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November 27, 2013

Jeffrey Fowlow, On-Scene Coordinator
United States Environmental Protection Agency
1200 Sixth Ave
Seattle, WA 98108

Re: Trip Report for the August 2013 EPA-Led Removal Action at the Ashue Road Asbestos Site,
Contract Number EP-S7-13-07, Technical Direction Document Number 13-08-0021

Dear Mr. Fowlow:

Enclosed please find the final Trip Report for the August 2013 EPA-led removal action at the Ashue Road Asbestos Site in Wapato, Washington. If you have any questions regarding this submittal, please call me at (206) 920-1739.

Sincerely,

ECOLOGY AND ENVIRONMENT, INC.

Steven G. Hall
START IV Removal Team Leader

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TRIP REPORT

**Ashue Road Asbestos Site
2013 EPA-Led Removal Action
Wapato, Washington
TDD: 13-08-0021**



Prepared for

U.S. Environmental Protection Agency, Region 10
1200 Sixth Avenue
Seattle, Washington 98101

Prepared by

Ecology and Environment, Inc.
720 Third Avenue, Suite 1700
Seattle, Washington 98104

November 2013

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Executive Summary

In August 2013, the United States Environmental Protection Agency (EPA) performed a removal action at the Ashue Road Asbestos Site in Wapato, Washington. The site is a residential property, located within the Yakama Indian Reservation, where the owner received fill material to fill a pond on the property. A portion of the fill material at the site was debris from the nearby Wapato High School, and because an asbestos abatement had been performed at the high school as part of the demolition project, the Yakama Nation was concerned that the fill material could contain ACM and therefore could pose a human health risk to members of the community. During the initial site visit in October 2012, EPA inspected the surface of the fill material for potential ACM while collecting air and dust samples. Asbestos was not detected in the air or bulk samples, but at least one asbestos fiber was detected in each of the four dust samples collected from the concrete blocks originating from the school.

To further evaluate whether ACM was present below the surface in the fill material and to assess potential exposure risks from the asbestos fibers found on the pieces of concrete, EPA performed a removal action in August 2013. EPA excavated 17 test pits and trenches from throughout the fill area. While excavating the test pits, some of the concrete pieces in the fill material were set aside and stockpiled for off-site disposal. During excavation, EPA and its contractors observed the excavation to document the types of debris in the fill material and to observe for any suspect ACM. Twenty bulk samples of suspect materials were collected and analyzed for asbestos, and none of them contained any asbestos.

Throughout the removal activities, EPA collected personal air samples from workers inside the exclusion zone and ambient air samples from inside and around the fill area. Asbestos fibers were detected in every personal air sample with total concentrations as high as 0.013 s/cc, and seven of the 10 personal samples also contained phase-contrast microscopy (PCM)-equivalent asbestos fibers with concentrations as high as 0.002 s/cc. In the ambient air samples, asbestos was detected in 11 of the 14 samples analyzed with total concentrations as high as 0.009 s/cc, including two samples with a PCM-equivalent concentration of 0.001 s/cc.

Based on the observations during excavation activities, the western half of the fill material (approximately 0.34 acres) is primarily composed of concrete with rebar and river rock, which are reported to be from the Wapato High School demolition project. The eastern half of the fill material (approximately 0.32 acres) also contains concrete and river rock apparently from the high school, and also contains a larger amount of general trash and debris, including wood waste (dimensional lumber and woody vegetation), automobile parts, crushed/empty containers, and household waste. Assuming an average depth of 7 feet of fill material, the western half contains approximately 3,900 cubic yards of fill material. At the conclusion of the removal activities, EPA disposed of three truckloads (44 tons) of concrete pieces from the site at the Columbia Ridge Subtitle D landfill in Arlington, Oregon.

In September 2013, EPA entered into an Administrative Settlement Agreement and Order on Consent with the contractors (Groat Bros, Inc. and T. W. Clark Construction, LLC) who were responsible for placing the high school demolition debris at the property. Currently, these contractors are planning to perform a responsible party-led removal action beginning in November 2013 to remove the demolition debris and intermingled material from the site.

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1. PLACE VISITED

Site Name: Ashue Road Asbestos Site
Owner Name: Simon and Sandra Gaytan
Location: 3960 Ashue Rd., Wapato, Yakima County, WA, 98951 (Figure 1)
Date of Trip: August 11-16, 2013
SSID: 10LW **CERCLIS ID:** WAN001002813
Latitude: 46.434042 **Longitude:** -120.460972

2. PURPOSE

The United States Environmental Protection Agency (EPA) tasked Ecology and Environment, Inc. (E & E), under Superfund Technical Assessment and Response Team (START) contract number EP-S7-13-07, Technical Direction Document (TDD) number 13-08-0021, to support an EPA-led removal action at the Ashue Road Asbestos Site in Wapato, Washington. The site is a residential property where the owner received fill material, including demolition debris from the nearby Wapato High School, to fill a pond on the property. The objectives of the removal action were to investigate the debris pile for the presence of asbestos-containing materials (ACM) or elevated levels of airborne asbestos while disposing of a portion of the concrete debris from the Wapato High School asbestos abatement / demolition project. To achieve these objectives, specific removal action tasks included:

- Remove some pieces of concrete from the Wapato High School demolition for proper off-site disposal;
- Search for any potential ACM that may be present in inaccessible areas of the debris pile; and
- Collect air samples (personal and ambient) for asbestos analysis to determine whether any asbestos became airborne during the removal activities.

Site removal activities were performed from August 11 through 16, 2013. The removal action was performed by Environmental Quality Management, Inc. (EQM) as the EPA Region 10 Emergency and Rapid Response Services (ERRS) contractor. As part of the removal support activities, START was tasked to perform air sampling and monitor site conditions through logbook entries and photographic documentation. Attachment 1 contains photographs taken from the site during the removal action.

3. PERSONS INVOLVED

Agency/Company	Contact Persons/ Position	Phone Number
United States Environmental Protection Agency	Jeffrey Fowlow – On-Scene Coordinator	(206) 553-2751
EQM / ERRS	Pat Heyneman, Response Manager	(208) 514-5244
E & E / START	Steven Hall – Project Manager	(206) 624-9537
	Eric Nuchims – Air Sampler	(206) 624-9537
	Jake Moersen– Site Safety Officer	(206) 624-9537

4. BACKGROUND

In October 2012, EPA investigated a fill site at a private residence within the Yakama Indian Reservation in Wapato, Washington, for the potential presence of ACM (E & E 2012). The property includes a residence with a fenced-in back yard and other agricultural structures. The fill area is located behind the back yard (i.e., to the west) of the residence and includes concrete with rebar and river rock. The location of the fill area was reported to be a pond and/or a wetland area, and surface water is still present to the west of the fill area. An irrigation canal runs along the southern edge of the property (see Figure 2).

The property owner had been receiving pieces of concrete and other trash and debris to fill the pond on the property. A portion of the fill material at the site (approximately 390 truckloads) was debris from a demolition project at the Wapato High School. Because an asbestos abatement had been performed at the high school as part of the demolition project, and because the property is located within the Yakama Indian Reservation, the Yakama Nation was concerned that the fill material could contain ACM and therefore could pose a human health risk to members of the community (E & E 2012).

During the initial site visit in October 2012, EPA collected a few samples of bulk materials that were potential ACM, as identified by a representative of the Yakama Nation. EPA also collected air samples from near the debris pile and collected four samples of dust from pieces of concrete which were known to have come from the school. No asbestos was detected in the air samples or the bulk samples. However, at least one asbestos fiber was detected in each of the four dust samples collected from the concrete blocks originating from the school (E & E 2012).

Although no ACM was observed in the fill area during EPA's October 2012 site visit, the dust sample results indicated that some asbestos fibers were present in the debris, and ACM could have been present below the surface of the fill area. To further evaluate whether ACM was present in the fill material and to assess potential exposure risks from the asbestos fibers found on the pieces of concrete, EPA decided to perform the 2013 removal action described in this report.

5. ACTIVITIES

Mobilization and Site Layout

The OSC and the START project manager mobilized to the site on August 11, 2013. ERRS, the remainder of START personnel, and equipment arrived at the site on August 12. START brought the EPA Region 10 communication vehicle and a trailer, which were used as the site command post and support zone. Heavy equipment mobilized by ERRS included an excavator, a front-end loader, and a water truck. Upon arrival at the site, ERRS and START set up an exclusion zone with a contaminant reduction zone around the fill area (Figure 3).

During the removal action, representatives of the site's responsible parties were on site each day to observe EPA's removal activities. Ryan Matthews of Fulcrum Environmental was on site to represent the Wapato School District, and Peter Snider from Argus Pacific, Inc. was present to represent Groat Bros, Inc. and T. W. Clark Construction, LLC, the demolition contractors who placed the debris from the Wapato High School demolition project at the Ashue Road site.

Excavation of Fill Material

The removal action was performed by using heavy equipment to remove some of the pieces of concrete from the fill area for off-site disposal while collecting air samples for asbestos analysis. An ERRS equipment operator used an excavator to search through the debris pile to remove the pieces of concrete. To ensure representative coverage of the fill area, the debris pile was divided into quadrants (i.e., northwest, southwest, northeast, and southeast) with test pits or trenches excavated in each.

The work performed inside the exclusion zone was performed using Level C personal protective equipment (PPE), including the use of air-purifying respirators with high particulate efficiency air (HEPA) cartridges, as well as Tyvek™ or KleenGuard™ coveralls, hard hats, and safety shoes. Weather conditions during the removal activities were sunny with high temperatures (daily highs greater than 90 degrees Fahrenheit), so several health and safety measures were taken to avoid heat-related health effects. These measures included frequent breaks in a shaded support zone, drinking of lots of fluids, medical monitoring of the vital signs of site personnel, and the use of a portable tent in the exclusion zone as a sun shade.

During excavation activities, the ERRS equipment operator removed pieces of concrete debris and set them aside. Another ERRS equipment operator then used a front-end loader to transfer the pieces of concrete to a stockpile on the southeastern portion of the fill area pending loading into trucks for off-site disposal. ERRS also operated a water truck and used a water spray to minimize dust migrating off site.

While ERRS excavated each test pit or trench, a START member was present to document the types of debris present in the excavation and to search for any potential ACM. When potential ACM was observed, the equipment operator stopped the excavation, and START assessed the material and/or collected a bulk sample for asbestos analysis.

By the completion of the removal action, EPA had completed 17 test pits and trenches in the fill area. Table 1 presents a summary of these excavations and the types of debris and trash observed in them, and the locations are indicated on Figure 4. A summary of the types of debris observed in the fill area is discussed later in this report.

Bulk Samples

During the excavation activities, START observed a number of pieces of building material and/or debris that were potential or suspect ACM. These materials included roofing tiles and roofing material, acoustical ceiling tile, wire insulation, wallboard, felt paper, and floor tiles. START collected bulk samples of these materials for asbestos analysis at an off-site laboratory, and the START project manager who was on site was a licensed Asbestos Hazard and Emergency Response Act (AHERA) asbestos building inspector (Attachment 2).

START collected a total of 20 bulk samples in accordance with the site-specific sampling plan (SSSP; E & E 2013). The samples are described in Table 2, and the sample locations are indicated on Figure 5. During the site activities, the Fulcrum representative often also collected bulk samples from the suspect materials that START sampled.

The samples were submitted to Lab/Cor, Inc. (Lab/Cor) in Portland, Oregon, for asbestos analysis by Polarized Light Microscopy (PLM) using EPA method 600/R-93/116, and the results are included in Table 2. None of the bulk samples collected by START contained asbestos, indicating that none of the materials were ACM.

Air Sampling

Throughout the excavation activities, START collected personal and ambient air samples. Three personal samples were collected on each day of activity from ERRS and START personnel working inside the exclusion zone. A daily sample was collected from the START personnel who was documenting the excavation activities (START-01 through START-03); a daily sample was collected from the ERRS water truck operator (WT-01 through WT-03); and a daily sample was collected from the exterior of the excavator to represent potential exposures to an excavator operator if the cab's door or window were open (EO-01 through EO-03). A total of 10 personal samples were collected, including three samples on each of the three days of excavation activity (August 13, 14, and 15), and including one field duplicate (EO-03). Each personal air sample was collected on an 0.8 micrometer (μm) mixed-cellulose ester (MCE) filter cassette at an air flow of approximately 2 liters per minute (Lpm) for a minimum of three hours.

START also collected ambient air samples from near the excavation activities, with the sample cartridge inlets elevated by tripods to several feet off of the ground. Five samples were collected on each of the three days of excavation activities, for a total of 15 samples. The daily ambient air samples included two inside the fill area at locations north and south of the excavation activities (FA-01 through FA-06); two from the perimeter of the exclusion zone (PR-01 through PR-06); and one from an off-site location approximately 150 yards to the northwest of the site (BG-01 through BG-03). The general locations of the area samples are indicated on Figure 6. During excavation, the sampling equipment for the fill area samples were moved as necessary to maintain a sampling position near the excavation activities while not interfering with the operation of the equipment. Each ambient air sample was collected on a 0.45 μm MCE filter cassette at an air flow of approximately 10 Lpm for a minimum of four hours.

Table 3 includes the sample collection details of the personal and ambient air samples, including sample identification, date, duration, average flow rate, and sample volume. All personal and ambient air samples were submitted for asbestos analysis by Transmission Electron Microscopy (TEM) by International Organization for Standardization (ISO) method 10312 at Lab/Cor in Seattle, Washington. Each sample was analyzed to obtain an analytical sensitivity no greater than 0.001 structures per cubic centimeter (s/cc).

The results of the TEM analyses of the personal and ambient air samples are presented in Table 3, and the results are included in Attachment 3. Asbestos fibers were detected in every personal air sample, with total concentrations (asbestos and Libby/other-amphibole structures) ranging from 0.003 to 0.013 s/cc. The types of asbestos fibers detected in the samples are listed in Table 3 and include chrysotile, actinolite, anthophyllite, and others. The results in Table 3 also include concentrations for phase-contrast microscopy (PCM)-equivalent fibers (i.e., those fibers that are longer than 5 μm and with a length-to-width ratio greater than or equal to 3:1). Seven of the 10 personal samples contained PCM-equivalent asbestos fibers, with concentrations ranging from 0.001 to 0.002 s/cc.

Table 3 also presents the results of the ambient air samples. One of the ambient samples could not be analyzed because of filter cassette damage. Of the remaining 14 samples, asbestos or Libby/other-amphibole structures were detected in 11 of the samples, with concentrations ranging from 0.001 to 0.009 s/cc. The asbestos fiber types detected in the ambient samples were chrysotile, actinolite, and anthophyllite. Two of the ambient samples (FA-05 and PR-05) contained a single PCM-equivalent fiber each, for a concentration of 0.001 s/cc for each. Asbestos fibers were detected in two of the three daily off-site ambient samples (BG-01 through BG-03), with a total and Libby/other-amphibole concentration of 0.001 s/cc for BG-01 and 0.009 s/cc for BG-03.

Fill Area Observations

Based on the observations made during the excavation activities, EPA observed that the demolition debris in the western half of the fill site was largely pieces of concrete and river rock, with other construction/demolition material like rebar, roofing material, PVC pipe, and wire. In the eastern half of the debris pile, the fill material became more varied. In addition to concrete and river rock, which was also observed in the eastern portion of the debris pile, other types of agricultural and household trash were observed, including dimensional lumber, vegetation (wood waste like tree trunks and branches), automotive and motorcycle engine parts, batteries, and crushed/empty containers.

These observations of the types and relative locations of debris are consistent with reports about the fill material from the property owner and the responsible parties. Reportedly, the site was an existing fill site before the demolition debris from the Wapato High School was placed there, and the demolition debris from the Wapato High School consisted primarily of concrete debris and soil mixed with river rock (the river rock was apparently a sub-base material for the school building that was demolished).

Based on observations of the types of fill material observed in the test pits and trenches, Figure 7 indicates the approximate borders of the western portion, which is primarily from the high school, and the eastern portion, which is primarily composed of material prior to the high school demolition project. Note that this border is approximate, and based on the presence of concrete and river rock across the surface of the whole site (including the eastern portion), it is apparent that debris from the high school demolition was placed throughout the entire fill area. Based on global positioning system data, the approximate area of the western portion (i.e., primarily high school demolition debris) is 0.34 acres, and the approximate area of the eastern portion is 0.32 acres. Assuming an average depth of 7 feet of fill material, the estimated volume of the fill material in the western portion is 3,900 cubic yards.

Disposal

Following removal from the debris pile, the pieces of concrete were stockpiled in the southwest quadrant of the fill area. On August 16, three over-the-road haul trucks arrived at the site, and ERRS loaded the concrete pieces into the beds of the trucks. ERRS used the water truck to keep the debris wet and to reduce dust during loading operations. The loads were then covered and secured before the trucks left the site. The concrete and debris were transported to the Columbia Ridge Subtitle D landfill in Arlington, Oregon. A total of 44 tons of concrete debris was disposed of as solid waste. Copies of disposal documents are included in Attachment 4.

Demobilization

Upon completion of the excavation and investigation activities, equipment was decontaminated prior to leaving the exclusion zone. EPA, including the ERRS and START contractors, demobilized from the site on August 16.

6. SUMMARY AND CONCLUSIONS

EPA performed a removal action at the Ashue Road Asbestos Site in Wapato, Washington. The removal action was performed to further investigate the fill material located at the site for the presence of ACM and asbestos fibers. Removal activities included excavation of test pits and trenches and disposal of a small portion of the concrete debris that is present in the fill material, while searching for potential ACM and collecting air samples for asbestos analysis.

Following mobilization on August 11-12, 2013, EPA performed the removal activities on August 13-15. During the removal action, EPA excavated a total of 17 test pits and trenches in various locations of the

fill material. EPA observed river rock and concrete debris throughout the fill material, which is consistent with the demolition debris placed there from the Wapato High School demolition project in 2012. Additionally, EPA observed other types of trash and debris, including roofing tiles and material, trash, dimensional lumber, wood and tree waste, automobile and motorcycle parts, and crushed drums. The western half of the fill area was primarily composed of the concrete and river rock debris from the high school. Concrete and river rock debris was also found in the eastern half of the fill area, especially near the surface, but other types of trash and debris was much more prevalent in the eastern portion. The western half of the fill area is estimated to have an area of approximately 0.34 acres, and assuming an average depth of 7 feet of debris, a volume of approximately 3,900 cubic yards. Note, however, that debris from the high school demolition (concrete and river rock) is also present throughout the entire fill area, including the surface of the eastern half.

During the removal activities, EPA's START contractor observed several types of potential ACMs in the fill material, including roofing material, wire insulation, wallboard, and a ceiling tile. START collected a total of 20 bulk samples for PLM analysis. None of the samples contained asbestos, and therefore none of the suspect materials were ACM.

EPA's START contractor also collected personal and ambient air samples. Asbestos fibers were detected in all of the personal air samples collected from the fill area during excavation activities. Asbestos was also detected in 11 of the 14 ambient samples, including two of the three off-site samples.

EPA's ERRS contractor removed a total of 44 tons of concrete debris, which was transported off site to the Columbia Ridge landfill in Arlington, Oregon, for disposal as solid waste.

In September 2013, EPA entered into an Administrative Settlement Agreement and Order on Consent with the contractors (Groat Bros, Inc. and T. W. Clark Construction, LLC) who were responsible for placing the high school demolition debris at the property. Currently, these contractors are planning to perform a responsible party-led removal action with EPA oversight in November 2013 to remove the demolition debris and intermingled material from the site.

7. REFERENCES

Ecology and Environment, Inc. (E & E), July 26, 2013, *Ashue Road Asbestos Site, Site-Specific Sampling Plan*, prepared for the U.S. Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 12-10-0001.

_____, November 5, 2012, *Final Trip Report, Ashue Road Asbestos Site*, prepared for the U.S. Environmental Protection Agency, Seattle, Washington, under Contract No. EP-S7-06-02, TDD No. 12-10-0001.



Source: ©2013 Nokia and ©2013 Microsoft Corporation (Bing).



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ASHUE ROAD ASBESTOS SITE
Wapato, Washington

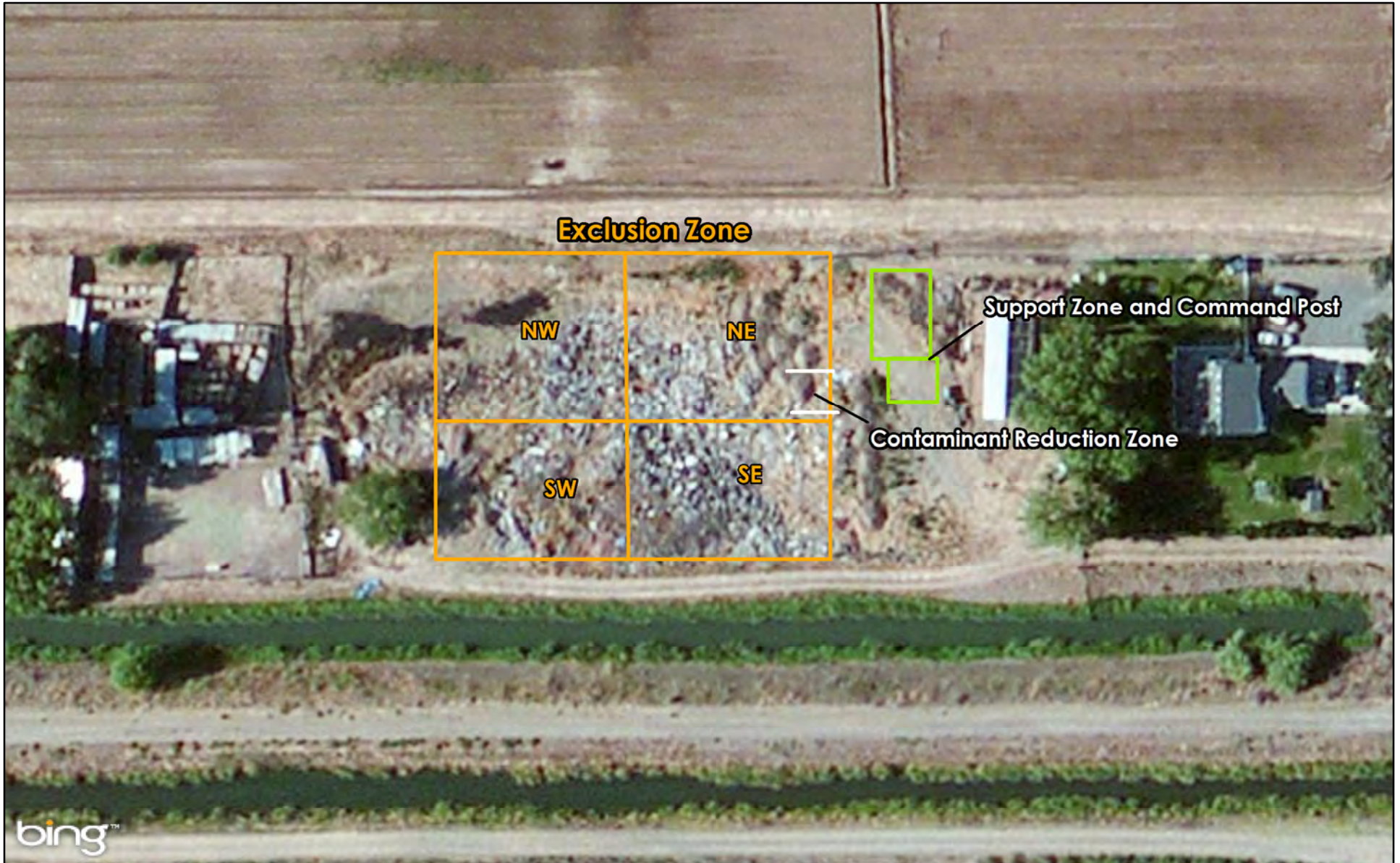
0 100 200
Approximate Scale in Feet

Figure 2
SITE LAYOUT



Date:
10/18/13

Drawn by:
AES

10:START-IV\12100001\fig 2



Sources: 2010 DigitalGlobe, USGS, 2013 Microsoft

-  Exclusion Zone
-  Support Zone and Command Post

**Figure 3 - Site Layout During
Removal Action**
Ashue Road Asbestos Site, Wapato, Washington

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0 25 50 100
Feet



10

Sources: 2010 DigitalGlobe, USGS, 2013 Microsoft

- Test Pit
- Test Trench
- Exclusion Zone

Figure 4 - Test Pit Locations
Ashue Road Asbestos Site, Wapato, Washington

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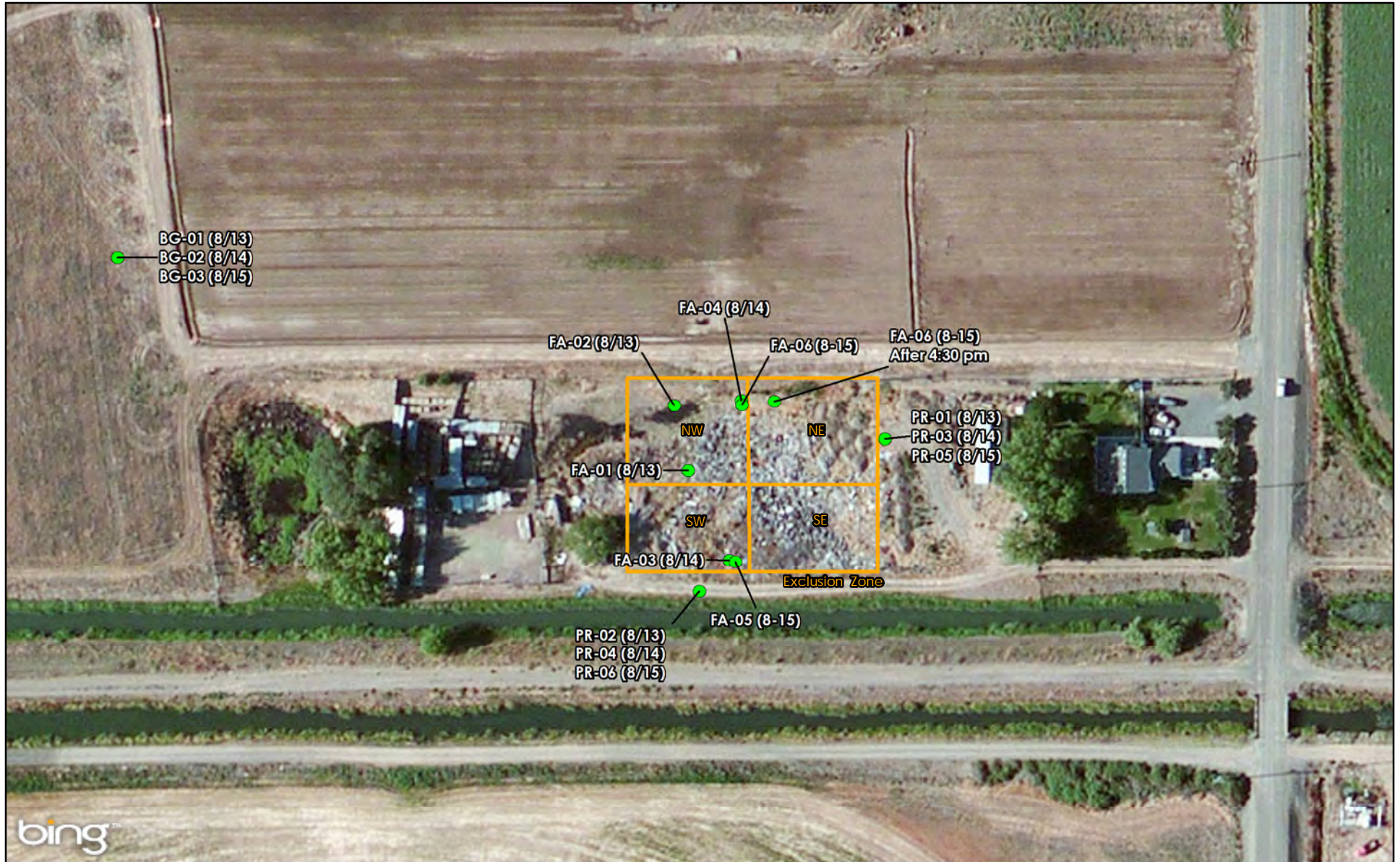
0 25 50 100
Feet



11

Sources: 2010 DigitalGlobe, USGS, 2013 Microsoft





Sources: 2010 DigitalGlobe, USGS, 2013 Microsoft





13

Sources: 2010 DigitalGlobe, USGS, 2013 Microsoft


 Estimated Fill Areas

Figure 7 – Estimated Fill Area
Ashue Road Asbestos Site, Wapato, Washington



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0 25 50 100
Feet

<p align="center">Table 1</p> <p align="center">Summary of Excavation Observations</p> <p align="center">Ashue Road Asbestos Site</p> <p align="center">Wapato, Washington</p>			
Date	Quadrant	Number of Excavations	Types of Debris Observed
8/13/2013	NW	8 Test Pits	Mostly river rock and concrete debris with rebar mixed with soil. Some additional trash/debris, including pieces of red "Danger" banner guard, a tire, roofing tiles, electrical wires, tarp, plastic.
8/14/2013	SW	5 Test Pit 1 Trench	Mostly river rock and concrete debris with rebar mixed with soil, including large pieces that looked like footers and traffic bollards. Additional debris includes red "Danger" banner guard, asphalt, wire, and wood debris.
8/15/2013	NE	2 Trenches	River rock and concrete debris with rebar mixed with soil. Noticeably more trash and debris than NW and SW quadrants, including red "Danger" banner guard, roofing material, an auto battery, pieces of metal, a cylinder-shaped object, PVC pipe, a crushed drum, a fiber-glass water tank, possible burn barrel, a crushed metal stove pipe, wooden debris, broken cinder blocks, crushed child's bicycle, wooden beams (10-15' long), electrical box, roofing material and shingles, carpet, dimensional lumber, tires and wheel, large piece of metal (approximately 20'x10'), buried drum, additional roofing asphalt shingles, tree trunks.
8/15/2013	SE	1 Trench	Soil and cobbles, concrete with rebar (including 2 large concrete slabs), wood, cinderblock debris, with larger pieces of lumber and tree pieces. Additional debris/trash includes tires, bundles of wire, large pieces of trees, roofing tile, PVC conduit, cordless drill battery, empty gas can.

Key:

NE = northeast
 NW = northwest
 SE = southeast
 SW = southwest

<p align="center">Table 2</p> <p align="center">PLM Results for Bulk Material Samples</p> <p align="center">Ashue Road Asbestos Site</p> <p align="center">Wapato, Washington</p>						
Sample Date	EPA Sample ID	Location ID	Quadrant	Type of Material	Lab Description	PLM Results EPA 600/R-93-116 (%)
8/13/2013	13080051	BK-01	NE	Piece of possible gypsum wallboard	Fine compact powder, off-white	NAD
8/13/2013	13080052	BK-02	NW	Wire insulation	Vinyl, gray	NAD
8/13/2013	13080053	BK-03	NW	Rubber gasket	Vinyl, gray	NAD
8/13/2013	13080054	BK-04	NW	Vinyl sheeting - possible blue tarp or liner	Vinyl, blue/off-white w/ fibers	NAD
8/13/2013	13080055	BK-05	NW	Wire sheathing	Rubbery material, black w/ fibers	NAD
8/13/2013	13080056	BK-06	NW	Plastic; possible cement-board	Fibrous powder, white	NAD
8/13/2013	13080057	BK-07	NW	Vinyl floor tile	Brittle vinyl, white	NAD
8/13/2013	13080058	BK-08	NW	Acoustical ceiling tile	Paint, white	NAD
					Compressed fibers, brown	NAD
8/13/2013	13080059	BK-09	NW	Acoustical ceiling tile (duplicate of BK-08)	Paint, white	NAD
					Compressed fibers, brown	NAD
8/13/2013	13080060	BK-10	NW	Roofing material	Fibrous tar, black	NAD
8/13/2013	13080061	BK-11	NW	Roofing material	Fibrous tar, black	NAD
8/14/2013	13080062	BK-12	SW	Fiberglass	Fibrous material w/ gray coating	NAD
8/15/2013	13080063	BK-13	NE	Roofing material	Brittle rocky fibrous tar, w/ gray powder	NAD
8/15/2013	13080064	BK-14	NE	Ceramic tile	Ceramic tile, white	NAD
					Granular compact powder, off-white	NAD
8/15/2013	13080065	BK-15	NE	Roofing tile	Rocky fibrous tar, black	NAD
8/15/2013	13080066	BK-16	NE	Roofing tile (3-tab)	Rocky fibrous tar, black	NAD
8/15/2013	13080067	BK-17	NE	Roofing tile	Rocky fibrous tar, black	NAD
8/15/2013	13080068	BK-18	NE	Roofing tile	Rocky fibrous tar, black	NAD
8/15/2013	13080069	BK-19	SE	Felt/tar paper	Tar paper, black	NAD
8/15/2013	13080070	BK-20	SE	Double-layer roofing material	Rocky fibrous tar, black	NAD
					Fibrous tar, black	NAD

Key:

% = per cent

BK = bulk

EPA = United States Environmental Protection Agency

ID = identification

N/A = not applicable

NAD = no asbestos detected

NE = northeast

NW = northwest

PLM = polarized light microscopy

SE = southeast

SW = southwest

Table 3
Air Sample Results
Ashue Road Asbestos Site
Wapato, Washington

EPA Sample ID	Location ID	Sample Date	Air Sampling Information			ISO 10312 TEM Results							
			Sample Duration (min)	Average Flow Rate (Lpm)	Sample Volume (L)	Method	Analytical Sensitivity (s/cc)	Total Asbestos and Libby-Other Amphibole Structures			PCM-Equivalent Fibers		
								Fiber Count	Asbestos Concentration (s/cc)	Fiber Type	Fiber Count	Asbestos Concentration (s/cc)	Fiber Type
Personal Samples													
13080002	START-01	8/13/2013	299	2.096	627	Direct	0.00101	13	0.013	CH, AC, ANTH	2	0.002	CH, AC
13080003	WT-01	8/13/2013	242	2.143	518	Direct	0.001	8	0.008	WN, AC, CH, ANTH, RC	1	0.001	AC
13080004	EO-01	8/13/2013	303	2.110	639	Direct	0.00099	4	0.004	CH, AC	0	< 0.001	--
13080010	START-02	8/14/2013	312	2.085	650	Direct	0.00099	4	0.004	CH, AC	1	0.001	AC
13080011	WT-02	8/14/2013	247	2.120	524	Direct	0.001	3	0.003	CH , Fe-H, RC	2	0.002	Fe-H, RC
13080012	EO-02	8/14/2013	365	2.076	758	Direct	0.00102	6	0.006	ANTH, AC, CH	1	0.001	CH
13080018	START-03	8/15/2013	302	2.057	621	Direct	0.00101	12	0.012	AC, CH	2	0.002	AC
13080019	WT-03	8/15/2013	192	2.084	400	Direct	0.00104	7	0.007	CH, AC	0	< 0.001	--
13080020	EO-03	8/15/2013	489	2.097	1025	Indirect	0.001	14	0.014	CH, AC, AM	1	0.001	AM
13080025	EO-03 (field duplicate)	8/15/2013	487	2.258	1099	Direct	0.00098	4	0.004	Fe-H, CH	0	< 0.001	--
13080026	Field Blank	8/15/2013	--	--	--	Direct	--	0	--		0	--	--
13080028	Field Blank	8/15/2013	--	--	--	Hold	--	--	--	--	--	--	--
13080030	Field Blank	8/15/2013	--	--	--	Hold	--	--	--	--	--	--	--

Table 3 Air Sample Results Ashue Road Asbestos Site Wapato, Washington													
EPA Sample ID	Location ID	Sample Date	Air Sampling Information			ISO 10312 TEM Results							
			Sample Duration (min)	Average Flow Rate (Lpm)	Sample Volume (L)		Analytical Sensitivity (s/cc)	Total Asbestos and Libby-Other Amphibole Structures			PCM-Equivalent Fibers		
								Fiber Count	Asbestos Concentration (s/cc)	Fiber Type	Fiber Count	Asbestos Concentration (s/cc)	Fiber Type
Area/Ambient Samples													
13080001	BG-01	8/13/2013	341	10.116	3449	Direct	0.00094	1	0.001	CH	0	< 0.0009	--
13080005	FA-01	8/13/2013	279	7.649	2134	Direct	0.00096	0	< 0.001	--	0	< 0.001	--
13080006	FA-02	8/13/2013	296	9.871	2922	Indirect	0.001	3	0.003	CH, AC	0	< 0.001	--
13080007	PR-01	8/13/2013	395	10.049	3969	Indirect	0.001	1	0.001	CH	0	< 0.001	--
13080008	PR-02	8/13/2013	291	10.075	2932	Direct	0.00094	1	0.001	CH	0	< 0.001	--
13080009	BG-02	8/14/2013	564	10.271	5793	Indirect	0.001	7	0.009	ANTH, AC, CH	0	< 0.001	--
13080013	FA-03	8/14/2013	409	9.986	4084	Indirect	0.002	0	< 0.002	--	0	< 0.002	--
13080014	FA-04	8/14/2013	549	10.047	5516	Direct	0.00088	1	0.001	AC	0	< 0.001	--
13080015	PR-03	8/14/2013	594	10.786	6407	Indirect	0.001	5	0.005	AC, CH	0	< 0.001	--
13080016	PR-04	8/14/2013	420	10.674	4483	Direct	0.00096	2	0.002	CH	0	< 0.001	--
13080017	BG-03	8/15/2013	337	10.100	3404	Direct	0.00095	0	< 0.001	--	0	< 0.001	--
13080021	FA-05	8/15/2013	506	10.167	5144	Direct	0.00094	1	0.001	AC	1	0.001	AC
13080022	FA-06	8/15/2013	505	10.594	5350	Indirect	0.001	5	0.005	CH, AC	0	< 0.001	--
13080023	PR-05	8/15/2013	596	7.831	4667	Indirect	0.001	3	0.003	AC, CH	1	0.001	AC
13080024	PR-06	8/15/2013	505	11.150	5631	Not Analyzed	--	--	--	--	--	--	--
13080027	Field Blank	8/15/2013	--	--	--	Direct	--	0	--	--	0	--	--
13080029	Field Blank	8/15/2013	--	--	--	Hold	--	--	--	--	--	--	--
13080031	Field Blank	8/15/2013	--	--	--	Hold	--	--	--	--	--	--	--

Notes: A **BOLD** result indicates asbestos was detected.

Key:

-- = not applicable
 EO = excavator operator
 EPA = United States Environmental Protection Agency
 ID = identification
 ISO = International Organization for Standardization
 L = liter
 Lpm = liters per minute
 min = minute
 PCM = phase contrast microscopy
 s/cc = structures per cubic centimeter
 START = Superfund Technical Assessment and Response Team
 TEM = Transmission Electron Microscopy
 U = The material was analyzed for but was not detected. The associated numerical value is the analytical sensitivity.
 WT = water truck

Fiber Types:

AC = actinolite
 AM = amosite
 ANTH = anthophyllite
 CH = chrysotile
 Fe-H = ferrohornblende
 RC = richterite
 WN = winchite

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ATTACHMENT 1

Photographic Documentation

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ASHUE ROAD ASBESTOS
Wapato, Washington



Photo 1 Ashue Road Asbestos Site during EPA removal action.

Direction: Northwest Date: 8/14/13 Time: 11:02 Taken by: SH



Photo 3 EPA's command post and support/rest zone.

Direction: Northeast Date: 8/13/13 Time: 14:48 Taken by: JM

TDD Number: 12-10-0001
Photographed by: Steve Hall (SH), Jake Moersen (JM),
Eric Nuchims (EN)



Photo 2 View of the site from the support zone through the contaminant reduction zone (CRZ), with test pit excavation in the background.

Direction: West Date: 8/13/13 Time: 14:42 Taken by: JM



Photo 4 Northwest corner of debris pile, sloping down into the property's pond.

Direction: West Date: 8/16/13 Time: 08:56 Taken by: SH



Photo 5 Excavation of a test pit in the southwest quadrant.

Direction: Northeast Date: 8/14/13 Time: 11:06 Taken by: SH



Photo 6 ERRS loads concrete from excavator to loader.

Direction: Northeast Date: 8/13/13 Time: 14:46 Taken by: JM



Photo 7 ERRS places concrete into stockpile in southeast quadrant.

Direction: East Date: 8/13/13 Time: 14:49 Taken by: JM



Photo 8 Concrete stockpiled by ERRS in southeast quadrant

Direction: Southwest Date: 8/13/13 Time: 14:43 Taken by: JM

ASHUE ROAD ASBESTOS
Wapato, Washington



Photo 9 Water truck operator sprays water for dust control.

Direction: Northeast Date: 8/13/13 Time: 12:38 Taken by: SH

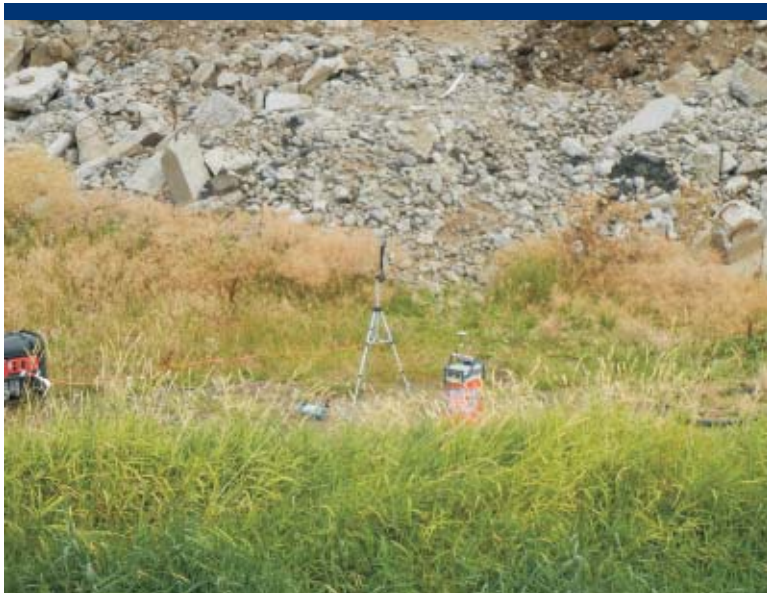


Photo 11 Perimeter air sampler PR04 with DataRAM dust monitor near southwest corner of debris pile.

Direction: North Date: 8/14/13 Time: 11:05 Taken by: SH

TDD Number: I2-I0-0001
Photographed by: Steve Hall (SH), Jake Moersen (JM),
Eric Nuchims (EN)



Photo 10 Perimeter air sampler PR01 and DataRAM dust monitor at boundary of exclusion zone near the CRZ.

Direction: West Date: 8/13/13 Time: 14:42 Taken by: JM



Photo 12 Close-up of air sampler (PR02) and DataRAM dust monitor near southwest corner of debris pile.

Direction: Northeast Date: 8/13/13 Time: 14:46 Taken by: JM



Photo 13 Fill area air sampler FA-01 in northwest quadrant.

Direction: Northwest Date: 8/13/13 Time: 11:19 Taken by: JM



Photo 14 Personal air sampler START-01.

Direction: Close-up Date: 8/13/13 Time: 11:16 Taken by: JM



Photo 15 Excavator begins a test pit in the NW quadrant.

Direction: Southeast Date: 8/13/13 Time: 11:52 Taken by: SH



Photo 16 Close-up of concrete in debris pile, with wire and other trash.

Direction: Down Date: 8/13/13 Time: 11:42 Taken by: SH



Photo 17 Interior of test pit in northwest quadrant, with river rock, concrete, rebar, and wire.

Direction: Down Date: 8/13/13 Time: 15:06 Taken by: EN



Photo 18 Debris pile with acoustical ceiling tile and wood debris.

Direction: Down Date: 8/13/13 Time: 16:57 Taken by: SH



Photo 19 Groundwater at bottom of test pit in southwest quadrant.

Direction: Down Date: 8/14/13 Time: 09:01 Taken by: SH



Photo 20 Groundwater in test trench in southwest quadrant.

Direction: Down Date: 8/14/13 Time: 17:01 Taken by: SH



Photo 21 Lawn mower deck and other debris found in trench in northeast quadrant.

Direction: Northeast Date: 8/15/13 Time: 10:43 Taken by: EN



Photo 22 Metal debris from trench in northeast quadrant.

Direction: Down Date: 8/15/13 Time: 12:11 Taken by: EN

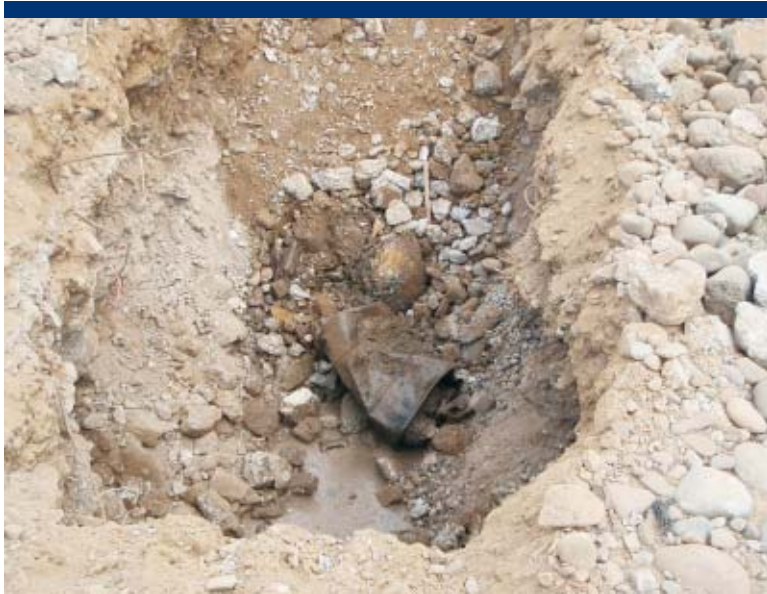


Photo 23 Crushed drum found at bottom of trench in northeast quadrant.

Direction: Down/East Date: 8/15/13 Time: 14:25 Taken by: EN



Photo 24 Close-up of roofing material recovered from trench in northeast quadrant.

Direction: Down Date: 8/15/13 Time: 14:46 Taken by: EN



Photo 25 Trash at bottom of trench in northeast quadrant.

Direction: Down/East Date: 8/15/13 Time: 14:59 Taken by: EN



Photo 26 Large, yellow piece of metal found in trench in northeast quadrant.

Direction: Northeast Date: 8/15/13 Time: 15:00 Taken by: EN



Photo 27 Groundwater and trash in bottom of trench in northeast quadrant.

Direction: Down/Northeast Date: 8/15/13 Time: 15:02 Taken by: EN



Photo 28 Trash and roofing material recovered from trench in northeast quadrant.

Direction: West Date: 8/15/13 Time: 15:10 Taken by: EN



Photo 29 Interior of trench in southeast quadrant, with trash and debris in south side wall.

Direction: Down/Southwest Date: 8/15/13 Time: 16:23 Taken by: EN



Photo 30 Car battery and cordless tool battery pack found in trench in southeast quadrant.

Direction: Down Date: 8/15/13 Time: 16:58 Taken by: SH

ASHUE ROAD ASBESTOS
Wapato, Washington



Photo 31 ERRS loads concrete debris into truck for off-site disposal.

Direction: Northwest Date: 8/15/13 Time: 08:02 Taken by: SH

TDD Number: 12-10-0001
Photographed by: Steve Hall (SH), Jake Moersen (JM),
Eric Nuchims (EN)



Photo 32 ERRS loads concrete debris into truck for off-site disposal.

Direction: West Date: 8/15/13 Time: 08:00 Taken by: SH

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ATTACHMENT 2

AHERA Certification

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Certificate of Completion

This is to certify that

Steven G. Hall

has satisfactorily completed
4 hours of refresher training as an

Asbestos Building Inspector

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

140557

Certificate Number



Instructor

EPA Provider Cert. Number: 1085



Feb 13, 2013

Date(s) of Training

Exam Score: NA

Expiration Date: Feb 13, 2014

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ATTACHMENT 3

Analytical Results

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ecology and environment, inc.

Global Environmental Specialists

720 Third Avenue, Suite 1700, Seattle, WA 98104

Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 5, 2013

FROM: Mark Woodke, START-IV Chemist, E & E, Seattle, WA *MW*

TO: Steve Hall, START-IV Project Manager, E & E, Seattle, WA

SUBJ: **Data Quality Assurance Review, Ashue Road Asbestos Removal Site, Wapato, Washington**

REF: TDD: 13-08-0021 PAN: EE-004534-0014-01TT0

The data quality assurance review of 11 bulk samples collected from the Ashue Road Asbestos site in Wapato, Washington, has been completed. Polarized light microscopy (PLM; Method 40 CFR 763 Subpart F, Appendix A, PLM) asbestos analyses were performed by Lab/Cor, Inc., Portland, Oregon. The samples were numbered:

13080051	13080052	13080053	13080054	13080055	13080056
13080057	13080058	13080059	13080060	13080061	

The samples were collected on August 13, 2013.

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifier and Definition

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

Client: Ecology & Environment, Inc.
720 Third Ave
Suite 1700
Seattle, WA 98104

Report Number: 131703R02
Report Date: 08/30/2013

Job Number: 131703
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project Number: B.12-10-00001
Project Notes:

P.O. No: 019330

Client Sample ID:	13080051	Sample ID:	S1	Date Analyzed:	08/29/2013	
Client Sample Description:				Analyst:	Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
fine compact powder, off-white	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	3 %	-	-	-	97 %
Client Sample ID:	13080052	Sample ID:	S2	Date Analyzed:	08/29/2013	
Client Sample Description:				Analyst:	Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
vinyl, gray	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	-	-	-	-	100 %
Client Sample ID:	13080053	Sample ID:	S3	Date Analyzed:	08/29/2013	
Client Sample Description:				Analyst:	Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
vinyl, gray	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	-	-	-	-	100 %
Client Sample ID:	13080054	Sample ID:	S4	Date Analyzed:	08/29/2013	
Client Sample Description:				Analyst:	Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
vinyl, blue/off white w/ fibers	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	2 %	-	15 %	-	83 %

MW 9-5-13

NVLAP

Job Number: 131703

Report Number: 131703R02

Report Date: 08/30/2013

Client Sample ID: 13080055		Sample ID: S5		Date Analyzed: 08/29/2013	
Client Sample Description:				Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer	Percent:	Chrysotile	Amosite	Crocidolite
Homogeneous					
rubbery material, black w/ fibers	100 %	-	-	-	
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
	-	-	-	12 %	-
					Matrix 88 %
Client Sample ID: 13080056		Sample ID: S6		Date Analyzed: 08/29/2013	
Client Sample Description:				Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer	Percent:	Chrysotile	Amosite	Crocidolite
Homogeneous					
fibrous powder, white	100 %	-	-	-	
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
	10 %	5 %	-	-	-
					Matrix 85 %
Client Sample ID: 13080057		Sample ID: S7		Date Analyzed: 08/29/2013	
Client Sample Description:				Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer	Percent:	Chrysotile	Amosite	Crocidolite
Homogeneous					
brittle vinyl, white	100 %	-	-	-	
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
	-	-	-	-	-
					Matrix 100 %
Client Sample ID: 13080058		Sample ID: S8		Date Analyzed: 08/29/2013	
Client Sample Description:				Analyst: Stephanie Golden	
Asbestos Mineral Fibers	Layer	Percent:	Chrysotile	Amosite	Crocidolite
Layer 01					
paint, white	5 %	-	-	-	
Layer 02					
compressed fibers, brown	95 %	-	-	-	
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other
Layer 01	-	-	-	-	-
Layer 02	-	100 %	-	-	-
					Matrix 100 %
					0 %

7/16
95-B

Job Number: 131703

Report Number: 131703R02

Report Date: 08/30/2013

Client Sample ID:	13080059	Sample ID:	S9	Date Analyzed:	08/29/2013	
Client Sample Description:				Analyst:	Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Layer 01						
paint, white	5 %	-	-	-		NAD
Layer 02						
compressed fibers, brown	95 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	100 %	-	-	-	0 %


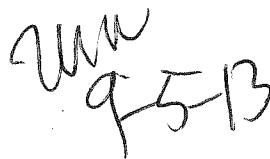
Client Sample ID:	13080060	Sample ID:	S10	Date Analyzed:	08/29/2013	
Client Sample Description:				Analyst:	Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
fibrous tar, black	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	25 %	-	-	-	75 %

Client Sample ID:	13080061	Sample ID:	S11	Date Analyzed:	08/29/2013	
Client Sample Description:				Analyst:	Stephanie Golden	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
fibrous tar, black	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	-	25 %	-	-	-	75 %

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP).
Testing method is per 40 CFR 763 Subpart F, Appendix A, PLM.

Layered samples are considered non-homogeneous. "Misc" is miscellaneous. "NAD" is No Asbestos Detected.
Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.
Small diameter fibers such as those found in vinyl floor tiles, may not be detected by PLM.
Asbestos detection interferences may result from material binders.
Qualitative and quantitative TEM analysis may be recommended for difficult samples.
Quantitative analysis by PLM point count or TEM is recommended for samples testing at < or = to 1% asbestos.
The following estimate of error for this method by visual estimation of asbestos percent are as follows:
1% asbestos: 0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.
This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

Reviewed by:

x Stephanie Golden
Analyst



ecology and environment, inc.

Global Environmental Specialists

720 Third Avenue, Suite 1700, Seattle, WA 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 6, 2013

FROM: Mark Woodke, START-IV Chemist, E & E, Seattle, WA *MW*

TO: Steve Hall, START-IV Project Manager, E & E, Seattle, WA

SUBJ: **Data Quality Assurance Review, Ashue Road Asbestos Removal Site, Wapato, Washington**

REF: TDD: 13-08-0021 PAN: EE-004534-0014-01TT0

The data quality assurance review of 9 bulk samples collected from the Ashue Road Asbestos site in Wapato, Washington, has been completed. Polarized light microscopy (PLM; Method 40 CFR 763 Subpart F, Appendix A, PLM) asbestos analyses were performed by Lab/Cor, Inc., Portland, Oregon. The samples were numbered:

13080062	13080063	13080064	13080065	13080066	13080067
13080068	13080069	13080070			

The samples were collected on August 14 and 15, 2013.

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifier and Definition

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

Asbestos and Environmental Analysis

Client: Ecology & Environment, Inc.

720 Third Ave
Suite 1700
Seattle, WA 98104

Report Number: 131731R02

Report Date: 08/30/2013

Job Number: 131731

P.O. No: 019330

Project Name: 10LW

Project Number: D.12-10-0001

Project Notes:

Client Sample ID:	13080062	Sample ID:	S1	Date Analyzed:	08/30/2013	
Client Sample Description:				Analyst:	Ryan Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
Fibrous material w/gray coating	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	35 %	-	-	-	-	65 %
Client Sample ID:	13080063	Sample ID:	S2	Date Analyzed:	08/30/2013	
Client Sample Description:				Analyst:	Ryan Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
Brittle rocky fibrous tar w/gray powder	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	15 %	-	-	-	-	85 %
Client Sample ID:	13080064	Sample ID:	S3	Date Analyzed:	08/30/2013	
Client Sample Description:				Analyst:	Ryan Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Layer 01						
ceramic tile, white	90 %	-	-	-		NAD
Layer 02						
granular compact powder, off white	10 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
Layer 01	-	-	-	-	-	100 %
Layer 02	-	-	-	-	-	50 %
					CaCO3	50 %
Client Sample ID:	13080065	Sample ID:	S4	Date Analyzed:	08/30/2013	
Client Sample Description:				Analyst:	Ryan Brown	
Asbestos Mineral Fibers	Layer Percent:	Chrysotile	Amosite	Crocidolite		Percent Asbestos:
Homogeneous						
rocky fibrous tar, black	100 %	-	-	-		NAD
Other Fibers	Fibrous Glass	Cellulose	Mineral Wool	Synthetic	Other	Matrix
	25 %	-	-	-	-	75 %

MW 9-5-B

NVLAP

Job Number: 131731

Report Number: 131731R02

Report Date: 08/30/2013

Client Sample ID: 13080066 **Sample ID:** S5 **Date Analyzed:** 08/30/2013
Client Sample Description: **Analyst:** Ryan Brown **Percent Asbestos:**

Asbestos Mineral Fibers Layer Percent: Chrysotile Amosite Crocidolite

Homogeneous

rocky fibrous tar, black 100 % - - - NAD

Other Fibers Fibrous Glass Cellulose Mineral Wool Synthetic Other Matrix
40 % - - - 60 %

Client Sample ID: 13080067 **Sample ID:** S6 **Date Analyzed:** 08/30/2013
Client Sample Description: **Analyst:** Ryan Brown **Percent Asbestos:**

Asbestos Mineral Fibers Layer Percent: Chrysotile Amosite Crocidolite

Homogeneous

rocky fibrous tar, black 100 % - - - NAD

Other Fibers Fibrous Glass Cellulose Mineral Wool Synthetic Other Matrix
40 % - - - 60 %

Client Sample ID: 13080068 **Sample ID:** S7 **Date Analyzed:** 08/30/2013
Client Sample Description: **Analyst:** Ryan Brown **Percent Asbestos:**

Asbestos Mineral Fibers Layer Percent: Chrysotile Amosite Crocidolite

Homogeneous

rocky fibrous tar, black 100 % - - - NAD

Other Fibers Fibrous Glass Cellulose Mineral Wool Synthetic Other Matrix
15 % - - - 85 %

Client Sample ID: 13080069 **Sample ID:** S8 **Date Analyzed:** 08/30/2013
Client Sample Description: **Analyst:** Ryan Brown **Percent Asbestos:**

Asbestos Mineral Fibers Layer Percent: Chrysotile Amosite Crocidolite

Homogeneous

tar paper, black 100 % - - - NAD

Other Fibers Fibrous Glass Cellulose Mineral Wool Synthetic Other Matrix
85 % - - - 15 %

Client Sample ID: 13080070 **Sample ID:** S9 **Date Analyzed:** 08/30/2013
Client Sample Description: **Analyst:** Ryan Brown **Percent Asbestos:**

Asbestos Mineral Fibers Layer Percent: Chrysotile Amosite Crocidolite

Layer 01

rocky fibrous tar, black 65 % - - - NAD

Layer 02

fibrous tar, black 35 % - - - NAD

Other Fibers Fibrous Glass Cellulose Mineral Wool Synthetic Other Matrix
Layer 01 15 % 2 % - - - 83 %
Layer 02 - 35 % - - - 65 %

MW 9-5-13

NVLAP

Job Number: 131731

Report Number: 131731R02

Report Date: 08/30/2013

This laboratory participates in the National Voluntary Laboratory Accreditation Program (NVLAP).
Testing method is per 40 CFR 763 Subpart F, Appendix A, PLM.

Layered samples are considered non-homogeneous. "Misc" is miscellaneous. "NAD" is No Asbestos Detected.

Asbestos consists of the following minerals: chrysotile, amosite, crocidolite, tremolite, actinolite, anthophyllite.

Small diameter fibers such as those found in vinyl floor tiles, may not be detected by PLM.

Asbestos detection interferences may result from material binders.

Qualitative and quantitative TEM analysis may be recommended for difficult samples.

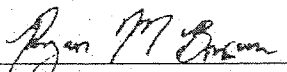
Quantitative analysis by PLM point count or TEM is recommended for samples testing at < or = to 1% asbestos.

The following estimate of error for this method by visual estimation of asbestos percent are as follows:

1% asbestos: 0-3% error, 5% asbestos: 1-9% error, 10% asbestos: 5-15% error, 20% asbestos: 10-30% error.

This report pertains only to the samples listed on the report. Report considered valid only when signed by analyst.

Reviewed by:

x 

Ryan Brown
Analyst

Wm
9-5-13



ecology and environment, inc.

Global Environmental Specialists

720 Third Avenue, Suite 1700
Seattle, Washington 98104
Tel: (206) 624-9537, Fax: (206) 621-9832

MEMORANDUM

DATE: September 11, 2013

FROM: Mark Woodke, START-IV Chemist, E & E, Seattle, WA *MW*

TO: Steve Hall, START-IV Project Manager, E & E, Seattle, WA

SUBJ: **Data Quality Assurance Review, Ashue Road Asbestos Removal Site,
Wapato, Washington**

REF: TDD: 13-08-0021 PAN: EE-004534-0014-01TT0

The data quality assurance review of 31 air filter samples collected from the Ashue Road Asbestos site in Wapato, Washington, has been completed. Transmission electron microscopy (TEM; ISO method 10312) asbestos analyses were performed by Lab/Cor, Inc., Seattle, Washington. The submitted samples were numbered:

13080001	13080002	13080003	13080004	13080005	13080006*
13080007*	13080008	13080009*	13080010	13080011	13080012
13080013*	13080014	13080015*	13080016	13080017	13080018
13080019	13080020*	13080021	13080022*	13080023*	13080024**
13080025	13080026	13080027	13080028**	13080029**	13080030**
13080031**					

The samples were collected between August 13 and 15, 2013, and were received at the laboratory between August 15 and 21, 2013. The following notes were provided by the laboratory: Multiple 5um filters were present in the cassette for sample 13080005. Blanks were analyzed to 10 s/mm2 sensitivity. No actions were taken based on these notes, but data users should treat the associated results with caution. Additionally, instead of using the ISO concentration units, the requested limits used are 0=0 str., 1=1 str.,...

* - The following samples were not analyzed by ISO method 10312 for the listed reasons: Samples 13080006 and 13080007 were overloaded with particulate at analysis – 35% coverage. The target analytical sensitivity for sample 13080009 was not met due to a 1/10 dilution. Sample 13080013 was overloaded with particulate (dark green dust) at prep. Sample 13080015 was overloaded with particulate at prep. Samples 13080020, 13080022, and 13080023 had loose particulate on filter at prep. These samples were analyzed by ISO Method 13794 and the results are provided in a separate validation memorandum.

** - Sample 13080024 was not analyzed due to a filter being blown out at prep. Field blank samples 13080028 through 13080031 were not analyzed. No results are provided for these five samples.

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifier and Definition

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

ISO 10312 - Direct Summary Data

Job Number: 130766

SEA

Client: Environmental Quality Management, Inc.

Report Number: 130766R06

Date Received: 8/15/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Lab/Cor Sample No.: S1

Client Sample No.: 13080001

Description: BG-01

Volume (L) : 3449

Lab Filter Area (mm2) : 385

Grid Openings Analyzed : 12

Average Grid Opening Area : 0.00994

Area Analyzed (mm2) : 0.11928

Analytical Sens. (struc/cc) : 0.00094

Detection Limit. (struc/cc) : 0.0028

Analyst(s) Analysis Date Microscope Magnification
KM 8/15/2013 JEOL 1200 EX 20000

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	8.4	0.001	0 - 0.005 - Poisson	1	
Total Asbestos Structures	8.4	0.001	0 - 0.005 - Poisson		1
Primary Asb and Libby-Other Amphibole Structures	8.4	0.001	0 - 0.005 - Poisson	1	
Total Asb & Libby-Other Amph Structures	8.4	0.001	0 - 0.005 - Poisson		1
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson	0	
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson		0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson		0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson	0	
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.003 - Poisson		0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.003 - Poisson		0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson		0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.003 - Poisson	0	
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.003 - Poisson	0	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson	0	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW P-H-B

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No.: S2

Client Sample No.: 13080002

Description: START-01

Analyst(s) Analysis Date Microscope Magnification
JH 8/22/2013 Hitachi 7000FA 20000

Volume (L) : 627
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 61
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.60634
Analytical Sens. (struc/cc) : 0.00101
Detection Limit. (struc/cc) : 0.00303

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	14.8	0.009	0.004 - 0.017 - Poisson	9	
Total Asbestos Structures	21.4	0.013	0.007 - 0.023 - Poisson		13
Primary Asb and Libby-Other Amphibole Structures	14.8	0.009	0.004 - 0.017 - Poisson	9	
Total Asb & Libby-Other Amph Structures	21.4	0.013	0.007 - 0.023 - Poisson		13
Asbestos Structures > 5um and 5:1	8.2	0.005	0.002 - 0.012 - Poisson	5	
Asbestos Fibers and Bundles > 5um and 5:1	3.3	0.002	0 - 0.007 - Poisson		2
Asbestos Fibers and Bundles > 5um and 3:1	3.3	0.002	0 - 0.007 - Poisson		2
Asbestos Structures > 5um and 3:1	8.2	0.005	0.002 - 0.012 - Poisson	5	
PCM Equivalent Fibers-ISO	1.6	0.001	0 - 0.006 - Poisson		1
PCM Equivalent Fibers-NIOSH	1.6	0.001	0 - 0.006 - Poisson		1
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	1.6	0.001	0 - 0.006 - Poisson		1
PCM Equivalent Structures-ISO	3.3	0.002	0 - 0.007 - Poisson	2	
PCM Equivalent Structures-NIOSH	3.3	0.002	0 - 0.007 - Poisson	2	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	3.3	0.002	0 - 0.007 - Poisson	2	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW 9/13

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No.: S3
Client Sample No.: 13080003
Description: WT-01

Volume (L) : 518
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 75
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.7455
Analytical Sens. (struc/cc) : 0.001
Detection Limit. (struc/cc) : 0.00298

Analyst(s)	Analysis Date	Microscope	Magnification
JH	8/19/2013	Hitachi 7000FA	20000
JH	8/22/2013	Hitachi 7000FA	20000
JH	8/23/2013	Hitachi 7000FA	20000

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	6.7	0.005	0.002 - 0.012 - Poisson	5
Total Asbestos Structures	6.7	0.005	0.002 - 0.012 - Poisson	5
Primary Asb and Libby-Other Amphibole Structures	10.7	0.008	0.003 - 0.016 - Poisson	8
Total Asb & Libby-Other Amph Structures	10.7	0.008	0.003 - 0.016 - Poisson	8
Asbestos Structures > 5um and 5:1	2.7	0.002	0 - 0.007 - Poisson	2
Asbestos Fibers and Bundles > 5um and 5:1	1.3	0.001	0 - 0.006 - Poisson	1
Asbestos Fibers and Bundles > 5um and 3:1	1.3	0.001	0 - 0.006 - Poisson	1
Asbestos Structures > 5um and 3:1	2.7	0.002	0 - 0.007 - Poisson	2
PCM Equivalent Fibers-ISO	1.3	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers-NIOSH	1.3	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	1.3	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	1.3	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW9-11-13

ISO 10312 - Direct Summary Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No.: S4

Client Sample No.: 13080004

Description: EO-01

Analyst(s) **Analysis Date** **Microscope** **Magnification**
KM 8/22/2013 JEOL 1200 EX 20000

Volume (L) : 639
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 61
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.60634
Analytical Sens. (struc/cc) : 0.00099
Detection Limit. (struc/cc) : 0.00297

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	4.9	0.003	0.001 - 0.009 - Poisson	3	
Total Asbestos Structures	6.6	0.004	0.001 - 0.01 - Poisson		4
Primary Asb and Libby-Other Amphibole Structures	4.9	0.003	0.001 - 0.009 - Poisson	3	
Total Asb & Libby-Other Amph Structures	6.6	0.004	0.001 - 0.01 - Poisson		4
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson	0	
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson		0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson		0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson	0	
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.004 - Poisson		0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.004 - Poisson		0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson		0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.004 - Poisson	0	
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

MM 9-11-13

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No.: S5

Client Sample No.: 13080005

Description: FA-01

Analyst(s) Analysis Date Microscope Magnification
KM 8/22/2013 JEOL 1200 EX 20000

Volume (L) : 2134
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 19
Average Grid Opening Area : 0.00994
Area Analyzed (mm2) : 0.18886
Analytical Sens. (struc/cc) : 0.00096
Detection Limit. (struc/cc) : 0.00286

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0	< 0.001	0 - 0.004 - Poisson	0
Total Asbestos Structures	0	< 0.001	0 - 0.004 - Poisson	0
Primary Asb and Libby-Other Amphibole Structures	0	< 0.001	0 - 0.004 - Poisson	0
Total Asb & Libby-Other Amph Structures	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

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ISO 10312 - Direct Summary Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06

Date Received: 8/15/2013

Lab/Cor Sample No.: S8

Client Sample No.: 13080008

Description: PR-02

Analyst(s) Analysis Date Microscope Magnification
KM 8/22/2013 JEOL 1200 EX 20000

Volume (L) : 2932

Lab Filter Area (mm2) : 385

Grid Openings Analyzed : 14

Average Grid Opening Area : 0.00994

Area Analyzed (mm2) : 0.13916

Analytical Sens. (struc/cc) : 0.00094

Detection Limit. (struc/cc) : 0.00282

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	7.2	0.001	0 - 0.005 - Poisson	1
Total Asbestos Structures	7.2	0.001	0 - 0.005 - Poisson	1
Primary Asb and Libby-Other Amphibole Structures	7.2	0.001	0 - 0.005 - Poisson	1
Total Asb & Libby-Other Amph Structures	7.2	0.001	0 - 0.005 - Poisson	1
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson	0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

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ISO 10312 - Direct Summary Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06

Date Received: 8/16/2013

Lab/Cor Sample No.: S10

Client Sample No.: 13080010

Description: START-02

Analyst(s) Analysis Date Microscope Magnification
KM 8/20/2013 JEOL 1200 EX 20000

Volume (L) : 650

Lab Filter Area (mm2) : 385

Grid Openings Analyzed : 60

Average Grid Opening Area : 0.00994

Area Analyzed (mm2) : 0.5964

Analytical Sens. (struc/cc) : 0.00099

Detection Limit. (struc/cc) : 0.00297

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	5	0.003	0.001 - 0.009 - Poisson	3
Total Asbestos Structures	5	0.003	0.001 - 0.009 - Poisson	3
Primary Asb and Libby-Other Amphibole Structures	6.7	0.004	0.001 - 0.01 - Poisson	4
Total Asb & Libby-Other Amph Structures	6.7	0.004	0.001 - 0.01 - Poisson	4
Asbestos Structures > 5um and 5:1	1.7	0.001	0 - 0.006 - Poisson	1
Asbestos Fibers and Bundles > 5um and 5:1	1.7	0.001	0 - 0.006 - Poisson	1
Asbestos Fibers and Bundles > 5um and 3:1	1.7	0.001	0 - 0.006 - Poisson	1
Asbestos Structures > 5um and 3:1	1.7	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers-ISO	1.7	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers-NIOSH	1.7	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	1.7	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW9-11-B

ISO 10312 - Direct Summary Data

Job Number: 130766

SEA

Client: Environmental Quality Management, Inc.

Report Number: 130766R06

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Lab/Cor Sample No.: S11

Client Sample No.: 13080011

Description: WT-02

Volume (L) : 524

Lab Filter Area (mm²) : 385

Grid Openings Analyzed : 74

Average Grid Opening Area : 0.00994

Area Analyzed (mm²) : 0.73556

Analytical Sens. (struc/cc) : 0.001

Detection Limit. (struc/cc) : 0.00299

Analyst(s)	Analysis Date	Microscope	Magnification
KM	8/20/2013	JEOL 1200 EX	20000
KM	8/21/2013	JEOL 1200 EX	20000

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	1.4	0.001	0 - 0.006 - Poisson	1	
Total Asbestos Structures	1.4	0.001	0 - 0.006 - Poisson		1
Primary Asb and Libby-Other Amphibole Structures	4.1	0.003	0.001 - 0.009 - Poisson	3	
Total Asb & Libby-Other Amph Structures	4.1	0.003	0.001 - 0.009 - Poisson		3
Asbestos Structures > 5um and 5:1	1.4	0.001	0 - 0.006 - Poisson	1	
Asbestos Fibers and Bundles > 5um and 5:1	1.4	0.001	0 - 0.006 - Poisson		1
Asbestos Fibers and Bundles > 5um and 3:1	1.4	0.001	0 - 0.006 - Poisson		1
Asbestos Structures >5um and 3:1	1.4	0.001	0 - 0.006 - Poisson	1	
PCM Equivalent Fibers-ISO	2.7	0.002	0 - 0.007 - Poisson		2
PCM Equivalent Fibers-NIOSH	2.7	0.002	0 - 0.007 - Poisson		2
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	2.7	0.002	0 - 0.007 - Poisson		2
PCM Equivalent Structures-ISO	2.7	0.002	0 - 0.007 - Poisson	2	
PCM Equivalent Structures-NIOSH	2.7	0.002	0 - 0.007 - Poisson	2	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	2.7	0.002	0 - 0.007 - Poisson	2	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW
9-11-B

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S12

Client Sample No.: 13080012

Description: EO-02

Analyst(s) Analysis Date Microscope Magnification
JH 8/21/2013 Hitachi 7000FA 20000

Volume (L) : 758
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 50
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.497
Analytical Sens. (struc/cc) : 0.00102
Detection Limit. (struc/cc) : 0.00306

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	12.1	0.006	0.002 - 0.013 - Poisson	6
Total Asbestos Structures	12.1	0.006	0.002 - 0.013 - Poisson	6
Primary Asb and Libby-Other Amphibole Structures	12.1	0.006	0.002 - 0.013 - Poisson	6
Total Asb & Libby-Other Amph Structures	12.1	0.006	0.002 - 0.013 - Poisson	6
Asbestos Structures > 5um and 5:1	6	0.003	0.001 - 0.009 - Poisson	3
Asbestos Fibers and Bundles > 5um and 5:1	2	0.001	0 - 0.006 - Poisson	1
Asbestos Fibers and Bundles > 5um and 3:1	2	0.001	0 - 0.006 - Poisson	1
Asbestos Structures >5um and 3:1	6	0.003	0.001 - 0.009 - Poisson	3
PCM Equivalent Fibers-ISO	2	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers-NIOSH	2	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	2	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures-ISO	2	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures-NIOSH	2	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	2	0.001	0 - 0.006 - Poisson	1

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

WV
9-11-13

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S14

Client Sample No.: 13080014

Description: FA-04

Analyst(s) Analysis Date Microscope Magnification
JH 8/20/2013 Hitachi 7000FA 20000

Volume (L) : 5516
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 8
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.07952
Analytical Sens. (struc/cc) : 0.00088
Detection Limit. (struc/cc) : 0.00262

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	12.6	0.001	0 - 0.005 - Poisson	1	
Total Asbestos Structures	12.6	0.001	0 - 0.005 - Poisson		1
Primary Asb and Libby-Other Amphibole Structures	12.6	0.001	0 - 0.005 - Poisson	1	
Total Asb & Libby-Other Amph Structures	12.6	0.001	0 - 0.005 - Poisson		1
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson	0	
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson		0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson		0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson	0	
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.003 - Poisson		0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.003 - Poisson		0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson		0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.003 - Poisson	0	
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.003 - Poisson	0	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson	0	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

JH 9-11-13

ISO 10312 - Direct Summary Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S16

Client Sample No.: 13080016

Description: PR-04

Analyst(s) **Analysis Date** **Microscope** **Magnification**
JH 8/20/2013 Hitachi 7000FA 20000

Volume (L) : 4483
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 9
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.08946
Analytical Sens. (struc/cc) : 0.00096
Detection Limit. (struc/cc) : 0.00287

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	22.4	0.002	0 - 0.007 - Poisson	2
Total Asbestos Structures	22.4	0.002	0 - 0.007 - Poisson	2
Primary Asb and Libby-Other Amphibole Structures	22.4	0.002	0 - 0.007 - Poisson	2
Total Asb & Libby-Other Amph Structures	22.4	0.002	0 - 0.007 - Poisson	2
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Handwritten signature and date: 9/11/13

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S17

Client Sample No.: 13080017

Description: BG-03

Analyst(s) Analysis Date Microscope Magnification
JH 8/20/2013 Hitachi 7000FA 20000

Volume (L) : 3404
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 12
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.11928
Analytical Sens. (struc/cc) : 0.00095
Detection Limit. (struc/cc) : 0.00284

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0	< 0.001	0 - 0.003 - Poisson	0
Total Asbestos Structures	0	< 0.001	0 - 0.003 - Poisson	0
Primary Asb and Libby-Other Amphibole Structures	0	< 0.001	0 - 0.003 - Poisson	0
Total Asb & Libby-Other Amph Structures	0	< 0.001	0 - 0.003 - Poisson	0
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.003 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson	0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.003 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.003 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

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9-11-13

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S18

Client Sample No.: 13080018

Description: START-03

Analyst(s) Analysis Date Microscope Magnification
JH 8/20/2013 Hitachi 7000FA 20000

Volume (L) : 621
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 62
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.61628
Analytical Sens. (struc/cc) : 0.00101
Detection Limit. (struc/cc) : 0.00301

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	19.5	0.012	0.006 - 0.021 - Poisson	12	
Total Asbestos Structures	19.5	0.012	0.006 - 0.021 - Poisson		12
Primary Asb and Libby-Other Amphibole Structures	19.5	0.012	0.006 - 0.021 - Poisson	12	
Total Asb & Libby-Other Amph Structures	19.5	0.012	0.006 - 0.021 - Poisson		12
Asbestos Structures > 5um and 5:1	3.2	0.002	0 - 0.007 - Poisson	2	
Asbestos Fibers and Bundles > 5um and 5:1	1.6	0.001	0 - 0.006 - Poisson		1
Asbestos Fibers and Bundles > 5um and 3:1	3.2	0.002	0 - 0.007 - Poisson		2
Asbestos Structures > 5um and 3:1	4.9	0.003	0.001 - 0.009 - Poisson	3	
PCM Equivalent Fibers-ISO	3.2	0.002	0 - 0.007 - Poisson		2
PCM Equivalent Fibers-NIOSH	3.2	0.002	0 - 0.007 - Poisson		2
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	3.2	0.002	0 - 0.007 - Poisson		2
PCM Equivalent Structures-ISO	3.2	0.002	0 - 0.007 - Poisson	2	
PCM Equivalent Structures-NIOSH	3.2	0.002	0 - 0.007 - Poisson	2	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	3.2	0.002	0 - 0.007 - Poisson	2	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

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ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S19
Client Sample No.: 13080019
Description: WT-03

Volume (L) : 400
Lab Filter Area (mm2) : 385
Grid Openings Analyzed : 93
Average Grid Opening Area : 0.00994
Area Analyzed (mm2) : 0.92442
Analytical Sens. (struc/cc) : 0.00104
Detection Limit. (struc/cc) : 0.00311

Analyst(s)	Analysis Date	Microscope	Magnification
JH	8/20/2013	Hitachi 7000FA	20000
JH	8/21/2013	Hitachi 7000FA	20000

Structure Type	Filter Density (s/mm2)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	6.5	0.006	0.002 - 0.014 - Poisson	6
Total Asbestos Structures	7.6	0.007	0.003 - 0.015 - Poisson	7
Primary Asb and Libby-Other Amphibole Structures	6.5	0.006	0.002 - 0.014 - Poisson	6
Total Asb & Libby-Other Amph Structures	7.6	0.007	0.003 - 0.015 - Poisson	7
Asbestos Structures > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW 9-11-13

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S21

Client Sample No.: 13080021

Description: FA-05

Analyst(s) Analysis Date Microscope Magnification
KM 8/20/2013 JEOL 1200 EX 20000

Volume (L) : 5144
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 8
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.07952
Analytical Sens. (struc/cc) : 0.00094
Detection Limit. (struc/cc) : 0.00281

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	12.6	0.001	0 - 0.005 - Poisson	1	
Total Asbestos Structures	12.6	0.001	0 - 0.005 - Poisson		1
Primary Asb and Libby-Other Amphibole Structures	12.6	0.001	0 - 0.005 - Poisson	1	
Total Asb & Libby-Other Amph Structures	12.6	0.001	0 - 0.005 - Poisson		1
Asbestos Structures > 5um and 5:1	12.6	0.001	0 - 0.005 - Poisson	1	
Asbestos Fibers and Bundles > 5um and 5:1	12.6	0.001	0 - 0.005 - Poisson		1
Asbestos Fibers and Bundles > 5um and 3:1	12.6	0.001	0 - 0.005 - Poisson		1
Asbestos Structures > 5um and 3:1	12.6	0.001	0 - 0.005 - Poisson	1	
PCM Equivalent Fibers-ISO	12.6	0.001	0 - 0.005 - Poisson		1
PCM Equivalent Fibers-NIOSH	12.6	0.001	0 - 0.005 - Poisson		1
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	12.6	0.001	0 - 0.005 - Poisson		1
PCM Equivalent Structures-ISO	12.6	0.001	0 - 0.005 - Poisson	1	
PCM Equivalent Structures-NIOSH	12.6	0.001	0 - 0.005 - Poisson	1	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	12.6	0.001	0 - 0.005 - Poisson	1	

* Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

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ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S25

Client Sample No.: 13080025

Description: EO-03

Analyst(s) Analysis Date Microscope Magnification
KM 8/20/2013 JEOL 1200 EX 20000

Volume (L) : 1099

Lab Filter Area (mm²) : 385

Grid Openings Analyzed : 36

Average Grid Opening Area : 0.00994

Area Analyzed (mm²) : 0.35784

Analytical Sens. (struc/cc) : 0.00098

Detection Limit. (struc/cc) : 0.00293

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	8.4	0.003	0.001 - 0.009 - Poisson	3	
Total Asbestos Structures	8.4	0.003	0.001 - 0.009 - Poisson		3
Primary Asb and Libby-Other Amphibole Structures	11.2	0.004	0.001 - 0.01 - Poisson	4	
Total Asb & Libby-Other Amph Structures	11.2	0.004	0.001 - 0.01 - Poisson		4
Asbestos Structures > 5um and 5:1	2.8	0.001	0 - 0.005 - Poisson	1	
Asbestos Fibers and Bundles > 5um and 5:1	0	< 0.001	0 - 0.004 - Poisson		0
Asbestos Fibers and Bundles > 5um and 3:1	0	< 0.001	0 - 0.004 - Poisson		0
Asbestos Structures > 5um and 3:1	2.8	0.001	0 - 0.005 - Poisson	1	
PCM Equivalent Fibers-ISO	0	< 0.001	0 - 0.004 - Poisson		0
PCM Equivalent Fibers-NIOSH	0	< 0.001	0 - 0.004 - Poisson		0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson		0
PCM Equivalent Structures-ISO	0	< 0.001	0 - 0.004 - Poisson	0	
PCM Equivalent Structures-NIOSH	0	< 0.001	0 - 0.004 - Poisson	0	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	< 0.001	0 - 0.004 - Poisson	0	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MWg-HB

ISO 10312 - Direct Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No.: S26

Client Sample No.: 13080026

Description: Field Blank

Analyst(s) Analysis Date Microscope Magnification
KM 8/23/2013 JEOL 1200 EX 20000

Volume (L) : 0
Lab Filter Area (mm²) : 385
Grid Openings Analyzed : 11
Average Grid Opening Area : 0.00994
Area Analyzed (mm²) : 0.10934
Analytical Sens. (struc/cc) : NA
Detection Limit. (struc/cc) : NA

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total	
Primary Asbestos Structures	0	Not Applicable	Not Applicable	0	
Total Asbestos Structures	0	Not Applicable	Not Applicable		0
Primary Asb and Libby-Other Amphibole Structures	0	Not Applicable	Not Applicable	0	
Total Asb & Libby-Other Amph Structures	0	Not Applicable	Not Applicable		0
Asbestos Structures > 5um and 5:1	0	Not Applicable	Not Applicable	0	
Asbestos Fibers and Bundles > 5um and 5:1	0	Not Applicable	Not Applicable		0
Asbestos Fibers and Bundles > 5um and 3:1	0	Not Applicable	Not Applicable		0
Asbestos Structures > 5um and 3:1	0	Not Applicable	Not Applicable	0	
PCM Equivalent Fibers-ISO	0	Not Applicable	Not Applicable		0
PCM Equivalent Fibers-NIOSH	0	Not Applicable	Not Applicable		0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	Not Applicable	Not Applicable		0
PCM Equivalent Structures-ISO	0	Not Applicable	Not Applicable	0	
PCM Equivalent Structures-NIOSH	0	Not Applicable	Not Applicable	0	
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	Not Applicable	Not Applicable	0	

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MWGH-B

ISO 10312 - Direct Summary Data

Job Number: 130766

SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Lab/Cor Sample No.: S27

Volume (L) : 0

Client Sample No.: 13080027

Lab Filter Area (mm²) : 385

Description: Field Blank

Grid Openings Analyzed : 11

Analyst(s) Analysis Date Microscope Magnification
KM 8/23/2013 JEOL 1200 EX 20000

Average Grid Opening Area : 0.00994

Area Analyzed (mm²) : 0.10934

Analytical Sens. (struc/cc) : NA

Detection Limit. (struc/cc) : NA

Structure Type	Filter Density (s/mm ²)	Concentration* (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0	Not Applicable	Not Applicable	0
Total Asbestos Structures	0	Not Applicable	Not Applicable	0
Primary Asb and Libby-Other Amphibole Structures	0	Not Applicable	Not Applicable	0
Total Asb & Libby-Other Amph Structures	0	Not Applicable	Not Applicable	0
Asbestos Structures > 5um and 5:1	0	Not Applicable	Not Applicable	0
Asbestos Fibers and Bundles > 5um and 5:1	0	Not Applicable	Not Applicable	0
Asbestos Fibers and Bundles > 5um and 3:1	0	Not Applicable	Not Applicable	0
Asbestos Structures > 5um and 3:1	0	Not Applicable	Not Applicable	0
PCM Equivalent Fibers-ISO	0	Not Applicable	Not Applicable	0
PCM Equivalent Fibers-NIOSH	0	Not Applicable	Not Applicable	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0	Not Applicable	Not Applicable	0
PCM Equivalent Structures-ISO	0	Not Applicable	Not Applicable	0
PCM Equivalent Structures-NIOSH	0	Not Applicable	Not Applicable	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0	Not Applicable	Not Applicable	0

¹ Concentration and 95% Confidence Level are calculated based upon the number showing under the Structure Count header.

Reviewed by:

x 

Kate March
Analyst

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No: S1
Client Sample No: 13080001
Description: BG-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C34				NSD							
G1	2	E33				NSD							
G1	3	E42	CDQ	1	1	F	0.9	0.1	9	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J23808SP			KM	8/15/2013	
							Diffraction	J23808DF			KM	8/15/2013	0.53nm ROW SPACING
							Brightfield	J23808BF					
G1	4	F41				NSD							
G1	5	F44				NSD							
G1	6	G43				NSD							
G2	7	C34				NSD							
G2	8	E33				NSD							
G2	9	E42				NSD							
G2	10	F41				NSD							
G2	11	F44				NSD							
G2	12	G43				NSD							

MW EHB

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No: S2
Client Sample No: 13080002
Description: START-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	F23	CDQ	1		MD 1-1	7	2	3.5	Chrysotile			AS>5, PCMES-ISO, PCMES-NIOSH, AS>5, 3:1, PCMESmodNIOSH, PAOS
G1	1	F23	CDQ		1	MF	6.9	0.06	115	Chrysotile	Mg, Si		AFB>5, TAOS, AFB>5, 3:1
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23984BF						
						Diffraction	F23984DF				JH 8/22/2013	0.53 NM ROW SPACING	
						Spectra	F23984SP				JH 8/22/2013		
G1	1	F23	CDQ		2	MF	3.8	0.06	63.3	Chrysotile	Mg, Si	SEE IMAGE F23984BF	TAOS
G1	1	F23	ADQ	2	3	B	8.2	1.2	6.8	Actinolite	Na, Mg, Al, Si, K, Ca, Ti, Mn, Fe		AS>5, PCMEF-ISO, PCMES-ISO, AFB>5, PCMEF-NIOSH, PCMES-NIOSH, TAOS, AS>5, 3:1, AFB>5, 3:1, PCMEFmodNIOSH, PCMESmodNIOSH, PAOS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23985BF						
						Spectra	F23985SP						
						Diffraction	F23985DF				JH 8/22/2013	0.53 NM ROW SPACING	
G1	2	C24				NSD							
G1	3	E23				NSD							
G1	4	E24				NSD							
G1	5	F24				NSD							
G1	6	G23				NSD							
G1	7	G24	CDQ	3	4	MC 1-0	8	5.7	1.4	Chrysotile	Mg, Si		AS>5, TAOS, AS>5, 3:1, PAOS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23987BF						
						Diffraction	F23987DF				JH 8/22/2013	0.53 NM ROW SPACING	
						Spectra	F23987SP				JH 8/22/2013		
G1	8	H33				NSD							
G1	9	G34	CD	4		MD 4-0	10	5.4	1.9	Chrysotile			AS>5, AS>5, 3:1, PAOS
G1	9	G34	CD		5	MF	3.2	0.05	64	Chrysotile		VISUAL DIFFRACTION	TAOS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23988BF						
						Spectra	F23988SP						
G1	9	G34	CD		6	MF	3.1	0.05	62	Chrysotile			TAOS
G1	9	G34	CD		7	MF	1.3	0.05	26	Chrysotile			TAOS
G1	9	G34	CD		8	MF	0.9	0.05	18	Chrysotile			TAOS

Mike P-HB

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No: S2
Client Sample No: 13080002
Description: START-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	10	G33				NSD							
G1	11	F34				NSD							
G1	12	F33				NSD							
G1	13	E34				NSD							
G1	14	E33				NSD							
G1	15	C34				NSD							
G1	16	C33				NSD							
G1	17	B34				NSD							
G1	18	B33				NSD							
G1	19	B42	CDQ	5	9	MC 1-0	8	5.2	1.5	Chrysotile	Mg, Si		AS>5, TAOS, AS>5, 3:1, PAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F23990BF						
						Diffraction	F23990DF		JH	8/22/2013	0.53 NM ROW SPACING		
						Spectra	F23990SP		JH	8/22/2013			
G1	20	B41				NSD							
G1	21	C41	CDQ	6	10	F	2.5	0.06	41.7	Chrysotile	Mg, Si		TAOS, PAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F23991BF						
						Diffraction	F23991DF		JH	8/22/2013	0.53 NM ROW SPACING		
						Spectra	F23991SP		JH	8/22/2013			
G1	22	C42				NSD							
G1	23	E41				NSD							
G1	24	E42				NSD							
G1	25	F41				NSD							
G1	26	F42				NSD							
G1	27	G41				NSD							
G1	28	G42				NSD							
G1	29	H41				NSD							
G1	30	H43				NSD							
G1	31	G44				NSD							
G2	32	C33				NSD							
G2	33	C34				NSD							
G2	34	E33				NSD							
G2	35	E34				NSD							
G2	36	F33				NSD							
G2	37	F34				NSD							
G2	38	G33				NSD							
G2	39	G34				NSD							

MWPHB

ISO 10312 - Direct Raw Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No: S2

Client Sample No: 13080002

Description: START-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G2	40	H33				NSD							
G2	41	H41				NSD							
G2	42	G42				NSD							
G2	43	G41				NSD							
G2	44	F42				NSD							
G2	45	F41				NSD							
G2	46	E42				NSD							
G2	47	E41				NSD							
G2	48	C42				NSD							
G2	49	C41				NSD							
G2	50	B42				NSD							
G2	51	C43				NSD							
G2	52	C44				NSD							
G2	53	E43				NSD							
G2	54	E44				NSD							
G2	55	F43				NSD							
G2	56	F44	AQ	7		MD 1-0	3	0.8	3.8	Actinolite			PAOS
G2	56	F44	AQ		11	MB	3	0.5	6	Actinolite	Mg, Al, Si, Ca, Ti, Mn, Fe	TOO THICK FOR DIFFRACTION	TAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F24028BF						
						Spectra	F24028SP		JH 8/22/2013				
G2	57	G43				NSD							
G2	58	G44	ADQ	8	12	F	4.9	0.6	8.2	Anthophyllite	Mg, Al, Si, K, Ca, Cr, Mn, Fe		TAOS, PAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F24029BF						
						Diffraction	F24029DF		JH 8/22/2013		0.53 NM ROW SPACING		
						Spectra	F24029SP		JH 8/22/2013				
G2	59	H43				NSD							
G2	60	H44				NSD							
G2	61	H51	AQ	9		MD 1-0	4	2.5	1.6	Actinolite			PAOS
G2	61	H51	AQ		13	MF	1.4	0.25	5.6	Actinolite	Na, Mg, Al, Si, K, Ca, Ti, Mn, Fe		TAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F24030BF						
						Spectra	F24030SP		JH 8/22/2013				

[Handwritten Signature]

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No: S3
Client Sample No: 13080003
Description: WT-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C32				NSD							
G1	2	E31				NSD							
G1	3	E32				NSD							
G1	4	F31				NSD							
G1	5	F32				NSD							
G1	6	G31				NSD							
G1	7	G32				NSD							
G1	8	H31				NSD							
G1	9	H33	ADQ	1	1	F	2.3	0.48	4.8	Winchite	Na, Mg, Al, Si, K, Ca, Fe		TAOS, PAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F23849BF						
						Diffraction	F23849DF		JH 8/19/2013		0.53 NM ROW SPACING		
						Spectra	F23849SP		JH 8/19/2013				
G1	10	G34				NSD							
G1	11	G33				NSD							
G1	12	F34				NSD							
G1	13	F33				NSD							
G1	14	E34				NSD							
G1	15	E33	ADQ	2	2	F	2.5	0.6	4.2	Actinolite	Na, Mg, Al, Si, Ca, Mn, Fe		TAOS, PAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F23850BF		JH 8/19/2013				
						Diffraction	F23850DF		JH 8/19/2013		0.53 NM ROW SPACING		
						Spectra	F23850SP						
G1	15	E33	AQ	3	3	F	1.4	0.45	3.1	Actinolite	Na, Mg, Al, Si, Ca, Mn, Fe		TAOS, PAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F23851BF						
						Spectra	F23851SP		JH 8/19/2013				
G1	16	C34				NSD							
G1	17	C33				NSD							
G1	18	B34				NSD							
G1	19	C41				NSD							
G1	20	C42				NSD							
G1	21	E41				NSD							
G1	22	E42				NSD							

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No: S3
Client Sample No: 13080003
Description: WT-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	23	F41	OO	4	4	F	2.7	0.24	11.2	Winchite	Na, Mg, Al, Si, Ca, Fe			TAOS, PAOS
							ItemType	ItemNum	Confirmed		Comment			
							Brightfield	F23854BF						
							Spectra	F23854SP						
G1	24	F42				NSD								
G1	25	G41				NSD								
G1	26	G42				NSD								
G1	27	H41				NSD								
G1	28	H42				NSD								
G1	29	H44				NSD								
G1	30	H43				NSD								
G1	31	G44				NSD								
G1	32	G43				NSD								
G1	33	F44				NSD								
G1	34	F43				NSD								
G1	35	E44				NSD								
G1	36	E43				NSD								
G1	37	C44				NSD								
G1	38	C43				NSD								
G2	39	B52				NSD								
G2	40	C51				NSD								
G2	41	C52				NSD								
G2	42	E51				NSD								
G2	43	E52				NSD								
G2	44	F51				NSD								
G2	45	F52				NSD								
G2	46	G51				NSD								
G2	47	G52				NSD								
G2	48	H51				NSD								
G2	49	H52	CMQ	5	5	MC 1-0	18	13	1.4	Chrysotile	Mg, Si			AS>5, TAOS, AS>5, 3:1, PAOS
							ItemType	ItemNum	Confirmed		Comment			
							Brightfield	F24033BF						
							Spectra	F24033SP	JH 8/22/2013					
G2	50	G43				NSD								
G2	51	F44				NSD								
G2	52	F43				NSD								
G2	53	E44				NSD								

ISO 10312 - Direct Raw Data

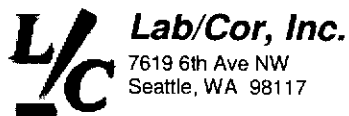
Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

Lab/Cor Sample No: S3
Client Sample No: 13080003
Description: WT-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G2	54	E43				NSD							
G2	55	C44				NSD							
G2	56	C43				NSD							
G2	57	B44				NSD							
G2	58	C41				NSD							
G2	59	C42	ADQ	6	6	F	3	0.7	4.3	Anthophyllite	Na, Mg, Al, Si, K, Ca, Mn, Fe		TAOS, PAOS
						ItemType	ItemNum		Confirmed		Comment		
						Brightfield	F24036BF						
						Spectra	F24036SP		JH 8/22/2013				
						Diffraction	F24036DF		JH 8/22/2013		0.53 NM ROW SPACING		
G2	60	E41				NSD							
G2	61	E42	ADQ	7	7	MC 2-1	27	8	3.4	Richterite	Na, Mg, Al, Si, K, Ca, Ti, Fe		PCMES-NIOSH, TAOS, PAOS
						ItemType	ItemNum		Confirmed		Comment		
						Brightfield	F24037BF						
						Diffraction	F24037DF		JH 8/23/2013		0.53 NM ROW SPACING		
						Spectra	F24037SP		JH 8/23/2013				
G2	62	F41				NSD							
G2	63	F42				NSD							
G2	64	G41				NSD							
G2	65	G42				NSD							
G2	66	H41				NSD							
G2	67	H42	ADQ	8		MD 1-1	42	24	1.8	Actinolite			AS>5, AS>5, 3:1, PAOS
G2	67	H42	ADQ		8	MB	8.7	0.55	15.8	Actinolite			PCMEF-ISO, AFB>5, PCMEF-NIOSH, TAOS, AFB>5, 3:1, PCMEFmodNIOSH
						ItemType	ItemNum		Confirmed		Comment		
						Brightfield	F24039BF						
						Diffraction	F24039DF		JH 8/23/2013		0.53 NM ROW SPACING		
						Spectra	F24039SP		JH 8/23/2013				
G2	68	K41				NSD							
G2	69	G34				NSD							
G2	70	G33				NSD							
G2	71	F34				NSD							
G2	72	F33				NSD							
G2	73	E34				NSD							
G2	74	E33				NSD							

MW PFB



Final Report

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ISO 10312 - Direct Raw Data

Job Number: 130766

SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/15/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: A.12-10-0001

Lab/Cor Sample No: S3

Client Sample No: 13080003

Description: WT-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G2	75	C34				NSD							

ISO 10312 - Direct Raw Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: A.12-10-0001

Report Number: 130766R06

Date Received: 8/15/2013

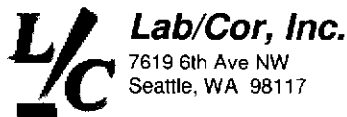
Lab/Cor Sample No: S4

Client Sample No: 13080004

Description: EO-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C23				NSD							
G1	2	C24				NSD							
G1	3	E23				NSD							
G1	4	E24				NSD							
G1	5	F23	CDQ	1	1	B	1.2	0.12	10	Chrysotile	Mg, Si		TAOS, PAOS
							Item Type	Item Num			Confirmed	Comment	
							Spectra	J24031SP			KM	8/22/2013	
							Diffraction	J24031DF			KM	8/22/2013	0.53nm ROW SPACING
							Brightfield	J24031BF					
G1	6	F24				NSD							
G1	7	G23	CD	2		MD 11-0	4.5	3.2	1.4	Chrysotile			PAOS
G1	7	G23	CD		2	MF	1.7	0.08	21.3	Chrysotile			TAOS
G1	7	G23	CD		3	MR 10-0	4.5	3.2	1.4	Chrysotile			TAOS
							Item Type	Item Num			Confirmed	Comment	
							Brightfield	J24032BF					
G1	8	G24				NSD							
G1	9	H23				NSD							
G1	10	B34				NSD							
G1	11	C33				NSD							
G1	12	C34				NSD							
G1	13	E33				NSD							
G1	14	E34				NSD							
G1	15	F33				NSD							
G1	16	F34				NSD							
G1	17	G33				NSD							
G1	18	G34				NSD							
G1	19	H33				NSD							
G1	20	H34				NSD							
G1	21	B44				NSD							
G1	22	C43				NSD							
G1	23	C44				NSD							
G1	24	E43				NSD							
G1	25	E44				NSD							
G1	26	F43				NSD							
G1	27	F44				NSD							
G1	28	G43				NSD							

Handwritten signature: JWB



Lab/Cor, Inc.

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Final Report

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A Professional Service Corporation in the Northwest

ISO 10312 - Direct Raw Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: A.12-10-0001

Report Number: 130766R06

Date Received: 8/15/2013

Lab/Cor Sample No: S4

Client Sample No: 13080004

Description: EO-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	29	G44	ADQ	3	4	MC 1-0	2.7	0.8	3.4	Actinolite	Mg, Al, Si, K, Ca, Mn, Fe		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24034SP			KM 8/22/2013		
							Diffraction	J24034DF			KM 8/22/2013	0.53nm ROW SPACING	
							Brightfield	J24034BF					
G1	30	H43	NAM	4	5	MC 1-0	1.5	1	1.5	Non Asbestos Mineral	Mg, Al, Si, K, Ca, Fe	Mg-Hornblende	
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24035SP			KM 8/22/2013		
							Brightfield	J24035BF					
G1	31	H44				NSD							
G2	32	C31				NSD							
G2	33	C32				NSD							
G2	34	E31				NSD							
G2	35	E32				NSD							
G2	36	F31				NSD							
G2	37	F32				NSD							
G2	38	G31				NSD							
G2	39	G32				NSD							
G2	40	H31				NSD							
G2	41	B42				NSD							
G2	42	C41				NSD							
G2	43	C42				NSD							
G2	44	E41				NSD							
G2	45	E42				NSD							
G2	46	F41				NSD							
G2	47	F42				NSD							
G2	48	G41				NSD							
G2	49	G42				NSD							
G2	50	H41				NSD							
G2	51	H42				NSD							
G2	52	B52				NSD							
G2	53	C51				NSD							
G2	54	C52				NSD							
G2	55	E51				NSD							
G2	56	E52				NSD							

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ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R06
Date Received: 8/15/2013

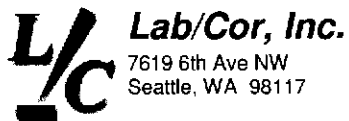
Lab/Cor Sample No: S4
Client Sample No: 13080004
Description: EO-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G2	57	F51				NSD							
G2	58	F52				NSD							
G2	59	G51				NSD							
G2	60	G52				NSD							
G2	61	H51				NSD							

Lab/Cor Sample No: S5
Client Sample No: 13080005
Description: FA-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C53				NSD							
G1	2	C54				NSD							
G1	3	E53				NSD							
G1	4	E54				NSD							
G1	5	F53				NSD							
G1	6	B44				NSD							
G1	7	C43				NSD							
G1	8	C44				NSD							
G1	9	E43				NSD							
G1	10	E44				NSD							
G2	11	C33				NSD							
G2	12	C34				NSD							
G2	13	E33				NSD							
G2	14	E34				NSD							
G2	15	F33				NSD							
G2	16	F34				NSD							
G2	17	G33				NSD							
G2	18	G34				NSD							
G2	19	F42				NSD							

MW/HHB



Lab/Cor, Inc.

7619 6th Ave NW
Seattle, WA 98117

Final Report

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ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: A.12-10-0001

Report Number: 130766R06

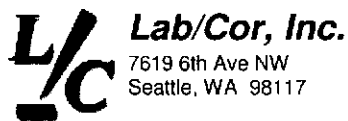
Date Received: 8/15/2013

Lab/Cor Sample No: S8

Client Sample No: 13080008

Description: PR-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C34				NSD							
G1	2	E33				NSD							
G1	3	E42				NSD							
G1	4	F41	CDQ	1	1	B	1.85	0.16	11.6	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24027SP			KM 8/22/2013		
							Diffraction	J24027DF			KM 8/22/2013	0.53nm ROW SPACING	
							Brightfield	J24027BF					
G1	5	F44				NSD							
G1	6	G43				NSD							
G1	7	G52				NSD							
G2	8	C34				NSD							
G2	9	E33				NSD							
G2	10	E42				NSD							
G2	11	F41				NSD							
G2	12	F44				NSD							
G2	13	G43				NSD							
G2	14	G52				NSD							



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Final Report

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ISO 10312 - Direct Raw Data

Job Number: 130766

SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

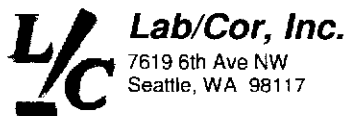
Lab/Cor Sample No: S10

Client Sample No: 13080010

Description: START-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	E53				NSD							
G4	2	E54				NSD							
G4	3	F53				NSD							
G4	4	F54				NSD							
G4	5	G53				NSD							
G4	6	G54				NSD							
G4	7	H53				NSD							
G4	8	H54				NSD							
G4	9	C52	CDQ	1	1	F	2.6	0.08	32.5	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J23945SP			KM	8/20/2013	
							Diffraction	J23945DF			KM	8/20/2013	0.53nm ROW SPACING
							Brightfield	J23945BF					
G4	10	F52				NSD							
G4	11	G51	ADQ	2	2	F	5	0.7	7.1	Actinolite			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J23946SP			KM	8/20/2013	
							Diffraction	J23946DF			KM	8/20/2013	0.53nm ROW SPACING
							Brightfield	J23946BF					
G4	12	H51				NSD							
G4	13	H52				NSD							
G4	14	K51				NSD							
G4	15	B44				NSD							
G4	16	C43				NSD							
G4	17	E43				NSD							
G4	18	E44				NSD							
G4	19	F43				NSD							
G4	20	F44				NSD							
G4	21	G43				NSD							
G4	22	G44				NSD							
G4	23	B42				NSD							
G4	24	C41				NSD							
G4	25	C42				NSD							
G4	26	E41				NSD							
G4	27	E42				NSD							
G4	28	F42				NSD							
G4	29	G41				NSD							
G4	30	G42				NSD							

Handwritten signature/initials: MW 9-11-13



Lab/Cor, Inc.

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Final Report

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ISO 10312 - Direct Raw Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R06

Date Received: 8/16/2013

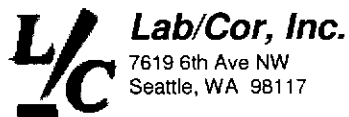
Lab/Cor Sample No: S10

Client Sample No: 13080010

Description: START-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	31	H41	ODQ	3	3	F	1.75	0.4	4.4	Fe-Actinolite	Mg, Al, Si, Ca, Fe		TAOS, PAOS
						Item Type	Item Num		Confirmed		Comment		
						Spectra	J23947SP		KM		8/20/2013		
						Brightfield	J23947BF						
G5	32	C33				NSD							
G5	33	C34				NSD							
G5	34	E33				NSD							
G5	35	E34				NSD							
G5	36	F33	ADQ	4		MD 1-1	18	9	2	Actinolite			AS>5, AS>5, 3:1, PAOS
G5	36	F33	ADQ		4	MF	6.85	1.25	5.5	Actinolite	Mg, Al, Si, Ca, Mn, Fe		PCMEF-ISO, AFB>5, PCMEF-NIOSH, TAOS, AFB>5, 3:1, PCMEFmodNIOSH
						Item Type	Item Num		Confirmed		Comment		
						Spectra	J23948SP		KM		8/20/2013		
						Brightfield	J23948BF		Too dense for diffraction				
G5	37	F34				NSD							
G5	38	G33				NSD							
G5	39	G34				NSD							
G5	40	B44				NSD							
G5	41	C43				NSD							
G5	42	C44				NSD							
G5	43	E43				NSD							
G5	44	E44				NSD							
G5	45	F43				NSD							
G5	46	F44				NSD							
G5	47	G43				NSD							
G5	48	G44				NSD							
G5	49	H43				NSD							
G5	50	H44				NSD							
G5	51	C54				NSD							
G5	52	E53				NSD							
G5	53	E54				NSD							
G5	54	F53				NSD							
G5	55	F54				NSD							
G5	56	G53				NSD							
G5	57	G54				NSD							
G5	58	C52				NSD							

MW 9-11-13



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Final Report

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ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R06

Date Received: 8/16/2013

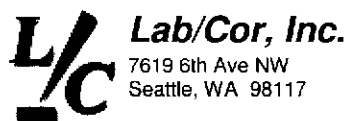
Lab/Cor Sample No: S10

Client Sample No: 13080010

Description: START-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G5	59	E51				NSD							
G5	60	E52				NSD							

MM 9-11-13



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ISO 10312 - Direct Raw Data

Job Number: 130766

SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R06

Date Received: 8/16/2013

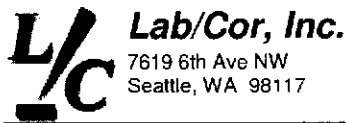
Lab/Cor Sample No: S11

Client Sample No: 13080011

Description: WT-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	C31				NSD							
G4	2	C32				NSD							
G4	3	E31				NSD							
G4	4	E32				NSD							
G4	5	F31				NSD							
G4	6	F32				NSD							
G4	7	G31				NSD							
G4	8	G32	CDQ	1		MD 1-1	7.1	3	2.4	Chrysotile			AS>5, AS>5, 3:1, PAOS
G4	8	G32	CDQ		1	MF	5.4	0.1	54	Chrysotile	Mg, Si		AFB>5, TAOS, AFB>5, 3:1
							ItemType	ItemNum		Confirmed		Comment	
							Spectra	J23955SP		KM		8/20/2013	
							Diffraction	J23955DF		KM		8/20/2013	
							Brightfield	J23955BF		0.53nm ROW SPACING			
G4	9	B41				NSD							
G4	10	B42				NSD							
G4	11	C41				NSD							
G4	12	C42				NSD							
G4	13	E41				NSD							
G4	14	E42				NSD							
G4	15	F41				NSD							
G4	16	F42				NSD							
G4	17	G41				NSD							
G4	18	G42				NSD							
G4	19	H41	OQ	2	2	F	18	2.5	7.2	Fe- Hornblende	Mg, Al, Si, K, Ca, Fe		PCMEF-ISO, PCMES- ISO, PCMEF-NIOSH, PCMES-NIOSH, TAOS, PCMEFmodNIOSH, PCMESmodNIOSH, PAOS
							ItemType	ItemNum		Confirmed		Comment	
							Spectra	J23956SP		KM		8/20/2013	
							Brightfield	J23956BF					
G4	20	B43				NSD							
G4	21	B44				NSD							
G4	22	C43				NSD							
G4	23	C44				NSD							
G4	24	E43				NSD							
G4	25	E44				NSD							
G4	26	F43				NSD							
G4	27	F44				NSD							

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ISO 10312 - Direct Raw Data

Job Number: 130766 SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

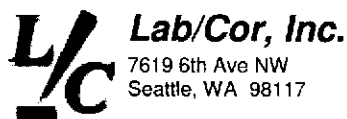
Project No.: C.12-10-0001

Lab/Cor Sample No: S11

Client Sample No: 13080011

Description: WT-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	28	G43				NSD							
G4	29	G44				NSD							
G4	30	H43				NSD							
G4	31	C51				NSD							
G4	32	C52				NSD							
G4	33	E51				NSD							
G4	34	E52				NSD							
G4	35	F51				NSD							
G4	36	F52				NSD							
G4	37	G51				NSD							
G5	38	C31				NSD							
G5	39	C32				NSD							
G5	40	E31				NSD							
G5	41	E32				NSD							
G5	42	F31				NSD							
G5	43	F32				NSD							
G5	44	G31				NSD							
G5	45	G32				NSD							
G5	46	H31				NSD							
G5	47	H32				NSD							
G5	48	K31				NSD							
G5	49	B41				NSD							
G5	50	B42				NSD							
G5	51	C41				NSD							
G5	52	C42				NSD							
G5	53	E41				NSD							
G5	54	E42				NSD							
G5	55	F41				NSD							
G5	56	F42				NSD							
G5	57	G41				NSD							
G5	58	G42				NSD							
G5	59	H41				NSD							
G5	60	B43				NSD							
G5	61	B44				NSD							
G5	62	C43				NSD							
G5	63	C44				NSD							
G5	64	E43				NSD							
G5	65	E44				NSD							



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ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R06

Date Received: 8/16/2013

Lab/Cor Sample No: S11

Client Sample No: 13080011

Description: WT-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G5	66	F43				NSD							
G5	67	F44				NSD							
G5	68	G43				NSD							
G5	69	B52				NSD							
G5	70	C51				NSD							
G5	71	C52				NSD							
G5	72	E51				NSD							
G5	73	E52				NSD							
G5	74	F51	ODQ	3	3	F	16	0.4	40	Richterite	Na, Mg, Si, K, Ca	2x grid bar	PCMEF-ISO, PCMES- ISO, PCMEF-NIOSH, PCMES-NIOSH, TAOS, PCMEFmodNIOSH, PCMESmodNIOSH, PAOS

ItemType	ItemNum	Confirmed	Comment
Spectra	J23960SP	KM 8/21/2013	
Diffraction	J23960DF	KM 8/21/2013	0.53nm ROW SPACING
Brightfield	J23960BF		

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S12
Client Sample No: 13080012
Description: EO-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	1	C31				NSD							
G4	2	C32				NSD							
G4	3	E31				NSD							
G4	4	E32				NSD							
G4	5	F31				NSD							
G4	6	F32				NSD							
G4	7	G31				NSD							
G4	8	G32				NSD							
G4	9	H31	ADQ	1	1	MC 2-0	12	7	1.7	Anthophyllite	Mg, Al, Si, K, Ca, Ti, Mn, Fe		AS>5, TAOS, AS>5, 3:1, PAOS
						ItemType	ItemNum	Confirmed		Comment			
						Brightfield	F23965BF						
						Diffraction	F23965DF	JH	8/21/2013	0.53 NM ROW SPACING			
						Spectra	F23965SP	JH	8/21/2013				
G4	10	H33				NSD							
G4	11	G34				NSD							
G4	12	G33				NSD							
G4	13	F34				NSD							
G4	14	F33				NSD							
G4	15	E34	ADQ	2	2	MC 1-0	6.1	3.1	2	Actinolite	Mg, Al, Si, K, Ca, Ti, Mn, Fe		AS>5, TAOS, AS>5, 3:1, PAOS
						ItemType	ItemNum	Confirmed		Comment			
						Brightfield	F23966BF						
						Diffraction	F23966DF	JH	8/21/2013	0.53 NM ROW SPACING			
						Spectra	F23966SP	JH	8/21/2013				
G4	16	E33				NSD							
G4	17	C41				NSD							
G4	18	C42				NSD							
G4	19	E41				NSD							
G4	20	E42				NSD							
G4	21	F41				NSD							
G4	22	F42				NSD							
G4	23	G41				NSD							
G4	24	G42				NSD							

MW FHB

ISO 10312 - Direct Raw Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R06

Date Received: 8/16/2013

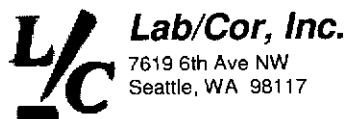
Lab/Cor Sample No: S12

Client Sample No: 13080012

Description: EO-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G4	25	H51	CDQ	3	3	MC 1-0	2.3	2.3	1	Chrysotile			TAOS, PAOS
						Item Type	Item Num				Confirmed	Comment	
						Brightfield	F23967BF						
						Diffraction	F23967DF		JH		8/21/2013	0.53 NM ROW SPACING	
						Spectra	F23967SP		JH		8/21/2013		
G4	26	G52				NSD							
G5	27	C51				NSD							
G5	28	C52				NSD							
G5	29	E51				NSD							
G5	30	E52				NSD							
G5	31	F51				NSD							
G5	32	F52				NSD							
G5	33	G51				NSD							
G5	34	G52				NSD							
G5	35	H51	CDQ	4	4	F	0.9	0.06	15	Chrysotile	Mg, Si	NONCOUNTABLE CHRYSTOLE BUNDLE TOUCHING LEFT GRID BAR	TAOS, PAOS
						Item Type	Item Num				Confirmed	Comment	
						Bnghtfield	F23968BF-CHR						
						Diffraction	F23968DF		JH		8/21/2013		
						Spectra	F23968SP		JH		8/21/2013		
						Brightfield	F23969BF						
G5	36	H52	CDQ	5	5	B	20	1.7	11.8	Chrysotile	Mg, Si		AS>5, PCMEF-ISO, PCMES-ISO, AFB>5, PCMEF-NIOSH, PCMES- NIOSH, TAOS, AS>5, 3:1, AFB>5, 3:1, PCMEFmodNIOSH, PCMESmodNIOSH, PAOS
						Item Type	Item Num				Confirmed	Comment	
						Brightfield	F23972BF						
						Diffraction	F23972DF		JH		8/21/2013	0.53 NM ROW SPACING	
						Spectra	F23972SP		JH		8/21/2013		
G5	37	H42				NSD							
G5	38	H41				NSD							
G5	39	G42				NSD							
G5	40	G41				NSD							
G5	41	F42				NSD							
G5	42	F41				NSD							

MW FHB



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Final Report

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ISO 10312 - Direct Raw Data

Job Number: 130766

SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Lab/Cor Sample No: S12

Client Sample No: 13080012

Description: EO-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G5	43	E42				NSD								
G5	44	E41				NSD								
G5	45	C42				NSD								
G5	46	C41				NSD								
G5	47	E33				NSD								
G5	48	E34				NSD								
G5	49	F33				NSD								
G5	50	F34	ADQ	6	6	B	4.5	0.5	9	Actinolite	Na, Mg, Al, Si, K, Ca, Fe	VISUAL DIFFRACTION		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment		
							Brightfield	F23974BF						
							Spectra	F23974SP			JH	8/21/2013		

Lab/Cor Sample No: S14

Client Sample No: 13080014

Description: FA-04

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	1	C41				NSD								
G1	2	C42	ADQ	1	1	F	1.5	0.3	5	Actinolite	Mg, Al, Si, K, Ca, Mn, Fe			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment		
							Brightfield	F23894BF						
							Diffraction	F23894DF			JH	8/20/2013	0.53 NM ROW SPACING	
							Spectra	F23894SP			JH	8/20/2013		
G1	3	E41				NSD								
G1	4	E42				NSD								
G2	5	E31				NSD								
G2	6	E32				NSD								
G2	7	F31				NSD								
G2	8	F32				NSD								

ISO 10312 - Direct Raw Data

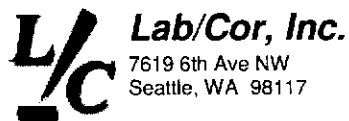
Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S16
Client Sample No: 13080016
Description: PR-04

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	1	C41	NAM	1	1	MC 1-1	11.5	7.3	1.6	Non Asbestos Mineral	Mg, Al, Si, Ca, Ti, Mn, Fe	LARGE DIFFRACTION SPACING SUGGEST PYROXENE BUT MINERAL ANALYSIS SUGGESTS ACTINOLITE, HIGH CA ~15% MORE LIKELY PYROXENE		
											Item Type	Item Num	Confirmed	Comment
											Brightfield	F23895BF		
											Diffraction	F23895DF	JH 8/20/2013	NOT CONVINCING
											Spectra	F23895SP	JH 8/20/2013	
G1	2	C42				NSD								
G1	3	E41				NSD								
G1	4	E42				NSD								
G1	5	F41				NSD								
G2	6	F42	CDQ	2	2	F	1	0.04	25	Chrysotile	Mg, Si			TAOS, PAOS
											Item Type	Item Num	Confirmed	Comment
											Brightfield	F23896BF		
											Diffraction	F23896DF	JH 8/20/2013	0.53 NM ROW SPACING
											Spectra	F23896SP		
G2	7	G41	CDQ	3	3	MC 1-0	2.8	2	1.4	Chrysotile	Mg, Si			TAOS, PAOS
											Item Type	Item Num	Confirmed	Comment
											Brightfield	F23897BF		
											Diffraction	F23897DF	JH 8/20/2013	0.53 NM ROW SPACING
											Spectra	F23897SP	JH 8/20/2013	
G2	8	G42				NSD								
G2	9	H42				NSD								

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ISO 10312 - Direct Raw Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R06

Date Received: 8/16/2013

Lab/Cor Sample No: S17

Client Sample No: 13080017

Description: BG-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	B43				NSD							
G1	2	B44				NSD							
G1	3	C43				NSD							
G1	4	C44				NSD							
G1	5	E43				NSD							
G1	6	E44				NSD							
G2	7	E41				NSD							
G2	8	E42				NSD							
G2	9	F41				NSD							
G2	10	F42				NSD							
G2	11	G41				NSD							
G2	12	G42				NSD							

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S18
Client Sample No: 13080018
Description: START-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	E31	ADQ	1	1	F	1.5	0.3	5	Actinolite	Mg, Al, Si, K, Ca, Fe		TAOS, PAOS
						ItemType	ItemNum			Confirmed	Comment		
						Brightfield	F23898BF						
						Diffraction	F23898DF			JH 8/20/2013	0.53 NM ROW SPACING		
						Spectra	F23898SP			JH 8/20/2013			
G1	1	E31	ADQ	2	2	F	13	2	6.5	Actinolite	Mg, Al, Si, K, Ca, Mn, Fe	2X LENGTH - RIGHT GRID BAR	AS>5, PCMEF-ISO, PCMES-ISO, AFB>5, PCMEF-NIOSH, PCMES- NIOH, TAOS, AS>5, 3:1, AFB>5, 3:1, PCMEFmodNIOH, PCMESmodNIOH, PAOS
						ItemType	ItemNum			Confirmed	Comment		
						Brightfield	F23902BF						
						Diffraction	F23902DF			JH 8/20/2013	0.53 NM ROW SPACING		
						Spectra	F23902SP			JH 8/20/2013			
G1	2	E32				NSD							
G1	3	F31				NSD							
G1	4	F32				NSD							
G1	5	G31				NSD							
G1	6	G32				NSD							
G1	7	H31				NSD							
G1	8	H42				NSD							
G1	9	H41				NSD							
G1	10	G42				NSD							
G1	11	G41				NSD							
G1	12	F42				NSD							
G1	13	F41				NSD							
G1	14	E42				NSD							
G1	15	E41				NSD						NONCOUNTAB LE FIBER TOUCHING BOTTOM GRID BAR	
G1	16	C42				NSD							
G1	17	C41	CDQ	3	3	F	1.2	0.1	12	Chrysotile			TAOS, PAOS
						ItemType	ItemNum			Confirmed	Comment		
						Brightfield	F23920BF						
						Diffraction	F23920DF			JH 8/20/2013	0.53 NM ROW SPACING		
						Spectra	F23920SP			JH 8/20/2013			
G1	17	C41	CDQ	4	4	F	0.63	0.1	6.3	Chrysotile		SEE IMAGE F23920BF	TAOS, PAOS

ISO 10312 - Direct Raw Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S18
Client Sample No: 13080018
Description: START-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	18	B42				NSD							
G1	19	B44				NSD							
G1	20	C43				NSD							
G1	21	C44				NSD							
G1	22	E43	ADQ	5		MD 1-0	6	4	1.5	Actinolite			AS>5, AS>5, 3:1, PAOS
G1	22	E43	ADQ		5	MF	2.5	0.2	12.5	Actinolite	Mg, Al, Si, K, Ca, Mn, Fe		TAOS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23929BF						
						Diffraction	F23929DF				JH 8/20/2013	0.53 NM ROW SPACING	
						Spectra	F23929SP				JH 8/20/2013		
						STEM	F23929STEM-SPLI						
G1	23	E44				NSD							
G1	24	F43				NSD							
G1	25	F44	CMQ	6	6	F	0.57	0.05	11.4	Chrysotile			TAOS, PAOS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23930BF						
						Spectra	F23930SP				JH 8/20/2013		
G1	26	G43	CMQ	7	7	F	0.83	0.1	8.3	Chrysotile			TAOS, PAOS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23932BF						
						Spectra	F23932SP						
G1	27	G44				NSD							
G1	28	H43				NSD							
G1	29	H44				NSD							
G1	30	G54				NSD							
G1	31	G53	CDQ	8	8	F	0.8	0.05	16	Chrysotile			TAOS, PAOS
						ItemType	ItemNum				Confirmed	Comment	
						Brightfield	F23933BF						
						Diffraction	F23933DF				JH 8/20/2013	0.53 NM ROW SPACING	
						Spectra	F23933SP				JH 8/20/2013		
G1	32	F54				NSD							
G1	33	F53				NSD							
G1	34	E54				NSD							
G1	35	E53				NSD							
G2	36	C51				NSD							
G2	37	C52				NSD							

ISO 10312 - Direct Raw Data

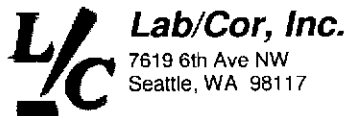
Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S18
Client Sample No: 13080018
Description: START-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories	
G2	38	E51	AQ	9	9	F	5.1	1.5	3.4	Actinolite	Mg, Al, Si, K, Ca, Fe		PCMEF-ISO, PCMES-ISO, PCMEF-NIOSH, PCMES-NIOSH, TAOS, AS>5, 3:1, AFB>5, 3:1, PCMEFmodNIOSH, PCMESmodNIOSH, PAOS	
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	F23934BF							
						Spectra	F23934SP				JH 8/20/2013			
G2	39	E52				NSD								
G2	40	F51				NSD								
G2	41	F52				NSD								
G2	42	G51				NSD								
G2	43	G52				NSD								
G2	44	H51	CMQ	10	10	F	1.1	0.06	18.3	Chrysotile	Mg, Si		TAOS, PAOS	
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	F23935BF							
						Spectra	F23935SP				JH 8/20/2013			
G2	45	G42				NSD								
G2	46	G41	ADQ	11	11	F	1.5	0.25	6	Actinolite	Mg, Al, Si, Ca, Ti, Mn, Fe	VISUAL DIFFRACTION	TAOS, PAOS	
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	F23936BF							
						Spectra	F23936SP				JH 8/20/2013			
G2	47	F42	ADQ	12	12	MC 1-0	4.2	3	1.4	Actinolite	Mg, Al, Si, Ca, Fe	VISUAL DIFFRACTION	TAOS, PAOS	
						ItemType	ItemNum				Confirmed	Comment		
						Brightfield	F23937BF							
						Spectra	F23937SP							
G2	48	F41				NSD								
G2	49	E42				NSD								
G2	50	E41				NSD								
G2	51	C42				NSD								
G2	52	C41				NSD								
G2	53	C31				NSD								
G2	54	E43				NSD								
G2	55	E44				NSD								
G2	56	C32				NSD								
G2	57	E31				NSD								
G2	58	E32				NSD								

MW 9-11-13



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Final Report

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ISO 10312 - Direct Raw Data

Job Number: 130766

SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Lab/Cor Sample No: S18

Client Sample No: 13080018

Description: START-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G2	59	F31				NSD							
G2	60	F32				NSD							
G2	61	G31				NSD							
G2	62	G32				NSD							

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S19
Client Sample No: 13080019
Description: WT-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	1	C24				NSD								
G1	2	E23				NSD								
G1	3	E24				NSD								
G1	4	F23				NSD								
G1	5	F24				NSD								
G1	6	G23				NSD								
G1	7	G24				NSD								
G1	8	H23				NSD								
G1	9	G32				NSD								
G1	10	G31				NSD								
G1	11	F32				NSD								
G1	12	F31				NSD								
G1	13	E32				NSD								
G1	14	E31				NSD								
G1	15	C32				NSD								
G1	16	B32	CDQ	1	1	F	1.2	0.05	24	Chrysotile	Mg, Si			PAOS, TAOS
						Item Type	Item Num				Confirmed	Comment		
						Brightfield	F23944BF							
						Diffraction	F23944DF			JH	8/20/2013	0.53 NM ROW SPACING		
						Spectra	F23944SP			JH	8/20/2013			
G1	17	C31				NSD								
G1	18	B34				NSD								
G1	19	C33				NSD								
G1	20	C34				NSD								
G1	21	E33				NSD								
G1	22	E34				NSD								
G1	23	F33				NSD								
G1	24	F34				NSD								
G1	25	G33	CDQ	2	2	MC 2-0	5	4	1.2	Chrysotile	Mg, Si			PAOS, TAOS
						Item Type	Item Num				Confirmed	Comment		
						Brightfield	F23949BF							
						Diffraction	F23949DF			JH	8/20/2013	0.53 NM ROW SPACING		
						Spectra	F23949SP			JH	8/20/2013			
G1	26	G34				NSD								
G1	27	H33				NSD								
G1	28	H42				NSD								
G1	29	H41				NSD								
G1	30	G42				NSD								

MW FH-B

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S19
Client Sample No: 13080019
Description: WT-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	31	G41				NSD							
G1	32	F42				NSD							
G1	33	F41				NSD							
G1	34	E42				NSD							
G1	35	E41				NSD							
G1	36	C42				NSD							
G1	37	C41				NSD							
G1	38	B42				NSD							
G1	39	C43				NSD						NONCOUNTABLE TREMOLITE MATRIX TOUCHING LEFT GRID BAR	
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F23951BF						
						Spectra	F23951SP						
						Diffraction	F23951DF						
G1	40	C44				NSD							
G1	41	E43				NSD							
G1	42	E44				NSD							
G2	43	C33				NSD							
G2	44	C34				NSD							
G2	45	E33				NSD							
G2	46	E34				NSD							
G2	47	F33				NSD							
G2	48	F34				NSD							
G2	49	G33				NSD							
G2	50	G34				NSD							
G2	51	H33				NSD							
G2	52	H34				NSD							
G2	53	H44				NSD							
G2	54	H43	AZQ	3	3	B	2.7	1.2	2.2	Actinolite	Na, Mg, Al, Si, K, Ca, Ti, Mn, Fe		PAOS, TAOS
						Item Type	Item Num		Confirmed		Comment		
						Brightfield	F23957BF						
						Diffraction	F23957DF		JH 8/21/2013		[2 1 2] ZONE AXIS ID		
						Spectra	F23957SP		JH 8/21/2013				

MW 9H13

ISO 10312 - Direct Raw Data

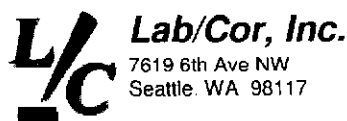
Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S19
Client Sample No: 13080019
Description: WT-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G2	55	G44				NSD								
G2	56	G43				NSD								
G2	57	F44				NSD								
G2	58	F43				NSD								
G2	59	E44				NSD								
G2	60	E43				NSD								
G2	61	C44				NSD								
G2	62	C43				NSD								
G2	63	B44				NSD								
G2	64	B51				NSD								
G2	65	B52				NSD								
G2	66	C51				NSD								
G2	67	C52				NSD								
G2	68	E51				NSD								
G2	69	E52				NSD								
G2	70	F51				NSD								
G2	71	F52				NSD								
G2	72	G51				NSD								
G2	73	G52				NSD								
G2	74	H51				NSD								
G2	75	H52				NSD								
G2	76	G54				NSD								
G2	77	G53	CDQ	4		MD 2-0	2.1	1.1	1.9	Chrysotile				PAOS
G2	77	G53	CDQ		4	MF	1.4	0.06	23.3	Chrysotile				TAOS
						Item Type	Item Num		Confirmed		Comment			
						Brightfield	F23958BF							
						Diffraction	F23958DF		JH	8/21/2013	0.53 NM ROW SPACING			
						Spectra	F23958SP		JH	8/21/2013				
G2	77	G53	CDQ		5	MF	1.1	0.06	18.3	Chrysotile				TAOS
G2	78	F54				NSD								
G2	79	F53				NSD								
G2	80	E53	CDQ	5	6	F	1.1	0.06	18.3	Chrysotile	Mg, Si			PAOS, TAOS
						Item Type	Item Num		Confirmed		Comment			
						Brightfield	F23959BF							
						Diffraction	F23959DF		JH	8/21/2013	0.53 NM ROW SPACING			
						Spectra	F23959SP		JH	8/21/2013				
G2	81	E54				NSD								
G2	82	C54				NSD								

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Lab/Cor, Inc.

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ISO 10312 - Direct Raw Data

Job Number: 130766

SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Lab/Cor Sample No: S19

Client Sample No: 13080019

Description: WT-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G2	83	C53	CDQ	6	7	F	0.8	0.05	16	Chrysotile			PAOS, TAOS
						ItemType		ItemNum			Confirmed	Comment	
						Brightfield		F23961BF					
						Diffraction		F23961DF			JH 8/21/2013	0.53 NM ROW SPACING	
						Spectra		F23961SP			JH 8/21/2013		
G2	84	B54				NSD							
G2	85	B53				NSD							
G2	86	C62				NSD							
G2	87	E61				NSD							
G2	88	E62				NSD							
G2	89	F61				NSD							
G2	90	F62				NSD							
G2	91	G61				NSD							
G2	92	G62				NSD							
G2	93	H61				NSD							

Lab/Cor Sample No: S21

Client Sample No: 13080021

Description: FA-05

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C34				NSD							
G1	2	C42	ADQ	1	1	F	7	1	7	Actinolite	Mg, Al, Si, Ca, Fe		AS>5, PCMEF-ISO, PCMES-ISO, AFB>5, PCMEF-NIOSH, PCMES- NIOSH, TAOS, AS>5, 3:1, AFB>5, 3:1, PCMEFmodNIOSH, PCMESmodNIOSH, PAOS
						ItemType		ItemNum			Confirmed	Comment	
						Spectra		J23928SP			KM 8/20/2013		
						Diffraction		J23928DF			KM 8/20/2013	0.53nm ROW SPACING	
						Brightfield		J23928BF					
G1	3	F41				NSD							
G1	4	F42				NSD							
G2	5	E41				NSD							
G2	6	E42				NSD							
G2	7	G41				NSD							
G2	8	G52				NSD							

ISO 10312 - Direct Raw Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S25
Client Sample No: 13080025
Description: EO-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G1	1	C51	ODQ	1		MD 1-0	3.5	1.7	2.1	Fe-Hornblende	Mg, Al, Si, K, Ca, Fe			PAOS
G1	1	C51	ODX		1	MF	1.9	0.17	11.2	Fe-Hornblende				TAOS
							ItemType	ItemNum			Confirmed	Comment		
							Spectra	J23950SP			KM 8/20/2013			
							Diffraction	J23950DF			KM 8/20/2013	0.53nm ROW SPACING		
							Brightfield	J23950BF						
G1	2	C52				NSD								
G1	3	E51				NSD								
G1	4	E52				NSD								
G1	5	F51				NSD								
G1	6	F52				NSD								
G1	7	G51				NSD								
G1	8	G52				NSD								
G1	9	H51				NSD								
G1	10	B42				NSD								
G1	11	C41	CMQ	2	2	F	0.8	0.08	10	Chrysotile	Mg, Si			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment		
							Spectra	J23952SP			KM 8/20/2013			
							Diffraction	J23952DF			KM 8/20/2013	0.53nm ROW SPACING		
							Brightfield	J23952BF						
G1	12	C42				NSD								
G1	13	E41				NSD								
G1	14	F41				NSD								
G1	15	F42				NSD								
G1	16	G41				NSD								
G1	17	G42				NSD								
G1	18	H41				NSD								
G2	19	C53				NSD								
G2	20	C54				NSD								
G2	21	E53				NSD								
G2	22	E54				NSD								
G2	23	F53				NSD								
G2	24	F23				NSD								
G2	25	F24				NSD								
G2	26	G23				NSD								
G2	27	G24	CD	3		MD 1-0	6.5	5	1.3	Chrysotile				AS>5, AS>5, 3:1, PAOS

ISO 10312 - Direct Raw Data

Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

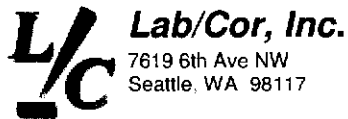
Report Number: 130766R06
Date Received: 8/16/2013

Lab/Cor Sample No: S25
Client Sample No: 13080025
Description: EO-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G2	27	G24	CD		3	MF	1.1	0.1	11	Chrysotile				TAOS
							ItemType	ItemNum		Confirmed		Comment		
							Brightfield	J23953BF						
G2	28	B32				NSD								
G2	29	C31				NSD								
G2	30	C32				NSD								
G2	31	E31				NSD								
G2	32	E32				NSD								
G2	33	F31	CD	4	4	F	1.5	0.1	15	Chrysotile				TAOS, PAOS
							ItemType	ItemNum		Confirmed		Comment		
							Brightfield	J23954BF						
G2	34	F32				NSD								
G2	35	G31				NSD								
G2	36	G32				NSD								

Lab/Cor Sample No: S26
Client Sample No: 13080026
Description: Field Blank

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C34				NSD							
G1	2	E33				NSD							
G1	3	E42				NSD							
G1	4	F41				NSD							
G1	5	F44				NSD							
G1	6	G43				NSD							
G2	7	E24				NSD							
G2	8	F23				NSD							
G2	9	F32				NSD							
G2	10	G31				NSD							
G2	11	G34				NSD							



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ISO 10312 - Direct Raw Data

Job Number: 130766

SEA

Report Number: 130766R06

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Lab/Cor Sample No: S27

Client Sample No: 13080027


Description: Field Blank

Gr	No.	Loc.	ID	Prim Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G1	1	C34			NSD							
G1	2	E33			NSD							
G1	3	E42			NSD							
G1	4	F41			NSD							
G1	5	F44			NSD							
G1	6	G43			NSD							
G2	7	C34			NSD							
G2	8	E33			NSD							
G2	9	E42			NSD							
G2	10	F41			NSD							
G2	11	F44			NSD							

Count Categories

AFB>5	Asbestos Fibers and Bundles > 5um and 5:1	AFB>5, 3:1	Asbestos Fibers and Bundles > 5um and 3:1	AS>5	Asbestos Structures > 5um and 5:1
AS>5, 3:1	Asbestos Structures >5um and 3:1	PAOS	Primary Asb and Libby-Other Amphibole Structures	PAS	Primary Asbestos Structures
PCMEF-ISO	PCM Equivalent Fibers-ISO	PCMEFmodNIO	PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	PCMEF-NIOSH	PCM Equivalent Fibers-NIOSH
PCMES-ISO	PCM Equivalent Structures-ISO	PCMESmodNIO	PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	PCMES-NIOSH	PCM Equivalent Structures-NIOSH
TAOS	Total Asb & Libby-OtherAmph Structures	TAS	Total Asbestos Structures		

Reviewed by:

x 

Kate March
Analyst





ecology and environment, inc.

Global Environmental Specialists


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MEMORANDUM

DATE: September 11, 2013

FROM: Mark Woodke, START-IV Chemist, E & E, Seattle, WA 

TO: Steve Hall, START-IV Project Manager, E & E, Seattle, WA

SUBJ: **Data Quality Assurance Review, Ashue Road Asbestos Removal Site, Wapato, Washington**

REF: TDD: 13-08-0021 PAN: EE-004534-0014-01TT0

The data quality assurance review of 8 air filter samples collected from the Ashue Road Asbestos site in Wapato, Washington, has been completed. Transmission electron microscopy (TEM; ISO method 13794-indirect) asbestos analyses were performed by Lab/Cor, Inc., Seattle, Washington. The samples were numbered:

13080006	13080007	13080009	13080013	13080015
13080020	13080022	13080023		

The samples were collected between August 13 and 15, 2013, and were received at the laboratory between August 15 and 16, 2013.

The following notes were provided by the laboratory: The analytical sensitivity for sample 13080009 was above 0.001 on this sample due to a 1:10 dilution; analysis was stopped after the 100th grid opening. No action was taken based on this note, but data users should treat the associated results with caution. Additionally, instead of using the ISO concentration units, the requested limits used are 0=0 str., 1=1 str.,

The overall usefulness of the data is based on the criteria outlined in the Site-Specific Sampling Plan and/or Sampling and Quality Assurance Plan, the OSWER Guidance Document "Quality Assurance/Quality Control Guidance for Removal Activities, Sampling QA/QC Plan, and Data Validation Procedures" (EPA/540/G-90/004), and the analytical method. Based upon the information provided, the data are acceptable for use with the above stated data qualifications.

Data Qualifier and Definition

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

ISO 13794 - Indirect Summary Data

Job Number: 130766

SEA

Report Number: 130766R07

Client: Environmental Quality Management, Inc.

Date Received: 8/15/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Lab/Cor Sample No.: S6

Sample Area/Mass/Volume (L) : 2922

Client Sample No.: 13080006

Lab Filter Area (mm2) : 193

Description: FA-02

Grid Openings Analyzed : 27

Filter Fraction: 0.5

Aliquot Dilution: 0.5

Average Grid Opening Area : 0.00994

Residual Ash Vol: 20

Final Dilution: 0.5

Area Analyzed (mm2) : 0.26838

Volume Taken: 10

Analytical Sens. (struc/cc) : 0.001

Detection Limit. (struc/cc) : 0.003

Analyst(s) Analysis Date Microscope Magnification
KM 8/21/2013 JEOL 1200 EX 20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count' Prim/Total
Primary Asbestos Structures	0.003	0.001 - 0.009 - Poisson	3
Total Asbestos Structures	0.003	0.001 - 0.009 - Poisson	3
Primary Asb and Libby-Other Amphibole Structures	0.003	0.001 - 0.009 - Poisson	3
Total Asb & Libby-OtherAmph Structures	0.003	0.001 - 0.009 - Poisson	3
Asbestos Structures > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures >5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW P-H-B

ISO 13794 - Indirect Summary Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Report Number: 130766R07

Date Received: 8/15/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Lab/Cor Sample No.: S7

Client Sample No.: 13080007

Description: PR-01

Filter Fraction: 0.5

Residual Ash Vol: 20

Volume Taken: 10

Aliquot Dilution: 0.5

Final Dilution: 0.5

Sample Area/Mass/Volume (L) : 3969

Lab Filter Area (mm2) : 193

Grid Openings Analyzed : 20

Average Grid Opening Area : 0.00994

Area Analyzed (mm2) : 0.1988

Analytical Sens. (struc/cc) : 0.001

Detection Limit. (struc/cc) : 0.003

Analyst(s)	Analysis Date	Microscope	Magnification
KM	8/21/2013	JEOL 1200 EX	20000
KM	8/28/2013	JEOL 1200 EX	20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0.001	0 - 0.005 - Poisson	1
Total Asbestos Structures	0.001	0 - 0.005 - Poisson	1
Primary Asb and Libby-Other Amphibole Structures	0.001	0 - 0.005 - Poisson	1
Total Asb & Libby-Other Amph Structures	0.001	0 - 0.005 - Poisson	1
Asbestos Structures > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures > 5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW & HB

ISO 13794 - Indirect Summary Data

Job Number: 130766 SEA

Report Number: 130766R07

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Lab/Cor Sample No.: S9

Sample Area/Mass/Volume (L) : 5793

Client Sample No.: 13080009

Lab Filter Area (mm²) : 193

Description: BG-02

Grid Openings Analyzed : 100

Filter Fraction: 0.5

Aliquot Dilution: 0.05

Average Grid Opening Area : 0.00994

Residual Ash Vol: 20

Final Dilution: 0.05

Area Analyzed (mm²) : 0.994

Volume Taken: 1

Analytical Sens. (struc/cc) : 0.001

Detection Limit. (struc/cc) : 0.004

Analyst(s) Analysis Date Microscope Magnification
KM 8/21/2013 JEOL 1200 EX 20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ^a Prim/Total
Primary Asbestos Structures	0.009	0.004 - 0.019 - Poisson	7
Total Asbestos Structures	0.009	0.004 - 0.019 - Poisson	7
Primary Asb and Libby-Other Amphibole Structures	0.009	0.004 - 0.019 - Poisson	7
Total Asb & Libby-Other Amph Structures	0.009	0.004 - 0.019 - Poisson	7
Asbestos Structures > 5um and 5:1	< 0.001	0 - 0.005 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	< 0.001	0 - 0.005 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	< 0.001	0 - 0.005 - Poisson	0
Asbestos Structures > 5um and 3:1	< 0.001	0 - 0.005 - Poisson	0
PCM Equivalent Fibers-ISO	< 0.001	0 - 0.005 - Poisson	0
PCM Equivalent Fibers-NIOSH	< 0.001	0 - 0.005 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.005 - Poisson	0
PCM Equivalent Structures-ISO	< 0.001	0 - 0.005 - Poisson	0
PCM Equivalent Structures-NIOSH	< 0.001	0 - 0.005 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.005 - Poisson	0

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

MW FH3

ISO 13794 - Indirect Summary Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R07

Date Received: 8/16/2013

Lab/Cor Sample No.: S13

Client Sample No.: 13080013

Description: FA-03

Filter Fraction: 0.5

Residual Ash Vol: 20

Volume Taken: 10

Aliquot Dilution: 0.5

Final Dilution: 0.5

Sample Area/Mass/Volume (L) : 4084

Lab Filter Area (mm2) : 193

Grid Openings Analyzed : 10

Average Grid Opening Area : 0.00994

Area Analyzed (mm2) : 0.0994

Analytical Sens. (struc/cc) : 0.002

Detection Limit. (struc/cc) : 0.006

Analyst(s)	Analysis Date	Microscope	Magnification
KM	8/21/2013	JEOL 1200 EX	20000
KM	8/22/2013	JEOL 1200 EX	20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	< 0.002	0 - 0.007 - Poisson	0
Total Asbestos Structures	< 0.002	0 - 0.007 - Poisson	0
Primary Asb and Libby-Other Amphibole Structures	< 0.002	0 - 0.007 - Poisson	0
Total Asb & Libby-Other Amph Structures	< 0.002	0 - 0.007 - Poisson	0
Asbestos Structures > 5um and 5:1	< 0.002	0 - 0.007 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	< 0.002	0 - 0.007 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	< 0.002	0 - 0.007 - Poisson	0
Asbestos Structures >5um and 3:1	< 0.002	0 - 0.007 - Poisson	0
PCM Equivalent Fibers-ISO	< 0.002	0 - 0.007 - Poisson	0
PCM Equivalent Fibers-NIOSH	< 0.002	0 - 0.007 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	< 0.002	0 - 0.007 - Poisson	0
PCM Equivalent Structures-ISO	< 0.002	0 - 0.007 - Poisson	0
PCM Equivalent Structures-NIOSH	< 0.002	0 - 0.007 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	< 0.002	0 - 0.007 - Poisson	0

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

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ISO 13794 - Indirect Summary Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R07

Date Received: 8/16/2013

Lab/Cor Sample No.: S15

Client Sample No.: 13080015

Description: PR-03

Filter Fraction: 0.5

Residual Ash Vol: 20

Volume Taken: 5

Aliquot Dilution: 0.25

Final Dilution: 0.25

Sample Area/Mass/Volume (L) : 6407

Lab Filter Area (mm2) : 193

Grid Openings Analyzed : 25

Average Grid Opening Area : 0.00994

Area Analyzed (mm2) : 0.2485

Analytical Sens. (struc/cc) : 0.001

Detection Limit. (struc/cc) : 0.003

Analyst(s) Analysis Date Microscope Magnification
KM 8/22/2013 JEOL 1200 EX 20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0.005	0.002 - 0.011 - Poisson	5
Total Asbestos Structures	0.005	0.002 - 0.011 - Poisson	5
Primary Asb and Libby-Other Amphibole Structures	0.005	0.002 - 0.011 - Poisson	5
Total Asb & Libby-Other Amph Structures	0.005	0.002 - 0.011 - Poisson	5
Asbestos Structures > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures > 5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

Mu PHB

ISO 13794 - Indirect Summary Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R07

Date Received: 8/16/2013

Lab/Cor Sample No.: S20

Client Sample No.: 13080020

Description: EO-03

Filter Fraction: 0.5

Residual Ash Vol: 20

Volume Taken: 10

Aliquot Dilution: 0.5

Final Dilution: 0.5

Sample Area/Mass/Volume (L) : 1025

Lab Filter Area (mm²) : 193

Grid Openings Analyzed : 76

Average Grid Opening Area : 0.00994

Area Analyzed (mm²) : 0.75544

Analytical Sens. (struc/cc) : 0.001

Detection Limit. (struc/cc) : 0.003

Analyst(s)	Analysis Date	Microscope	Magnification
KM	8/22/2013	JEOL 1200 EX	20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0.014	0.008 - 0.023 - Poisson	14
Total Asbestos Structures	0.014	0.008 - 0.023 - Poisson	14
Primary Asb and Libby-Other Amphibole Structures	0.014	0.008 - 0.023 - Poisson	14
Total Asb & Libby-Other Amph Structures	0.014	0.008 - 0.023 - Poisson	14
Asbestos Structures > 5um and 5:1	0.004	0.001 - 0.01 - Poisson	4
Asbestos Fibers and Bundles > 5um and 5:1	0.001	0 - 0.006 - Poisson	1
Asbestos Fibers and Bundles > 5um and 3:1	0.001	0 - 0.006 - Poisson	1
Asbestos Structures >5um and 3:1	0.004	0.001 - 0.01 - Poisson	4
PCM Equivalent Fibers-ISO	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers-NIOSH	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures-ISO	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures-NIOSH	0.001	0 - 0.006 - Poisson	1
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	0.001	0 - 0.006 - Poisson	1

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

John FH-B

ISO 13794 - Indirect Summary Data

Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Report Number: 130766R07
Date Received: 8/16/2013

Lab/Cor Sample No.: S22
Client Sample No.: 13080022
Description: FA-06
Filter Fraction: 0.5
Residual Ash Vol: 20
Volume Taken: 10

Aliquot Dilution: 0.5
Final Dilution: 0.5

Sample Area/Mass/Volume (L) : 5350
Lab Filter Area (mm2) : 193
Grid Openings Analyzed : 15
Average Grid Opening Area : 0.00994
Area Analyzed (mm2) : 0.1491
Analytical Sens. (struc/cc) : 0.001
Detection Limit. (struc/cc) : 0.003

Analyst(s) Analysis Date Microscope Magnification
KM 8/22/2013 JEOL 1200 EX 20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0.005	0.002 - 0.011 - Poisson	5
Total Asbestos Structures	0.005	0.002 - 0.011 - Poisson	5
Primary Asb and Libby-Other Amphibole Structures	0.005	0.002 - 0.011 - Poisson	5
Total Asb & Libby-Other Amph Structures	0.005	0.002 - 0.011 - Poisson	5
Asbestos Structures > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 5:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Fibers and Bundles > 5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
Asbestos Structures >5um and 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3

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ISO 13794 - Indirect Summary Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Report Number: 130766R07

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Lab/Cor Sample No.: S23

Client Sample No.: 13080023

Description: PR-05

Filter Fraction: 0.5

Residual Ash Vol: 20

Volume Taken: 10

Aliquot Dilution: 0.5

Final Dilution: 0.5

Sample Area/Mass/Volume (L) : 4667

Lab Filter Area (mm2) : 193

Grid Openings Analyzed : 17

Average Grid Opening Area : 0.00994

Area Analyzed (mm2) : 0.16898

Analytical Sens. (struc/cc) : 0.001

Detection Limit. (struc/cc) : 0.003

Analyst(s) Analysis Date Microscope Magnification
KM 8/22/2013 JEOL 1200 EX 20000

Structure Type	Concentration (struc/cc)	95% Confidence Interval (struc/cc)	Structure Count ¹ Prim/Total
Primary Asbestos Structures	0.003	0.001 - 0.009 - Poisson	3
Total Asbestos Structures	0.003	0.001 - 0.009 - Poisson	3
Primary Asb and Libby-Other Amphibole Structures	0.003	0.001 - 0.009 - Poisson	3
Total Asb & Libby-OtherAmph Structures	0.003	0.001 - 0.009 - Poisson	3
Asbestos Structures > 5um and 5:1	0.001	0 - 0.005 - Poisson	1
Asbestos Fibers and Bundles > 5um and 5:1	0.001	0 - 0.005 - Poisson	1
Asbestos Fibers and Bundles > 5um and 3:1	0.001	0 - 0.005 - Poisson	1
Asbestos Structures >5um and 3:1	0.001	0 - 0.005 - Poisson	1
PCM Equivalent Fibers-ISO	0.001	0 - 0.005 - Poisson	1
PCM Equivalent Fibers-NIOSH	0.001	0 - 0.005 - Poisson	1
PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	0.001	0 - 0.005 - Poisson	1
PCM Equivalent Structures-ISO	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures-NIOSH	< 0.001	0 - 0.004 - Poisson	0
PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	< 0.001	0 - 0.004 - Poisson	0

x 
Kate March
Analyst

* One-sided upper 95% Poisson confidence limits may be used to calculate sample concentrations ([Struc count] * [Analytical Sensitivity]) when the structure count is below 4. The limits are: 0 str - 0, 1 str - 1, 2 str - 2, 3 str - 3



ISO 13794 - Indirect Raw Data

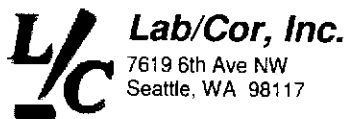
Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: A.12-10-0001

Report Number: 130766R07
Date Received: 8/15/2013

Lab/Cor Sample No: S6
Client Sample No: 13080006
Description: FA-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G10	1	E33				NSD							
G10	2	E34	CMQ	1	1	B	2.6	0.24	10.8	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum					
							Spectra	J23970SP			Confirmed	Comment	
							Brightfield	J23970BF			KM 8/21/2013		Burned out fiber for diffraction
G10	3	F33	CDQ	2	2	F	1.7	0.12	14.2	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum					
							Spectra	J23971SP			Confirmed	Comment	
							Diffraction	J23971DF			KM 8/21/2013		0.53nm ROW SPACING
							Brightfield	J23971BF					
G10	4	F34				NSD							
G10	5	G33				NSD							
G10	6	G34				NSD							
G10	7	B44				NSD							
G10	8	C43				NSD							
G10	9	C44				NSD							
G10	10	E43	NAM	3	3	F	1.75	0.4	4.4	Non Asbestos Mineral	Mg, Al, Si, Ca, Mn, Fe	Mg-Hornblende	
							ItemType	ItemNum					
							Spectra	J23973SP			Confirmed	Comment	
							Brightfield	J23973BF			KM 8/21/2013		
G10	11	F44				NSD							
G10	12	G43				NSD							
G10	13	H43				NSD							
G10	14	E52				NSD							
G11	15	C33				NSD							
G11	16	C34				NSD							
G11	17	E33				NSD							
G11	18	E34				NSD							
G11	19	F33				NSD							
G11	20	F34				NSD							
G11	21	G33				NSD							
G11	22	C43				NSD							
G11	23	E43				NSD							
G11	24	E44				NSD							

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Lab/Cor, Inc.

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Final Report

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A Professional Service Corporation in the Northwest

ISO 13794 - Indirect Raw Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: A.12-10-0001

Report Number: 130766R07

Date Received: 8/15/2013

Lab/Cor Sample No: S6

Client Sample No: 13080006

Description: FA-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G11	25	F43	ADQ	4	4	F	1.75	0.24	7.3	Actinolite	Mg, Al, Si, Ca, Mn, Fe		TAOS, PAOS
							ItemType	ItemNum		Confirmed		Comment	
							Spectra	J23975SP		KM 8/21/2013			
							Diffraction	J23975DF		KM 8/21/2013		0.53nm ROW SPACING	
							Brightfield	J23975BF					

G11 26 F44 NSD

G11 27 G43 NSD

Lab/Cor Sample No: S7

Client Sample No: 13080007

Description: PR-01

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G10	1	F41				NSD							
G10	2	F42				NSD							
G10	3	G43				NSD							
G10	4	C51				NSD							
G10	5	F34				NSD							
G11	6	C32				NSD							
G11	7	E32				NSD							
G11	8	E41				NSD							
G11	9	E42				NSD							
G11	10	G42				NSD							
G11	11	C44				NSD							
G11	12	E43				NSD							
G11	13	F44				NSD							
G12	14	C34	CDQ	1	1	F	1.8	0.1	18	Chrysotile	Mg, Si		TAOS, PAOS
						ItemType	ItemNum				Confirmed	Comment	
						Spectra	J24138SP				KM 8/28/2013		
						Diffraction	J24138DF				KM 8/28/2013	0.53nm ROW SPACING	
						Brightfield	J24138BF						

G12 15 E33 NSD

G12 16 E42 NSD

G12 17 F41 NSD

G12 18 F44 NSD

G12 19 G43 NSD

G12 20 G52 NSD

ISO 13794 - Indirect Raw Data

Job Number: 130766

SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R07

Date Received: 8/16/2013

Lab/Cor Sample No: S9

Client Sample No: 13080009

Description: BG-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G10	1	C24				NSD								
G10	2	E23				NSD								
G10	3	E24				NSD								
G10	4	F23				NSD								
G10	5	F24	ADQ	1		MD 1-0	3.3	1.2	2.7	Anthophyllite				PAOS
G10	5	F24	ADQ		1	MF	2.95	0.26	11.3	Anthophyllite	Mg, Al, Si, Ca, Mn, Fe			TAOS
						ItemType	ItemNum				Confirmed	Comment		
						Spectra	J23976SP				KM 8/21/2013			
						Diffraction	J23976DF				KM 8/21/2013	0.53nm ROW SPACING		
						Brightfield	J23976BF							
G10	6	G24				NSD								
G10	7	H24				NSD								
G10	8	B31				NSD								
G10	9	B32				NSD								
G10	10	C31				NSD								
G10	11	C32				NSD								
G10	12	E32				NSD								
G10	13	F31				NSD								
G10	14	F32				NSD								
G10	15	G31	ADQ	2		MD 1-0	1.75	1.2	1.5	Actinolite				PAOS
G10	15	G31	ADQ		2	MF	1.6	0.45	3.6	Actinolite	Mg, Al, Si, K, Ca, Fe			TAOS
						ItemType	ItemNum				Confirmed	Comment		
						Spectra	J23977SP				KM 8/21/2013			
						Diffraction	J23977DF				KM 8/21/2013	0.53nm ROW SPACING		
						Brightfield	J23977BF							
G10	16	G32				NSD								
G10	17	C33				NSD								
G10	18	C34				NSD								
G10	19	E33				NSD								
G10	20	F33				NSD								
G10	21	F34				NSD								
G10	22	G33				NSD								
G10	23	G34				NSD								
G10	24	H33				NSD								
G10	25	B42				NSD								
G10	26	C41				NSD								
G10	27	F42				NSD								

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Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R07

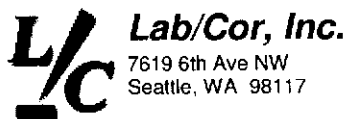
Date Received: 8/16/2013

Lab/Cor Sample No: S9

Client Sample No: 13080009

Description: BG-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G10	28	H41				NSD								
G10	29	B43				NSD								
G10	30	B44				NSD								
G10	31	C43				NSD								
G10	32	C44	AX	3		MD 1-0	3.5	1.5	2.3	Actinolite				PAOS
G10	32	C44	AX		3	MF	3.5	0.5	7	Actinolite	Mg, Si, Ca, Fe			TAOS
						ItemType	ItemNum				Confirmed	Comment		
						Spectra	J23978SP				KM	8/21/2013		
						Brightfield	J23978BF							
G10	33	E43				NSD								
G10	34	E44				NSD								
G10	35	F44				NSD								
G10	36	G43				NSD								
G10	37	G44				NSD								
G10	38	B52				NSD								
G10	39	C51				NSD								
G10	40	C52				NSD								
G10	41	E51	CDQ	4	4	F	1.22	0.1	12.2	Chrysotile	Mg, Si			TAOS, PAOS
						ItemType	ItemNum				Confirmed	Comment		
						Spectra	J23979SP				KM	8/21/2013		
						Diffraction	J23979DF				KM	8/21/2013	0.53nm ROW SPACING	
						Brightfield	J23979BF							
G10	42	E52				NSD								
G10	43	F51				NSD								
G10	44	F52				NSD								
G10	45	C53				NSD								
G10	46	C54				NSD								
G10	47	E53				NSD								
G10	48	E54				NSD								
G10	49	F53				NSD								
G10	50	E61				NSD								
G10	51	E62				NSD								
G10	52	F61				NSD								
G10	53	F62				NSD								
G10	54	G61				NSD								
G11	55	C31				NSD								
G11	56	C32				NSD								



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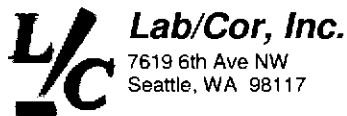
Job Number: 130766 SEA
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R07
Date Received: 8/16/2013

Lab/Cor Sample No: S9
Client Sample No: 13080009
Description: BG-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G11	57	E32				NSD								
G11	58	F31				NSD								
G11	59	F32	ADQ	5	5	B	4.9	1.25	3.9	Actinolite	Mg, Al, Si, K, Ca, Fe			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment		
							Spectra	J23980SP			KM	8/21/2013		
							Brightfield	J23980BF						
G11	60	G31				NSD								
G11	61	G32				NSD								
G11	62	B33				NSD								
G11	63	B34				NSD								
G11	64	E34				NSD								
G11	65	F33				NSD								
G11	66	F34				NSD								
G11	67	G33				NSD								
G11	68	G34				NSD								
G11	69	B42				NSD								
G11	70	C41				NSD								
G11	71	C42				NSD								
G11	72	E42				NSD								
G11	73	F42	ADX	6		MD 1-0	1.9	0.8	2.4	Actinolite				PAOS
G11	73	F42	ADX		6	MF	1.2	0.2	6	Actinolite	Mg, Al, Si, Ca, Fe			TAOS
							ItemType	ItemNum			Confirmed	Comment		
							Spectra	J23981SP			KM	8/21/2013		
							Brightfield	J23981BF						
G11	74	G41				NSD								
G11	75	G42				NSD								
G11	76	H41				NSD								
G11	77	H42				NSD								
G11	78	B43				NSD								
G11	79	C44				NSD								
G11	80	H43	CD	7		MD 1-0	4.2	1.2	3.5	Chrysotile				PAOS
G11	80	H43	CD		7	MF	3.75	0.1	37.5	Chrysotile				TAOS
							ItemType	ItemNum			Confirmed	Comment		
							Brightfield	J23982BF						
G11	81	H44				NSD								
G11	82	B52				NSD								

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Job Number: 130766

SEA

Report Number: 130766R07

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Lab/Cor Sample No: S9

Client Sample No: 13080009

Description: BG-02

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G11	83	C52				NSD								
G11	84	E51				NSD								
G11	85	E52				NSD								
G11	86	F51				NSD								
G11	87	H52				NSD								
G11	88	C54				NSD								
G11	89	E53				NSD								
G11	90	E54				NSD								
G11	91	F53				NSD								
G11	92	F54				NSD								
G11	93	G54				NSD								
G11	94	H54				NSD								
G11	95	C62				NSD								
G11	96	E61				NSD								
G11	97	E62				NSD								
G11	98	F62				NSD								
G11	99	G62				NSD								
G11	100	H61				NSD								

Lab/Cor Sample No: S13

Client Sample No: 13080013

Description: FA-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count	Categories
G10	1	C23				NSD								
G10	2	F23				NSD								
G10	3	G32				NSD								
G10	4	E33				NSD								
G10	5	F33				NSD								
G11	6	C34				NSD								
G11	7	E33				NSD								
G11	8	E42				NSD								
G11	9	C44				NSD								
G11	10	E43				NSD								

Wm FHB

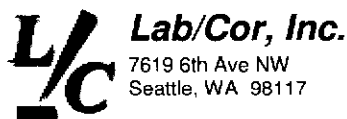
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Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R07
Date Received: 8/16/2013

Lab/Cor Sample No: S15
Client Sample No: 13080015
Description: PR-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G7	1	E42				NSD							
G7	2	F41				NSD							
G7	3	F42				NSD							
G7	4	G41				NSD							
G7	5	C43				NSD							
G7	6	E43				NSD							
G7	7	E44				NSD							
G7	8	F43				NSD							
G7	9	G43				NSD							
G7	10	G44	NAM	1	1	F	7.5	1.6	4.7	Non Asbestos Mineral	Mg, Al, Si, K, Ca, Fe	Fe-Hornblende	
						ItemType	ItemNum				Confirmed	Comment	
						Spectra	J23992SP				KM	8/22/2013	
						Diffraction	J23992DF				KM	8/22/2013	
						Brightfield	J23992BF					0.53nm ROW SPACING	
G7	11	C52				NSD							
G7	12	E51				NSD							
G7	13	E52				NSD							
G8	14	E32				NSD							
G8	15	F31	NAM	2	2	F	2.35	0.33	7.1	Non Asbestos Mineral	Mg, Al, Si, K, Ca, Mn, Fe		
						ItemType	ItemNum				Confirmed	Comment	
						Spectra	J23993SP				KM	8/22/2013	
						Diffraction	J23993DF				KM	8/22/2013	
						Brightfield	J23993BF					NOT 0.53nm ROW SPACING	
G8	16	B34	ADX	3	3	F	3	0.9	3.3	Actinolite	Mg, Si, Ca, Fe		TAOS, PAOS
						ItemType	ItemNum				Confirmed	Comment	
						Spectra	J23994SP				KM	8/22/2013	
						Diffraction	J23994DF				KM	8/22/2013	
						Brightfield	J23994BF					0.53nm ROW SPACING	
G8	17	C34	CD	4		MD 1-0	3.2	1.5	2.1	Chrysotile			PAOS
G8	17	C34	CD		4	MF	2.5	0.1	25	Chrysotile			TAOS
						ItemType	ItemNum				Confirmed	Comment	
						Diffraction	J23995DF				KM	8/22/2013	
						Brightfield	J23995BF					No EDS - Fiber tilts into grid bar	



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Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R07

Date Received: 8/16/2013

Lab/Cor Sample No: S15

Client Sample No: 13080015

Description: PR-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G8	17	C34	CDQ	5	5	F	0.72	0.1	7.2	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J23996SP			KM	8/22/2013	
							Diffraction	J23996DF			KM	8/22/2013	0.53nm ROW SPACING
							Brightfield	J23996BF					
G8	18	E34				NSD							
G8	19	B44				NSD							
G8	20	E43				NSD							
G8	21	F43				NSD							
G8	22	B52	CD	6	6	F	1.75	0.08	21.9	Chrysotile			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J23997BF					
G8	23	F51	CD	7	7	F	1.5	0.01	150	Chrysotile			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Diffraction	J23998DF			KM	8/22/2013	0.53nm ROW SPACING
							Brightfield	J23998BF					
G8	24	B54				NSD							
G8	25	C53				NSD							

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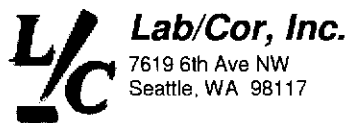
Job Number: 130766 **SEA**
Client: Environmental Quality Management, Inc.
Project Name: 10LW - Ashue Road Asbestos - Wapato, WA
Project No.: C.12-10-0001

Report Number: 130766R07
Date Received: 8/16/2013

Lab/Cor Sample No: S20
Client Sample No: 13080020
Description: EO-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G10	1	C32	CD	1	1	MC 3-0	1.7	1.2	1.4	Chrysotile			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24007BF					
G10	2	E31				NSD							
G10	3	E32				NSD							
G10	4	F32				NSD							
G10	5	G31				NSD							
G10	6	G32	CMQ	2		MD 1-0	5.1	1.7	3	Chrysotile			AS>5, AS>5, 3:1, PAOS
G10	6	G32	CMQ		2	MB	2.8	0.24	11.7	Chrysotile			TAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24008SP			KM	8/22/2013	
							Brightfield	J24008BF					
G10	7	H31				NSD							
G10	8	H32				NSD							
G10	9	C34	CDQ	3	3	F	0.82	0.1	8.2	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24009SP			KM	8/22/2013	
							Diffraction	J24009DF			KM	8/22/2013	0.53nm ROW SPACING
							Brightfield	J24009BF					
G10	10	C33				NSD							
G10	11	E33				NSD							
G10	12	E34				NSD							
G10	13	F33				NSD							
G10	14	F34				NSD							
G10	15	G34				NSD							
G10	16	H33				NSD							
G10	17	H34				NSD							
G10	18	B42				NSD							
G10	19	C41				NSD							
G10	20	C42	CD	4	4	F	0.67	0.1	6.7	Chrysotile			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24012BF					
G10	21	E41	CM	5	5	MC 1-0	6.5	4.5	1.4	Chrysotile			AS>5, TAOS, AS>5, 3:1, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24014BF					
G10	22	E42				NSD							
G10	23	F41				NSD							

mwq-H-13



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Job Number: 130766

SEA

Report Number: 130766R07

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

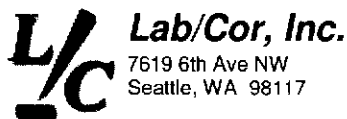
Lab/Cor Sample No: S20

Client Sample No: 13080020

Description: EO-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G10	24	F42				NSD							
G10	25	G41	CD	6	6	F	0.9	0.05	18	Chrysotile			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24015BF					
G10	26	G42	CD	7	7	MC 1-0	6	6	1	Chrysotile		2x grid bar	AS>5, TAOS, AS>5, 3:1, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24016BF					
G10	27	H41				NSD							
G10	28	H42				NSD							
G10	29	B44				NSD							
G10	30	C43				NSD							
G10	31	C44				NSD							
G10	32	E43				NSD							
G10	33	F43				NSD							
G10	34	F44	CD	8		MD 1-0	2	1.7	1.2	Chrysotile			PAOS
G10	34	F44	CD		8	MF	1.2	0.1	12	Chrysotile			TAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24019BF					
G10	35	G43				NSD							
G10	36	G44	ADQ	9	9	B	2.35	0.7	3.4	Actinolite	Mg, Al, Si, K, Ca, Fe		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24020SP			KM 8/22/2013		
							Diffraction	J24020DF			KM 8/22/2013	0.53nm ROW SPACING	
							Brightfield	J24020BF					
G10	37	F51				NSD							
G10	38	F52				NSD							
G11	39	C32				NSD							
G11	40	E31	CD	10		MD 1-0	1.5	0.6	2.5	Chrysotile			PAOS
G11	40	E31	CD		10	MF	0.76	0.11	6.9	Chrysotile			TAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24021BF					
G11	41	E32				NSD							
G11	42	F31				NSD							
G11	43	F32				NSD							
G11	44	G31				NSD							
G11	45	G32				NSD							

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Job Number: 130766

SEA

Report Number: 130766R07

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

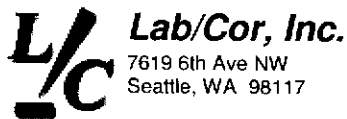
Project No.: C.12-10-0001

Lab/Cor Sample No: S20

Client Sample No: 13080020

Description: EO-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G11	46	H31				NSD							
G11	47	E34	ADQ	11	11	F	6	0.5	12	Amosite	Mg, Al, Si, Ca, Mn, Fe		AS>5, PCMEF-ISO, PCMES-ISO, AFB>5, PCMEF-NIOSH, PCMES- NIOH, TAOS, AS>5, 3:1, AFB>5, 3:1, PCMEFmodNIOH, PCMESmodNIOH, PAOS
						Item Type	Item Num	Confirmed		Comment			
						Spectra	J24023SP	KM 8/22/2013					
						Diffraction	J24023DF	KM 8/22/2013		0.53nm ROW SPACING			
						Brightfield	J24023BF						
G11	48	F33				NSD							
G11	49	F34				NSD							
G11	50	G34				NSD							
G11	51	H33				NSD							
G11	52	B42				NSD							
G11	53	E41				NSD							
G11	54	E42				NSD							
G11	55	F41				NSD							
G11	56	F42				NSD							
G11	57	G41	CD	12	12	F	0.67	0.1	6.7	Chrysotile			TAOS, PAOS
						Item Type	Item Num	Confirmed		Comment			
						Brightfield	J24024BF						
G11	58	G42				NSD							
G11	59	H41				NSD							
G11	60	H42				NSD							
G11	61	B44				NSD							
G11	62	C43				NSD							
G11	63	C44				NSD							
G11	64	E43	AQ	13	13	F	4.2	0.7	6	Actinolite	Mg, Al, Si, Ca, Fe		TAOS, PAOS
						Item Type	Item Num	Confirmed		Comment			
						Spectra	J24025SP	KM 8/22/2013					
						Brightfield	J24025BF						
G11	65	E44				NSD							
G11	66	F43				NSD							
G11	67	F44				NSD							
G11	68	G43				NSD							



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Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R07

Date Received: 8/16/2013

Lab/Cor Sample No: S20

Client Sample No: 13080020

Description: EO-03

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G11	69	G44	CD	14	14	B	1.25	0.18	6.9	Chrysotile			TAOS, PAOS
							ItemType	ItemNum		Confirmed		Comment	
							Brightfield	J24026BF					
G11	70	H43				NSD							
G11	71	H44				NSD							
G11	72	B52				NSD							
G11	73	C51				NSD							
G11	74	C52				NSD							
G11	75	F51				NSD							
G11	76	H52				NSD							

Handwritten signature: MW 9-11-13

ISO 13794 - Indirect Raw Data

Job Number: 130766

SEA

Report Number: 130766R07

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Lab/Cor Sample No: S22

Client Sample No: 13080022

Description: FA-06

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G10	1	C34				NSD							
G10	2	E34	CDQ	1	1	F	0.95	0.1	9.5	Chrysotile	Mg, Si		TAOS, PAOS
						ItemType	ItemNum		Confirmed		Comment		
						Spectra	J23999SP		KM 8/22/2013				
						Diffraction	J23999DF		KM 8/22/2013		0.53nm ROW SPACING		
						Brightfield	J23999BF						
G10	3	F34	CD	2	2	F	0.68	0.08	8.5	Chrysotile			TAOS, PAOS
						ItemType	ItemNum		Confirmed		Comment		
						Brightfield	J24000BF						
G10	4	C43	CD	3	3	F	0.68	0.1	6.8	Chrysotile			TAOS, PAOS
						ItemType	ItemNum		Confirmed		Comment		
						Brightfield	J24001BF						
G10	5	C44				NSD							
G10	6	E43	ADQ	4	4	F	1.5	0.25	6	Actinolite	Mg, Al, Si, Ca, Mn, Fe		TAOS, PAOS
						ItemType	ItemNum		Confirmed		Comment		
						Spectra	J24002SP		KM 8/22/2013				
						Brightfield	J24002BF						
						Diffraction	J24002DF		KM 8/22/2013		0.53nm ROW SPACING		
G10	7	E44				NSD							
G10	8	F43				NSD							
G11	9	C34				NSD							
G11	10	E33				NSD							
G11	11	E42				NSD							
G11	12	F41				NSD							
G11	13	G44	CD		5	MD 1-0	1.65	0.4	4.1	Chrysotile			PAOS
G11	13	G44	CD		5	MF	1.65	0.1	16.5	Chrysotile			TAOS
						ItemType	ItemNum		Confirmed		Comment		
						Brightfield	J24003BF						
G11	14	H43				NSD							
G11	15	G41				NSD							

Handwritten signature: MW PHB

ISO 13794 - Indirect Raw Data

Job Number: 130766 SEA

Client: Environmental Quality Management, Inc.

Project Name: 10LW - Ashue Road Asbestos - Wapato, WA

Project No.: C.12-10-0001

Report Number: 130766R07

Date Received: 8/16/2013

Lab/Cor Sample No: S23

Client Sample No: 13080023

Description: PR-05

Gr	No.	Loc.	ID	Prim	Tot	Class	Length	Width	Aspect	Analyte	Elements	Comment	Count Categories
G10	1	G41				NSD							
G10	2	G42				NSD							
G10	3	H41				NSD							
G10	4	H42				NSD							
G10	5	E51				NSD							
G10	6	E52				NSD							
G10	7	F51				NSD							
G10	8	F52	ADQ	1		MD 1-1	11	4.2	2.6	Actinolite			AS>5, AS>5, 3:1, PAOS
G10	8	F52	ADQ		1	MB	11	0.8	13.8	Actinolite	Mg, Al, Si, K, Ca, Mn, Fe		PCMEF-ISO, AFB>5, PCMEF-NIOSH, TAOS, AFB>5, 3:1, PCMEFmodNIOSH
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24004SP			KM	8/22/2013	
							Diffraction	J24004DF			KM	8/22/2013	
							Brightfield	J24004BF				0.53nm ROW SPACING	
G10	9	G51				NSD							
G11	10	E33				NSD							
G11	11	E34				NSD							
G11	12	F33				NSD							
G11	13	F34				NSD							
G11	14	G42	CDQ	2	2	F	0.78	0.1	7.8	Chrysotile	Mg, Si		TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Spectra	J24005SP			KM	8/22/2013	
							Diffraction	J24005DF			KM	8/22/2013	
							Brightfield	J24005BF				0.53nm ROW SPACING	
G11	15	E43				NSD							
G11	16	E44				NSD							
G11	17	F43	CD	3	3	F	1.1	0.1	11	Chrysotile			TAOS, PAOS
							ItemType	ItemNum			Confirmed	Comment	
							Brightfield	J24006BF					

ISO 13794 - Indirect Raw Data

Job Number: 130766

SEA

Report Number: 130766R07

Client: Environmental Quality Management, Inc.

Date Received: 8/16/2013


Project Name: 10LW - Ashue Road Asbestos - Wapato, WA


Project No.: C.12-10-0001

Count Categories

AFB>5	Asbestos Fibers and Bundles > 5um and 5:1	AFB>5, 3:1	Asbestos Fibers and Bundles > 5um and 3:1	AS>5	Asbestos Structures > 5um and 5:1
AS>5, 3:1	Asbestos Structures >5um and 3:1	PAOS	Primary Asb and Libby-Other Amphibole Structures	PAS	Primary Asbestos Structures
PCMEF-ISO	PCM Equivalent Fibers-ISO	PCMEFmodNIO	PCM Equivalent Fibers - 0.25-3.0, > 5 & 3:1	PCMEF-NIOSH	PCM Equivalent Fibers-NIOSH
PCMES-ISO	PCM Equivalent Structures-ISO	PCMESmodNIO	PCM Equivalent Structures - 0.25-3.0, > 5 & 3:1	PCMES-NIOSH	PCM Equivalent Structures-NIOSH
TAOS	Total Asb & Libby-OtherAmph Structures	TAS	Total Asbestos Structures		

Reviewed by:

x 
Kate March
Analyst

 Page 25 of 25

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ATTACHMENT 4

Waste Disposal Documentation

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THE CERCLA OFF-SITE DISPOSAL REPORT

Information Required for CERCLA Off-Site Waste Management Activities

1. Superfund site name/State/CERCLIS number:
Stubblefield Salvage R.A./Washington/WAN001002813
2. Type of Action (check two)

<input checked="" type="checkbox"/> Removal	<input type="checkbox"/> Remedial
<input type="checkbox"/> Fund-financed	<input type="checkbox"/> Fund-financed
<input type="checkbox"/> PRP-financed	<input type="checkbox"/> PRP-financed
3. Type (check one) and form (check one) of waste; if more than one type, attach separate sheet for this and remaining questions for each type:
Reference Attached Waste Profile
4. Quantity of waste:
Reference Attached Waste Tracking Sheet
5. Range, average, and /or representative concentrations of the contaminants of concern:
Reference Attached Waste Profile
Waste Name: Non-Hazardous/Non-Regulated Solid – Profile 108029WA
6. Pre-treatment of waste before transportation: **None**

<input type="checkbox"/> precipitation	<input type="checkbox"/> neutralization	<input type="checkbox"/> solidification	<input type="checkbox"/> fixation
<input type="checkbox"/> stabilization	<input type="checkbox"/> other		
7. Receiving RCRA facility name/location/ID number/unit(s)
Reference Attached Manifest, Box 8
8. Receiving Region
Reference Attached Manifest, Box 8
9. Receiving Region Off-Site Contact (RROC). (note - this is the individual designed pursuant to the May 6, 1985 policy.)*
Name: Kevin Schanilec
Xiangyu Chu
Date: August 15, 2013
10. Date(s) of Shipments (**Reference Attached Manifest, Box 15**), Date disposal is completed (data that facility signs manifest for receipt of final shipment)
Reference Attached Manifest, Box 20

11. Pre-treatment of waste at the site before final treatment or disposal: **None**

<input type="checkbox"/> precipitation	<input type="checkbox"/> neutralization
<input type="checkbox"/> solidification	<input type="checkbox"/> fixation
<input type="checkbox"/> stabilization	<input type="checkbox"/> other

12. Final method of treatment or disposal/unit receiving:

<input type="checkbox"/> precipitation	<input type="checkbox"/> neutralization
<input type="checkbox"/> incineration	<input checked="" type="checkbox"/> landfill
<input type="checkbox"/> land treatment	<input type="checkbox"/> injection
<input type="checkbox"/> recovery/re-use	<input type="checkbox"/> other

13. If wasteland filled:

-What disposal cell number or location? Cell #13

-Type of liner in cell?

- 1-foot thick layer of soil ($> 10^{-5}$ cm/sec permeability)
- Nonwoven separator geotextile (6 to 8 oz/yd²)
- 1-foot thick layer of crushed gravel that includes leachate conveyance piping
- Nonwoven cushion geotextile (16 oz/yd²)
- 60-mil double-sided textured geomembrane
- Geosynthetic clay liner

14. Cost of activities: \$4,573.36

-Cost based on treatment/disposal only (no transportation cost): \$1,468.36

-Cost for transportation: \$3,105.00

enclosures



COLUMBIA RIDGE LANDFILL
18177 CEDAR SPRINGS LANE
ARLINGTON, OR 97812

(541) 454-2030

INVOICE

Environmental Quality Mgmt Inc
Received

SEP 16 2013

Seattle

Customer: ENVIRONMENTAL QUALITY MGMT
Online WM ezPay ID: 00010-32731-83001
Invoice Date: 09/01/2013
Invoice Number: 0035396-2588-3
Account Number: 258-0001561-2588-2
Due Date: Due Upon Receipt

Total Current Charges Total Amount Due

4,498.36

4,573.36

Account Summary

Description

Previous Balance	75.00
Total Credits and Adjustments	0.00
Total Payments Received	0.00
Total Current Charges	4,498.36
Total Amount Due	4,573.36
Total Amount Past Due	75.00

Please pay total amount due. Thank you for your business.

Service Period: AUGUST 2013

Description	Amount
Landfill	4,498.36
Total Current Charges	4,498.36

If full payment of the invoiced amount is not received within 30 days of the invoice date, you will be charged a monthly late fee of 2.5% of the unpaid amount, with a minimum monthly charge of \$5.00, or such late fee allowed under applicable law, regulation or contract. Additionally, if your service is suspended for non-payment, you may be charged a resume fee to restart your service. For each returned check, a fee will be assessed on your next billing equal to the maximum amount permitted by applicable state law.

Want to pay this bill on-line? Visit www.wm.com and click on My Account to make a convenient, secure payment.

Current Due	Over 30	Over 60	Over 90	Over 120	Total Due
4,498.36	75.00	0.00	0.00	0.00	4,573.36



(541) 454-2030

Learn how we Think Green at
www.wm.com/thinkgreen

Payment Coupon

Please detach and send with checks only (no cash).
Please send all other correspondence to your local WM site.

Your Account Number

258-0001561-2588-2

Invoice Date

09/01/2013

Your Invoice Number

0035396-2588-3

Due Date

Upon Receipt

Total Due

4,573.36

Amount Paid

25882580001561000353960000044983600000457336 7

0001310 NX

7247

-C03-P01311-I

I1391L42



ENVIRONMENTAL QUALITY MGMT
6825 216TH ST SW SUITE J
LYNNWOOD WA 98036-7379

COLUMBIA RIDGE LANDFILL
PO BOX 541065
LOS ANGELES CA 90054-1065

From everyday collection to environmental protection, Think Green® Think Waste Management.

FOR CHANGE OF ADDRESS OR ANY SERVICE ISSUES CONTACT NUMBER ON PAGE 1



Printed on
recycled paper.

000103273183001

0001310-0000001-0003485

(541) 454-2030

INVOICE

Page 1 of 3
Customer: ENVIRONMENTAL QUALITY MGMT
Online WM ezPay ID: 00010-32731-83001
Invoice Date: 08/15/2013
Invoice Number: 0035292-2588-4
Account Number: 258-0001561-2588-2
Due Date: Due Upon Receipt

Total Current Charges	Total Amount Due
75.00	75.00

Account Summary

Description	
Previous Balance	29.09
Total Credits and Adjustments	29.09
Total Payments Received	0.00
Total Current Charges	75.00
Total Amount Due	75.00
Total Amount Past Due	0.00

Please pay total amount due. Thank you for your business.

Service Period: AUGUST 2013

Description	Amount
Landfill	75.00
Total Current Charges	75.00

If full payment of the invoiced amount is not received within 30 days of the invoice date, you will be charged a monthly late fee of 2.5% of the unpaid amount, with a minimum monthly charge of \$5.00, or such late fee allowed under applicable law, regulation or contract. Additionally, if your service is suspended for non-payment, you may be charged a resume fee to restart your service. For each returned check, a fee will be assessed on your next billing equal to the maximum amount permitted by applicable state law.

Want to pay this bill on-line? Visit www.wm.com and click on My Account to make a convenient, secure payment.

Current Due	Over 30	Over 60	Over 90	Over 120	Total Due
75.00	0.00	0.00	0.00	0.00	75.00



COLUMBIA RIDGE LANDFILL
18177 CEDAR SPRINGS LANE
ARLINGTON, OR 97812

(541) 454-2030

Payment Coupon

Please detach and send with checks only (no cash).
Please send all other correspondence to your local WM site.

Your Account Number
258-0001561-2588-2

Invoice Date	Your Invoice Number
08/15/2013	0035292-2588-4

Due Date	Total Due	Amount Paid
Upon Receipt	75.00	

Learn how we Think Green at
www.wm.com/thinkgreen

2502250001561000352520000000750000000007500 5

0000154 NX

7228

-C02-P000000-1

11391137

|||||

ENVIRONMENTAL QUALITY MGMT
6825 216TH ST SW SUITE J
LYNNWOOD WA 98036-7379



**COLUMBIA RIDGE LANDFILL
PO BOX 541065
LOS ANGELES CA 90054-1065**

*From everyday collection to environmental protection,
Think Green® Think Waste Management.*

000103273183001

Business Unit Name: Columbia Ridge Landfill & Recycling Center - S04247 (USA)

Profile: 108029WA

Ticket Date	Ticket	Customer	Material	Rate Unit	Tons
8/15/2013	157829	ENVIRONMENTAL QUALITY MGMT	ENVCLEANUP SPW-Tons	TON	16.47
8/15/2013	157863	ENVIRONMENTAL QUALITY MGMT	ENVCLEANUP SPW-Tons	TON	13.88
8/15/2013	157864	ENVIRONMENTAL QUALITY MGMT	ENVCLEANUP SPW-Tons	TON	13.91
Total					44.26

Pat Heyneman

From: TSCPortland@wm.com
Sent: Wednesday, August 14, 2013 9:36 AM
To: Pat Heyneman
Subject: Profile 108029WA has been approved on WMSolutions.com



THINK GREEN.®

AUGUST 14, 2013

RE: Notice of Profile Approval: #108029WA

Profile Number:	108029WA
Waste Stream:	Non Hazardous/Non Regulated Solids
Generator Name:	USEPA Region 10
Disposal Site:	Columbia Ridge Landfill
Expiration Date:	08/13/2014

Dear Patrick Heyneman,

We are pleased to inform you that Profile 108029WA has been approved by our Portland Technical Service Center. Your Waste Approval Terms and Conditions can be found on either your *Profile Form* or *Approval Form*. Both documents are available as a PDF in the *Approved Tab* in your wmsolutions.com account.

Profile Comments: <1% ASBESTOS NOT REGULATED

Please feel free to email us at TSCPortland@wm.com or call 800-963-4776 with any questions.

Thank you for choosing Waste Management, Inc.

Portland
7227 NE 55th Avenue
Portland, OR 97218
800-685-8001
TSCPortland@wm.com

You are receiving this message as a registered customer of WMSolutions.com.
Waste Management respects your privacy. To review our Privacy Policy, [click here](#).
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Columbia Ridge Landfill

18177 Cedar Springs Lane, Arlington Oregon 97812

Profile # 108029WA

PERMIT TO DISPOSE OF NON-HAZARDOUS MATERIALS

This permit authorizes disposal of Customer's waste materials in accordance with the Industrial Waste & Disposal Services Agreement dated _____.


EXPIRES: 8/13/2014

GENERATOR: USEPA REGION10

DESCRIPTION: <i>DEBRIS, CONCRETE, SOILS, REBAR, < 1% ASBESTOS</i>	VOLUME: <i>150 tons</i>
<input checked="" type="checkbox"/> SPECIAL WASTE <input type="checkbox"/> PCS <input checked="" type="checkbox"/> CLEAN-UP MATERIAL	
LOCATION: <i>WAPATO, WASHINGTON 3960 ASHUE ROAD</i>	COUNTY: <i>* Yakima</i>
CONTACT: <i>LAURIE TELIN</i>	PHONE: <i>425-673-2900</i>
	FAX : <i>ltelin@eqm.com</i>

BILLING: <i>Landfill account ENVIRONMENTAL QUALITY MANAGEMENT</i>	PO#: <i>N/A</i>	JOB#: <i>N/A</i>
---	-----------------	------------------

TYPE OF DISPOSAL/ SPECIAL HANDLING/LOAD TYPE: <i>BULK, CO-MINGLE, NO FREE LIQUIDS</i> ***** ALL LOADS MUST BE SCHEDULED 24 HOURS IN ADVANCE. CONTACT GREG AT 541-454-3220
--


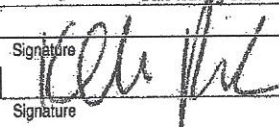
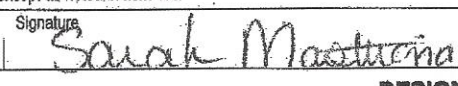
APPROVED:  <i>KRISTIN CASTNER</i> DATE: <i>08/14/13 10:12:59 AM</i>
--


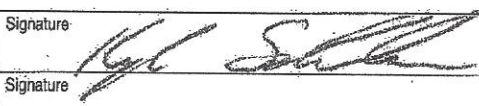
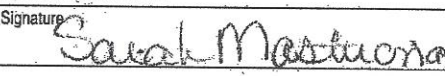
A COPY OF THIS PERMIT MUST BE SHOWN BY EACH DRIVER



WASTE MANAGEMENT

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number WA001003091		2. Page 1 of 1	3. Emergency Response Phone (800) 424-9300		4. Waste Tracking Number 001				
		5. Generator's Name and Mailing Address USEPA REGION 10 3960 ASHUE ROAD WABATO WA 98951		Generator's Site Address (if different than mailing address)							
Generator's Phone: (206) 553-2751		6. Transporter 1 Company Name R TRANSPORT INC.				U.S. EPA ID Number WAH000028338					
7. Transporter 2 Company Name N/A						U.S. EPA ID Number					
8. Designated Facility Name and Site Address COLUMBIA RIDGE LANDFILL 18177 CEDAR SPRINGS LANE ARLINGTON OR. 97812						U.S. EPA ID Number ORD987173457					
Facility's Phone: (541) 454-2030											
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.						
		No.	Type								
1. NON-REGULATED MATERIAL, PER 49-CFR, (X004)		001	DT	12	T						
2.											
3.											
4.											
13. Special Handling Instructions and Additional Information 1; #108029WA; DEBRIS, CONCRETE, SOILS, REBAR, <1% ASBESTOS; ERG# N/A *Chemtrac #CCN24117* TRUCK# R53 16.47 T											
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.											
Generator's/Offoror's Printed/Typed Name JEFFREY FOWLOW ORO EPA		Signature <i>[Signature]</i>		Month 8		Day 15		Year 13			
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.:									
16. Transporter Acknowledgment of Receipt of Materials		Transporter 1 Printed/Typed Name L. Ben Carroll		Signature <i>[Signature]</i>		Month 8		Day 15		Year 13	
		Transporter 2 Printed/Typed Name		Signature		Month		Day		Year	
17. Discrepancy											
17a. Discrepancy Indication Space		<input type="checkbox"/> Quantity		<input type="checkbox"/> Type		<input type="checkbox"/> Residue		<input type="checkbox"/> Partial Rejection		<input type="checkbox"/> Full Rejection	
		Manifest Reference Number:									
17b. Alternate Facility (or Generator)		U.S. EPA ID Number									
Facility's Phone:											
17c. Signature of Alternate Facility (or Generator)						Month		Day		Year	
18. Designated Facility Owner or Operator. Certification of receipt of materials covered by the manifest except as noted in item 17a											
Printed/Typed Name Sarah Mastriona		Signature <i>[Signature]</i>		Month 08		Day 15		Year 13			

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number WA0001003091	2. Page 1 of 1	3. Emergency Response Phone 800-424-9300	4. Waste Tracking Number 00Z	
5. Generator's Name and Mailing Address USEPA REGION 10 3960 ASHUE ROAD WARATO WA 98951				Generator's Site Address (if different than mailing address)		
Generator's Phone: (206) 653-2761				U.S. EPA ID Number WAH000028338		
6. Transporter 1 Company Name R TRANSPORT INC				U.S. EPA ID Number		
7. Transporter 2 Company Name N/A				U.S. EPA ID Number		
8. Designated Facility Name and Site Address COLUMBIA RIDGE LANDFILL 18177 CEDAR SPRINGS LANE ARLINGTON OR. 97812				U.S. EPA ID Number ORD987173457		
Facility's Phone: (541) 454-2030						
GENERATOR	9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit Wt./Vol.
			No.	Type		
	1. NON-REGULATED MATERIAL, PER 49-CFR, (X004)		001	DT	012	TR
	2.					
	3.					
4.						
13. Special Handling Instructions and Additional Information 1: #108029WA; DEBRIS, CONCRETE, SOILS, REBAR, <1% ASBESTOS; ERG# N/A 'Chemtrac #CON24117' TRUCK - Kissler #9 13.88T						
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.						
Generator's/Offor's Printed/Typed Name ORR EPA JEFFREY FOWLER		Signature 		Month Day Year 8 15 13		
TRANSPORTER	15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.:			
	Transporter Signature (for exports only):					
DESIGNATED FACILITY	16. Transporter Acknowledgment of Receipt of Materials		Signature		Month Day Year	
	Transporter 1 Printed/Typed Name Kellen Renfro				8 15 13	
Transporter 2 Printed/Typed Name		Signature		Month Day Year		
17. Discrepancy						
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection						
Manifest Reference Number:				U.S. EPA ID Number		
17b. Alternate Facility (or Generator)				U.S. EPA ID Number		
Facility's Phone:				Month Day Year		
17c. Signature of Alternate Facility (or Generator)				Month Day Year		
18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a						
Printed/Typed Name Sarah Mastriana		Signature 		Month Day Year 08 15 13		

NON-HAZARDOUS WASTE MANIFEST		1. Generator ID Number WAN001003091	2. Page 1 of 1	3. Emergency Response Phone (800) 424-9300	4. Waste Tracking Number 003
5. Generator's Name and Mailing Address USEPA REGION 10 3960 ASHUE ROAD WAPATO WA 98951 Generator's Phone: (206) 553-2751 Generator's Site Address (if different than mailing address):					
6. Transporter 1 Company Name R TRANSPORT INC				U.S. EPA ID Number WAH000028338	
7. Transporter 2 Company Name N/A				U.S. EPA ID Number	
8. Designated Facility Name and Site Address COLUMBIA RIDGE LANDFILL 18177 CEDAR SPRINGS LANE ARLINGTON OR 97812 Facility's Phone: (541) 454-2030				U.S. EPA ID Number ORD987173457	
9. Waste Shipping Name and Description		10. Containers		11. Total Quantity	12. Unit WL/Vol.
		No.	Type		
1. NON-REGULATED MATERIAL, PER 49-CFR, (X004)		001	DT	12	7
2.					
3.					
4.					
13. Special Handling Instructions and Additional Information 1. #108029WA; DEBRIS, CONCRETE, SOILS, REBAR, <1% ASBESTOS; ERGN W/A *Chemtrac #CCN24117* TRUCK Kissler #13 13.9IT					
14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.					
Generator's/Offor's Printed/Typed Name OBO EPA JEFFREY FORDON		Signature 		Month 8	Day 15
15. International Shipments <input type="checkbox"/> Import to U.S. <input type="checkbox"/> Export from U.S.		Port of entry/exit: Date leaving U.S.:		Year 13	
Transporter Signature (for exports only):					
16. Transporter Acknowledgment of Receipt of Materials					
Transporter 1 Printed/Typed Name R/L Schrader		Signature 		Month 8	Day 15
Transporter 2 Printed/Typed Name		Signature		Year 13	
17. Discrepancy					
17a. Discrepancy Indication Space <input type="checkbox"/> Quantity <input type="checkbox"/> Type <input type="checkbox"/> Residue <input type="checkbox"/> Partial Rejection <input type="checkbox"/> Full Rejection					
17b. Alternate Facility (or Generator)				Manifest Reference Number: U.S. EPA ID Number	
Facility's Phone:					
17c. Signature of Alternate Facility (or Generator)				Month	Day
18. Designated Facility Owner or Operator, Certification of receipt of materials covered by the manifest except as noted in Item 17a					
Printed/Typed Name Sarah Mastriona		Signature 		Month 08	Day 15
				Year 13	

Vendor Name: Waste Management - Columbia Ridge, OR
PO #: 19319

3_TD Tracking Form 108029WA - Columbia Ridge.xls

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