# SOIL SAMPLING REPORT
# DAVE'S PIT STOP SITE

## Columbia Oil Company
## 6197 Van Giesen St.
## West Richland, WA 99352

**VCP VCCE0279**


***Prepared By:***

**Blue Mountain Environmental Consulting**
1500 Adair Drive
Richland, WA 99352

## *INTRODUCTION*

At the September 4, 2008 email request of Mr. Brian Deeken, Washington Department of Ecology ("DOE") - Yakima, this letter report summarizes sampling of soil from five push-probe borings were completed on October 20, 2008 at Columbia Oil Company's Dave's Pit Stop property ("Site"), 6197 Van Giesen St., West Richland, Benton County, Washington.

## *SITE DESCRIPTION*

The Dave's Pit Stop property ("Site") was a service station currently utilized as a grocery and deli store (see Figure 1 - "Location Topographic Map"). The Site lies approximately one mile southwest of the Columbia River west of downtown West Richland. The Site is bounded by residences and open land to the south.

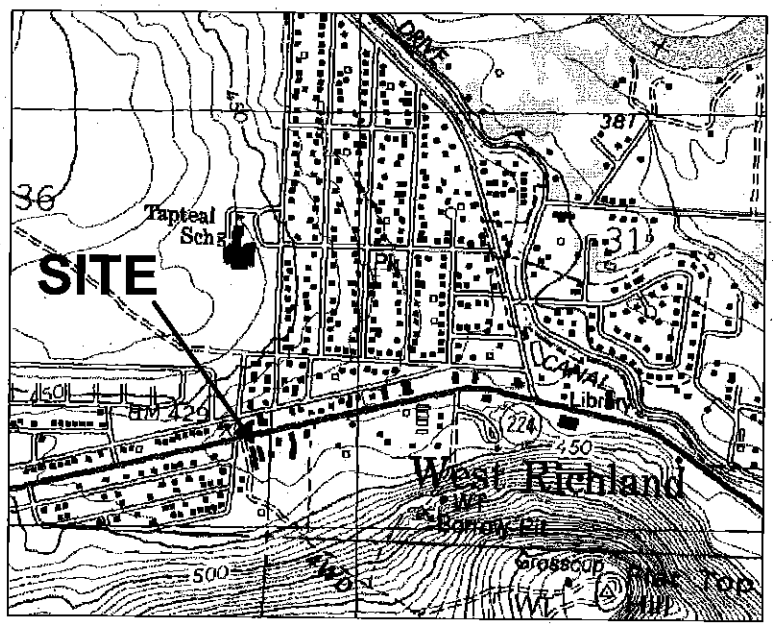


**Figure 1 –Topographic Map**

## *DRILLING*

Five borings were drilled to a depth of 10 feet and a soil sample was collected at 10 feet in each boring for analysis. The location of the borings is shown in Figure 2 - "Drilling Location Map".

The push probe sampler was advanced to the 10-foot sampling depth and the drive point of the sampler was retracted. Once retracted, the push probe was advanced to allow soil to enter a 1.5-inch (inside diameter) acetate liner housed inside the casing of the sampler. After the sampler was retrieved from the boring, the soil liner was extruded from casing and the liner split using a razor knife. The soil samples were placed in iced coolers to await shipment.

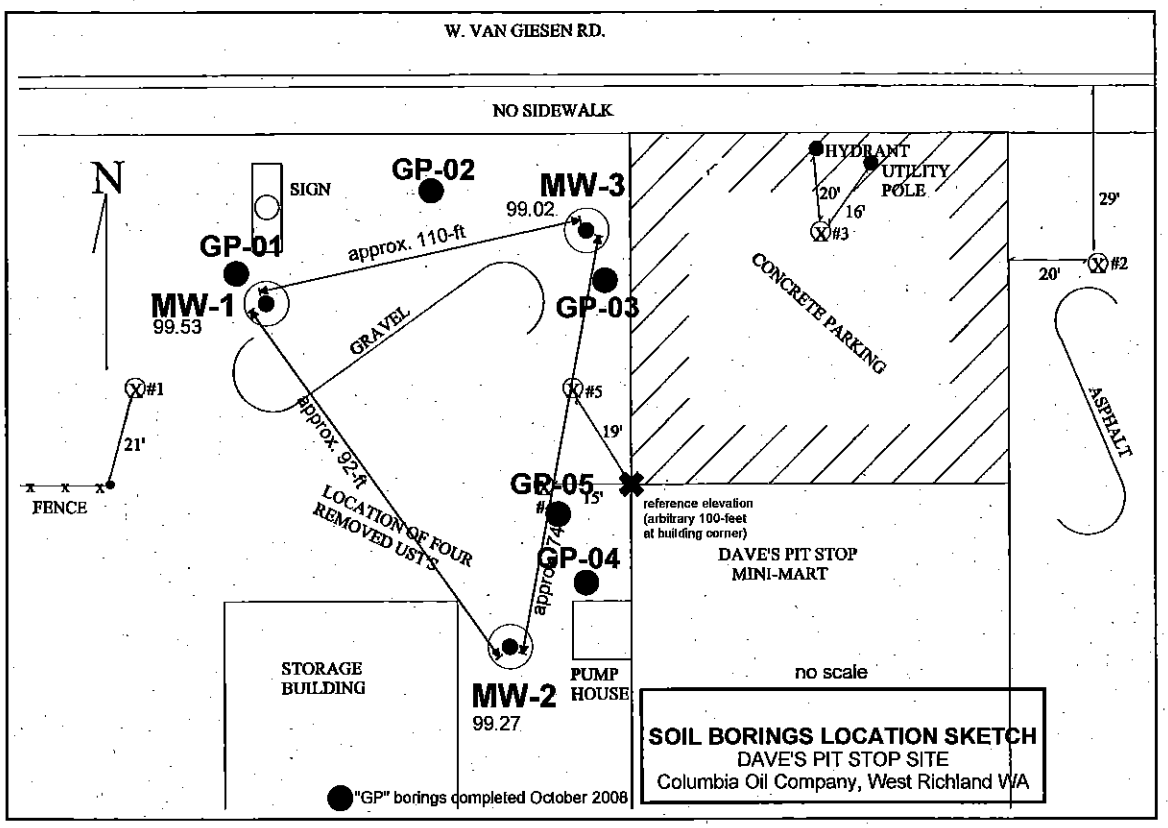


**Figure 2 – Drilling Location Map**

## *DATA EVALUATION*

The following Table summarizes the results of testing soil samples from the five borings for gasoline and BTEX. The laboratory report is included in Appendix A.

**Summary Soil Analysis**

| Boring | Benzene *mg/Kg* | Toluene *mg/Kg* | Ethyl Benzene *mg/Kg* | m,p-Xylene *mg/Kg* | o-Xylene *mg/Kg* | TPH-Gas *mg/Kg* |
|---|---|---|---|---|---|---|
| GP-1 | <0.020 | <0.070 | <0.070 | <0.070 | <0.070 | <7 |
| GP-2 | <0.020 | <0.077 | <0.077 | <0.077 | <0.077 | <7.7 |
| GP-3 | <0.020 | <0.070 | <0.070 | <0.070 | <0.070 | <7 |
| GP-4 | <0.020 | <0.080 | <0.080 | <0.080 | <0.080 | <8.0 |
| GP-5 | <0.020 | <0.089 | <0.089 | <0.089 | <0.089 | <8.9 |

*"<" - Not Detected at Practical Quantification Limit ("PQL") shown*

## *CONCLUSIONS*

Gasoline and gasoline constituents were not detected at a depth of 10 feet in each of five boring soil samples.

The Site should be considered for No Further Action.

# APPENDIX A

# LABORATORY REPORT

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

October 28, 2008

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

Re: Analytical Data for Project Dave's Pit Stop
Laboratory Reference No. 0810-188

Dear Peter:

Enclosed are the analytical results and associated quality control data for samples submitted on October 23, 2008.

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

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

Sincerely,

David Baumeister
Project Manager

Enclosures

Date of Report: October 28, 2008
Samples Submitted: October 23, 2008
Laboratory Reference: 0810-188
Project: Dave's Pit Stop

**Case Narrative**

Samples were collected on October 20, 2008 and received by the laboratory on October 23, 2008. They were maintained at the laboratory at a temperature of 2°C to 6°C.

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: October 28, 2008
Samples Submitted: October 23, 2008
Laboratory Reference: 0810-188
Project: Dave's Pit Stop

**NWTPH-Gx/BTEX**

Date Extracted: 10-24-08
Date Analyzed: 10-24-08

Matrix: Soil
Units: mg/kg (ppm)

| Client ID: | **GP-DP1-10-01** | | | **GP-DP2-10-02** | | |
|---|---|---|---|---|---|---|
| Lab ID: | 10-188-01 | | | 10-188-02 | | |
| | **Result** | Flags | PQL | **Result** | Flags | PQL |
| Benzene | **ND** | | 0.020 | **ND** | | 0.020 |
| Toluene | **ND** | | 0.070 | **ND** | | 0.077 |
| Ethyl Benzene | **ND** | | 0.070 | **ND** | | 0.077 |
| m,p-Xylene | **ND** | | 0.070 | **ND** | | 0.077 |
| o-Xylene | **ND** | | 0.070 | **ND** | | 0.077 |
| TPH-Gas | **ND** | | 7.0 | **ND** | | 7.7 |
| Surrogate Recovery: | | | | | | |
| Fluorobenzene | 90% | | | 88% | | |

Date of Report: October 28, 2008
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**NWTPH-Gx/BTEX**

| | | |
|---|---|---|
| Date Extracted: | 10-24-08 | |
| Date Analyzed: | 10-24-08 | |
| Matrix: Soil | | |
| Units: mg/kg (ppm) | | |
| Client ID: | **GP-DP3-10-03** | **GP-DP4-08-04** |
| Lab ID: | 10-188-03 | 10-188-04 |

| | **Result** | Flags | PQL | **Result** | Flags | PQL |
|---|---|---|---|---|---|---|
| Benzene | **ND** | | 0.020 | **ND** | | 0.020 |
| Toluene | **ND** | | 0.070 | **ND** | | 0.080 |
| Ethyl Benzene | **ND** | | 0.070 | **ND** | | 0.080 |
| m,p-Xylene | **ND** | | 0.070 | **ND** | | 0.080 |
| o-Xylene | **ND** | | 0.070 | **ND** | | 0.080 |
| TPH-Gas | **ND** | | 7.0 | **ND** | | 8.0 |
| Surrogate Recovery: | | | | | | |
| Fluorobenzene | 89% | | | 84% | | |

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**NWTPH-Gx/BTEX**

Date Extracted: 10-24-08
Date Analyzed: 10-24-08

Matrix: Soil
Units: mg/kg (ppm)

Client ID: **GP-DP5-10-05**
Lab ID: 10-188-05

| | **Result** | Flags | PQL |
|---|---|---|---|
| Benzene | **ND** | | 0.020 |
| Toluene | **ND** | | 0.089 |
| Ethyl Benzene | **ND** | | 0.089 |
| m,p-Xylene | **ND** | | 0.089 |
| o-Xylene | **ND** | | 0.089 |
| TPH-Gas | **ND** | | 8.9 |
| Surrogate Recovery: | | | |
| Fluorobenzene | 88% | | |

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

Date Extracted: 10-24-08
Date Analyzed: 10-24-08

Matrix: Soil
Units: mg/kg (ppm)

Lab ID: MB1024S2

| | **Result** | Flags | PQL |
|---|---|---|---|
| Benzene | **ND** | | 0.020 |
| Toluene | **ND** | | 0.050 |
| Ethyl Benzene | **ND** | | 0.050 |
| m,p-Xylene | **ND** | | 0.050 |
| o-Xylene | **ND** | | 0.050 |
| TPH-Gas | **ND** | | 5.0 |

Surrogate Recovery:
Fluorobenzene 94%

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

Date Extracted: 10-24-08
Date Analyzed: 10-24-08

Matrix: Soil
Units: mg/kg (ppm)

| Lab ID: | 10-188-01 **Original** | 10-188-01 **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 | 90% | 84% | | |

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

Date Extracted: 10-24-08
Date Analyzed: 10-24-08

Matrix: Soil
Units: mg/kg (ppm)

Spike Level (ppm): 2.97

| Lab ID: | 10-149-28 **MS** | Percent Recovery | 10-149-28 **MSD** | Percent Recovery | **RPD** | **Flags** |
|---|---|---|---|---|---|---|
| Benzene | **3.06** | **103** | **3.10** | **104** | 1 | |
| Toluene | **3.06** | **103** | **3.09** | **104** | 1 | |
| Ethyl Benzene | **3.05** | **103** | **3.09** | **104** | 1 | |
| m,p-Xylene | **3.03** | **102** | **3.06** | **103** | 1 | |
| o-Xylene | **3.04** | **102** | **3.08** | **104** | 1 | |
| Surrogate Recovery: | | | | | | |
| Fluorobenzene | 85% | | 85% | | | |

Date of Report: October 28, 2008
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## % MOISTURE

Date Analyzed: 10-24-08

| Client ID | Lab ID | % Moisture |
|---|---|---|
| GP-DP1-10-01 | 10-188-01 | 18 |
| GP-DP2-10-02 | 10-188-02 | 19 |
| GP-DP3-10-03 | 10-188-03 | 19 |
| GP-DP4-08-04 | 10-188-04 | 22 |
| GP-DP5-10-05 | 10-188-05 | 19 |

OnSite Environmental Inc.

**Data Qualifiers and Abbreviations**

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

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

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

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

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

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

I - Compound recovery is outside of the control limits.

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

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

L - The RPD is outside of the control limits.

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

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

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

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

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

Q - Surrogate recovery is outside of the control limits.

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

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

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

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

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

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

X - Sample extract treated with a mercury cleanup procedure.

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

# Chain of Custody

OnSite Environmental Inc.
Phone: (425) 883-3881 • Fax: (425) 885-4603



Company: BHEC, INC.
Project Number:
Project Name: DAVE'S PIT STOP
Project Manager: R. KENT
Sampled by: P. TRABUSINER

**Turnaround Request (in working days)**
(Check One)
☐ Same Day ☐ 1 Day
☐ 2 Day ☐ 3 Day
☒ Standard (7 working days)
(TPH analysis 5 working days)
☐ _____ (other)

**Laboratory Number: 10-188**

| 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 8270D | PAHs by 8270D / SIM | PCBs by 8082 | Pesticides by 8081A | Herbicides by 8151A | Total RCRA Metals (6) | TCLP Metals | HEM by 1664 | % Moisture |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | GP-DP1-10-01 | 10/20/08 | 9:30 | Soil | 2 | | X | | | | | | | | | | | | X |
| 2 | GP-DP2-10-02 | 10/20/08 | 9:55 | Soil | 2 | | X | | | | | | | | | | | | |
| 3 | GP-DP3-10-03 | 10/20/08 | 10:25 | Soil | 2 | | X | | | | | | | | | | | | |
| 4 | GP-DP4-08-04 | 10/20/08 | 11:00 | Soil | 2 | | X | | | | | | | | | | | | |
| 5 | GP-DP5-10-05 | 10/20/08 | 11:30 | Soil | 2 | | X | | | | | | | | | | | | |

| | Signature | Company | Date | Time | Comments/Special Instructions |
|---|---|---|---|---|---|
| Relinquished by | P. Trabusiner | BHEC, INC. | 10/22/08 | 14:30 | |
| Received by | M. Ora | OSE | 10/23/08 | 1000 | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Relinquished by | | | | | |
| Received by | | | | | |
| Reviewed by/Date | | Reviewed by/Date | | | Chromatograms with final report ☐ |

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