey Guidance Rev. 2., as well as related AHERA Protocols. A site walk was conducted with the Owner's Project Engineer prior to conducting the assessment.

All areas of the interior and exterior were investigated thoroughly looking for suspected ACM. Destructive sampling was needed in some areas to help identify building material components (e.g. insulation that was found behind the walls). Where appropriate, suspect ACM was grouped as homogenous if the materials were similar in appearance. Due to access issues and the size of the crane, it is possible that other hazardous building materials may be found throughout the crane in the walls, voids and other concealed areas. The locations of the sample collections are shown in both Figures 2.

Samples were collected, containerized, and delivered to NVL Environmental Laboratories in Seattle, WA following standard chain of custody procedures. Suspect ACM samples were analyzed per EPA Method 600/R93/116 by Polarized Light Microscopy (PLM) analysis. NVL is a National Voluntary Laboratory Accreditation Program (NVLAP) – certified laboratory, certification number 102063-0 (see attachment 4).

3.3 Sampling Results

Five (5) bulk samples of suspect asbestos-containing materials were collected and analyzed using Polarized Light Microscopy (PLM). None of the materials sampled and analyzed were found to contain asbestos greater than the 1% reporting limit by PLM.

Sample ID	Material Description	Sample Location	Concentration	Material Quantity Estimate (if applicable)
POT-2078-ACM-01	Layer 1: Black crumbly material embedded with gray interwoven fibrous material and paint	Crane 2078	ACM (%): ND	NA
POT-2078-ACM-02	Layer 1: White interwoven fibrous material with paint	Crane 2078	ACM (%): ND	NA
POT-2078-ACM-03	Layer 1: Black flaky fibrous material with paint	Crane 2078	ACM (%): ND	NA
POT-2078-ACM-04	Layer 1: Black rubbery material with debris	Crane 2078	ACM (%): ND	NA
POT-2078-ACM-05	Layer 1: Black rubbery material	Crane 2078	ACM (%): ND	NA

Table 1: ACM Sample Results
ND: Not Detected at Reporting Limit
NA: Not Applicable
ACM: Asbestos Containing Material

4.0 LEAD BASED PAINT (LBP) ASSESSMENT

4.1 Applicable LBP Regulations

DOSH regulates exposure of workers in general industry (WAC 96-62-07521) and construction workers (WAC 296-155-176) to lead in the workplace. The regulations provide engineering controls and work practices to minimize worker exposures. These regulations are applicable to renovation/demolition activities that have the potential to expose workers to airborne concentrations of lead at or above the 8-hr time weighted average (TWA) action level of 30 micrograms per cubic meter (ug/m^3) of air. Workers must not be exposed to lead at concentrations greater than the permissible exposure limit (PEL) of 50 ug/m^3 for an 8-hr TWA. Employers are responsible for determining whether their employees will be exposed to lead. A negative exposure assessment is required, consisting of modeling or air monitoring to verify that workers are not being exposed above the action level. If an exposure assessment cannot be conducted for demolition activities, workers coming into contact with deteriorated paint and paint dust should wear a half-face respirator with a particulate cartridge, coveralls or similar full-body work clothing, gloves, safety glasses, and shoes or disposable shoe coverlets. If the negative exposure assessment reveals that workers are exposed to lead dust above the PEL, the requirements of WAC 296-62-07521 must be implemented, including training, air monitoring, and medical surveillance.

The USEPA regulates LBP activities in residential target housing (40 CFR 745, Subpart L). These regulations include both training and certification requirements for persons involved in LBP activities in target housing, as well as work practice standards for conducting LBP inspections, risk assessments, and abatement activities. The regulations under 40 CFR 745, Subpart L do not apply to LBP activities to be conducted on the subject property.

The USEPA and Washington State requires generators of solid waste to determine whether their waste is a dangerous waste for proper accumulation, transportation and disposal. For demolition debris-related waste that potentially contains lead or other heavy metals, a representative sample(s) of the debris must be analyzed by the Toxicity Characteristic Leachate Procedure (TCLP) in accordance with WAC 173-303-090. Solid wastes containing leachable lead detected at a concentration of 5 mg/L or greater must be accumulated, stored, transported and disposed of as dangerous waste. Scrap metal that will be recycled is exempt from regulation as a Dangerous Waste in accordance with WAC 173-303-071(ff).

4.2 LBP Sampling Methodology

The testing of suspected lead painted surfaces was conducted by portable XRF lead-based paint analyzer. XRF instruments expose a building component to electromagnetic radiation in the form of X-rays or gamma radiation. In response to radiation, each element, including lead, emits energy at a fixed and characteristic level. Emission of characteristic x-rays is called “X-Ray Fluorescence,” or XRF. The energy released is measured by the instrument’s fluorescence detector and displayed, all of the inconclusive ranges and/or thresholds are based on 1.0 mg/cm^2. The lead-based paint inspection is in accordance with the methodologies set forth by the U.S. Department of Housing and Urban Development (HUD), and manufacturer’s guidelines.

Locations of the areas tested are shown in Figure 2.

4.3 LBP Sampling Results

Twenty-four (24) samples were collected and analyzed using an XRF. Eight of the samples were found to contain lead above the established threshold of 1 mg/cm², these materials were found on the exterior of the crane. The table below represents the tests that were confirmed positive for lead concentrations exceeding the threshold of 1 mg/cm².

A complete list of test locations and findings can be found in Attachment 3.

Sample ID	Space Name	Component	Substrate	Color	Condition	Concentration	Notes
Index# 733 Crane 2078	Exterior	Supporting Framework	Metal	Light Blue	Deteriorated	Lead Concentration: 1.3 mg/cm²	
Index# 735 Crane 2078	Exterior	Supporting Framework	Metal	Grey	Deteriorated	Lead Concentration: 2.9 mg/cm²	
Index# 736 Crane 2078	Exterior	Supporting Framework	Metal	Red	Deteriorated	Lead Concentration: 4.7 mg/cm²	
Index# 740 Crane 2078	Exterior	Supporting Framework	Metal	Red	Deteriorated	Lead Concentration: 3.6 mg/cm²	
Index# 741 Crane 2078	Exterior	Supporting Framework	Metal	Blue	Deteriorated	Lead Concentration: 4.4 mg/cm²	
Index# 743 Crane 2078	Exterior	Supporting Framework	Metal	White	Deteriorated	Lead Concentration: 2.9 mg/cm²	
Index# 746 Crane 2078	Exterior	Supporting Framework	Metal	White	Deteriorated	Lead Concentration: 1.3 mg/cm²	
Index# 753 Crane 2078	Exterior	Supporting Framework	Metal	White	Deteriorated	Lead Concentration: 2.3 mg/cm²	

Table 2: LBP Sample Results
mg/cm²: milligrams per Square Centimeter
LBP: Lead Based Paint

5.0 POLYCHLORINATED BIPHENYLS (PCBs) ASSESSMENT

5.1 Applicable PCB Regulations

Common PCB building materials include caulking, paint and adhesives. Current regulations require the removal of building materials containing PCBs if found with concentrations of 50 parts per million (ppm) or greater. Reinforcing this regulatory interpretation, EPA's current policy is clearly stated on the agency's website under a page titled *Current Best Practices for PCBs in Caulk Fact Sheet - Removal and Clean-Up of PCBs in Caulk and PCB-Contaminated Soil and Building Material*[1]. The website states the following: "Caulk containing PCBs at concentrations ≥ 50 ppm is not authorized for use and must be removed and properly disposed. When disposed, the caulk must be managed as *PCB bulk product waste*, defined at 40 CFR §761.3. Regulations governing the cleanup and disposal of *PCB bulk product waste* are provided at 40 CFR §761.62. PCB-containing caulk or caulk coated building material containing PCBs at concentrations ≥ 50 ppm must be removed unless otherwise approved by EPA under a risk-based disposal approval issued under 40 CFR § 761.62(c)."

PCBs are also contained within the fluorescent lamp capacitors and interior potting material of old, magnetic lighting fixtures. The capacitor regulates the amount of electricity flowing into the lighting fixture, and the potting material insulates the FLB and reduces the "humming" noise. Because all PCB-containing fluorescent light ballasts currently in use have exceeded their designated life span, they are susceptible to leaking or rupturing. This may lead to increased exposure to building occupants. Residues from these sources are difficult and costly to clean up. Additionally, intact PCB-containing fluorescent light ballasts may emit small amounts of PCBs into the air during normal use of the lighting fixtures.

EPA recommends all PCB-containing fluorescent light ballasts be removed from lighting fixtures. The fluorescent light ballasts and capacitors are regulated in concentrations greater than 50 mg/kg by the USEPA, and at concentrations greater than 2 mg/kg by the Washington State Department of Ecology. In accordance with 40 CFR 761.2, "any person must assume that a capacitor manufactured prior to July 2, 1979, whose PCB concentration is not established contains ≥500 ppm PCBs. Any person may assume that a capacitor manufactured after July 2, 1979, is non-PCB (i.e., <50 ppm PCBs). If the date of manufacture is unknown, any person must assume the capacitor contains ≥500 ppm PCBs. Any person may assume that a capacitor marked at the time of manufacture with the statement "No PCBs" in accordance with § 761.40(g) is non-PCB."

[1] http://www.epa.gov/pcbsincaulk/caulkremoval.htm

5.2 PCB Sampling Methodology / Findings

No suspect PCB containing caulking materials were observed during the assessment.

Electrical transformer in the machine house was observed during the assessment and a Port of Tacoma authorized representative verified that the transformers were of the "dry type" and contained no oil.

Fluorescent lights and HID lamps were observed during the assessment but were not able to be accessed to verify that light ballasts say, "no PCBs". Careful inspection of each ballast in the crane should be conducted upon removal to ensure proper management of the ballasts. If any of the ballasts do not contain the words "no PCBs" and were manufactured before July 2, 1979, they must be assumed to contain PCBs unless sampling confirms they do not. In addition, employers must inform their employees of PCB hazards in accordance with WAC 296-800-170.

5.3 PCB Sampling Results

Five (5) samples of suspected PCB containing hydraulic oil, caulking, grease, and paint were collected and analyzed for PCBs by EPA Method 8082. All samples were below the regulatory limit of 50 mg/kg for PCBs. The locations of the sample collections are shown in both Figure 2. Table 3 below shows the results of the PCB sample.

Three (3) samples of suspected PCB-containing oil were collected on June 10, 2025, and analyzed for PCBs using EPA Method 8082. All samples were found to be below the regulatory threshold of 50 mg/kg for PCBs.

Sample ID	Material Description	Sample Location	Concentration	Material Quantity Estimate (if applicable)
POT-2078-PCB-01	Caulking	Crane 2078	PCBs (mg/kg): ND	NA
POT-2078-PCB-02	Grease	Crane 2078	PCBs (mg/kg): ND	NA
POT-2078-PCB-03	Hydraulic Oil	Crane 2078	PCBs (mg/kg): ND	NA
POT-2078-PCB-04	Paint Chips	Crane 2078	PCBs (mg/kg): ND	NA
POT-2078-PCB-05	Hydraulic Oil	Crane 2078	PCBs (mg/kg): ND	NA
2078 Hoist Oil	Oil	Crane 2078	PCBs (mg/kg): ND	NA
2078 Boom Oil	Oil	Crane 2078	PCBs (mg/kg): ND	NA
2078 Final Drive Oil	Oil	Crane 2078	PCBs (mg/kg): ND	NA

Table 3: PCB Sample Results
mg/kg: milligrams per kilogram (parts per million)
PCB: Polychlorinated Biphenyls

6.0 OTHER HAZARDOUS BUILDING MATERIALS ASSESSMENT

A visual inspection was conducted to inventory other hazardous building materials. Other hazardous building materials assessed included universal waste, refrigerant gases, propane cylinders, and fire extinguishers.

6.1 Universal Waste

Universal waste is a category of dangerous waste that allows all businesses to handle several common types of dangerous waste under simplified rules. Managing these materials as universal waste means that they are not counted toward your generator status or reported on your Dangerous Waste Annual Report. In Washington State, five categories of waste can be managed as universal waste:

- Batteries;
- Lights, lamps, light bulbs, and light tubes;
- Mercury-containing thermometers;
- Mercury-containing thermostats;
- Mercury-containing switches and relays.

If any of these materials are identified for disposal for the demolition or renovation project, the materials should be removed, packaged, and recycled as universal waste.

6.2 Refrigerant Gases

Section 608 of the Federal Clean Air Act prohibits individuals from intentionally venting refrigerants into the atmosphere while disposing of refrigeration/AC equipment. “De minimis” quantities of refrigerant released in the course of making good faith attempts to recapture and recycle or safely dispose of refrigerant are not subject to this prohibition (40 CFR 82.154[a][2]). To implement the venting prohibition, Section 608 specifies evacuation level requirements (40 CFR 82.156) and refrigerant recovery equipment requirements (40 CFR 82.158) for both small appliances and other refrigeration/AC equipment. When demolishing or renovating a structure, the following equipment should be assessed to determine the need for evacuation, recovery, or disposal by a licensed technician:

Small Appliances

A small appliance is defined as any appliance that is fully manufactured, charged, and hermetically sealed in a factory with five pounds or less of a CFC or HCFC refrigerant, including the following:

- Refrigerators and freezers (designed for home, commercial, or consumer use);
- Medical or industrial research refrigeration equipment;
- Room air conditioners (including window air conditioners and packaged terminal air heat pumps);
- Under-the-counter ice makers;
- Vending machines; and
- Drinking water coolers.

All Other Equipment

All other equipment refers to all appliances except for small appliances, motor vehicle air conditioners (MVACs), and MVAC-like appliances. Specifically, this equipment includes:

- Chillers;
- Industrial refrigeration equipment (not including research equipment);
- Refrigerant fire suppression systems;
- Commercial refrigeration equipment; and
- Cold storage equipment.

6.3 Fire Extinguishers

Dry chemical and liquid fire extinguishers may be designated as dangerous waste if they are disposed of as solid waste. Fire extinguishers should be removed from service prior to demolishing or renovating the area where the fire extinguishers are mounted or stored. If the fire extinguishers cannot be recycled or reused, they must be designated and disposed of accordingly.

6.4 Radioactive Exit Signs and Smoke Alarms

Many exit signs and smoke alarms contain low-level radioactive sources that should be managed in accordance with Nuclear Regulatory Commission Regulations. Accredited mail-in programs are available to recycle these materials. Radioactive exit signs and smoke alarms should be identified for removal and recycling or disposal prior to renovation or demolition of the building or affected area.

6.5 Summary of Other Hazardous Building Materials

This hazardous building materials assessment identified fluorescent light tubes, high intensity discharge lamps, refrigerant gases, mercury thermostats, propane tanks, and fire extinguishers that should be removed and reused, recycled, or disposed of prior to the renovation project. No radioactive exit signs or smoke alarms were identified.

Crane 2078 - Other Hazardous Building Materials	Total
Fluorescent Light Tubes	40-50
Fluorescent Light Ballast	20-30
High Intensity Discharge Lamps	3-5
Fire Extinguishers	5
Power Pack Internal Battery	1
Thermostats	3
HVAC Systems	1

7.0 CONCLUSIONS AND RECOMMENDATIONS

7.1 Asbestos Containing Materials

ACM was not detected in the areas where the work was understood to be conducted. Therefore, we recommend that this work should not be considered an "Asbestos Project" as defined in the Puget Sound Clean Air Agency Regulation 3, or WAC 296-62-07701.

7.2 Lead Based Paint

Lead was detected in some of the building materials sampled. Therefore, we recommend implementation of engineering and work practice controls to reduce and maintain employee exposure to lead to or below the permissible exposure limit[2] to the extent that such controls are feasible in accordance with WAC 296-155-17611.

7.3 Polychlorinated Biphenyls

Five (5) samples of suspected PCB-containing hydraulic oil, grease, and paint were collected and analyzed for PCBs by EPA Method 8082. All samples were below the regulatory limit of 50 mg/kg for PCBs.

Three (3) samples of suspected PCB-containing oil were collected on June 10, 2025, and analyzed for PCBs using EPA Method 8082. All samples were found to be below the regulatory threshold of 50 mg/kg for PCBs.

No suspect PCB containing caulking materials were observed during the assessment.

Electrical transformers in the machine houses were observed during the assessment and a Port of Tacoma authorized representative verified that the transformers were of the "dry type" and contained no oil.

Fluorescent lights and HID lamps were observed during the assessment but were not able to be accessed to verify that light ballasts say, "no PCBs". Careful inspection of each ballast in the crane should be conducted upon removal to ensure proper management of the ballasts. If any of the ballasts do not contain the words "no PCBs" and were manufactured before July 2, 1979, they must be assumed to contain PCBs unless sampling confirms they do not. In addition, employers must inform their employees of PCB hazards in accordance with WAC 296-800-170.7.4.

[2] WAC 296-155-17607 (1): You must ensure that no employee is exposed to lead at concentrations greater than 50 micrograms per cubic meter of air (50 µg/m^3) averaged over an 8-hour period.

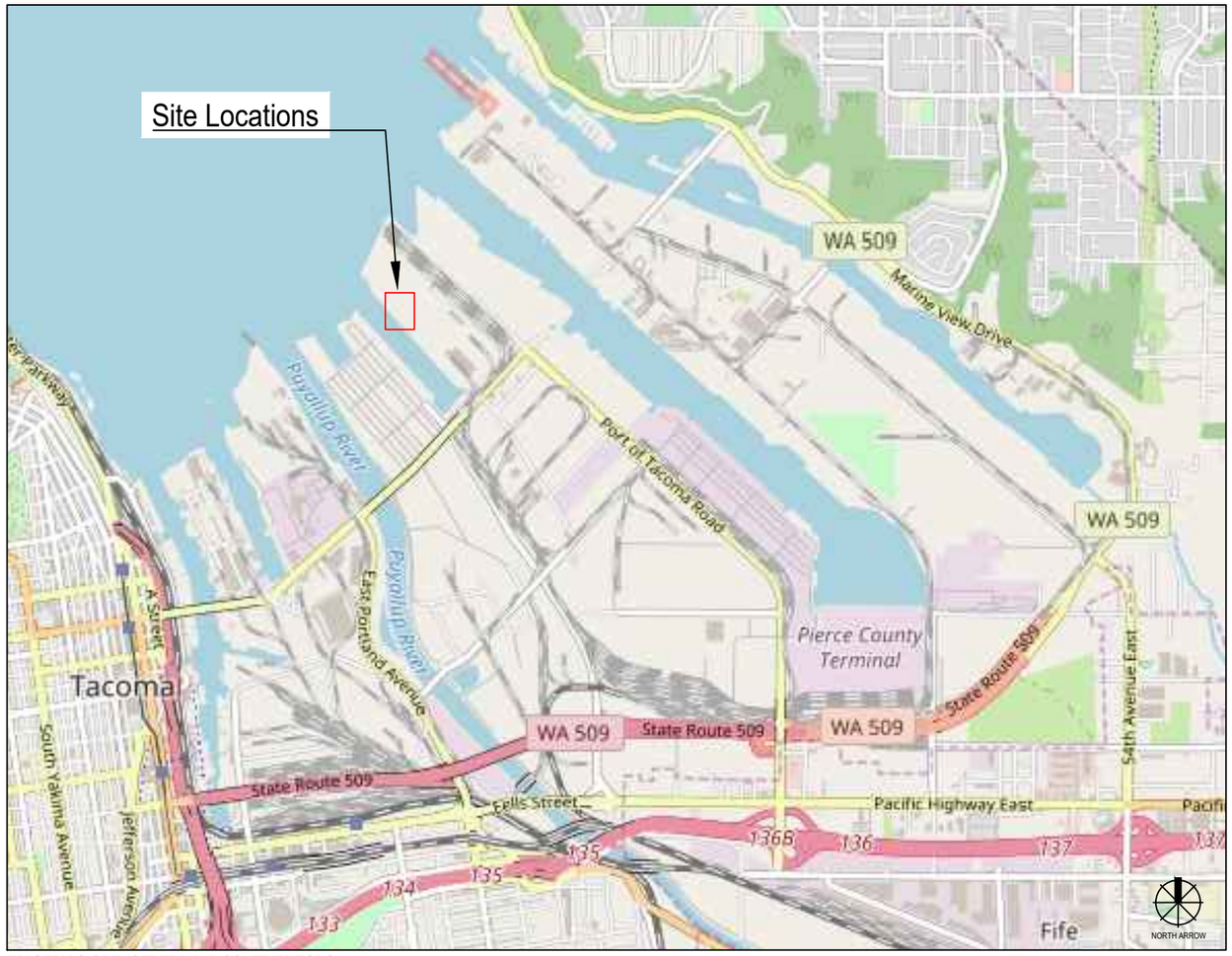
8.0 LIMITATIONS

This report presents the results of the hazardous building materials assessment conducted at the Port of Tacoma "Crane 2078" located at 1101 Port of Tacoma Road, Tacoma, WA. The assessment was conducted with the objective of identifying hazardous building materials in anticipation of demolition in accordance with certain regulations requiring such identification. For example, 40 CFR 763, along with Puget Sound Clean Air Agency Regulation III, Article 4.02(a), requires an "Asbestos Survey" before the renovation or demolition of a building. In addition, the Washington State Dangerous Waste Regulations (WAC 173-303) requires identification and designation of solid waste prior to disposal. This includes suspect lead-based paint and building materials.

Our assessment has considered risks pertaining to asbestos, lead in paint, polychlorinated biphenyls universal waste, and other hazardous building materials discussed in Section 6 of this document. Our assessment is limited to only those locations and materials assessed. This assessment was not designed to identify all potential concerns or to eliminate all risks associated with renovation, demolition, construction, waste disposal, or transferring of property title. Evaluation of other risks not specifically described in the Scope of Work have not been included. For example, the following risks were not assessed: structural integrity, engineering loads, electrical, mechanical, radon gas, slope stability, building settlement, and evaluation of toxic and hazardous substances in, or in contact with, soil and groundwater. No warranty, expressed or implied, is made. DH Environmental has performed the services set forth in the Scope of Work in accordance with generally accepted practices in the same or similar localities, related to the nature of the work accomplished, at the time the services were performed.

The hazardous building materials assessment presented in this report represents the conditions and materials observed on the dates we conducted the sampling and visually inspected the building. This assessment report is intended for the exclusive use of the Port of Tacoma for specific application to the referenced property. This assessment does not replace or should be used in lieu of professionally developed construction or demolition plans, specifications, or bidding documents. This report is not a legal opinion.

Figure 1 Site Map/Vicinity Map



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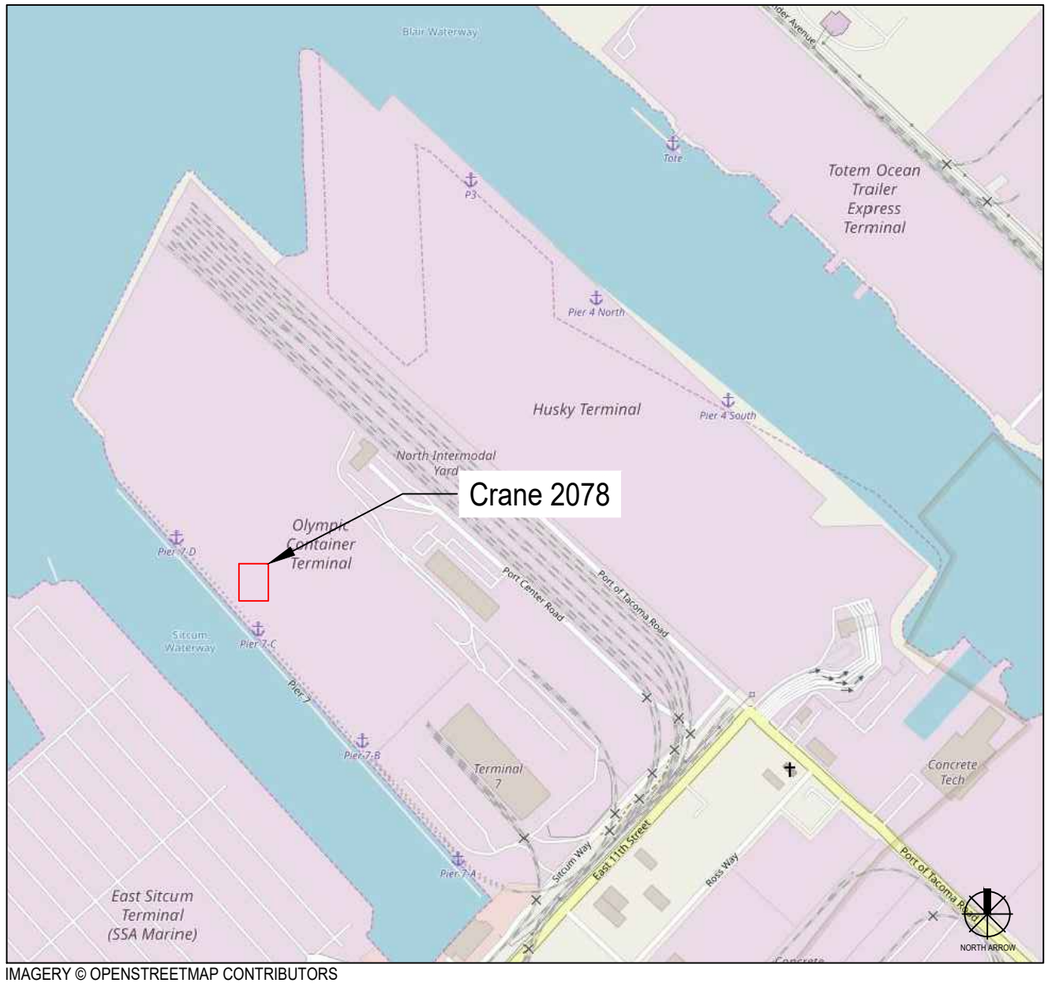

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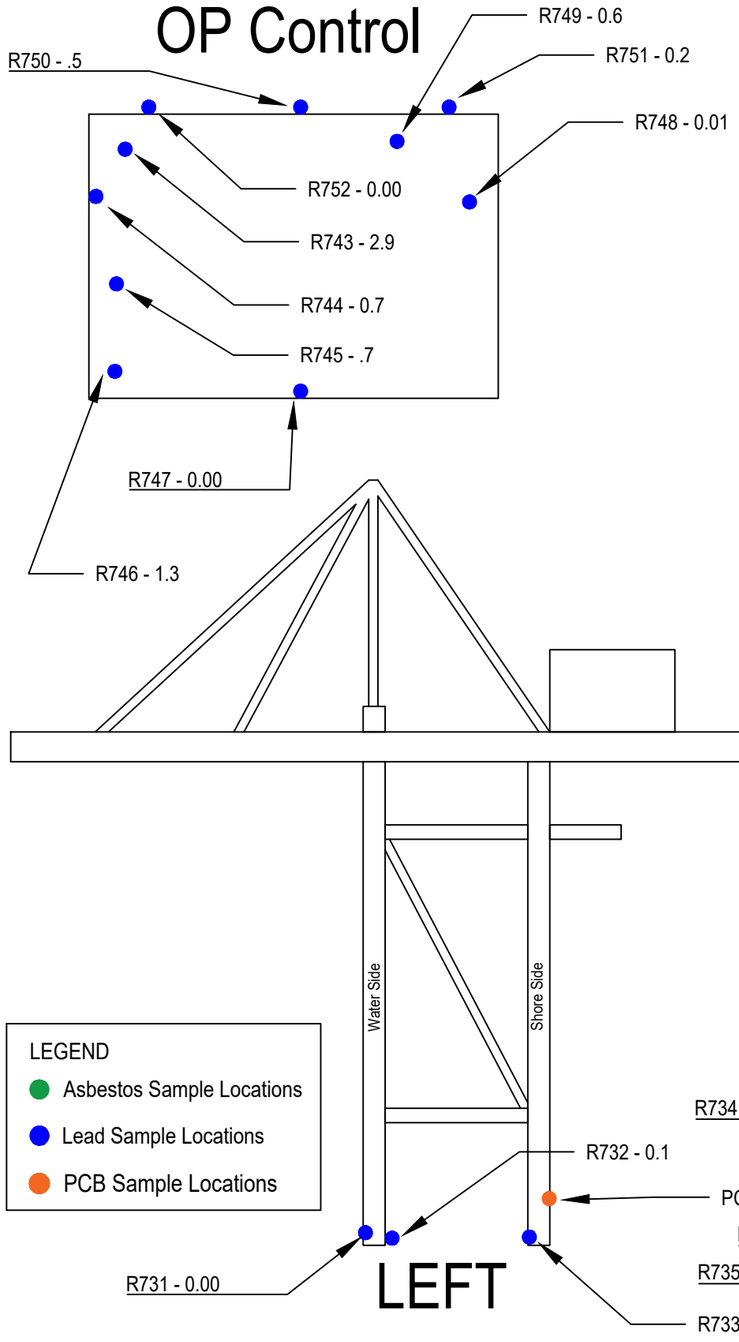
Date: 08-20-2019 By: Sellers Weatherall Accredited AHERA Inspector and AHERA Project Designer	DH Environmental Inc	Hazardous Building Materials Assessment Port Of Tacoma Crane HBM	Location Map	Figure 1
Site Address: 1056 Port of Tacoma Rd Tacoma, WA 98421 Project Number: NA				

Figure 2 Sampling Locations

OP Control



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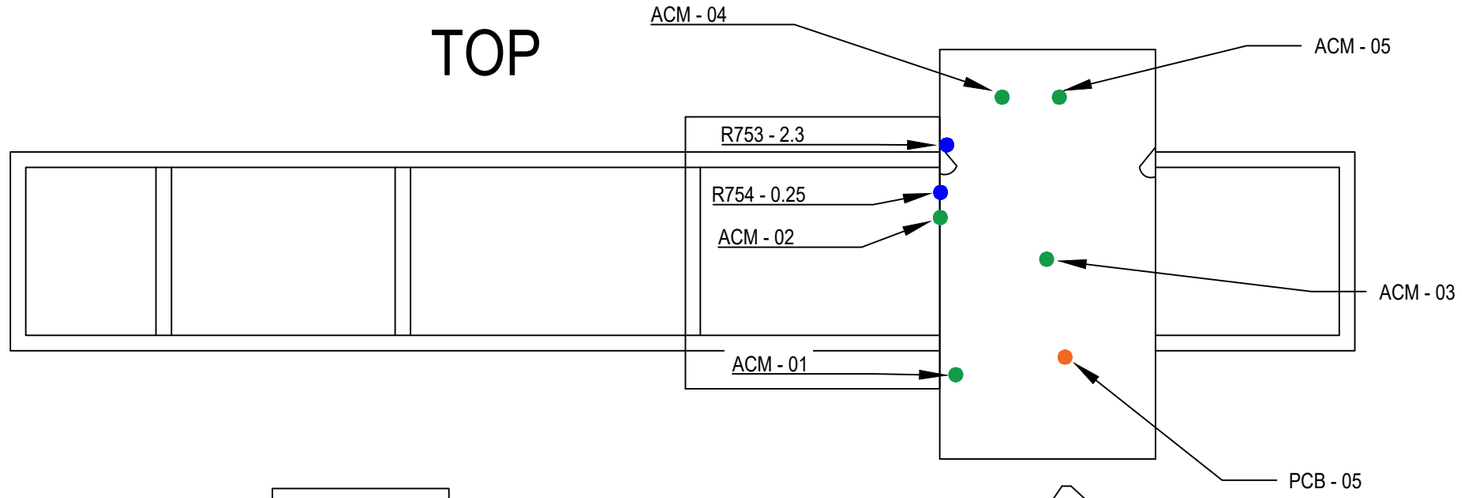
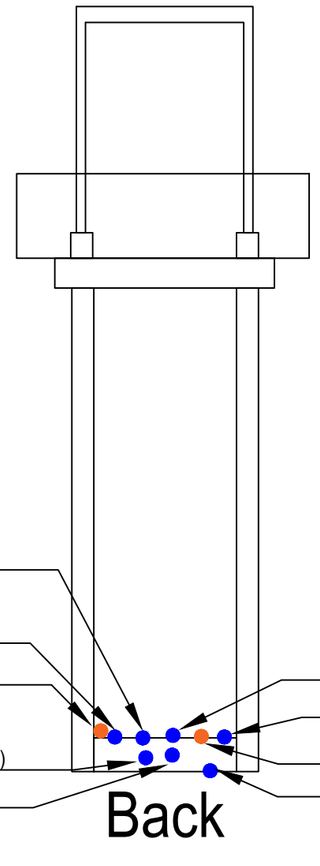
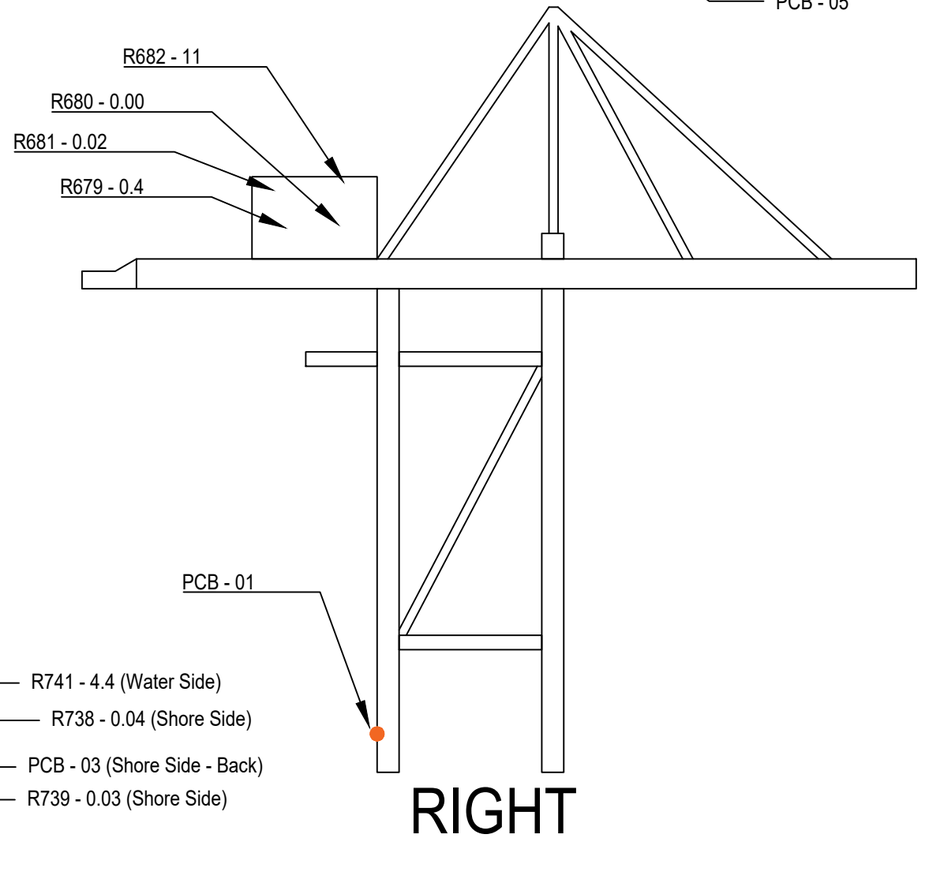






LEGEND

- Asbestos Sample Locations
- Lead Sample Locations
- PCB Sample Locations

LEFT

Back

RIGHT

Date: 08-09-2019

By: Sellers Weatherall
Accredited AHERA Inspector
and AHERA Project Designer

DH Environmental Inc

Site Address: 1056 Port of Tacoma Rd Tacoma, WA 98421 Project Number: NA

Hazardous Building Materials Assessment

Port Of Tacoma
Crane HBM

Sample Locations

CRANE #
2078

Attachment 1 Site Photos

Sample ID: POT-2078-ACM-01

Sample ID: POT-2078-ACM-02

Sample ID: POT-2078-ACM-03

Sample ID: POT-2078-ACM-04

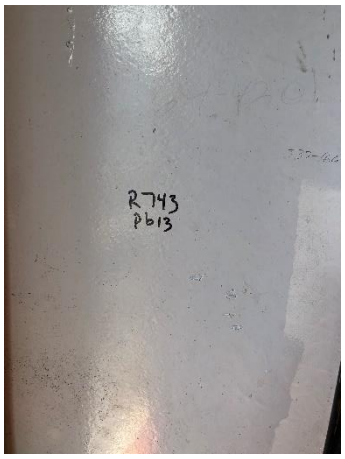
Sample ID: POT-2078-ACM-05

Sample ID: Index# 733-Pb

Sample ID: Index# 735-Pb

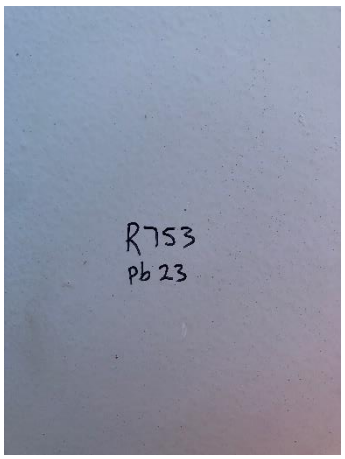
Sample ID: Index# 736-Pb

Sample ID: Index# 740-Pb



Sample ID: Index# 743-Pb


Sample ID: Index# 746-Pb



Sample ID: Index# 753-Pb

Sample ID: POT-2078-PCB-01


Sample ID: POT-2078-PCB-02


Sample ID: POT-2078-PCB-03


Sample ID: POT-2078-PCB-04

Sample ID: POT-2078-PCB-05

Attachment 2 Laboratory Analytical Reports

August 15, 2019

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY + MANAGEMENT + TRAINING

Brian Johnson.
DH Environmental
1011 SW Klickitat Way Suite 107
Seattle, WA 98134

RE: Bulk Asbestos Fiber Analysis; NVL Batch # 1916792.00

Client Project: N-A
Location: Port Tacoma Husky Terminal Crane 2078

Dear Mr. Johnson.,

Enclosed please find test results for the 5 sample(s) submitted to our laboratory for analysis on 8/7/2019.

Examination of these samples was conducted for the presence of identifiable asbestos fibers using polarized light microscopy (PLM) with dispersion staining in accordance with both **EPA 600/M4-82-020**, Interim Method for the Determination of Asbestos in Bulk Insulation Samples and **EPA 600/R-93/116** Method for the Determination of Asbestos in Bulk Building Materials.

For samples containing more than one separable layer of materials, the report will include findings for each layer (labeled Layer 1 and Layer 2, etc. for each individual layer). The asbestos concentration in the sample is determined by calibrated visual estimation.

For those samples with asbestos concentrations between 1 and 10 percent based on visual estimation, the EPA recommends a procedure known as point counting (NESHAPS, 40 CFR Part 61). Point counting is a statistically more accurate means of quantification for samples with low concentrations of asbestos.

The detection limit for the calibrated visual estimation is <1%, 400 point counts is 0.25% and 1000 point counts is 0.1%

Samples are archived for two weeks following analysis. Samples that are not retrieved by the client are discarded after two weeks.

Thank you for using our laboratory services. Please do not hesitate to call if there is anything further we can assist you with.

Sincerely,

Matt Macfarlane, Asbestos Lab Supervisor

NVLAP
Lab Code: 102063-0

Enc.: Sample Results

Phone: 206 547.0100 | Fax: 206 634.1936 | Toll Free: 1.888.NVL.LABS (685.5227)
4708 Aurora Avenue North | Seattle, WA 98103-6516

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: DH Environmental
Address: 1011 SW Klickitat Way Suite 107
Seattle, WA 98134

Attention: Mr. Brian Johnson.
Project Location: Port Tacoma Husky Terminal Crane 2078

Batch #: 1916792.00
Client Project #: N-A
Date Received: 8/7/2019
Samples Received: 5
Samples Analyzed: 5
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 19091406 **Client Sample #: POT-2078-ACM-01**

Layer 1 of 1 **Description:** Black crumbly material embedded with gray interwoven fibrous material and paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Paint	Synthetic fibers 89%	**None Detected ND**

Lab ID: 19091407 **Client Sample #: POT-2078-ACM-02**

Location: Port Tacoma Husky Terminal Crane 2078

Layer 1 of 2 **Description:** White interwoven fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine particles, Paint	Glass fibers 84%	**None Detected ND**

Layer 2 of 2 **Description:** Yellow fibrous material with trace amount of paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Paint	Glass fibers 98%	**None Detected ND**

Lab ID: 19091408 **Client Sample #: POT-2078-ACM-03**

Location: Port Tacoma Husky Terminal Crane 2078

Layer 1 of 1 **Description:** Black flaky fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains, Fine particles	Cellulose 6%	**None Detected ND**
Paint	Synthetic fibers 3%	
	Glass fibers 2%	

Lab ID: 19091409 **Client Sample #: POT-2078-ACM-04**

Location: Port Tacoma Husky Terminal Crane 2078

Layer 1 of 1 **Description:** Black rubbery material with debris

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Fine grains, Fine particles	Cellulose 2%	**None Detected ND**

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 08/14/2019
Reviewed by: Matt Macfarlane **Date:** 08/15/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: DH Environmental
Address: 1011 SW Klickitat Way Suite 107
Seattle, WA 98134

Attention: Mr. Brian Johnson.
Project Location: Port Tacoma Husky Terminal Crane 2078

Batch #: 1916792.00
Client Project #: N-A
Date Received: 8/7/2019
Samples Received: 5
Samples Analyzed: 5
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Debris

Lab ID: 19091410 **Client Sample #: POT-2078-ACM-05**

Location: Port Tacoma Husky Terminal Crane 2078

Layer 1 of 1 **Description:** Black rubbery material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Fine grains, Fine particles	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Akane Yoshikawa **Date:** 08/14/2019
Reviewed by: Matt Macfarlane **Date:** 08/15/2019

Matt Macfarlane, Asbestos Lab Supervisor

Note: If samples are not homogeneous, then subsamples of the components were analyzed separately. All bulk samples are analyzed using both EPA 600/R-93/116 and 600/M4-82-020 Methods with the following measurement uncertainties for the reported % Asbestos (1%=0-3%, 5%=1-9%, 10%=5-15%, 20%=10-30%, 50%=40-60%). This report relates only to the items tested. If sample was not collected by NVL personnel, then the accuracy of the results is limited by the methodology and acuity of the sample collector. This report shall not be reproduced except in full, without written approval of NVL Laboratories, Inc. It shall not be used to claim product endorsement by NVLAP or any other agency of the US Government

ASBESTOS LABORATORY SERVICES

Company	DH Environmental	**NVL Batch Number**	**1916792.00**
Address	1011 SW Klickitat Way Suite 107 Seattle, WA 98134	**TAT**	5 Days **AH** No
		Rush TAT	
Project Manager	Mr. Brian Johnson.	**Due Date**	8/14/2019 **Time** 11:05 AM
Phone	(206) 930-4043	**Email**	brian.johnson@dhenviro.com
		Fax	() -

Project Name/Number: N-A **Project Location:** Port Tacoma Husky Terminal Crane 2078

Subcategory PLM Bulk

Item Code ASB-02 EPA 600/R-93-116 Asbestos by PLM <bulk>

Total Number of Samples 5 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19091406	POT-2078-ACM-01		A
2	19091407	POT-2078-ACM-02		A
3	19091408	POT-2078-ACM-03		A
4	19091409	POT-2078-ACM-04		A
5	19091410	POT-2078-ACM-05		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	8/7/19	1105
Analyzed by	Akane Yoshikawa		NVL	8/14/19	
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Date: 8/7/2019
Time: 3:06 PM
Entered By: Emily Schubert

1916792

NVL
INDUSTRIAL HYGIENE SERVICES
LABORATORY • MANAGEMENT • TRAINING

ASBESTOS CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ❑ 2 Hours
- ❑ 4 Hours
- ❑ 24 Hours
- ❑ 2 Days
- ❑ 3 Days
- ❑ 4 Days
- ❑ 5 Days
- ☒ 10 Days

Please call for TAT less than 24 Hours

Company: DH Environmental
Address: 1011 SW Klickitat Way Seattle WA 98134
Phone:

Project Manager: Brian Johnson
Cell: (206) 930-4043
Email: brian.johnson@DHEnviro.com
Fax: ( ) -

Project Name/Number

Project Location: Port Tacoma Husky Terminal Crane 2078

- ❑ PCM Air (NIOSH 7400)
- ☒ PLM (EPA 600/R-93-116)
- ❑ PLM Gravimetry (600/R-93-116)
- ❑ Asbestos Friable/Non-Friable (EPA 600/R-93/116)
- ❑ TEM (NIOSH 7402)
- ❑ EPA 400 Points (600/R-93-116)
- ❑ Asbestos in Vermiculite (EPA 600/R-04/004)
- ❑ TEM (AHERA)
- ❑ Other
- ❑ TEM (EPA Level II Modified)
- ❑ EPA 1000Points (600/R-93-116)
- ❑ Asbestos in Sediment (EPA 1900 Points)

Reporting Instructions
- ❑ Call ( ) -
- ❑ Fax ( ) -
- ☒ Email brian.johnson@DHEnviro.com

Total Number of Samples

	Sample ID	Description	A/R
1	POT-2078-ACM-01	weather proofing	
2	POT-2078-ACM-02	Wall Insulation	
3	POT-2078-ACM-03	brake dust	
4	POT-2078-ACM-04	Sub floor rubber mat	
5	POT-2078-ACM-05	High voltage rubber mat	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Brian Johnson/Travis Forshaw		DH Env.	8-6-19	13:30
Relinquish by	Travis Forshaw		DH Env	8-7-19	11:00

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emilie S		NVL	8/7/19	1105
Analyzed by					
Called by					
Faxed/Email by					

August 13, 2019

Mr. Brian Johnson

DH Environmental
1011 SW Klickitat Way. Suite 107
Seattle, WA 98134

Re: **NVL Batch 1916766.00**

Project Name/Number: N-A

Project location: Port Tacoma Husky Terminal Crane 2078

Dear Mr. Johnson,

Enclosed please find test results for samples submitted to our laboratory for analysis. Preparation and analysis of these samples were conducted in accordance with published industry standards and methods specified on the attached analytical report.

The content of this package consists of the following:

-Case Narrative & Definition of Data Qualifiers
-Analytical Test Results
-Applicable QC Summary
-Client Chain-of-Custody (CoC)
-NVL Receiving Record

The report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

Enclosure: Sample Results

Case Narrative:

The following summarizes samples received on date as shown on the accompanied Chain of custody by NVL Laboratories, Inc. from DH Environmental. Samples were logged in for PCB analysis per client request using both customer sample ID's and laboratory assigned ID's as listed on the Chain-of-Custody (CoC). All samples as received were processed and analyzed within specified turnaround time without any abnormalities and deviations that may affect the analytical results. All quality control requirements were acceptable unless stated otherwise. The conditions of all samples were acceptable at time of receipt and all samples submitted with this batch were analyzed unless stated otherwise on the CoC.

Test Results are reported based on oil weight in milligrams per kilograms (mg/kg) for PCB samples as shown on the analytical reports.

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
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Definition Appendix

Terms

% Rec	Percent recovery.
<	Below Reporting Limit(RL) or Limit of Quantitation(LoQ) of the instrument.
B	Blank contamination. The recorded results is associated with a contaminated blank.
DF	Dilution Factor
J	The reported concentration is an estimated value because something may be present in the sample that interfered with the analysis.
J1	The reported concentration is an estimated value because the laboratory control sample (LCS) is out of control limits.
J2	The reported concentration is an estimated value because the percent recovery for matrix spike is out of control limits.
J3	The reported concentration is an estimated value because the relative percent difference(RPD) for duplicate analysis is out of control limits.
J4	Percent recovery is outside of established control limits.
LCS	Laboratory Control Sample.
LFS	Laboratory Fortified Spike
Limits	The upper and lower control limits for spike recoveries.
LN	Quality control sample is outside of control limits. This analyte was not detected in the sample.
LOQ	Limit of quantitation(same as RL)
mg/kg	Milligrams per kilogram.
ND	Analyte not detected or below the reporting limit of the instrument or methodology

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Definition Appendix

Terms

PPM	Parts per Million.
QC Batch Group	Quality Control Batch Group. The entity that links analytical results and supporting quality control results.
R	The data are not reliable due to possible contamination or loss of material during preparation or analysis. Re-sampling and reanalysis are necessary for verification.
RL	Reporting Limit. The minimum concentration that can be quantified under routine operating conditions.
RPD	Relative Percent Difference. The relative difference between duplicate results(matrix spike, blank spike, or samples duplicate) expressed as a percentage.
RPD Limit	The maximum RPD allowed for a set of duplicate measurements(see RPD).
SMI	Surrogate has matrix interference.
Spike Conc.	The measured concentration, in sample basis units, of a spiked sample.
SURR-ND	Surrogate was not detected due to matrix interference or dilution.
ug/m3	Micrograms per cubic meter.
ug/mL	Micrograms per milliliter
mg/Kg	milligram per kilogram

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ANALYSIS REPORT

Polychlorinated Biphenyls by Gas Chromatography

Client	**DH Environmental**	Samples Received*	**2**
SDG Number	**1916766.00**	Analyzed By	**Aaron Brown**
Date Reported	**08/13/2019**	Samples Analyzed*	**2**
Project Number	**N-A**	Analysis Method	**8082A**
Location	**Port Tacoma Husky Terminal Crane 2078**	Preparation Method	**3546PR (PCB)**

* for this test only

Sample Number	**POT-2078-PCB-03**	Received	08/07/2019
Lab Sample ID	19091197	Matrix	Oil
Initial Sample Size	1.0133 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	9.9	< 9.9	08/12/2019
Aroclor-1221	9.9	< 9.9	08/12/2019
Aroclor-1232	9.9	< 9.9	08/12/2019
Aroclor-1242	9.9	< 9.9	08/12/2019
Aroclor-1248	9.9	< 9.9	08/12/2019
Aroclor-1254	9.9	< 9.9	08/12/2019
Aroclor-1260	9.9	< 9.9	08/12/2019
PCBs, Total	**9.9**	**<9.9**	

Comments: Reporting limit raised due to dilution

Sample Number	**POT-2078-PCB-05**	Received	08/07/2019
Lab Sample ID	19091198	Matrix	Oil
Initial Sample Size	1.0103 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	9.9	< 9.9	08/12/2019
Aroclor-1221	9.9	< 9.9	08/12/2019
Aroclor-1232	9.9	< 9.9	08/12/2019
Aroclor-1242	9.9	< 9.9	08/12/2019
Aroclor-1248	9.9	< 9.9	08/12/2019
Aroclor-1254	9.9	< 9.9	08/12/2019
Aroclor-1260	9.9	< 9.9	08/12/2019
PCBs, Total	**9.9**	**<9.9**	

Comments: Reporting limit raised due to dilution

NVL Laboratories, Inc.
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Quality Control Results

Project Number:	**N-A**	**SDG Number:**	**1916766**
		Project Manager:	**Brian Johnson**
QC Batch(es):	**Q1031**	Analysis Method:	**8082A**
QC Batch Method:	3546PR (PCB)	Analysis Description:	Polychlorinated Biphenyls by Gas Chromatography
Preparation Date:	08/12/2019		

Blank: MBLK-1916766

Analyte	Blank Result	Units	DF	RL		Control Limit	Qualifiers
Aroclor-1016	ND	mg/Kg	1	1.0		1	
Aroclor-1221	ND	mg/Kg	1	1.0		1	
Aroclor-1232	ND	mg/Kg	1	1.0		1	
Aroclor-1242	ND	mg/Kg	1	1.0		1	
Aroclor-1248	ND	mg/Kg	1	1.0		1	
Aroclor-1254	ND	mg/Kg	1	1.0		1	
Aroclor-1260	ND	mg/Kg	1	1.0		1	
PCBs, Total	ND	mg/Kg	1	1.0		1	
Surrogates:					% Rec		
Tetrachloro-m-xylene			1		117	40-140	
Decachlorobiphenyl			1		122	40-140	

Lab Control Sample: LCS-1254-1916766

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Aroclor-1254	26.6	mg/Kg	1	20.0	133	40-140	
Surrogates:							
Tetrachloro-m-xylene			1		118	40-140	
Decachlorobiphenyl			1		105	40-140	

Lab Control Sample: LCS-1016-1260-1916766
Lab Control Sample Duplicate: LCSD-1016-1260-1916766

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	24	mg/Kg	1	20.0	120	40-140			
	22.6			20.0	113	40-140	6	50	
Aroclor-1260	21.1	mg/Kg	1	20.0	106	40-140			
	19.5			20.0	97	40-140	8	50	
Surrogates:									
Tetrachloro-m-xylene			1		105	40-140			
					93	40-140			
Decachlorobiphenyl			1		108	40-140			
					98	40-140			

NVL Laboratories, Inc.
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Surrogate Recovery Summary Report

Client DH Environmental **SDG Number** 1916766

Project N-A

Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
POT-2078-PCB-03	19091197	Decachlorobiphenyl	136%	40-140
POT-2078-PCB-03	19091197	Tetrachloro-m-xylene	111%	40-140
POT-2078-PCB-05	19091198	Decachlorobiphenyl	132%	40-140
POT-2078-PCB-05	19091198	Tetrachloro-m-xylene	91%	40-140
LCS-1016-1260-1916766	LCS-1016-1260-1916766	Decachlorobiphenyl	108%	40-140
LCS-1016-1260-1916766	LCS-1016-1260-1916766	Tetrachloro-m-xylene	105%	40-140
LCS-1254-1916766	LCS-1254-1916766	Decachlorobiphenyl	105%	40-140
LCS-1254-1916766	LCS-1254-1916766	Tetrachloro-m-xylene	118%	40-140
LCSD-1016-1260-1916766	LCSD-1016-1260-1916766	Decachlorobiphenyl	98%	40-140
LCSD-1016-1260-1916766	LCSD-1016-1260-1916766	Tetrachloro-m-xylene	93%	40-140
MBLK-1916766	MBLK-1916766	Decachlorobiphenyl	122%	40-140
MBLK-1916766	MBLK-1916766	Tetrachloro-m-xylene	117%	40-140

* Recovery outside limits

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

SDG No: **1916766** Contract:

Determination: **8082 PCB Aroclors <Material>**

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R001024	CCV1-1016-1260	PCB_2019-1-2	08/12/2019	Aroclor-1016	5	5	ug/mL	100	80-120
		PCB_2019-1-2	08/12/2019	Aroclor-1260	5	5	ug/mL	100	80-120
	CCV1-1254	PCB_2019-1-3	08/12/2019	Aroclor-1254	5	5	ug/mL	100	80-120
	ICV 1016-1254-1260	PCB_2019-1-4	08/12/2019	Aroclor-1016	5	4.359	ug/mL	87	85-115
		PCB_2019-1-4	08/12/2019	Aroclor-1254	5	5.746	ug/mL	115	85-115
		PCB_2019-1-4	08/12/2019	Aroclor-1260	5	5.387	ug/mL	108	85-115
	CCV2-1016-1260	PCB_2019-1-2	08/12/2019	Aroclor-1016	5	5.553	ug/mL	111	80-120
		PCB_2019-1-2	08/12/2019	Aroclor-1260	5	5.846	ug/mL	117	80-120
	CCV2-1254	PCB_2019-1-3	08/12/2019	Aroclor-1254	5	5.985	ug/mL	120	80-120

% Rec = Percent recovery

* = Percent recovery not within control limits

ORGANICS LABORATORY SERVICES

NVL

Company DH Environmental
Address 1011 SW Klickitat Way Suite 107
Seattle, WA 98134
Project Manager Mr. Brian Johnson.
Phone (206) 930-4043

NVL Batch Number 1916766.00
TAT 5 Days **AH** No
Rush TAT
Due Date 8/14/2019 **Time** 11:05 AM
Email brian.johnson@dhenviro.com
Fax () -

Project Name/Number: N-A **Project Location:** Port Tacoma Husky Terminal Crane 2078

Subcategory Quantitative analysis
Item Code ORG-06 **Method** 8082 PCB Aroclors <liquid>

Total Number of Samples 2 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19091197	POT-2078-PCB-03		A
2	19091198	POT-2078-PCB-05		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	8/7/19	1105
Analyzed by	Anna Brown		NVL	8/12/19	16:30
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Entered By: Emily Schubert Date: 8/7/2019 Time: 12:43 PM

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NVL
INDUSTRIAL HYGIENE SERVICES
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1916766

CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☐ 4 Days
- ☐ 5 Days
- ☒ 10 Days

Please call for TAT less than 24 Hours

Company: DH Environmental
Address: 1011 SW Klickitat Way #107
Seattle WA 98134
Phone: ( ) -

Project Manager: Brian Johnson
Cell: (206) 930 - 4043
Email: brian.johnson@DHEnviro.com
Fax: ( ) -

Project Name/Number:
Project Location: Port Tacoma Husky Terminal Crane 2078

- ☐ PCB's Air
- ☐ PCB Wipe
- ☒ PCB's Bulk
- ☐ PCB BTEX

Reporting Instructions:
- ☐ Call ( ) -
- ☐ Fax ( ) -
- ☒ Email brian.johnson@DHEnviro.com

Total Number of Samples _____

	Sample ID	Description	A/R
1	POT-2078-PCB-01	Caulk black	
2	POT-2078-PCB-02	gear grease black	
3	POT-2078-PCB-03	Oil	
4	POT-2078-PCB-04	Red & Blue Paint	
5	POT-2078-PCB-05	Oil	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Brian Johnson/Travis Forslin		DH Env.	8-6-19	12:30
Relinquish by	Travis Forslin		DH Env.	8-7-19	11:00

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emilie S		NVL	8/7/19	1105
Analyzed by	Anna Bu		NVL	8/12/19	16:30
Called by					
Faxed/Email by					

August 13, 2019

Mr. Brian Johnson

DH Environmental
1011 SW Klickitat Way. Suite 107
Seattle, WA 98134

Re: **NVL Batch 1916743.00**

Project Name/Number: N-A

Project location: Port Tacoma Husky Terminal Crane 2078

Dear Mr. Johnson,

Enclosed please find test results for samples submitted to our laboratory for analysis. Preparation and analysis of these samples were conducted in accordance with published industry standards and methods specified on the attached analytical report.

The content of this package consists of the following:

-Case Narrative & Definition of Data Qualifiers
-Analytical Test Results
-Applicable QC Summary
-Client Chain-of-Custody (CoC)
-NVL Receiving Record

The report is considered highly confidential and will not be released without your approval. Samples are archived for two weeks following analysis. Samples that are not retrieved by the client will be discarded after two weeks.

Thank you for using our laboratory services. If you need further assistance, please contact us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

Enclosure: Sample Results

Case Narrative:

The following summarizes samples received on date as shown on the accompanied Chain of custody by NVL Laboratories, Inc. from DH Environmental. Samples were logged in for PCB analysis per client request using both customer sample ID's and laboratory assigned ID's as listed on the Chain-of-Custody (CoC). All samples as received were processed and analyzed within specified turnaround time without any abnormalities and deviations that may affect the analytical results. All quality control requirements were acceptable unless stated otherwise. The conditions of all samples were acceptable at time of receipt and all samples submitted with this batch were analyzed unless stated otherwise on the CoC.

Test Results are reported based on dry weight in milligrams per kilograms (mg/kg) for PCB samples as shown on the analytical reports.

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Definition Appendix

Terms

% Rec	Percent recovery.
<	Below Reporting Limit(RL) or Limit of Quantitation(LoQ) of the instrument.
B	Blank contamination. The recorded results is associated with a contaminated blank.
DF	Dilution Factor
J	The reported concentration is an estimated value because something may be present in the sample that interfered with the analysis.
J1	The reported concentration is an estimated value because the laboratory control sample (LCS) is out of control limits.
J2	The reported concentration is an estimated value because the percent recovery for matrix spike is out of control limits.
J3	The reported concentration is an estimated value because the relative percent difference(RPD) for duplicate analysis is out of control limits.
J4	Percent recovery is outside of established control limits.
LCS	Laboratory Control Sample.
LFS	Laboratory Fortified Spike
Limits	The upper and lower control limits for spike recoveries.
LN	Quality control sample is outside of control limits. This analyte was not detected in the sample.
LOQ	Limit of quantitation(same as RL)
mg/kg	Milligrams per kilogram.
ND	Analyte not detected or below the reporting limit of the instrument or methodology

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Definition Appendix

Terms

PPM	Parts per Million.
QC Batch Group	Quality Control Batch Group. The entity that links analytical results and supporting quality control results.
R	The data are not reliable due to possible contamination or loss of material during preparation or analysis. Re-sampling and reanalysis are necessary for verification.
RL	Reporting Limit. The minimum concentration that can be quantified under routine operating conditions.
RPD	Relative Percent Difference. The relative difference between duplicate results(matrix spike, blank spike, or samples duplicate) expressed as a percentage.
RPD Limit	The maximum RPD allowed for a set of duplicate measurements(see RPD).
SMI	Surrogate has matrix interference.
Spike Conc.	The measured concentration, in sample basis units, of a spiked sample.
SURR-ND	Surrogate was not detected due to matrix interference or dilution.
ug/m3	Micrograms per cubic meter.
ug/mL	Micrograms per milliliter
mg/Kg	milligram per kilogram

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ANALYSIS REPORT

Polychlorinated Biphenyls by Gas Chromatography

Client	**DH Environmental**	Samples Received*	**3**
SDG Number	**1916743.00**	Analyzed By	**Aaron Brown**
Date Reported	**08/13/2019**	Samples Analyzed*	**3**
Project Number	**N-A**	Analysis Method	**8082A**
Location	**Port Tacoma Husky Terminal Crane 2078**	Preparation Method	**3546PR (PCB)**

* for this test only

Sample Number	**POT-2078-PCB-01**	Received	08/07/2019
Lab Sample ID	19091143	Matrix	Material
Initial Sample Size	0.7218 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	2.8	< 2.8	08/12/2019
Aroclor-1221	2.8	< 2.8	08/12/2019
Aroclor-1232	2.8	< 2.8	08/12/2019
Aroclor-1242	2.8	< 2.8	08/12/2019
Aroclor-1248	2.8	< 2.8	08/12/2019
Aroclor-1254	2.8	< 2.8	08/12/2019
Aroclor-1260	2.8	< 2.8	08/12/2019
PCBs, Total	**2.8**	**<2.8**	

Comments: Reporting limit raised due to small sample size

Sample Number	**POT-2078-PCB-02**	Received	08/07/2019
Lab Sample ID	19091144	Matrix	Material
Initial Sample Size	2.0147 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	5.0	< 5.0	08/12/2019
Aroclor-1221	5.0	< 5.0	08/12/2019
Aroclor-1232	5.0	< 5.0	08/12/2019
Aroclor-1242	5.0	< 5.0	08/12/2019
Aroclor-1248	5.0	< 5.0	08/12/2019
Aroclor-1254	5.0	< 5.0	08/12/2019
Aroclor-1260	5.0	< 5.0	08/12/2019
PCBs, Total	**5.0**	**<5**	

Comments: Reporting limit raised due to dilution

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ANALYSIS REPORT

Polychlorinated Biphenyls by Gas Chromatography

Sample Number	**POT-2078-PCB-04**	Received	08/07/2019
Lab Sample ID	19091145	Matrix	Material
Initial Sample Size	2.0386 gm	Units of Result	mg/Kg, as received

Analyte	RL	Final Result	Analysis Date
Aroclor-1016	0.98	< 0.98	08/12/2019
Aroclor-1221	0.98	< 0.98	08/12/2019
Aroclor-1232	0.98	< 0.98	08/12/2019
Aroclor-1242	0.98	< 0.98	08/12/2019
Aroclor-1248	0.98	< 0.98	08/12/2019
Aroclor-1254	0.98	< 0.98	08/12/2019
Aroclor-1260	0.98	< 0.98	08/12/2019
PCBs, Total	**0.98**	**<0.98**	

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Quality Control Results

Project Number:	**N-A**	**SDG Number:**	**1916743**
		Project Manager:	**Brian Johnson**
QC Batch(es):	**Q1030**	Analysis Method:	**8082A**
QC Batch Method:	3546PR (PCB)	Analysis Description:	Polychlorinated Biphenyls by Gas Chromatography
Preparation Date:	08/12/2019		

Blank: MBLK-1916743

Analyte	Blank Result	Units	DF	RL	Control Limit	Qualifiers
Aroclor-1016	ND	mg/Kg	1	1.0	1	
Aroclor-1221	ND	mg/Kg	1	1.0	1	
Aroclor-1232	ND	mg/Kg	1	1.0	1	
Aroclor-1242	ND	mg/Kg	1	1.0	1	
Aroclor-1248	ND	mg/Kg	1	1.0	1	
Aroclor-1254	ND	mg/Kg	1	1.0	1	
Aroclor-1260	ND	mg/Kg	1	1.0	1	
PCBs, Total	ND	mg/Kg	1	1.0	1	
Surrogates:				% Rec		
Tetrachloro-m-xylene			1	74	40-140	
Decachlorobiphenyl			1	93	40-140	

Lab Control Sample: LCS-1254-1916743

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	% Rec Limits	Qualifiers
Aroclor-1254	21.7	mg/Kg	1	20.0	108	40-140	
Surrogates:							
Tetrachloro-m-xylene			1		94	40-140	
Decachlorobiphenyl			1		85	40-140	

Lab Control Sample: LCS-1016-1260-1916743
Lab Control Sample Duplicate: LCSD-1016-1260-1916743

Analyte	Blank Spike Result	Units	DF	Spike Conc.	% Rec	Limits	RPD	RPD Limit	Qualifiers
Aroclor-1016	13.7	mg/Kg	1	20.0	69	40-140			
	14.2			20.0	71	40-140	4	50	
Aroclor-1260	17.6	mg/Kg	1	20.0	88	40-140			
	18.4			20.0	92	40-140	5	50	
Surrogates:									
Tetrachloro-m-xylene			1		74	40-140			
					73	40-140			
Decachlorobiphenyl			1		82	40-140			
					89	40-140			

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Surrogate Recovery Summary Report

Client DH Environmental **SDG Number** 1916743

Project N-A

Customer Sample ID	Lab Sample ID	Analyte	Recovery	Limits
POT-2078-PCB-01	19091143	Decachlorobiphenyl	76%	40-140
POT-2078-PCB-01	19091143	Tetrachloro-m-xylene	64%	40-140
POT-2078-PCB-02	19091144	Decachlorobiphenyl	105%	40-140
POT-2078-PCB-02	19091144	Tetrachloro-m-xylene	81%	40-140
POT-2078-PCB-04	19091145	Decachlorobiphenyl	104%	40-140
POT-2078-PCB-04	19091145	Tetrachloro-m-xylene	74%	40-140
LCS-1016-1260-1916743	LCS-1016-1260-1916743	Decachlorobiphenyl	82%	40-140
LCS-1016-1260-1916743	LCS-1016-1260-1916743	Tetrachloro-m-xylene	74%	40-140
LCS-1254-1916743	LCS-1254-1916743	Decachlorobiphenyl	85%	40-140
LCS-1254-1916743	LCS-1254-1916743	Tetrachloro-m-xylene	94%	40-140
LCSD-1016-1260-1916743	LCSD-1016-1260-1916743	Decachlorobiphenyl	89%	40-140
LCSD-1016-1260-1916743	LCSD-1016-1260-1916743	Tetrachloro-m-xylene	73%	40-140
MBLK-1916743	MBLK-1916743	Decachlorobiphenyl	93%	40-140
MBLK-1916743	MBLK-1916743	Tetrachloro-m-xylene	74%	40-140

* Recovery outside limits

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INITIAL AND CONTINUING CALIBRATION VERIFICATION

SDG No: **1916743** Contract:

Determination: **8082 PCB Aroclors <Material>**

Run	Sample	Source	Analyzed	Analyte	True	Found	Unit	% Rec	Limits
R001023	CCV1-1016-1260	PCB_2019-1-2	08/12/2019	Aroclor-1016	5	5	ug/mL	100	80-120
		PCB_2019-1-2	08/12/2019	Aroclor-1260	5	5	ug/mL	100	80-120
	CCV1-1254	PCB_2019-1-3	08/12/2019	Aroclor-1254	5	5	ug/mL	100	80-120
	ICV 1016-1254-1260	PCB_2019-1-4	08/12/2019	Aroclor-1016	5	4.359	ug/mL	87	85-115
		PCB_2019-1-4	08/12/2019	Aroclor-1254	5	5.746	ug/mL	115	85-115
		PCB_2019-1-4	08/12/2019	Aroclor-1260	5	5.387	ug/mL	108	85-115
	CCV2-1016-1260	PCB_2019-1-2	08/12/2019	Aroclor-1016	5	5.493	ug/mL	110	80-120
		PCB_2019-1-2	08/12/2019	Aroclor-1260	5	5.669	ug/mL	113	80-120
	CCV2-1254	PCB_2019-1-3	08/12/2019	Aroclor-1254	5	5.724	ug/mL	114	80-120

% Rec = Percent recovery

* = Percent recovery not within control limits

ORGANICS LABORATORY SERVICES

NVL

Company	DH Environmental	**NVL Batch Number**	**1916743.00**
Address	1011 SW Klickitat Way Suite 107 Seattle, WA 98134	**TAT**	5 Days **AH** No
		Rush TAT	
Project Manager	Mr. Brian Johnson.	**Due Date**	8/14/2019 **Time** 11:05 AM
Phone	(206) 930-4043	**Email**	brian.johnson@dhenviro.com
		Fax	() -

Project Name/Number: N-A **Project Location:** Port Tacoma Husky Terminal Crane 2078

Subcategory Quantitative analysis

Item Code ORG-05 **Method** 8082 PCB Aroclors <Bulk>

Total Number of Samples 3 Rush Samples

	Lab ID	Sample ID	Description	A/R
1	19091143	POT-2078-PCB-01		A
2	19091144	POT-2078-PCB-02		A
3	19091145	POT-2078-PCB-04		A

	Print Name	Signature	Company	Date	Time
Sampled by	Client				
Relinquished by	Client				

Office Use Only	Print Name	Signature	Company	Date	Time
Received by	Emily Schubert		NVL	8/7/19	1105
Analyzed by			NVL	8/12/19	16:30
Results Called by					
☐ **Faxed** ☐ **Emailed**					

Special Instructions:

Entered By: Emily Schubert Date: 8/7/2019 Time: 11:38 AM 1 of 1

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1916743

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PCB'S CHAIN OF CUSTODY

Turn Around Time
- ❑ 1 Hour
- ❑ 2 Hours
- ❑ 4 Hours
- ❑ 24 Hours
- ❑ 2 Days
- ❑ 3 Days
- ❑ 4 Days
- ❑ 5 Days
- ☒ 10 Days

Please call for TAT less than 24 Hours

Company: DH Environmental
Address: 1011 SW Klickitat Way #107
Seattle WA 98134
Phone:

Project Manager: Brian Johnson
Cell: (206) 930 - 4043
Email: brian.johnson@DHEnviro.com
Fax: ( ) -

Project Name/Number	Project Location
	Port Tacoma Husky Terminal Crane 2078

- ❑ PCB's Air
- ☒ PCB's Bulk
- ❑ PCB Wipe
- ❑ PCB BTEX

Reporting Instructions
❑ Call ( ) - ❑ Fax ( ) - ☒ Email brian.johnson@DHEnviro.com

Total Number of Samples

	Sample ID	Description	A/R
1	POT-2078-PCB-01	Caulk black	
2	POT-2078-PCB-02	gear grease black	
3	POT-2078-PCB-03	Oil	
4	POT-2078-PCB-04	Red & Blue Pain	
5	POT-2078-PCB-05	Oil	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Brian Johnson/Travis Forshw		DH Env.	8-6-19	12:30
Relinquish by	Travis Forshw		DH Env.	8-7-19	11:00

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by			NVL	8/7/19	1105
Analyzed by			NVL	8/12/19	16:30
Called by					
Faxed/Email by					

1916743

NVL
INDUSTRIAL HYGIENE SERVICES
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PCB'S CHAIN OF CUSTODY

Turn Around Time
- ☐ 1 Hour
- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 24 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☐ 4 Days
- ☐ 5 Days
- ☒ 10 Days

Please call for TAT less than 24 Hours

Company: DH Environmental
Address: 1011 SW Klickitat Way #107
Seattle WA 98134
Phone:

Project Manager: Brian Johnson
Cell: (206) 930 - 4043
Email: brian.johnson@DHEnviro.com
Fax: ( ) -

Project Name/Number	Project Location: Port Tacoma Husky Terminal Crane 2078

- ☐ PCB's Air
- ☐ PCB Wipe
- ☒ PCB's Bulk
- ☐ PCB BTEX

Reporting Instructions
☐ Call ( ) - ☐ Fax ( ) - ☒ Email brian.johnson@DHEnviro.com

Total Number of Samples

	Sample ID	Description	A/R
1	POT-2078-PCB-01	Caulk black	
2	POT-2078-PCB-02	gear grease black	
3	POT-2078-PCB-03	Oil	
4	POT-2078-PCB-04	Red & Blue Paint	
5	POT-2078-PCB-05	Oil	
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Brian Johnson/Travis Forslw		DH Env.	8-6-19	12:30
Relinquish by	Travis Forslw		DH Env.	8-7-19	11:00

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Emilie S		NVL	8/7/19	1105
Analyzed by	Ann B		NVL	8/12/19	16:30
Called by					
Faxed/Email by					

OnSite Environmental Inc.
14648 NE 95th Street, Redmond, WA 98052 • (425) 883-3881

June 18, 2025

Brian Johnson
DH Environmental, Inc.
1011 SW Klickitat Way, Suite 107
Seattle, WA 98103

Re: Analytical Data for Project POT Crane HBM
Laboratory Reference No. 2506-138

Dear Brian:

Enclosed are the analytical results and associated quality control data for samples submitted on June 11, 2025.

The standard policy of OnSite Environmental, Inc. is to store your samples for 30 days from the date of receipt. If you require longer storage, please contact the laboratory.

We appreciate the opportunity to be of service to you on this project. If you have any questions concerning the data, or need additional information, please feel free to call me.

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: June 18, 2025
Samples Submitted: June 11, 2025
Laboratory Reference: 2506-138
Project: POT Crane HBM

Case Narrative

Samples were collected on June 10, 2025 and received by the laboratory on June 11, 2025. They were maintained at the laboratory at a temperature of 2°C to 6°C.

Please note that any and all soil sample results are reported on a dry-weight basis, unless otherwise noted below. However the soil results for the QA/QC samples are reported on a wet-weight basis.

General QA/QC issues associated with the analytical data enclosed in this laboratory report will be indicated with a reference to a comment or explanation on the Data Qualifier page. More complex and involved QA/QC issues will be discussed in detail below.

PCBs EPA 8082A Analysis

The percent recovery for surrogate DCB is outside the control limits on the low end for samples 2078 Final drive oil, 2403 Hoist oil, 2403 Boom oil, and 2403 Final drive oil due to sample matrix effects. The samples were florisil-cleaned and reanalyzed with similar results. Surrogate DCB was also low in the closings CCVs due to the negative effect of these sample matrices on the instrument, and therefore no further action was taken. All other QC associated with this sample batch is within control limits.

Any other QA/QC issues associated with this extraction and analysis will be indicated with a footnote reference and discussed in detail on the Data Qualifier page.

Date of Report: June 18, 2025
Samples Submitted: June 11, 2025
Laboratory Reference: 2506-138
Project: POT Crane HBM

PCBs EPA 8082A

Matrix: Product
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**2078 Hoist oil**					
Laboratory ID:	06-138-01					
Aroclor 1016	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1221	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1232	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1242	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1248	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1254	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1260	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1262	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Aroclor 1268	**ND**	0.98	EPA 8082A	6-12-25	6-17-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*90*	*51-137*				
Client ID:	**2078 Boom oil**					
Laboratory ID:	06-138-02					
Aroclor 1016	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1221	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1232	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1242	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1248	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1254	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1260	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1262	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1268	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*59*	*51-137*				
Client ID:	**2078 Final drive oil**					
Laboratory ID:	06-138-03					
Aroclor 1016	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1221	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1232	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1242	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1248	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1254	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1260	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1262	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1268	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*47*	*51-137*				Q

Date of Report: June 18, 2025
Samples Submitted: June 11, 2025
Laboratory Reference: 2506-138
Project: POT Crane HBM

PCBs EPA 8082A

Matrix: Product
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
Client ID:	**2403 Hoist oil**					
Laboratory ID:	06-138-04					
Aroclor 1016	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1221	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1232	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1242	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1248	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1254	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1260	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1262	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1268	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*45*	*51-137*				Q
Client ID:	**2403 Boom oil**					
Laboratory ID:	06-138-05					
Aroclor 1016	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1221	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1232	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1242	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1248	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1254	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1260	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1262	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Aroclor 1268	**ND**	1.0	EPA 8082A	6-12-25	6-17-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*38*	*51-137*				Q
Client ID:	**2403 Final drive oil**					
Laboratory ID:	06-138-06					
Aroclor 1016	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1221	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1232	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1242	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1248	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1254	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1260	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1262	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Aroclor 1268	**ND**	0.99	EPA 8082A	6-12-25	6-17-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*37*	*51-137*				Q

Date of Report: June 18, 2025
Samples Submitted: June 11, 2025
Laboratory Reference: 2506-138
Project: POT Crane HBM

PCBs EPA 8082A
QUALITY CONTROL

Matrix: Product
Units: mg/Kg (ppm)

Analyte	Result	PQL	Method	Date Prepared	Date Analyzed	Flags
METHOD BLANK						
Laboratory ID:	MB0612O2					
Aroclor 1016	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1221	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1232	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1242	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1248	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1254	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1260	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1262	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Aroclor 1268	**ND**	1.0	EPA 8082A	6-12-25	6-12-25	
Surrogate:	*Percent Recovery*	*Control Limits*				
DCB	*101*	*51-137*				

Analyte	Result		Spike Level		Source Result	Percent Recovery		Recovery Limits	RPD	RPD Limit	Flags
SPIKE BLANKS											
Laboratory ID:	SB0612O2										
	SB	SBD	SB	SBD		SB	SBD				
Aroclor 1260	**5.16**	**4.76**	4.98	4.98	N/A	**104**	**96**	51-128	8	16	
Surrogate:											
DCB						*90*	*96*	*51-137*			

OnSite Environmental Inc.

Data Qualifiers and Abbreviations

A - Due to a high sample concentration, the amount spiked is insufficient for meaningful MS/MSD recovery data.

B - The analyte indicated was also found in the blank sample.

C - The duplicate RPD is outside control limits due to high result variability when analyte concentrations are within five times the quantitation limit.

E - The value reported exceeds the quantitation range and is an estimate.

F - Surrogate recovery data is not available due to the high concentration of coeluting target compounds.

H - The analyte indicated is a common laboratory solvent and may have been introduced during sample preparation, and be impacting the sample result.

I - Compound recovery is outside of the control limits.

J - The value reported was below the practical quantitation limit. The value is an estimate.

K - Sample duplicate RPD is outside control limits due to sample inhomogeneity. The sample was re-extracted and re-analyzed with similar results.

L - The RPD is outside of the control limits.

M - Hydrocarbons in the gasoline range are impacting the diesel range result.

M1 - Hydrocarbons in the gasoline range (toluene-naphthalene) are present in the sample.

N - Hydrocarbons in the lube oil range are impacting the diesel range result.

N1 - Hydrocarbons in diesel range are impacting lube oil range results.

O - Hydrocarbons indicative of heavier fuels are present in the sample and are impacting the gasoline result.

P - The RPD of the detected concentrations between the two columns is greater than 40.

Q - Surrogate recovery is outside of the control limits.

S - Surrogate recovery data is not available due to the necessary dilution of the sample.

T - The sample chromatogram is not similar to a typical _____.

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

U1 - The practical quantitation limit is elevated due to interferences present in the sample.

V - Matrix Spike/Matrix Spike Duplicate recoveries are outside control limits due to matrix effects.

W - Matrix Spike/Matrix Spike Duplicate RPD are outside control limits due to matrix effects.

X - Sample extract treated with a mercury cleanup procedure.

X1 - Sample extract treated with a sulfuric acid/silica gel cleanup procedure.

X2 - Sample extract treated with a silica gel cleanup procedure.

Y - The calibration verification for this analyte exceeded the 20% drift specified in methods 8260 & 8270, and therefore the reported result should be considered an estimate. The overall performance of the calibration verification standard met the acceptance criteria of the method.

Y1 - Negative effects of the matrix from this sample on the instrument caused values for this analyte in the bracketing continuing calibration verification standard (CCVs) to be outside of 20% acceptance criteria. Because of this, quantitation limits and sample concentrations should be considered estimates.

Z -

ND - Not Detected at PQL
PQL - Practical Quantitation Limit
RPD - Relative Percent Difference

Chain of Custody

OnSite Environmental Inc.
Analytical Laboratory Testing Services
14648 NE 95th Street • Redmond, WA 98052
Phone: (425) 883-3881 • www.onsite-env.com

Company: DH Environmental
Project Number:
Project Name: POT Crane HBM
Project Manager: Brian Johnson
Sampled by: Finn O'Hea, Nathan Kruse

Turnaround Request (in working days)

(Check One)

- ☐ Same Day
- ☐ 1 Day
- ☐ 2 Days
- ☐ 3 Days
- ☒ Standard (7 Days)
- ☐ _____ (other)

Laboratory Number: 06-138

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	Number of Containers	NWTPH-HCID	NWTPH-Gx/BTEX (8021☐ 8260☐)	NWTPH-Gx	NWTPH-Dx (SG Clean-up ☐)	Volatiles 8260	Halogenated Volatiles 8260	EDB EPA 8011 (Waters Only)	Semivolatiles 8270/SIM (with low-level PAHs)	PAHs 8270/SIM (low-level)	PCBs 8082	Organochlorine Pesticides 8081	Organophosphorus Pesticides 8270/SIM	Chlorinated Acid Herbicides 8151	Total RCRA Metals	Total MTCA Metals	TCLP Metals	HEM (oil and grease) 1664	% Moisture
1	2078 Hoist oil	6/10	9:25	Product	1										X								
2	2078 Boom oil	6/10	9:30	Product	1										X								
3	2078 Final drive oil	6/10	1005	Product	1										X								
4	2040 ~~2078~~ 3 Hoist oil	6/10	10:50	Product	1										X								
5	2040 ~~2078~~ 3 Boom oil	6/10	1050	Product	1										X								
6	2040 ~~2078~~ 3 Final drive oil	6/10	1120	Product	1										X								

	Signature	Company	Date	Time
Relinquished	[signature]	DH Environmental	6/11/25	1045
Received	[signature]	OSE	6/11/25	1045
Relinquished				
Received				
Relinquished				
Received				
Reviewed/Date		Reviewed/Date		

Comments/Special Instructions

Send results to:
data@DHenviro.com

Data Package: Standard ☒ Level III ☐ Level IV ☐

Chromatograms with final report ☐ Electronic Data Deliverables (EDDs) ☐

Attachment 3 XRF Data

XRF Data Log

Index	Time	Type	Color	Site	Inspector	Crane Number	Results	Action Level	PbC	Units
729	8/6/2019 11:39	Shutter Calibration		POT	B.Johnson				2.92	cps
730	8/6/2019 11:42	Calibrate		POT	B.Johnson		Positive	1	1	mg / cm ^2
731	8/6/2019 11:48	Paint	Yellow	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
732	8/6/2019 11:48	Paint	Dark Blue	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
733	**8/6/2019 11:49**	**Paint**	**Light Blue**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**1.3**	**mg / cm ^2**
734	8/6/2019 11:50	Paint	Yellow	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
735	**8/6/2019 11:51**	**Paint**	**Grey**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**2.9**	**mg / cm ^2**
736	**8/6/2019 11:53**	**Paint**	**Red**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**4.7**	**mg / cm ^2**
737	8/6/2019 11:54	Paint	Red	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
738	8/6/2019 11:54	Paint	Yellow	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
739	8/6/2019 11:56	Paint	Yellow	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
740	**8/6/2019 11:57**	**Paint**	**Red**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**3.6**	**mg / cm ^2**
741	**8/6/2019 11:58**	**Paint**	**Blue**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**4.4**	**mg / cm ^2**
742	8/6/2019 12:00	Paint	White	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
743	**8/6/2019 12:43**	**Paint**	**White**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**2.9**	**mg / cm ^2**
744	8/6/2019 12:44	Paint	Orange	POT	B.Johnson	2078	Negative	1	0.7	mg / cm ^2
745	8/6/2019 12:46	Paint	Grey	POT	B.Johnson	2078	Negative	1	0.7	mg / cm ^2
746	**8/6/2019 12:48**	**Paint**	**White**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**1.3**	**mg / cm ^2**
747	8/6/2019 12:50	Paint	Grey	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
748	8/6/2019 12:52	Paint	Blue	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
749	8/6/2019 12:53	Paint	Grey	POT	B.Johnson	2078	Negative	1	0.6	mg / cm ^2
750	8/6/2019 12:55	Paint	Grey / Orange	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
751	8/6/2019 12:56	Paint	Red	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
752	8/6/2019 12:58	Paint	Yellow	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2
753	**8/6/2019 13:02**	**Paint**	**White**	**POT**	**B.Johnson**	**2078**	**Positive**	**1**	**2.3**	**mg / cm ^2**
754	8/6/2019 13:03	Paint	Silver	POT	B.Johnson	2078	Negative	1	< LOD	mg / cm ^2

Attachment 4 Laboratory Certifications

March 29, 2019

Laboratory ID: 101861

Nghiep Vi Ly
NVL Laboratories, Inc.
4708 Aurora Avenue N.
Seattle, WA 98103

Dear Mr./Ms. Ly:

Congratulations! The AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC's Analytical Accreditation Board (AAB) has approved NVL Laboratories, Inc. as an accredited Industrial Hygiene, Environmental Lead, Environmental Microbiology and Unique Scope laboratory.

Accreditation documentation includes the IHLAP, ELLAP, EMLAP and Unique Scopes accreditation certificate, scope of accreditation document and a copy of the current AIHA-LAP, LLC license agreement (if your completed agreement is not on file at AIHA-LAP, LLC). The accreditation symbol has been designed for use by all AIHA-LAP, LLC accredited laboratories. If your laboratory chooses to use the symbol in its advertising the laboratory's accreditation, you must complete and return the AIHA-LAP, LLC license agreement to a Laboratory Accreditation Specialist. Once submitted, an electronic copy of the accreditation symbol will be sent to you.

Laboratory accreditation shall be maintained by continued compliance with IHLAP, ELLAP, EMLAP and Unique Scopes requirements *(see Policy Modules 2B, 2C, 2D, 2E, and 6),* which includes proficient participation in AIHA-LAP, LLC approved proficiency testing, demonstration of competency, or round robin program as indicated on the AIHA-LAP "Approved PT and Round Robin" webpage, its associated Scope/PT table, and as required in Policy Module 6, for all Fields of Testing (FoTs) for which the laboratory is accredited. An accredited laboratory that wishes to expand into a new FoT must submit an updated accreditation application to AIHA-LAP, LLC for review by the AAB.

Any changes in ownership, laboratory location, personnel, FoTs/Methods, or significant procedural changes shall be reported to AIHA-LAP, LLC in writing within twenty (20) business days of the change.

The accreditation certificate is the property of AIHA-LAP, LLC and must be returned to us should your laboratory withdraw or be removed from the IHLAP, ELLAP, EMLAP and Unique Scopes.

Again, congratulations. If you have any questions, please contact Lauren Schnack, Laboratory Accreditation Specialist, at (703) 846-0716.

Sincerely,

Cheryl O. Morton

Cheryl O. Morton
Managing Director

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

NVL Laboratories, Inc.

4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: 101861

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2017 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: June 01, 2021
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: June 01, 2021
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: June 01, 2021
☐	**FOOD**	Accreditation Expires:
✓	**UNIQUE SCOPES**	Accreditation Expires: June 01, 2021

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2017 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

Beth Bair

Elizabeth Bair
Chairperson, Analytical Accreditation Board

Cheryl O. Morton

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 17 – 09/11/2018

Date Issued: 03/29/2019

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

NVL Laboratories, Inc.
4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**
Issue Date: 03/29/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 04/01/1997

IHLAP Scope Category	**Field of Testing (FoT)** (FoTs cover all relevant IH matrices)	**Technology sub-type/ Detector**	**Published Reference Method/Title of In-house Method**	**Method Description or Analyte** *(for internal methods only)*
Spectrometry Core	Atomic Absorption	FAA	NIOSH 7082	
	Inductively-Coupled Plasma	ICP/AES	NIOSH 7300	
	X-ray Diffraction (XRD)		NIOSH 7500	
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	
Miscellaneous Core	Gravimetric		NIOSH 0500	
			NIOSH 0600	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

NVL Laboratories, Inc.
4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**
Issue Date: 03/29/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 02/07/1997

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description (*for internal methods only*)
Paint		EPA SW-846 3051	
		EPA SW-846 7000B	
Soil		EPA SW-846 3051	
		EPA SW-846 7000B	
Settled Dust by Wipe		EPA SW-846 3051	
		EPA SW-846 7000B	
Airborne Dust		NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

AIHA Laboratory Accreditation Programs, LLC

SCOPE OF ACCREDITATION

NVL Laboratories, Inc.
4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**
Issue Date: 03/29/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 02/01/1997

EMLAP Category	Field of Testing (FoT)	Method	Method Description *(for internal methods only)*
Fungal	Air - Direct Examination	SOP 12.133	In-House: Analysis of Spore Trap
	Bulk - Direct Examination	SOP 12.133	In-House: Bulk Analysis
	Surface - Direct Examination	SOP 12.133	In-House: Analysis of Surface Wipe

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

NVL Laboratories, Inc.
4708 Aurora Avenue N., Seattle, WA 98103

Laboratory ID: **101861**
Issue Date: 03/29/2019

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Unique Scopes Laboratory Accreditation Program (Unique Scopes)

Initial Accreditation Date: 04/01/2013

Unique Scope Category	Field of Testing (FoT)	Method	Method Description (*for internal methods only*)
Consumer Product Testing	Lead in Paint and Other Similar Surface Coatings	CPSC-CH.E1003-10	
	Total Lead in Metal Children's Product	CPSC-CH.E1001-08	
	Total Lead in Non-Metal Children's Products	CPSC-CH.E1002-08	

A complete listing of currently accredited Unique Scope laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

United States Department of Commerce
National Institute of Standards and Technology

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 102063-0

NVL Laboratories, Inc.

Seattle, WA

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2018-10-01 through 2019-09-30

Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

NVL Laboratories, Inc.
4708 Aurora Avenue N.
Seattle, WA 98103
Mr. Nghiep Vi Ly
Phone: 206-547-0100 Fax: 206-634-1936
Email: nick.l@nvllabs.com
http://www.nvllabs.com

ASBESTOS FIBER ANALYSIS — NVLAP LAB CODE 102063-0

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

For the National Voluntary Laboratory Accreditation Program

The State of Washington Department of Ecology

NVL Laboratories, Inc
Seattle, WA

has complied with provisions set forth in Chapter 173-50 WAC and is hereby recognized by the Department of Ecology as an ACCREDITED LABORATORY for the analytical parameters listed on the accompanying Scope of Accreditation. This certificate is effective July 18, 2019 and shall expire July 17, 2020.

Witnessed under my hand on July 15, 2019

Rebecca Wood
Lab Accreditation Unit Supervisor

Laboratory ID
C797

WASHINGTON STATE DEPARTMENT OF ECOLOGY

ENVIRONMENTAL LABORATORY ACCREDITATION PROGRAM

SCOPE OF ACCREDITATION

NVL Laboratories, Inc

Seattle, WA

is accredited for the analytes listed below using the methods indicated. Full accreditation is granted unless stated otherwise in a note. EPA is the U.S. Environmental Protection Agency. SM is "Standard Methods for the Examination of Water and Wastewater." SM refers to EPA approved method versions. ASTM is the American Society for Testing and Materials. USGS is the U.S. Geological Survey. AOAC is the Association of Official Analytical Chemists. Other references are described in notes.

Matrix/Analyte	Method	Notes
Drinking Water		
Copper	EPA 200.9 Rev 2.2 (1994)	
Lead	EPA 200.9 Rev 2.2 (1994)	
Solid and Chemical Materials		
Arsenic	EPA 6010D_(7/14)	
Barium	EPA 6010D_(7/14)	
Cadmium	EPA 6010D_(7/14)	
Chromium	EPA 6010D_(7/14)	
Copper	EPA 6010D_(7/14)	
Lead	EPA 6010D_(7/14)	
Nickel	EPA 6010D_(7/14)	
Selenium	EPA 6010D_(7/14)	
Silver	EPA 6010D_(7/14)	
Zinc	EPA 6010D_(7/14)	
Mercury	EPA 7471B_(1/98)	
Aroclor-1016 (PCB-1016)	EPA 8082A_(2/07)	
Aroclor-1221 (PCB-1221)	EPA 8082A_(2/07)	
Aroclor-1232 (PCB-1232)	EPA 8082A_(2/07)	
Aroclor-1242 (PCB-1242)	EPA 8082A_(2/07)	
Aroclor-1248 (PCB-1248)	EPA 8082A_(2/07)	
Aroclor-1254 (PCB-1254)	EPA 8082A_(2/07)	
Aroclor-1260 (PCB-1260)	EPA 8082A_(2/07)	

Matrix/Analyte	Method	Notes
Solid and Chemical Materials		
Asbestos	EPA 600/R-93-116	1

Accredited Parameter Note Detail

(1) Accreditation based in part on recognition of US Department of Commerce NIST NVLAP accreditation.

Rebecca Wood

Authentication Signature
Rebecca Wood, Lab Accreditation Unit Supervisor

07/15/2019

Date

Attachment 5 Inspector Certifications

THE ASBESTOS INSTITUTE

Certifies that

Brian Johnson

has attended and received instruction in the EPA approved course

AHERA Building Inspector Refresher

on

July 02, 2019

and successfully completed and passed the competency exam.

ON-4644-2900-070219

Date of Examination:
2-Jul-2019

Date of Expiration:
02-Jul-2020

William T. Cavness
Director

Approved Instructor

THE ASBESTOS INSTITUTE
20033 N. 19th Ave, Building 6, Phoenix, AZ 85027
602-864-6564 – www.theasbestosinstitute.com

This training meets all requirements for asbestos certification under Toxic Substance Control Act Title II.

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Abatement Program

Brian Gary Johnson

Has fulfilled the certification requirements of WAC 365-230 and has been certified to conduct lead-based paint activities as a

Risk Assessor

Certification #	Issuance Date	Expiration Date
7170	03/27/2018	03/27/2021

THE ASBESTOS INSTITUTE

Certifies that

Travis Forslund

has attended and received instruction in the EPA approved course

AHERA Building Inspector Refresher

on

November 01, 2018

and successfully completed and passed the competency exam.

4644-721-110118

Date of Examination:
1-Nov-2018

Date of Expiration:
01-Nov-2019

William T. Cavness
Director

Approved Instructor

THE ASBESTOS INSTITUTE
20033 N. 19th Ave, Building 6, Phoenix, AZ 85027
602-864-6564 – www.theasbestosinstitute.com

This training meets all requirements for asbestos certification under Toxic Substance Control Act Title II.