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**PHASE II  
ENVIRONMENTAL SITE INVESTIGATION  
for  
TIETON MAID O'CLOVER  
3602 Tieton Dr.  
Yakima, Washington**

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March 20, 2006

*Prepared for:*

**R.E. Powell Distributing  
501 Wine Country Rd.  
Grandview, WA 98930**

*Prepared by:*

**BLUE MOUNTAIN ENVIRONMENTAL CONSULTING, INC.  
505 Willard Street  
Waitsburg, Washington 99364  
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## PROJECT OVERVIEW

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Client: R.E. Powell Distributing  
501 Wine Country Rd.  
Grandview, WA 98930

Contact: Mr. Gary Christensen

Property: Tieton Maid O' Clover  
3602 Tieton Dr.  
Yakima, Washington

Key Site Manager: Mr. Gary Christensen

Environmental Professionals: Yancy Meyer, E. P.  
P. Trabusiner, Engineer

Project Number: E2006/0303

Report Date: March 20, 2006

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## 1.0 EXECUTIVE SUMMARY

The subject site is located west of downtown Yakima, Washington, at 3602 Tieton Dr., at the southwest corner of the intersection of Tieton Dr. and N. 36<sup>th</sup> Ave. This parcel, number 181327-12003, is a portion of the northwest quarter of the northeast quarter of Section 27, Township 13 N, Range 18 E.W.M. The site covers 15,750 square feet, with a convenience store and two gas pump islands with a total of four gas pumps, paved parking, and a fence along the south border. Residences, a restaurant, retail stores, and an espresso stand occupy the areas adjoining the target site.

This site is listed on the environmental database SPILL list and UST list. The SPILL listing indicates that groundwater is contaminated at the site. Seven monitoring wells are installed at the site, and in 1996 a subsurface vacuum extraction system was installed by T-2 Services, Inc. No recent reports were available concerning the vapor extraction or the monitoring wells; therefore, BMEC sampled the existing monitoring wells on March 10, 2006. The results from the sampling are included in the appendix

Three 10,000 gallon underground storage tanks (USTs) are located west of the building. These are coated steel tanks with impressed current cathodic protection, secondary containment at the fill pipe, overflow alarm, and Stage I vapor recovery. Four pumps are located at two pump islands, and the pumps were last inspected in 2005. A copy of tightness tests on the lines and the tanks, dated May 2005, is included in the appendix.

Blue Mountain Environmental Consulting, Inc. (BMEC) was contracted by R. E. Powell Distributing to determine if there is environmental liability present from petroleum-related occupation. BMEC concentrated the investigation at the areas where contamination from the fuel operation was most likely; around the tank excavation and at the fuel islands.

Mr. Yancy Meyer, E. P., and Mr. Peter Trabusiner, Engineer, both with BMEC, conducted the subsurface soil investigation on March 8, and March 10, 2006. Environmental West Exploration, Inc., from Spokane, Washington, conducted the soil testing. Eight test holes were driven with a Mobile Geo-Probe outfitted with a direct push 140-lb. drive hammer (see location map).

Soil samples were taken with a mono-tube sampler fitted with a four-foot long and two inch diameter PVC liner. Samples were taken at four-foot increments. The samples were tested for petroleum hydrocarbons by visual, olfactory, and headspace testing with a PID.

Test boring #1 was located down gradient of the inferred groundwater flow, southeast of the UST pad, to intercept possibly migrating contamination. Test boring #2 was located up gradient of the UST pad. The borings were performed outside the USTs excavation area. Borings #3 and #4 were located at the pump islands. None of the soil samples screened in the field had any indication for petroleum hydrocarbons.

There are seven groundwater monitoring wells on site. However, three of the wells were dry at the time of our site monitoring (MW-2, MW-3, and MW-6). Apparently the three wells are too shallow for the groundwater table (less than ten feet depth).

Two of the four sampled water wells showed evidence of gasoline and benzene below the MTCA cleanup levels for unrestricted land use.

OnSite Environmental, Inc., in Redmond, WA, conducted analysis of soil samples taken from the bottom of each boring. Results were ND (Not Detected) for petroleum hydrocarbons in the gasoline range for Samples 03-08-05 through 03-08-08. No evidence of petroleum soil contamination was discovered at the site. The risk at the site is considered low, and no further action is recommended.

## **2.0 PHASE II ENVIRONMENTAL SITE ASSESSMENT OVERVIEW**

### **2.1 Purpose**

The purpose of this Phase II Environmental Site Assessment was to investigate and evaluate through soil sampling and testing by a trained environmental professional the presence or likely existence of:

- Contamination by petroleum products which had been stored and handled at the gas station.
- A brief overview, evaluation, and assessment of the severity of the current potential environmental risk based upon known standards or applicable regulations.

Unless specifically noted within the text of this report, this site investigation does not include or address groundwater with respect to testing, or sampling analysis.

### **2.2 Protocol**

The procedure for this Phase II Environmental Site Assessment was to perform in practical and reasonable steps--employing currently available technology, existing regulations, and generally acceptable engineering practices--an investigation to ascertain the possibility, presence, or absence of an environmental release as limited by the Scope of Work.

### **2.3 Objectives**

- To provide environmental information that will assist in evaluating ownership's risk of potential loss or value impairment of the security interest, due to environmental defects. To provide information for decisions and operational limitations concerning the National Pollution Contingency Plan Under CERCLA, Lender Liability Final Rule 40 CFR Part 300 XI.

While this Phase II Environmental Site Assessment cannot absolutely quantify and qualify every possible past and present environmental risk, the assessment does provide a partial information basis for reasonable decision making regarding the potential for environmental liabilities and risk, based upon the current site-specific situation, assessment limitations, and methods of evaluation.

### **3.0 GENERAL SITE RECONNAISSANCE OVERVIEW**

Blue Mountain Environmental Consulting, Inc. (BMEC) was retained by R. E. Powell Distributing to perform a Phase II Environmental Site Investigation at the gas station at 3602 Tieton Dr., in Yakima, Washington.

The weather during the site investigation was snowing with temperatures in the 30s (°F).

#### **3.1 Physical Setting Source**

The property's physical location was researched employing a United States Geological Survey (USGS) 7.5 Minute Topographic Quadrangle (Quad) Map section relevant to the property. The USGS 7.5 Minute Quad Map has an approximate scale of 1 inch to 2,000 feet, and shows physical features such as wetlands, water bodies, roadways, mines, and buildings. The physical and natural features illustrated on the Quad Map served as areas of visual emphasis when conducting the site inspection of the property. The USGS 7.5 Minute Quad Map was used as the only Standard Physical Setting Source, and was sufficient as a single reference.

According to the topographic map, the property is located at the southwest corner of the intersection of Tieton Dr. and S. 36<sup>th</sup> Ave., in Yakima, Washington. The property is accessible from Tieton Dr. and S. 36<sup>th</sup> Ave. No railroad right-of ways, wetlands, or quarries are identified in the area of the property. The surface elevation of the site is approximately 1,075 feet above mean sea level. The topography in the general area slopes to the southeast towards the Yakima River.

#### **3.2 Visual Description**

The property is located west of downtown Yakima, and consists of a convenience store, two canopies covering four pump islands, paved parking, and landscaping. The property is located on terrain sloping to the southeast. A shopping center, a restaurant, retail shops, and residences occupy the areas adjoining the site.

### **3.3 Subsurface and Hydrological Characteristics**

Core samples brought up from the borings were very similar. The top 3-inches of each boring was asphalt and gravel. The remainder of each boring was mixed sand and gravel varying in coarseness with the depth of each boring. Generally the soil had more gravel near the bottom of each boring. There was a minor amount of silt material mixed in with the sand. The predominant color was light brownish to brown. None of the soil samples showed visual evidence for petroleum hydrocarbons.

The property lies within the boundaries of a mixed aquifer located under the city of Yakima, influenced by the Yakima River. There are no records of wells existing on the property. According to the Washington Department of Agriculture, Soil Conservation, the ground water level is estimated at 10 feet in the area of the property. According to the Aquiflow Information System, the general direction of the groundwater flow is to the southeast.

Surface flow of water is typically to the southeast but has been modified by the construction of impermeable surfaces and anthropogenic pathways, i.e., roadways, storm drains, and catch basins. The groundwater gradient inferred from topography is to the southeast following the hydraulic gradient influenced by the Yakima River.

## **4.0 SAMPLING**

### **4.1 Sampling Rationale**

Four test borings were made (see location map). Core samples were field-screened from each boring at 4-foot increments. A total of 4 soil samples, one from the bottom of each boring, were sent to the laboratory. Groundwater samples were taken from four monitoring wells at the site (the remaining three wells were dry).

### **4.2 Sampling Method**

The soil samples for the laboratory were collected from the PVC liner fitted inside the two-inch tube sampler (see photo documentation). The boring and sampling equipment was cleaned between each boring with an Alconox solution and triple-rinsed with distilled water. The analytical work requested was according to EPA Method 5035A. Soil samples were collected from each liner with new latex gloves and placed into clean 4-ounce glass sample jars and for the high-level analysis we used one pre-weighed vial (per sample) containing methanol as preservative. The sample containers were labeled with sample number, date and time collected, and placed in an ice chest containing 'blue-ice' for UPS overnight delivery to OnSite Environmental Laboratory, in Redmond, Washington. The samples were accompanied by a chain-of-custody and the request for analysis.

The water samples were collected with a peristaltic pump with a silicon tube lowered to the water level. Each water sample was placed in a 40-milliliter vial (volatile organic analysis-VOA). The

sample container was new (except containing a preservative prepared by the laboratory). The vials were used for water samples to be analyzed for gasoline and gasoline constituents (e.g., BTEX). Disposable latex gloves were used at all times during sampling. Each sample container was closed with a plastic screw cap onto a Teflon-faced septum, which was used to seal the bottle without headspace, then inverted and tapped to test for air bubbles. Each vial was labeled and placed in an ice chest with blue-ice for transport to the laboratory. All samples were accompanied from the field to laboratory by a signed and dated chain-of-custody and request for analysis. Two VOA's were filled with groundwater from each monitoring well for analysis.

Analysis of the samples taken during the site activities was conducted by OnSite Environmental, Inc.

Field-testing of the soil samples was done by utilizing the "head space" field screening method to detect volatiles as measured by a Photo Ionization Detector (PID). Soils are contained inside a sealed glass container and exposed to a heat source. The volatile components in the soil evaporate and are contained within the "head space." The Teflon probe of the PID is inserted through the seal and the gases are extracted and measured within the PID.

### 4.3 Sampling Results

Soil samples 03-08-05 through 03-08-08 were tested for NWTPH-Gx/BTEX, MTBE, and Total Lead.

Matrix: Soil Units: mg/Kg (ppm)

Sample Number (a)		03-08-05	03-08-06	03-08-07	03-08-08
Sample Depth (ft)		12	12	12	12
Analyte	MCTA Criteria				
Benzene	0.03	<0.02	<0.02	<0.02	<0.02
Toluene	7	<0.08	<0.08	<0.08	<0.08
Ethylbenzene	6	<0.08	<0.08	<0.08	<0.08
Xylenes	9	<0.08	<0.08	<0.08	<0.08
TPH Gasoline (c)	30/100	<10	<10	<10	<10
MTBE	0.1	<0.08	<0.08	<0.08	<0.08
Total lead	250	<8	<8	<8	<8

**Notes:**

(a) Samples taken on March 8, 2006

(b) No MCTA cleanup criteria available

(c) 30 mg/kg for Gasoline range TPH with Benzene present; 100 mg/kg for Gasoline range TPH without Benzene, and with Ethylbenzene, Toluene, and Xylenes less than 1% of gasoline mixture

Concentrations for all chemicals and MCTA criteria in mg/kg

MCTA is Model Toxics Control Act (Feb. 2001), Washington Department of Ecology, Cleanup Regulations Chapter 173-340 WAC

Analyses by OnSite Environmental, Redmond, WA

NWTPH Gx/BTEX analysis for diesel, lube oil, gasoline, BTEX and MTBE

EPA 6010B analysis for Total lead

NA – sample not analyzed for chemical

See laboratory data sheets in Appendix B for complete list of analytes

There are seven groundwater-monitoring wells on site. However, three of the wells were dry at the time of our site monitoring. Apparently the three wells are too shallow for the groundwater table (less than ten feet depth).

See site map in the appendix.

Water samples 310-01, 310-04, 310-05, and 310-07 were tested for NWTPH-Gx/BTEX.

Matrix: Water Units: ug/L (ppb)

Sample Number (a)		310-01	310-04	310-05	310-07
Sample Depth (ft)		13	10	10	8
Analyte	MCTA Criteria				
Benzene	5	<1.0	3.6	<1.0	<1.0
Toluene	1,000	<1.0	<1.0	<1.0	<1.0
Ethylbenzene	700	<1.0	<1.0	<1.0	<1.0
Xylenes	1,000	<1.0	<1.0	<1.0	<1.0
TPH Gasoline (c)	800/1,000	<100	210	<100	180

Notes:

(a) Samples taken on March 10, 2006

(b) No MCTA cleanup criteria available

(c) 800 ug/L for Gasoline range TPH with Benzene present; 1,000 ug/L for Gasoline range TPH without Benzene, and with Ethylbenzene, Toluene and Xylenes less than 1% of gasoline mixture

Concentrations for all chemicals and MCTA criteria in ug/L

MCTA is Model Toxics Control Act (Feb. 2001), Washington Department of Ecology, Cleanup

Regulations Chapter 173-340 WAC

Analyses by OnSite Environmental, Redmond WA

NWTPH Gx/BTEX analysis for diesel, lube oil and gasoline

## 5.0 CONCLUSIONS

Results were ND (Not Detected) for petroleum hydrocarbons in the gasoline range for samples 03-08-05 through 03-08-08. No evidence of soil contamination was discovered at the site.

Two of the four water well samples showed evidence of gasoline and benzene contamination below the MCTA cleanup levels for unrestricted land use.

In order to get the **No Further Action Required** site status, three additional consecutive quarterly GW-monitoring events are required by the DOE.

## **6.0 STATEMENT OF THE ENVIRONMENTAL PROFESSIONALS**

### **Statement of Quality Assurance**

I have performed this Assessment in accordance with generally accepted environmental practices and procedures, as of the date of this report. I have employed the degree of care and skill ordinarily exercised under similar circumstances by reputable environmental professionals practicing in this area. The conclusions contained within this Assessment are based upon site conditions I readily observed or which were reasonably ascertainable and present at the time of the site inspection.

The conclusions and recommendations stated in this report are based upon personal observations made by employees of BMEC and upon information provided by others. I have no reason to suspect or believe that the information provided by others is inaccurate.

Blue Mountain Environmental Consulting, Inc.

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Yancy Meyer, E. P.

### **Statement of Quality Control**

The objective of this Environmental Site Assessment was to ascertain the potential presence or absence of environmental problems that could impact the subject property, as delineated by the Scope of Work. The procedure was to perform reasonable steps in accordance with the existing regulations, currently available technology, and generally accepted engineering practices in order to accomplish the stated objective.

To the best of my knowledge, this site investigation has been performed in compliance with BMEC's Standard Operating Procedures protocol for Environmental Site Assessments.

Blue Mountain Environmental Consulting, Inc.

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P. Trabusiner, Engineer

## 7.0 REPORT LIMITATIONS

The enclosed site assessment has been performed for the exclusive use of R. E. Powell Distributing, or agents specified by them, for the transaction at issue concerning the subject property in Yakima, Washington.

The purpose of an environmental investigation is to evaluate potential or actual effects of past or current practices on a given site. In performing an environmental investigation, a balance must be struck between reasonable inquiry into environmental issues and an exhaustive analysis of every conceivable issue of possible concern. This environmental assessment contains BMEC opinion regarding environmental issues of concern and/or additional issues that may need to be addressed. In rendering our professional opinion, BMEC warrants that the services provided within the scope of this assessment were performed, within the limits described, in accordance with generally accepted environmental consulting principles and practices. No other warranty, expressed or implied, is made. The following paragraphs describe the assumptions and standard parameters under which such opinion is rendered.

Any opinions and/or recommendations presented in this report apply to site conditions existing at the time of performance of services. BMEC is unable to report on or accurately predict events that may affect the site after performance of services, whether occurring naturally or caused by human forces. BMEC assumes no responsibility for conditions BMEC did not investigate, or conditions not generally recognized as environmentally unacceptable at the time services were performed.

Where subsurface work was performed, BMEC professional opinions are based in part on the interpretation of data from discrete sample locations that may not represent actual conditions at the non-sampled locations.

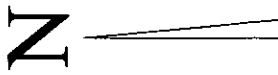
Except where there is expressed concern of our client, or where specific environmental contaminants have previously been reported by others, naturally occurring toxic substances, potential environmental contaminants located inside buildings, or contaminant concentrations not of current environmental concern, may not be addressed in this document.

No assessment is thorough enough to exclude the presence of hazardous materials at a given site. Therefore, if specific hazardous materials have not been identified during this assessment, the lack of such identifications should not be construed as a guarantee of the absence of hazardous materials, but merely as the result of services performed within the scope, limitations, and cost of work done.

BMEC is not responsible for the effects of changes in applicable environmental standards, practices, or regulations after the performance of services.

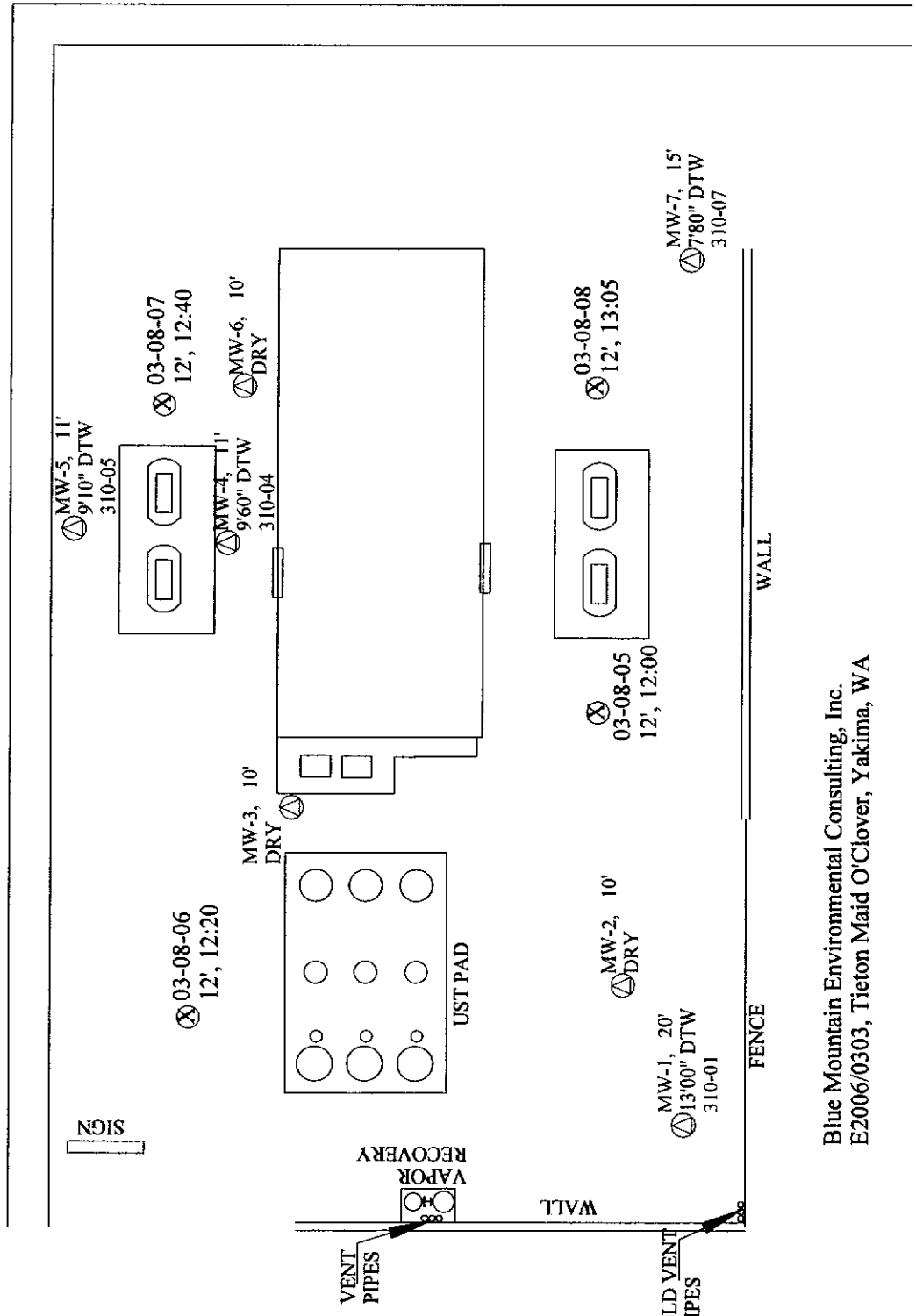
Services provided for this assessment were performed in accordance with BMEC's agreement and understanding with our client, which may not be fully disclosed in this report. Opinions and/or recommendations are intended for the client, purpose, site, location, time frame, and project parameters indicated.

This report was prepared solely for the use of our client, and should be reviewed in its entirety; BMEC is not responsible for subsequent separation, detachment, or partial use of this document. Any reliance on this report by a third party shall be at such party's sole risk.



W. TIETON DR.

S. 36TH AVE.



Blue Mountain Environmental Consulting, Inc.  
E2006/0303, Tieton Maid O'Clover, Yakima, WA



14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

March 17, 2006

Yancy Meyer  
Blue Mountain Environmental, Inc.  
1500 Adair Drive  
Richland, WA 99352

Re: Analytical Data for Project E2006/0303  
Laboratory Reference No. 0603-110

Dear Yancy:

Enclosed are the analytical results and associated quality control data for samples submitted on March 13, 2006.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal flourish extending to the right.

David Baumeister  
Project Manager

Enclosures

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-110  
Project: E2006/0303

### **Case Narrative**

Samples were collected on March 8, 2006 and received by the laboratory on March 13, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

#### **NWTPH Gx/BTEX Analysis**

Per EPA method 5035A, samples were received by the laboratory in pre-weighed 40 ml VOA vials preserved with either Methanol or Sodium Bisulfate.

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

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-110  
 Project: E2006/0303

**NWTPH-Gx/BTEX + MTBE**

Date Extracted: 3-15-06  
 Date Analyzed: 3-15-06

Matrix: Soil  
 Units: mg/kg (ppm)

Client ID: 03-08-05 03-08-06  
 Lab ID: 03-110-01 03-110-02

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
MTBE	<b>ND</b>		0.073	<b>ND</b>		0.080
Benzene	<b>ND</b>		0.020	<b>ND</b>		0.020
Toluene	<b>ND</b>		0.073	<b>ND</b>		0.080
Ethyl Benzene	<b>ND</b>		0.073	<b>ND</b>		0.080
m,p-Xylene	<b>ND</b>		0.073	<b>ND</b>		0.080
o-Xylene	<b>ND</b>		0.073	<b>ND</b>		0.080
TPH-Gas	<b>ND</b>		7.3	<b>ND</b>		8.0
Surrogate Recovery:						
Fluorobenzene	<b>90%</b>			<b>79%</b>		

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-110  
 Project: E2006/0303

**NWTPH-Gx/BTEX + MTBE**

Date Extracted: 3-15-06  
 Date Analyzed: 3-15-06

Matrix: Soil  
 Units: mg/kg (ppm)

Client ID: 03-08-07 03-08-08  
 Lab ID: 03-110-03 03-110-04

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
MTBE	<b>ND</b>		0.080	<b>ND</b>		0.059
Benzene	<b>ND</b>		0.020	<b>ND</b>		0.020
Toluene	<b>ND</b>		0.080	<b>ND</b>		0.059
Ethyl Benzene	<b>ND</b>		0.080	<b>ND</b>		0.059
m,p-Xylene	<b>ND</b>		0.080	<b>ND</b>		0.059
o-Xylene	<b>ND</b>		0.080	<b>ND</b>		0.059
TPH-Gas	<b>ND</b>		8.0	<b>ND</b>		5.9
Surrogate Recovery:						
Fluorobenzene	74%			85%		

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-110  
Project: E2006/0303

**NWTPH-Gx/BTEX + MTBE  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 3-15-06  
Date Analyzed: 3-15-06

Matrix: Soil  
Units: mg/kg (ppm)

Lab ID: MB0315S1

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
MTBE	<b>ND</b>		0.050
Benzene	<b>ND</b>		0.020
Toluene	<b>ND</b>		0.050
Ethyl Benzene	<b>ND</b>		0.050
m,p-Xylene	<b>ND</b>		0.050
o-Xylene	<b>ND</b>		0.050
TPH-Gas	<b>ND</b>		5.0
Surrogate Recovery: Fluorobenzene	<b>90%</b>		

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-110  
 Project: E2006/0303

**NWTPH-Gx/BTEX + MTBE  
 DUPLICATE QUALITY CONTROL**

Date Extracted: 3-15-06  
 Date Analyzed: 3-15-06

Matrix: Soil  
 Units: mg/kg (ppm)

Lab ID:	03-110-04 Original	03-110-04 Duplicate	RPD	Flags
MTBE	ND	ND	NA	
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	85%	86%		

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-110  
 Project: E2006/0303

**NWTPH-Gx/BTEX + MTBE  
 MS/MSD QUALITY CONTROL**

Date Extracted: 3-15-06

Date Analyzed: 3-15-06

Matrix: Soil  
 Units: mg/kg (ppm)

Spike Level (ppm): 2.43

Lab ID:	03-110-04 MS	Percent Recovery	03-110-04 MSD	Percent Recovery	RPD	Flags
MTBE	2.85	117	2.71	112	5	
Benzene	2.42	100	2.45	101	1	
Toluene	2.43	100	2.46	101	1	
Ethyl Benzene	2.42	100	2.45	101	1	
m,p-Xylene	2.43	100	2.47	102	1	
o-Xylene	2.43	100	2.46	101	1	

Surrogate Recovery:

Fluorobenzene 86% 86%

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-110  
Project: E2006/0303

**TOTAL LEAD  
EPA 6010B**

Date Extracted: 3-14-06  
Date Analyzed: 3-15-06  
  
Matrix: Soil  
Units: mg/kg (ppm)

Client ID	Lab ID	Result	PQL
03-08-05	03-110-01	ND	6.9
03-08-06	03-110-02	ND	7.2
03-08-07	03-110-03	ND	7.6
03-08-08	03-110-04	ND	6.1

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-110  
Project: E2006/0303

**TOTAL LEAD  
EPA 6010B  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 3-14-06  
Date Analyzed: 3-15-06  
  
Matrix: Soil  
Units: mg/kg (ppm)  
  
Lab ID: MB0314S3

Analyte	Method	Result	PQL
Lead	6010B	ND	5.0

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-110  
Project: E2006/0303

**TOTAL LEAD  
EPA 6010B  
DUPLICATE QUALITY CONTROL**

Date Extracted: 3-14-06  
Date Analyzed: 3-15-06

Matrix: Soil  
Units: mg/kg (ppm)

Lab ID: 03-110-01

Analyte	Sample Result	Duplicate Result	RPD	Flags	PQL
Lead	ND	ND	NA		5.0

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-110  
Project: E2006/0303

**TOTAL LEAD  
EPA 6010B  
MS/MSD QUALITY CONTROL**

Date Extracted: 3-14-06

Date Analyzed: 3-15-06

Matrix: Soil

Units: mg/kg (ppm)

Lab ID: 03-110-01

Analyte	Spike Level	MS	Percent Recovery	MSD	Percent Recovery	RPD	Flags
Lead	250	<b>193</b>	77	<b>193</b>	77	0	

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-110  
Project: E2006/0303

**% MOISTURE**

Date Analyzed: 3-14-06

Client ID	Lab ID	% Moisture
03-08-05	03-110-01	28
03-08-06	03-110-02	31
03-08-07	03-110-03	34
03-08-08	03-110-04	18



#### Data Qualifiers and Abbreviations

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

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

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

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

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

G - Insufficient sample quantity for duplicate analysis.

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

O - Hydrocarbons indicative of diesel fuel are present in the sample and are impacting the gasoline result.

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z -

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference



**OnSite Environmental Inc.**  
 1484 NE 96th Street • Padonond, VA 29062  
 Phone: (423) 883-3881 • Fax: (423) 885-4603

# Chain of Custody

Turnaround Request  
(in working days)

Laboratory Number: **03-110**

Requested Analysis

(Check One)

Same Day  1 Day

2 Day  3 Day

Standard (7 working days)

(other)

Company: **BMEC, Inc**  
 Project Number: **E7006/0305**  
 Project Name: **73602 TIER 1, YALOWA**  
 Project Manager: **Y. MEYER**  
 Sampled by: **Y. MEYER**

Lab ID	Sample Identification	Date Sampled	Time Sampled	Matrix	# of Cont.	NWTPH-HCID	NWTPH-Gx/BTEX	NWTPH-Dx	Volatiles by 8260B	Halogenated Volatiles by 8260B	Semivolatiles by 8270C	PAHs by 8270C / SIM	PCBs by 8082	Pesticides by 8081A	Herbicides by 8151A	Total RCRA Metals (8)	TCLP Metals	HEM by 1664	VPH	EPH	TOTAL LEAD	MTBE	% Moisture
1	03-08-05	3-9-06	1200	Soil	3	X	X														X	X	X
2	03-08-06		1220			X	X														X	X	X
3	03-08-07		1240			X	X														X	X	X
4	03-08-08		1305			X	X														X	X	X

Supervisor	Company	Date	Time	Comments, Special Instructions
<i>[Signature]</i>	BMEC, Inc	3-9-06	14:00	
<i>[Signature]</i>		3-10-06	7:30	
<i>[Signature]</i>		3-15-06	12:37	
<i>[Signature]</i>		3/15/06	12:37	

Received by / Date: \_\_\_\_\_  
 Replenished by: \_\_\_\_\_  
 Replenished by: \_\_\_\_\_  
 Reviewed by / Date: \_\_\_\_\_

DISTRIBUTION LEGEND: White - OnSite Copy Yellow - Report Copy Pink - Client Copy

Chromatograms with final report



14648 NE 95<sup>th</sup> Street, Redmond, WA 98052 • (425) 883-3881

March 17, 2006

Peter Trabusiner  
Blue Mountain Environmental, Inc.  
1500 Adair Drive  
Richland, WA 99352

Re: Analytical Data for Project E2006/0307  
Laboratory Reference No. 0603-106

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on March 13, 2006.

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

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

Sincerely,

A handwritten signature in black ink, appearing to read "DB", with a long horizontal line extending to the right.

David Baumeister  
Project Manager

Enclosures

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-106  
Project: E2006/0307

### **Case Narrative**

Samples were collected on March 10, 2006 and received by the laboratory on March 13, 2006. They were maintained at the laboratory at a temperature of 2°C to 6°C except as noted below.

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

#### **NWTPH Gx/BTEX Analysis**

The Gasoline result for sample 310-07 is attributed to a single peak (PCE).

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

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-106  
 Project: E2006/0307

**NWTPH-Gx/BTEX**

Date Extracted: 3-13&15-06  
 Date Analyzed: 3-13&15-06

Matrix: Water  
 Units: ug/L (ppb)

Client ID: **310-01** **310-04**  
 Lab ID: 03-106-01 03-106-02

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
Benzene	<b>ND</b>		1.0	<b>3.6</b>		1.0
Toluene	<b>ND</b>		1.0	<b>ND</b>		1.0
Ethyl Benzene	<b>ND</b>		1.0	<b>ND</b>		1.0
m,p-Xylene	<b>ND</b>		1.0	<b>ND</b>		1.0
o-Xylene	<b>ND</b>		1.0	<b>ND</b>		1.0
TPH-Gas	<b>ND</b>		100	<b>210</b>		100
Surrogate Recovery:						
Fluorobenzene	<b>104%</b>			<b>90%</b>		

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-106  
 Project: E2006/0307

#### NWTPH-Gx/BTEX

Date Extracted: 3-13-06  
 Date Analyzed: 3-13-06

Matrix: Water  
 Units: ug/L (ppb)

Client ID: 310-05 310-07  
 Lab ID: 03-106-03 03-106-04

	Result	Flags	PQL	Result	Flags	PQL
Benzene	ND		1.0	ND		1.0
Toluene	ND		1.0	ND		1.0
Ethyl Benzene	ND		1.0	ND		1.0
m,p-Xylene	ND		1.0	ND		1.0
o-Xylene	ND		1.0	ND		1.0
TPH-Gas	ND		100	180	Z	100
Surrogate Recovery:						
Fluorobenzene	104%			103%		

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-106  
Project: E2006/0307

**NWTPH-Gx/BTEX  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 3-13-06  
Date Analyzed: 3-13-06

Matrix: Water  
Units: ug/L (ppb)

Lab ID: MB0313W1

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
Benzene	<b>ND</b>		1.0
Toluene	<b>ND</b>		1.0
Ethyl Benzene	<b>ND</b>		1.0
m,p-Xylene	<b>ND</b>		1.0
o-Xylene	<b>ND</b>		1.0
TPH-Gas	<b>ND</b>		100

Surrogate Recovery:  
Fluorobenzene 96%

Date of Report: March 17, 2006  
Samples Submitted: March 13, 2006  
Laboratory Reference: 0603-106  
Project: E2006/0307

**NWTPH-Gx/BTEX  
METHOD BLANK QUALITY CONTROL**

Date Extracted: 3-15-06  
Date Analyzed: 3-15-06

Matrix: Water  
Units: ug/L (ppb)

Lab ID: MB0315W2

	<b>Result</b>	<b>Flags</b>	<b>PQL</b>
Benzene	<b>ND</b>		1.0
Toluene	<b>ND</b>		1.0
Ethyl Benzene	<b>ND</b>		1.0
m,p-Xylene	<b>ND</b>		1.0
o-Xylene	<b>ND</b>		1.0
TPH-Gas	<b>ND</b>		100

Surrogate Recovery:  
Fluorobenzene 97%

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-106  
 Project: E2006/0307

**NWTPH-Gx/BTEX  
 DUPLICATE QUALITY CONTROL**

Date Extracted: 3-13-06  
 Date Analyzed: 3-13-06

Matrix: Water  
 Units: ug/L (ppb)

Lab ID:	03-097-01 Original	03-097-01 Duplicate	RPD	Flags
Benzene	ND	ND	NA	
Toluene	ND	ND	NA	
Ethyl Benzene	ND	ND	NA	
m,p-Xylene	ND	ND	NA	
o-Xylene	ND	ND	NA	
TPH-Gas	ND	ND	NA	
Surrogate Recovery:				
Fluorobenzene	92%	94%		

Date of Report: March 17, 2006  
 Samples Submitted: March 13, 2006  
 Laboratory Reference: 0603-106  
 Project: E2006/0307

**NWTPH-Gx/BTEX  
 MS/MSD QUALITY CONTROL**

Date Extracted: 3-13-06  
 Date Analyzed: 3-13-06

Matrix: Water  
 Units: ug/L (ppb)

Spike Level: 50.0 ppb

Lab ID:	03-097-01 MS	Percent Recovery	03-097-01 MSD	Percent Recovery	RPD	Flags
Benzene	50.7	101	49.4	99	3	
Toluene	51.1	102	49.6	99	3	
Ethyl Benzene	51.0	102	49.2	98	4	
m,p-Xylene	51.1	102	48.9	98	5	
o-Xylene	51.0	102	48.9	98	4	
Surrogate Recovery: Fluorobenzene	96%		94%			



#### Data Qualifiers and Abbreviations

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

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

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

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

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

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O - Hydrocarbons indicative of diesel fuel are present in the sample and are impacting the gasoline result.

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

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

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Y - Sample extract treated with an acid/silica gel cleanup procedure.

Z - The Gasoline result is attributed to a single peak (PCE).

ND - Not Detected at PQL

PQL - Practical Quantitation Limit

RPD - Relative Percent Difference

