GREYLOCK
CONSULTING LLC
Water Resources & Environmental Services

To: Dan Crawford, Port of Tacoma
From: Suzanne Dudziak, Greylock Consulting LLC
Date: March 10, 2014
Re: Sampling & Analysis of Building Materials at 4918 & 5024 Marine View Drive, Tacoma, Washington on February 25, 2014

BACKGROUND

On February 13, 2014, a hazardous materials survey was completed by Greylock Consulting LLC (Greylock) for two houses located at 4918 and 5024 Marine View Drive in Tacoma, Washington ("Site", Greylock 2014). Composite building material samples were collected and analyzed for Toxic Characteristic Leaching Potential (TCLP) Lead during the survey. Three composite samples exceeded the Lead TCLP criteria.

The survey report recommended that more refined sampling and analyses be performed on materials that tested positive for Lead Based Paint (LBP) and that exceeded the TCLP criteria. This memo documents the additional sampling and analysis performed at the Site.

METHODOLOGIES AND RESULTS

On February 25, 2014, eleven building material samples were collected from areas where LBP had been detected with an XRF analyzer and composite sampling of building materials had failed Lead TCLP criteria (Greylock, 2014).

Sampling was performed in accordance with one of Department of Ecology's (Ecology's) recommended sampling protocols: Screen, Sample, and Segregate (Ecology, 2014). Building material samples were collected using a hammer and chisel or reciprocating saw. Measurements and photos of the materials were collected. Sample locations are shown on Figures 1 and 2.

Samples of materials were collected and placed in Zip Lock® plastic bags. Each sample was assigned a number and the sample location was identified with a photograph for future reference. As a result of the survey, 11 bulk samples of building materials were collected for analysis. These samples consisted of shingles, window frames, door frames, posts, and a kitchen bench. Samples were transported to NVL Laboratory (NVL) in Seattle, Washington after collection. A chain-of-custody (COC) record was maintained for sample tracking.

Building material samples were analyzed by NVL for TCLP Lead by EPA Method 1311/7000B. Results of the analyses are presented in Tables 1 and 2.

Based on analytical testing, 9 of 11 materials failed the Lead TCLP Criteria of 5 mg/L. The approximate volume of material that failed Lead TCLP Criteria is approximately 46.7 cu ft.

RECOMMENDATIONS

We recommend that materials that failed Lead TCLP Criteria be removed and disposed, prior to demolition of the remaining structures. Removal should be performed by a contractor licensed to perform LBP abatement. A list of licensed abatement contractors can be found at the State of Washington Department of Commerce's web site: http://www.commerce.wa.gov/Programs/services/Paint/Pages/LeadBasedPaintAbatement.aspx . Materials must be disposed of at a landfill licensed to accept hazardous waste.

Please note that removal of these materials does not mean the houses will be lead free. As stated in Greylock's hazardous materials survey report (2014), the contractor will need to comply with WAC 296-155-176 during demolition of the structures. WAC 296-155-176 identifies worker health and safety requirements that apply to all construction work where an employee may be occupationally exposed to lead.

LIMITATIONS OF SURVEY

This report does not represent all conditions at the subject site as it only reflects the information gathered from specific locations at 4918 and 5024 Marine View Drive in Tacoma, Washington. The north and northwestern exterior sides of both houses were inaccessible during sampling. Observation or sampling of other work areas was not within the scope of Greylock Consulting LLC's (Greylock's) work and was not performed.

This report was prepared pursuant to the contract Greylock has with the client. Unauthorized reliance on or use of this report, including any of its information or conclusions, will be at third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

Questions concerning the contents of this report should be addressed to the individual listed below.

Suzanne Dudziak

_____

Suzanne Dudziak
Certified Lead-Based Paint Inspector No. 6574

Attachments:

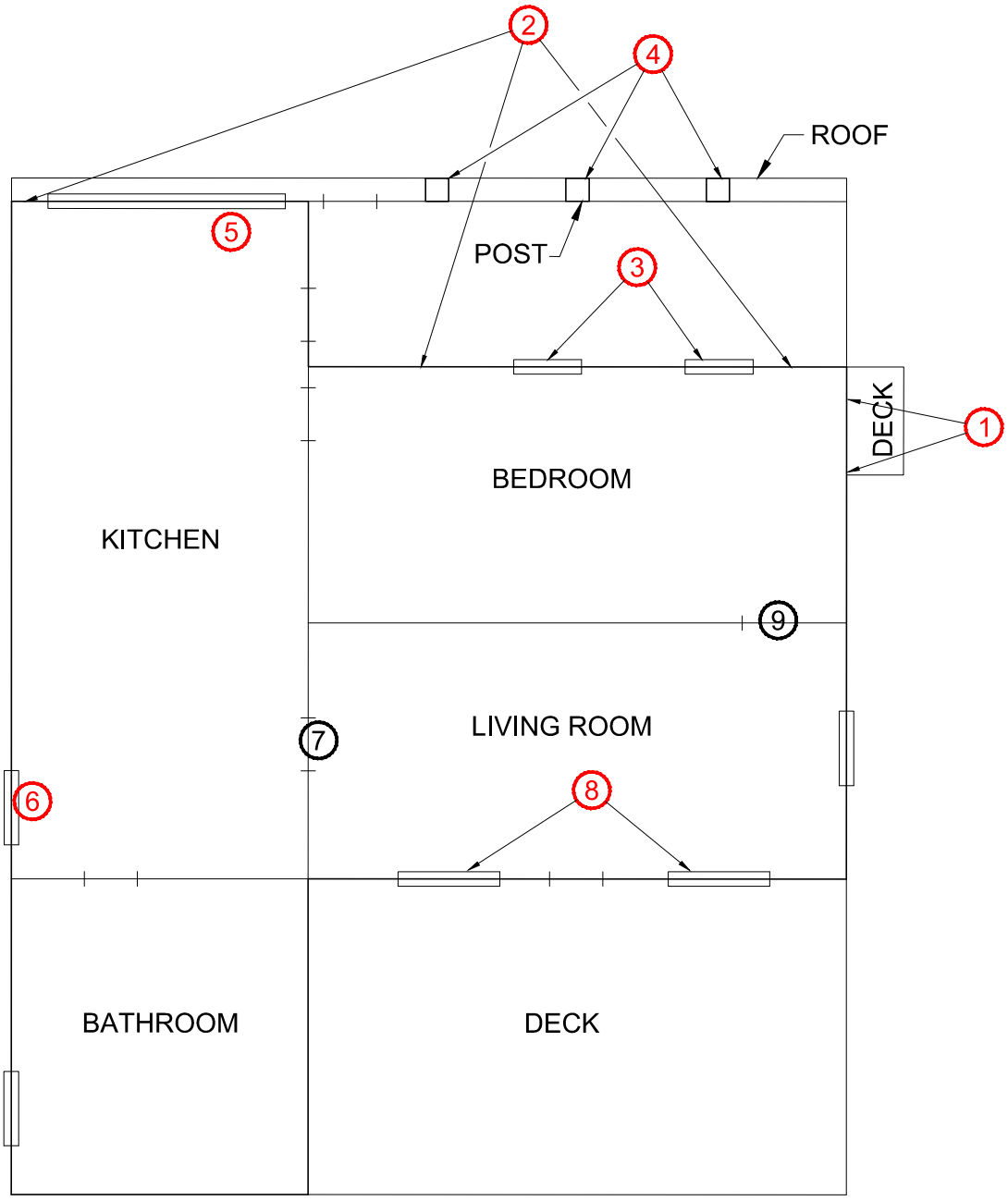
1- Figure 1: TCLP Lead Sample Locations 4918 Marine View Drive
2- Figure 2: TCLP Lead Sample Locations 5024 Marine View Drive
3- Table 1: TCLP Lead Analytical Results 4918 Marine View Drive
4- Table 2: TCLP Lead Analytical Results 5024 Marine View Drive
5- Site Photos
6- Laboratory Analytical Results

References

Greylock 2014. Hazardous Materials Survey 4918 & 5024 Marine View Drive, Tacoma, Washington. Prepared for Port of Tacoma. February.

Ecology 2014. Suggested Sampling Plans for Building Debris Disposal. Available at: http://www.ecy.wa.gov/programs/hwtr/dangermat/samplePlans.html. March.

MARINE VIEW DRIVE



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

7 - SAMPLE LOCATION

3 - SAMPLE EXCEEDS LEAD TCLP CRITERIA OF 5 MG/L

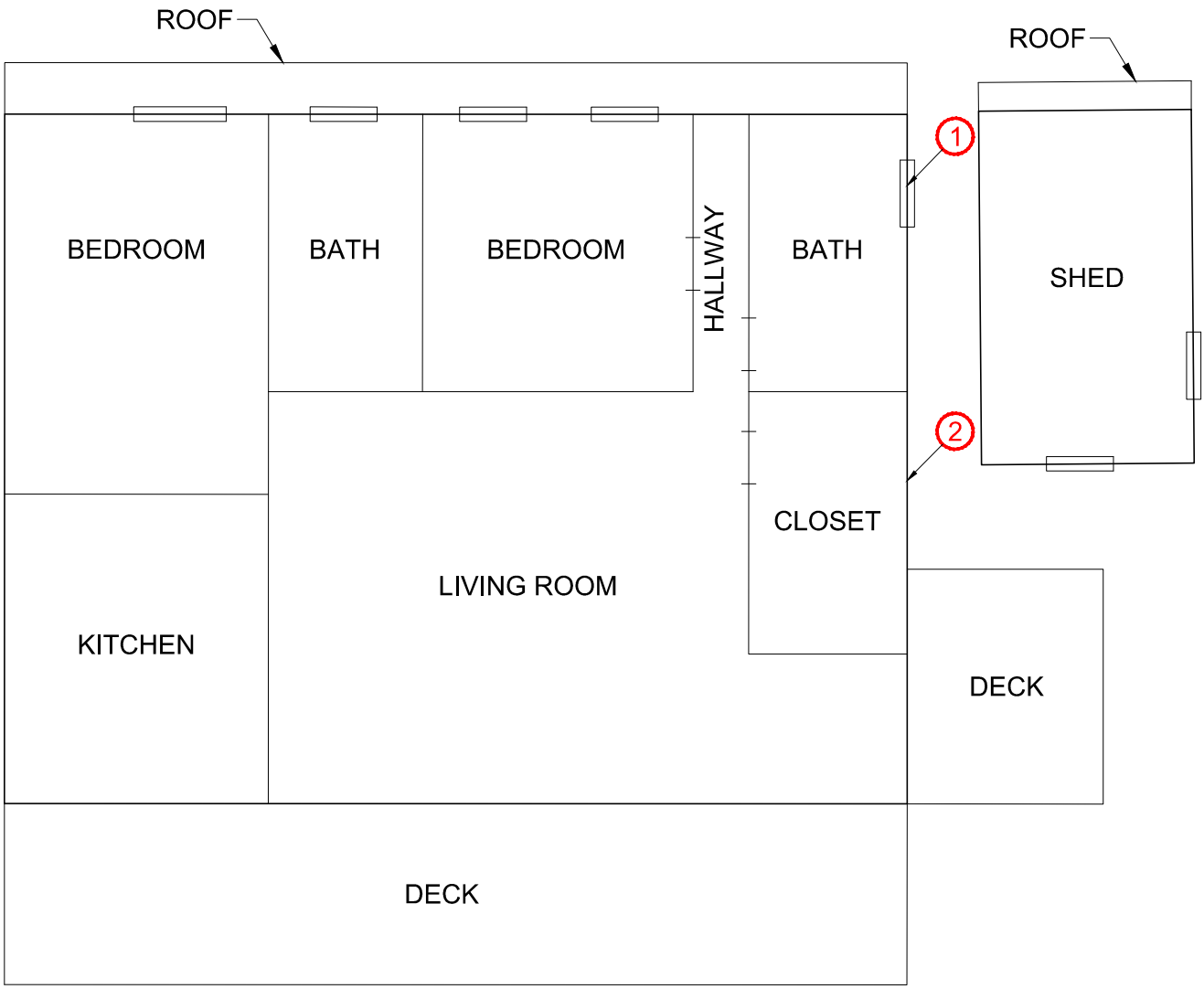
720 S. 333rd St, Ste. 210
Federal Way, WA 98003
office: 253-661-3520
cel/direct: 253-266-2838
www.greylockenv.com

GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

FIGURE 1 : TCLP LEAD SAMPLE LOCATIONS - 4918 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : February 25, 2014
Project No : 0411-13-2

MARINE VIEW DRIVE



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

1 - SAMPLE EXCEEDS LEAD TCLP CRITERIA OF 5 MG/L

720 S. 333rd St, Ste. 210
Federal Way, WA 98003
office: 253-661-3520
cel/direct: 253-266-2838
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GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

FIGURE 2 : TCLP LEAD SAMPLE LOCATIONS - 5024 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : February 25, 2014
Project No : 0411-13-2

Table 1. TCLP Lead Analytical Results - 4918 Marine View Dr, Tacoma, WA; February 25, 2014				
Sample ID	Date	Description	Lead Results in mg/L	Approximate Quantity of Materials Above Lead TCLP Criteria in Cubic Feet(1)
4918-22514-1	2/25/2014	Exterior Light Green Shingles - South	**19.0**	20.2
4918-22514-2	2/25/2014	Exterior Dark Green Shingles - East	**8.9**	16.5
4918-22514-3	2/25/2014	Exterior White Window Frames - East	**22.0**	1.3
4918-22514-4	2/25/2014	Exterior White Posts - East	**21.0**	2.4
4918-22514-5	2/25/2014	Interior White Kitchen Bench	**5.9**	2.2
4918-22514-6	2/25/2014	Interior White Kitchen Window Frame	**7.4**	1.0
4918-22514-7	2/25/2014	Interior White Door Frame between Kitchen & Living Room	<0.5	N/A
4918-22514-8	2/25/2014	Interior White Living Room Window Frames	**34.0**	2.5
4918-22514-9	2/25/2014	White Interior Door Frame between Living Room & Bedroom	<0.5	N/A

Bold = Concentrations exceeds screening criteria of 5 mg/L

1 All quantities are approximate and should be verified by Contractor. Estimates are based on measured length, width, and thickness of material. For inaccessible exterior areas, width was estimated. For shingles, thickness was multiplied by 1.5 to account for overlapping materials.

Table 2. TCLP Lead Analytical Results - 5024 Marine View Dr, Tacoma, WA; February 25, 2014				
Sample ID	Date	Description	Lead Results in mg/L	Approximate Quantity of Materials Above Lead TCLP Criteria in Cubic Feet(1)
5024-22514-1	2/25/2014	Exterior Green Window Frame - South	**11.0**	0.3
5024-22514-2	2/25/2014	Exterior Green Window Frame - South	**49.0**	0.3

Bold = Concentrations exceeds screening criteria of 5 mg/L

1 All quantities are approximate and should be verified by Contractor. Estimates are based on measured length, width, and thickness of material. For inaccessible exterior areas, width was estimated.

4918 Marine View Drive Photos (1 – 7)

1. Sample 4918-22514-1 Green Shingles

2. Sample 4918-22514-2 Green Shingles

3. Sample 4918-22514-3 White Window Framing

4. Sample 4918-22514-4 White Posts

5. Sample 4918-22514-5 Bench

6. Sample 4918-22514-6 Window Framing

7. Sample 4918-22514-8 Window Framing

5024 Marine View Drive Photos (8 - 9)

8. Sample 5024-22514-1 Window Framing

9. Sample 5024-22514-2 Window Framing

February 27, 2014

Suzanne Dudziak
Greylock Consulting
720 333rd St., Ste 210
Federal Way, WA 98003

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1403309.00

Dear Ms. Dudziak,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846-3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm) , Percent (%) or mg/cm^2 by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft^2. TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m^3. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested. Lead test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This 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 are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

Enclosure:

ilac-MRA
AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE & ENVIRONMENTAL LEAD
ISO/IEC 17025:2005
LAB #101861

NVL Laboratories, Inc.

4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

Analysis Report

AIHA - IH # 101861
WA - DOE # C1765

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

Toxicity Characteristic Leaching Procedure - Lead (Pb)

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma,WA

Batch #: 1403309.00
Matrix: Bulk
Method: EPA 1311/7000B
Client Project #: Marine View Drive
Date Received: 2/26/2014
Samples Received: 11
Samples Analyzed: 11

Lab ID	Client Sample #	RL mg/ L	Results in mg/L	Results in ppm
14021989	4918-22514-1	0.5	19.0	19.0
14021990	4918-22514-2	0.5	8.9	8.9
14021991	4918-22514-3	0.5	22.0	22.0
14021992	4918-22514-4	0.5	21.0	21.0
14021993	4918-22514-5	0.5	5.9	5.9
14021994	4918-22514-6	0.5	7.4	7.4
14021995	4918-22514-7	0.5	< 0.5	< 0.5
14021996	4918-22514-8	0.5	34.0	34.0
14021997	4918-22514-9	0.5	< 0.5	< 0.5
14021998	5024-22514-1	0.5	11.0	11.0
14021999	5024-22514-2	0.5	49.0	49.0

Sampled by: Client
Analyzed by: Fatima Khan
Reviewed by: Nick Ly

Date Analyzed: 02/27/2014
Date Issued: 02/27/2014

/Nick Ly, Technical Director

mg/ L =Milligrams per liter
ppm = parts per million

RL = Reporting Limit
'<' = Below the reporting Limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 34-0226-07

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
Tel: 206.547.0100 Emerg.Cell: 206.914.4646
Fax: 206.634.1936 1.888.NVL.LABS (685.5227)

CHAIN of CUSTODY SAMPLE LOG

NVL Batch ID **1403309**

Client: Greylock Consulting
Street: 720 333rd St., Ste 210
Federal Way, WA 98003

NVL Batch Number:
Client Job Number: Marine View Drive
Total Samples: 11
Turn Around Time: ☐ 1-Hr ☐ 2-Hrs ☐ 4-Hrs ☐ 8-Hrs ☐ 12-Hrs ☐ 24-Hrs ☐ 2 Days ☐ 3 Days ☐ 4 Days ☒ 5 Days ☐ 6-10 Days

Please call for TAT less than 24 Hrs

Project Manager: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Email address: greylockllc@comcast.net

Phone: (253) 661-3520 Fax:
Cell: (253) 266-2838

☐ **Asbestos Air** ☐ PCM (NIOSH 7400) ☐ TEM (NIOSH 7402) ☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other

☐ **Asbestos Bulk** ☐ PLM (EPA/600/R-93/116) ☐ PLM (EPA Point Count) ☐ PLM (EPA Gravimetry) ☐ TEM BULK

☐ **Mold/Fungus** ☐ Mold Air ☐ Mold Bulk ☐ **Rotometer Calibration**

METALS: ☐ Total Metals ☒ TCLP LEAD ☐ Cr 6

Det. Limit: ☐ FAA (ppm) ☐ ICP (ppm) ☐ GFAA (ppb)

Matrix: ☐ Air Filter ☐ Drinking water ☐ Dust/wipe (Area) ☐ Soil ☐ Paint Chips in % ☐ Paint Chips in cm

RCRA Metals: ☐ All 8 ☐ Arsenic (As) ☐ Barium (Ba) ☐ Cadmium (Cd) ☐ Chromium (Cr) ☐ Lead (Pb) ☐ Mercury (Hg)

Other Metals: ☐ All 3 ☐ Copper (Cu) ☐ Nickel (Ni) ☐ Zinc (Zn)

☐ **Other Types of Analysis** ☐ Fiberglass ☐ Silica ☐ Nuisance Dust ☐ Respirable Dust ☐ Other (Specify) TCLP Lead Only

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample are, Sample Volume, etc)	A/R
1		4918-22514-1		
2		4918-22514-2		
3		4918-22514-3		
4		4918-22514-4		
5		4918-22514-5		
6		4918-22514-6		
7		4918-22514-7		
8		4918-22514-8		
9		4918-22514-9		
10		5024-22514-1		
11		5024-22514-2		
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Suzanne Dudziak	[signature]	Greylock	2/25/14	
Relinquished by	Christine M. Lopez	[signature]	Greylock	2/26/14	9:33
Received by	Max			2/26/14	935
Analyzed by	[illegible]	[signature]	NVL Labs	2/	
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.

Memo

PIONEER TECHNOLOGIES CORPORATION
5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503-5901
Phone: 360.570.1700
Fax: 360.570.1777
www.uspioneer.com

to: Pedro Reyes

from: Stacy Munson

cc: Brenda Bradford and Scott Hooton (Port of Tacoma), Chris Waldron (PIONEER)

date: July 18, 2014

subject: **PIONEER PSA: 069750 Task Order #04:** Marine View Drive Properties Hazardous Materials Assessment

Per your request, PIONEER Technologies Corporation (PIONEER) conducted a hazardous materials assessment at three properties on Marine View Drive on behalf of the Port of Tacoma (Port). The properties are located at 4720, 4722, and 4728 Marine View Drive in Tacoma, Washington (Figure 1). The purpose of the hazardous materials assessment was to determine the appropriate disposal requirements for various building materials on the properties during the Port's upcoming demolition work.

In order to achieve this objective, samples were collected from various building materials at each of the three buildings. Samples were collected from the primary types of building materials present at each building, and were segregated by building, as follows (see Figure 2):

1. 4720 Marine View Dr. (the southernmost building)
2. 4722 Marine View Dr. (the middle building)
3. 4728 Marine View Dr. (the northernmost building)

This memo presents an overview of the sampling objectives, field operations, sampling results, and conclusions and recommendations.

Sampling Objectives and Field Operations

This assessment was designed to address the four primary objectives discussed below. Primary field operations were conducted by PIONEER on April 3rd, 2014. Additional field operations associated with Objective 4 were conducted on April 17th, May 9th, and July 8th, 2014. Photos from the field operations are presented in Attachment 1. Samples were collected using hand tools (e.g., hammer and chisel, scissors, battery-powered drill) and all hand tools were decontaminated using a mild detergent after each sample was collected to prevent cross-contamination. Samples were submitted to Spectra Laboratories in Tacoma, Washington under industry-standard chain of custody procedures on the days they were collected. Field notes are presented in Attachment 2.

Objective 1: Characterize for waste disposal the major non-asbestos-containing building materials that will clearly be designated as a waste during building demolition. To satisfy this objective, a total of three separate composite samples of non-asbestos-containing building materials were collected (one from each building) and analyzed for toxicity characteristic leaching procedure (TCLP) Resource Conservation and Recovery Act (RCRA) eight metals by Environmental Protection Agency (EPA) Method SW846-1311/6010-1311/7470. These composite samples were comprised of each major type of building material present in that building (e.g., carpet, painted wood, drywall, etc.) that will be designated as waste and were representative of what the landfill will receive.

Objective 2: Determine if the painted/coated surfaces or caulking materials contain total Polychlorinated Biphenyls (PCBs) at regulated concentrations. To satisfy this objective, 17 discrete samples were collected from the three buildings and analyzed for PCBs by EPA Method SW846-8082. A separate sample was collected from each major type of material with a unique paint, coating, or caulk. Each discrete sample was a grab sample from a

representative location. Painted/coated surface samples were collected by scraping the surface with a chisel or metal grinding tool. Caulk samples were collected using a chisel or other equivalent tools.

Objective 3: Determine typical lead concentrations in materials that will be designated as a waste during building demolition. To satisfy this objective, samples collected for Objectives 1, 2, and 4 were analyzed for total lead using a calibrated handheld x-ray fluoresce analyzer (XRF). An XRF reading was collected for each material that was sampled on April 3rd, 2014. XRF readings were taken directly from composite and discrete sample materials and were recorded in field notes. XRF readings were taken from 40 composite or discrete samples collected on April 3rd.

Objective 4: Identify asbestos containing materials (ACM) in, beneath, and on the roofs of the buildings that may be disturbed by the demolition work and therefore requires removal, mitigation, and/or abatement. To satisfy this objective, 20 composite or discrete samples were collected during the initial April 3rd sampling event and analyzed for asbestos via Polarized-Light Microscopy (PLM) Method EPA 600/R-93/116. Composite or discrete samples were collected from each material which was considered a potentially asbestos containing material (PACM). Composite samples were collected where various materials of similar composition were observed, and discrete samples were collected from wholly unique materials.

An additional 19 discrete samples were collected at the request of the Port for either; a) areas not originally addressed during the initial April 3rd sampling event, or b) based on the April 3rd sampling results.

Sampling Results

Analytical data for all of the samples collected is presented for the 4720 building, the 4722 building, and the 4728 building in Table 1, Table 2, and Table 3, respectively. Table 4 presents the field XRF readings collected. Attachment 3 presents the analytical laboratory reports for the samples.

Objective 1: All three of the composite samples which were collected for Objective 1 did not exceed any of the TCLP metals dangerous waste characteristics criteria described in Washington Administrative Code (WAC) 173-303-090(8)(c). Details of the materials collected which comprise each of the three composite samples are presented in Tables 1, 2, and 3.

Objective 2: All 17 of the discrete samples which were collected for Objective 2 did not exceed the Toxic Substances Control Act (TSCA) total PCB criterion of 50 mg/kg. Details of the sample composition for the Objective 2 samples are presented in Tables 1, 2, and 3.

Objective 3: Each of the 40 composite or discrete samples which were analyzed using the calibrated XRF for Objective 3 did not exceed the residential lead paint limit[1] of 1 mg/cm^2. Details of the sample composition for the Objective 3 samples are presented in Table 4.

Objective 4:
April 3rd sampling event: Of the 20 samples collected during the initial April 3rd sampling event to identify ACM in and on the roofs of the buildings, ACM was detected in only one sample. The one sample was a composite of four unique types of roofing materials observed on the 4722 building (OS-4722-05-040314). Based on discussion with the laboratory analyst, the layer of the composite sample portion that detected low levels of asbestos (4%) was identified as a binder/mastic material typically used for patching (see Table 2). After discussing the sample result

[1] This is an advisory level used to define lead based paint in a residential scenario. This criterion does not affect disposal of lead based paint directly; however, it does affect removal and mitigation methods. TCLP results from Objective 1 were used to determine the appropriate disposal requirements for materials which may contain lead.

with the Port, it was determined that additional sampling at the four composite points would be necessary to determine the location of ACM.
April 17th sampling event: At the request of the Port, a new sampling area beneath the 4728 building that was not originally included in the initial April 3rd sampling event was addressed. Four discrete or composite samples of insulation materials and pipe wrap were sampled. ACM was not detected in any of the four samples (see Table 3).
May 9th sampling event: PIONEER returned to the 4722 building to sample materials from the four composite points which made up the OS-4722-05-040314 sample. Each material was collected as a discrete sample. ACM was not detected in any of the four samples (see Table 2). After discussing the sample results with the Port, it was determined that additional discrete samples from all roofing materials at the 4722 building would be necessary to determine the location of ACM.
July 8th sampling event: PIONEER returned to the 4722 building to comprehensively sample roofing materials. Eleven total discrete samples were collected from each type of roofing material and binder/mastic patching material. ACM was not detected in any of the eleven samples (see Table 2).

Conclusions and Recommendations

Objective 1: All building materials sampled for Objective 1 were below the WAC disposal criteria and should be considered typical non-hazardous waste material during demolition tasks at all buildings.

Objective 2: All building materials sampled for Objective 2 were below the 50 mg/kg TSCA disposal criterion and should be considered typical non-hazardous waste material during demolition tasks at all buildings.

Objective 3: All building materials analyzed with the XRF during Objective 3 were below the 1 mg/cm^2 criterion and should be considered a typical non-hazardous waste material during demolition tasks at all buildings.

Objective 4: One four-point roofing material composite sample from the initial April 3rd sampling event detected low-level ACM. PIONEER returned to the building and sampled each of the four composite points as a discrete sample, all of which did not detect ACM. PIONEER then conducted a comprehensive roofing materials sampling event (11 discrete samples) for each type of roofing material and binder/mastic patching material, all of which did not detect ACM.

It is PIONEER's belief that ACM is not present in the 4722 building roofing materials based on the following lines of evidence:

- Only one component of the four-point OS-4722-05-040314 roofing material composite sample detected ACM at a very low concentration (4%) which is only slightly above the detection limit (1%),
- Detections of ACM at low concentrations (<10%) are a visual estimate and can be subject to human error,
- The four composite sample points were individually re-sampled and none detected ACM, and
- A comprehensive sampling program of all roofing materials and binder/mastic patching materials indicates that ACM is not present across the entire roof.

Therefore, PIONEER recommends that all materials sampled for Objective 4 should be considered typical non-hazardous waste material during demolition tasks at all buildings.

Enclosures

Figures

0 0.25 0.5 Miles

PIONEER TECHNOLOGIES CORPORATION

Marine View Drive Properties Location
Marine View Drive Properties Hazardous Materials Assessment
Port of Tacoma, Tacoma, WA

Figure 1

0 25 50 Feet

PIONEER TECHNOLOGIES CORPORATION

Marine View Drive Buildings Detail
Marine View Drive Properties Hazardous Materials Assessment
Port of Tacoma, Tacoma, WA

Figure 2

Tables

PIONEER TECHNOLOGIES CORPORATION

Table 1: 4720 Marine View Drive Building Sample Results

Sample ID	Sample Type (Discrete or Composite)	Sample Material	Constituent	Result	Units	Waste Disposal Criteria
Objective 1						
OS-4720-12-040314-(10)	Composite	Composite of all materials to be disposed of from 4720 Property including (in order of predominant material type) drywall, ceiling and wall insulation, carpet and carpet underlayment, interior and exterior painted wood, ceramic tile, ceramic countertops, paint, and caulk.	Arsenic	0.050 U	mg/L	5.0
			Barium	0.40	mg/L	100
			Cadmium	0.0030 U	mg/L	1.0
			Chromium	0.060	mg/L	5.0
			Lead	0.040 U	mg/L	5.0
			Mercury	0.050 U	mg/L	0.20
			Selenium	0.0070 U	mg/L	1.0
			Silver	0.00020 U	mg/L	5.0
Objective 2						
PT-4720-07-040314	Discrete	Exterior white paint	PCBs	1.0 U	mg/kg	50
PT-4720-08-040314	Discrete	Interior white paint	PCBs	1.0 U	mg/kg	50
PT-4720-09-040314	Discrete	Interior pink paint	PCBs	1.0 U	mg/kg	50
OS-4720-10-040314 [(1)]	Discrete	White caulk around shower	PCBs	1.0 U	mg/kg	50
OS-4720-11-040314	Discrete	Black caul around exterior windows	PCBs	1.0 U	mg/kg	50
OS-4720-13-040314	Discrete	Exterior green trim paint	PCBs	1.0 U	mg/kg	50
OS-4720-14-040314	Discrete	Exterior grey decking paint	PCBs	1.0 U	mg/kg	50
Objective 4						
OS-4720-01-040314	Composite	Interior wall insulation - 5 point composite	ACM	Non-detect	%	Detect (>1%)
OS-4720-02-040314	Composite	Ceiling insulation - 2 point composite	ACM	Non-detect	%	Detect (>1%)
OS-4720-03-040314	Composite	Ceramic tile - 2 types present	ACM	Non-detect	%	Detect (>1%)
OS-4720-04-040314	Composite	Ceiling drywall and plaster	ACM	Non-detect	%	Detect (>1%)
OS-4720-05-040314	Composite	Roofing shingles and underlayment	ACM	Non-detect	%	Detect (>1%)
OS-4720-06-040314	Composite	Carpet and underlayment - 2 types present	ACM	Non-detect	%	Detect (>1%)

Notes:

Shaded cells represent exceedances

See Attachment 3 for complete analytical lab reports.

[(1)] A field duplicate was collected for this sample. Results shown are a combination of the sample and the field duplicate. If both results were non-detect, the lower reporting limit is shown. If one sample was detected, the detected value is shown. If both samples were detected, the average is shown.

PIONEER TECHNOLOGIES CORPORATION

Table 2: 4722 Marine View Drive Building Sample Results

Sample ID	Sample Type (Discrete or Composite)	Sample Material	Constituent	Result	Units	Waste Disposal Criteria
Objective 1						
OS-4722-16-040314-(10)	Composite	Composite of all materials to be disposed of from 4722 Property including (in order of predominant material type) drywall, ceiling and wall insulation, carpet and carpet underlayment, interior and exterior painted wood, vinyl tile, paint, wallpaper, and caulk.	Arsenic	0.050 U	mg/L	5.0
			Barium	0.090	mg/L	100
			Cadmium	0.011	mg/L	1.0
			Chromium	0.19	mg/L	5.0
			Lead	0.34	mg/L	5.0
			Mercury	0.0020 U	mg/L	0.20
			Selenium	0.050 U	mg/L	1.0
			Silver	0.0070 U	mg/L	5.0
Objective 2						
PT-4722-08-040314	Discrete	Dark brown exterior paint	PCBs	1.0 U	mg/kg	50
PT-4722-09-040314	Discrete	Light brown exterior paint	PCBs	1.0 U	mg/kg	50
PT-4722-10-040314	Discrete	Interior green paint	PCBs	1.0	mg/kg	50
PT-4722-11-040314	Discrete	Interior grey paint	PCBs	5.0 U	mg/kg	50
OS-4722-12-040314	Discrete	Shower caulking material	PCBs	1.0 U	mg/kg	50
Objective 4						
OS-4722-01-040314	Composite	Interior wall insulation - 2 point composite	ACM	Non-detect	%	Detect (>1%)
OS-4722-02-040314	Discrete	Garage area insulation - south	ACM	Non-detect	%	Detect (>1%)
OS-4722-03-040314	Discrete	Blue vinyl floor tile in kitchen area	ACM	Non-detect	%	Detect (>1%)
OS-4722-04-040314	Discrete	Ceiling drywall material	ACM	Non-detect	%	Detect (>1%)
OS-4722-05-040314	Composite	4-point roofing materials composite	ACM	4.0	%	Detect (>1%)
OS-4722-06-040314 (1)	Composite	Interior green carpet and underlayment	ACM	Non-detect	%	Detect (>1%)
OS-4722-07-040314	Composite	Exterior green astroturf and underlayments	ACM	Non-detect	%	Detect (>1%)
OS-4722-17-040314	Discrete	Garage area insulation - north	ACM	Non-detect	%	Detect (>1%)
OS-4722-18-050914	Discrete	Roofing material - Walkway entry large roofing tiles	ACM	Non-detect	%	Detect (>1%)
OS-4722-19-050914	Discrete	Roofing material - Middle peak tile layers	ACM	Non-detect	%	Detect (>1%)
OS-4722-20-050914	Discrete	Roofing material - Tile layers above doorway	ACM	Non-detect	%	Detect (>1%)
OS-4722-21-050914	Discrete	Roofing material - Southern peak tile layers	ACM	Non-detect	%	Detect (>1%)
OS-4722-22-070814 (1)	Discrete	Roofing material - Multiple shingle layers - north peak	ACM	Non-detect	%	Detect (>1%)
OS-4722-23-070814	Discrete	Roofing material - Shingle layers - north flat	ACM	Non-detect	%	Detect (>1%)
OS-4722-24-070814	Discrete	Roofing material - Patching material - north flat	ACM	Non-detect	%	Detect (>1%)
OS-4722-25-070814	Discrete	Roofing material - Shingle layers - middle peak	ACM	Non-detect	%	Detect (>1%)
OS-4722-26-070814	Discrete	Roofing material - Shingle layers - middle peak	ACM	Non-detect	%	Detect (>1%)
OS-4722-27-070814	Discrete	Roofing material - Patching material - middle peak	ACM	Non-detect	%	Detect (>1%)
OS-4722-28-070814	Discrete	Roofing material - Insulation material - south peak	ACM	Non-detect	%	Detect (>1%)
OS-4722-29-070814	Discrete	Roofing material - Insulation material - south peak	ACM	Non-detect	%	Detect (>1%)
OS-4722-30-070814	Discrete	Roofing material - Patching material - south flat	ACM	Non-detect	%	Detect (>1%)
OS-4722-31-070814	Discrete	Roofing material - Shingle layers - south peak	ACM	Non-detect	%	Detect (>1%)
OS-4722-32-070814	Discrete	Roofing material - Shingle layers - porch	ACM	Non-detect	%	Detect (>1%)

Notes:

Shaded cells represent exceedances

See Attachment 3 for complete analytical lab reports.

(1) A field duplicate was collected for this sample. Results shown are a combination of the sample and the field duplicate. If both results were non-detect, the lower reporting limit is shown. If one sample was detected, the detected value is shown. If both samples were detected, the average is shown.

PIONEER TECHNOLOGIES CORPORATION

Table 3: 4728 Marine View Drive Building Sample Results

Sample ID	Sample Type (Discrete or Composite)	Sample Material	Constituent	Result	Units	Waste Disposal Criteria
Objective 1						
OS-4728-12-040314-(10)	Composite	Composite of all materials to be disposed of from 4728 Property including (in order of predominant material type) drywall, ceiling and wall insulation, vinyl floor tile, carpet and carpet underlayment, interior and exterior painted wood, vinyl countertops, and paint.	Arsenic	0.050 U	mg/L	5.0
			Barium	0.19	mg/L	100
			Cadmium	0.0030 U	mg/L	1.0
			Chromium	0.0070 U	mg/L	5.0
			Lead	0.040 U	mg/L	5.0
			Mercury	0.00020 U	mg/L	0.20
			Selenium	0.050 U	mg/L	1.0
			Silver	0.0070 U	mg/L	5.0
Objective 2						
PT-4728-07-040314	Discrete	Exterior greyish blue paint	PCBs	1.0 U	mg/kg	50
PT-4278-08-040314	Discrete	Interior white living room paint	PCBs	1.0 U	mg/kg	50
PT-4728-09-040314	Discrete	Interior white bathroom/kitchen paint	PCBs	7.9	mg/kg	50
OS-4728-10-040314	Discrete	Sealant from stained glass mosaics in bathroom	PCBs	1.0 U	mg/kg	50
OS-4728-11-040314 [(1)]	Discrete	Exterior window caulk	PCBs	1.0 U	mg/kg	50
Objective 4						
OS-4728-01-040314	Discrete	Interior wall insulation	ACM	Non-detect	%	Detect (>1%)
OS-4728-02-040314	Discrete	Interior ceiling insulation	ACM	Non-detect	%	Detect (>1%)
OS-4728-03-040314	Discrete	Kitchen vinyl flooring	ACM	Non-detect	%	Detect (>1%)
OS-4728-04-040314	Composite	Kitchen countertop and white wallboard	ACM	Non-detect	%	Detect (>1%)
OS-4728-05-040314	Composite	Exterior roofing material - 2 types present	ACM	Non-detect	%	Detect (>1%)
OS-4728-06-040314	Composite	Carpet and underlayment	ACM	Non-detect	%	Detect (>1%)
OS-4728-13-041714	Discrete	Insulation beneath building - White/blue insulation	ACM	Non-detect	%	Detect (>1%)
OS-4728-14-041714	Discrete	Insulation beneath building - Thin black insulation	ACM	Non-detect	%	Detect (>1%)
OS-4728-15-041714	Discrete	Insulation beneath building - Thick pipe wrap	ACM	Non-detect	%	Detect (>1%)
OS-4728-16-041714	Composite	Insulation beneath building - Various pipe wrapping	ACM	Non-detect	%	Detect (>1%)

Notes:

Shaded cells represent exceedances

See Attachment 3 for complete analytical lab reports.

[(1)] A field duplicate was collected for this sample. Results shown are a combination of the sample and the field duplicate. If both results were non-detect, the lower reporting limit is shown. If one sample was detected, the detected value is shown. If both samples were detected, the average is shown.

PIONEER TECHNOLOGIES CORPORATION

Table 4: XRF Sample Results for Lead

Sample ID	Sample Type (Discrete or Composite)	Sample Material	Sample Also Associated With Objective #	XRF Lead Result	Units	Waste Disposal Criteria
Objective 3 - Building 4720						
OS-4720-01-040314	Composite	Interior wall insulation - 5 point composite	4	0.00	mg/cm^2	1
OS-4720-02-040314	Composite	Ceiling insulation - 2 point composite	4	0.00	mg/cm^2	1
OS-4720-03-040314	Composite	Ceramic tile - 2 types present	4	0.00	mg/cm^2	1
OS-4720-04-040314	Composite	Ceiling drywall and plaster	4	0.00	mg/cm^2	1
OS-4720-05-040314	Composite	Roofing shingles and underlayment	4	0.00	mg/cm^2	1
OS-4720-06-040314	Composite	Carpet and underlayment - 2 types present	4	0.00	mg/cm^2	1
PT-4720-07-040314	Discrete	Exterior white paint	2	0.00	mg/cm^2	1
PT-4720-08-040314	Discrete	Interior white paint	2	0.00	mg/cm^2	1
PT-4720-09-040314	Discrete	Interior pink paint	2	0.00	mg/cm^2	1
OS-4720-10-040314 (1)	Discrete	White caulk around shower	2	0.00	mg/cm^2	1
OS-4720-11-040314	Discrete	Black caul around exterior windows	2	0.00	mg/cm^2	1
OS-4720-12-040314-(10)	Composite	Composite - Building materials	1	0.00	mg/cm^2	1
OS-4720-13-040314	Discrete	Exterior green trim paint	2	0.00	mg/cm^2	1
OS-4720-14-040314	Discrete	Exterior grey decking paint	2	0.00	mg/cm^2	1
Objective 3 - Building 4722						
OS-4722-01-040314	Composite	Interior wall insulation - 2 point composite	4	0.00	mg/cm^2	1
OS-4722-02-040314	Discrete	Garage area insulation - south	4	0.00	mg/cm^2	1
OS-4722-03-040314	Discrete	Blue vinyl floor tile in kitchen area	4	0.00	mg/cm^2	1
OS-4722-04-040314	Discrete	Ceiling drywall material	4	0.33	mg/cm^2	1
OS-4722-05-040314	Composite	4-point roofing materials composite	4	0.00	mg/cm^2	1
OS-4722-06-040314 (1)	Composite	Interior green carpet and underlayment	4	0.01	mg/cm^2	1
OS-4722-07-040314	Composite	Exterior green astroturf and underlayments	4	0.00	mg/cm^2	1
PT-4722-08-040314	Discrete	Dark brown exterior paint	2	0.00	mg/cm^2	1
PT-4722-09-040314	Discrete	Light brown exterior paint	2	0.00	mg/cm^2	1
PT-4722-10-040314	Discrete	Interior green paint	2	0.00	mg/cm^2	1
PT-4722-11-040314	Discrete	Interior grey paint	2	0.00	mg/cm^2	1
OS-4722-12-040314	Discrete	Shower caulking material	2	0.00	mg/cm^2	1
OS-4722-16-040314-(10)	Composite	Composite - Building materials	1	0.00	mg/cm^2	1
OS-4722-17-040314	Discrete	Garage area insulation - north	4	0.00	mg/cm^2	1
Objective 3 - Building 4728						
OS-4728-01-040314	Discrete	Interior wall insulation	4	0.00	mg/cm^2	1
OS-4728-02-040314	Discrete	Interior ceiling insulation	4	0.00	mg/cm^2	1
OS-4728-03-040314	Discrete	Kitchen vinyl flooring	4	0.00	mg/cm^2	1
OS-4728-04-040314	Composite	Kitchen countertop and white wallboard	4	0.00	mg/cm^2	1
OS-4728-05-040314	Composite	Exterior roofing material - 2 types present	4	0.00	mg/cm^2	1
OS-4728-06-040314	Composite	Carpet and underlayment	4	0.00	mg/cm^2	1
PT-4728-07-040314	Discrete	Exterior greyish blue paint	2	0.00	mg/cm^2	1
PT-4278-08-040314	Discrete	Interior white living room paint	2	0.00	mg/cm^2	1
PT-4728-09-040314	Discrete	Interior white bathroom/kitchen paint	2	0.00	mg/cm^2	1
OS-4728-10-040314	Discrete	Sealant from stained glass mosaics in bathroom	2	0.00	mg/cm^2	1
OS-4728-11-040314 (1)	Discrete	Exterior window caulk	2	0.00	mg/cm^2	1
OS-4728-12-040314-(10)	Composite	Composite - Building materials	1	0.00	mg/cm^2	1

Notes:

Shaded cells represent exceedances

See Attachment 3 for complete analytical lab reports.

(1) A field duplicate was collected for this sample. Results shown are the highest of the sample and the field duplicate.

Attachment 1

Photographic Log

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Photographic Log

Photo No. 1: 4720 – Exterior deck **Date:** 4/3/2014 **Direction Photo Taken:** South **Description:** Exterior deck area of 4720 building.	

Photo No. 2: 4720 – Exterior Window Caulk **Date:** 4/3/2014 **Direction Photo Taken:** East **Description:** Black window caulking on 4720 building.	

Photo No. 3: 4720 – Exterior Trim Paint **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** Teal trim pain on exterior deck railings.	

Photo No. 4: 4720 – Roofing Materials **Date:** 4/3/2014 **Direction Photo Taken:** East **Description:** Layers of roofing materials and paper underlayment at 4720 building.	

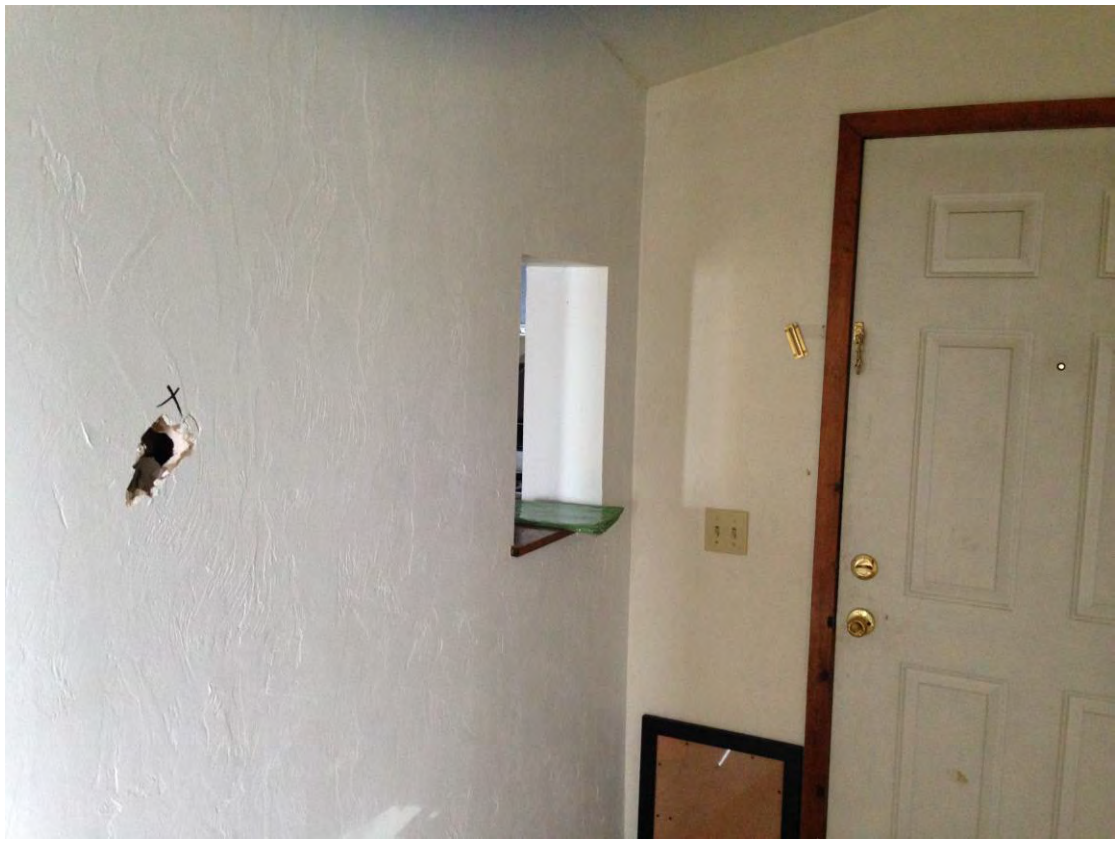
Photo No. 5: 4720 – Interior Painted Wall **Date:** 4/3/2014 **Direction Photo Taken:** East **Description:** Sampling location of drywall and paint from interior entryway in 4720 building.	

Photo No. 6: 4720 – Interior Carpet and Tile Floors **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** Interior carpet and floor tile sample location in 4720 building.	

Photo No. 7: 4722 – Interior Green Walls **Date:** 4/3/2014 **Direction Photo Taken:** East **Description:** Interior dark green painted walls in 4722 building.	

Photo No. 8: 4722 – Interior Wallpaper **Date:** 4/3/2014 **Direction Photo Taken:** South **Description:** Interior floral wallpaper in living area of 4722 building.	

Photo No. 9: 4722 – Blue Vinyl Floor Tile **Date:** 4/3/2014 **Direction Photo Taken:** South **Description:** Blue vinyl floor tiles in kitchen area of 4722 building.	

Photo No. 10: 4722 – Green Deck Carpet **Date:** 4/3/2014 **Direction Photo Taken:** West **Description:** Exterior green decking carpet and underlayment layers on 4722 building deck.	

Photo No. 11: 4722 – Green Interior Carpet **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** Interior green carpet and underlayment layers inside 4722 building.	

Photo No. 12: 4722 – Exterior Brown Paint **Date:** 4/3/2014 **Direction Photo Taken:** North **Description:** Dark brown exterior paint on western exterior side of 4722 building.	

Photo No. 13: 4722 – Workshop Insulation **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** Insulation material above doorway to shop section of 4722 building.	

Photo No. 14: 4722 – Workshop Bench **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** Workshop bench with various paints located in lower workshop area of 4722 building.	

Photo No. 15: 4722 – Streetside Entry **Date:** 4/3/2014 **Direction Photo Taken:** South **Description:** Brown paint and large flat roofing shingles visible from street side of lower section of 4722 building.	

Photo No. 16: 4722 – Streetside Roofing **Date:** 4/3/2014 **Direction Photo Taken:** West **Description:** Dark brown paint and large flat roofing shingles visible from street side of upper section of 4722 building.	

Photo No. 17: 4728 – Roof Materials **Date:** 4/3/2014 **Direction Photo Taken:** East **Description:** Mixed sizes of roofing shingles observed on roof of 4728 building.	

Photo No. 18: 4728 – Exterior Paints **Date:** 4/3/2014 **Direction Photo Taken:** East **Description:** Gray/blue exterior paint, white paint, and windows with caulking visible on northern exterior of 4728 building.	

Photo No. 19: 4728 – Kitchen Materials **Date:** 4/3/2014 **Direction Photo Taken:** North **Description:** Interior painted white walls and countertop material in kitchen of 4728 building.	

Photo No. 20: 4728 – Kitchen Vinyl Floor **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** Vinyl floor tiles sampled in 4728 building.	

Photo No. 21: 4728 - Carpet **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** Dark brown carpet and kitchen vinyl floor tiles in 4728 building.	

Photo No. 22: 4728 – Ceiling Material **Date:** 4/3/2014 **Direction Photo Taken:** NA **Description:** White ceiling texture material in 4728 building.	

Photo No. 23: 4728 – Living Room Area **Date:** 4/3/2014 **Direction Photo Taken:** West **Description:** Textured white ceiling material and white wall paint in 4728 living room area.	

Photo No. 24: 4728 – Kitchen Wall Area **Date:** 4/3/2014 **Direction Photo Taken:** East **Description:** White painted walls and drywall/insulation material in 4728 kitchen area.	

Photo No. 25: 4728 – Insulation Material Beneath Building **Date:** 4/17/2014 **Direction Photo Taken:** East **Description:** Silver wrapping/blue inside insulation material beneath 4728 building.	

Photo No. 26: 4728 – Insulation Material Beneath Building **Date:** 4/17/2014 **Direction Photo Taken:** East **Description:** Deteriorating black/fibrous insulation wrap material beneath 4728 building.	

Photo No. 27: 4728 – Insulation Material Beneath Building **Date:** 4/17/2014 **Direction Photo Taken:** East **Description:** Pipe wrap material beneath 4728 building.	

Photo No. 28: 4728 – Insulation Material Beneath Building **Date:** 4/17/2014 **Direction Photo Taken:** West **Description:** Pipe section with various types of pipe wrap insulation material.	

Photo No. 29: 4722 – Roofing Materials **Date:** 7/8/2014 **Direction Photo Taken:** Enter Text **Description:** Core sample taken from 4722 northern peak roof area.	

Photo No. 30: 4722 – Roofing Materials **Date:** 7/8/2014 **Direction Photo Taken:** Enter Text **Description:** Core sample taken from area with large amount of binder/mastic material on 4722 northern flat roof area.	

Photographic Log

Photo No. 31: 4722 – Roofing Materials **Date:** 7/8/2014 **Direction Photo Taken:** North **Description:** Northern peak, northern flat, and middle peak of 4722 roof area.	

Photo No. 32: 4722 – Roofing Materials **Date:** 7/8/2014 **Direction Photo Taken:** North **Description:** Patched core sample location on 4722 middle peak roof area.	

Photographic Log

Photo No. 33: 4722 – Roofing Materials **Date:** 7/8/2014 **Direction Photo Taken:** NA **Description:** Core sample taken from beneath rubber protective layer surrounding vertical metal pipe on southern flat 4722 roof area.	

Photo No. 34: 4722 – Roofing Materials **Date:** 7/8/2014 **Direction Photo Taken:** West **Description:** Patched core sample location on 4722 porch roof area.	

Attachment 2

PIONEER
DAILY FIELD REPORT

Date: 4/3/14 Site Location: Marine View Dr 4720, 4722, 4728 Site Arrival Time: 8:00a Site Departure Time: 4:30p

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Stacy Myrson	PTL	8 - 4:30
Daniel Brittain	PTL	8 - 4:30
Pedro Reyes	Port of Tacoma	misc
2x Port Maintenance	Port of Tacoma	misc
Demolition bidder	?	2-4

NOTES ON WORK COMPLETED

8:10a Arrive on site, setup on building 4720. Maintenance crew is on site, unboarding windows. Meet Pedro on-site and conduct health and safety discussion with Daniel. All 3 houses are littered with debris and junk/garbage, but appear sufficiently intact.

9:00a Start sample inventory with Daniel. Daniel starting with Asbestos sampling of insulation, Stacy starting with paints/caulks. Logging samples on sampling page.

11:00a Finishing up sampling at 4720. Moving over to 4722. Break for lunch.

11:30a Starting on 4722. See notes on sampling page. Many types of materials in 4722 were de minimis, and did not warrant collection of a sample. Most of the north end of the building which appeared to have been built in a piecemeal manner, was entirely of wood construction (beams and plywood), and had no other predominant building materials used.

2:00p Setup on 4728. Building is less "complicated" than two previous buildings. Many simple material types and little variation. See notes on sampling page

4:00 Finishing up sampling activities. Packing up equipment and preparing chain of custody records.

4:30 Off-site

5:00 Dropping samples off at analytical laboratory

SIGNATURE: Stacy Myrson DATE: 4/3/14

pos. Lead XRF

Port of Tacoma Marine View Drive
Buildings 4720, 4722, 4728 Building Materials Characterization Sampling
April 2014

040314

Sample ID		Analysis	Preserv	Date/Time	XRF Lead	Notes
OS-4720-01-		Asbestos	None	9:15a	0.00	Composite sample from interior, wall insulation - 5 spots
OS-4720-02-		Asbestos	None	9:30a	0.00	Composite sample from attic insulation - 2 spots
OS-4720-03-		Asbestos	None	9:46a	0.00	Composite of Interior floor tile/~~vinyl covering~~ 2 types of ceramic tile - no vinyl present
OS-4720-04-		Asbestos	None	9:50a	0.00	Composite of Interior celing ~~Tiles~~ ceiling drywall and plaster
OS-4720-05-		Asbestos	None	9:20a	0.00	Composite of Roofing Material Shingles and ~~Underlayment~~
OS-4720-06-		Asbestos	None	9:55a	0.00	Composite sample from carpet and carpet underlayment (glue/padding/mastic) - 2 types - great room & bedroom
PT-4720-07-		PCBs	None	10:05a	0.00	Surface scrape from exterior painted surface - white
PT-4720-08-		PCBs	None	10:75a	0.00	Surface scrape from interior drywall - 2 different, representative rooms/paint colors - white
PT-4720-09-		PCBs	None	10:40a	0.00	Surface scrape from interior drywall - 2 different, representative rooms/paint colors - pink in kitchen
OS-4720-10-		PCBs	None	10:00a	0.00	Interior Caulking - Bathrooms - white caulk around shower
OS-4720-11-		PCBs	None	10:15a	0.00	Exterior Caulking - Windows/Seams - Black caulk around exterior windows
OS-4720-12-	-(10)	TCLP Metals	None	10:50a	0.00	Composite of tile, drywall, drywall paint, and floor tile, exterior materials (all materials that could be shipped to landfill for disposal).
OS-4720-13-		PCBs	None	10:25a	0.00	Additional sample, if needed - Exterior paint for PCBs - Green on trim
OS-4720-14-		PCBs	None	10:35a	0.00	Additional sample, if needed - Exterior paint for PCBs - Grey on decking
OS-4720-[illegible]	-(01)	PCBs	None	10:00a	0.00	Field Duplicate sample - interior caulk
OS-4722-01-		Asbestos	None	11:30	0.00	Composite sample from interior, wall insulation - 2 spots from living space
OS-4722-02-		Asbestos	None	11:75a	0.00	Composite sample from attic insulation - 1 spot in garage space
OS-4722-03-		Asbestos	None	11:40a	0.33	Composite of Interior floor tile/vinyl covering blue vinyl floor tile in kitchen
OS-4722-04-		Asbestos	None	11:45a	0.00	Composite of Interior celing ~~Tiles~~ - Ceiling drywall material
OS-4722-05-		Asbestos	None	12:30p	0.00	Composite of Roofing Material Shingles and Underlayment - 4 major spots
OS-4722-06-		Asbestos	None	12:00p	0.00	Composite sample from carpet and carpet underlayment (glue/padding/mastic) - interior green carpet + underpadding
OS-4722-07-		Asbestos	None	12:10p	0.00	Composite sample from carpet and carpet underlayment (glue/padding/mastic) - exterior, green astroturf + 3 underlayers
PT-4722-08-		PCBs	None	12:45	0.00	Surface scrape from exterior painted surface - Dark brown paint north end
PT-4722-09-		PCBs	None	1:00p	0.00	Surface scrape from exterior painted surface - light brown paint south end
PT-4722-10-		PCBs	None	1:45p	0.00	Surface scrape from interior drywall - 2 different, representative rooms/paint colors - Interior green paint
PT-4722-11-		PCBs	None	2:00p	0.00	Surface scrape from interior drywall - 2 different, representative rooms/paint colors - ~~Interior~~ grey paint
OS-4722-12-		PCBs	None	1:40p	0.00	Interior Caulking - Bathrooms - Shower
~~OS-4722-13-~~		~~PCBs~~	~~None~~			~~Interior Caulking - Bathrooms~~
~~OS-4722-14-~~		~~PCBs~~	~~None~~			~~Exterior Caulking - Windows/Seams~~ None Observed
~~OS-4722-15-~~		~~PCBs~~	~~None~~			~~Exterior Caulking - Windows/Seams~~
OS-4722-16-	-(10)	TCLP Metals	None	2:20p	0.00	Composite of tile, drywall, drywall paint, and floor tile, exterior materials (all materials that could be shipped to landfill for disposal).
OS-4722-17-		Asbestos	None	1:15p	0.00	Additional sample, if needed - Insulation in attic garage - north
~~OS-4722-18-~~		~~Asbestos~~	~~None~~			~~Additional sample, if needed~~ - Ceiling popcorn
~~OS-4722-19-~~			~~None~~			~~Additional sample, if needed~~
OS-4722-06	-(01)	Asbestos	None	12:00p	0.01	Field Duplicate sample interior green carpet
OS-4728-01-		Asbestos	None	2:25p	0.00	Composite sample from interior, wall insulation - wall insulation
OS-4728-02-		Asbestos	None	2:40p	0.00	Composite sample from attic insulation - ceiling insulation
OS-4728-03-		Asbestos	None	2:50p	0.00	Composite of Interior floor tile/vinyl covering
OS-4728-04-		Asbestos	None	3:00p	0.00	~~Composite of Interior celing Tiles~~ Kitchen formica counter and white wallboard
OS-4728-05-		Asbestos	None	3:10p	0.00	Composite of Roofing Material Shingles and Underlayment - 2 types
OS-4728-06-		Asbestos	None	3:15p	0.00	Composite sample from carpet and carpet underlayment (glue/padding/mastic)
PT-4728-07-		PCBs	None	3:20p	0.00	Surface scrape from exterior painted surface - grey/blue paint
PT-4728-08-		PCBs	None	3:50p	0.00	Surface scrape from interior drywall - 2 different, representative rooms/paint colors - living rooms white
PT-4728-09-		PCBs	None	1:55	0.00	Surface scrape from interior drywall - 2 different, representative rooms/paint colors - Bathroom/kitchen white
OS-4728-10-		PCBs	None	3:30p	0.00	Interior Caulking - Bathrooms - Sealant on stained glass mosaics
OS-4728-11-		PCBs	None	3:40p	0.00	Exterior Caulking - Windows/Seams old windows
OS-4728-12-	-(10)	TCLP Metals	None	4:00p	0.00	Composite of tile, drywall, drywall paint, and floor tile, exterior materials (all materials that could be shipped to landfill for disposal).
~~OS-4728-13-~~			~~None~~			~~Additional sample, if needed~~
~~OS-4728-14-~~			~~None~~			~~Additional sample, if needed~~
OS-4728-11-	-(01)	PCBs	None	3:40p	0.00	Field Duplicate sample
EB-1-		~~Lead~~ Metals	Nitric	4:10p	-	Equipment blank sample
EB-1-		PCBs	None	4:10p	-	Equipment blank sample

PIONEER
DAILY FIELD REPORT

Date: 4/19/14 Site Location: Marine View Dr. Properties Site Arrival Time: 1:30 Site Departure Time: 2:30p

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Stacy Munson	Pioneer	1:30 - 2:30

NOTES ON WORK COMPLETED

1:20 Arrive at site

Setup sampling bags, labels, respirator, camera and tools.

Visual inspection underneath the buildings shows 4 unique material types which warrant sampling.

Material 1 - Blue/white insulation material contained within silver wrapping
Sample OS-4728-13-041714

Material 2 - Thin black/tan paper/wrap material with very stringy/fibrous nature.
Sample OS-4728-14-041714

Material 3 - Thick layered grey pipe wrap with cloth coating and paper inner layer.
Sample OS-4728-15-041714

Material 4 - Various types of insulation material wrapped around leaky pipes.
Sample OS-4728-16-041714

See also Sampling notes page for additional sample details.

Packing up equipment, getting sample labels and chain ready to take to lab.

2:30 Off-site

SIGNATURE: [signature] DATE: 4/19/14

Port of Tacoma Marine View Drive
Buildings 4728 **Beneath Building** Materials Characterization Sampling
April 2014

Sample ID	Location	Analysis	Preservative	Date/Time	Collected By	XRF Lead	Notes
OS-4728-13-04/7/14	Marine View Dr. Properties	Asbestos	None	4/17/14 2:10p	SM		Insulation/Pipe wrap material beneath building – blue/white insulation - silver wrap
OS-4728-14-04/7/14	Marine View Dr. Properties	Asbestos	None	2:05p	SM		Insulation/Pipe wrap material beneath building – thin black stringy paper
OS-4728-15-04/7/14	Marine View Dr. Properties	Asbestos	None	2:10p	SM		Insulation/Pipe wrap material beneath building – thick pipe wrap
OS-4728-16-04/7/14	Marine View Dr. Properties	Asbestos	None	2:15p	SM		Insulation/Pipe wrap material beneath building – composite of large pipe wrap materials used

PIONEER
DAILY FIELD REPORT

Date: 5/9/14 Site Location: Marine View Dr.-4722 Site Arrival Time: 9:00a Site Departure Time: 10:30a

WEATHER	Clear Sun	Overcast	(Drizzle)	Rain	Snow
TEMPERATURE	To 32	32-50	(50-70)	70-85	85 Up
WIND	(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Stacy Munson	Pioneer	9:00 - 10:30a

NOTES ON WORK COMPLETED

9:00a Arrive on site. Review safety plan + PSA, then begin setup of sampling equipment at 4722 Building.

Identify sampling locations from 4722-05 sample that detected asbestos in one layer. Sample was a four-point composite.

9:30 Collected sample 18 from large black asphaltic tiles present in street-side entrance area. Tiles/shingles are thick with no underlayment visible. Collected using scissors and other hand tools. Decontaminated tools following sample collection.

Collected sample 19 from asphaltic shingle layers from the middle peak eastern edge. 2-3 layers of shingles are present along with 1 paper backing material. Decon'd tools.

10:00 Collected sample 20 from large asphaltic shingles from eastern edge of flat roof section above street-side front door. Several layers of shingles present, with several sealant layers in-between. Decon.

Collected sample 21 from southeast corner of southern peak. 3-4 layers of asphaltic shingles observed, with a white foam backing material underneath. Decon. Logging samples on COC and packing up gear.

10:30 Off site.

SIGNATURE: Stacy Munson DATE: 5/9/14

PIONEER
DAILY FIELD REPORT

Date: 7/8/14 Site Location: Marine View Dr. Site Arrival Time: 8:00a Site Departure Time: 12:45

WEATHER

(Clear Sun)	Overcast	Drizzle	Rain	Snow
TEMPERATURE				
To 32	32-50	50-70	(70-85)	85 Up
WIND				
(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

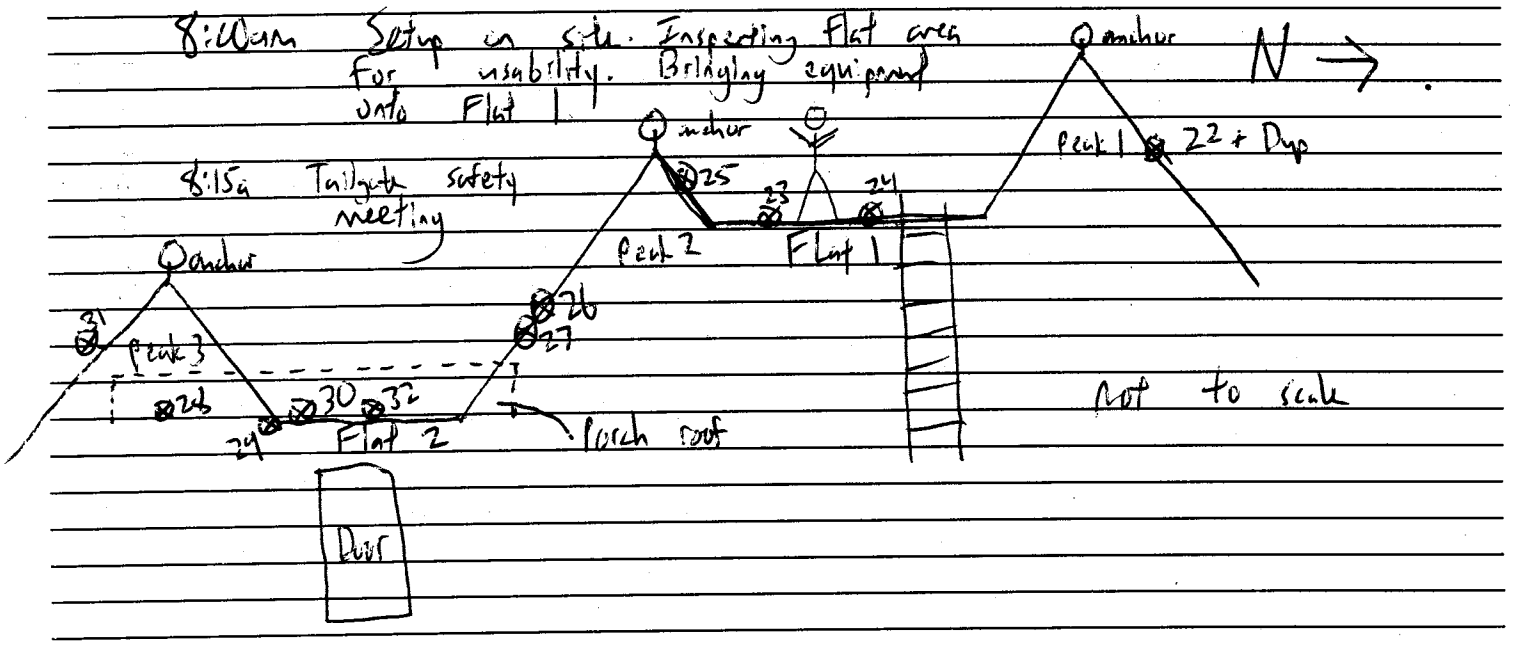
NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Stacy Munson	Pioneer	8:00 - 12:45
Daniel Brittain	Pioneer	8:00 - 12:45

1 of 3

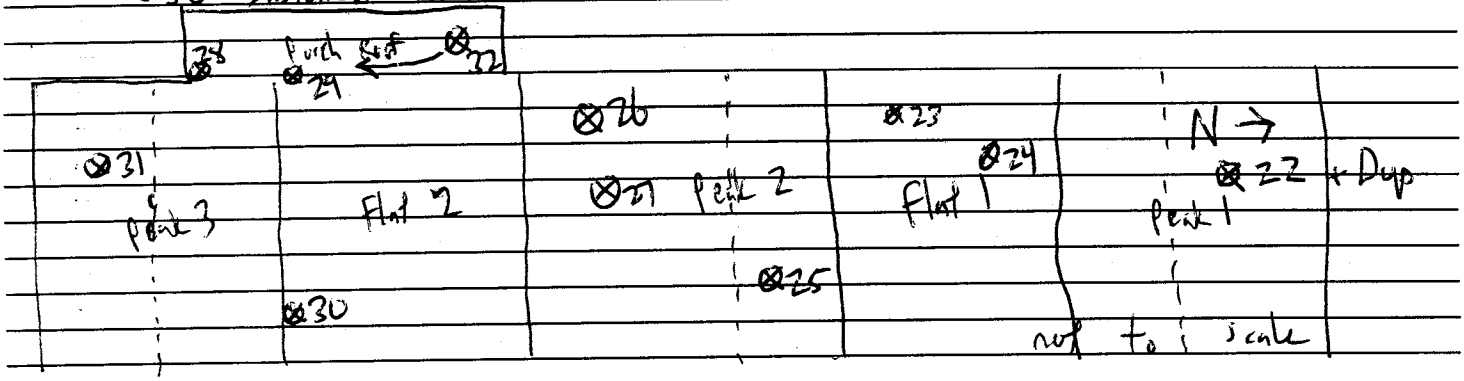
NOTES ON WORK COMPLETED

8:00a Setup on site. Inspecting Flat area for usability. Bringing equipment onto Flat 1

8:15a Tailgate safety meeting



8:30 Installed anchors at Peaks 1 and 2.



SIGNATURE: _____ DATE: _____

PIONEER
DAILY FIELD REPORT

Date: 7/8/14 Site Location: _____ Site Arrival Time: _____ Site Departure Time: _____

WEATHER					
TEMPERATURE	Clear Sun	Overcast	Drizzle	Rain	Snow
WIND	To 32	32-50	50-70	70-85	85 Up
	Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

2 of 3

NOTES ON WORK COMPLETED

8:45 Collected sample from north side of Peak 1. Approximately 4ish layers of asphaltic shingle tiles. Split sample 22 into primary and duplicate. Patched with mesh fabric and roof sealant after sample collection.

9:00 Collected sample 23 from open section of Flat 1. 2-3 layers of tiles, use of paper backing material. Patched.

9:15 Collected sample 24 from tile junction on Flat 1 where 3 tiles come together and there are large amounts of sealant material. Patched.

Collected sample 25 from Peak 2 on north side. Approximately 4 layers of asphaltic shingles. Patched. Moving to Flat 2. Installed anchor at Peak 3.

11:00 Collected sample 26 from Peak 2 on south side. Approximately 4 layers of asphaltic shingles. Patched.

Collected sample 27 from Peak 2 on south side at point where cables exit the roof. Sealant material present around cables. Patched

Collected samples 28 and 29 from newly-observed insulation material with visible fibers. 28 is within Peak 3, accessible from porch roof area, and 29 is from beneath the Peak 3/porch roof / Flat 2 intersection area.

12:00 Collected sample 30 from beneath rubber sheeting around vertical metal pipe on Flat 2. Many layers (4-6) of mastic/sealant material observed.

SIGNATURE: _____ DATE: _____

PIONEER
DAILY FIELD REPORT

Date: 7/8/14 Site Location: _____ Site Arrival Time: _____ Site Departure Time :_____

WEATHER
TEMPERATURE
WIND

Clear Sun	Overcast	Drizzle	Rain	Snow
To 32	32-50	50-70	70-85	85 Up
Calm	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE

3 of 3

NOTES ON WORK COMPLETED

12:00p Collected sample 31 from Peak 3. Approximately 4 layers of asphaltic shingles, and white foam underlayment. Patched

Collected sample 32 from porch roof. Only 1 asphaltic shingle layer. Patched.

Packing up equipment, and logging sample information. Removing all

SIGNATURE:_____ DATE:_____

Attachment 3

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05/07/2014

Pioneer Technologies
5205 Corporate Center Crt SE
Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-01-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	1

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Pioneer Technologies
5205 Corporate Center Crt SE
Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-02040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	2

Analyte	Result	Units	Method
Asbestos	*	%	PLM

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Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-03-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	3

Analyte	Result	Units	Method
Asbestos	*	%	PLM

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Pioneer Technologies
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Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-04-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	4

Analyte	Result	Units	Method
Asbestos	*	%	PLM

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Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-05-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	5

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-06-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	6

Analyte	Result	Units	Method
Asbestos	*	%	PLM

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Suite A
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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	PT-4720-07-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	7

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

Surrogate	Recovery	Method
Decachlorobiphenyl	122	SW846 8082A

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Suite A
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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	PT-4720-08-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	8

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	105	SW846 8082A

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Suite A
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Attn: Stacy Munson

Project: Marine View Dr. Properties
Client ID: PT-4720-09-040314
Sample Matrix: Solid
Date Sampled: 04/03/2014
Date Received: 04/04/2014
Spectra Project: 2014040122
Spectra Number: 9

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	109	SW846 8082A

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Suite A
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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-10-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	10

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	122	SW846 8082A

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Suite A
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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4720-11-04034
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	11

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	122	SW846 8082A

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Attn: Stacy Munson

Project: Marine View Dr. Properties
Client ID: OS-4720-12-040314-(10)
Sample Matrix: Solid
Date Sampled: 04/03/2014
Date Received: 04/04/2014
Spectra Project: 2014040122
Spectra Number: 12

Analyte	Result	Units	Method
TCLP Arsenic	< 0.05	mg/L	SW846 6010B
TCLP Barium	0.400	mg/L	SW846 6010B
TCLP Cadmium	< 0.003	mg/L	SW846 6010B
TCLP Chromium	0.060	mg/L	SW846 6010B
TCLP Lead	< 0.04	mg/L	SW846 6010B
TCLP Selenium	< 0.05	mg/L	SW846 6010B
TCLP Silver	< 0.007	mg/L	SW846 6010B
TCLP Mercury	<0.0002	mg/L	SW846 7470A

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Project:	Marine View Dr. Properties
Client ID:	OS-4720-13-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	13

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	108	SW846 8082A

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Project:	Marine View Dr. Properties
Client ID:	OS-1720-14-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	14

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	110	SW846 8082A

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Project:	Marine View Dr. Properties
Client ID:	OS-4720-10-040314-(01)
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	15

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	109	SW846 8082A

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Project:	Marine View Dr. Properties
Client ID:	OS-4722-01-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	16

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-02-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	17

Analyte	Result	Units	Method
Asbestos	*	%	PLM

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05/07/2014

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-03-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	18

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-04-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	19

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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05/07/2014

Pioneer Technologies
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Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-05-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	20

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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05/07/2014

Pioneer Technologies
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Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-06-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	21

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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05/07/2014

Pioneer Technologies
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Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-07-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	22

Analyte	Result	Units	Method
Asbestos	*	%	PLM

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Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	PT-4722-08-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	23

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	117	SW846 8082A

SPECTRA LABORATORIES

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05/07/2014

Pioneer Technologies
5205 Corporate Center Crt SE
Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project: Marine View Dr. Properties
Client ID: PT-4722-09-040314
Sample Matrix: Solid
Date Sampled: 04/03/2014
Date Received: 04/04/2014
Spectra Project: 2014040122
Spectra Number: 24

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	100	SW846 8082A

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Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	PT-4722-10-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	25

Analyte	Result	Units	Method
PCB AR1254	1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	100	SW846 8082A

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	PT-4722-11-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	26

Analyte	Result	Units	Method
PCB	<5.0	mg/Kg	SW846 8082A

*Reporting limit elevated due to matrix interference.

Surrogate	Recovery	Method
Decachlorobiphenyl	110	SW846 8082A

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-12-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	27

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	108	SW846 8082A

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Attn: Stacy Munson

Project: Marine View Dr. Properties
Client ID: OS-4722-16-040314-(10)
Sample Matrix: Solid
Date Sampled: 04/03/2014
Date Received: 04/04/2014
Spectra Project: 2014040122
Spectra Number: 28

Analyte	Result	Units	Method
TCLP Arsenic	< 0.05	mg/L	SW846 6010B
TCLP Barium	0.090	mg/L	SW846 6010B
TCLP Cadmium	0.011	mg/L	SW846 6010B
TCLP Chromium	0.186	mg/L	SW846 6010B
TCLP Lead	0.34	mg/L	SW846 6010B
TCLP Selenium	< 0.05	mg/L	SW846 6010B
TCLP Silver	< 0.007	mg/L	SW846 6010B
TCLP Mercury	<0.002	mg/L	SW846 7470A

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-17-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	29

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4722-06-040314-(01)
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	30

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4728-01-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	31

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Project:	Marine View Dr. Properties
Client ID:	OS-4728-02-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	32

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Project:	Marine View Dr. Properties
Client ID:	OS-4728-03-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	33

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Project:	Marine View Dr. Properties
Client ID:	OS-4728-04-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	34

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Project:	Marine View Dr. Properties
Client ID:	OS-4728-05-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	35

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Project:	Marine View Dr. Properties
Client ID:	OS-4728-06-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	36

Analyte	Result	Units	Method
Asbestos	*	%	PLM

* Asbestos testing was subcontracted to NVL Laboratories, Inc. Please see the complete report attached.

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Project:	Marine View Dr. Properties
Client ID:	PT-4728-07-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	37

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	100	SW846 8082A

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Project:	Marine View Dr. Properties
Client ID:	PT-4728-08-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	38

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	111	SW846 8082A

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Attn: Stacy Munson

Project: Marine View Dr. Properties
Client ID: PT-472-09-040314
Sample Matrix: Solid
Date Sampled: 04/03/2014
Date Received: 04/04/2014
Spectra Project: 2014040122
Spectra Number: 39

Analyte	Result	Units	Method
PCB AR1254*	7.9*	mg/Kg	SW846 8082A

*Sample contains multiple Aroclors. Total area of the PCB pattern in the sample was quantified on the basis of the Aroclor standard that is most similar to the sample.

Surrogate	Recovery	Method
Decachlorobiphenyl	110	SW846 8082A

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4728-10-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	40

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	111	SW846 8082A

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4728-11-040314
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	41

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	124	SW846 8082A

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Attn: Stacy Munson

Project: Marine View Dr. Properties
Client ID: OS-4728-12-040314-(10)
Sample Matrix: Solid
Date Sampled: 04/03/2014
Date Received: 04/04/2014
Spectra Project: 2014040122
Spectra Number: 42

Analyte	Result	Units	Method
TCLP Arsenic	< 0.05	mg/L	SW846 6010B
TCLP Barium	0.190	mg/L	SW846 6010B
TCLP Cadmium	< 0.003	mg/L	SW846 6010B
TCLP Chromium	< 0.007	mg/L	SW846 6010B
TCLP Lead	< 0.04	mg/L	SW846 6010B
TCLP Selenium	< 0.05	mg/L	SW846 6010B
TCLP Silver	< 0.007	mg/L	SW846 6010B
TCLP Mercury	<0.0002	mg/L	SW846 7470A

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Attn: Stacy Munson

Project:	Marine View Dr. Properties
Client ID:	OS-4728-11-040314-(01)
Sample Matrix:	Solid
Date Sampled:	04/03/2014
Date Received:	04/04/2014
Spectra Project:	2014040122
Spectra Number:	43

Analyte	Result	Units	Method
PCB	<1.0	mg/Kg	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	117	SW846 8082A

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Pioneer Technologies
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Suite A
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Attn: Stacy Munson

Project: Marine View Dr. Properties
Client ID: EB-1-040314
Sample Matrix: Liquid
Date Sampled: 04/03/2014
Date Received: 04/04/2014
Spectra Project: 2014040122
Spectra Number: 44

Analyte	Result	Units	Method
Arsenic	< 0.05	mg/L	SW846 6010B
Barium	0.003	mg/L	SW846 6010B
Cadmium	< 0.003	mg/L	SW846 6010B
Chromium	< 0.007	mg/L	SW846 6010B
Lead	< 0.04	mg/L	SW846 6010B
Selenium	< 0.05	mg/L	SW846 6010B
Silver	< 0.007	mg/L	SW846 6010B
Mercury	<0.0002	mg/L	SW846 7470A
PCB	<0.1	µg/L	SW846 8082A

Surrogate	Recovery	Method
Decachlorobiphenyl	95	SW846 8082A

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May 5, 2014

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Method: EPA Method 8082
Sample Matrix: Soil
Units: mg/Kg
Spectra Project: 2014040122
Applies to Spectra # 7-11, 13-15

PCB ANALYSIS
QUALITY CONTROL RESULTS

MS/MSD

Spiked Sample: 2014040434-1

Date Extracted: 4/18/2014
Date Analyzed: 4/21/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery	Dup. Spike Amount Found	Percent Recovery	RPD
AR1260	<1.0	4.0	2.35	59	2.26	57	4

BLANK SPIKE (LCS)

Date Extracted: 4/24/2014

Date Analyzed: 4/24/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery
AR1260	<1.0	2.0	1.68	84

METHOD BLANK

Date Extracted: 4/24/2014

Date Analyzed: 4/24/2014

PCB's <1.0

Surrogate Percent Recoveries:

Decachlorobiphenyl 92%

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May 5, 2014

Pioneer Technologies
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Lacey, WA 98503

Method: EPA Method 8082
Sample Matrix: Soil
Units: mg/Kg
Spectra Project: 2014040122
Applies to Spectra # 23-25

PCB ANALYSIS
QUALITY CONTROL RESULTS

MS/MSD

Spiked Sample: 2014040434-1

Date Extracted: 4/18/2014
Date Analyzed: 4/21/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery	Dup. Spike Amount Found	Percent Recovery	RPD
AR1260	<1.0	4.0	2.35	59	2.26	57	4

BLANK SPIKE (LCS)

Date Extracted: 4/28/2014

Date Analyzed: 4/28/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery
AR1260	<1.0	2.0	1.72	86

METHOD BLANK

Date Extracted: 4/28/2014

Date Analyzed: 4/28/2014

PCB's <1.0

Surrogate Percent Recoveries:

Decachlorobiphenyl 92%

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May 5, 2014

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Method: EPA Method 8082
Sample Matrix: Soil
Units: mg/Kg
Spectra Project: 2014040122
Applies to Spectra # 26

PCB ANALYSIS
QUALITY CONTROL RESULTS

MS/MSD

Spiked Sample: 2014040434-1

Date Extracted: 4/18/2014
Date Analyzed: 4/21/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery	Dup. Spike Amount Found	Percent Recovery	RPD
AR1260	<1.0	4.0	2.35	59	2.26	57	4

BLANK SPIKE (LCS)

Date Extracted: 4/28/2014

Date Analyzed: 5/5/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery
AR1260	<1.0	2.0	1.86	93

METHOD BLANK

Date Extracted: 4/28/2014

Date Analyzed: 5/5/2014

PCB's <1.0

Surrogate Percent Recoveries:

Decachlorobiphenyl 92%

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May 5, 2014

Pioneer Technologies
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Lacey, WA 98503

Method: EPA Method 8082
Sample Matrix: Soil
Units: mg/Kg
Spectra Project: 2014040122
Applies to Spectra # 27-28, 37-38

PCB ANALYSIS
QUALITY CONTROL RESULTS

MS/MSD

Spiked Sample: 2014040434-1

Date Extracted: 4/18/2014
Date Analyzed: 4/21/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery	Dup. Spike Amount Found	Percent Recovery	RPD
AR1260	<1.0	4.0	2.35	59	2.26	57	4

BLANK SPIKE (LCS)

Date Extracted: 4/28/2014

Date Analyzed: 5/1/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery
AR1260	<1.0	2.0	1.86	93

METHOD BLANK

Date Extracted: 4/28/2014

Date Analyzed: 5/1/2014

PCB's <1.0

Surrogate Percent Recoveries:

Decachlorobiphenyl 92%

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May 5, 2014

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Lacey, WA 98503

Method: EPA Method 8082
Sample Matrix: Soil
Units: mg/Kg
Spectra Project: 2014040122
Applies to Spectra # 39-41, 43

PCB ANALYSIS
QUALITY CONTROL RESULTS

MS/MSD

Spiked Sample: 2014040434-1

Date Extracted: 4/18/2014
Date Analyzed: 4/21/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery	Dup. Spike Amount Found	Percent Recovery	RPD
AR1260	<1.0	4.0	2.35	59	2.26	57	4

BLANK SPIKE (LCS)

Date Extracted: 4/30/2014

Date Analyzed: 5/1/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery
AR1260	<1.0	2.0	1.96	98

METHOD BLANK

Date Extracted: 4/30/2014

Date Analyzed: 5/1/2014

PCB's <1.0

Surrogate Percent Recoveries:

Decachlorobiphenyl 93%

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May 5, 2014

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Method: EPA Method 8082
Sample Matrix: Soil
Units: mg/Kg
Spectra Project: 2014040122
Applies to Spectra # 44

PCB ANALYSIS
QUALITY CONTROL RESULTS

MS/MSD

Spiked Sample: 2014040434-1

Date Extracted: 4/18/2014
Date Analyzed: 4/21/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery	Dup. Spike Amount Found	Percent Recovery	RPD
AR1260	<1.0	4.0	2.35	59	2.26	57	4

BLANK SPIKE (LCS)

Date Extracted: 4/30/2014

Date Analyzed: 5/1/2014

Compound	Sample Result	Spike Amount Added	Spike Amount Found	Percent Recovery
AR1260	<1.0	1.0	0.935	93.5

METHOD BLANK

Date Extracted: 4/30/2014

Date Analyzed: 5/1/2014

PCB's <1.0

Surrogate Percent Recoveries:

Decachlorobiphenyl 99%

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Steven G. Hibbs, Laboratory Manager

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

April 11, 2014

Marie Holt
Spectra Laboratories
2221 Ross Way
Tacoma, WA 98421

RE: Bulk Asbestos Fiber Analysis, NVL Batch # 1405896.00

Dear Ms. Holt,

Enclosed please find test results for the bulk samples submitted to our laboratory for analysis. 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 U.S. EPA 600/M4-82-020, Interim Method for Determination of Asbestos in Bulk Insulation Samples, as found in 40 CFR, Part 763, Subpart E, Appendix E (formerly Subpart F, Appendix A), and U.S. EPA 600/R-93/116 (July 1993) Test Methods.

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 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. If you would like us to further refine the concentration estimates of asbestos in these samples using point counting, please let me know.

This 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 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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

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1.888.(685.5227)

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1405896.00
Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 14036232 **Client Sample #: 2010404122-1**
Location: N-A

	Description	Non-Fibrous Materials	Other Fibrous Materials:%	Asbestos Type: %
Layer 1 of 1	Pink fibrous material	Fine particles	Glass fibers 98%	None Detected ND

Lab ID: 14036233 **Client Sample #: 2014040122-2**
Location: N-A

	Description	Non-Fibrous Materials	Other Fibrous Materials:%	Asbestos Type: %
Layer 1 of 1	Pink fibrous material with wood flakes	Fine particles, Wood flakes	Glass fibers 90% Cellulose 6%	None Detected ND

Lab ID: 14036234 **Client Sample #: 2014040122-3**
Location: N-A

	Description	Non-Fibrous Materials	Other Fibrous Materials:%	Asbestos Type: %
Layer 1 of 5	Beige ceramic tile with white surface	Fine particles, Ceramic/Binder	None Detected ND	None Detected ND
Layer 2 of 5	Gray brittle material	Binder/Filler, Mineral grains	None Detected ND	None Detected ND
Layer 3 of 5	Off-white ceramic tile	Fine particles, Ceramic/Binder	None Detected ND	None Detected ND
Layer 4 of 5	Gray brittle material	Binder/Filler, Mineral grains	None Detected ND	None Detected ND

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

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Address: 2221 Ross Way
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Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1405896.00
Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
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Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 5 of 5	**Description:** Dark gray brittle material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Mineral grains	Cellulose 1%	**None Detected ND**

Lab ID: 14036235 **Client Sample #: 2014040122-4**
Location: N-A

Layer 1 of 2	**Description:** White sandy material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Sand, Paint	None Detected ND	**None Detected ND**
Layer 2 of 2	**Description:** Peach chalky material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Gypsum/Binder	Cellulose 25%	**None Detected ND**

Lab ID: 14036236 **Client Sample #: 2014040122-5**
Location: N-A

Layer 1 of 3	**Description:** Black asphaltic fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Granules, Mineral grains	Glass fibers 37%	**None Detected ND**
Layer 2 of 3	**Description:** Black asphaltic fibrous material with trace off-white material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Mineral grains, Binder/Filler	Glass fibers 45%	**None Detected ND**
Layer 3 of 3	**Description:** Black asphaltic fibrous felt with trace paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Paint	Cellulose 76%	**None Detected ND**

Lab ID: 14036237 **Client Sample #: 2014040122-6**
Location: N-A

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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By Polarized Light Microscopy

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Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1405896.00
Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 2	**Description:** Brown/ white woven fibrous material with white mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Mastic/Binder	Synthetic fibers 90%	**None Detected ND**
Layer 2 of 2	**Description:** Green/yellow foamy material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Synthetic/Binder	None Detected ND	**None Detected ND**

Lab ID: 14036238 **Client Sample #: 2014040122-16**
Location: N-A

Layer 1 of 1	**Description:** Pink /peach fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles	Glass fibers 98%	**None Detected ND**

Lab ID: 14036239 **Client Sample #: 2014040122-17**
Location: N-A

Layer 1 of 1	**Description:** Pink fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Rust	Glass fibers 98%	**None Detected ND**

Lab ID: 14036240 **Client Sample #: 2014040122-18**
Location: N-A

Layer 1 of 2	**Description:** Tan linoleum		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Linoleum/Binder	Cellulose 25%	**None Detected ND**
Layer 2 of 2	**Description:** Black asphaltic fibrous backing with brown mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Mastic/Binder	Cellulose 60%	**None Detected ND**
		Synthetic fibers 5%	

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Batch #: 1405896.00

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 14036241 **Client Sample #: 2014040122-19**
Location: N-A

Layer 1 of 2	**Description:** White compacted powdery material with paint		**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%	**None Detected ND**
	Calcareous particles, Binder/Filler, Paint	None Detected ND	
Layer 2 of 2	**Description:** White chalky material with paper		**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%	**None Detected ND**
	Fine particles, Gypsum/Binder	Cellulose 30%	

Lab ID: 14036242 **Client Sample #: 2014040122-20**
Location: N-A

Layer 1 of 5	**Description:** Black asphaltic fibrous material with granules		**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%	**None Detected ND**
	Asphalt/Binder, Granules	Synthetic fibers 30%	
Layer 2 of 5	**Description:** Black asphaltic fibrous material with granules		**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%	**None Detected ND**
	Asphalt/Binder, Granules, Mineral grains	Glass fibers 35%	
Layer 3 of 5	**Description:** Black asphaltic mastic		**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Chrysotile 4%**
	Asphalt/Binder, Mastic/Binder	None Detected ND	
Layer 4 of 5	**Description:** Black asphaltic fibrous material with granules		**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%	**None Detected ND**
	Asphalt/Binder, Granules, Mineral grains	Cellulose 45%	
Layer 5 of 5	**Description:** Off-white foamy material		**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%	**None Detected ND**
	Synthetic/Binder	None Detected ND	

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1405896.00
Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 14036243 **Client Sample #: 2014040122-21**
Location: N-A

Layer 1 of 3	**Description:** Green/white woven fibrous material with white mastic			**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%		**None Detected ND**
	Fine particles, Mastic/Binder	Synthetic fibers	88%	
Layer 2 of 3	**Description:** Off-white fibrous material with thin mastic			**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%		**None Detected ND**
	Fine particles, Mastic/Binder	Synthetic fibers	95%	
Layer 3 of 3	**Description:** Violet foamy material			**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%		**None Detected ND**
	Synthetic/Binder	None Detected	ND	

Lab ID: 14036244 **Client Sample #: 2014040122-22**
Location: N-A
Comments: Unsure of correct layer sequence

Layer 1 of 3	**Description:** Green/black and white woven fibrous material with white mastic			**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%		**None Detected ND**
	Fine particles, Mastic/Binder	Synthetic fibers	85%	
Layer 2 of 3	**Description:** Gray woven fibrous material with mastic			**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%		**None Detected ND**
	Fine particles, Mastic/Binder	Synthetic fibers	90%	
Layer 3 of 3	**Description:** White /light green soft material with tan fibrous mesh and thin tan soft mastic			**Asbestos Type: %**
	Non-Fibrous Materials:	Other Fibrous Materials:%		**None Detected ND**
	Binder/Filler, Mastic/Binder	Synthetic fibers	37%	

Lab ID: 14036245 **Client Sample #: 2014040122-29**
Location: N-A

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Batch #: 1405896.00

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 1	**Description:** Pink/black fibrous material	Non-Fibrous Materials: Fine particles	Other Fibrous Materials:% Glass fibers 98%	**Asbestos Type: % None Detected ND**

Lab ID: 14036246 **Client Sample #: 2014040122-30**
Location: N-A

Layer 1 of 4	**Description:** Green/black and white woven fibrous material with mastic	Non-Fibrous Materials: Fine particles, Mastic/Binder	Other Fibrous Materials:% Synthetic fibers 86%	**Asbestos Type: % None Detected ND**
Layer 2 of 4	**Description:** Green/black and white woven fibrous material with mastic	Non-Fibrous Materials: Fine particles, Mastic/Binder	Other Fibrous Materials:% Synthetic fibers 90%	**Asbestos Type: % None Detected ND**
Layer 3 of 4	**Description:** Off-white fibrous material with thin mastic	Non-Fibrous Materials: Fine particles, Mastic/Binder	Other Fibrous Materials:% Synthetic fibers 93%	**Asbestos Type: % None Detected ND**
Layer 4 of 4	**Description:** Violet foamy material	Non-Fibrous Materials: Synthetic/Binder	Other Fibrous Materials:% None Detected ND	**Asbestos Type: % None Detected ND**

Lab ID: 14036247 **Client Sample #: 2014040122-31**
Location: N-A

Layer 1 of 1	**Description:** Peach/yellow fibrous material	Non-Fibrous Materials: Fine particles	Other Fibrous Materials:% Glass fibers 98%	**Asbestos Type: % None Detected ND**

Lab ID: 14036248 **Client Sample #: 2014040122-32**
Location: N-A

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1405896.00
Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 1	**Description:** Yellow fibrous material			**Asbestos Type: %**
	Non-Fibrous Materials:		Other Fibrous Materials:%	**None Detected ND**
	Fine particles		Glass fibers 98%	

Lab ID: 14036249 **Client Sample #: 2014040122-33**
Location: N-A
Comments: Unsure of correct layer sequence

Layer 1 of 3	**Description:** Off-white/light gray sheet vinyl			**Asbestos Type: %**
	Non-Fibrous Materials:		Other Fibrous Materials:%	**None Detected ND**
	Vinyl/Binder, Synthetic foam		None Detected ND	
Layer 2 of 3	**Description:** Off-white fibrous backing with mastic (on trace wood)			**Asbestos Type: %**
	Non-Fibrous Materials:		Other Fibrous Materials:%	**None Detected ND**
	Fine particles, Binder/Filler, Mastic/Binder		Cellulose 75%	
Layer 3 of 3	**Description:** Black foamy material with yellow soft mastic and paint			**Asbestos Type: %**
	Non-Fibrous Materials:		Other Fibrous Materials:%	**None Detected ND**
	Synthetic/Binder, Mastic/Binder, Paint		None Detected ND	

Lab ID: 14036250 **Client Sample #: 2014040122-34**
Location: N-A

Layer 1 of 3	**Description:** Brown flat hard compressed fibrous material with off-white surface			**Asbestos Type: %**
	Non-Fibrous Materials:		Other Fibrous Materials:%	**None Detected ND**
	Fine particles, Binder/Filler		Cellulose 65%	
Layer 2 of 3	**Description:** Tan soft mastic			**Asbestos Type: %**
	Non-Fibrous Materials:		Other Fibrous Materials:%	**None Detected ND**
	Mastic/Binder		Cellulose 3%	
Layer 3 of 3	**Description:** Light brown hard compressed fibrous material with white surface			**Asbestos Type: %**
	Non-Fibrous Materials:		Other Fibrous Materials:%	**None Detected ND**
	Fine particles, Adhesive/Binder		Cellulose 90%	

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1405896.00
Client Project #: 2014040122
Date Received: 4/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 14036251 **Client Sample #: 2014040122-35**
Location: N-A

Layer 1 of 4	**Description:** Layered black asphaltic fibrous material with granules and trace paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Granules, Mineral grains	Glass fibers 38%	**None Detected ND**
Layer 2 of 4	**Description:** Black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Mastic/Binder	None Detected ND	**None Detected ND**
Layer 3 of 4	**Description:** Black asphaltic fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Granules, Mineral grains	Cellulose 42%	**None Detected ND**
Layer 4 of 4	**Description:** Black asphaltic fibrous felt with trace paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Paint	Cellulose 75%	**None Detected ND**

Lab ID: 14036252 **Client Sample #: 2014040122-36**
Location: N-A

Layer 1 of 2	**Description:** Brown /white woven fibrous material with white mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Mastic/Binder	Synthetic fibers 87%	**None Detected ND**
Layer 2 of 2	**Description:** Multi-color foamy material with trace mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Synthetic/Binder, Mastic/Binder	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/11/2014
Reviewed by: Nick Ly **Date:** 04/11/2014

Nick Ly, Technical Director

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NVL Batch ID

CHAIN OF 1405896

PAGE 1 of 1

SPECTRA Laboratories

2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

STANDARD [X] RUSH [ ]

ADDRESS CHANGE [ ]

ADDRESS: 2221 Ross Way Tacoma WA 98445

CLIENT: Spectra Labs

PROJECT: 2014040122

CONTACT: Marie H

PHONE: 253-272-4850 FAX: 253-572-9838

Prefer FAX [ ] or e-MAIL [ ]

E-MAIL: marieh@spectra-lab.com

PURCHASE ORDER #

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	HOCs	Asbestos
014040122-1	4.3.14		Solid	1																								X
014040122-2	4.3.14		Solid	1																								X
014040122-3	4.3.14		Solid	1																								X
014040122-4	4.3.14		Solid	1																								X
014040122-5	4.3.14		Solid	1																								X
014040122-6	4.3.14		Solid	1																								X
014040122-16	4.3.14		Solid	1																								X
014040122-17	4.3.14		Solid	1																								X
014040122-18	4.3.14		Solid	1																								X
014040122-19	4.3.14		Solid	1																								X

SPECIAL INSTRUCTIONS/COMMENTS:

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Morgan Landon	Spectra	4.7.14	12:00 PM
RECEIVED BY		Max R	NVL	4/8/14	1430 UPS
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, Inc.*

RETURN SAMPLES [ ] DISPOSE SAMPLES [ ]

(Shipping Fee Applies)

Received by: Nadia NVL 4/11/14 3:20PM

NVL Batch ID

CHAIN 1405896

PAGE 2 of 2

SPECTRA Laboratories

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STANDARD [X] RUSH [ ]

ADDRESS CHANGE [ ]

CLIENT: Spectra Labs

ADDRESS: 2221 Ross Way Tacoma WA 98445

PROJECT: 2014040122

CONTACT: Marie H

PHONE: 253-272-4850 FAX: 253-572-9838

Prefer FAX [ ] or e-MAIL [ ]

MAIL: marieh@spectra-lab.com

PURCHASE ORDER #

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
014040122-20	4.3.14		Solid	1																							X
014040122-21	4.3.14		Solid	1																							X
014040122-22	4.3.14		Solid	1																							X
014040122-29	4.3.14		Solid	1																							X
014040122-30	4.3.14		Solid	1																							X
014040122-31	4.3.14		Solid	1																							X
014040122-32	4.3.14		Solid	1																							X
014040122-33	4.3.14		Solid	1																							X
014040122-34	4.3.14		Solid	1																							X
014040122-35	4.3.14		Solid	1																							X

SPECIAL INSTRUCTIONS/COMMENTS:

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Morgan Landon	Spectra	4.7.14	12:00 PM
RECEIVED BY		Max R.	NVL	4/8/14	1430 UB
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, Inc.*

RETURN SAMPLES [0] DISPOSE SAMPLES [0] (Shipping Fee Applies)

Analyzed by: Nedia NVL 4/11/14 3:20 PM

SPECTRA Laboratories

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CHAIN OF CUSTODY NVL Batch ID PAC **1405896**

STANDARD [X] RUSH [ ]

CLIENT: Spectra Labs ADDRESS: 2221 Ross Way Tacoma WA 98445 ADDRESS CHANGE [ ]

PROJECT: 2014040122

CONTACT: Marie H

PHONE: 253-272-4850 FAX: 253-572-9838

EMAIL: marieh@spectra-lab.com Prefer FAX [ ] or e-MAIL [ ]

PURCHASE ORDER # 0

SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
140401225-36	4.3.14		Solid	1																							X

SPECIAL INSTRUCTIONS/COMMENTS:

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Morgan Landon	Spectra	4.7.14	12:00 PM
RECEIVED BY		Max R.	NVL	4/8/14	1430HRS
RELINQUISHED BY					
RECEIVED BY					

RETURN SAMPLES [0] DISPOSE SAMPLES [0] (Shipping Fee Applies)

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, Inc.*

Analyzed by: [illegible] Needs NVL 4/11/14 3:20PM

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SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 1401040122

Return Samples: Y N Page 1 of 5 STANDARD X RUSH

CLIENT: Pioneer / Port of Tacoma ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A Lacey WA 98503 ADDRESS CHANGE

PROJECT: Marine View Dr. Properties

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1700 FAX:

e-MAIL: munsons@uspioneer.com Prefer FAX or e-MAIL

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
1	OS-4720-01-040314	4/3/14	9:15a	Solid	1																							X
2	OS-4720-02-040314		9:30a		1																							X
3	OS-4720-03-040314		9:40a		1																							X
4	OS-4720-04-040314		9:50a		1																							X
5	OS-4720-05-040314		9:20a		1																							X
6	OS-4720-06-040314		9:55a		1																							X
7	DT-4720-07-040314		10:05a		1												X											
8	DT-4720-08-040314		10:35a		1												X											
9	DT-4720-09-040314		10:40a		1												X											
10	OS-4720-10-040314		10:00a		1												X											

LAB USE ONLY

Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Stacy Munson	Stacy Munson	Pioneer	4/3/14	5:27p
RECEIVED BY	Marie Holt	MARIE HOLT	Spectra	4-3-14	5:30pm
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

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SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 20140401 27

Return Samples: Y N Page 2 of 5 STANDARD [X] RUSH [ ]

CLIENT: Pioneer / Port of Tacoma ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A Lacey WA 98503 ADDRESS CHANGE [ ]

PROJECT: Marine View Dr. Properties

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1700 FAX:

e-MAIL: munsons@pioneer.com Prefer FAX [ ] or e-MAIL [ ]

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
1	OS-4720-11-040314	4/3/14	10:15a	Solid	1												X											
2	OS-4720-12-040314-(01)		10:50a		1															X								
3	OS-4720-13-040314		10:25a		1												X											
4	OS-4720-14-040314		10:35a		1												X											
5	OS-4720-10-040314-(01)		10:00a		1												X											
6	OS-4722-01-040314		11:30a		1																						X	
7	OS-4722-02-040314		11:35a		1																						X	
8	OS-4722-03-040314		11:40a		1																						X	
9	OS-4722-04-040314		11:45a		1																						X	
10	OS-4722-05-040314		12:30p		1																						X	

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Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	[signature]	Stacy Munson	Pioneer	4/3/14	5:27p
RECEIVED BY	Marie Holt	MARIE HOLT	Spectra	4-3-14	5:30pm
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

SPECTRA Laboratories

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www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 1401A122

Return Samples: Y N Page 3 of 5

STANDARD [X] RUSH [ ]

CLIENT: Pioneer / Port of Tacoma ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A Lacey WA 98503 ADDRESS CHANGE [ ]

PROJECT: Marine View Dr. Properties

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-4700 FAX:

e-MAIL: MunsonS@uspioneer.com Prefer FAX [ ] or e-MAIL [ ]

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
1	OS-4722-06-040314	3/4/14	12:00p	Solid	1																							X
2	OS-4722-07-040314		12:10p		1																							X
3	PT-4722-08-040314		12:45p		1												X											
4	PT-4722-09-040314		1:00p		1												X											
5	PT-4722-10-040314		1:45p		1												X											
6	PT-4722-11-040314		2:00p		1												X											
7	OS-4722-12-040314		1:40p		1												X											
8	OS-4722-16-040314-(10)		2:20p		1															X								
9	OS-4722-17-040314		1:15p		1																						X	
10	OS-4722-06-040314-(01)		12:00p		1																						X	

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Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Stacy Munson	Stacy Munson	Pioneer	4/3/14	5:27p
RECEIVED BY	Marie Holt	MARIE HOLT	Spectra	4-3-14	5:30
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

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SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 1404012

Return Samples: Y N Page 4 of 5 STANDARD [X] RUSH [ ]

CLIENT: Pioneer / Port of Tacoma ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A Lacey WA 98503 ADDRESS CHANGE [ ]

PROJECT: Marine View Dr. Properties

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1700 FAX:

e-MAIL: munson@ahpioneers.com Prefer FAX [ ] or e-MAIL [ ]

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
1	OS-4728-01-040714	4/3/14	2:35p	Soil	1																							X
2	OS-4728-02-040714		2:40p		1																							X
3	OS-4728-03-040714		2:50p		1																							X
4	OS-4728-04-040714		3:00p		1																							X
5	OS-4728-05-040714		3:10p		1																							X
6	OS-4728-06-040714		3:15p		1																							X
7	PT-4728-07-040714		3:20p		1												X											
8	PT-4728-08-040714		3:50p		1												X											
9	PT-4728-09-040714		3:55p		1												X											
10	OS-4728-10-040714		3:30p		1												X											

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Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Stacy Munson	Stacy Munson	Pioneer	4/3/14	5:27
RECEIVED BY	Marie Holt	MARIE HOLT	Spectra	4-3-14	5:30
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

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www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 1404012

Return Samples: Y N Page 5 of 5 STANDARD X RUSH

CLIENT: Pioneer / Port of Tacoma ADDRESS: 5205 Corporate Ctr. Ct. SE ste. A Lacey WA 98503 ADDRESS CHANGE

PROJECT: Marine View Dr. Properties

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1700 FAX:

e-MAIL: mmunson@pioneer.com Prefer FAX or e-MAIL

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)
1	DS-4728-11-040314	4/3/14	3:40p	Solid	1												X											
2	DS-4728-12-040314-(00)	4/3/14	4:00p	Solid	1															X								
3	DS-4728-11-040314-(01)	4/3/14	3:40p	Solid	1												X											
4	EB-1-040314	4/3/14	4:10p	Aqueous	2												X	X										
5																												
6																												
7																												
8																												
9																												
10																												

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Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Stacy Munson	Stacy Munson	Pioneer	4/3/14	5:27
RECEIVED BY	Marie Holt	Marie Holt	Spectra	4-3-14	5:30
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

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05/02/2014

Pioneer Technologies
5205 Corporate Center Crt SE
Suite A
Lacey, WA 98503
Attn: Stacy Munson

P.O.#: COD
Project: Marine View Dr. Properties
Sample Matrix: Solid
Date Sampled: 04/17/2014
Date Received: 04/17/2014
Spectra Project: 2014040494

Client ID	Spectra #	Analyte	Result	Units	Method
OS-4728-13-041714	1	Asbestos	*		PLM
OS-4728-14-041714	2	Asbestos	*		PLM
OS-4728-15-041714	3	Asbestos	*		PLM
OS-4728-16-041714	4	Asbestos	*		PLM

* Asbestos was subcontracted to NVL Laboratories. Please see the complete report attached.

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a7/mlh

April 24, 2014

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Marie Holt
Spectra Laboratories
2221 Ross Way
Tacoma, WA 98421

RE: Bulk Asbestos Fiber Analysis, NVL Batch # 1406650.00

Dear Ms. Holt,

Enclosed please find test results for the bulk samples submitted to our laboratory for analysis. 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 U.S. EPA 600/M4-82-020, Interim Method for Determination of Asbestos in Bulk Insulation Samples, as found in 40 CFR, Part 763, Subpart E, Appendix E (formerly Subpart F, Appendix A), and U.S. EPA 600/R-93/116 (July 1993) Test Methods.

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 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. If you would like us to further refine the concentration estimates of asbestos in these samples using point counting, please let me know.

This 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 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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

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4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
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For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1406650.00
Client Project #: 2014040494
Date Received: 4/21/2014
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 14041941 **Client Sample #: 1**
Location: N-A

Layer 1 of 2	**Description:** White fibrous mesh with mastic and thin silver plastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Mastic/Binder, Plastic	Synthetic fibers 35%	**None Detected ND**
Layer 2 of 2	**Description:** Green fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles	Glass fibers 98%	**None Detected ND**

Lab ID: 14041942 **Client Sample #: 2**
Location: N-A

Layer 1 of 1	**Description:** Brown paper with fibrous mesh and black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Asphalt/Binder, Mastic/Binder	Cellulose 55%	**None Detected ND**
		Glass fibers 18%	

Lab ID: 14041943 **Client Sample #: 3**
Location: N-A

Layer 1 of 3	**Description:** Off-white woven fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles	Cellulose 98%	**None Detected ND**
Layer 2 of 3	**Description:** Layered gray fibrous material with mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Mastic/Binder	Cellulose 65%	**None Detected ND**
		Synthetic fibers 15%	
		Hair 10%	

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/24/2014
Reviewed by: Nick Ly **Date:** 04/24/2014

Nick Ly, Technical Director

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

NVL Laboratories, Inc
4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

NVLAP®
For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1406650.00
Client Project #: 2014040494
Date Received: 4/21/2014
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 3	**Description:** Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder	Cellulose 70%	**None Detected ND**

Lab ID: 14041944 **Client Sample #: 4**
Location: N-A
Comments: Unsure of correct layer sequence

Layer 1 of 3	**Description:** White paper with white fibrous mesh, mastic and foil		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Mastic/Binder, Metal foil	Cellulose 30%	**None Detected ND**
		Glass fibers 13%	
Layer 2 of 3	**Description:** White fibrous material with white fibrous mesh, mastic and clear thin plastic with thin silver		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles, Mastic/Binder, Plastic	Synthetic fibers 55%	**None Detected ND**
	Metallic paint		
Layer 3 of 3	**Description:** Multi-color fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Fine particles	Glass fibers 98%	**None Detected ND**

Sampled by: Client
Analyzed by: Nadezhda Prysyazhnyuk **Date:** 04/24/2014
Reviewed by: Nick Ly **Date:** 04/24/2014

Nick Ly, Technical Director

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

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CHAIN NVL Batch ID
PAG **1406650**

STANDARD [X] RUSH [ ]

CLIENT: Spectra Labs ADDRESS: 2221 Ross Way Tacoma WA 98445 ADDRESS CHANGE [ ]

PROJECT: 2014040494

CONTACT: Marie Holt

PHONE: 253-272-4850 FAX: 253-572-9838

e-MAIL: marieh@spectra-lab.com Prefer FAX [ ] or e-MAIL [ ]

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	Total Mercury 1631E	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	HOCs		ASBESTOS			
1	#1	04/17/14		Solid																											X			
2	#2	04/17/14		Solid																											X			
3	#3	04/17/14		Solid																											X			
4	#4	04/17/14		Solid																											X			
5																																		
6																																		
7																																		
8																																		
9																																		
0																																		

SPECIAL INSTRUCTIONS/COMMENTS:
Longest turn around is fine

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Marie Holt	Marie Holt	Spectra	4-18-14	9:30 am
RECEIVED BY	Justin Shearer	Justin Shearer	NVL	4/21/14	1045 UPS
RELINQUISHED BY					
RECEIVED BY					

RETURN SAMPLES [ ] DISPOSE SAMPLES [ ]
(Shipping Fee Applies)

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, Inc.*

Analyzed by: Nadia NVL 4/24/14 3:30 PM

SPECTRA Laboratories

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(253) 272-4850 Fax (253) 572-9838
www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 1401040494

Return Samples: Y N Page 1 of 1 STANDARD [X] RUSH [ ]

CLIENT: Pioneer Technologies Corp ADDRESS: ADDRESS CHANGE [ ]

PROJECT: Marine View Dr. Properties

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1700 FAX:

e-MAIL: munsons@uspioneer.com Prefer FAX or e-MAIL [X]

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
1	OS-4728-13-041714	4/17/14	2:00p	Solid																								X
2	OS-4728-14-041714		2:10p																									X
3	OS-4728-15-041714		2:10p																									X
4	OS-4728-16-041714		2:15p																									X
5																												
6																												
7																												
8																												
9																												
10																												

LAB USE ONLY

Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Stacy Munson	Stacy Munson	Pioneer	4/17/14	2:46p
RECEIVED BY	Marie Holt	MARIE HOLT	Spectra	4-17-14	2:47pm
RELINQUISHED BY					
RECEIVED BY					

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06/30/2014

Pioneer Technologies
5205 Corporate Center Ct SE
Suite A
Lacey, WA 98503
Attn: Stacy Munson

Project: Marine View Dr.
Sample Matrix: Solid
Date Sampled: 05/09/2014
Date Received: 05/09/2014
Spectra Project: 2014050311

Client ID	Spectra #	Analyte	Result	Units	Method
OS-4722-18-050914	1	Asbestos	*		PLM
OS-4722-19-050914	2	Asbestos	*		PLM
OS-4722-20-050914	3	Asbestos	*		PLM
OS-4722-21-050914	4	Asbestos	*		PLM

* Samples subcontracted to NVL Laboratories, Inc. for Asbestos analysis. Please see the complete report enclosed.

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a7/mlh

May 14, 2014

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Marie Holt
Spectra Laboratories
2221 Ross Way
Tacoma, WA 98421

RE: Bulk Asbestos Fiber Analysis, NVL Batch # 1408009.01

Dear Ms. Holt,

Enclosed please find test results for the bulk samples submitted to our laboratory for analysis. 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 U.S. EPA 600/M4-82-020, Interim Method for Determination of Asbestos in Bulk Insulation Samples, as found in 40 CFR, Part 763, Subpart E, Appendix E (formerly Subpart F, Appendix A), and U.S. EPA 600/R-93/116 (July 1993) Test Methods.

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 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. If you would like us to further refine the concentration estimates of asbestos in these samples using point counting, please let me know.

This 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 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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

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4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

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For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1408009.01
Client Project #: 2014050311
Date Received: 5/13/2014
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 14049311 **Client Sample #: 1-0S-4722-18-050914**
Location: N-A

Layer 1 of 1	**Description:** Black asphaltic soft rubbery material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Synthetic/Binder, Granules	Glass fibers 18%	**None Detected ND**

Lab ID: 14049312 **Client Sample #: 2-0S-4722-19-050914**
Location: N-A

Layer 1 of 2	**Description:** Black asphaltic fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 23%	**None Detected ND**
Layer 2 of 2	**Description:** Black asphaltic material with brown fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose 74%	**None Detected ND**

Lab ID: 14049313 **Client Sample #: 3-0S-4722-20-050914**
Location: N-A

Layer 1 of 2	**Description:** Black asphaltic fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 24%	**None Detected ND**
Layer 2 of 2	**Description:** Black asphaltic fibrous material with grains		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Fine grains	Glass fibers 22%	**None Detected ND**

Lab ID: 14049314 **Client Sample #: 4-0S-4722-21-050914**
Location: N-A

Layer 1 of 3	**Description:** Black asphaltic fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 21%	**None Detected ND**

Sampled by: Client
Analyzed by: Jacob Laugeson **Date:** 05/14/2014
Reviewed by: Nick Ly **Date:** 05/14/2014

Nick Ly - Technical Director

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

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Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

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For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1408009.01
Client Project #: 2014050311
Date Received: 5/13/2014
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 3	**Description:** Black asphaltic fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose 25%	**None Detected ND**
Layer 3 of 3	**Description:** White foamy material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Synthetic foam, Fine particles	None Detected ND	**None Detected ND**

Sampled by: Client
Analyzed by: Jacob Laugeson **Date:** 05/14/2014
Reviewed by: Nick Ly **Date:** 05/14/2014

Nick Ly, Technical Director

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

CH/ NVL Batch ID Y
1408009 1

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STANDARD [X] RUSH [ ]

ADDRESS CHANGE [ ]

CLIENT: Spectra Laboratories ADDRESS:
PROJECT: 2014050311
CONTACT: Marie Holt
PHONE: 253-272-4850 FAX:
e-MAIL: marieh@spectra-lab.com Prefer FAX [ ] or e-MAIL [ ]
PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	HOCs	Asbestos
1	1 - 05-4722-18-050914	05/09/14		solid	1																								X
2	2- 05-4722-19-050914	05/09/14		|																									X
3	3- 05-4722-20-050914	5-9-14		|																									X
4	4- 05-4722-21-050914	05/09/14		|																									X
5																													
6																													
7																													
8																													
9																													
10																													

SPECIAL INSTRUCTIONS/COMMENTS:
5 day turn around

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Marie Holt	Marie Holt	Spectra	05/12/14	11 30
RECEIVED BY	[signature]	Mironikov	NVL	5/13/14	1010
RELINQUISHED BY					
RECEIVED BY					

RETURN SAMPLES [ ] DISPOSE SAMPLES [ ]
(Shipping Fee Applies)

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, Inc.*

SPECTRA Laboratories

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SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 1405031 1

Return Samples: Y N Page 1 of 1 STANDARD [X] RUSH [ ]

CLIENT: Pioneer Technologies Corp ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A Lacey WA ADDRESS CHANGE [ ]

PROJECT: Marine View Dr.

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1760 FAX:

e-MAIL: Munsons@urpioneer.com Prefer FAX [ ] or e-MAIL [ ]

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos
1	05-4722-18-050914	5/9/14	9:30a	Solid	1																							X
2	05-4722-19-050914		9:40a		1																							X
3	05-4722-20-050914		9:50a		1																							X
4	05-4722-21-050914		10:00a		1																							X
5																												
6																												
7																												
8																												
9																												
10																												

LAB USE ONLY

Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Stacy Munson	Stacy Munson	Pioneer	5/9/14	12:09p
RECEIVED BY	Randa Ross	Randa Ross	Spectra	5/9/14	1209
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

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07/11/2014

Pioneer Technologies
5205 Corporate Center Ct SE
Suite A
Lacey, WA 98503

Project: Marine View Dr. Roof
Sample Matrix: Solid
Date Sampled: 07/08/2014
Date Received: 07/08/2014
Spectra Project: 2014070172

Client ID	Spectra #	Analyte	Result	Units	Method
OS-4722-22-070814	1	Asbestos	*		PLM
OS-4722-22-070814-(01)	2	Asbestos	*		PLM
OS-4722-23-070814	3	Asbestos	*		PLM
OS-4722-24-070814	4	Asbestos	*		PLM
OS-4722-25-070814	5	Asbestos	*		PLM
OS-4722-26-070814	6	Asbestos	*		PLM
OS-4722-27-070814	7	Asbestos	*		PLM
OS-4722-28-070814	8	Asbestos	*		PLM
OS-4722-29-070814	9	Asbestos	*		PLM
OS-4722-30-070814	10	Asbestos	*		PLM
OS-4722-31-070814	11	Asbestos	*		PLM
OS-4722-32-070814	12	Asbestos	*		PLM

* Asbestos analysis subcontracted to NVL Laboratories. Please see the complete report enclosed.

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a7/mlh

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1411680.00
Client Project #: 2014070172
Date Received: 7/10/2014
Samples Received: 12
Samples Analyzed: 12
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 14072204 **Client Sample #: 2014070172-1**
Location: N-A
Comments: Unsure of correct layer sequence

Layer 1 of 6	**Description:** Black layered asphaltic fibrous material with green granules and tar		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose 36%	None Detected ND
Layer 2 of 6	**Description:** Black layered asphaltic fibrous material with gray granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 31%	None Detected ND
Layer 3 of 6	**Description:** Black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Fine particles	Cellulose 7%	None Detected ND
Layer 4 of 6	**Description:** Black asphaltic fibrous material with gray/green granules and tar		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose 38%	None Detected ND
Layer 5 of 6	**Description:** Black asphaltic fibrous material with gray/beige granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 32%	None Detected ND
Layer 6 of 6	**Description:** Black asphaltic mastic with plastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Plastic	Cellulose 5%	None Detected ND

Lab ID: 14072205 **Client Sample #: 2014070172-2**
Location: N-A
Comments: Unsure of correct layer sequence

Sampled by: Client
Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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.

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For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1411680.00
Client Project #: 2014070172
Date Received: 7/10/2014
Samples Received: 12
Samples Analyzed: 12
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 1 of 6	**Description:** Black layered asphaltic fibrous material with green granules and tar		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose 35%	None Detected ND
Layer 2 of 6	**Description:** Black layered asphaltic fibrous material with gray granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 34%	None Detected ND
Layer 3 of 6	**Description:** Trace black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Fine particles	Cellulose 6%	None Detected ND
Layer 4 of 6	**Description:** Black asphaltic fibrous material with gray/green granules and tar		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose 36%	None Detected ND
Layer 5 of 6	**Description:** Black asphaltic fibrous material with gray/beige granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 33%	None Detected ND
Layer 6 of 6	**Description:** Black asphaltic mastic with plastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Plastic	Cellulose 4%	None Detected ND

Lab ID: 14072206 **Client Sample #: 2014070172-3**
Location: N-A

Layer 1 of 5	**Description:** Black asphaltic built-up fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Asphalt/Binder, Granules	Cellulose 31%	None Detected ND

Sampled by: Client

Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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NVLAP®

For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Spectra Laboratories
Address: 2221 Ross Way
Tacoma, WA 98421

Attention: Ms. Marie Holt
Project Location: N-A

Batch #: 1411680.00
Client Project #: 2014070172
Date Received: 7/10/2014
Samples Received: 12
Samples Analyzed: 12
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 5	**Description:** Trace black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Fine particles	Cellulose 7%	None Detected ND
Layer 3 of 5	**Description:** Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose 36%	None Detected ND
Layer 4 of 5	**Description:** Black asphaltic material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Fine particles	Cellulose 22%	None Detected ND
Layer 5 of 5	**Description:** Black asphaltic mastic with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Binder/Filler	Cellulose 16%	None Detected ND

Lab ID: 14072207 **Client Sample #: 2014070172-4**
Location: N-A

Layer 1 of 5	**Description:** Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose 29%	None Detected ND
Layer 2 of 5	**Description:** Black asphaltic fibrous built-up material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Synthetic fibers 37%	None Detected ND
Layer 3 of 5	**Description:** Black asphaltic fibrous material with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose 34%	None Detected ND

Sampled by: Client

Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 4 of 5	**Description:** Black asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder	Cellulose	5%	None Detected ND
Layer 5 of 5	**Description:** Black asphaltic mastic with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Binder/Filler	Cellulose	14%	None Detected ND

Lab ID: 14072208 **Client Sample #: 2014070172-5**
Location: N-A

Layer 1 of 9	**Description:** Black asphaltic fibrous material with gray granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers	24%	None Detected ND
Layer 2 of 9	**Description:** Black layered asphaltic fibrous material with white granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers	23%	None Detected ND
Layer 3 of 9	**Description:** Black asphaltic fibrous material with white granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose	35%	None Detected ND
Layer 4 of 9	**Description:** Black asphaltic mastic with paper			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Binder/Filler	Cellulose	18%	None Detected ND
Layer 5 of 9	**Description:** Black asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Fine particles	Cellulose	5%	None Detected ND

Sampled by: Client

Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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Attention: Ms. Marie Holt
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Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 6 of 9	**Description:** Black asphaltic fibrous material with gray granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 26%	None Detected ND
Layer 7 of 9	**Description:** Black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Fine particles	Cellulose 6%	None Detected ND
Layer 8 of 9	**Description:** Black asphaltic fibrous material with gray granules and tar		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Glass fibers 24%	None Detected ND
Layer 9 of 9	**Description:** Black asphaltic mastic with plastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Plastic	Cellulose 4%	None Detected ND

Lab ID: 14072209 **Client Sample #: 2014070172-6**
Location: N-A

Layer 1 of 6	**Description:** Black asphaltic fibrous material with gray granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 26%	None Detected ND
Layer 2 of 6	**Description:** Black asphaltic fibrous material with dark gray granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 24%	None Detected ND
Layer 3 of 6	**Description:** Black asphaltic fibrous material with off-white granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose 33%	None Detected ND

Sampled by: Client
Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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Attention: Ms. Marie Holt
Project Location: N-A

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Client Project #: 2014070172
Date Received: 7/10/2014
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Samples Analyzed: 12
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 4 of 6	**Description:** Trace black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Fine particles	Cellulose 3%	None Detected ND
Layer 5 of 6	**Description:** Black asphaltic mastic with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Binder/Filler	Cellulose 17%	None Detected ND
Layer 6 of 6	**Description:** Black asphaltic fibrous material with beige granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 23%	None Detected ND

Lab ID: 14072210 **Client Sample #: 2014070172-7**
Location: N-A

Layer 1 of 5	**Description:** Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose 44%	None Detected ND
Layer 2 of 5	**Description:** Black asphaltic fibrous material with gray granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 25%	None Detected ND
Layer 3 of 5	**Description:** Black asphaltic fibrous material with white granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose 33%	None Detected ND
Layer 4 of 5	**Description:** Trace black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder	Cellulose 4%	None Detected ND

Sampled by: Client

Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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Attention: Ms. Marie Holt
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Client Project #: 2014070172
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Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 5 of 5	**Description:** Black asphaltic mastic with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Binder/Filler	Cellulose 15%	None Detected ND

Lab ID: 14072211 **Client Sample #: 2014070172-8**
Location: N-A

Layer 1 of 2	**Description:** Yellow foam material with foil and trace adhesive		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Synthetic foam, Metal foil, Adhesive/Binder	None Detected ND	None Detected ND
Layer 2 of 2	**Description:** White/clear interwoven/loose fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Adhesive/Binder	Glass fibers 90%	None Detected ND

Lab ID: 14072212 **Client Sample #: 2014070172-9**
Location: N-A

Layer 1 of 1	**Description:** Pink/gray fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Glass debris	Glass fibers 87%	None Detected ND

Lab ID: 14072213 **Client Sample #: 2014070172-10**
Location: N-A
Comments: Unsure of correct layer sequence

Layer 1 of 9	**Description:** Black/brown asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose 41%	None Detected ND
Layer 2 of 9	**Description:** Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Glass fibers 24%	None Detected ND

Sampled by: Client
Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 3 of 9	**Description:** Black asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder	Cellulose	5%	None Detected ND
Layer 4 of 9	**Description:** Black asphaltic fibrous material with green/gray granules			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Cellulose	36%	None Detected ND
Layer 5 of 9	**Description:** Black multi-layered asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose	16%	None Detected ND
		Synthetic fibers	28%	
Layer 6 of 9	**Description:** Black asphaltic mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder	Cellulose	5%	None Detected ND
Layer 7 of 9	**Description:** Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Glass fibers	22%	None Detected ND
Layer 8 of 9	**Description:** Black asphaltic fibrous material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose	37%	None Detected ND
Layer 9 of 9	**Description:** Black asphaltic fibrous built-up material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose	35%	None Detected ND

Lab ID: 14072214 **Client Sample #: 2014070172-11**
Location: N-A

Sampled by: Client

Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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Attention: Ms. Marie Holt
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Date Received: 7/10/2014
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Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 7	**Description:** Black asphaltic fibrous material with red granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 25%	None Detected ND
Layer 2 of 7	**Description:** Black asphaltic mastic with plastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Plastic	Cellulose 2%	None Detected ND
Layer 3 of 7	**Description:** Black asphaltic fibrous material with gray/beige granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 23%	None Detected ND
Layer 4 of 7	**Description:** Black asphaltic fibrous material with red granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 26%	None Detected ND
Layer 5 of 7	**Description:** Black asphaltic fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler	Cellulose 78%	None Detected ND
Layer 6 of 7	**Description:** Black asphaltic fibrous material with gray granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 25%	None Detected ND
Layer 7 of 7	**Description:** Off-white foamy material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Synthetic foam, Adhesive/Binder	None Detected ND	None Detected ND

Lab ID: 14072215 **Client Sample #: 2014070172-12**
Location: N-A

Sampled by: Client

Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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Attention: Ms. Marie Holt
Project Location: N-A

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Samples Analyzed: 12
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 2	**Description:** Black asphaltic fibrous built-up material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Wood flakes	Cellulose 40%	None Detected ND
Layer 2 of 2	**Description:** Black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Mastic/Binder, Asphalt/Binder, Fine particles	Cellulose 17%	None Detected ND

Sampled by: Client

Analyzed by: Jacob Laugeson **Date:** 07/10/2014

DRAFT

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SPECTRA Laboratories

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NVL Batch ID
CHAIN 1411680

PAGE 1 of 2

STANDARD ☐ RUSH X

CLIENT: Spectra Labs ADDRESS: 2221 Ross Way Tacoma WA 98445 ADDRESS CHANGE ☐

PROJECT: 2014070172

CONTACT: Marie H

PHONE: 253-272-4850 FAX: 253-572-9838

e-MAIL: marieh@spectra-lab.com Prefer FAX ☐ or e-MAIL ☐

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	HOCs	Asbestos
1	2014070172-1	07/08/14		Solid	1																								X
2	2014070172-2	07/08/14		Solid	1																								X
3	2014070172-3	07/08/14		Solid	1																								X
4	2014070172-4	07/08/14		Solid	1																								X
5	2014070172-5	07/08/14		Solid	1																								X
6	2014070172-6	07/08/14		Solid	1																								X
7	2014070172-7	07/08/14		Solid	1																								X
8	2014070172-8	07/08/14		Solid	1																								X
9	2014070172-9	07/08/14		Solid	1																								X
0	2014070172-10	07/08/14		Solid	1																								X

SPECIAL INSTRUCTIONS/COMMENTS:
24 hour TAT

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Morgan Landon	Spectra	07/09/14	9:00 AM
RECEIVED BY		Max Raymond	NVL	7/10/14	1030 UPS
RELINQUISHED BY					
RECEIVED BY					

RETURN SAMPLES ☐ DISPOSE SAMPLES ☐
(Shipping Fee Applies)

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, Inc.*

NVL Batch ID
CHAI 1411680

PAGE 2 of 2

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STANDARD ☐ RUSH ☒

CLIENT: Spectra Labs

ADDRESS: 2221 Ross Way Tacoma WA 98445

ADDRESS CHANGE ☐

PROJECT: 2014070172

CONTACT: Marie H

PHONE: 253-272-4850 FAX: 253-572-9838

e-MAIL: marieh@spectra-lab.com Prefer FAX ☐ or e-MAIL ☐

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	HOCs	Asbestos
1	2014070172-11	07/08/14		Solid	1																								X
2	2014070172-12	07/08/14		Solid	1																								X
3																													
4																													
5																													
6																													
7																													
8																													
9																													
0																													

SPECIAL INSTRUCTIONS/COMMENTS:

24 hr tat

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Morgan Landon	Spectra	07/09/14	9:00 AM
RECEIVED BY		Max Raymond	NVL	7/10/14	1030 UPS
RELINQUISHED BY					
RECEIVED BY					

RETURN SAMPLES ☐ DISPOSE SAMPLES ☐ (Shipping Fee Applies)

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, Inc.*

SPECTRA Laboratories

2221 Ross Way, Tacoma, WA 98421
(253) 272-4850 Fax (253) 572-9838
www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 20140701 72

24-48 hrs

Return Samples: Y N

Page 1 of 2

STANDARD ☐ RUSH ☒

CLIENT: Pioneer Technologies Corp ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A Olympia WA 98503 ADDRESS CHANGE ☐

PROJECT: Marine View Dr. Roof

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1760 FAX:

e-MAIL: Munsons@uspioneer.com Prefer FAX ☐ or e-MAIL ☐

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos by PLM
1	OS-4722-22-070814	7/8/14	8:45a	soil																								X
2	OS-4722-22-070814-(01)		8:45a																									X
3	OS-4722-23-070814		9:00a																									X
4	OS-4722-24-070814		9:30a																									X
5	OS-4722-25-070814		9:45a																									X
6	OS-4722-26-070814		11:00a																									X
7	OS-4722-27-070814		11:15a																									X
8	OS-4722-28-070814		11:30a																									X
9	OS-4722-29-070814		11:45a																									X
10	OS-4722-30-070814		12:00p																									X

LAB USE ONLY

Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Stacy Munson	Pioneer	7/8/14	
RECEIVED BY		Randa Ross	Spectra	7/8/14	1322
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

SPECTRA Laboratories

2221 Ross Way, Tacoma, WA 98421
(253) 272-4850 Fax (253) 572-9838
www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN OF CUSTODY

SPECTRA PROJECT # 20140701 72 — 24-48 hrs

Return Samples: Y N — Page 2 of 2 — STANDARD ☐ — RUSH ☒

CLIENT: Pioneer Technologies Corp — ADDRESS: 5205 Corporate Ctr. Ct. SE. Ste. A Olympia WA 98503 — ADDRESS CHANGE ☐

PROJECT: Marine View Dr. Roof

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson

PHONE: 360-570-1700 FAX:

e-MAIL: munsons@pioneer.com — Prefer FAX or e-MAIL ☐

PURCHASE ORDER #

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLR SOLVENTS	8270-625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX/EOX	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)	Asbestos by PLM
1	OS-4722-31-070814	7/8/14	12:30p	solid																								X
2	OS-4722-32-070814	↓	1:00p	↓																								X
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

LAB USE ONLY

Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking # _____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY	Stacy Munson	Stacy Munson	Pioneer	7/8/14	1:25
RECEIVED BY	RK	Randa Ross	Spectra	7/8/14	1322
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2% per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Laboratories, LLC*

Memo

PIONEER TECHNOLOGIES CORPORATION
5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503-5901
Phone: 360.570.1700
Fax: 360.570.1777
www.uspioneer.com

to: Pedro Reyes (Port of Tacoma)

from: Stacy Munson

cc: Chris Waldron (PIONEER)

date: April 30, 2015

subject: PIONEER PSA: 069750 Task Order #05:
Hazardous Materials Assessment for 4918 and 5024 Marine View Drive Buildings

Per your request, PIONEER Technologies Corporation (PIONEER) conducted a hazardous materials assessment on behalf of the Port of Tacoma (Port) at buildings located at 4918 and 5024 Marine View Drive in Tacoma, Washington (see Figure 1). Previous hazardous materials assessments were performed at these buildings; however, the following areas were considered inaccessible (Greylock Consulting LLC [Greylock] 2015a, 2015b):

Building 4918

- The asphalt shingles on the roof peak;
- The deck on the western side of the house (due to high tide);
- The attic/crawl space in the bedroom on the eastern side of the house; and
- The exterior northern side of the house.

Building 5024

- Caulks and glazings around windows (due to windows being boarded up);
- Exterior window frames on the northern, eastern, and western sides of the house; and
- The exterior northern side of the house.

The purpose of this hazardous materials assessment was to sample building materials in the inaccessible areas of the two buildings to determine the appropriate disposal methods for these materials during the upcoming demolition activities. This memo presents an overview of the sampling objectives, field operations, sampling results, and the conclusions and recommendations for disposal of materials at the two buildings.

Sampling Objectives

This hazardous materials assessment was designed to address the three primary objectives discussed below. The objectives were based on the recommendations presented in the previous *Hazardous Materials Survey* report and the *Sampling & Analysis of Building Materials at 4918 & 5024 Marine View Drive* report (Greylock 2015a, 2015b), and discussions with Port personnel.

- **Objective 1:** Identify the presence of asbestos containing materials (ACM) in the remaining materials identified as inaccessible by Greylock.
- **Objective 2:** Determine the TCLP lead concentrations in the remaining materials identified as inaccessible by Greylock.
- **Objective 3:** Determine if the painted/coated surfaces or caulking materials at the buildings contain total polychlorinated biphenyls (PCBs) at regulated concentrations.

Field Operations

Field operations were conducted by PIONEER on April 2nd, 2015. An attempt was made to access all locations in the buildings that were identified as inaccessible by Greylock (Greylock 2015a, 2015b). With the exception of the attic/crawl space in the building at 4918 Marine View Drive, all areas were considered accessible and were assessed for all Objectives. The attic/crawl space was inaccessible due to access obstructions, poor lighting, and unknown stability. The building layouts and the sample locations are presented in Figure 3 (4918 Marine View Drive) and Figure 4 (5024 Marine View Drive).

Samples were collected using hand tools (e.g., hammer and chisel, scissors, battery-powered drill) and all hand tools were decontaminated using a mild detergent after each sample was collected to prevent cross-contamination. Samples were submitted to Spectra Laboratories in Tacoma, Washington and NVL Laboratories in Seattle, Washington under industry-standard chain of custody procedures on the days they were collected. Photos from the field operations are presented in Attachment 1. Field notes are presented in Attachment 2.

Objective 1: Identify the presence of asbestos containing materials (ACM) that may be disturbed by the demolition work in the remaining materials identified as inaccessible by Greylock. Greylock collected 35 samples from the two buildings to characterize ACM. Greylock did not collect samples from areas they deemed inaccessible (Greylock 2015a). PIONEER visually inspected all newly-accessible materials to determine homogeneous sampling areas, and which materials were previously characterized by Greylock. Four new bulk samples were collected by PIONEER from miscellaneous materials and assessed for friability. Thermal systems insulation material and/or surfacing material were not observed in the newly-accessibly areas. Samples were analyzed for asbestos via Polarized-Light Microscopy (PLM) Method EPA/600/R-93/116. Asbestos was inspected and sampled by PIONEER's certified AHERA building inspector #147559, in accordance with the requirements of the Puget Sound Clean Air Agency Regulation 3 Article 4 Subsection (f) and 40 CFR 763.86 (see Attachment 3).

Objective 2: Determine the TCLP lead concentrations in the remaining materials identified as inaccessible by Greylock. Greylock collected 11 samples from the two buildings to characterize materials that contain lead (Greylock 2015b). Greylock did not collect samples from areas they deemed inaccessible (Greylock 2015a). PIONEER visually inspected all newly-accessible materials to determine which materials were previously characterized by Greylock, and which newly-accessibly materials have potential lead-containing paints or coatings. No newly-accessible materials that had paints or coatings that had not already been characterized by Greylock were identified for TCLP lead characterization; therefore, no samples were collected for TCLP lead at the buildings. Lead inspection was performed in accordance with the WAC 365-230 lead inspector requirements regulations by PIONEER's certified lead building inspector #147582 (see Attachment 3).

Objective 3: Determine if the painted/coated surfaces or caulking materials at the buildings contain total polychlorinated biphenyls (PCBs) at regulated concentrations. Greylock did not collect samples of painted/coated surfaces or caulking materials for PCBs (Greylock 2015a, 2015b). PIONEER visually inspected the entirety of both of the buildings for potential PCB-containing paints, coatings, and caulks, and suspected materials were sampled. Discrete samples were collected from each type of building material. Twenty samples were collected from the two buildings and analyzed via EPA Method SW846-8082.

Sampling Results

The analytical data results for 4918 Marine View Drive and 5024 Marine View Drive collected during the April 2nd sampling event are presented in Table 1 and Table 2, respectively. Attachment 4 presents the analytical laboratory reports for the samples. Attachment 5 presents the Greylock reports. Samples concentration results from Greylock

and PIONEER sampling operations were reviewed and compared to applicable waste disposal criteria to determine the appropriate means of disposal for the materials during demolition of the buildings.

Objective 1 (ACM): ACM was not detected in any newly-collected samples designed to address Objective 1. Materials sampled to address Objective 1 are listed in Table 1 and Table 2. ACM was detected in two samples from building 4918 during Greylock's inspection (Greylock 2015a, Table 1).

Objective 2 (Lead): No materials with potential lead-containing paints or coatings that had not already been characterized were identified in newly-accessible areas during this sampling event; therefore, no samples were collected for Objective 2. TCLP lead was detected in nine samples from the buildings during Greylock's inspection (Greylock 2015b, Table 1 and Table 2).

Objective 3 (PCBs): All but two of the samples collected to address Objective 3 had PCB concentrations that were not detected. The two detected concentrations were well below the Toxic Substances Control Act (TSCA) total PCB disposal criterion of 50 mg/kg. Materials sampled to address Objective 3 are listed in Table 1 and Table 2. No materials were collected for PCB characterization during Greylock's inspection (Greylock 2015a, 2015b).

Conclusions and Recommendations

Objective 1 (AMC): All newly-accessible building materials sampled for Objective 1 had non-detected ACM concentrations. Sampling results from the Greylock inspection indicate 2 samples detected ACM (samples 4918-4 and 4918-5) (Greylock 2015a, Table 1). Due to Greylock's initial inspection, and PIONEER's subsequent inspection of newly-accessible areas, inspection of the buildings for ACM is now considered complete. All building materials which did not detect ACM should be considered typical non-hazardous waste materials during demolition tasks. All building materials which did detect ACM should be removed prior to demolition and managed in accordance with Washington Administrative Code (WAC) 296-62-077 and WAC 296-155(9).

Objective 2 (Lead): No newly-accessible building materials were sampled for Objective 2. Sampling results from the Greylock inspections indicate 9 of 11 TCLP lead sampled collected exceed the WAC 173-303-090 dangerous waste TCLP lead criterion of 5 mg/L (Greylock 2015b, Table 1 and Table 2). Due to Greylock's inspections, and PIONEER's subsequent inspection of newly-accessible areas, inspection of the buildings for TCLP lead is now considered complete. All building materials which exceed the TCLP lead criterion should be removed prior to demolition and managed by a Washington-state licensed lead abatement contractor. In addition, WAC 196-155-176 worker health and safety requirements should be followed during demolition given that lead-containing materials below the TCLP lead disposal criterion will still be present in the buildings (Greylock 2015b).

Objective 3 (PCBs): All but two of the samples collected to address Objective 3 had PCB concentrations that were not detected. The two detected concentrations were well below the 50 mg/kg TSCA total PCB disposal criterion. All building materials characterized for Objective 3 should be considered typical non-hazardous waste material during demolition tasks.

References

Greylock Consulting LLC, 2015a. Hazardous Materials Survey. 4918 & 5024 Marine View Drive, Tacoma Washington. Project Number: 0411-13. February 13.

Greylock Consulting LLC, 2015b. Sampling & Analysis of Building Materials at 4918 & 5024 Marine View Drive, Tacoma, Washington on February 25, 2014. March 10.

Enclosures

Figure 1: Marine View Drive Building Locations
Figure 2: Marine View Drive Buildings
Figure 3: 4918 Marine View Drive Building Footprint and Sample Locations
Figure 4: 5024 Marine View Drive Building Footprint and Sample Locations
Table 1: 4918 Marine View Drive Building Sample Results
Table 2: 5024 Marine View Drive Building Sample Results
Attachment 1: Photographic Log
Attachment 2: Field Notes
Attachment 3: Certifications
Attachment 4: Analytical Lab Reports
Attachment 5: Greylock Reports

Figures

0 0.25 0.5 Miles

PIONEER TECHNOLOGIES CORPORATION

Marine View Drive Building Locations
Hazardous Materials Assessment for 4918 and 5024 Marine View Drive Buildings
Port of Tacoma, Tacoma, WA

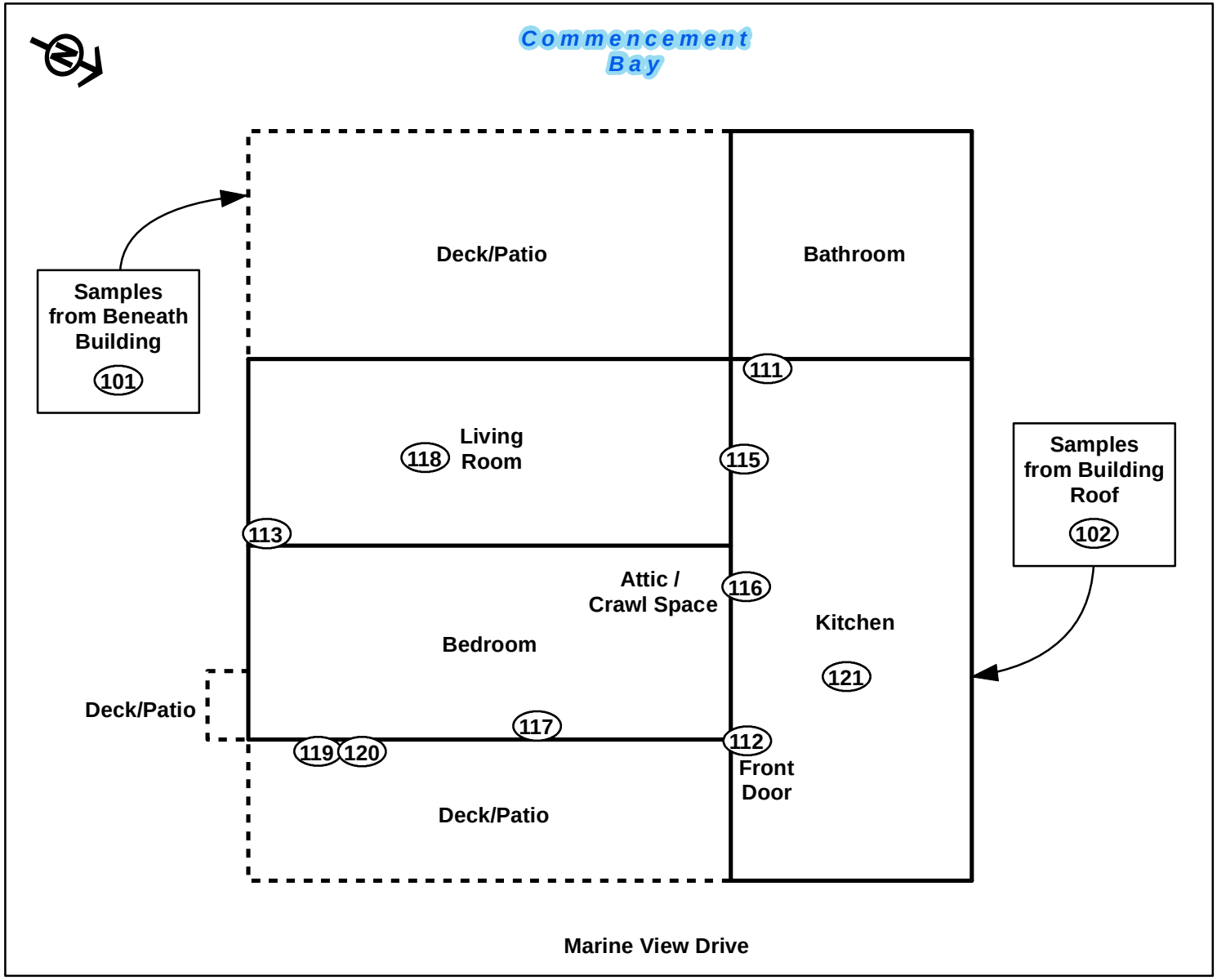
Figure 1

0 25 50 75 100
Feet

PIONEER
TECHNOLOGIES CORPORATION

Marine View Drive Buildings
Hazardous Materials Assessment for 4918 and 5024 Marine View Drive Buildings
Port of Tacoma, Tacoma, WA

Figure 2



Legend

101 Sample Locations

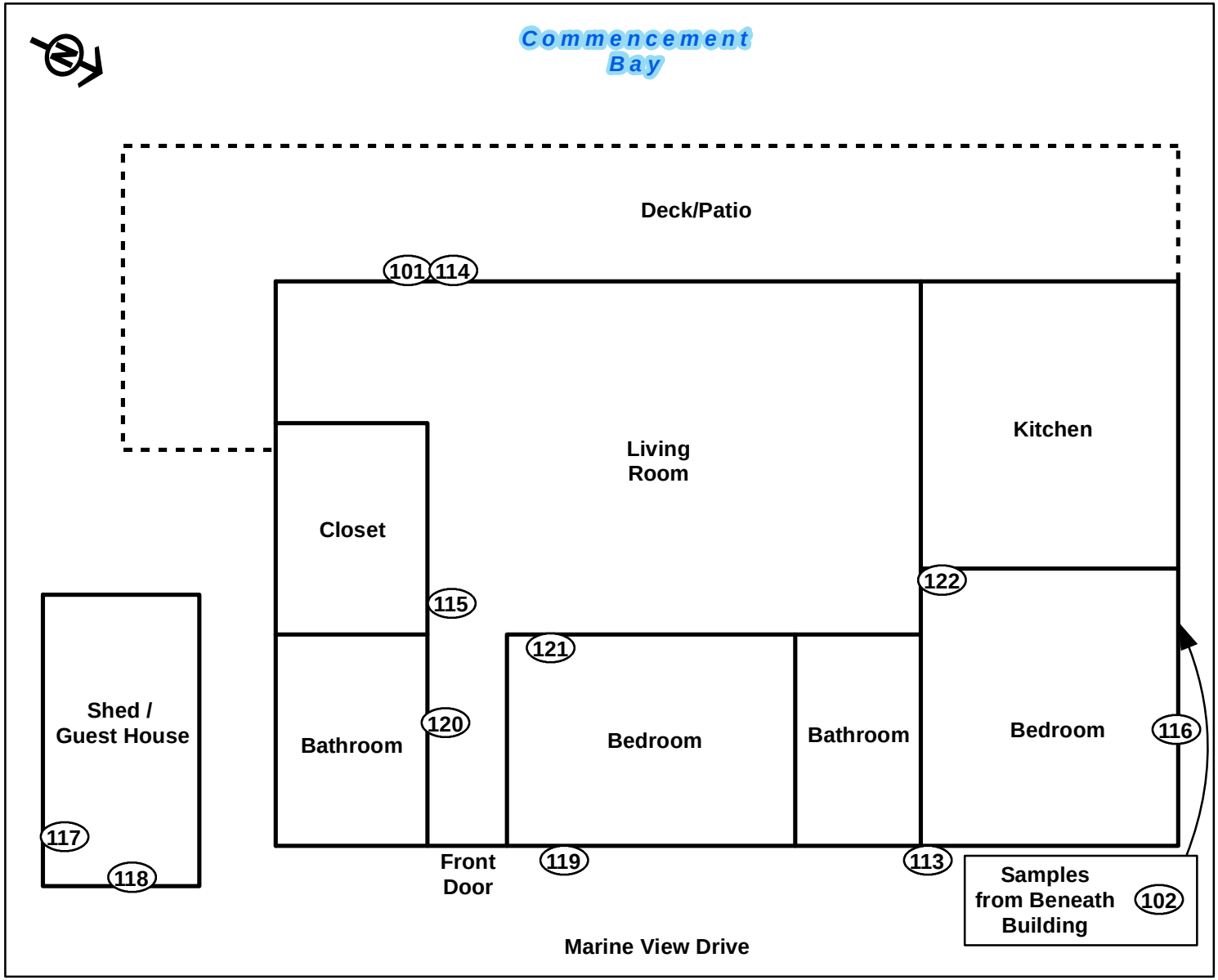
Notes:
-Building 4918 approximate square footage is 1,000 ft^2.
-Sample location numbers correspond to the Sample IDs presented in Table 1.
-Building layout is not to scale.

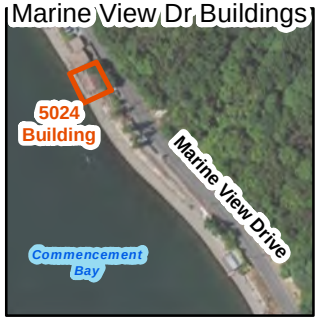
0 5 10 Feet

PIONEER TECHNOLOGIES CORPORATION

4918 Marine View Drive Building Footprint and Sample Locations
Hazardous Materials Assessment for 4918 and 5024 Marine View Drive Buildings
Port of Tacoma, Tacoma, WA

Figure 3





Legend

101 Sample Locations

Notes:
-Building 5024 approximate square footage is 1,500 ft^2.
-Sample location numbers correspond to the Sample IDs presented in Table 2.
-Building layout is not to scale.

0 5 10 Feet

PIONEER TECHNOLOGIES CORPORATION

5024 Marine View Drive Building Footprint and Sample Locations
Hazardous Materials Assessment for 4918 and 5024 Marine View Drive Buildings
Port of Tacoma, Tacoma, WA

Figure 4

Tables

Table 1: 4918 Marine View Drive Building Sample Results

Sample ID [1]	Laboratory Sample ID	Sample Type (Discrete or Composite)	Sample Material	Friable or Non-Friable	Constituent	Result	Units	Waste Disposal Criteria
Objective 1								
OS-4918-101-040215	15032727	Discrete	Insulation blocks with paper backing beneath building	Friable	ACM	Non-detect	%	Detect (>1%)
OS-4918-102-040215	15032728	Discrete	Asphalt shingle layers from roof peak	Non-Friable	ACM	Non-detect	%	Detect (>1%)
Objective 3								
OS-4918-111-040215	1	Discrete	White caulk/paint between kitchen wall boards	--	PCBs	1.0 U	mg/kg	50
OS-4918-112-040215	3	Discrete	Interior kitchen window and door caulk	--	PCBs	1.0 U	mg/kg	50
OS-4918-113-040215	6	Discrete	Caulk from southeast corner of living room	--	PCBs	1.0 U	mg/kg	50
PT-4918-115-040215	2	Discrete	Glossy white paint on door frames and doors	--	PCBs	1.0 U	mg/kg	50
PT-4918-116-040215	4	Discrete	Interior white kitchen paint	--	PCBs	2.3	mg/kg	50
PT-4918-117-040215	5	Discrete	Interior white bedroom paint	--	PCBs	1.0 U	mg/kg	50
PT-4918-118-040215	7	Discrete	Interior white ceiling paint from living room	--	PCBs	1.0 U	mg/kg	50
PT-4918-119-040215	8	Discrete	Exterior wood siding green paint	--	PCBs	1.0 U	mg/kg	50
PT-4918-120-040215	9	Discrete	Exterior wood trim white paint	--	PCBs	1.0 U	mg/kg	50
PT-4918-121-040215	10	Discrete	Interior white floor paint from kitchen	--	PCBs	1.0 U	mg/kg	50

Notes:

ACM: Asbestos-containing material

PCBs: Polychlorinated biphenyls

U: Constituent was not detected. Reporting limit is shown.

[1] See Figure 3 for sample locations.

See Attachment 4 for complete analytical lab reports.

Shaded cells represent exceedances

Table 2: 5024 Marine View Drive Building Sample Results

Sample ID [1]	Laboratory Sample ID	Sample Type (Discrete or Composite)	Sample Material	Friable or Non-Friable	Constituent	Result	Units	Waste Disposal Criteria
Objective 1								
OS-5024-101-040215	15032729	Discrete	Western exterior window caulk	Non-Friable	ACM	Non-detect	%	Detect (>1%)
OS-5024-102-040215	15032730	Discrete	Foam insulation beneath building	Friable	ACM	Non-detect	%	Detect (>1%)
Objective 3								
OS-5024-113-040215	14	Discrete	Eastern exterior window caulk	--	PCBs	1.0 U	mg/kg	50
OS-5024-114-040215	15	Discrete	Western exterior window caulk	--	PCBs	1.0 U	mg/kg	50
OS-5024-115-040215	17	Discrete	Interior white ceiling coating with texture	--	PCBs	1.0 U	mg/kg	50
OS-5024-116-040215	20	Discrete	Northern exterior window caulk	--	PCBs	1.0 U	mg/kg	50
PT-5024-117-040215	11	Discrete	Purple interior paint from shed / guest house	--	PCBs	1.0 U	mg/kg	50
PT-5024-118-040215	12	Discrete	White trim paint from shed / guest house	--	PCBs	1.0 U	mg/kg	50
PT-5024-119-040215	13	Discrete	Brown exterior paint	--	PCBs	1.0 U	mg/kg	50
PT-5024-120-040215	16	Discrete	Entryway interior green/white paint	--	PCBs	1.2	mg/kg	50
PT-5024-121-040215	18	Discrete	Interior tan paint from bedroom near entryway	--	PCBs	1.0 U	mg/kg	50
PT-5024-122-040215	19	Discrete	Interior green/yellow paint from northern bedroom	--	PCBs	1.0 U	mg/kg	50

Notes:

ACM: Asbestos-containing material

PCBs: Polychlorinated biphenyls

U: Constituent was not detected. Reporting limit is shown.

[1] See Figure 4 for sample locations.

See Attachment 4 for complete analytical lab reports.

Shaded cells represent exceedances

Attachment 1

Photographic Log

Table of Contents

Photographic Log

Photo No. 1: Insulation Block Material **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Insulation blocks with paper backing beneath building. Sample OS-4918-101-040215.	

Photo No. 2: Asphalt Shingles **Date:** 4/2/2015 **Direction Photo Taken:** West **Description:** Asphalt shingle layers from roof peak. Sample OS-4918-102-040215.	

Photographic Log

Photo No. 3: Wallboard Caulk **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** White caulk/paint between kitchen wall boards. Sample OS-4918-111-040215.	

Photo No. 4: Door Caulk **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Interior kitchen window and door caulk. Sample OS-4918-112-040215.	

Photographic Log

Photo No. 5: Caulk in Living Room **Date:** 4/2/2015 **Direction Photo Taken:** South **Description:** Caulk from southeast corner of living room. Sample OS-4918-113-040215.	

Photo No. 6: Glossy Door Paint **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Glossy white paint on door frames and doors. Sample PT-4918-115-040215.	

Photographic Log

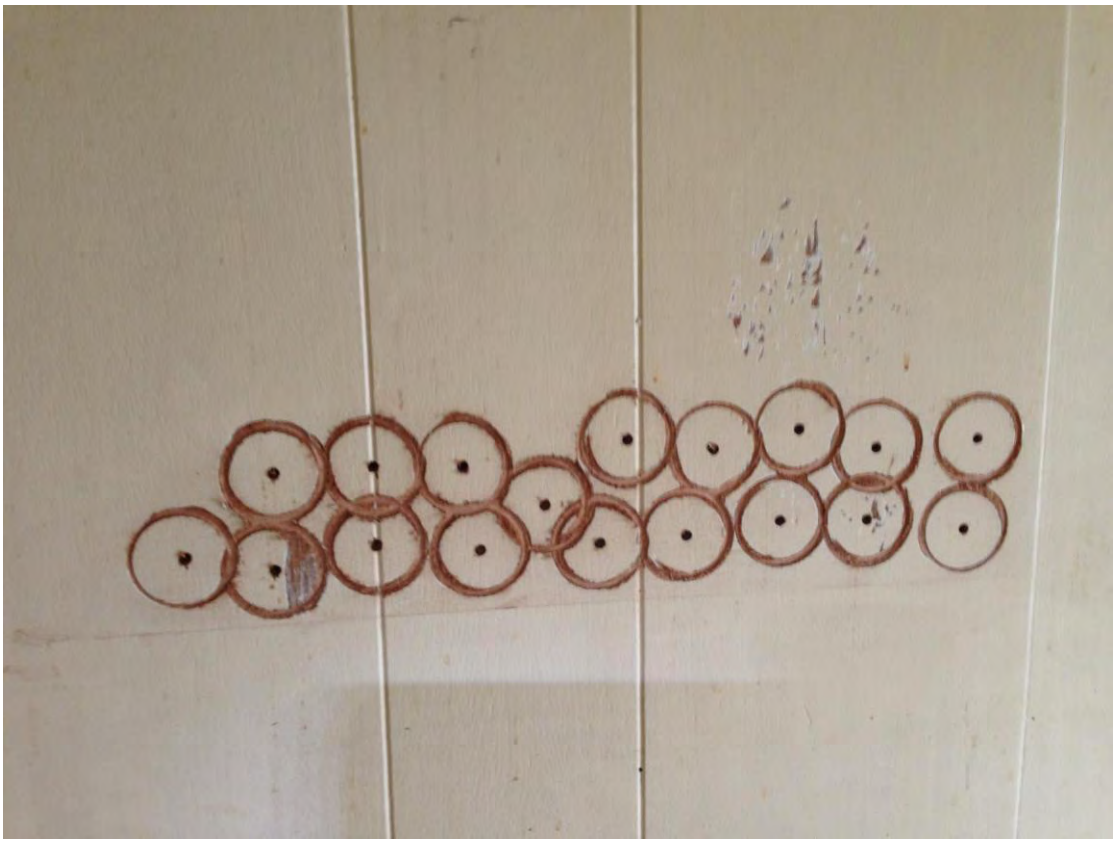
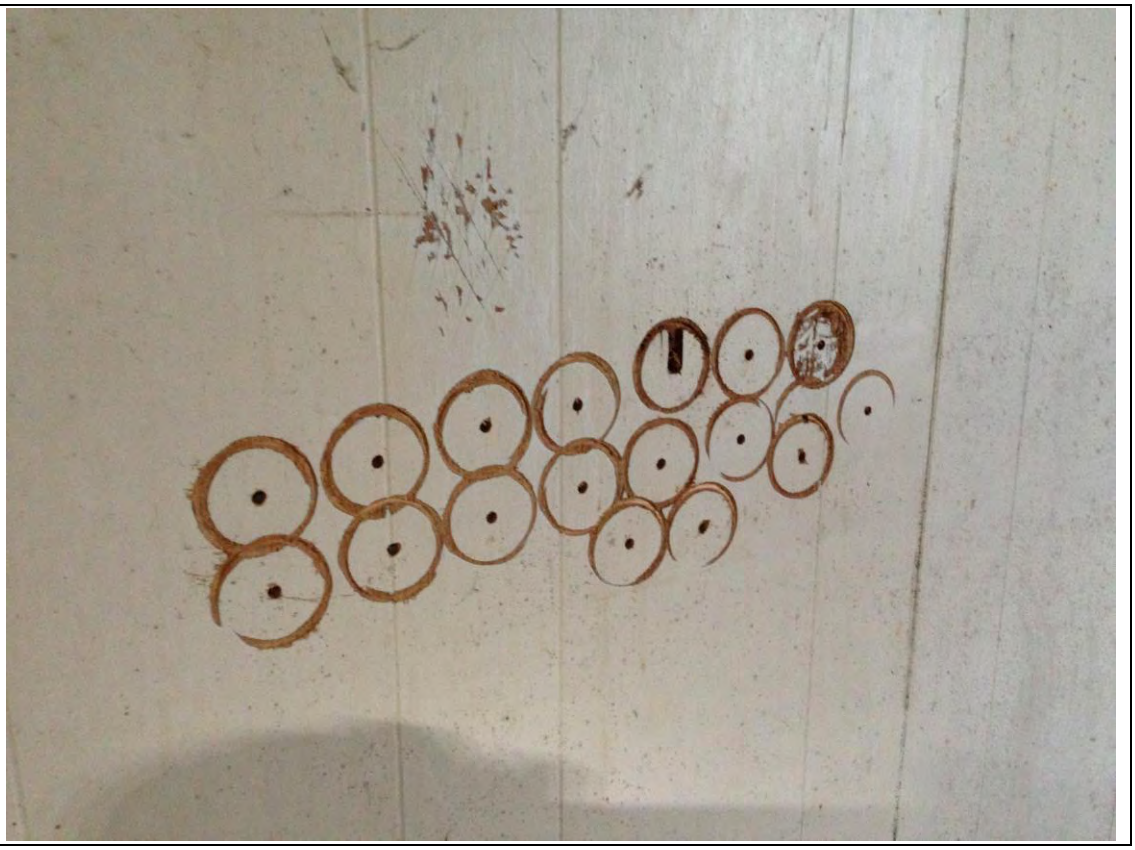
Photo No. 7: White Kitchen Paint **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Interior white kitchen paint. Sample PT-4918-116-040215.	

Photo No. 8: White Living Room Paint **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Interior white bedroom paint. Sample PT-4918-117-040215.	

Photographic Log

Photo No. 9: Living Room Ceiling Paint **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Interior white ceiling paint from living room. Sample PT-4918-118-040215	

Photo No. 10: Exterior Green Paint **Date:** 4/2/2015 **Direction Photo Taken:** West **Description:** Exterior wood siding green paint. Sample PT-4918-119-040215.	

Photographic Log

Photo No. 11: Exterior White Paint **Date:** 4/2/2015 **Direction Photo Taken:** West **Description:** Exterior wood trim white paint. Sample PT-4918-120-040215.	

Photo No. 12: White Kitchen Floor Paint **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Interior white floor paint from kitchen. Sample PT-4918-121-040215.	

Photographic Log

Photo No. 13: Western Exterior Window Caulk **Date:** 4/2/2015 **Direction Photo Taken:** East **Description:** Western exterior window caulk. Sample OS-5024-101-040215.	

Photo No. 14: Foam Insulation **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Foam insulation beneath building. Sample OS-5024-102-040215.	

Photographic Log

Photo No. 15: Exterior Window Caulk **Date:** 4/2/2015 **Direction Photo Taken:** Northwest **Description:** Eastern exterior window caulk. Sample OS-5024-113-040215.	

Photo No. 16: Western Exterior Window Caulk **Date:** 4/2/2015 **Direction Photo Taken:** East **Description:** Western exterior window caulk. Sample OS-5024-114-040215.	

Photographic Log

Photo No. 17: Interior Ceiling Coating **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Interior white ceiling coating with texture. Sample OS-5024-115-040215.	

Photo No. 18: Exterior Window Caulk **Date:** 4/2/2015 **Direction Photo Taken:** South **Description:** Northern exterior window caulk. Sample OS-5024-116-040215.	

Photographic Log

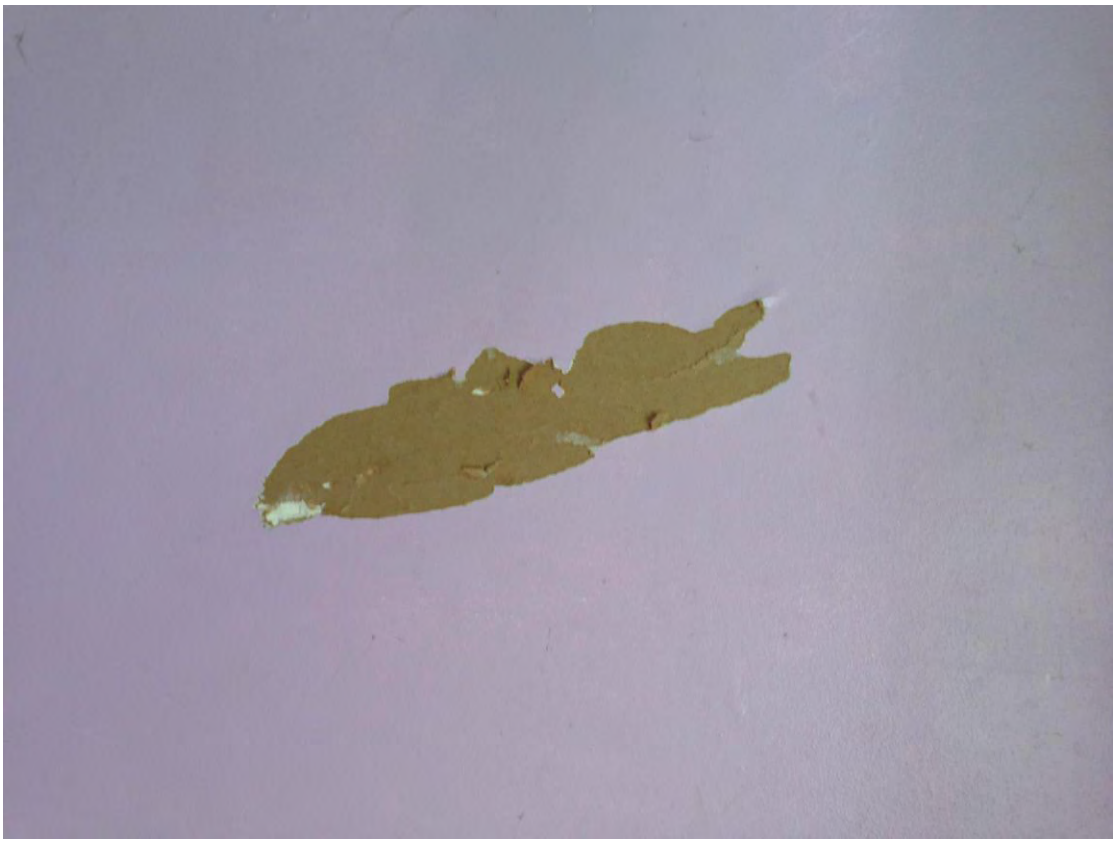
Photo No. 19: Purple Shed Paint **Date:** 4/2/2015 **Direction Photo Taken:** NA **Description:** Purple interior paint from shed / guest house. Sample PT-5024-117-040215.	

Photo No. 20: White Shed Paint **Date:** 4/2/2015 **Direction Photo Taken:** North **Description:** White trim paint from shed / guest house. Sample PT-5024-118-040215.	

Photographic Log

Photo No. 21: Brown Exterior Paint **Date:** 4/2/2015 **Direction Photo Taken:** West **Description:** Brown exterior paint. Sample PT-5024-119-040215.	

Photo No. 22: Interior Green/White Paint **Date:** 4/2/2015 **Direction Photo Taken:** South **Description:** Entryway interior green/white paint. Sample PT-5024-120-040215.	

Photo No. 23: Interior Tan Paint in Bedroom **Date:** 4/2/2015 **Direction Photo Taken:** Northwest **Description:** Interior tan paint from bedroom near entryway. Sample PT-5024-121-040215.	

Photo No. 24: Interior Green/Yellow Paint **Date:** 4/2/2015 **Direction Photo Taken:** West **Description:** Interior green / yellow paint from northern bedroom. Sample PT-5024-122-040215.	

Attachment 2

PIONEER
DAILY FIELD REPORT

Date: 4/2/15 Site Location: Port of Tacoma Marine View Drive Site Arrival Time: 9:00 Site Departure Time: 2:00

WEATHER	(Clear Sun)	Overcast	Drizzle	Rain	Snow
TEMPERATURE	To 32	32-50	(50-70)	70-85	85 Up
WIND	(Calm)	Med.	Strong	Severe	

PEOPLE PRESENT ON-SITE

NAME	ASSOCIATION	TIME ON-SITE AND OFF-SITE
Stacy Munson		
Katie Kulha		

NOTES ON WORK COMPLETED

9:00 Arrive on-site. Walk through both houses w/ Pedro.
9:15 Safety tailgate and plan sampling. Starting w/ 4918.
10:00 OS-4918-111 caulk/paint from between boards in kitchen walls (white)
10:15 PT-4918-115 glossy white/tan paint on door frames + doors
10:20 OS-4918-112 interior kitchen window and door caulk
10:25 PT-4918-116 interior white paint from kitchen
10:30 PT-4918-117 interior white paint from bedroom
10:35 PT-4918-118 interior ceiling paint from living room
10:40 OS-4918-113 caulk from SE corner wall of living room
10:45 PT-4918-119 exterior green paint from wood siding
10:50 PT-4918-120 exterior white paint from trim
10:55 PT-4918-121 interior white floor paint from kitchen
11:10 OS-4918-101 paper backing from insulation blocks under house (asbestos)
No caulk or other suspect materials on north side windows (previously inaccessible)
11:20 OS-4918-102 shingles from peak of roof (asbestos)
11:30 Move to 5024. Walk through and plan sampling.
12:10 PT-5024-117-040215 purple paint from interior of guest house
12:15 PT-5024-118-040215 white paint from interior of guest house
12:20 PT-5024-119-040215 brown exterior paint
12:25 OS-5024-113-040215 eastern exterior window caulk
12:30 OS-5024-114-040215 western exterior window caulk
12:35 PT-5024-120-040215 entry way interior white/green paint
12:40 OS-5024-115-040215 interior white ceiling coating/texture
12:45 OS-5024-101-040215 western exterior window caulk (asbestos)
12:50 PT-5024-121-040215 tan interior paint from bedroom off entryway
12:55 PT-5024-122-040215 green + yellow interior bedroom next to kitchen
1:20 OS-5024-116-040215 north side exterior window caulk
OS-5024-102-040215 paper backing from foam insulation beneath house

SIGNATURE: K & K DATE: 4/2/15

Attachment 3

Certificate of Completion

This is to certify that

Stacy J. Munson

has satisfactorily completed
24 hours of training as an

Asbestos Building Inspector

to comply with the training requirements of
TSCA Title II / 40 CFR 763 (AHERA)

147559
Certificate Number

Instructor
EPA Provider Cert. Number: 1085

ARGUS PACIFIC
TRAINING • CONSULTING

Jun 30 - Jul 2,2014
Date(s) of Training
Exam Score: 96%
Expiration Date: Jul 2, 2015

Argus Pacific, Inc. • 1900 W. Nickerson, Suite 315 • Seattle, Washington • 98119 • 206.285.3373 • fax 206.285.3927

Certificate of Completion

This is to certify that

Katie Kulha

has satisfactorily completed
24 hours of initial training as a

Lead Inspector

in compliance with the training requirements of
WAC 365 - 230

Certificate Number: **147582**

Instructor

Dept of Commerce Provider Cert. Number: 9015

ARGUS PACIFIC
TRAINING • CONSULTING

Jul 7 - 9, 2014
Date(s) of Training

Expiration Date: 1/9/2015

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Attachment 4

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

April 3, 2015

Stacy Munson
Pioneer Technologies Corporation
5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503

RE: Bulk Asbestos Fiber Analysis, NVL Batch # 1505907.00

Dear Ms. Munson,

Enclosed please find test results for the bulk samples submitted to our laboratory for analysis. 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 U.S. EPA 600/M4-82-020, Interim Method for Determination of Asbestos in Bulk Insulation Samples, as found in 40 CFR, Part 763, Subpart E, Appendix E (formerly Subpart F, Appendix A), and U.S. EPA 600/R-93/116 (July 1993) Test Methods.

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 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. If you would like us to further refine the concentration estimates of asbestos in these samples using point counting, please let me know.

This 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 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,

for Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

1.888.NVL.LABS
1.888.(685.5227)
www.nvllabs.com

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Pioneer Technologies Corporation
Address: 5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503

Attention: Ms. Stacy Munson
Project Location: Port of Tacoma

Batch #: 1505907.00
Client Project #: Marine View Drive
Date Received: 4/2/2015
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 15032727 **Client Sample #: 05-4918-101-040215**
Location: Port of Tacoma

Layer 1 of 2	**Description:** Gray paper backing		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Cellulose 55%	**None Detected ND**
		Glass fibers 13%	
Layer 2 of 2	**Description:** Yellow foamy material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Synthetic foam	None Detected ND	**None Detected ND**

Lab ID: 15032728 **Client Sample #: 05-4918-102-040215**
Location: Port of Tacoma
Comments: Unsure of correct layer sequence.

Layer 1 of 3	**Description:** Black asphaltic fibrous material with white/gray/brown granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 26%	**None Detected ND**
		Synthetic fibers 2%	
Layer 2 of 3	**Description:** Black asphaltic fibrous material with white granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Granules	Glass fibers 24%	**None Detected ND**
Layer 3 of 3	**Description:** Black asphaltic fibrous felt with wood debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Binder/Filler, Wood flakes	Cellulose 71%	**None Detected ND**
		Wood fibers 4%	

Lab ID: 15032729 **Client Sample #: 05-5024-101-040215**
Location: Port of Tacoma

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 04/03/2015
Reviewed by: Nick Ly **Date:** 04/03/2015 For Nick Ly, Technical Director

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

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
p 206.547.0100 | f 206.634.1936 | www.nvllabs.com

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Pioneer Technologies Corporation
Address: 5205 Corporate Ctr. Ct. SE, Ste. A
Olympia, WA 98503

Attention: Ms. Stacy Munson
Project Location: Port of Tacoma

Batch #: 1505907.00
Client Project #: Marine View Drive
Date Received: 4/2/2015
Samples Received: 4
Samples Analyzed: 4
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 1 of 1 **Description:** White soft caulking material with debris

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Binder/Filler, Caulking compound, Wood flakes	Wood fibers	2%	**None Detected ND**
	Cellulose	3%	

Lab ID: 15032730 **Client Sample #: 05-5024-102-040215**

Location: Port of Tacoma

Comments: No paper backing present.

Layer 1 of 2 **Description:** Silver foil

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Metal foil	None Detected	ND	**None Detected ND**

Layer 2 of 2 **Description:** Yellow foamy material with debris

Non-Fibrous Materials:	Other Fibrous Materials:	%	**Asbestos Type: %**
Synthetic foam, Insect parts, Wood flakes	Wood fibers	3%	**None Detected ND**
Miscellaneous particles	Synthetic fibers	2%	

Sampled by: Client
Analyzed by: Lori Tseng **Date:** 04/03/2015
Reviewed by: Nick Ly **Date:** 04/03/2015

for Nick Ly, Technical Director

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

NVL LABS
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ASBESTOS CHAIN OF CUSTODY

Turn **1505907**

- ☐ 2 Hours
- ☐ 4 Hours
- ☐ 2 Days
- ☐ 3 Days
- ☑ 5 Days
- ☐ 10 Days

Please call for TAT less than 24 Hours

Company: PIONEER Technologies Corporation
Address: 5205 Corporate Ctr. Ct. SE Ste. A
Lacey, WA 98503
Phone: (360)570-1700

Project Manager: Stacy Munson
Cell: ( ) -
Email: munsons@uspioneer.com
Fax: ( ) -

Project Name/Number: Marine View Drive
Project Location: Port of Tacoma

- ☐ 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 munsons@uspioneer.com

Total Number of Samples _____

	Sample ID	Description	A/R
1	OS-4918-101-040215	paper backing from insulation blocks	
2	OS-4918-102-040215	roofing materials	
3	OS-5024-101-040215	window caulk	
4	OS-5024-102-040215	paper backing + foam insulation	
5			
6			
7			
8			
9			
10			
11			
12		PAID 4/2/15 Visa.	
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Katie Kulha	KKulha	PIONEER	4/2/15	1:45
Relinquish by	Katie Kulha	KKulha	PIONEER	4/2/15	2:37

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	[illegible]			4/2/15	2:49
Analyzed by	Lori Tseng			4/13/15	1422
Called by					
Faxed/Emailed by	Lori Tseng			4/8/15	800

SPECTRA Laboratories
2221 Ross Way • Tacoma, WA 98421 • (253) 272-4850 • Fax (253) 572-9838 • www.spectra-lab.com

04/20/2015

Pioneer Technologies
5205 Corporate Center Ct SE
Suite A
Lacey, WA 98503

P.O.#: MVD 4918 5024
Project: Marine View Dr 4918 & 5024
Sample Matrix: Solid
Date Sampled: 04/02/2015
Date Received: 04/02/2015
Spectra Project: 2015040088

Client ID	Spectra #	Analyte	Result	Units	Method
OS-4918-111-040215	1	PCB	<1.0	mg/Kg	SW846 8082A
PT-4918-115-040215	2	PCB	<1.0	mg/Kg	SW846 8082A
OS-4918-112-040215	3	PCB	<1.0	mg/Kg	SW846 8082A
PT-4918-116-040215	4	PCB AR1262	2.3	mg/Kg	SW846 8082A
PT-4918-117-040215	5	PCB	<1.0	mg/Kg	SW846 8082A
OS-4918-113-040215	6	PCB	<1.0	mg/Kg	SW846 8082A
PT-4918-118-040215	7	PCB	<1.0	mg/Kg	SW846 8082A
PT-4918-119-040215	8	PCB	<1.0	mg/Kg	SW846 8082A
PT-4918-120-040215	9	PCB	<1.0	mg/Kg	SW846 8082A
PT-4918-121-040215	10	PCB	<1.0	mg/Kg	SW846 8082A
PT-5024-117-040215	11	PCB	<1.0	mg/Kg	SW846 8082A
PT-5024-118-040215	12	PCB	<1.0	mg/Kg	SW846 8082A
PT-5024-119-040215	13	PCB	<1.0	mg/Kg	SW846 8082A
OS-5024-113-040215	14	PCB	<1.0	mg/Kg	SW846 8082A
OS-5024-114-040215	15	PCB	<1.0	mg/Kg	SW846 8082A
PT-5024-120-040215	16	PCB AR1254	1.2	mg/Kg	SW846 8082A
OS-5024-115-040215	17	PCB	<1.0	mg/Kg	SW846 8082A
PT-5024-121-040215	18	PCB	<1.0	mg/Kg	SW846 8082A
PT-5024-122-040215	19	PCB	<1.0	mg/Kg	SW846 8082A
OS-5024-116-040215	20	PCB	<1.0	mg/Kg	SW846 8082A

SPECTRA LABORATORIES

Steve Hibbs, Laboratory Manager
a7/jjb

SPECTRA Laboratories
2221 Ross Way, Tacoma, WA 98421
(253) 272-4850 Fax (253) 572-9838
www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN of CUSTODY

SPECTRA PROJECT # 2015040088

Return Samples Y ___ N X Page 1 of 2 STANDARD [X] RUSH [ ]

CLIENT: PIONEER Technologies Corp ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A, Lacey, WA 98503 ADDRESS CHANGE [ ]

PROJECT: Marine View Dr 4918 & 5024

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson & Katie Kulha

PHONE: 360-570-1700 FAX: 360-570-1777

e-MAIL: munsons@uspioneer.com Prefer FAX [ ] or e-MAIL [X]

PURCHASE ORDER #: MVD 4918 5024

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)
1	OS-4918-111-040215	4/2/15	10:00	Solid	1												X											
2	PT-4918-115-040215	4/2/15	10:15	Solid	1												X											
3	OS-4918-112-040215	4/2/15	10:20	Solid	1												X											
4	PT-4918-116-040215	4/2/15	10:25	Solid	1												X											
5	PT-4918-117-040215	4/2/15	10:30	Solid	1												X											
6	OS-4918-113-040215	4/2/15	10:40	Solid	1												X											
7	PT-4918-118-040215	4/2/15	10:35	Solid	1												X											
8	PT-4918-119-040215	4/2/15	10:45	Solid	1												X											
9	PT-4918-120-040215	4/2/15	10:50	Solid	1												X											
0	PT-4918-121-040215	4/2/15	10:55	Solid	1												X											

LAB USE ONLY

Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking #_____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Stacy Munson	Pioneer	4/2/15	2:25p
RECEIVED BY		C Hamilton	Spectra	4-2-15	2:25p
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, LLC*

SPECTRA Laboratories
2221 Ross Way, Tacoma, WA 98421
(253) 272-4850 Fax (253) 572-9838
www.spectra-lab.com info@spectra-lab.com

SPECIAL INSTRUCTIONS/COMMENTS:

CHAIN of CUSTODY

SPECTRA PROJECT # 2015040088

Return Samples Y ___ N X Page 2 of 2 STANDARD [X] RUSH [ ]

CLIENT: PIONEER Technologies Corp ADDRESS: 5205 Corporate Ctr. Ct. SE Ste. A, Lacey, WA 98503 ADDRESS CHANGE [ ]

PROJECT: Marine View Dr 4918 & 5024

CONTACT: Stacy Munson

SAMPLED BY: Stacy Munson & Katie Kulha

PHONE: 360-570-1700 FAX: 360-570-1777

e-MAIL: munsons@uspioneer.com Prefer FAX or e-MAIL [X]

PURCHASE ORDER #: MVD 4918 5024

	SAMPLE ID	DATE SAMPLED	TIME SAMPLED	MATRIX	NUMBER OF CONTAINERS	HYDROCARBONS: NWTPH-HCID	BTEX	BTEX/NWTPH-G	NWTPH-G	NWTPH-Dx	1664 SGT-HEM (TPH)	1664 HEM (FOG)	ORGANICS: 8260/624 VOA	8260 CHLOR SOLVENTS	8270/625 SEMI VOA	8270 PAH/PNA	8082/608 PCB	METALS: TOTAL METALS RCRA 8	TOTAL METALS (SPECIFY)	TCLP METALS RCRA 8	TCLP METALS (SPECIFY)	OTHER: PH 9040/9045	TX/TOX 9076	TURBIDITY	FLASH POINT	BOD	SOLIDS (SPECIFY)
1	PT-5024-117-040215	4/2/15	12:10	Solid	1												X										
2	PT-5024-118-040215	4/2/15	12:15	Solid	1												X										
3	PT-5024-119-040215	4/2/15	12:20	Solid	1												X										
4	OS-5024-113-040215	4/2/15	12:25	Solid	1												X										
5	OS-5024-114-040215	4/2/15	12:30	Solid	1												X										
6	PT-5024-120-040215	4/2/15	12:35	Solid	1												X										
7	OS-5024-115-040215	4/2/15	12:40	Solid	1												X										
8	PT-5024-121-040215	4/2/15	12:50	Solid	1												X										
9	PT-5024-122-040215	4/2/15	12:55	Solid	1												X										
0	OS-5024-120-040215	4/2/15	13:20	Solid	1												X										

LAB USE ONLY

Shipped Via: US Mail UPS Fed Ex Courier Client

Shipping Container: Cooler Box Envelope None

Tracking #_____

Custody Seals: Y N Intact: Y N

Cooler Temp. _____ Sample Temp. _____

	SIGNATURE	PRINTED NAME	COMPANY	DATE	TIME
RELINQUISHED BY		Stacy Munson	Pioneer	4/2/15	2:25p
RECEIVED BY		Lori Hamilton	Spectra	4-2-15	2:25p
RELINQUISHED BY					
RECEIVED BY					

Payment Terms: Net 30 days. Past due accounts subject to 1 1/2 % per month interest. Customer agrees to pay all costs of collection including reasonable attorney's fees and all other costs of collection regardless of whether suit is filed in Pierce Co., WA venue. *Spectra Analytical, LLC*

Attachment 5

Hazardous Materials Survey

4918 & 5024 Marine View Drive, Tacoma Washington

Project Number: 0411-13

Prepared for:

Port of Tacoma

Prepared by:

GREYLOCK CONSULTING LLC

720 S. 333rd St, Ste. 210, Federal Way, WA 98003

February 13, 2014

Table of Contents

FIGURES

TABLES

APPENDICES

1. INTRODUCTION AND BACKGROUND

On January 7 and 24, 2014, a hazardous materials survey was conducted of two houses located at 4918 and 5024 Marine View Drive in Tacoma, Washington ("Subject Property") by Greylock Consulting LLC (Greylock). The survey was performed at the request of the Port of Tacoma (Port) in preparation for future demolition. The purpose of the survey was to evaluate the existence of Asbestos Containing Material (ACM), Lead-Based Paint (LBP), and mold in building materials prior to demolition. The location of the survey is shown in Figure 1.

1.1 Scope of Work

Greylock's scope of work consisted of the following:

- Performed a survey of two houses to evaluate potential hazardous materials at the Subject Property.
- Performed an asbestos survey of the Subject Property, including sampling of building material samples for analysis of asbestos fiber by PLM Test Method US EPA 600/R-93/116.
- Performed LBP field screening of painted materials at the Subject Property with an XRF Lead Analyzer.
- Collected 4 composite building material samples for Lead Toxic Characteristic Leaching Potential (TCLP) analysis.
- Performed a visual inspection of the Subject Property utilizing an infrared camera and moisture meter to evaluate potential for mold.
- Prepared this report summarizing results of the survey.

The asbestos and lead surveys were performed by Suzanne Dudziak of Greylock, certified AHERA building inspector and lead-based paint inspector (Appendix A). The mold survey was performed by Greylock's subcontractor, RGA Environmental Inc. (RGA).

1.2 Facility Description

The house located at 4918 Marine View Drive is a 763 sq ft, 1-story wood framed structure on timber piles. The house has wood decks that are approximately 365 sq ft in size. Aerial photos from the City of Tacoma's govMe.com web page indicate that a structure was present at this location in 1931. Inspection of the structure indicates that more recent remodeling has occurred in portions of the house. The roof material is asphalt shingles and rolled asphalt. Several active water leaks were noted in the roof. The interior finishes of the house include drywall walls and ceilings, ceiling tiles, vinyl sheeting, vinyl floor tiles, bare wood floors and walls and carpeting. The house is in poor condition and is vacant.

The house located at 5024 Marine View Drive is a 1,178 sq ft, 1-story wood framed structure on timber piles. The house has decks and outbuildings that are approximately 579 sq ft in size. Aerial photos from the City of Tacoma's govMe.com web page indicate that a structure was present at this location in 1940. Inspection of the structure indicates that more recent remodeling has occurred in portions of the house. The roof material of the house is asphalt shingles. The roof material of the outbuilding is rolled asphalt. The interior finishes of the house

include drywall and wood walls and ceilings, vinyl sheeting, vinyl floor tiles, bare wood floors and carpeting. The house is in fair condition and is vacant.

2. ACM SURVEY

The Subject Property was visually inspected for suspected ACM. Suspected ACM was identified and assessed in terms of homogeneous areas. A homogeneous area is defined as a single material, uniform in texture and appearance, installed at one time, and unlikely to consist of more than one type or formulation of material.

Bulk samples were collected from accessible homogeneous areas of suspected ACM for subsequent laboratory analysis to determine asbestos content. All samples were touched to determine friability. Samples of materials were collected and placed in Zip Lock® plastic bags. Sample locations are shown on Figures 2 and 3. A total of 35 bulk samples of building materials were collected from the Subject Property. These materials consisted of asphalt roofing, sealant, caulking, window glazing, ceiling tiles, ceiling materials, insulation, mastic, floor tile, felt, drywall, and surfacing materials. Representative photos of the survey are provided in Appendix B.

2.1 Inaccessible Areas

The following areas were inaccessible during the survey:

Building 4918:

1. The roof was rotted in places and unsafe to walk on. Because of this, we were unable to sample the asphalt shingle roof at the peak of the house.
2. The tide was high during the inspection. Therefore, we were unable to access the western deck area during the survey.
3. There was an attic/crawl space in the bedroom on the eastern side of the house that we were unable to access because it is a confined space.

Building 5024:

1. All windows were boarded up when we performed the survey. Therefore, we were not able to inspect or sample potential caulk or glazing around the windows.

2.2 Bulk Sample Analysis

Sample analysis was conducted by NVL Laboratories, Inc. (NVL) located at 4708 Aurora Avenue N., in Seattle, Washington. NVL is accredited under the National Voluntary Laboratory Accreditation Program (NVLAP) of the National Institute of Standards and Technology (NIST) for bulk asbestos fiber analysis. Bulk samples were analyzed using polarized light microscopy (PLM) with dispersion staining in accordance with U.S. EPA 600/M4-82-020 and EPA-600/R-93-116 dated July 1993) Test Methods.

2.3 Bulk Asbestos Sample Results

The PLM laboratory analytical reports are located in Appendix C of this report. Tables 1 and 2 present the results of asbestos sampling and analysis.

A homogeneous area of a building material is considered to have ACM if laboratory analysis shows the material to contain more than 1.0 % asbestos by weight.

For building 4918, two samples contained ACM as shown on Figure 2:

1. Sample 4918-4: Friable Interior Ceiling Material in significantly damaged condition
2. Sample 4918-5: Non-friable Exterior Caulk/Window Glazing in good condition

It's estimated that there is approximately 205 sq ft of ceiling material containing ACM. The window containing ACM is 4.5 ft by 2 ft in size.

For building 5024, no ACM was detected in the samples collected.

3. LBP SURVEY

A LBP survey of the Subject Property was conducted to locate potential LBP at both houses. LBP is defined as paint or other surface coatings that contain lead equal to or exceeding 1.0 milligram per square centimeter (mg/cm^2) or 5,000 parts per million (ppm) by weight. A NITON® Model XLp 300 XRF spectrum analyzer was used to scan the LBP content on painted surfaces of the Subject Property. Prior to, during, and after the survey, the XRF was calibrated in accordance with the manufacturer's guidelines.

Both interior and exterior painted or varnished surfaces were surveyed. Unpainted or unvarnished wood surfaces were not surveyed. Survey locations are shown on Figures 4 and 5.

3.1 Inaccessible Areas

Some areas were inaccessible for surveying due to high tide, inability to access with a ladder, and/or boarded windows on the day of the survey. Inaccessible areas included the following:

Building 4918:

1. Exterior northern side of house

Building 5024:

1. Exterior window frames on the on the north, east, and west sides of the house
2. Exterior northern side of house

3.2 LBP Survey Results

Results of the survey are provided in Tables 3 and 4, and are shown on Figures 4 and 5. LBP was identified in the following locations:

4918 – Exterior:

- White posts on the eastern side of the house
- Dark green shingles on the eastern side of the house
- Light green shingles on the southern side of the house
- White window frames on the southeastern side of the house

4918 – Interior

- White built-in bench on the eastern side of kitchen
- White window frame on the northwestern side of the kitchen

- White entrance way frame between kitchen and living room
- White door frame between living room and bedroom
- White window frames in living room

5024 – Exterior

- Green window frames on the southern side of the house

5024 – Interior

- Gray wall behind white wall in the SE bathroom
- Light green window frame behind brown plywood sheeting in eastern bedroom
- White entrance way frame from hallway to living room

Newer painted plywood or drywall was observed over older painted wood in several areas at the 5024 Marine View Drive house.

3.3 TCLP Lead Sample Analysis

TCLP Lead analyses of building materials containing LBP were performed to identify potential disposal options of these materials. A total of 4 composite samples were collected from the Subject Property. The samples consisted of the following:

1. 4918 Comp-In consisted of building materials that tested positive for LBP on the interior surfaces of the 4918 Marine View Drive house.
2. 4918 Comp-Out consisted of building materials that tested positive for LBP on the exterior surfaces of the 4918 Marine View Drive house.
3. 5024 Comp-In consisted of building materials that tested positive for LBP on the interior surfaces of the 5024 Marine View Drive house.
4. 5024 Comp-Out consisted of building materials that tested positive for LBP on the exterior surfaces of the 5024 Marine View Drive house.

Building material samples were collected and placed in Zip Lock® plastic bags. Each sample was assigned a number and the sample location was identified with a photograph for future reference. Samples were analyzed by NVL for TCLP lead by EPA Method 7000B. Sample results are presented in Table 5. Laboratory Reports are provided in Appendix C. Exterior samples from both houses and the interior sample from 4918 Marine View Drive exceeded the maximum lead TCLP concentration. The interior sample from 5024 Marine View Drive did not exceed the maximum lead TCLP concentration.

4. MOLD SURVEY

Greylock's subcontractor, RGA, performed a limited mold survey of the Subject Property on January 7, 2014. Several active water leaks were noted in the roof of 4918 Marine View Drive. Localized wetted building materials were associated with the leaks. In general most building materials inside the structure were dry. Localized fungal growth was noted on the ceiling and on baseboard moldings. Most fungal growth was light in density. Localized patches of fungal

growth ranging from five to thirty square feet in size were noted on various surfaces throughout the structure. Total estimated area of fungal growth was approximately 85 square feet.

Random testing of moisture content of interior wood surfaces in 5024 Marine View Drive measured moisture ranging from 10-16%. (15% or less is considered dry). Wallboard moisture content ranged from 0.5-0.8% which is slightly elevated. Localized patches of fungal growth ranging from one to five square feet in size were noted on various surfaces throughout the structure. Total estimated area of fungal growth was approximately 30 square feet.

5. MERCURY AMPULE

During the survey on January 7th, a mercury ampule was observed in a thermostat in the living room at 4918 Marine View Drive (Appendix B, Photo 10). A mercury ampule is considered a Universal Waste (UW) in Washington State. UW management allows much easier waste management than regular dangerous waste requirements.

6. CONCLUSIONS

Building material surveying and sampling of the Subject Property on January 7 and January 24, 2014 indicated the following:

1. Friable ACM was detected in the ceiling material of the living room at 4918 Marine View Drive. The condition of the material was significantly damaged.
2. Non-friable ACM was detected in caulking/window glazing on an exterior window at 4918 Marine View Drive. The condition of the material was good.
3. ACM was not detected in samples collected from 5024 Marine View Drive.
4. LBP was detected on the interior and exterior surfaces of both houses.
5. Three of four composite samples collected from building materials of the Subject Property contained lead concentrations that exceed the maximum TCLP concentration.
6. Localized patches of fungal growth were observed in both houses.
7. A mercury ampule was observed in the living room at 4918 Marine View Drive.

7. RECOMMENDATIONS

7.1 ACM

Building materials with known or suspected ACM must be managed and removed in accordance with WAC 296-62-077. WAC 296-155(9) from Part S of the construction standard requires that apparent or suspected asbestos-containing materials be removed prior to demolition. Sampling should be considered prior to removal to identify ACM in the inaccessible locations identified in Section 2.1. If sampling is not done prior to removal, these materials, if encountered, should be treated as ACM unless proven to be otherwise in the future.

7.2 LBP

7.2.1 Waste Characterization and Disposal

Demolition materials that exceed lead TCLP criteria are considered hazardous waste and must be disposed of at a Subtitle C landfill.

It's recommended that more refined sampling and TCLP lead testing be performed at the Subject Property to determine the specific materials causing the lead exceedances. Once those specific materials are determined, they can be segregated from the remaining materials. More detailed sampling will likely reduce the quantity of demolition material that will be designated as hazardous waste.

7.2.2 Worker Health and Safety

WAC 296-155-176 applies to all construction work where an employee may be occupationally exposed to lead. Construction work includes activities such as demolition or salvage, removal or encapsulation, and renovation of materials that contain lead. When a worker may be exposed to lead, the employer must take the following actions according to WAC 296-155-176:

1. Perform an exposure assessment for each operation where the employee may be exposed to lead at or above 30 micrograms per cubic meter (µg/m3). The exposure assessment consists of personal air monitoring to determine representative lead exposure levels for the work being performed.

2. During the exposure assessment for demolition operations, the employer must provide and require to be worn half-mask air-purifying respirators equipped with high efficiency particulate air (HEPA) filters and disposable clothing.

3. A designated change area which allows for separate storage areas for work and street clothing to prevent cross contamination.

4. Hand washing facilities to allow employees to wash their hands and faces.

5. Biological monitoring in the form of blood sampling and analysis for lead and zinc protoporphyrin levels.

6. Training to include hazard communication, safety, and the limitations, proper use, and maintenance of respirators.

In addition to the protective equipment and hygiene requirements, the employer must attempt to reduce the levels of airborne lead through the use of engineering controls such as ventilation and wet methods.

7.3 Mold

Workers performing demolition of the structures should be informed of the presence of fungal growth. Disturbance of materials with fungal growth will aerosolize fungal spores, which could

lead to exposure. Typical symptoms of exposure in healthy individuals include allergies, and cold or flu like symptoms. Individuals with compromised immune systems should not be involved in the demolition of the structures. The use of N95 or half face respirators with P100 cartridges will protect from exposure to fungal particulate. Fungal contaminated materials are considered general debris and do not require special disposal.

7.4 Mercury Ampule

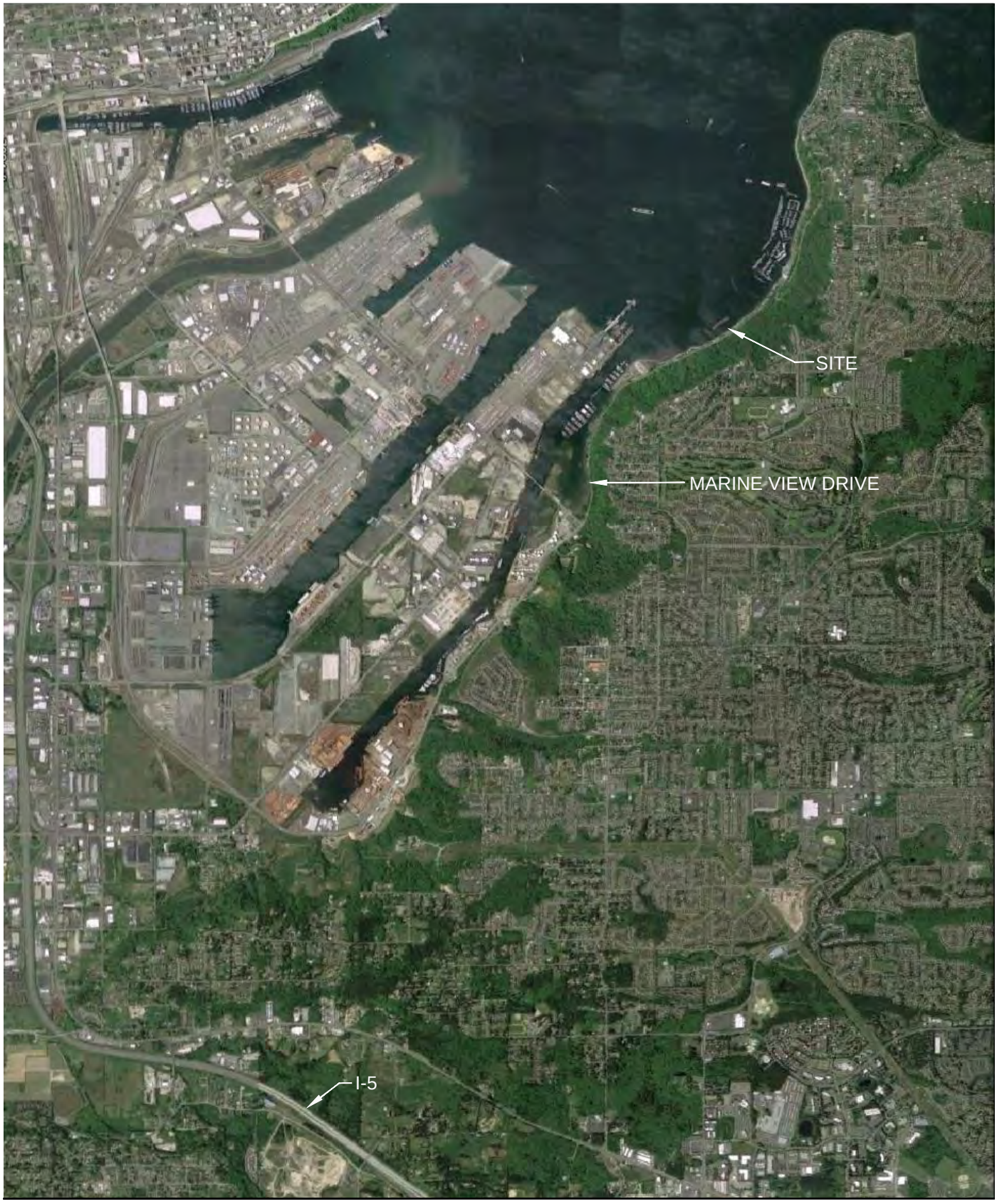
The mercury ampule and its housing should be removed and disposed of prior to demolition in accordance with WAC 173-303-573. It should be disposed of at a UW destination facility that is permitted to treat, dispose, or recycle UW.

8. PROJECT LIMITATIONS

This report does not represent all conditions at the Subject Property as it only reflects the information gathered from the houses located at 4918 & 5024 Marine View Drive in Tacoma, Washington. Observation or sampling of other work areas was not within the scope of Greylock's work and was not performed.

This report was prepared pursuant to the contract Greylock has with the client. Unauthorized reliance on or use of this report, including any of its information or conclusions, will be at third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

FIGURES



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Water Resources & Environmental Services

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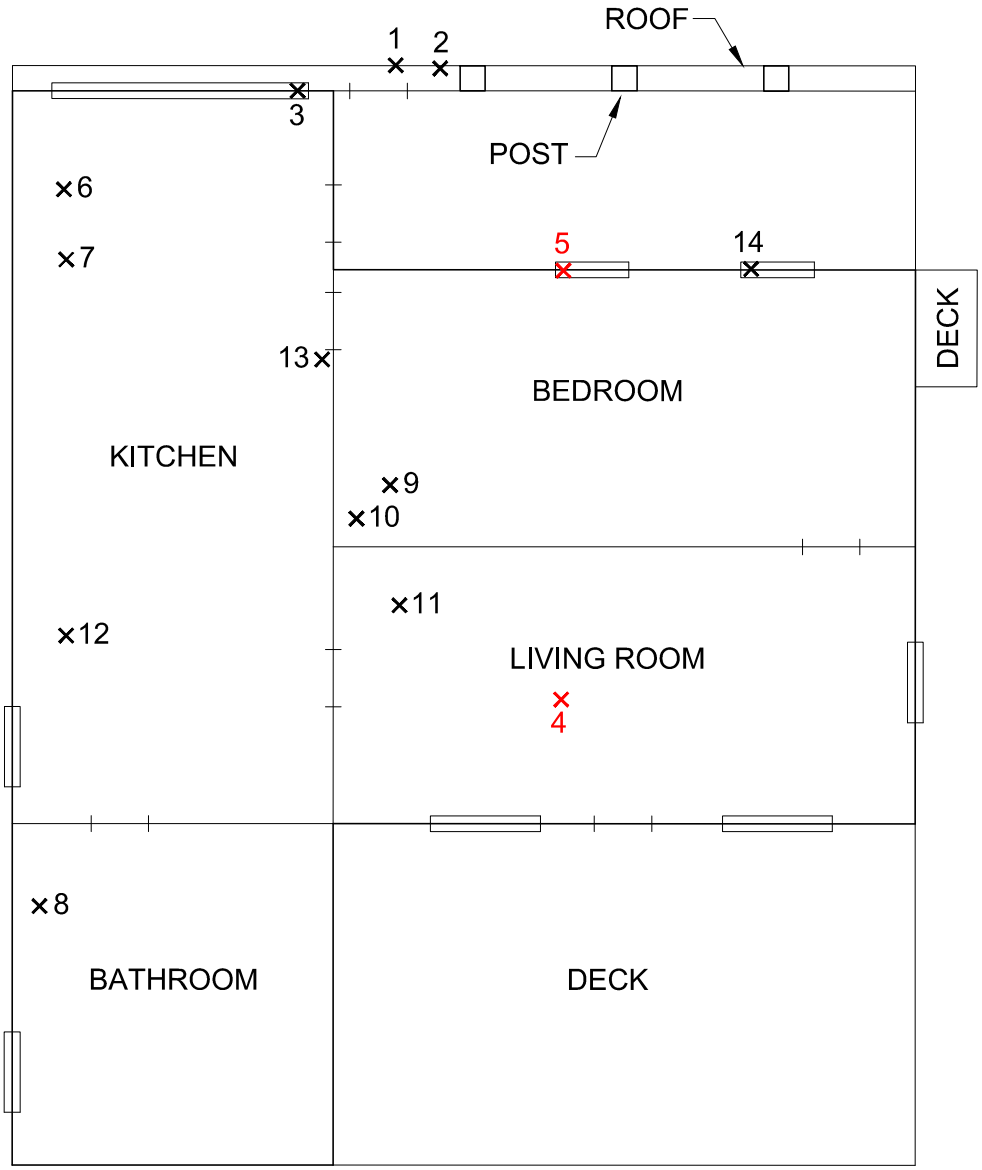
SCALE IN FEET

FIGURE 1 : VICINITY MAP

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : January 7, 2014
Project No : 0411-13

MARINE VIEW DRIVE



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

1 × - APPROXIMATE BUILDING MATERIAL SAMPLE LOCATION

4 × - BUILDING MATERIAL CONTAINS ASBESTOS

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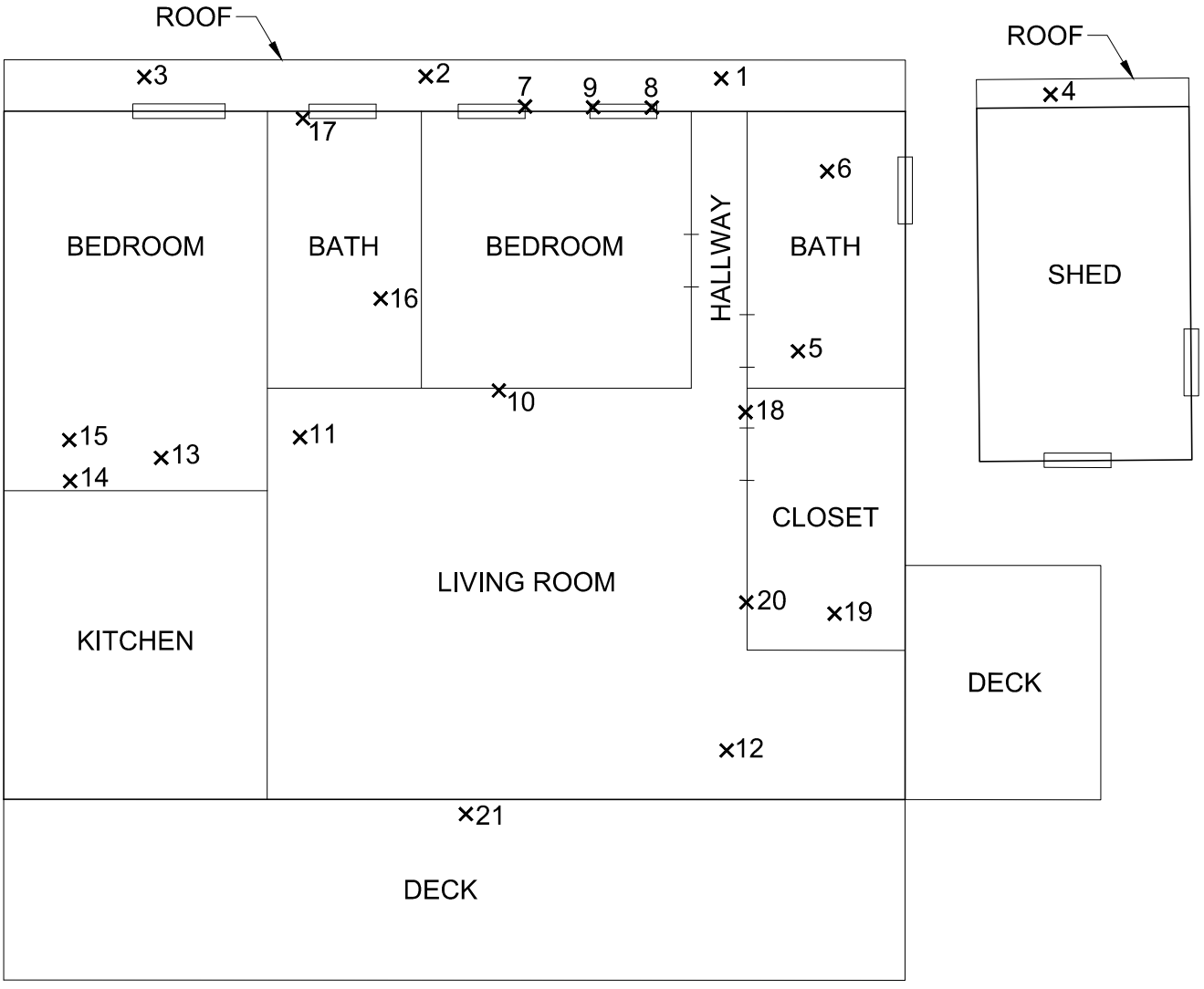
FIGURE 2 : ASBESTOS SAMPLE LOCATIONS - 4918 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : January 7, 2014
Project No : 0411-13

MARINE VIEW DRIVE



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

1× - APPROXIMATE BUILDING MATERIAL SAMPLE LOCATION

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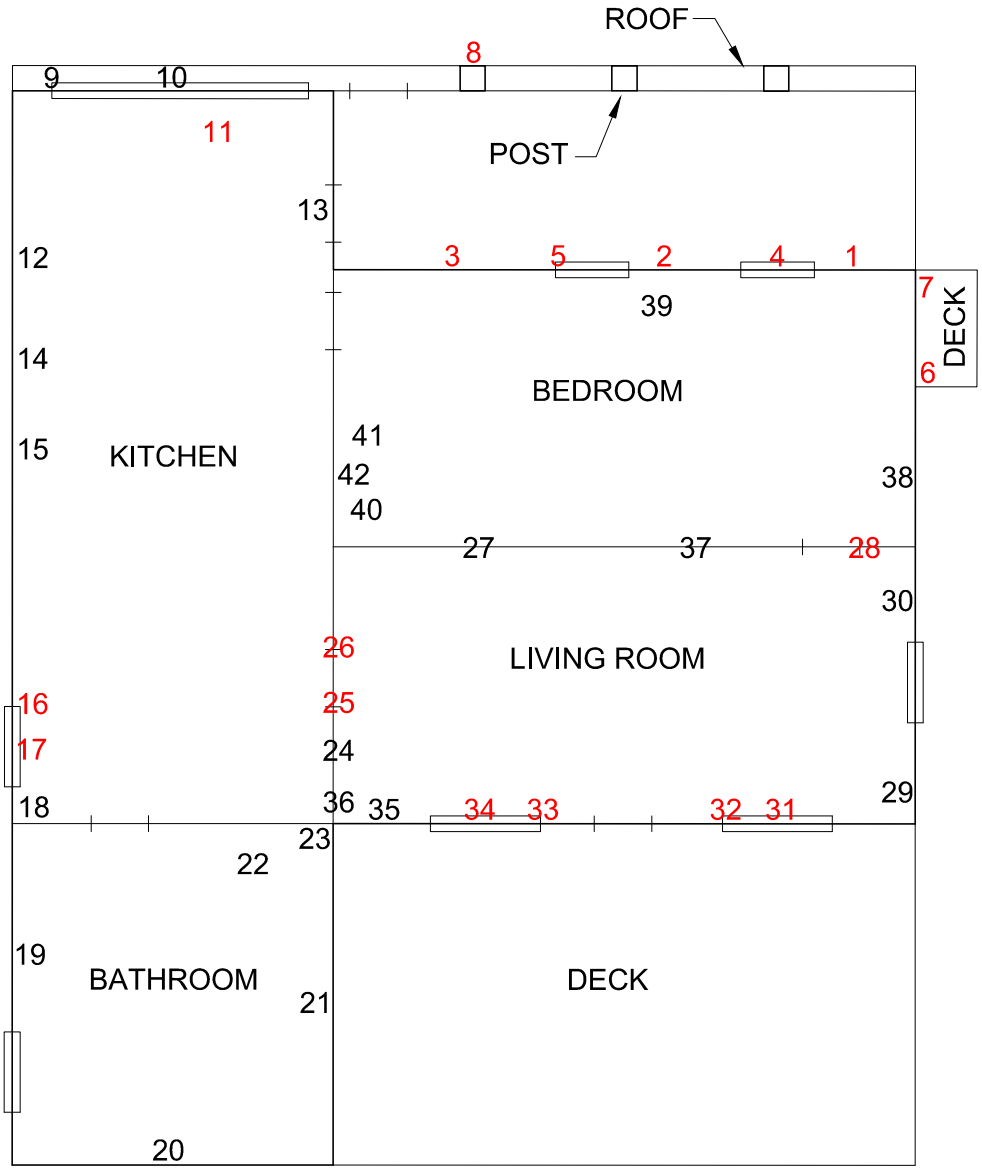
FIGURE 3 : ASBESTOS SAMPLE LOCATIONS - 5024 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : January 7, 2014
Project No : 0411-13

MARINE VIEW DRIVE



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

10 - XRF SURVEY LOCATIONS - NEGATIVE FOR LBP

5 - XRF SURVEY LOCATIONS - POSITIVE FOR LBP

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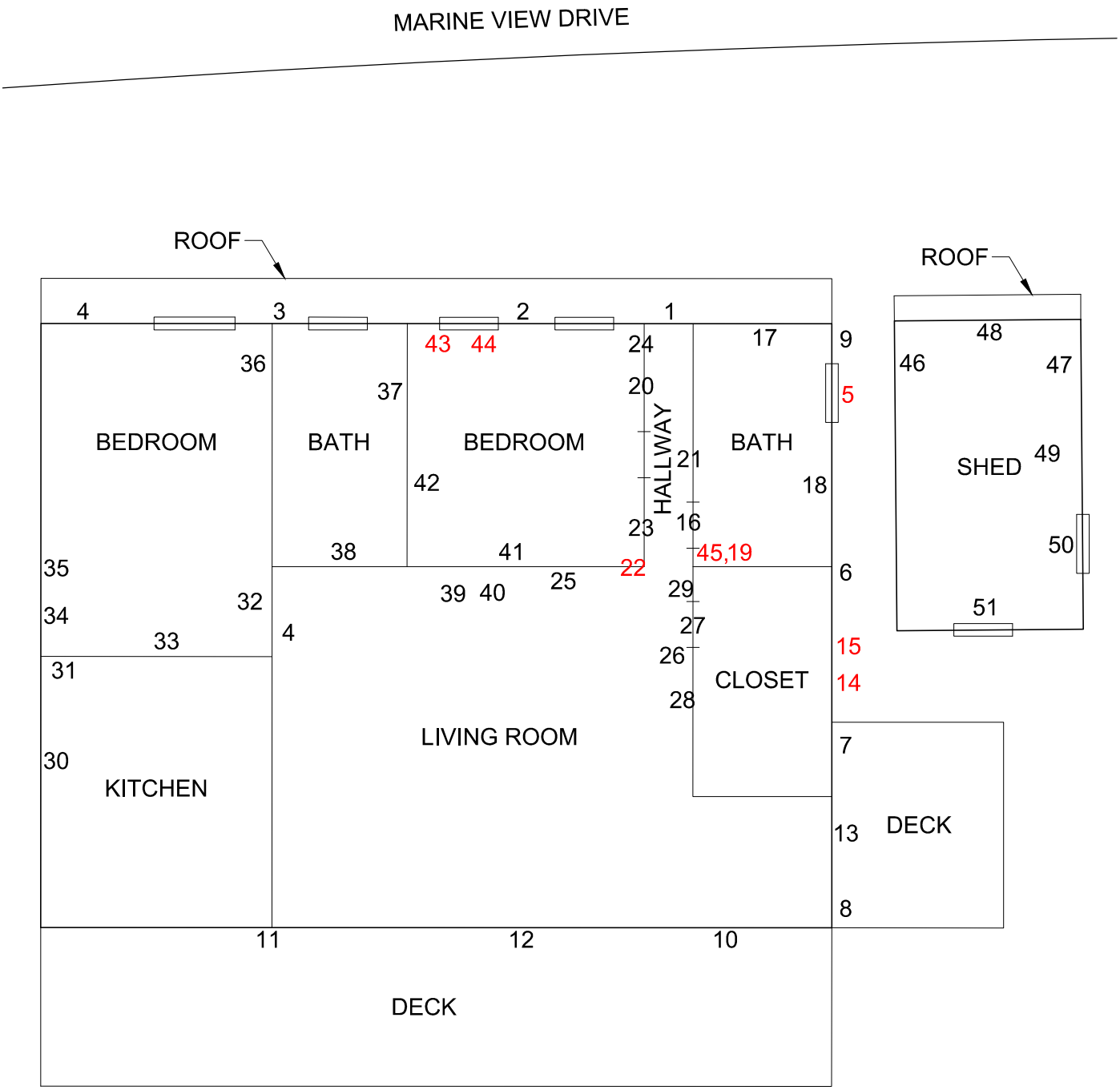
FIGURE 4 : LEAD BASED PAINT (LBP) SURVEY LOCATIONS - 4918 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : January 7, 2014
Project No : 0411-13



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

2 - XRF SURVEY LOCATIONS - NEGATIVE FOR LBP

15 - XRF SURVEY LOCATIONS - POSITIVE FOR LBP

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FIGURE 5 : LEAD BASED PAINT (LBP) SURVEY LOCATIONS - 5024 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : January 7, 2014
Project No : 0411-13

TABLES

Table 1. Asbestos Bulk Sampling Results - 4918 Marine View Drive January 7, 2014			
Sample No.	**Material And Location**	**Friable Or Non-Friable**	**Amount Asbestos**
4918-1	ASPHALT ROOFING MATERIAL; 3 LAYERS Top Layer: Asphaltic Material; Middle Layer: Asphaltic Mastic; Bottom Layer: Felt; On top of plywood W Side of House	NON-FRIABLE	None Detected
4918-2	ASPHALT ROOFING MATERIAL; 3 LAYERS Top Layer: Asphaltic Material; Second Layer: Asphaltic Mastic; Third Layer: Asphaltic Material; Bottom Layer: Felt; On top of plywood W Side of House	NON-FRIABLE	None Detected
4918-3	WINDOW CAULK; Exterior Window NW Side of House	NON-FRIABLE	None Detected
4918-4	CEILING MATERIAL; 3 LAYERS Top Layer: Tan Paper; Middle Layer: Tan Paper; Bottom Layer: White Powdery Material Living Room E Side of House	FRIABLE	5% Chrysotile in Bottom Layer
4918-5	WINDOW CAULK; Exterior Window W Side of House	NON-FRIABLE	3% Chrysotile
4918-6	CEILING TILE Kitchen N Side of House	FRIABLE	None Detected
4918-7	CEILING FELT Kitchen N Side of House	NON-FRIABLE	None Detected
4918-8	INSULATION Bathroom	NON-FRIABLE	None Detected
4918-9	CEILING TILE Bedroom W Side of House	NON-FRIABLE	None Detected
4918-10	CEILING FELT Bedroom W Side of House	NON-FRIABLE	None Detected
4918-11	FLUE MATERIAL Living Room E Side of House	NON-FRIABLE	None Detected
4918-12	KITCHEN SINK CAULK; Kitchen N Side of House	NON-FRIABLE	None Detected
4918-13	DOORWAY FELT Kitchen N Side of House	NON-FRIABLE	None Detected
4918-14	WINDOW CAULK; Exterior Window SW Side of House	NON-FRIABLE	None Detected

Table 2. Asbestos Bulk Sampling Results - 5024 Marine View Drive January 7, 2014			
Sample No.	**Material And Location**	**Friable Or Non-Friable**	**Amount Asbestos**
5024-1	ASPHALT ROOFING MATERIAL; Top Layer: Asphaltic Material; Middle Layer: Asphaltic Mastic; Bottom Layer: Felt; On top of plywood W Side of House	NON-FRIABLE	None Detected
5024-2	ASPHALT ROOFING MATERIAL; Top Layer: Asphaltic Material; Middle Layer: Asphaltic Mastic; Bottom Layer: Felt; On top of plywood W Side of House	NON-FRIABLE	None Detected
5024-3	ASPHALT ROOFING MATERIAL; Top Layer: Asphaltic Material; Second Layer: Asphaltic Mastic; Third Layer: Asphaltic Material; Bottom Layer: Felt; On top of plywood W Side of House	NON-FRIABLE	None Detected
5024-4	ASPHALT ROOFING MATERIAL; Top Layer: Asphaltic Material; Bottom Layer: Felt; On top of plywood Shed	NON-FRIABLE	None Detected
5024-5	FLOOR TILE; Bathroom near entrance	NON-FRIABLE	None Detected
5024-6	CEILING TILE; Bathroom near entrance	NON-FRIABLE	None Detected
5024-7	FELT around window; N end of small bedroom	NON-FRIABLE	None Detected
5024-8	FELT around window; S end of small bedroom	NON-FRIABLE	None Detected
5024-9	INSULATION; Small bedroom	NON-FRIABLE	None Detected
5024-10	DRY WALL; Living Room	FRIABLE	None Detected
5024-11	FLOOR TILE; N end of living room under carpet	NON-FRIABLE	None Detected
5024-12	MASTIC; On wood under carpet in living room	NON-FRIABLE	None Detected
5024-13	FLOOR TILE; In closet, N end of house; brown color	NON-FRIABLE	None Detected
5024-14	FLOOR TILE; In closet, N end of house, green color	NON-FRIABLE	None Detected
5024-15	FLOOR TILE; In closet N end of house, tan color	NON-FRIABLE	None Detected
5024-16	FLOOR TILE: Northern bathroom, gray color	NON-FRIABLE	None Detected

Table 2. Asbestos Bulk Sampling Results - 5024 Marine View Drive January 7, 2014			
Sample No.	**Material And Location**	**Friable Or Non-Friable**	**Amount Asbestos**
5024-17	FELT around window; Northern bathroom	NON-FRIABLE	None Detected
5024-18	SURFACING MATERIAL; On southern wall in main living room above closet	FRIABLE	None Detected
5024-19	FLOOR TILE; In closet on S end of living room	NON-FRIABLE	None Detected
5024-20	INSULATION; behind chimney in closet at S end of living room	NON-FRIABLE	None Detected
5024-21	INSULATION; Under roofing material on deck	NON-FRIABLE	None Detected

Table 3. XRF Survey Results – 4918 Marine View Drive January 7, 2014					
No. / Component	**Substrate**	**Location**	**Color**	**Results (above or below 1 mg/cm^2)**	**Pb Content (mg/cm^2)**
Exterior					
1. Shingles	Wood	SE Exterior	Dk Green	Positive	4.3
2. Shingles	Wood	SE Exterior	Dk Green	Positive	5.5
3. Shingles	Wood	E Exterior	Dk Green	Positive	4.9
4. Window Sill	Wood	SE Exterior	White	Positive	6.5
5. Window Frame	Wood	SE Exterior	White	Positive	6.4
6. Shingles	Wood	S Exterior	Lt Green	Positive	3.5
7. Shingles	Wood	SE Exterior	Lt Green Over Red	Positive	1.7
8. Post	Wood	East of Main Structure	White	Positive	4.8
9. Window Frame	Wood	NE Exterior; E of Kitchen	White	Negative	0.05
10. Window Sill	Wood	NE Exterior; E of Kitchen	White	Negative	0.6
Interior					
11. Bench	Wood	E side of Kitchen	White	Positive	2.9
12. Wall	Wood	NE side of Kitchen	White	Negative	0.02
13. Door	Fiberglass	Entrance to Kitchen	White	Negative	0.00
14. Wall	Wood	NE site of Kitchen	Brown	Negative	0.01
15. Cabinet	Wood	N side of Kitchen	White	Negative	0.00
16. Window Frame	Wood	Kitchen	White	Positive	3.6
17. Window Sill	Wood	Kitchen	White Over Green	Positive	6.3
18. Counter	Wood	Kitchen	Red	Negative	0.17
19. Wall	Composite	Bathroom N	White	Negative	0.00
20. Wall	Composite	Bathroom W	White	Negative	0.00
21. Wall	Composite	Bathroom S	White	Negative	0.00
22. Door Frame	Wood	Bathroom E	White	Negative	0.00
23. Walls	Wood	Closet	White	Negative	0.00
24. Wall	Wood	Living Room N	White	Negative	0.02
25. Entrance Way Frame	Wood	Living Room W	White	Positive	7.3
26. Entrance Way Frame	Wood	Living Room E	White	Positive	6.4
27. Wall	Wood	Living Room NE	White	Negative	0.00
28. Door Frame	Wood	Entrance from Living Room to Bedroom	White	Positive	1.6
29. Wall	Wall Paper	Living Room SW	Pattern	Negative	0.24
30. Wall	Wall Paper	Living Room SE	Pattern	Negative	0.03

Table 3. XRF Survey Results – 4918 Marine View Drive January 7, 2014					
No. / Component	**Substrate**	**Location**	**Color**	**Results (above or below 1 mg/cm^2)**	**Pb Content (mg/cm^2)**
31. Window Sill	Wood	Living Room SW Window	White	Positive	1.3
32. Window Frame	Wood	Living Room SW Window– N Side	White Over Red Over Yellow	Positive	2.5
33. Window Frame	Wood	Living Room NW Window– S Side	White	Positive	1.0
34. Window Sill	Wood	Living Room NW Window	White	Positive	1.3
35. Wall	Wood	Living Room NW	Beige	Negative	0.06
36. Wall	Wood	Living Room NW	Beige	Negative	0.02
37. Wall	Wood	Bedroom W	Beige	Negative	0.13
38. Wall	Wood	Bedroom S	Beige	Negative	0.00
39. Wall	Wood	Bedroom E	Beige	Negative	0.05
40. Closet	Wood	Bedroom NW	White	Negative	0.00
41. Closet	Wood	Bedroom N	White	Negative	0.01
42. Closet	Wall Paper	Bedroom NW	Pattern	Negative	0.10

Table 4. XRF Survey Results – 5024 Marine View Drive January 7, 2014					
No. / Component	**Substrate**	**Location**	**Color**	**Results (above or below 1 mg/cm^2)**	**Pb Content (mg/cm^2)**
Exterior					
1.Front Door	Wood	Exterior SE	Brown	Negative	0.00
2. Wall	Wood	Exterior SE	Brown	Negative	0.00
3. Wall	Wood	Exterior E	Brown	Negative	0.00
4. Wall	Wood	Exterior NE	Brown	Negative	0.00
5. Window Frame	Wood	Exterior SE	Green	Positive	1.5
6. Wall	Wood	Exterior S	Green	Negative	0.6
7. Wall	Wood	Exterior SW	Green	Negative	0.7
8. Wall	Wood	Exterior SW	Green	Negative	0.7
9. Wall	Wood	Exterior SE	Green	Negative	0.6
10. Wall	Wood	Exterior SE	Clear	Negative	0.00
11. Wall	Wood	Exterior NE	Clear	Negative	0.00
12. Door Frame	Wood	Exterior W	White	Negative	0.00
13. Wall	Wood	Exterior SW	Green	Negative	0.8
14. Window Frame	Wood	Exterior SE	Green	Positive	2.6
15. Window Frame	Wood	Exterior SE	Green	Positive	3.7
Interior					
16. Door	Wood	Interior Door to SE Bathroom	White	Negative	0.06
17. Wall	Composite	SE Bathroom E	White	Negative	0.0
18. Wall	Composite	SE Bathroom S	White	Negative	0.04
19. Wall	Wood	SE Bathroom W Wall (behind white wall)	Gray	Positive	2.3
20. Wall	Composite	Hallway N Side	White	Negative	0.00
21. Wall	Wood	Hallway S Side	White	Negative	0.6
22. Frame	Wood	Entrance from Hallway to Living Room	White	Positive	4.5
23. Wall	Composite	Hallway N Side	White	Negative	0.00
24. Frame	Wood	From Inside House Entranceway Door	White	Negative	0.10
25. Wall	Wood	Interior Living Room W	Brown	Negative	0.03
26. Door Frame	Wood	Closet in Living Room S	White	Negative	0.16
27. Door	Wood	Closed in Living Room S	White	Negative	0.11
28. Wall	Plaster	Living Room S	White	Negative	0.00
29. Baseboard	Wood	Living Room SE	White	Negative	0.17
30. Wall	Plaster	Kitchen Area N	White	Negative	0.00
31. Closet Frame	Wood	Kitchen Area NE	White	Negative	0.00

Table 4. XRF Survey Results – 5024 Marine View Drive January 7, 2014					
No. / Component	**Substrate**	**Location**	**Color**	**Results (above or below 1 mg/cm^2)**	**Pb Content (mg/cm^2)**
32. Wall	Wood	NE Bedroom	Brown	Negative	0.00
33. Wall	Plaster	NE Bedroom	Green	Negative	0.00
34. Door	Wood	NE Bedroom	Lt Brown	Negative	0.00
35. Door	Wood	NE Bedroom	White	Negative	0.5
36. Wall	Plaster	NE Bedroom	Pink	Negative	0.00
37. Wall	Composite	NE Bathroom	White	Negative	0.00
38. Wall	Composite	NE Bathroom	White	Negative	0.00
39. Frame	Wood	Alcove in Main Room	White	Negative	0.25
40. Frame	Wood	Alcove in Main Room	White	Negative	0.07
41. Wall	Drywall	Bedroom off of Hallway	Tan	Negative	0.01
42. Wall	Drywall	Bedroom off of Hallway	Tan	Negative	0.00
43. Window Frame	Wood	Bedroom off of Hallway; Behind Brown Plywood Sheeting	Lt Green	Positive	5.2
44. Window Frame	Wood	Behind Brown Plywood Sheeting	Lt Green	Positive	4.3
45. Wall	Wood	SE Bathroom	Gray	Positive	3.7
46. Wall	Drywall	Shed	Purple	Negative	0.00
47. Wall	Drywall	Shed	Purple	Negative	0.00
48. Door	Wood	Shed	Purple	Negative	0.03
49. Wall	Drywall	Shed	Purple	Negative	0.00
50. Window Sill	Wood	Shed	Purple	Negative	0.00
51. Window Sill	Wood	Shed	Purple	Negative	0.00

Table 5. TCLP Lead Analytical Results - 4918 & 5024 Marine View Dr, Tacoma, WA					
Sample ID: Date Sampled:		**4918 Comp-In 01/24/14**	**4918 Comp-Out 01/24/14**	**5024 Comp-In 01/24/14**	**5024 Comp-Out 01/24/14**
	TCLP Maximum Concentration				
Metals in mg/L					
Lead	5	**11.0**	**15.0**	2.6	**22.0**

Bold = Concentrations exceeds screening criteria

APPENDIX A –
CERTIFICATIONS

Certificate of Participation

NOW Environmental Services

34004 9th Ave S Suite A-12 Of Federal Way, Washington 98003 certifies to all that

Suzanne Dudziak

On October 3, 2013 has fulfilled the requirements of

AHERA Building Inspector Refresher

Has attended and satisfactorily completed all requirements to maintain accreditation as an AHERA BUILDING INSPECTOR in accordance with the Toxic Substance Control Act Title (Section 206) and 40 CFR 763

ACCREDITATION NO. BIR-NES-10-0313-01

Expiration October 2, 2014

Donna McNeal - CEO

Provider ID # 944

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Program

Suzanne Dudziak

Has fulfilled the certification requirements of Washington Administrative code (WAC) 365-230 and has been certified to conduct lead-based paint activities pursuant to WAC 365-230-200 as a:

Inspector

Certification #	Issuance Date	Expiration Date
6574	12/19/2013	12/19/2016

APPENDIX B –
REPRESENTATIVE PHOTOS

Representative Photos of Materials at 4918 & 5024 Marine View Drive

January 7, 2014	4918 Marine View Drive, Tacoma, Washington	PROJECT #: 0411-13

Photograph #1	Description
	Sample 4918-1 Roofing Material

Photograph #2	Description
	Sample 4918-4 Ceiling Material from Living Room 5% Chrysotile

January 7, 2014	4918 Marine View Drive, Tacoma, Washington	PROJECT #: 0411-13
Photograph #3		Description
		Sample 4918-5 Caulk/Window Glaze 3% Chrysotile
Photograph #4		Description
		Sample 4918-9 Ceiling Tile, Bedroom

January 7, 2014	4918 Marine View Drive, Tacoma, Washington	PROJECT #: 0411-13
Photograph #5		Description
		Sample 4918-12 Caulk, Kitchen

Photograph #6	Description
	4918 LBP Survey 1- Green Paint on Shingles 4- White Paint on Window Sill

January 7, 2014	4918 Marine View Drive, Tacoma, Washington	PROJECT #: 0411-13

Photograph #7	Description
	4918 LBP Survey 6- Lt Green Paint on Shingles 7- Lt Green over Red Paint on Shingles

Photograph #8	Description
	4918 LBP Survey 8- White Paint on Post

January 7, 2014	4918 Marine View Drive, Tacoma, Washington	PROJECT #: 0411-13
Photograph #9		Description
		4918 LBP Survey 25, 26 -White Paint on Entrance Way Frame

Photograph #10	Description
	4918 Living Room: Thermostat with mercury ampule

January 7, 2014	5024 Marine View Drive, Tacoma, Washington	PROJECT #: 0411-13
Photograph #11		Description
		Exterior of 5024 – E Side

Photograph #12	Description
	5024 LBP Survey 5 -Green Paint on Window Frame

January 7, 2014	5024 Marine View Drive, Tacoma, Washington	PROJECT #: 0411-13
Photograph #13		Description
		5024 LBP Survey 19, 45 -Gray Paint in Bathroom

Photograph #14	Description
	5024 LBP Survey 22 -White Paint in Entrance Way

APPENDIX C –
LABORATORY REPORTS

January 9, 2014

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INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

Suzanne Dudziak
Greylock Consulting
720 333rd St., Ste 210
Federal Way, WA 98003

RE: Bulk Asbestos Fiber Analysis, NVL Batch # 1400290.00

Dear Ms. Dudziak,

Enclosed please find test results for the bulk samples submitted to our laboratory for analysis. 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 U.S. EPA 600/M4-82-020, Interim Method for Determination of Asbestos in Bulk Insulation Samples, as found in 40 CFR, Part 763, Subpart E, Appendix E (formerly Subpart F, Appendix A), and U.S. EPA 600/R-93/116 (July 1993) Test Methods.

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 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. If you would like us to further refine the concentration estimates of asbestos in these samples using point counting, please let me know.

This 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 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,

Nick Ly, Technical Director

Enc.: Sample Results

NVLAP
Lab Code: 102063-0

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NVLAP

For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400290.00
Client Project #: 4918
Date Received: 1/8/2014
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 14001098 **Client Sample #: 4918-1**
Location: Tacoma, WA

Layer 1 of 3	**Description:** Black asphaltic material with sand, fibrous material, and granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 19%	**None Detected ND**
	Granules	Cellulose 3%	
Layer 2 of 3	**Description:** Black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Fine grains	Cellulose 4%	**None Detected ND**
Layer 3 of 3	**Description:** Black asphaltic fibrous felt		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Asphalt/Binder	Cellulose 84%	**None Detected ND**

Lab ID: 14001099 **Client Sample #: 4918-2**
Location: Tacoma, WA

Layer 1 of 4	**Description:** Black asphaltic material with sand, fibrous material, granules, and organic debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 17%	**None Detected ND**
	Granules, Organic debris	Cellulose 6%	
Layer 2 of 4	**Description:** Black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Fine grains	Cellulose 3%	**None Detected ND**
Layer 3 of 4	**Description:** Black asphaltic material with sand, fibrous material, and granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 21%	**None Detected ND**
	Granules	Cellulose 3%	

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/09/2014
Reviewed by: Nick Ly **Date:** 01/09/2014

Nick Ly, Technical Director

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

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Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

NVLAP
For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400290.00
Client Project #: 4918
Date Received: 1/8/2014
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 4 of 4 **Description:** Black asphaltic fibrous felt

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Asphalt/Binder	Cellulose 87%	**None Detected ND**

Lab ID: 14001100 **Client Sample #: 4918-3**
Location: Tacoma, WA

Layer 1 of 1 **Description:** White brittle material with debris and paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Putty Compound, Miscellaneous particles, Paint	Wollastonite 2%	**None Detected ND**
	Cellulose <1%	

Lab ID: 14001101 **Client Sample #: 4918-4**
Location: Tacoma, WA

Layer 1 of 3 **Description:** Tan paper with white patterned print

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains	Cellulose 94%	**None Detected ND**

Layer 2 of 3 **Description:** Tan paper with white patterned print

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains	Cellulose 93%	**None Detected ND**

Layer 3 of 3 **Description:** White textured powdery material with paper and paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Calcareous particles, Binder/Filler, Paint	Cellulose 26%	**Chrysotile 5%**

Lab ID: 14001102 **Client Sample #: 4918-5**
Location: Tacoma, WA

Layer 1 of 1 **Description:** Off-white soft material with paint and debris

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Putty Compound, Paint, Miscellaneous particles	Cellulose 1%	**Chrysotile 3%**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/09/2014
Reviewed by: Nick Ly **Date:** 01/09/2014

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400290.00
Client Project #: 4918
Date Received: 1/8/2014
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 14001103 **Client Sample #: 4918-6**
Location: Tacoma, WA
Layer 1 of 1 **Description:** Brown/tan fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Paint	Cellulose 92%	**None Detected ND**

Lab ID: 14001104 **Client Sample #: 4918-7**
Location: Tacoma, WA
Layer 1 of 1 **Description:** Brown paper with debris

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Miscellaneous particles	Cellulose 95%	**None Detected ND**

Lab ID: 14001105 **Client Sample #: 4918-8**
Location: Tacoma, WA
Layer 1 of 1 **Description:** White fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Glass fibers 96%	**None Detected ND**

Lab ID: 14001106 **Client Sample #: 4918-9**
Location: Tacoma, WA
Layer 1 of 1 **Description:** Tan fibrous material with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Paint	Cellulose 94%	**None Detected ND**

Lab ID: 14001107 **Client Sample #: 4918-10**
Location: Tacoma, WA
Comments: Insufficient amount of white powdery material for thorough analysis
Layer 1 of 3 **Description:** Tan paper with white patterned print

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Fine grains	Cellulose 95%	**None Detected ND**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/09/2014
Reviewed by: Nick Ly **Date:** 01/09/2014

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400290.00
Client Project #: 4918
Date Received: 1/8/2014
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 3	**Description:** Trace white powdery material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous particles	Cellulose 2%	**None Detected ND**
Layer 3 of 3	**Description:** Brown fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Cellulose 80%	**None Detected ND**
		Synthetic fibers 8%	

Lab ID: 14001108 **Client Sample #: 4918-11**
Location: Tacoma, WA

Layer 1 of 1	**Description:** Black rusted metal with debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Metal, Miscellaneous particles	Cellulose 1%	**None Detected ND**

Lab ID: 14001109 **Client Sample #: 4918-12**
Location: Tacoma, WA

Layer 1 of 1	**Description:** White soft material with debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Synthetic/Binder, Fine grains, Miscellaneous particles	Cellulose 2%	**None Detected ND**
		Spider silk 2%	

Lab ID: 14001110 **Client Sample #: 4918-13**
Location: Tacoma, WA

Layer 1 of 2	**Description:** Tan interwoven fibrous material with paint and printed paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Paint, Fine grains	Cellulose 87%	**None Detected ND**
Layer 2 of 2	**Description:** Brown paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler	Cellulose 82%	**None Detected ND**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/09/2014
Reviewed by: Nick Ly **Date:** 01/09/2014 Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400290.00
Client Project #: 4918
Date Received: 1/8/2014
Samples Received: 14
Samples Analyzed: 14
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Synthetic fibers 11%

Lab ID: 14001111 **Client Sample #: 4918-14**
Location: Tacoma, WA

Layer 1 of 1 **Description:** Off-white soft material with paint and debris

Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
Synthetic/Binder, Fine grains, Paint	Cellulose	5%	**None Detected ND**
Miscellaneous particles	Spider silk	3%	

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/09/2014
Reviewed by: Nick Ly **Date:** 01/09/2014

Nick Ly, Technical Director

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

NVL Batch ID
1400290

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

Please call for TAT less than 24 Hours

Company: Greylock Consulting LLC Project Manager: Suzanne Dudziak
Address: 720 S. 333 St, Suite 210 Cell: (253) 266-2838
Federal Way, WA 98003 Email: greylockllc@comcast.net
Phone: 253-661-3520 Fax: (253) 835-8916

Project Name/Number: 4918	Project Location: Tacoma, WA

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

Reporting Instructions: e-mail greylockllc@comcast.net
☐ Call ( ) - ☐ Fax ( ) - ☐ Email greylockllc@comcast.net

Total Number of Samples 14

	Sample ID	Description	A/R
1	4918-1	Roofing Material	
2	4918-2	Roofing Material	
3	4918-3	Window Caulk	
4	4918-4	Ceiling Material	
5	4918-5	Window Caulk	
6	4918-6	Ceiling Tile	
7	4918-7	Ceiling Felt	
8	4918-8	Insulation	
9	4918-9	Ceiling Tile	
10	4918-10	Ceiling Felt	
11	4918-11	Material from Flue	
12	4918-12	Kitchen Sink Caulk	
13	4918-13	Doorway Felt	
14	4918-14	Window Caulk	
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Suzanne Dudziak	[signature]	Greylock	1/8/14	948
Relinquish by	Christine Lopez	Christine M. Lopez	Greylock	1/8/14	11:25

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Midori Koike	[signature]	NVL	1/8/14	1125
Analyzed by	Angele Zamaron	[signature]	NVL	1/9/14	1110
Called by					
Faxed/Email by					

January 8, 2014

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Suzanne Dudziak
Greylock Consulting
720 333rd St., Ste 210
Federal Way, WA 98003

RE: Bulk Asbestos Fiber Analysis, NVL Batch # 1400292.00

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

Sincerely,

Nick Ly, Technical Director

Enc.: Sample Results

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Lab Code: 102063-0

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For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

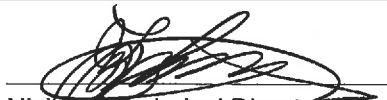
Lab ID: 14001114 **Client Sample #: 5024-1**
Location: Tacoma, WA

Layer 1 of 3	**Description:** Black asphaltic material with sand, fibrous material, granules, and organic debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 26%	**None Detected ND**
	Granules, Organic debris	Cellulose 4%	
Layer 2 of 3	**Description:** Black asphaltic material with sand, fibrous material, granules, and organic debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 23%	**None Detected ND**
	Granules, Organic debris	Cellulose 8%	
Layer 3 of 3	**Description:** Black asphaltic fibrous felt with organic debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Asphalt/Binder, Organic debris	Cellulose 87%	**None Detected ND**

Lab ID: 14001115 **Client Sample #: 5024-2**
Location: Tacoma, WA

Layer 1 of 3	**Description:** Black asphaltic material with sand, fibrous material, and granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 22%	**None Detected ND**
	Granules	Cellulose 3%	
Layer 2 of 3	**Description:** Black asphaltic material with sand, fibrous material, and granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 20%	**None Detected ND**
	Granules, Organic debris	Cellulose 3%	
Layer 3 of 3	**Description:** Black asphaltic fibrous felt with organic debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Asphalt/Binder, Organic debris	Cellulose 89%	**None Detected ND**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014



Nick Ly, Technical Director

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 14001116 **Client Sample #: 5024-3**
Location: Tacoma, WA

Layer 1 of 4	**Description:** Black asphaltic material with sand, fibrous material, and granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 26%	**None Detected ND**
	Granules, Organic debris	Cellulose 4%	
Layer 2 of 4	**Description:** Black asphaltic mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder	Cellulose 2%	**None Detected ND**
Layer 3 of 4	**Description:** Black asphaltic material with sand, fibrous material, granules, and plastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Glass fibers 23%	**None Detected ND**
	Granules, Organic debris	Cellulose 8%	
Layer 4 of 4	**Description:** Black asphaltic fibrous felt with organic debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Asphalt/Binder, Organic debris	Cellulose 87%	**None Detected ND**

Lab ID: 14001117 **Client Sample #: 5024-4**
Location: Tacoma, WA

Layer 1 of 2	**Description:** Black asphaltic material with sand and fibrous material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Sand, Binder/Filler	Synthetic fibers 16%	**None Detected ND**
		Cellulose 4%	
Layer 2 of 2	**Description:** Black asphaltic fibrous felt with granules		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Asphalt/Binder, Granules	Glass fibers 76%	**None Detected ND**
		Cellulose 10%	

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014

Nick Ly, Technical Director

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

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www.nvllabs.com

NVLAP

For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Lab ID: 14001118 **Client Sample #: 5024-5**
Location: Tacoma, WA

Layer 1 of 2	**Description:** Off-white tile with gray laminate		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Vinyl/Binder, Mineral grains, Laminate/binder	Cellulose 2%	**None Detected ND**
Layer 2 of 2	**Description:** Clear adhesive with debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Adhesive/Binder, Miscellaneous particles	Cellulose 4%	**None Detected ND**

Lab ID: 14001119 **Client Sample #: 5024-6**
Location: Tacoma, WA

Layer 1 of 1	**Description:** Light tan fibrous material with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Paint	Cellulose 88%	**None Detected ND**

Lab ID: 14001120 **Client Sample #: 5024-7**
Location: Tacoma, WA

Layer 1 of 1	**Description:** Black asphaltic fibrous felt with paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Asphalt/Binder, Paint	Cellulose 86%	**None Detected ND**

Lab ID: 14001121 **Client Sample #: 5024-8**
Location: Tacoma, WA
Comments: Insufficient amount of silver paint for thorough analysis

Layer 1 of 2	**Description:** Trace silver paint		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Paint	Cellulose 3%	**None Detected ND**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2 **Description:** Black asphaltic fibrous felt with paint

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Asphalt/Binder, Paint	Cellulose 84%	**None Detected ND**

Lab ID: 14001122 **Client Sample #: 5024-9**
Location: Tacoma, WA

Layer 1 of 1 **Description:** Pink/gray fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Glass fibers 95%	**None Detected ND**

Lab ID: 14001123 **Client Sample #: 5024-10**
Location: Tacoma, WA

Layer 1 of 1 **Description:** White chalky material with paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Gypsum/Binder, Binder/Filler	Cellulose 26%	**None Detected ND**

Lab ID: 14001124 **Client Sample #: 5024-11**
Location: Tacoma, WA
Comments: Unsure of correct layer sequence

Layer 1 of 4 **Description:** Light beige vinyl

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Vinyl/Binder, Mineral grains, Binder/Filler	Cellulose 7%	**None Detected ND**

Layer 2 of 4 **Description:** Black asphaltic fibrous backing with mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Asphalt/Binder, Mastic/Binder	Cellulose 83%	**None Detected ND**

Layer 3 of 4 **Description:** Brown brittle mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Mastic/Binder, Fine grains	Wollastonite 2%	**None Detected ND**
	Cellulose 1%	

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014

Nick Ly, Technical Director

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

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For the scope of accreditation under NVLAP Lab Code 102063-0

Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 4 of 4	**Description:** Blue soft material			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Synthetic/Binder, Fine grains	Cellulose	1%	**None Detected ND**

Lab ID: 14001125 **Client Sample #: 5024-12**
Location: Tacoma, WA

Layer 1 of 2	**Description:** White mastic with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Mastic/Binder, Calcareous particles, Paint	Cellulose	3%	**None Detected ND**
Layer 2 of 2	**Description:** Tan fibrous material with paint			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Paint	Cellulose	93%	**None Detected ND**

Lab ID: 14001126 **Client Sample #: 5024-13**
Location: Tacoma, WA

Layer 1 of 2	**Description:** Brown/tan vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Vinyl/Binder, Mineral grains, Binder/Filler	Cellulose	6%	**None Detected ND**
Layer 2 of 2	**Description:** Black asphaltic fibrous backing with mastic			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Binder/Filler, Asphalt/Binder, Mastic/Binder	Cellulose	85%	**None Detected ND**

Lab ID: 14001127 **Client Sample #: 5024-14**
Location: Tacoma, WA

Layer 1 of 2	**Description:** Brown/tan/green patterned vinyl			
	Non-Fibrous Materials:	Other Fibrous Materials:%		**Asbestos Type: %**
	Vinyl/Binder, Mineral grains, Binder/Filler	Cellulose	4%	**None Detected ND**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Layer 2 of 2 **Description:** Black asphaltic fibrous backing with mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Asphalt/Binder, Mastic/Binder	Cellulose 87%	**None Detected ND**

Lab ID: 14001128 **Client Sample #: 5024-15**
Location: Tacoma, WA

Layer 1 of 2 **Description:** White/blue patterned paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Cellulose 96%	**None Detected ND**

Layer 2 of 2 **Description:** Gray-tan paper

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Cellulose 95%	**None Detected ND**

Lab ID: 14001129 **Client Sample #: 5024-16**
Location: Tacoma, WA

Layer 1 of 2 **Description:** Off-white-gray patterned sheet vinyl

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

Layer 2 of 2 **Description:** Light gray fibrous backing with mastic

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Mastic/Binder	Cellulose 77%	**None Detected ND**
	Synthetic fibers 9%	

Lab ID: 14001130 **Client Sample #: 5024-17**
Location: Tacoma, WA

Layer 1 of 1 **Description:** Black asphaltic fibrous felt with debris

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler, Asphalt/Binder, Miscellaneous particles	Cellulose 83%	**None Detected ND**
	Glass fibers 4%	

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116 & EPA/600/M4-82-020

Lab ID: 14001131 **Client Sample #: 5024-18**
Location: Tacoma, WA

Layer 1 of 1	**Description:** Light gray brittle material with paper		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Calcareous binder, Fine grains, Binder/Filler	Cellulose 14%	**None Detected ND**

Lab ID: 14001132 **Client Sample #: 5024-19**
Location: Tacoma, WA

Layer 1 of 2	**Description:** Gray-tan brittle vinyl		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Vinyl/Binder, Fine grains, Binder/Filler	Cellulose 8%	**None Detected ND**
Layer 2 of 2	**Description:** Tan interwoven fibrous backing with red brittle mastic		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Mastic/Binder, Fine grains	Cellulose 89%	**None Detected ND**

Lab ID: 14001133 **Client Sample #: 5024-20**
Location: Tacoma, WA

Layer 1 of 1	**Description:** Gray/yellow/pink fibrous material with debris		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Miscellaneous particles	Glass fibers 88%	**None Detected ND**
		Cellulose 5%	

Lab ID: 14001134 **Client Sample #: 5024-21**
Location: Tacoma, WA

Layer 1 of 2	**Description:** Tan paper with metal foil and asphaltic material		
	Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
	Binder/Filler, Metal foil, Asphalt/Binder	Cellulose 83%	**None Detected ND**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014

Nick Ly, Technical Director

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

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Bulk Asbestos Fibers Analysis

By Polarized Light Microscopy

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1400292.00
Client Project #: 5024
Date Received: 1/8/2014
Samples Received: 21
Samples Analyzed: 21
Method: EPA/600/R-93/116
& EPA/600/M4-82-020

Layer 2 of 2 **Description:** Gray/yellow fibrous material

Non-Fibrous Materials:	Other Fibrous Materials:%	**Asbestos Type: %**
Binder/Filler	Glass fibers 95%	**None Detected ND**

Sampled by: Client
Analyzed by: Angele Zamarron **Date:** 01/08/2014
Reviewed by: Nick Ly **Date:** 01/08/2014

Nick Ly, Technical Director

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

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NVL Batch ID 1400292

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

Please call for TAT less than 24 Hours

Company Greylock Consulting LLC
Address 720 S. 333rd St., Ste 210 Federal Way, WA 98003
Phone 253-661-3520

Project Manager Suzanne Dudziak
Cell (253) 266-2838
Email greylockllc@comcast.net
Fax (253) 835-8916

Project Name/Number 5024
Project Location Tacoma, WA

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

Reporting Instructions email to greylockllc@comcast.net
☐ Call ( ) - ☐ Fax ( ) - ☒ Email greylockllc@comcast.net

Total Number of Samples 21

	Sample ID	Description	A/R
1	5024-1	Roofing Material	HOLD
2	5024-2	"	
3	5024-3	"	HOLD
4	5024-4	"	
5	5024-5	Floor Tile	
6	5024-6	Ceilik Tile	
7	5024-7	Window Felt	
8	5024-8	Window Felt	HOLD
9	5024-9	Insulation	
10	5024-10	Dry Wall	
11	5024-11	Pink Floor Tile	
12	5024-12	White Mastic	
13	5024-13	Brown Floor Tile	
14	5024-14	Green Floor Tile	
15	5024-15	Tan/Blue Floor Tile	

	Print Name	Signature	Company	Date	Time
Sampled by	Suzanne Dudziak	Suzanne Dudziak	Greylock	1/6/14	948
Relinquish by	Christine Lopez	Christine M. Lopez	Greylock	1/8/14	11:25

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Aidan Kloike		NVL	1/8/14	1125
Analyzed by	Angela Zamarron		NVL	1/8/14	1750
Called by					
Faxed/Emailed by					

NVL Batch ID
1400292

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- ☐ 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 Greylock Consulting LLC
Address 720 S 333 St Suite 210
Federal Way, WA 98003
Phone 253-661-3520

Project Manager Suzanne Dudziak
Cell (253) 266-2838
Email greylockllc@comcast.net
Fax (253) 835-8916

Project Name/Number 5024
Project Location Tacoma, WA

- ☐ 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)
- ☐ TEM (EPA Level II Modified)
- ☐ EPA 1000Points (600/R-93-116)
- ☐ Asbestos in Sediment (EPA 1900 Points)
- ☐ Other

Reporting Instructions e-mail to greylockllc@comcast.net
☐ Call ( ) - ☐ Fax ( ) - ☒ Email greylockllc@comcast.net

Total Number of Samples 21

	Sample ID	Description	A/R
1	5024-16	Tan Floor Tile	
2	5024-17	Window Felt	
3	5024-18	Wall Material	
4	5024-19	Floor Tile	
5	5024-20	Insulation	
6	5024-21	Insulatio	
7			
8			
9			
10			
11			
12			
13			
14			
15			

	Print Name	Signature	Company	Date	Time
Sampled by	Suzanne Dudziak		Greylock	1/8/14	9:48
Relinquish by	Christine Lopez		Greylock	1/8/14	11:25

Office Use Only

	Print Name	Signature	Company	Date	Time
Received by	Midori Kaike		NVL	1/8/14	1125
Analyzed by	Angelle Zamarron		NVL	1/8/14	1450
Called by					
Faxed/Email by					

January 28, 2014

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Suzanne Dudziak
Greylock Consulting
720 333rd St., Ste 210
Federal Way, WA 98003

RE: Metals Analysis; NVL Batch # 1401293.00

Dear Ms. Dudziak,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846-3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm) , Percent (%) or mg/cm^2 by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft^2. TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m^3. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested. Lead test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This 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 are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

Enclosure:

ilac-MRA

AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE & ENVIRONMENTAL LEAD
ISO/IEC 17025:2005
LAB #101861

NVL Laboratories, Inc.

4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
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Analysis Report

AIHA - IH # 101861
WA - DOE # C1765

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

Toxicity Characteristic Leaching Procedure - Lead (Pb)

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma, WA

Batch #: 1401293.00
Matrix: Bulk
Method: EPA 1311/7000B
Client Project #: 0411-13
Date Received: 1/24/2014
Samples Received: 4
Samples Analyzed: 4

Lab ID	Client Sample #	RL mg/ L	Results in mg/L	Results in ppm
14010473	4918 Comp-In	0.5	11.0	11.0
14010474	4918 Comp-Out	0.5	15.0	15.0
14010475	5024 Comp-In	0.5	2.6	2.6
14010476	5024 Comp-Out	0.5	22.0	22.0

Sampled by: Client
Analyzed by: Fatima Khan
Reviewed by: Nick Ly

Date Analyzed: 01/28/2014
Date Issued: 01/28/2014

Nick Ly, Technical Director

mg/ L =Milligrams per liter
ppm = parts per million

RL = Reporting Limit
'<' = Below the reporting Limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 34-0127-11

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
Tel: 206.547.0100 Emerg.Cell: 206.914.4646
Fax: 206.634.1936 1.888.NVL.LABS (685.5227)

CHAIN of CUSTODY SAMPLE LOG

NVL Batch ID
1401293

Client Greylock Consulting
Street 720 333rd St., Ste 210
Federal Way, WA 98003

NVL Batch Number
Client Job Number 0411-13
Total Samples 4
Turn Around Time ☐ 1-Hr ☐ 2-Hrs ☐ 4-Hrs ☐ 8-Hrs ☐ 12-Hrs ☐ 24-Hrs ☐ 2 Days ☒ 3 Days ☐ 4 Days ☐ 5 Days ☐ 6-10 Days
Please call for TAT less than 24 Hrs

Project Manager Ms. Suzanne Dudziak
Project Location Tacoma, WA

Email address greylockllc@comcast.net
Phone: (253) 661-3520 **Fax:** **Cell** (253) 266-2838

☐ Asbestos Air	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA)	☐ TEM (EPA Level II)	☐ Other
☐ Asbestos Bulk	☐ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry)	☐ TEM BULK	
☐ Mold/Fungus	☐ Mold Air	☐ Mold Bulk	☐ Rotometer Calibration		

METALS	Det. Limit	Matrix		RCRA Metals		Other Metals
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter	☐ Soil	☐ Arsenic (As)	☐ All 8	☐ All 3
☒ TCLP Lead	☐ ICP (ppm)	☐ Drinking water	☐ Paint Chips in %	☐ Barium (Ba)	☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppl	☐ Dust/wipe (Area)	☐ Paint Chips in cm	☐ Cadmium (Cd)	☐ Lead (Pb)	☐ Nickel (Ni)
					☐ Mercury (Hg)	☐ Zinc (Zn)

Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample are, Sample Volume, etc)	A/R
1		4918COMP-IN		
2		4918 COMP-OUT		
3		5024 COMP-IN		
4		5024 COMP-OUT		
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Suzanne Dudziak		Greylock	1-24-14	11:45
Relinquished by	Christine Lopez		Greylock	1/24/14	12:15
Received by				1/24/14	1215
Analyzed by			NVL Labs	1/28/14	9:45
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.
Run for TCLP Lead
Email Results to: greylockllc@comcast.net

GREYLOCK
CONSULTING LLC
Water Resources & Environmental Services

To: Dan Crawford, Port of Tacoma
From: Suzanne Dudziak, Greylock Consulting LLC
Date: March 10, 2014
Re: Sampling & Analysis of Building Materials at 4918 & 5024 Marine View Drive, Tacoma, Washington on February 25, 2014

BACKGROUND

On February 13, 2014, a hazardous materials survey was completed by Greylock Consulting LLC (Greylock) for two houses located at 4918 and 5024 Marine View Drive in Tacoma, Washington ("Site", Greylock 2014). Composite building material samples were collected and analyzed for Toxic Characteristic Leaching Potential (TCLP) Lead during the survey. Three composite samples exceeded the Lead TCLP criteria.

The survey report recommended that more refined sampling and analyses be performed on materials that tested positive for Lead Based Paint (LBP) and that exceeded the TCLP criteria. This memo documents the additional sampling and analysis performed at the Site.

METHODOLOGIES AND RESULTS

On February 25, 2014, eleven building material samples were collected from areas where LBP had been detected with an XRF analyzer and composite sampling of building materials had failed Lead TCLP criteria (Greylock, 2014).

Sampling was performed in accordance with one of Department of Ecology's (Ecology's) recommended sampling protocols: Screen, Sample, and Segregate (Ecology, 2014). Building material samples were collected using a hammer and chisel or reciprocating saw. Measurements and photos of the materials were collected. Sample locations are shown on Figures 1 and 2.

Samples of materials were collected and placed in Zip Lock® plastic bags. Each sample was assigned a number and the sample location was identified with a photograph for future reference. As a result of the survey, 11 bulk samples of building materials were collected for analysis. These samples consisted of shingles, window frames, door frames, posts, and a kitchen bench. Samples were transported to NVL Laboratory (NVL) in Seattle, Washington after collection. A chain-of-custody (COC) record was maintained for sample tracking.

Building material samples were analyzed by NVL for TCLP Lead by EPA Method 1311/7000B. Results of the analyses are presented in Tables 1 and 2.

Based on analytical testing, 9 of 11 materials failed the Lead TCLP Criteria of 5 mg/L. The approximate volume of material that failed Lead TCLP Criteria is approximately 46.7 cu ft.

RECOMMENDATIONS

We recommend that materials that failed Lead TCLP Criteria be removed and disposed, prior to demolition of the remaining structures. Removal should be performed by a contractor licensed to perform LBP abatement. A list of licensed abatement contractors can be found at the State of Washington Department of Commerce's web site: http://www.commerce.wa.gov/Programs/services/Paint/Pages/LeadBasedPaintAbatement.aspx . Materials must be disposed of at a landfill licensed to accept hazardous waste.

Please note that removal of these materials does not mean the houses will be lead free. As stated in Greylock's hazardous materials survey report (2014), the contractor will need to comply with WAC 296-155-176 during demolition of the structures. WAC 296-155-176 identifies worker health and safety requirements that apply to all construction work where an employee may be occupationally exposed to lead.

LIMITATIONS OF SURVEY

This report does not represent all conditions at the subject site as it only reflects the information gathered from specific locations at 4918 and 5024 Marine View Drive in Tacoma, Washington. The north and northwestern exterior sides of both houses were inaccessible during sampling. Observation or sampling of other work areas was not within the scope of Greylock Consulting LLC's (Greylock's) work and was not performed.

This report was prepared pursuant to the contract Greylock has with the client. Unauthorized reliance on or use of this report, including any of its information or conclusions, will be at third party's risk. For the same reasons, no warranties or representations, expressed or implied in this report, are made to any such third party.

Questions concerning the contents of this report should be addressed to the individual listed below.

Suzanne Dudziak
Certified Lead-Based Paint Inspector No. 6574

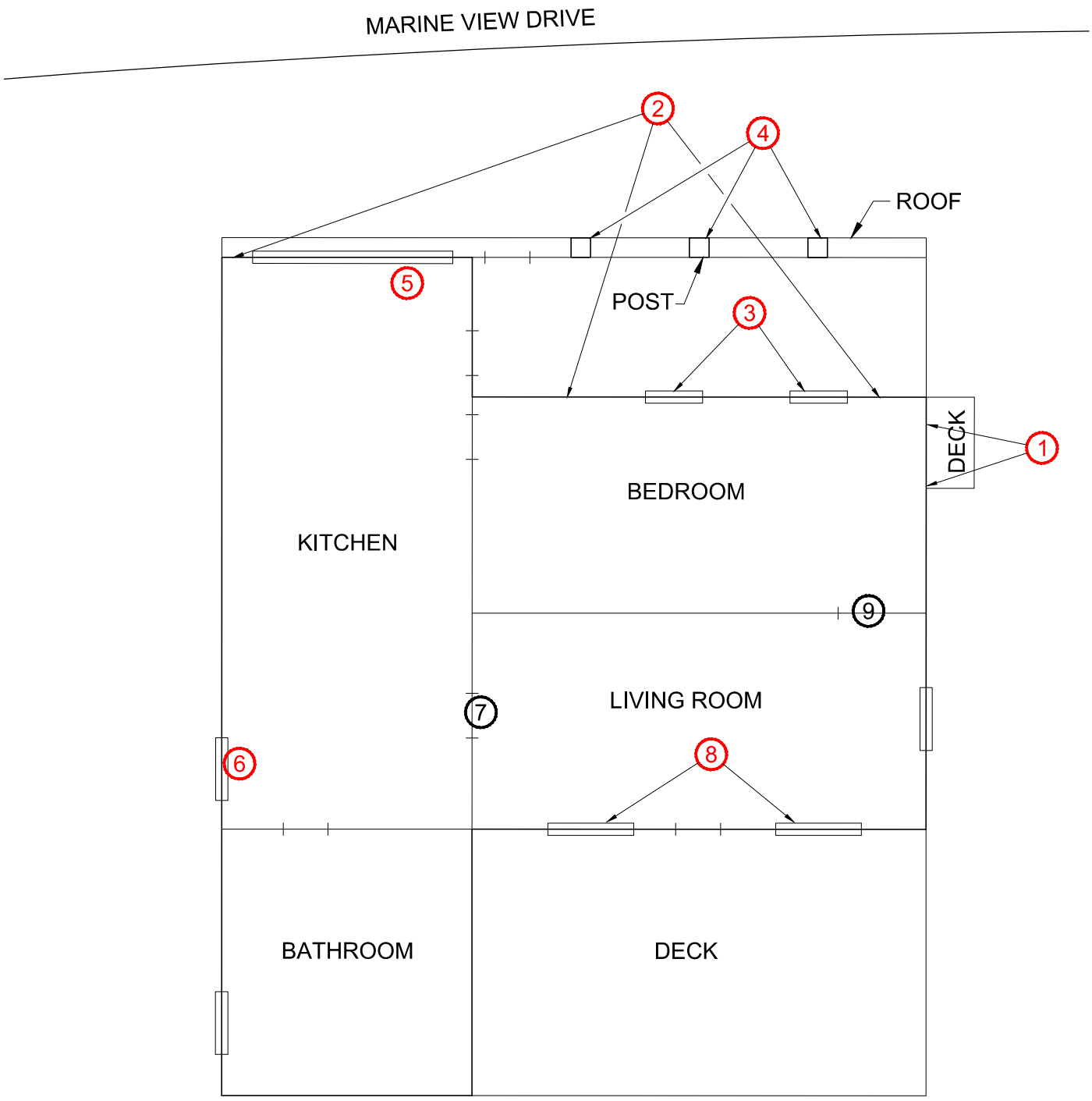
Attachments:

1- Figure 1: TCLP Lead Sample Locations 4918 Marine View Drive
2- Figure 2: TCLP Lead Sample Locations 5024 Marine View Drive
3- Table 1: TCLP Lead Analytical Results 4918 Marine View Drive
4- Table 2: TCLP Lead Analytical Results 5024 Marine View Drive
5- Site Photos
6- Laboratory Analytical Results

References

Greylock 2014. Hazardous Materials Survey 4918 & 5024 Marine View Drive, Tacoma, Washington. Prepared for Port of Tacoma. February.

Ecology 2014. Suggested Sampling Plans for Building Debris Disposal. Available at: http://www.ecy.wa.gov/programs/hwtr/dangermat/samplePlans.html. March.



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

7 - SAMPLE LOCATION

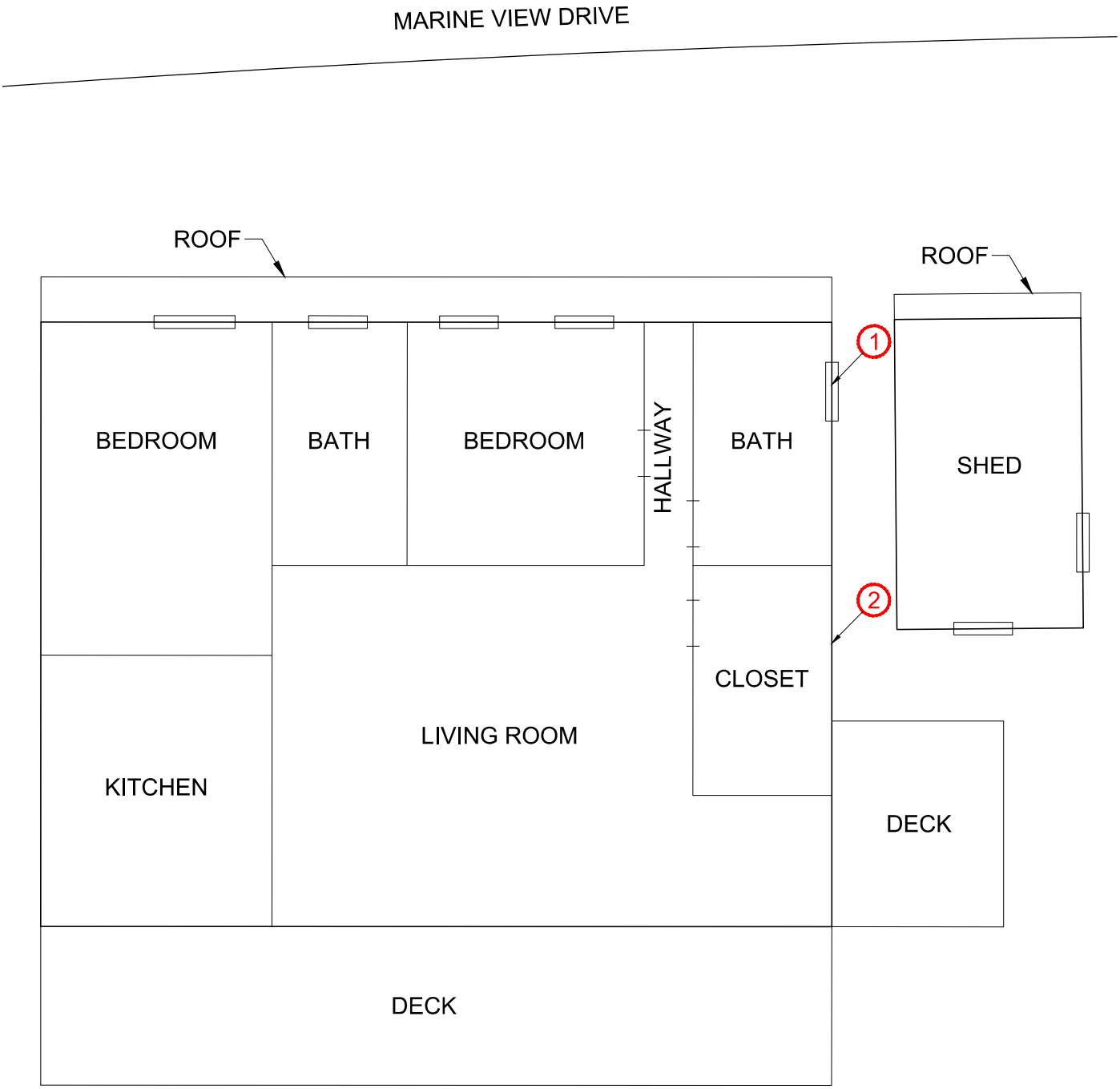
3 - SAMPLE EXCEEDS LEAD TCLP CRITERIA OF 5 MG/L

720 S. 333rd St, Ste. 210
Federal Way, WA 98003
office: 253-661-3520
cel/direct: 253-266-2838
www.greylockenv.com

GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

FIGURE 1 : TCLP LEAD SAMPLE LOCATIONS - 4918 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : February 25, 2014
Project No : 0411-13-2



APPROXIMATE HOUSE LAYOUT - NOT TO SCALE

LEGEND

1 - SAMPLE EXCEEDS LEAD TCLP CRITERIA OF 5 MG/L

720 S. 333rd St, Ste. 210
Federal Way, WA 98003
office: 253-661-3520
cel/direct: 253-266-2838
www.greylockenv.com
GREYLOCK CONSULTING LLC
Water Resources & Environmental Services

FIGURE 2 : TCLP LEAD SAMPLE LOCATIONS - 5024 MARINE VIEW DRIVE

Project : Hazardous Materials Survey
Location : Tacoma, WA
Client : Port of Tacoma
Date : February 25, 2014
Project No : 0411-13-2

Table 1. TCLP Lead Analytical Results - 4918 Marine View Dr, Tacoma, WA; February 25, 2014				
Sample ID	Date	Description	Lead Results in mg/L	Approximate Quantity of Materials Above Lead TCLP Criteria in Cubic Feet(1)
4918-22514-1	2/25/2014	Exterior Light Green Shingles - South	**19.0**	20.2
4918-22514-2	2/25/2014	Exterior Dark Green Shingles - East	**8.9**	16.5
4918-22514-3	2/25/2014	Exterior White Window Frames - East	**22.0**	1.3
4918-22514-4	2/25/2014	Exterior White Posts - East	**21.0**	2.4
4918-22514-5	2/25/2014	Interior White Kitchen Bench	**5.9**	2.2
4918-22514-6	2/25/2014	Interior White Kitchen Window Frame	**7.4**	1.0
4918-22514-7	2/25/2014	Interior White Door Frame between Kitchen & Living Room	<0.5	N/A
4918-22514-8	2/25/2014	Interior White Living Room Window Frames	**34.0**	2.5
4918-22514-9	2/25/2014	White Interior Door Frame between Living Room & Bedroom	<0.5	N/A

Bold = Concentrations exceeds screening criteria of 5 mg/L

1 All quantities are approximate and should be verified by Contractor. Estimates are based on measured length, width, and thickness of material. For inaccessible exterior areas, width was estimated. For shingles, thickness was multiplied by 1.5 to account for overlapping materials.

Table 2. TCLP Lead Analytical Results - 5024 Marine View Dr, Tacoma, WA; February 25, 2014				
Sample ID	Date	Description	Lead Results in mg/L	Approximate Quantity of Materials Above Lead TCLP Criteria in Cubic Feet(1)
5024-22514-1	2/25/2014	Exterior Green Window Frame - South	**11.0**	0.3
5024-22514-2	2/25/2014	Exterior Green Window Frame - South	**49.0**	0.3

Bold = Concentrations exceeds screening criteria of 5 mg/L

1 All quantities are approximate and should be verified by Contractor. Estimates are based on measured length, width, and thickness of material. For inaccessible exterior areas, width was estimated.

4918 Marine View Drive Photos (1 – 7)

1. Sample 4918-22514-1 Green Shingles

2. Sample 4918-22514-2 Green Shingles

3. Sample 4918-22514-3 White Window Framing

4. Sample 4918-22514-4 White Posts

5. Sample 4918-22514-5 Bench

6. Sample 4918-22514-6 Window Framing

7. Sample 4918-22514-8 Window Framing

5024 Marine View Drive Photos (8 - 9)

8. Sample 5024-22514-1 Window Framing

9. Sample 5024-22514-2 Window Framing

February 27, 2014

Suzanne Dudziak
Greylock Consulting
720 333rd St., Ste 210
Federal Way, WA 98003

NVL LABS
INDUSTRIAL HYGIENE SERVICES
Laboratory | Management | Training

RE: Metals Analysis; NVL Batch # 1403309.00

Dear Ms. Dudziak,

Enclosed please find the test results for samples submitted to our laboratory for analysis. Preparation of these samples was conducted following protocol outlined in EPA Method SW 846-3051 unless stated otherwise. Analysis of these samples was performed using analytical instruments in accordance with U.S. EPA, NIOSH, OSHA and other ASTM methods.

For matrix materials submitted as paint, dust wipe, soil or TCLP samples, analysis for the presence of total metals is conducted using published U.S. EPA Methods. Paint and soil results are usually expressed in mg/Kg which is equivalent to parts per million (ppm). Lead (Pb) in paint is usually expressed in mg/Kg (ppm) , Percent (%) or mg/cm^2 by area. Dust wipe sample results are usually expressed in ug/wipe and ug/ft^2. TCLP samples are reported in mg/L (ppm). For air filter samples, analyses are conducted using NIOSH and OSHA Methods. Results are expressed in ug/filter and ug/m^3. Other matrix materials are analyzed accordingly using published methods or specified by client. The reported test results pertain only to items tested. Lead test results are not blank corrected.

For recent regulation updates pertaining to current regulatory levels or permissible exposure levels, please call your local regulatory agencies for more details.

This 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 are discarded after two weeks.

Thank you for using our laboratory services. if you need further assistance please feel free to call us at 206-547-0100 or 1-888-NVLLABS.

Sincerely,

Nick Ly, Technical Director

Enclosure:

ilac-MRA
AIHA LAP, LLC
ACCREDITED LABORATORY
INDUSTRIAL HYGIENE & ENVIRONMENTAL LEAD
ISO/IEC 17025:2005
LAB #101861

NVL Laboratories, Inc.

4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

Analysis Report

AIHA - IH # 101861
WA - DOE # C1765

AIHA Environmental Lead and Industrial Hygiene ACCREDITED LABORATORY

Toxicity Characteristic Leaching Procedure - Lead (Pb)

Client: Greylock Consulting
Address: 720 333rd St., Ste 210
Federal Way, WA 98003

Attention: Ms. Suzanne Dudziak
Project Location: Tacoma,WA

Batch #: 1403309.00
Matrix: Bulk
Method: EPA 1311/7000B
Client Project #: Marine View Drive
Date Received: 2/26/2014
Samples Received: 11
Samples Analyzed: 11

Lab ID	Client Sample #	RL mg/ L	Results in mg/L	Results in ppm
14021989	4918-22514-1	0.5	19.0	19.0
14021990	4918-22514-2	0.5	8.9	8.9
14021991	4918-22514-3	0.5	22.0	22.0
14021992	4918-22514-4	0.5	21.0	21.0
14021993	4918-22514-5	0.5	5.9	5.9
14021994	4918-22514-6	0.5	7.4	7.4
14021995	4918-22514-7	0.5	< 0.5	< 0.5
14021996	4918-22514-8	0.5	34.0	34.0
14021997	4918-22514-9	0.5	< 0.5	< 0.5
14021998	5024-22514-1	0.5	11.0	11.0
14021999	5024-22514-2	0.5	49.0	49.0

Sampled by: Client
Analyzed by: Fatima Khan
Reviewed by: Nick Ly

Date Analyzed: 02/27/2014
Date Issued: 02/27/2014

/Nick Ly, Technical Director

mg/ L =Milligrams per liter
ppm = parts per million

RL = Reporting Limit
'<' = Below the reporting Limit

Note : Method QC results are acceptable unless stated otherwise.
Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

Bench Run No: 34-0226-07

NVL Laboratories, Inc.
4708 Aurora Ave N, Seattle, WA 98103
Tel: 206.547.0100 Emerg.Cell: 206.914.4646
Fax: 206.634.1936 1.888.NVL.LABS (685.5227)

CHAIN of CUSTODY SAMPLE LOG

NVL Batch ID
1403309

Client Greylock Consulting
Street 720 333rd St., Ste 210
Federal Way, WA 98003

NVL Batch Number
Client Job Number Marine View Drive
Total Samples 11
Turn Around Time ☐ 1-Hr ☐ 8-Hrs ☐ 2 Days ☒ 5 Days ☐ 2-Hrs ☐ 12-Hrs ☐ 3 Days ☐ 6-10 Days ☐ 4-Hrs ☐ 24-Hrs ☐ 4 Days

Project Manager Ms. Suzanne Dudziak
Project Location Tacoma, WA

Please call for TAT less than 24 Hrs

Email address greylockllc@comcast.net

Phone: (253) 661-3520 **Fax:** **Cell** (253) 266-2838

☐ **Asbestos Air**	☐ PCM (NIOSH 7400)	☐ TEM (NIOSH 7402)	☐ TEM (AHERA) ☐ TEM (EPA Level II) ☐ Other
☐ **Asbestos Bulk**	☐ PLM (EPA/600/R-93/116)	☐ PLM (EPA Point Count)	☐ PLM (EPA Gravimetry) ☐ TEM BULK
☐ **Mold/Fungus**	☐ Mold Air ☐ Mold Bulk	☐ **Rotometer Calibration**	

METALS	**Det. Limit**	**Matrix**	**RCRA Metals**	**Other Metals**
☐ Total Metals	☐ FAA (ppm)	☐ Air Filter ☐ Soil	☐ Arsenic (As) ☐ All 8	☐ **All 3**
☒ TCLP LEAD	☐ ICP (ppm)	☐ Drinking water ☐ Paint Chips in %	☐ Barium (Ba) ☐ Chromium (Cr	☐ Copper (Cu)
☐ Cr 6	☐ GFAA (ppl	☐ Dust/wipe (Area) ☐ Paint Chips in cm	☐ Cadmium (Cd) ☐ Lead (Pb) ☐ Mercury (Hg)	☐ Nickel (Ni) ☐ Zinc (Zn)

Other Types of Analysis ☐ Fiberglass ☐ Nuisance Dust ☐ Other (Specify) _____ TCLP Lead Only
☐ Silica ☐ Respirable Dust

Condition of Package: ☐ Good ☐ Damaged (no spillage) ☐ Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample are, Sample Volume, etc)	A/R
1		4918-22514-1		
2		4918-22514-2		
3		4918-22514-3		
4		4918-22514-4		
5		4918-22514-5		
6		4918-22514-6		
7		4918-22514-7		
8		4918-22514-8		
9		4918-22514-9		
10		5024-22514-1		
11		5024-22514-2		
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	Suzanne Dudziak	Suzanne Dudziak	Greylock	2/25/14	
Relinquished by	Christine M. Lopez	Christine M. Lopez	Greylock	2/26/14	9:33
Received by	Max		NVL	2/26/14	935
Analyzed by			NVL Labs	2/	
Results Called by					
Results Faxed by					

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.