PACIFIC RIM ENVIRONMENTAL, INC.

Regulated Building Material Survey
2135 Marvin Road N.E.
Lacey, WA 98503

Performed for:
GeoEngineers, Inc.
1101 South Fawcett Avenue, Suite 200
Tacoma, WA 98402

Prepared By:

Todd Carter, AHERA Inspector

Date Prepared: 11/07/2012
PacRim#: 14763

Seattle
www.pacrimenv.com
Anchorage

6510 Southcenter Blvd., Ste. #4
Seattle, WA 98188

Phone (206) 244-8965
Fax (206) 244-9096

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Section 1.0 Scope of Work
2135 Marvin Road N.E., Lacey, WA

On October 10, 2012, Pacific Rim Environmental, Inc. (PacRim) performed a regulated building material survey at the subject Property located at 2135 Marvin Road N.E. in Lacey, WA.

Site: The subject Property is a one-story gas station, approximately 1,276 square foot, it was constructed in 1973.

Limitations: No inspection or report limitations noted.

Field inspection, data collection, and report generation were performed according to the following **Scope of Work**:

Asbestos-Containing Materials (ACM)

1. Bulk sampling and analysis of suspect asbestos-containing materials (ACM).
2. Analysis of suspect ACM by a NVLAP accredited laboratory.
3. Quantity estimates of ACM.
4. Review of existing survey report
5. Written report including recommendations based on the technician's observations, sample descriptions, and sample location.
6. Statement of Compliance with W.A.C. 296-62-07721 Sign-off form.

Lead-Based Paints (LBP)

7. Perform limited screening of suspect lead-based paints using XRF.
8. Written report including: Sample descriptions, conditions, locations, analytical results, and recommendations. (**See Section 4.0 for discussion of LBP conditions**)

Universal Waste Inventory

8. Inspect and inventory lights and equipment to identify fixture and lamp type to determine presence of PCB and/or mercury.

The survey was intended to identify possible asbestos-containing materials (ACM) on the interior and exterior of the building. This inspection covered only those areas, which were exposed and/or physically accessible to the inspector. Materials uncovered during the course of demolition, renovation, or maintenance activities that are not identified in this inspection report must be presumed to contain asbestos until PLM analysis proves that this material is not asbestos-containing.

This survey is not intended for, nor should be used as a design specification. The Asbestos in Schools Hazard Amendment and Reauthorization Act (ASHARA), effective November 20, 1990, expanded accreditation requirements to apply to persons who work with asbestos in public and commercial buildings as well as schools. Specifically, ASHARA expanded the Toxic Substances Control Act (TSCA) Section 206 (a) (1) and (3) to require accreditation for any person who designs or conducts a response action with respect to friable ACM in a building. TSCA Section 207 provides for civil penalties of $5,000 for each day of a violation for not employing accredited individuals to design and conduct response actions. Sampling of suspect asbestos-containing materials was conducted as prescribed in 40 CFR 763.86.

Suspect asbestos-containing materials within the structure were identified and classified as a surfacing material, thermal system insulation, or miscellaneous materials. Surfacing materials are those, which are either spray applied or troweled-on for acoustical, decorative, or fireproofing purposes. Thermal system insulation (TSI) is insulation used to inhibit heat transfer or to prevent condensation on pipes, boilers, tanks, ducts and various other components. Miscellaneous materials include all other materials not included in the above categories such as floor tile, ceiling tile, roofing felt, cementitious materials, wallboard systems and products such as caulking, mastics and putties.

A total of thirteen (13) samples were collected and submitted for PLM laboratory analysis. Four (4) of these samples were found to contain greater than 1% asbestos.

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Section 2.0 Survey Narrative
2135 Marvin Road N.E., Lacey, WA

Bulk samples collected were submitted for sample analysis in accordance with method EPA-600/R-93/116: "Method for the Determination of Asbestos in Bulk building Materials". Analyses were performed in Pacific Rim Environmental Inc.'s NVLAP Accredited Laboratory (Lab Code 101631-0). Materials are positive for asbestos if they are found to contain greater than 1% or 1% asbestos.

Thermal Systems Insulation (TSI)

No suspect asbestos-containing TSI was observed.

If during the course of wall, ceiling or floor demolition, any TSI materials that are not listed in this report are uncovered, sampling ***must*** be performed or the material presumed asbestos containing prior to disturbing these materials.

Surface Materials

Suspect asbestos-containing **plaster under tile** was identified on the wall located on the storage 2. The materials were sampled twice and ***no asbestos was detected***. (Sample # 04 and 05)

If during the course of wall, ceiling or floor demolition, any surfacing materials not identified in this report are uncovered, sampling ***must*** be performed or the material presumed asbestos containing prior to disturbing these materials.

Miscellaneous Materials

Suspect asbestos-containing **2'x4' tile** was identified on the ceiling at the pay area. The materials were sampled and ***no asbestos was detected.*** (Sample # 01)

Suspect asbestos-containing **12" white tile and associated mastic** was identified on the floor in the office. The material was sampled and found to contain ***1-3% Chrysotile asbestos in the tile and 7-10% Chrysotile asbestos in the mastic***. (Sample #02)

Suspect asbestos-containing **4" brown cove base** was identified on the floor in the office. The material was sampled and found to contain ***1-3% Tremolite asbestos in the mastic***. (Sample #03)

Suspect asbestos-containing **window putty** was identified on the window, top of entry door at the pay area. The material was sampled and found to contain ***1-3% Chrysotile asbestos***. (Sample # 06)

Suspect asbestos-containing **tar paper under wood** was identified on the roof, at the dry storage. The material was sampled and ***no asbestos was detected.*** (Sample # 07)

Suspect asbestos-containing **rolled torch down roofing** was identified on the roof located at the east and west side. The materials were sampled and ***no asbestos was detected.*** (Sample # 08 and 09)

Suspect asbestos-containing **sealant** was identified on the roof, at the Chimney. The material was sampled and found to contain ***3-5% Chrysotile asbestos.*** (Sample # 10)

Suspect asbestos-containing rolled **roofing** was identified on the roof, at the carport island. The materials were sampled and ***no asbestos was detected.*** (Sample # 11 and 12)

Suspect asbestos-containing **asphalt sealant** was identified in the parking area, east of carport. The material was sampled and ***no asbestos was detected.*** (Sample # 13)

If during the course of wall, ceiling or floor demolition or roof demolition, any miscellaneous materials that are not listed in this report are uncovered, sampling ***must*** be performed or the material presumed asbestos containing prior to disturbing these materials.

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Section 3.0 Asbestos Abatement Cost Estimate
2135 Marvin Road N.E., Lacey, WA

The following abatement costs are "best-effort" estimates and are based on current industry averages. The following estimates are subject to many variables beyond the control of PRE. Such variables include, but are not limited to: project duration, contractor work schedule, hours of work allowed by the owner, contractor performance, regulatory agency interpretation of changing regulations, logistics of removal of material and miscellaneous delays. The estimate is meant only as a guideline to assist in the selection of an abatement contractor and may not reflect the actual final costs of asbestos removal. They do not include owner costs such as abatement project oversight and monitoring for compliance to law, and compliance to project plans and/or specifications. These estimates assume that adequate, professional plans and specifications are prepared. Generally, abatement costs are minimized by professional project management as well as utilizing the same asbestos abatement contractor to remove all asbestos containing materials during a single project. It is in no way intended to serve as, or replace, a comprehensive abatement specification. Estimates include permitting, removal and disposal.

12" White Floor Tile and Mastic Office floor	56 sq. ft.	@	$ 2.00 per sq. ft.	$ 112.00
4" Brown Cove Base Office floor	30 ln. ft.	@	$ 2.00 per sq. ft.	$ 60.00
Window Putty Pay area window at top of entry door	1 Window	@	$ 150.00 per sq. ft.	$ 150.00
Sealant Station roof at Chimney	20 sq. ft.	@	$ 4.00 per sq. ft.	$ 80.00
			TOTAL	**$ 402.00**

***Contractors will typically have a minimum call-out fee. Unit pricing may not be applicable to small-scale, shore-duration projects such as this.**

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Section 4.0 Statement of Compliance
2135 Marvin Road N.E., Lacey, WA

In accordance with W.A.C. 296-62-07721 and PSCAA Regulation III, Article 4, Pacific Rim Environmental, Inc. performed an asbestos survey of the subject structure Commercial Building located at **2135 Marvin Road N.E., Lacey, WA.**

Should employees or contract personnel encounter any suspect asbestos-containing materials (ACM) it is their responsibility to:

1. Contact a representative of the owner.
2. Consult the inspection report to determine whether or not the suspect material contains asbestos.
3. If the suspect material does not appear in the inspection report, then that material was not sampled and must be presumed to contain asbestos until proven otherwise by sampling and PLM analysis.
4. Ensure that all employees and contractors are informed and advised of the location and type of materials that contain asbestos.

The following asbestos-containing materials were identified at the subject property:

- **12" White Floor Tile and Mastic (Office floor)**
- **4" Brown Cove Base (Office floor)**
- **Window Putty (Pay area window at top of entry door)**
- **Sealant (Station roof at Chimney)**

Please refer to Survey Narrative for detailed location and material description information.

I Hereby Attest:

The inspection report has been made available to me. I will inform all subcontractors of the location and types of materials containing asbestos. I am authorized to sign on behalf of my company.

Contractor:	_____	Owner's Rep:	_____
Signature:	_____	Signature:	_____
Print Name:	_____	Print Name:	_____
Title:	_____	Title:	_____
Date:	_____	Date:	_____

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Section 5.0 Lead-Based Paint Screening
2135 Marvin Road N.E., Lacey, WA

The inspection and testing performed on the interior and exterior painted surfaces of the subject Property identified lead-based paint at or above the EPA/HUD standard of 1.0 mg/m^2 on the following tested components:

- **Orange painted metal, carport island top**
- **Dark orange painted metal, carport island top**

All work that may disturb lead-based paint should be performed by properly trained workers using appropriate work practices.

See XRF Data Sheets in Appendix D for a complete listing of all samples.

The only state rules or regulations that currently apply to lead-based paints are WAC 296-155-17603 Scope* and WAC 296-155-17607 Permissible Exposure Limit**. The WAC code states that if lead is detectable in the workplace in any quantity, initial air monitoring must be performed on employees doing demolition, renovation or remodeling work in areas found to have materials containing lead. Also, workers performing lead removal must be trained in accordance with WAC 296-155-17625.

The EPA/HUD standard uses a criterion of 5,000 parts per million (PPM) dry weight or 1.0 milligrams per square centimeter (1.0 mg/cm2) for lead-based paint. However, if lead is detected in any concentration, Federal OSHA and Washington State Department of Labor and Industries regulations will still apply, since neither agency has established a concentration of lead in paint below which the lead in construction standards do not apply.

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Section 6.0 Universal Waste Inventory
2135 Marvin Road N.E., Lacey, WA

Universal Waste Rules

The Universal Waste Rule (UWR) establishes alternative, streamlined waste management standards in place of most of the Dangerous Waste Regulations, Chapter 173-303 WAC, except for, WAC 173-303-050, 173-303-145 and 173-303-960. The following lamp types may be characterized as universal waste: fluorescent tubes, high intensity discharge (HID) lamps (mercury vapor, metal halide, high pressure sodium) and compact fluorescent.

The following Universal Waste was identified:

Fluorescent tubes and fixtures:	Approximately 24 eight-foot tubes
	Approximately 12 four-foot tubes
	Approximately 2 six-foot tubes
	Approximately 27 ballasts

The universal waste must be removed and properly disposed of or recycled prior to building demolition.

Disposal of individual lamps is not regulated. However disposal of large quantities of lamps is subject to dangerous waste regulations (WAC 173-303) and the waste stream must be subjected to TCLP (Toxicity Characteristic Leaching Procedure) analysis to determine the amount of mercury that could leach out of the waste. The TCLP limit for mercury is 0.2 mg/L.

PCBs belong to a broad family of organic chemicals known as chlorinated hydrocarbons. PCBs are produced by the combination of one or more chlorine atoms and a biphenyl molecule. PCBs range in consistency from heavy oily liquids to waxy solids. Prior to 1979, PCBs were widely used in electrical equipment such as transformers, capacitors, switches, and voltage regulators.

A copy of the Washington State Department of Ecology *Universal Waste Rule for Dangerous Waste Lamps WAC 173-303-573*, Publication # 00-04-020 is provided in Appendix F.

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Appendix A: **Asbestos Sample Summary**

Pacific Rim Environmental, Inc

Asbestos Summary

Project Name / Address: Petit Oil Site - 2135 Marvin Rd., Lacey, WA 98503

Project ID	Sample #	Sample Location	AHERA Category	Sample Description	Asbestos Type/%	Approximate Quant.
14763	01	Pay area ceiling	Miscellaneous	2'x4' ceiling tiles	None Detected	N/A
14763	02	Office floor	Miscellaneous	12" white tile and mastic	Layer 1 (Tile): Chrysotile 1-3% Layer 2 (Mastic): Chrysotile 7-10%	56 Sq. Ft.
14763	03	Office floor	Miscellaneous	4" brown cove base	Layer 1 (Cove base): None Detected Layer 2 (Mastic): Tremolite 1-3%	30 Ln. Ft.
14763	04	Storage-2 west wall	Surfacing	Plaster under tile	None Detected	N/A
14763	05	Storage-2 south wall	Surfacing	Plaster under tile	None Detected (Both Layers)	N/A
14763	06	Pay area window at top of entry door	Miscellaneous	Window putty	Chrysotile 1-3%	1 Window
14763	07	Roof at dry storage	Miscellaneous	Tap paper under wood	None Detected	N/A
14763	08	Station roof, east side	Miscellaneous	Rolled torch down roofing	None Detected (All Layers)	N/A
14763	09	Station roof, west side	Miscellaneous	Rolled torch down roofing	None Detected (All Layers)	N/A
14763	10	Station roof at chimney	Miscellaneous	Seam sealant	Layer 1 (Tar): Chrysotile 3-5% Layer 2 (Tar): None Detected	20 Sq. Ft.
14763	11	East roof of carport island	Miscellaneous	Rolled roofing	None Detected (All Layers)	N/A
14763	12	West roof of carport island	Miscellaneous	Rolled roofing	None Detected (All Layers)	N/A
14763	13	East of carport tank gas storage area	Miscellaneous	Sealant at asphalt cuts	None Detected	N/A

Appendix B: **Bulk Sample Analysis Report**

PACIFIC RIM ENVIRONMENTAL, INC.

BULK SAMPLE ANALYSIS REPORT

CLIENT:	GeoEngineers Inc	PACRIM # :	14763
	8410 154th Avenue NE	REPORT # :	2012-10-0432
	Redmond, WA 98052	DATE RECEIVED :	10/10/2012
		ANALYST :	William F. Golloway
PROJECT:	Petit Oil	DATE ANALYZED :	10/24/2012
	2135 Marvin Rd NE	REPORT BY :	Sarah Kreiner
	Lacey, WA	REPORT DATE :	10/25/2012
		TURNAROUND:	3 Days
SAMPLE DATE:	10/10/2012	PAGE :	1 of 5

Attached are the results of analysis of 13 bulk samples submitted for asbestos identification: lab ID #2012-10-0432 through 2012-10-0444.

Samples were analyzed in accordance with method EPA-600/R-93/116: "Method for the Determination of Asbestos in Bulk Building Materials".

Unless otherwise noted, samples were inhomogeneous; subsamples of components were analyzed to achieve representative analysis. Separate layers of layered samples are analyzed and reported separately. Unless otherwise stated, asbestos content was quantified by calibrated visual estimation (CVES). CVES concentrations are reported in 2 to 3 percent ranges for fiber concentrations ranging from 1-10%, and 5 percent ranges for concentrations greater than 10%. Samples in which asbestos was not observed are reported as "none detected".

Limitations and Uncertainty:

Factors such as sample quality, sample size, interfering matrix material, fiber size, and fiber concentration contribute to the uncertainty of asbestos concentration measurements in bulk materials. Relative errors exceeding 100% may occur in samples containing <1-10% asbestos. Relative errors are typically below 30% in samples with greater than 10% asbestos, and approach zero as the asbestos concentration approaches 100%.

Asbestos fibers with diameters below approximately 0.25 micrometers are not detectable by PLM. These extremely fine fibers may occur in such products as floor tile, adhesives, and cement products. This limitation can be overcome, however, by the use of alternate analytical methods, such as Transmission Electron Microscopy (TEM).

This report cannot be represented by the client to claim product endorsement by NVLAP or any agency of the U.S. Government. Test results pertain only to the samples submitted for analysis.

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NVLAP Accredited LAB #: 101631-0
Samples submitted by: PRE

Reports Reviewed By: _____
Approved Signatory

Pacific Rim Environmental, Inc.
BULK SAMPLE ANALYSIS REPORT

CLIENT:	GeoEngineers Inc 8410 154th Avenue NE Redmond, WA 98052	PACRIM # :	14763
		REPORT # :	2012-10-0432
		DATE RECEIVED :	10/10/2012
		ANALYST :	William F. Golloway
PROJECT:	Petit Oil 2135 Marvin Rd NE Lacey, WA	DATE ANALYZED :	10/24/2012
		REPORT BY :	Sarah Kreiner
		REPORT DATE :	10/25/2012
		TURNAROUND:	3 Days
SAMPLE DATE:	10/10/2012	PAGE :	2 of 5

Field/Lab ID Number	Sample Location and Description	Asbestos Type(s) / %	Other Material(s)	Date Analyzed
1 2012-10-0432	**Pay area ceiling (2'x4' ceiling tiles).** White-painted, light grey, fibrous ceiling tile material.	None Detected	Cellulose (60-65%), Perlite, Binder, Paint.	10/24/12
2 2012-10-0433	**Office floor (12" white tile and mastic).** White floor tile with light brown splotches (layer 1) with black tar mastic (layer 2).	**Layer 1** (Tile): **Chrysotile 1-3%** **Layer 2** (Mastic): **Chrysotile 7-10%**	**Layer 1:** Mineral Aggregate, Binder. **Layer 2:** Cellulose (<1%), Tar, Mineral Aggregate.	10/24/12
3 2012-10-0434	**Office floor (4" brown cove base).** Light brown, flexible cove base (layer 1) with dark brown, brittle mastic (layer 2)	Layer 1 (Cove base): None Detected **Layer 2** (Mastic): **Tremolite 1-3%**	**Layer 1:** Vinyl, Mineral Aggregate. **Layer 2:** Cellulose (<1%), Fibrous Talc (1-3%), Adhesive, Mineral Aggregate.	10/24/12
4 2012-10-0435	**Storage-2 west wall (Plaster under tile).** Light grey, crumbled, plaster-like material. **Note:** Sample appears homogenous.	None Detected	Cellulose (<1%), Mineral Aggregate, Binder.	10/24/12
5 2012-10-0436	**Storage-2 south wall (Plaster under tile).** White mortar-like material (layer 1) on light grey plaster-like material (layer 2).	**Layer 1** (Mortar): None Detected **Layer 2** (Plaster): None Detected	**Layer 1:** Mineral Aggregate , Binder. **Layer 2:** Cellulose (<1%), Mineral Aggregate, Binder.	10/24/12

Pacific Rim Environmental, Inc.
BULK SAMPLE ANALYSIS REPORT

CLIENT:	GeoEngineers Inc 8410 154th Avenue NE Redmond, WA 98052	PACRIM # :	14763
		REPORT # :	2012-10-0432
		DATE RECEIVED :	10/10/2012
		ANALYST :	William F. Golloway
PROJECT:	Petit Oil 2135 Marvin Rd NE Lacey, WA	DATE ANALYZED :	10/24/2012
		REPORT BY :	Sarah Kreiner
		REPORT DATE :	10/25/2012
		TURNAROUND:	3 Days
SAMPLE DATE:	10/10/2012	PAGE :	3 of 5

Field/Lab ID Number	Sample Location and Description	Asbestos Type(s) / %	Other Material(s)	Date Analyzed
6 2012-10-0437	**Pay area window at top of entry door (Window putty).** Brown and white-painted, dark grey, soft putty material.	**Chrysotile1-3%**	Cellulose (<1%), Binder, Mineral Aggregate, Paint.	10/24/12
7 2012-10-0438	**Roof at dry storage (Tap paper under wood)** Black tar paper material. **Note:** Sample appears homogenous.	None Detected	Cellulose (60-65%), Tar.	10/24/12
8 2012-10-0439	**Station roof, east side (Rolled torch down roofing).** Black, brittle tar roofing (layer 1) on tar roofing (layer 2) on tar (layer 3) on tar paper (layer 4).	**Layer 1** (Roofing): None detected **Layer 2** (Roofing): None Detected **Layer 3** (Tar): None Detected **Layer 4** (Tar Paper): None Detected	**Layer 1:** Cellulose (<1%), Fiberglass (<1%), Tar, Mineral Aggregate. **Layer 2:** Cellulose (1-3%), Tar, Mineral Aggregate. **Layer 3:** Cellulose (<1%), Tar. **Layer 4:** Cellulose (55-60%), Tar.	10/24/12

Pacific Rim Environmental, Inc.
BULK SAMPLE ANALYSIS REPORT

CLIENT:	GeoEngineers Inc 8410 154th Avenue NE Redmond, WA 98052	PACRIM # :	14763
		REPORT # :	2012-10-0432
		DATE RECEIVED :	10/10/2012
		ANALYST :	William F. Golloway
PROJECT:	Petit Oil 2135 Marvin Rd NE Lacey, WA	DATE ANALYZED :	10/24/2012
		REPORT BY :	Sarah Kreiner
		REPORT DATE :	10/25/2012
		TURNAROUND:	3 Days
SAMPLE DATE:	10/10/2012	PAGE :	4 of 5

Field/Lab ID Number	Sample Location and Description	Asbestos Type(s) / %	Other Material(s)	Date Analyzed
9 2012-10-0440	**Station roof, west side (Rolled torch down roofing).** Black, brittle tar roofing (layer 1) on tar felt (layer 2) on tar (layer 3) on tar roofing (layer 4) on tar felt (layer 5) on tar (layer 6) on tar felt (layer 7).	**Layer 1** (Roofing): None Detected **Layer 2** (Felt): None Detected **Layer 3** (Tar): None Detected **Layer 4** (Roofing): None Detected **Layer 5** (Felt): None Detected **Layer 6** (Tar): None Detected **Layer 7**(Felt): None Detected	**Layer 1:** Cellulose (<1%), Fiberglass (<1%), Tar, Mineral Aggregate. **Layer 2:** Cellulose (55-60%), Tar. **Layer 3:** Cellulose (<1%), Tar, Mineral Aggregate. **Layer 4:** Cellulose (<1%), Tar, Wood. **Layer 5:** Cellulose (55-60%), Tar. **Layer 6:** Cellulose (<1%), Tar. **Layer 7:** Cellulose (50-55%), Tar, Wood.	10/24/12
10 2012-10-0441	**Station roof at chimney (Seam sealant).** Black tar with grey surface hue (layer 1) on black tar (layer 2). **Note:** white coating embedded fragments between layer 1 and layer 2, but material was inseparable from tar.	**Layer 1** (Tar): **Chrysotile 3-5%** **Layer 2** (Tar): None Detected	**Layer 1:** Cellulose (<1%), Tar, Mineral Aggregate. **Layer 2:** Cellulose (<1%), Tar, Wood.	10/24/12

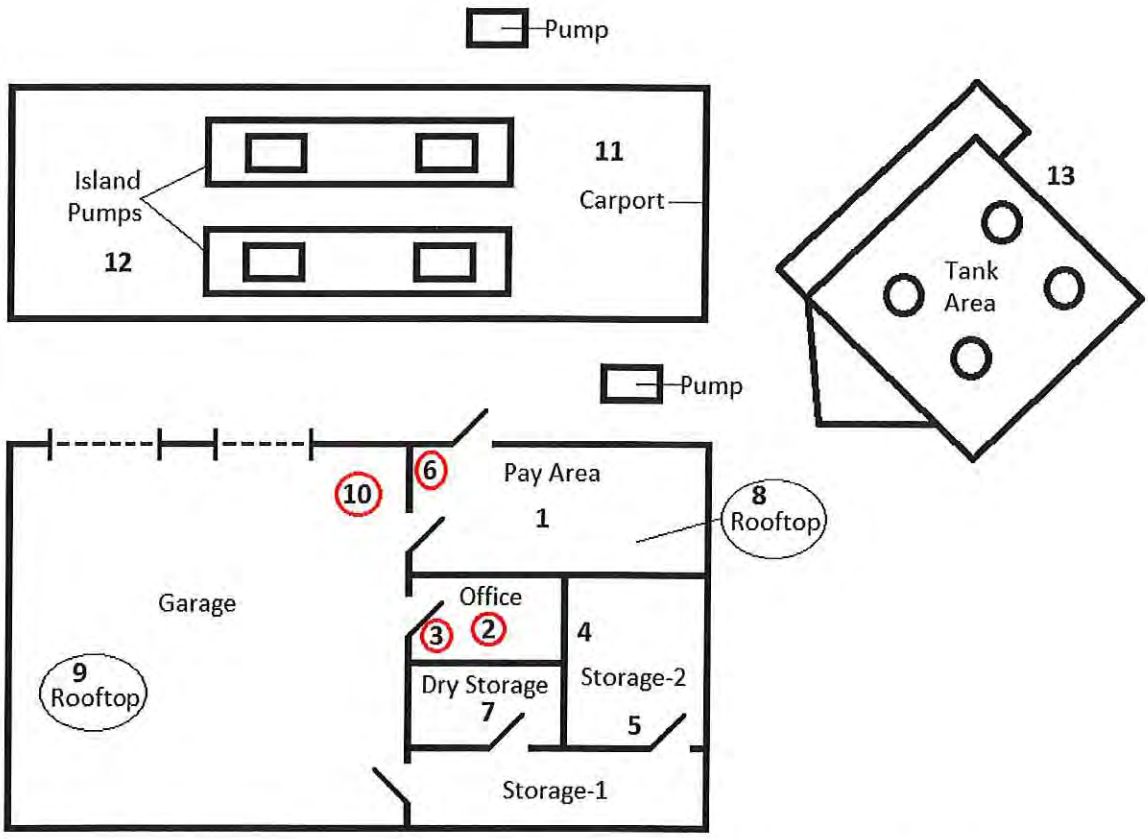
Pacific Rim Environmental, Inc.
BULK SAMPLE ANALYSIS REPORT

CLIENT:	GeoEngineers Inc 8410 154th Avenue NE Redmond, WA 98052	**PACRIM # :**	**14763**
		REPORT # :	2012-10-0432
		DATE RECEIVED :	10/10/2012
		ANALYST :	William F. Golloway
PROJECT:	Petit Oil 2135 Marvin Rd NE Lacey, WA	**DATE ANALYZED :**	10/24/2012
		REPORT BY :	Sarah Kreiner
		REPORT DATE :	10/25/2012
		TURNAROUND:	3 Days
SAMPLE DATE:	10/10/2012	**PAGE :**	5 of 5

Field/Lab ID Number	Sample Location and Description	Asbestos Type(s) / %	Other Material(s)	Date Analyzed
11 2012-10-0442	**East roof of carport island (Rolled roofing).** Black, brittle tar roofing (layer 1) on tar felt (layer 2) on tar (layer 3) on tar felt (layer 4).	**Layer 1** (Roofing): None detected **Layer 2** (Felt): None detected **Layer 3** (Tar): None detected **Layer 4** (Tar felt): None detected	**Layer 1:** Cellulose (<1%), Fiberglass (<1%), Tar, Mineral Aggregate. **Layer 2:** Cellulose (50-55%), Tar. **Layer 3:** Cellulose (<1%), Tar. **Layer 4:** Cellulose (50-55%), Tar.	10/24/12
12 2012-10-0443	**West roof of carport island (Rolled roofing).** Black, brittle tar roofing (layer 1) on tar felt (layer 2) on tar (layer 3) on tar felt (layer 4) on brown, fibrous material (layer 5).	**Layer 1** (Roofing): None detected **Layer 2** (Felt): None detected **Layer 3** (Tar): None detected **Layer 4** (Tar): None detected **Layer 5** (Fibrous material): None detected	**Layer 1:** Cellulose (<1%), Fiberglass (<1%), Tar. **Layer 2:** Cellulose (50-55%), Tar, Mineral Aggregate. **Layer 3:** Cellulose (<1%), Tar. **Layer 4:** Cellulose (50-55%), Tar. **Layer 5:** Cellulose (98%+), Binder.	10/24/12
13 2012-10-0444	**East of carport tank gas storage area (Sealant at asphalt cuts).** Black, pliable tar-like material with clear paper.	None detected	Cellulose (<1%), Binder, Mineral Aggregate, Tar.	10/24/12

Appendix C: **Sample Location Drawings and Pictures**

Petit Oil Site



Positive samples circled in red on drawing and bold in table below.

Sample #	Sample Location	Sample Description
01	Pay area ceiling	2'x4' ceiling tiles
02	**Office floor**	**12" white tile and mastic**
03	**Office floor**	**4" brown cove base**
04	Storage-2 west wall	Plaster under tile
05	Storage-2 south wall	Plaster under tile
06	**Pay area window at top of entry door**	**Window putty**
07	Roof at dry storage	Tap paper under wood
08	Station roof, east side	Rolled torch down roofing
09	Station roof, west side	Rolled torch down roofing
10	**Station roof at chimney**	**Seam sealant**
11	East roof of carport island	Rolled roofing
12	West roof of carport island	Rolled roofing
13	East of carport tank gas storage area	Sealant at asphalt cuts

GeoEngineers, Inc.

Petit Oil Site
2135 Marvin Rd.
Lacey, WA 98503

Pacific Rim Environmental, Inc.
6510 Southcenter Boulevard, #4
Tukwila, WA 98188

Tel. (206) 244-8965 FAX (206) 244-9096

Project #: 14763
Drawing #: 01 of 01
Sampling Date: 10/10/2012
Drawing By: Robin Sandstrom
Drawing Not To Scale

Photo 1: Office floor, 12" white tile and mastic (Sample # 02).

Photo 2: Office floor, 4" brown cove base (Sample # 03).

GeoEngineers, Inc. **Petit Oil** 2135 Marvin Road N.E. Lacey, WA	***Pacific Rim Environmental, Inc.*** 6510 Southcenter Boulevard, #4 Tukwila, WA 98188 Tel. (206) 244-8965 FAX (206) 244-9096	Project #: 14763 Photo Date: 10/10/2012

Photo 3: Pay area window at top of entry door, window putty (Sample # 06).

Photo 4: Station roof at Chimney, seam sealant (Sample # 10)

GeoEngineers, Inc. Petit Oil 2135 Marvin Road N.E. Lacey, WA	***Pacific Rim Environmental, Inc.*** 6510 Southcenter Boulevard, #4 Tukwila, WA 98188 Tel. (206) 244-8965 FAX (206) 244-9096	Project #: 14763 Photo Date: 10/10/2012

Appendix D: **XRF Data Sheets**

Client:	**GeoEngineers, Inc.** 600 Stewart St., Ste. 1700 Seattle, WA 98101	*XRF Serial #:* *Inspection Date:* *Inspection By:*	**XLP300-80662** **10-Oct-2012** **Matt DeDominces**
Project:	**Petit Oil Site** 2135 Marvin Rd. N.E. Lacey, WA 98503	*PRE Job#:*	**14763**

PRE#	Test #	Substrate	Component / Side	Description / Location	Color	Result	Pbc mg/cm2
1	713	*First calibration check*				Positive	1.1
2	714	*First calibration check*				Positive	1.4
3	715	*First calibration check*				Negative	0.9
				Exterior			
4	716	Metal	Carport post	At filling island, south side	White	Negative	0
5	717	Metal	Island base	At filling island, south side	White	Negative	0
6	718	Metal	Pump front cover	At filling island, south side	Red	Negative	0.6
7	719	Metal	Bumper	At filling island, south side	White	Negative	0
8	720	Metal	Paystation cover	At filling island, south side	Gray	Negative	0
9	721	Metal	Carport post	At filling island, north side	White	Negative	0
10	722	Metal	Island base	At filling island, north side	White	Negative	0
11	723	Metal	Pump side cover	At filling island, north side	Black	Negative	0
12	724	Metal	Pump front cover	At filling island, north side, first pump	Red	Negative	0
13	725	Metal	Pump front cover	At filling island, north side, second pump	Red	Negative	0
14	726	Metal	Pump cover	Solo pump at front of station	White	Negative	0
15	727	Metal	Bumper posts	Solo pump area	White	Negative	0
16	728	Brick	Wall exterior	North wall of station	White	Negative	0
17	729	Metal	Siding vertical	East wall of station	White	Negative	0.2
18	730	Wood	Siding vertical	East wall of station	White	Negative	0
19	731	Metal	Walkway cover post	East side of station	White	Negative	0.08
20	732	Metal	Siding vertical	South wall of station	White	Negative	0.22
21	733	Brick	Wall exterior	West wall of station	White	Negative	0.01
22	734	Wood	Wall exterior	West wall of station	White	Negative	0.06
23	735	VOID	VOID	VOID	VOID	VOID	VOID

Client:	**GeoEngineers, Inc.** 600 Stewart St., Ste. 1700 Seattle, WA 98101	*XRF Serial #:* *Inspection Date:* *Inspection By:*	**XLP300-80662** **10-Oct-2012** **Matt DeDominces**
Project:	**Petit Oil Site** 2135 Marvin Rd. N.E. Lacey, WA 98503	*PRE Job#:*	**14763**

PRE#	Test #	Substrate	Component / Side	Description / Location	Color	Result	Pbc mg/cm2
24	736	Metal	Siding vertical	West wall of station	White	Negative	0.02
25	737	Wood	Garage door	North wall of station	White	Negative	0
26	738	Testing gun shut off		VOID	VOID	VOID	VOID
27	739	*Second calibration check*				Negative	0.9
28	740	*Second calibration check*				Negative	0.9
29	741	*Second calibration check*				Negative	0.9
30	742	Metal	Carport side rake	Carport island, top	Yellow	Negative	0.8
31	743	Metal	Carport side rake	Carport island, top	Orange	Positive	1
32	744	Metal	Carport side rake	Carport island, top	Dark orange	Positive	1
33	745	Metal	Carport side rake	Carport island, top	Red	Negative	0.4
34	746	Metal	Carport side rake wall	Carport island, top	White	Negative	0.5
35	747	Metal	Carport ceiling	Carport island, bottom	White	Negative	0.11
36	748	Metal	Soffit, at east side	North side of station	White	Negative	0
				<u>Interior</u>			
37	749	Metal	Front door frame	Station front door	White	Negative	0.11
38	750	Metal	East wall	Garage area	Green	Negative	0.03
39	751	Metal	East wall	Garage area	White	Negative	0.05
40	752	Metal	West wall	Garage area	Green	Negative	0.03
41	753	Metal	West wall	Garage area	White	Negative	0.14
42	754	Metal	South wall	Garage area	Green	Negative	0.03
43	755	Concrete	Floor	Garage area	Green	Negative	0
44	756	Metal	East door	Garage area	White	Negative	0.05
45	757	Metal	Lift arms	Garage area	Yellow	Negative	0.03
46	758	Metal	Lift arms	Garage area	Red	Negative	0.05

Client:	**GeoEngineers, Inc.** 600 Stewart St., Ste. 1700 Seattle, WA 98101	*XRF Serial #:* *Inspection Date:* *Inspection By:*	**XLP300-80662** **10-Oct-2012** **Matt DeDominces**
Project:	**Petit Oil Site** 2135 Marvin Rd. N.E. Lacey, WA 98503	*PRE Job#:*	**14763**

PRE#	Test #	Substrate	Component / Side	Description / Location	Color	Result	Pbc mg/cm2
47	759	*Last calibration check*				Positive	1.2
48	760	*Last calibration check*				Positive	1.3
49	761	*Last calibration check*				Positive	0.9

Report by: Robin K. Sandstrom
Date: 10/11/12

Appendix E: **XRF Performance Characteristic Sheet**

Performance Characteristic Sheet

EFFECTIVE DATE: **September 24, 2004** **EDITION NO.: 1**

MANUFACTURER AND MODEL:

Make: *Niton LLC*
Tested Model: *XLp 300*
Source: ^{109}Cd
Note: This PCS is also applicable to the equivalent model variations indicated below, for the Lead-in-Paint K+L variable reading time mode, in the XLi and XLp series:

XLi 300A, XLi 301A, XLi 302A and XLi 303A.
XLp 300A, XLp 301A, XLp 302A and XLp 303A.
XLi 700A, XLi 701A, XLi 702A and XLi 703A.
XLp 700A, XLp 701A, XLp 702A, and XLp 703A.

Note: The XLi and XLp versions refer to the shape of the handle part of the instrument. The differences in the model numbers reflect other modes available, in addition to Lead-in-Paint modes. The manufacturer states that specifications for these instruments are identical for the source, detector, and detector electronics relative to the Lead-in-Paint mode.

FIELD OPERATION GUIDANCE

OPERATING PARAMETERS:

Lead-in-Paint K+L variable reading time mode.

XRF CALIBRATION CHECK LIMITS:

0.8 to 1.2 mg/cm^2 (inclusive)

The calibration of the XRF instrument should be checked using the paint film nearest 1.0 mg/cm^2 in the NIST Standard Reference Material (SRM) used (e.g., for NIST SRM 2579, use the 1.02 mg/cm^2 film).

If readings are outside the acceptable calibration check range, follow the manufacturer's instructions to bring the instruments into control before XRF testing proceeds.

SUBSTRATE CORRECTION:

For XRF results using Lead-in-Paint K+L variable reading time mode, substrate correction is <u>not</u> needed for:

Brick, Concrete, Drywall, Metal, Plaster, and Wood

INCONCLUSIVE RANGE OR THRESHOLD:

K+L MODE READING DESCRIPTION	SUBSTRATE	THRESHOLD (mg/cm^2)
Results not corrected for substrate bias on any substrate	Brick	1.0
	Concrete	1.0
	Drywall	1.0
	Metal	1.0
	Plaster	1.0
	Wood	1.0

BACKGROUND INFORMATION

EVALUATION DATA SOURCE AND DATE:

This sheet is supplemental information to be used in conjunction with Chapter 7 of the HUD *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing* ("HUD Guidelines"). Performance parameters shown on this sheet are calculated from the EPA/HUD evaluation using archived building components. Testing was conducted in August 2004 on 133 testing combinations. The instruments that were used to perform the testing had new sources; one instrument's was installed in November 2003 with 40 mCi initial strength, and the other's was installed June 2004 with 40 mCi initial strength.

OPERATING PARAMETERS:

Performance parameters shown in this sheet are applicable only when properly operating the instrument using the manufacturer's instructions and procedures described in Chapter 7 of the HUD Guidelines.

SUBSTRATE CORRECTION VALUE COMPUTATION:

Substrate correction is not needed for brick, concrete, drywall, metal, plaster or wood when using Lead-in-Paint K+L variable reading time mode, the normal operating mode for these instruments. If substrate correction is desired, refer to Chapter 7 of the HUD Guidelines for guidance on correcting XRF results for substrate bias.

EVALUATING THE QUALITY OF XRF TESTING:

Randomly select ten testing combinations for retesting from each house or from two randomly selected units in multifamily housing. Use the K+L variable time mode readings.

Conduct XRF retesting at the ten testing combinations selected for retesting.

Determine if the XRF testing in the units or house passed or failed the test by applying the steps below.

Compute the Retest Tolerance Limit by the following steps:

Determine XRF results for the original and retest XRF readings. Do not correct the original or retest results for substrate bias. In single-family housing a result is defined as the average of three readings. In multifamily housing, a result is a single reading. Therefore, there will be ten original and ten retest XRF results for each house or for the two selected units.

Calculate the average of the original XRF result and retest XRF result for each testing combination.

Square the average for each testing combination.

Add the ten squared averages together. Call this quantity C.

Multiply the number C by 0.0072. Call this quantity D.

Add the number 0.032 to D. Call this quantity E.

Take the square root of E. Call this quantity F.

Multiply F by 1.645. The result is the Retest Tolerance Limit.

Compute the average of all ten original XRF results.

Compute the average of all ten re-test XRF results.

Find the absolute difference of the two averages.

If the difference is less than the Retest Tolerance Limit, the inspection has passed the retest. If the difference of the overall averages equals or exceeds the Retest Tolerance Limit, this procedure should be repeated with ten new testing combinations. If the difference of the overall averages is equal to or greater than the Retest Tolerance Limit a second time, then the inspection should be considered deficient.

Use of this procedure is estimated to produce a spurious result approximately 1% of the time. That is, results of this procedure will call for further examination when no examination is warranted in approximately 1 out of 100 dwelling units tested.

TESTING TIMES:

For the Lead-in-Paint K+L variable reading time mode, the instrument continues to read until it is moved away from the testing surface, terminated by the user, or the instrument software indicates the reading is complete. The following table provides testing time information for this testing mode. The times have been adjusted for source decay, normalized to the initial source strengths as noted above. Source strength and type of substrate will affect actual testing times. At the time of testing, the instruments had source strengths of 26.6 and 36.6 mCi.

Testing Times Using K+L Reading Mode (Seconds)						
	All Data			Median for laboratory-measured lead levels (mg/cm^2)		
Substrate	25^{th} Percentile	Median	75^{th} Percentile	Pb < 0.25	0.25 ≤ Pb<1.0	1.0 ≤ Pb
Wood Drywall	4	11	19	11	15	11
Metal	4	12	18	9	12	14
Brick Concrete Plaster	8	16	22	15	18	16

CLASSIFICATION RESULTS:

XRF results are classified as positive if they are greater than or equal to the threshold, and negative if they are less than the threshold.

DOCUMENTATION:

A document titled *Methodology for XRF Performance Characteristic Sheets* provides an explanation of the statistical methodology used to construct the data in the sheets, and provides empirical results from using the recommended inconclusive ranges or thresholds for specific XRF instruments. For a copy of this document call the National Lead Information Center Clearinghouse at 1-800-424-LEAD.

This XRF Performance Characteristic Sheet was developed by the Midwest Research Institute (MRI) and QuanTech, Inc., under a contract between MRI and the XRF manufacturer. HUD has determined that the information provided here is acceptable when used as guidance in conjunction with Chapter 7, Lead-Based Paint Inspection, of HUD's *Guidelines for the Evaluation and Control of Lead-Based Paint Hazards in Housing.*

Appendix F: **Universal Waste Rule WAC 173-303-573**

WASHINGTON STATE DEPARTMENT OF ECOLOGY

Focus

Universal Waste Rule for Dangerous Waste Lamps WAC 173-303-573

Background

The Universal Waste Rule (UWR) establishes alternative, streamlined waste management standards in place of most of the Dangerous Waste Regulations, Chapter 173-303 WAC, except for, WAC 173-303-050, 173-303-145 and 173-303-960. Universal wastes are certain dangerous wastes that are frequently generated, and that are able to be managed appropriately under less stringent regulatory requirements. The Universal Waste Rule for batteries and mercury-containing thermostats has been in place in Washington State since 1998. For more information on the original UWR, refer to Ecology publication number 98-407 (Revised).

In June 2000, Ecology added lamps that are dangerous waste to the UWR. This rule replaces the "Interim Policy on Waste Management of Spent Fluorescent Light Tubes," dated January 30, 1995.

Universal Waste Categories of Lamps

The types of lamps that may be universal waste include:

- Fluorescent tubes
- High density (HID) lamps (mercury vapor, metal halide, high pressure sodium)
- Compact fluorescent
- Neon lamps[1]
- Any other lamps that are dangerous waste

[1] *"Neon" lamp manufacturers do not always use the inert gas neon, some are manufactured using mercury and phosphor powder.*

June 2000

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Publication # 00-04-020

Why Do We Care About Lamps?

Nationally, about 600 million lamps are disposed of annually, most to solid waste disposal facilities, including landfills and solid waste incinerators. In fluorescent lamps, mercury is the main concern and is present in lamps primarily in vapor form.

- The average mercury content in a fluorescent tube manufactured in 1999 is approximately 12 milligrams.
- Pre-1999 manufactured fluorescent tubes can have from 15 to 50 milligrams.
- High intensity discharge lamps may contain up to 250 milligrams, depending on the lamp wattage.

During solid waste handling and disposal many lamps break releasing mercury vapor and potentially exposing solid waste handlers to inhalation of those vapors. Solid waste incineration of mercury containing lamps also releases the mercury into the atmosphere. Mercury in the atmosphere is eventually deposited back to the earth.

Health & Environmental Hazards of Mercury

- Health risk from inhalation or absorption
- Causes neurological disorders
- Persistent, bioaccumulative and toxic
- Major cause of contaminated fish advisories

Some lamps may also contain lead in the glass and lead solder used in the lamp base. Lead is a toxic metal that may leach from solid waste landfills into the ground water. Manufacturers are eliminating the lead by using nonleaded glass and solders in newer lamps.

How to Know if a Lamp is Dangerous Waste

Lamps are known to designate as dangerous waste because of their mercury and/or lead content. Lamps may be assumed to be dangerous waste, they may be "book designated" using manufacturers' information, or they may be designated through sampling and testing.

Certain "green" lamps are available that contain less mercury and do not designate as dangerous waste. Ask your lamp manufacturer for data sheets to use when making waste determinations for these lamps. Check with your local health department, solid waste agency, or landfill for recycling or disposal options.

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Should Fluorescent Lamps Still be Used?

YES! Fluorescent tubes use one-quarter of the energy used by incandescent lamps for the same amount of light and last as much as ten times longer than incandescent bulbs. Compact fluorescent lamps last far longer than conventional tubes. The lamps used for lighting streets, playfields, and parking lots should also be selected for energy conservation. Energy conservation reduces mercury emissions from fossil fuel burning power plants. Using less electricity – which we can do by using energy-saving lighting – is the best protection for health and the environment.

Who is Affected by the UWR for Lamps?

- Regulated generators of dangerous waste (Medium Quantity and Large Quantity Generators)
- Businesses that generate or accumulate dangerous waste lamps in regulatedquantities (this category may include commercial building/property owners that maintain the lighting for tenants)
- Businesses that provide collection and management services (e.g., lighting contractors)

Regulated generators of dangerous waste generate over 220 pounds of total dangerous waste per month or batch (or 2.2 pounds of extremely hazardous waste), or accumulate greater than 2,200 pound of dangerous waste (or 2.2 pounds of extremely hazardous waste) at any time. As a point of reference, four (4), four-foot long, linear fluorescent tubes equal approximately 2.2 pounds. It would take about 400 of those tubes to equal 220 pounds and approximately 4,000 of those tubes to equal 2,200 pounds.

NOTE: Small Quantity Generators (SQGs) are exempt from the UWR (they are subject to WAC 173-303-070(8)) and can manage dangerous waste lamps as SQG dangerous waste. Households are also exempt from the rule. Local governments and/or landfills, however, may restrict disposal by SQGs and households. (If a SQG generates dangerous waste lamps in quantities that would put them into a higher generator category, they should choose to manage those lamps as universal waste to retain their SQG status.

Under the UWR, there are small quantity handlers, large quantity handlers, transporters and destination facilities.

- Handlers are the generators of the universal waste or businesses that receive and collect universal waste before shipping to another handler or to a destination facility.
- Transporters transport the lamps between handlers, or to a destination facility.
- Destination facilities recycle the lamps, or provide treatment, storage and disposal to a dangerous waste landfill.

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NOTE: Businesses that generate and manage dangerous wastes and universal wastes are considered both a dangerous waste generator, and a universal waste handler.

Significant Benefits

Benefits for managing dangerous waste lamps as universal waste include:

- Waste is not counted toward waste generation totals to determine generator status.
- Waste is not reported on the Dangerous Waste Annual Report.
- Waste does not need to be manifested when sent off-site.
- Accumulation time limit for universal waste is increased to one year.

What is the Difference Between the 1998 UWR and the UWR with Lamps?

There is one significant difference regarding when a lamp handler becomes a large quantity handler, subject to more requirements:

Handler Type	Pre-2000 Rule	New Rule with Lamps
Small Quantity Handler	Accumulate less than 11,000 pounds of Universal Waste	Accumulate less than 2,200 pounds of lamps, or less than 11,000 pounds of total universal waste, including lamps.
Large Quantity Handler	Accumulate 11,000 or more pounds of Universal Waste	Accumulate 2,200 or more pounds of dangerous waste lamps or 11,000 pounds of total universal waste (including lamps)

Is On-Site Lamp Crushing to Reduce Volume Allowed?

Universal waste lamp handlers and transporters cannot dispose of or treat universal waste lamps. **This prohibition on treatment includes lamp crushing**. Lamp crushing is considered a treatment-by-generator activity, subject to full regulation under the *Dangerous Waste Regulations.* Crushed lamps must be managed as dangerous waste unless they are shown to be non-dangerous through the designation process.

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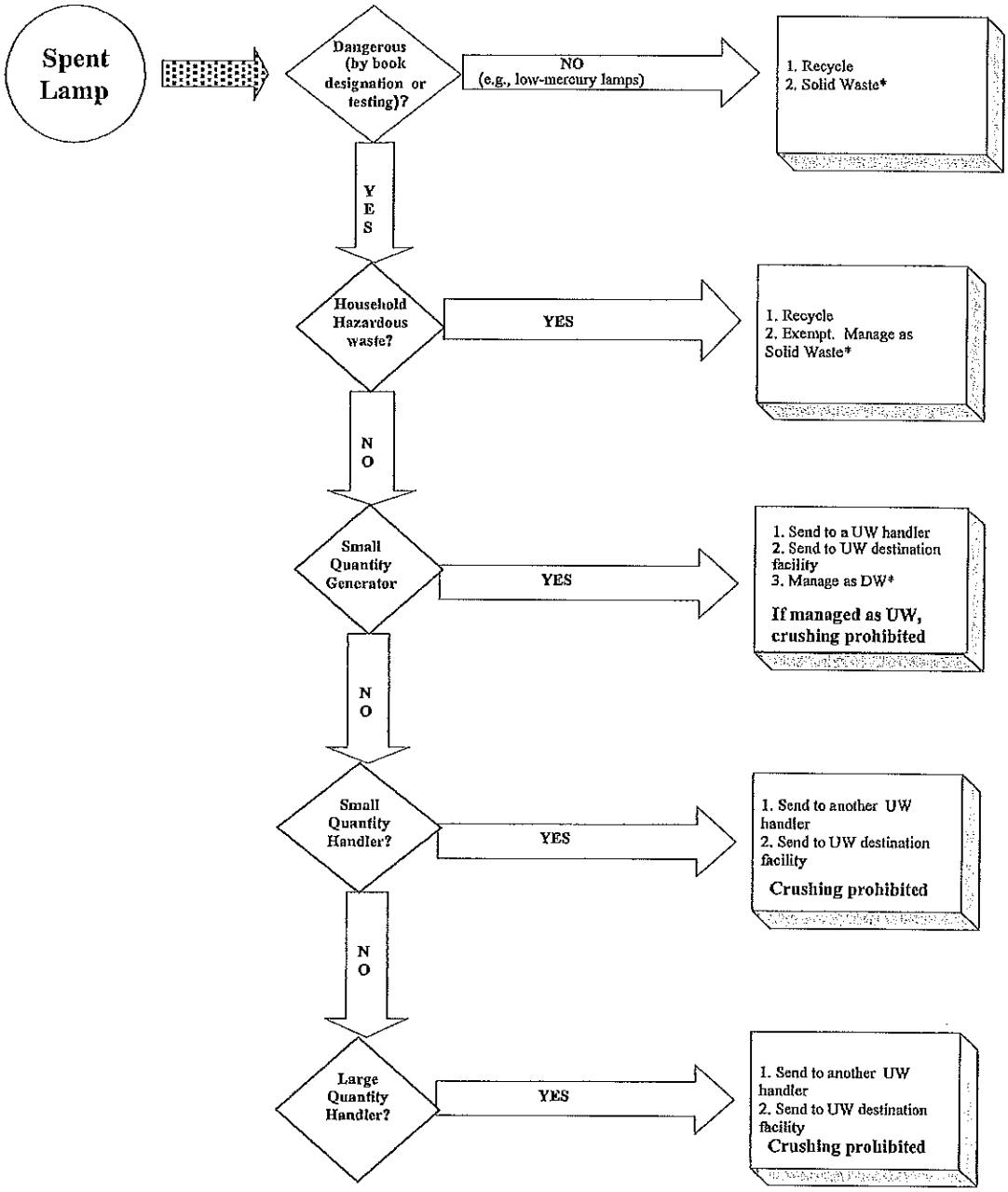
Attachment 1

GENERATOR MANAGEMENT OPTIONS FOR WASTE LAMPS



*Check with local health department, solid waste agency or solid waste landfill operator

Attachment 2
UNIVERSAL WASTE LAMP MANAGEMENT REQUIREMENTS

NOTE: Small Quantity Generators (SQGs) are exempt from the UWR (they are subject only to WAC 173-303-070 (8)) and can manage dangerous waste lamps as SQG dangerous waste. Households are also exempt from the rule. Local governments and/or landfills, however, may restrict disposal by SQGs and households. (If a SQG generates dangerous waste lamps in quantities that would put them into a higher generator category, then they should choose to manage those lamps as universal waste to retain their SQG status.)

REQUIREMENTS	SMALL QUANTITY HANDLER	LARGE QUANTITY HANDLER	UW TRANSPORTER	UW DESTINATION FACILITY
Notification and EPA I.D.#	Not required	YES	Not required	YES
Immediately contain by placing in a container any lamps showing evidence of leakage, damage, etc.	YES	YES	YES	Regulated as a TSD or 24 hour recycler (WAC 173-303-140; 173-303-141; 173-303-280 through 173-303-525; 173-303-600 through –173-303-695; 173-303-800 through 173-303-840. OR, If a 24 hour recycler, WAC 173-303-120 (4)(c) 
Containerize in closed, structurally sound, compatible containers	YES	YES	YES	
Cardboard/fiber containers may be used (inside storage only)	YES	YES		
Container label required: "Waste Lamps", or "Universal Waste Lamps"	YES	YES		
Track length of time since waste lamp generation. Acceptable methods of proof: date on label, inventory system, etc.	YES	YES		
Response to Releases - Contain releases; determine if DW; if so, manage as specified in Chapter 173-303, WAC	YES	YES	YES	
Prohibited from disposing of Universal Waste	YES	YES	YES	
Treatment (includes crushing) prohibited	YES	YES	YES	
Accumulation Time Limit	One year (longer if proved necessary for proper management)	One year (longer if proved necessary for proper management)	10 days or less at UW transfer facility, otherwise becomes UW handler	
Employee Training	Inform appropriate employees of proper handling and emergency procedures	Ensure appropriate employees are thoroughly familiar with proper handling and emergency procedures	Not required under rule, but recommended	
Tracking of Waste Shipments	Recommended, but not required	Keep records (invoice, manifest, etc.) for 3 years of all shipments received and all shipments sent off-site	If UW is hazardous material under 49CFR171.8, describe in shipping papers per 49CFR Part 172	Keep records (invoice, manifest, etc.)for 3 years of all shipments received
Exporting	EPA Acknowledgment of Consent form from receiving country	EPA Acknowledgment of Consent form from receiving country	EPA Acknowledgment of Consent form must accompany shipment	EPA Acknowledgment of Consent form must accompany shipment
If UW is hazardous material under 49CFR171.8, follow applicable Dept. of Transportation regulations in 49CFR Part 171-180	If self-transporting, defined as a Universal Waste Transporter	If self-transporting, defined as a Universal Waste Transporter	**YES**	If self-transporting, defined as a Universal Waste Transporter

Attachment 3

FREQUENTLY ASKED QUESTIONS ABOUT UNIVERSAL WASTE LAMPS

Q What types of lamps are included in the UW rule?

A The rule includes, but is not limited to, fluorescent tubes, compact fluorescent, mercury vapor, metal halide, high-pressure sodium and neon lamps. The rule targets those lamps that are frequently used by businesses, institutions, government and utilities, and that are known to have hazardous properties that may cause them to be a dangerous waste, such as mercury and lead. Other types of lamps, such as incandescent, may also have hazardous properties, such as lead in the lamp base, that can cause them to be dangerous waste and as such could be managed as universal waste.

Q What is the difference between a generator and a handler under the UW rule?

A Under the universal waste rule a generator of universal waste is also considered a handler. A handler can be the generator of the lamp, or a business that receives, collects and then sends lamps on to another handler, or to a destination facility.

Q What does the UW rule mean for regulated generators of dangerous waste (medium quantity and large quantity generators)?

A Regulated generators of dangerous waste that also generate dangerous waste lamps should begin managing those lamps as universal waste. The benefits of managing the lamps as universal waste include no counting, no manifesting, no reporting on annual reports, and a longer accumulation time. The January 1995 policy on fluorescent tubes is being replaced by the universal waste rule, so regulated generators no longer have the option of sending their dangerous waste fluorescent tubes to a Municipal Solid Waste landfill.

Q A business doesn't generate any other dangerous waste, but they do have a lot of fluorescent lamps that get changed out – how does the UW rule affect them?

A The affect of the rule on the business depends on a few things. The first is whether or not the lamps are dangerous waste. If the lamps are dangerous waste, then the number of lamps generated and the local regulations for business lamp disposal will affect that business. For such a business, the quantity of dangerous waste lamps generated is going to determine their regulatory status. If the business generates more than 220 pounds of lamps at one time or during one month or accumulates more than 2,200 pounds of lamps at any time, then they would become a regulated dangerous waste generator unless they manage the lamps under the universal waste rule. If the business generates less than 220 pounds of dangerous waste lamps, then they would be considered a small quantity generator (SQG) and subject to the less stringent small quantity generator regulations found at WAC 173-303-070(8). They could choose to manage the lamps as universal waste, or choose to manage the lamps as SQG dangerous waste. The business should check with their local health department, solid waste agency or landfill operator for requirements.

Q A business is currently a small quantity generator (SQG) of dangerous waste, how does the UW rule affect them?

A A business that generates dangerous waste at the small quantity generator level may be affected by the rule. If, in addition to other dangerous wastes they generate, they generate or accumulate dangerous waste lamps in quantities that may push them over the SQG quantity exclusion limits, then they should manage those lamps as universal waste to retain their SQG status. If a business generates dangerous wastes, including dangerous waste lamps, under the SQG

quantity exclusion limits, then they may manage the lamps as SQG dangerous waste. The business should check with their local health department, solid waste agency or landfill operator for requirements.

Q Are manufacturers making lamps that are non-dangerous waste?

A The major lamp manufacturers are producing lamps that pass both the federal Toxicity Characteristic Leaching Procedure (TCLP) test and Ecology's static acute fish toxicity test for state criteria. Check with the lamp manufacturer, your local lamp distributor, or lighting contractor for more information on specific lamp models.

Q Can those non-dangerous waste lamps be managed as solid waste or do they need to be managed as universal waste?

A The universal waste rule only requires that dangerous waste lamps be managed as universal waste. Lamp models that have been shown to be non-dangerous waste would be eligible for disposal to a Municipal Solid Waste landfill, subject to local regulations and landfill operator approval. Of course, the non-dangerous waste lamps still have recyclable components, including glass and the aluminum end caps and metal bases. Additionally, these types of "green" lamps still contain mercury, and pass the TCLP not simply because of the lower mercury content, but because there are other unique lamp components or additives that aid in binding up the mercury so that it doesn't leach during the TCLP test. The manufacturers have all stated that removal of the unique components or additives will generally cause these lamps to fail the TCLP. As always, Ecology recommends recycling over disposal.

Q Will on-site lamp crushing to reduce volume space be allowed under the UW rule?

A No, Ecology did not include an on-site lamp crushing management option in the final universal waste rule. During the rule development, it was determined that the as-proposed performance-based lamp crushing standards were not enough to ensure that uncontrolled releases of mercury and other hazardous constituents would not occur from the use of lamp crushing units currently on the market. Because of this, Ecology could not ensure that handlers would be crushing lamps properly and in a way that did not release mercury or other hazardous constituents into the environment. To address this issue, Ecology would need to add layers of complexity to the universal waste rule in explaining such requirements as engineering controls and maintenance schedules. Adding more complex language and requirements would conflict with the purpose of the universal waste management system.

Q What happens if a universal waste lamp handler mismanages universal wastes?

A The universal waste rule is a subset of the full dangerous waste regulations, and a handler that mismanages universal waste is subject to enforcement. A handler that receives universal waste from others and mismanages the waste would be held liable for the actual regulatory violation, but the other handlers would also be responsible for that mismanagement under our state cleanup law, the Model Toxics Control Act. Since universal wastes are still dangerous wastes, persons remain liable under dangerous waste and cleanup regulations for remediation of any releases from universal waste management.

Q Can a handler of universal waste lamps self-transport universal wastes to another handler or destination facility?

A Yes, that handler may self-transport, but in doing so, must meet the UW transporter requirements.

Q Is a Hazardous Waste Manifest needed if a UW lamp handler chooses to send their UW lamps to a destination facility located in a state that hasn't adopted the universal waste rule for lamps?

A If those lamps are considered hazardous waste in the state the destination facility is located, then a Hazardous Waste Manifest would be required by the receiving state. Additionally, interstate transport of UW lamps may take the lamps through states that have not adopted the universal waste rule for lamps. Those states that have not adopted the universal waste rule for lamps may require a Hazardous Waste Manifest for the portion of the trip those lamps are in their state. Check with the destination facility and/or the states the lamps will travel through to be sure of the requirements.

Q Can I be a generator and a handler?

A Yes, a business that generates dangerous waste, (for example, a flammable solvent) and that generates and manages their universal waste would be considered both a dangerous waste generator and a universal waste handler. A handler of universal waste could also become a generator of dangerous waste. For example, a universal waste handler of lamps may have some lamps break, releasing mercury. The residue from the spill would most likely designate as a dangerous waste and would need managed as such. Residues from such spills could not continue to be managed as universal waste.

Attachment 4

SERVICES DIRECTORY FOR LAMPS AND BALLASTS

The Department of Ecology does not assume any liability for the accuracy or completeness of this information. A listing of a firm in this directory does not constitute a recommendation.

Name of Company	City	State	Phone	E-Mail Address	SERVICE
Able Clean-Up Technologies	Spokane	WA	(509) 466-5255	ksilverh2o@email.msn.com	Transportation of lamps and ballasts
Advanced Environmental Solutions	Seattle	WA	(206) 652-2323	justin@advenvironmental.com	Equipment & containers
Big Sky Industrial	Spokane	WA	(509) 624-4949	bigsky@iea.com	Arrange for ballast disposal
Creative Environmental Technologies	Tacoma	WA	(888) 627-3347, (253) 627-3347	ceti@cetinw.com	Arrange for lamp and ballast transportation
Earth Protection Services	Lake Oswego	OR	(503) 620-2466 (800) 588-7190	earthpro@cyberhighway.net	Lamp recycling and ballast management
Eastern Environmental Technologies	Port Chester	NY	(800) 808-PCBS	eet@erols.com	Lamp recycling and ballast management
Eco Lights NW	Seattle	WA	(206) 343-1247	amyf@totalreclaim.com	Full service lamp recycler and ballast management
Envirotech Systems	Seattle	WA	(800) 922-9395	envsys1@aol.com	Arrange for lamp recycling and ballast disposal
Evergreen Environmental	Aberdeen	WA	(360) 533-6141	LarryM@olynet.com	Arrange for ballast disposal
FBN Enterprises	Kirkland	WA	(425) 820-8115		Arrange for lamp and ballast reycling or disposal
Foss Environmental Services	Seattle	WA	(206) 768-1426	seattleinfo@foss.com	Transportation of lamps and ballasts
Lighting Resources	Phoenix	AZ	(800) 572-9253	ben@voidnet.com	Lamp recycling and ballast management
MCS Environmental	Spokane	WA	(509) 924-9236	mcsspok@ez.eznet	Arrange for lamp and ballast recycling or disposal
Mercury Technologies of Minnesota	Pine City	MN	(800) 864-3821	merctech@ecenet.com	Lamp recycling and ballast management
Midwest Recycling & Recovery Services	Dubuque	IA	(800) 311-9636		Arrange for lamp and ballast recycling or disposal
NSSI Recovery Services	Houston	TX	(713) 641-0391	rdgallagher@nssihouston.com	Limited lamp and ballast disposal services
Nu-Life Industries	Aldergrove	BC	(604) 857-5588	info@nulife-ind.com	Lamp recycling and non-PCB ballast management
Onyx Environmental Services, LLC	Tukwila	WA	(206) 241-3900 or (800) 334-2387	jim_beck@wastemanagement.com	Transportation of lamps and ballasts

Name of Company	City	State	Phone	E-Mail Address	SERVICE
Philip Services	Renton	WA	(425) 227-0311 or (800) 228-7872	londamay@philip-serv.com	Transportation of lamps and ballasts
Philip Services	Washougal	WA	(800) 547-2436	londamay@philip-serv.com	Transportation of lamps and ballasts
Phoenix Environmental	Fife	WA	(253) 779-8474		Limited t\ansportation of lamps and ballasts
Prezant Associates	Seattle	WA	(206) 368-4252 or (206) 281-8858	prezant@prezant.com	Industrial hygiene, safety and health consulting
Recyclights West LLC	Glendora Las Vegas	CA NV	(626) 335-3042 (702) 633-7900	recwest@aol.com	Lamp recycling at Las Vegas facility – no ballast management
Romic Environmental	Tacoma	WA	(253) 229-6569	gregc@romic.com	Transportation of lamps and ballasts to CA facility
RTW	University Place	WA	(253) 566-5819	mthinc@foxinternet.net	Arrange for lamp and ballast recycling or disposal
Safety Kleen, Auburn	Auburn	WA	(206) 939-2022		Transportation of lamps and ballasts
Safety Kleen, Lynnwood	Lynnwood	WA	(425) 775-7030		Transportation of lamps and ballasts
Safety Kleen, Pasco	Pasco	WA	(509) 547-8771	mikekendall@safetykleen.com	Transportation of lamps and ballasts
Safety Kleen, Spokane	Spokane	WA	(509) 928-8353	DavidBlackham@safetykleen.com	Transportation of lamps and ballasts
Superior Special Services (formerly Salesco Systems)	Phoenix	AZ	(800) 368-9095	mdezelon@ssusa.com	Lamp recycling and ballast management
Van Waters & Rogers, Kent	Kent	WA	(800) 909-4897	kraen.troutman@dwr-inc.com	Arrange for lamp recycling and ballast management
Van Waters & Rogers, Spokane	Spokane	WA	(800) 909-4897	ietxp@vwr-inc.com	Arrange for lamp recycling and ballast management
WasteXpress	Portland	OR	(503) 224-3206	wastex@easystreet.com	Transportation of lamps and ballasts

Appendix G: **Inspector/Laboratory Certifications**

Certificate of Completion

This is to certify that

Matthew R. DeDominces

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)

134851
Certificate Number

Instructor
EPA Provider Cert. Number: 1085

ARGUS PACIFIC
TRAINING • CONSULTING

Jan 4, 2012
Date(s) of Training
Exam Score: NA
Expiration Date: Jan 3, 2013

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

STATE OF WASHINGTON

Department of Commerce

Lead-Based Paint Program

Matthew R. De Dominces

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

Inspector

Certification #	Issuance Date	Expiration Date
6277	12/8/2010	12/8/2013

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 101631-0

Pacific Rim Environmental, Inc.

Tukwila, WA

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

BULK ASBESTOS FIBER ANALYSIS

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

2012-04-01 through 2013-03-31

Effective dates

DEPARTMENT OF COMMERCE
UNITED STATES OF AMERICA

David F. Alderman

For the National Institute of Standards and Technology

NVLAP-01C (REV. 2009-01-28)

National Voluntary
Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Pacific Rim Environmental, Inc.
6510 Southcenter Boulevard
Suite #4
Tukwila, WA 98188
Mr. William F. Golloway
Phone: 206-244-8965 Fax: 206-244-9096
E-Mail: fgolloway@pacrimenv.com

BULK ASBESTOS FIBER ANALYSIS (PLM) **NVLAP LAB CODE 101631-0**

NVLAP Code	*Designation / Description*
18/A01	EPA-600/M4-82-020: Interim Method for the Determination of Asbestos in Bulk Insulation Samples

2012-04-01 through 2013-03-31
Effective dates

David F. Alderman
For the National Institute of Standards and Technology