



Galen Williams  
EarthFax Engineering  
7324 So. Union Park Ave., # 100  
Midvale, UT 84047  
TEL: (801) 561-1555

RE: Red Butte / UC-1300-02

Dear Galen Williams:

Lab Set ID: 1108182

463 West 3600 South  
Salt Lake City, UT 84115

American West Analytical Laboratories received 15 sample(s) on 8/9/2011 for the analyses presented in the following report.

Phone: (801) 263-8686  
Toll Free: (888) 263-8686  
Fax: (801) 263-8687  
e-mail: awal@awal-labs.com

All analyses were performed in accordance to The NELAC Institute protocols unless noted otherwise. American West Analytical Laboratories is certified by The NELAC Institute in Utah and Texas; and is state certified in Colorado, Idaho, and Missouri. Certification document is available upon request. If you have any questions or concerns regarding this report please feel free to call.

web: www.awal-labs.com

The abbreviation "Surr" found in organic reports indicates a surrogate compound that is intentionally added by the laboratory to determine sample injection, extraction, and/or purging efficiency. The "Reporting Limit" found on the report is equivalent to the practical quantitation limit (PQL). This is the minimum concentration that can be reported by the method referenced and the sample matrix. The reporting limit must not be confused with any regulatory limit. Analytical results are reported to three significant figures for quality control and calculation purposes.

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer

Thank You,

Approved by: \_\_\_\_\_  
Laboratory Director or designee



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-002  
**Client Sample ID:** RBC Below Barton Bed  
**Collection Date:** 8/9/2011 0950h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

463 West 3600 South  
Salt Lake City, UT 84115

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>12.5</b>	@
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>87.5</b>	

@ - High RPD due to suspected sample non-homogeneity or matrix interference.

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Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-003  
**Client Sample ID:** RBC Below Barton Bank  
**Collection Date:** 8/9/2011 0955h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>28.0</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>72.0</b>	

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-005  
**Client Sample ID:** West Spring Bed  
**Collection Date:** 8/9/2011 1020h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

463 West 3600 South  
Salt Lake City, UT 84115

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>36.6</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>63.4</b>	

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Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-007  
**Client Sample ID:** RBC at Barton Bed  
**Collection Date:** 8/9/2011 1045h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

463 West 3600 South  
Salt Lake City, UT 84115

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>19.3</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>80.7</b>	

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Laboratory Director

Jose Rocha  
QA Officer



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-008  
**Client Sample ID:** RBC at Barton Bank  
**Collection Date:** 8/9/2011 1050h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

463 West 3600 South  
Salt Lake City, UT 84115

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>26.8</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>73.2</b>	

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QA Officer



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-010  
**Client Sample ID:** Middle Spring Bed  
**Collection Date:** 8/9/2011 1110h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

463 West 3600 South  
Salt Lake City, UT 84115

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>40.8</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>59.2</b>	

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QA Officer



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-012  
**Client Sample ID:** RBC Above Remund Bed  
**Collection Date:** 8/9/2011 1210h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>21.6</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>78.4</b>	

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# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-013  
**Client Sample ID:** RBC Above Remund Bank  
**Collection Date:** 8/9/2011 1225h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

463 West 3600 South  
Salt Lake City, UT 84115

<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>28.4</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>71.6</b>	

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QA Officer



# INORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-015  
**Client Sample ID:** East Spring Bed  
**Collection Date:** 8/9/2011 1205h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

## Analytical Results

463 West 3600 South  
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<b>Compound</b>	<b>Units</b>	<b>Date Prepared</b>	<b>Date Analyzed</b>	<b>Method Used</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Percent Moisture	wt%		8/9/2011 1800h	SM2540B	0.0100	<b>27.7</b>	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	<b>72.3</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-001A  
**Client Sample ID:** RBC Below Barton  
**Collection Date:** 8/9/2011 0945h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 8/11/2011 1002h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	<b>45.1</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-002A  
**Client Sample ID:** RBC Below Barton Bed  
**Collection Date:** 8/9/2011 0950h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/10/2011 1620h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	22.9	<b>32.4</b>	
Surr: 4-Bromofluorobenzene	460-00-4	10-122	<b>56.8</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-003A  
**Client Sample ID:** RBC Below Barton Bank  
**Collection Date:** 8/9/2011 0955h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/10/2011 1739h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Diesel Range Organics (DRO) (C10-C28)

68476-34-6

27.8

**70.7**

Surr: 4-Bromofluorobenzene

460-00-4

10-122

**59.7**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-004A  
**Client Sample ID:** West Spring  
**Collection Date:** 8/9/2011 1010h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 8/11/2011 1021h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	<b>45.7</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-005A  
**Client Sample ID:** West Spring Bed  
**Collection Date:** 8/9/2011 1020h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/10/2011 1818h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Diesel Range Organics (DRO) (C10-C28)

68476-34-6

31.6

**47.6**

Surr: 4-Bromofluorobenzene

460-00-4

10-122

**59.4**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-006A  
**Client Sample ID:** RBC at Barton  
**Collection Date:** 8/9/2011 1040h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 8/11/2011 1041h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	<b>62.1</b>	

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Laboratory Director

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QA Officer





## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-007A  
**Client Sample ID:** RBC at Barton Bed  
**Collection Date:** 8/9/2011 1045h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/11/2011 1041h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	24.8	<b>43.4</b>	
Surr: 4-Bromofluorobenzene	460-00-4	10-122	<b>47.2</b>	

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QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-008A  
**Client Sample ID:** RBC at Barton Bank  
**Collection Date:** 8/9/2011 1050h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/11/2011 1120h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	27.3	<b>70.9</b>	
Surr: 4-Bromofluorobenzene	460-00-4	10-122	<b>48.2</b>	

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QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-009A  
**Client Sample ID:** Middle Spring  
**Collection Date:** 8/9/2011 1105h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 8/11/2011 1100h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	<b>61.9</b>	

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Jose Rocha  
QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-010A  
**Client Sample ID:** Middle Spring Bed  
**Collection Date:** 8/9/2011 1110h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/11/2011 1238h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	33.8	<b>468</b>	
Surr: 4-Bromofluorobenzene	460-00-4	10-122	<b>62.1</b>	

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Jose Rocha  
QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-011A  
**Client Sample ID:** RBC Above Remund  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 8/11/2011 1120h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	<b>60.0</b>	

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QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-012A  
**Client Sample ID:** RBC Above Remund Bed  
**Collection Date:** 8/9/2011 1210h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/11/2011 1337h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	25.5	<b>66.7</b>	
Surr: 4-Bromofluorobenzene	460-00-4	10-122	<b>60.6</b>	

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Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-013A  
**Client Sample ID:** RBC Above Remund Bank  
**Collection Date:** 8/9/2011 1225h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/11/2011 1436h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Diesel Range Organics (DRO) (C10-C28)

68476-34-6

28.0

**138**

Surr: 4-Bromofluorobenzene

460-00-4

10-122

**49.0**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-014A  
**Client Sample ID:** East Spring  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by GC/FID Method 8015D/3510C

**Analyzed:** 8/11/2011 1139h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	<b>59.5</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-015A  
**Client Sample ID:** East Spring Bed  
**Collection Date:** 8/9/2011 1205h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-DRO (C10-C28) by Method 8015D Mod/3546

**Analyzed:** 8/11/2011 1535h **Extracted:** 8/10/2011 0952h

**Units:** mg/kg-dry

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	27.7	<b>42.7</b>	
Surr: 4-Bromofluorobenzene	460-00-4	10-122	<b>59.7</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-001A  
**Client Sample ID:** RBC Below Barton  
**Collection Date:** 8/9/2011 0945h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

**Analyzed:** 8/12/2011 1436h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

0.500

< 0.500

Surr: C27

10-200

**105**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-002B  
**Client Sample ID:** RBC Below Barton Bed  
**Collection Date:** 8/9/2011 0950h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 1541h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

22.9

**62.7**

Surr: C27

10-200

**130**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-003B  
**Client Sample ID:** RBC Below Barton Bank  
**Collection Date:** 8/9/2011 0955h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 1716h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

27.8

**77.3**

Surr: C27

10-200

**138**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-004A  
**Client Sample ID:** West Spring  
**Collection Date:** 8/9/2011 1010h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

**Analyzed:** 8/12/2011 1547h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

0.500

< 0.500

Surr: C27

10-200

**104**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-005B  
**Client Sample ID:** West Spring Bed  
**Collection Date:** 8/9/2011 1020h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 1804h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

31.6

**43.7**

Surr: C27

10-200

**143**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-006A  
**Client Sample ID:** RBC at Barton  
**Collection Date:** 8/9/2011 1040h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

**Analyzed:** 8/12/2011 1611h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

0.500

< 0.500

Surr: C27

10-200

**104**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-007B  
**Client Sample ID:** RBC at Barton Bed  
**Collection Date:** 8/9/2011 1045h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 1939h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

24.8

**72.9**

Surr: C27

10-200

**140**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-008B  
**Client Sample ID:** RBC at Barton Bank  
**Collection Date:** 8/9/2011 1050h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 2027h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

27.3

**69.9**

Surr: C27

10-200

**138**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-009A  
**Client Sample ID:** Middle Spring  
**Collection Date:** 8/9/2011 1105h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

**Analyzed:** 8/12/2011 1635h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

0.500

< 0.500

Surr: C27

10-200

**109**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-010B  
**Client Sample ID:** Middle Spring Bed  
**Collection Date:** 8/9/2011 1110h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 2114h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

33.8

267

Surr: C27

10-200

141

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-011A  
**Client Sample ID:** RBC Above Remund  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

**Analyzed:** 8/12/2011 1659h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

0.500

< 0.500

Surr: C27

10-200

**105**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-012B  
**Client Sample ID:** RBC Above Remund Bed  
**Collection Date:** 8/9/2011 1210h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 2202h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

25.5

**85.4**

Surr: C27

10-200

**143**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-013B  
**Client Sample ID:** RBC Above Remund Bank  
**Collection Date:** 8/9/2011 1225h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 2249h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

28.0

**134**

Surr: C27

10-200

**151**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-014A  
**Client Sample ID:** East Spring  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3510C

**Analyzed:** 8/12/2011 1723h **Extracted:** 8/9/2011 1629h

**Units:** mg/L

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

0.500

< 0.500

Surr: C27

10-200

**102**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-015B  
**Client Sample ID:** East Spring Bed  
**Collection Date:** 8/9/2011 1205h  
**Received Date:** 8/9/2011 1347h **Method:** SW8015D

### Analytical Results

TPH-ORO (C28-C36) by GC/FID Method 8015D/3546

**Analyzed:** 8/16/2011 2337h **Extracted:** 8/10/2011 0953h

**Units:** mg/kg-dry

**Dilution Factor:** 1

**Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Oil Range Organics (ORO) (C28-C36)

27.7

**61.5**

Surr: C27

10-200

**147**

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-001A  
**Client Sample ID:** RBC Below Barton  
**Collection Date:** 8/9/2011 0945h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 8/17/2011 1812h      **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	0.100	< 0.100	
2-Methylnaphthalene	91-57-6	0.100	< 0.100	
Acenaphthene	83-32-9	0.100	< 0.100	
Acenaphthylene	208-96-8	0.100	< 0.100	
Anthracene	120-12-7	0.100	< 0.100	
Benz(a)anthracene	56-55-3	0.100	< 0.100	
Benzo(a)pyrene	50-32-8	0.100	< 0.100	
Benzo(b)fluoranthene	205-99-2	0.100	< 0.100	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	< 0.100	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	< 0.100	
Fluoranthene	206-44-0	0.100	< 0.100	
Fluorene	86-73-7	0.100	< 0.100	
Indene	95-13-6	0.100	< 0.100	
Indeno(1,2,3-cd)pyrene	193-39-5	0.100	< 0.100	
Naphthalene	91-20-3	0.100	< 0.100	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	

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Jose Rocha  
QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-002D  
**Client Sample ID:** RBC Below Barton Bed  
**Collection Date:** 8/9/2011 0950h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 1707h      **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	11.4	< 11.4	
2-Methylnaphthalene	91-57-6	11.4	< 11.4	
Acenaphthene	83-32-9	11.4	< 11.4	
Acenaphthylene	208-96-8	11.4	< 11.4	
Anthracene	120-12-7	11.4	< 11.4	
Benz(a)anthracene	56-55-3	11.4	< 11.4	
Benzo(a)pyrene	50-32-8	11.4	<b>27.4</b>	
Benzo(b)fluoranthene	205-99-2	11.4	< 11.4	
Benzo(g,h,i)perylene	191-24-2	11.4	<b>24.4</b>	
Benzo(k)fluoranthene	207-08-9	11.4	< 11.4	
Chrysene	218-01-9	11.4	< 11.4	
Dibenz(a,h)anthracene	53-70-3	11.4	< 11.4	
Fluoranthene	206-44-0	11.4	< 11.4	
Fluorene	86-73-7	11.4	< 11.4	
Indene	95-13-6	11.4	< 11.4	
Indeno(1,2,3-cd)pyrene	193-39-5	11.4	<b>29.0</b>	
Naphthalene	91-20-3	11.4	< 11.4	
Phenanthrene	85-01-8	11.4	< 11.4	
Pyrene	129-00-0	11.4	< 11.4	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-003D  
**Client Sample ID:** RBC Below Barton Bank  
**Collection Date:** 8/9/2011 0955h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 1826h      **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	13.9	< 13.9	
2-Methylnaphthalene	91-57-6	13.9	< 13.9	
Acenaphthene	83-32-9	13.9	< 13.9	
Acenaphthylene	208-96-8	13.9	< 13.9	
Anthracene	120-12-7	13.9	< 13.9	
Benz(a)anthracene	56-55-3	13.9	<b>30.6</b>	
Benzo(a)pyrene	50-32-8	13.9	<b>52.8</b>	
Benzo(b)fluoranthene	205-99-2	13.9	<b>45.4</b>	
Benzo(g,h,i)perylene	191-24-2	13.9	<b>30.6</b>	
Benzo(k)fluoranthene	207-08-9	13.9	< 13.9	
Chrysene	218-01-9	13.9	< 13.9	
Dibenz(a,h)anthracene	53-70-3	13.9	< 13.9	
Fluoranthene	206-44-0	13.9	<b>47.2</b>	
Fluorene	86-73-7	13.9	< 13.9	
Indene	95-13-6	13.9	< 13.9	
Indeno(1,2,3-cd)pyrene	193-39-5	13.9	<b>46.3</b>	
Naphthalene	91-20-3	13.9	< 13.9	
Phenanthrene	85-01-8	13.9	<b>30.6</b>	
Pyrene	129-00-0	13.9	<b>50.0</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-004A  
**Client Sample ID:** West Spring  
**Collection Date:** 8/9/2011 1010h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 8/17/2011 1937h      **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	0.100	< 0.100	
2-Methylnaphthalene	91-57-6	0.100	< 0.100	
Acenaphthene	83-32-9	0.100	< 0.100	
Acenaphthylene	208-96-8	0.100	< 0.100	
Anthracene	120-12-7	0.100	< 0.100	
Benz(a)anthracene	56-55-3	0.100	< 0.100	
Benzo(a)pyrene	50-32-8	0.100	< 0.100	
Benzo(b)fluoranthene	205-99-2	0.100	< 0.100	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	< 0.100	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	< 0.100	
Fluoranthene	206-44-0	0.100	< 0.100	
Fluorene	86-73-7	0.100	< 0.100	
Indene	95-13-6	0.100	< 0.100	
Indeno(1,2,3-cd)pyrene	193-39-5	0.100	< 0.100	
Naphthalene	91-20-3	0.100	< 0.100	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-005D  
**Client Sample ID:** West Spring Bed  
**Collection Date:** 8/9/2011 1020h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 1852h      **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	15.8	< 15.8	
2-Methylnaphthalene	91-57-6	15.8	< 15.8	
Acenaphthene	83-32-9	15.8	< 15.8	
Acenaphthylene	208-96-8	15.8	< 15.8	
Anthracene	120-12-7	15.8	< 15.8	
Benz(a)anthracene	56-55-3	15.8	< 15.8	
Benzo(a)pyrene	50-32-8	15.8	< 15.8	
Benzo(b)fluoranthene	205-99-2	15.8	< 15.8	
Benzo(g,h,i)perylene	191-24-2	15.8	< 15.8	
Benzo(k)fluoranthene	207-08-9	15.8	< 15.8	
Chrysene	218-01-9	15.8	< 15.8	
Dibenz(a,h)anthracene	53-70-3	15.8	< 15.8	
Fluoranthene	206-44-0	15.8	< 15.8	
Fluorene	86-73-7	15.8	< 15.8	
Indene	95-13-6	15.8	< 15.8	
Indeno(1,2,3-cd)pyrene	193-39-5	15.8	<b>32.6</b>	
Naphthalene	91-20-3	15.8	< 15.8	
Phenanthrene	85-01-8	15.8	< 15.8	
Pyrene	129-00-0	15.8	< 15.8	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-006A  
**Client Sample ID:** RBC at Barton  
**Collection Date:** 8/9/2011 1040h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 8/17/2011 2005h **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
1-Methylnaphthalene	90-12-0	0.100	< 0.100	
2-Methylnaphthalene	91-57-6	0.100	< 0.100	
Acenaphthene	83-32-9	0.100	< 0.100	
Acenaphthylene	208-96-8	0.100	< 0.100	
Anthracene	120-12-7	0.100	< 0.100	
Benz(a)anthracene	56-55-3	0.100	< 0.100	
Benzo(a)pyrene	50-32-8	0.100	< 0.100	
Benzo(b)fluoranthene	205-99-2	0.100	< 0.100	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	< 0.100	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	< 0.100	
Fluoranthene	206-44-0	0.100	< 0.100	
Fluorene	86-73-7	0.100	< 0.100	
Indene	95-13-6	0.100	< 0.100	
Indeno(1,2,3-cd)pyrene	193-39-5	0.100	< 0.100	
Naphthalene	91-20-3	0.100	< 0.100	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-007D  
**Client Sample ID:** RBC at Barton Bed  
**Collection Date:** 8/9/2011 1045h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 1918h      **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	12.4	< 12.4	
2-Methylnaphthalene	91-57-6	12.4	< 12.4	
Acenaphthene	83-32-9	12.4	< 12.4	
Acenaphthylene	208-96-8	12.4	< 12.4	
Anthracene	120-12-7	12.4	<b>33.1</b>	
Benz(a)anthracene	56-55-3	12.4	<b>78.5</b>	
Benzo(a)pyrene	50-32-8	12.4	<b>70.2</b>	
Benzo(b)fluoranthene	205-99-2	12.4	<b>70.2</b>	
Benzo(g,h,i)perylene	191-24-2	12.4	< 12.4	
Benzo(k)fluoranthene	207-08-9	12.4	< 12.4	
Chrysene	218-01-9	12.4	<b>27.3</b>	
Dibenz(a,h)anthracene	53-70-3	12.4	< 12.4	
Fluoranthene	206-44-0	12.4	<b>123</b>	
Fluorene	86-73-7	12.4	< 12.4	
Indene	95-13-6	12.4	< 12.4	
Indeno(1,2,3-cd)pyrene	193-39-5	12.4	<b>47.1</b>	
Naphthalene	91-20-3	12.4	< 12.4	
Phenanthrene	85-01-8	12.4	<b>120</b>	
Pyrene	129-00-0	12.4	<b>131</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-008D  
**Client Sample ID:** RBC at Barton Bank  
**Collection Date:** 8/9/2011 1050h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 1944h **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	13.7	<b>178</b>	
2-Methylnaphthalene	91-57-6	13.7	<b>138</b>	
Acenaphthene	83-32-9	13.7	< 13.7	
Acenaphthylene	208-96-8	13.7	< 13.7	
Anthracene	120-12-7	13.7	< 13.7	
Benz(a)anthracene	56-55-3	13.7	<b>53.7</b>	
Benzo(a)pyrene	50-32-8	13.7	< 13.7	
Benzo(b)fluoranthene	205-99-2	13.7	<b>62.8</b>	
Benzo(g,h,i)perylene	191-24-2	13.7	< 13.7	
Benzo(k)fluoranthene	207-08-9	13.7	< 13.7	
Chrysene	218-01-9	13.7	< 13.7	
Dibenz(a,h)anthracene	53-70-3	13.7	< 13.7	
Fluoranthene	206-44-0	13.7	<b>62.8</b>	
Fluorene	86-73-7	13.7	< 13.7	
Indene	95-13-6	13.7	< 13.7	
Indeno(1,2,3-cd)pyrene	193-39-5	13.7	<b>48.3</b>	
Naphthalene	91-20-3	13.7	<b>112</b>	
Phenanthrene	85-01-8	13.7	<b>58.3</b>	
Pyrene	129-00-0	13.7	<b>61.9</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-009A  
**Client Sample ID:** Middle Spring  
**Collection Date:** 8/9/2011 1105h  
**Received Date:** 8/9/2011 1347h **Method:** SW8270D

### Analytical Results

SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 8/17/2011 2034h **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
1-Methylnaphthalene	90-12-0	0.100	< 0.100	
2-Methylnaphthalene	91-57-6	0.100	< 0.100	
Acenaphthene	83-32-9	0.100	< 0.100	
Acenaphthylene	208-96-8	0.100	< 0.100	
Anthracene	120-12-7	0.100	< 0.100	
Benz(a)anthracene	56-55-3	0.100	< 0.100	
Benzo(a)pyrene	50-32-8	0.100	< 0.100	
Benzo(b)fluoranthene	205-99-2	0.100	< 0.100	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	< 0.100	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	< 0.100	
Fluoranthene	206-44-0	0.100	< 0.100	
Fluorene	86-73-7	0.100	< 0.100	
Indene	95-13-6	0.100	< 0.100	
Indeno(1,2,3-cd)pyrene	193-39-5	0.100	< 0.100	
Naphthalene	91-20-3	0.100	< 0.100	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-010D  
**Client Sample ID:** Middle Spring Bed  
**Collection Date:** 8/9/2011 1110h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 2010h **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	16.9	<b>47.3</b>	
2-Methylnaphthalene	91-57-6	16.9	< 16.9	
Acenaphthene	83-32-9	16.9	< 16.9	
Acenaphthylene	208-96-8	16.9	< 16.9	
Anthracene	120-12-7	16.9	< 16.9	
Benz(a)anthracene	56-55-3	16.9	<b>169</b>	
Benzo(a)pyrene	50-32-8	16.9	<b>226</b>	
Benzo(b)fluoranthene	205-99-2	16.9	< 16.9	
Benzo(g,h,i)perylene	191-24-2	16.9	<b>127</b>	
Benzo(k)fluoranthene	207-08-9	16.9	< 16.9	
Chrysene	218-01-9	16.9	<b>130</b>	
Dibenz(a,h)anthracene	53-70-3	16.9	<b>33.8</b>	
Fluoranthene	206-44-0	16.9	<b>60.8</b>	
Fluorene	86-73-7	16.9	< 16.9	
Indene	95-13-6	16.9	< 16.9	
Indeno(1,2,3-cd)pyrene	193-39-5	16.9	<b>163</b>	
Naphthalene	91-20-3	16.9	< 16.9	
Phenanthrene	85-01-8	16.9	<b>141</b>	
Pyrene	129-00-0	16.9	<b>661</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-011A  
**Client Sample ID:** RBC Above Remund  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 8/17/2011 2102h      **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	0.100	< 0.100	
2-Methylnaphthalene	91-57-6	0.100	< 0.100	
Acenaphthene	83-32-9	0.100	< 0.100	
Acenaphthylene	208-96-8	0.100	< 0.100	
Anthracene	120-12-7	0.100	< 0.100	
Benz(a)anthracene	56-55-3	0.100	< 0.100	
Benzo(a)pyrene	50-32-8	0.100	< 0.100	
Benzo(b)fluoranthene	205-99-2	0.100	< 0.100	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	< 0.100	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	< 0.100	
Fluoranthene	206-44-0	0.100	< 0.100	
Fluorene	86-73-7	0.100	< 0.100	
Indene	95-13-6	0.100	< 0.100	
Indeno(1,2,3-cd)pyrene	193-39-5	0.100	< 0.100	
Naphthalene	91-20-3	0.100	< 0.100	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-012D  
**Client Sample ID:** RBC Above Remund Bed  
**Collection Date:** 8/9/2011 1210h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 2037h      **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	12.7	< 12.7	
2-Methylnaphthalene	91-57-6	12.7	< 12.7	
Acenaphthene	83-32-9	12.7	< 12.7	
Acenaphthylene	208-96-8	12.7	< 12.7	
Anthracene	120-12-7	12.7	< 12.7	
Benz(a)anthracene	56-55-3	12.7	<b>129</b>	
Benzo(a)pyrene	50-32-8	12.7	<b>96.0</b>	
Benzo(b)fluoranthene	205-99-2	12.7	<b>122</b>	
Benzo(g,h,i)perylene	191-24-2	12.7	< 12.7	
Benzo(k)fluoranthene	207-08-9	12.7	<b>31.4</b>	
Chrysene	218-01-9	12.7	<b>59.5</b>	
Dibenz(a,h)anthracene	53-70-3	12.7	< 12.7	
Fluoranthene	206-44-0	12.7	<b>218</b>	
Fluorene	86-73-7	12.7	< 12.7	
Indene	95-13-6	12.7	< 12.7	
Indeno(1,2,3-cd)pyrene	193-39-5	12.7	<b>59.5</b>	
Naphthalene	91-20-3	12.7	< 12.7	
Phenanthrene	85-01-8	12.7	<b>154</b>	
Pyrene	129-00-0	12.7	<b>164</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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Jose Rocha  
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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-013D  
**Client Sample ID:** RBC Above Remund Bank  
**Collection Date:** 8/9/2011 1225h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 2102h      **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	14.0	< 14.0	
2-Methylnaphthalene	91-57-6	14.0	< 14.0	
Acenaphthene	83-32-9	14.0	< 14.0	
Acenaphthylene	208-96-8	14.0	< 14.0	
Anthracene	120-12-7	14.0	< 14.0	
Benz(a)anthracene	56-55-3	14.0	< 14.0	
Benzo(a)pyrene	50-32-8	14.0	<b>43.8</b>	
Benzo(b)fluoranthene	205-99-2	14.0	<b>42.9</b>	
Benzo(g,h,i)perylene	191-24-2	14.0	< 14.0	
Benzo(k)fluoranthene	207-08-9	14.0	< 14.0	
Chrysene	218-01-9	14.0	< 14.0	
Dibenz(a,h)anthracene	53-70-3	14.0	< 14.0	
Fluoranthene	206-44-0	14.0	<b>32.6</b>	
Fluorene	86-73-7	14.0	< 14.0	
Indene	95-13-6	14.0	< 14.0	
Indeno(1,2,3-cd)pyrene	193-39-5	14.0	<b>39.1</b>	
Naphthalene	91-20-3	14.0	< 14.0	
Phenanthrene	85-01-8	14.0	< 14.0	
Pyrene	129-00-0	14.0	<b>35.4</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-014A  
**Client Sample ID:** East Spring  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h **Method:** SW8270D

### Analytical Results

SVOA PNA SIM List by GC/MS Method 8270D/3510C

**Analyzed:** 8/17/2011 2130h **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
1-Methylnaphthalene	90-12-0	0.100	< 0.100	
2-Methylnaphthalene	91-57-6	0.100	< 0.100	
Acenaphthene	83-32-9	0.100	< 0.100	
Acenaphthylene	208-96-8	0.100	< 0.100	
Anthracene	120-12-7	0.100	< 0.100	
Benz(a)anthracene	56-55-3	0.100	< 0.100	
Benzo(a)pyrene	50-32-8	0.100	< 0.100	
Benzo(b)fluoranthene	205-99-2	0.100	< 0.100	
Benzo(g,h,i)perylene	191-24-2	0.100	< 0.100	
Benzo(k)fluoranthene	207-08-9	0.100	< 0.100	
Chrysene	218-01-9	0.100	< 0.100	
Dibenz(a,h)anthracene	53-70-3	0.100	< 0.100	
Fluoranthene	206-44-0	0.100	< 0.100	
Fluorene	86-73-7	0.100	< 0.100	
Indene	95-13-6	0.100	< 0.100	
Indeno(1,2,3-cd)pyrene	193-39-5	0.100	< 0.100	
Naphthalene	91-20-3	0.100	< 0.100	
Phenanthrene	85-01-8	0.100	< 0.100	
Pyrene	129-00-0	0.100	< 0.100	

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-015D  
**Client Sample ID:** East Spring Bed  
**Collection Date:** 8/9/2011 1205h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA SIM List by GC/MS Method 8270D/3546

**Analyzed:** 8/19/2011 2128h      **Extracted:** 8/18/2011 1549h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	13.8	< 13.8	
2-Methylnaphthalene	91-57-6	13.8	< 13.8	
Acenaphthene	83-32-9	13.8	< 13.8	
Acenaphthylene	208-96-8	13.8	< 13.8	
Anthracene	120-12-7	13.8	< 13.8	
Benz(a)anthracene	56-55-3	13.8	< 13.8	
Benzo(a)pyrene	50-32-8	13.8	< 13.8	
Benzo(b)fluoranthene	205-99-2	13.8	< 13.8	
Benzo(g,h,i)perylene	191-24-2	13.8	< 13.8	
Benzo(k)fluoranthene	207-08-9	13.8	< 13.8	
Chrysene	218-01-9	13.8	< 13.8	
Dibenz(a,h)anthracene	53-70-3	13.8	< 13.8	
Fluoranthene	206-44-0	13.8	< 13.8	
Fluorene	86-73-7	13.8	< 13.8	
Indene	95-13-6	13.8	< 13.8	
Indeno(1,2,3-cd)pyrene	193-39-5	13.8	< 13.8	
Naphthalene	91-20-3	13.8	< 13.8	
Phenanthrene	85-01-8	13.8	< 13.8	
Pyrene	129-00-0	13.8	< 13.8	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-001A  
**Client Sample ID:** RBC Below Barton  
**Collection Date:** 8/9/2011 0945h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNA List by GC/MS Method 8270D/3510C

**Analyzed:** 8/18/2011 1612h **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Indene	95-13-6	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Surr: 2,4,6-Tribromophenol	118-79-6	14-159	<b>92.7</b>	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	<b>59.3</b>	
Surr: 2-Fluorophenol	367-12-4	10-106	<b>31.4</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-180	<b>60.1</b>	
Surr: Phenol-d6	13127-88-3	10-122	<b>23.2</b>	
Surr: Terphenyl-d14	1718-51-0	10-199	<b>95.9</b>	





# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-002D  
**Client Sample ID:** RBC Below Barton Bed  
**Collection Date:** 8/9/2011 0950h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/12/2011 1703h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	389	< 389	
2-Methylnaphthalene	91-57-6	389	< 389	
Acenaphthene	83-32-9	389	< 389	
Acenaphthylene	208-96-8	389	< 389	
Anthracene	120-12-7	389	< 389	
Benz(a)anthracene	56-55-3	389	< 389	
Benzo(a)pyrene	50-32-8	389	< 389	
Benzo(b)fluoranthene	205-99-2	389	< 389	
Benzo(g,h,i)perylene	191-24-2	389	< 389	
Benzo(k)fluoranthene	207-08-9	389	< 389	
Chrysene	218-01-9	389	< 389	
Dibenz(a,h)anthracene	53-70-3	389	<b>450</b>	
Fluoranthene	206-44-0	389	< 389	
Fluorene	86-73-7	389	< 389	
Indene	95-13-6	389	< 389	
Indeno(1,2,3-cd)pyrene	193-39-5	389	<b>562</b>	
Naphthalene	91-20-3	389	< 389	
Phenanthrene	85-01-8	389	< 389	
Pyrene	129-00-0	389	< 389	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>90.6</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>86.7</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>76.5</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>107</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>81.7</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>102</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-003D  
**Client Sample ID:** RBC Below Barton Bank  
**Collection Date:** 8/9/2011 0955h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/12/2011 1830h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	472	< 472	
2-Methylnaphthalene	91-57-6	472	< 472	
Acenaphthene	83-32-9	472	< 472	
Acenaphthylene	208-96-8	472	< 472	
Anthracene	120-12-7	472	< 472	
Benz(a)anthracene	56-55-3	472	< 472	
Benzo(a)pyrene	50-32-8	472	< 472	
Benzo(b)fluoranthene	205-99-2	472	< 472	
Benzo(g,h,i)perylene	191-24-2	472	< 472	
Benzo(k)fluoranthene	207-08-9	472	< 472	
Chrysene	218-01-9	472	< 472	
Dibenz(a,h)anthracene	53-70-3	472	< 472	
Fluoranthene	206-44-0	472	< 472	
Fluorene	86-73-7	472	< 472	
Indene	95-13-6	472	< 472	
Indeno(1,2,3-cd)pyrene	193-39-5	472	< 472	
Naphthalene	91-20-3	472	< 472	
Phenanthrene	85-01-8	472	< 472	
Pyrene	129-00-0	472	< 472	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>87.6</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>78.8</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>77.7</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>103</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>79.8</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>102</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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Jose Rocha  
QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-004A  
**Client Sample ID:** West Spring  
**Collection Date:** 8/9/2011 1010h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNA List by GC/MS Method 8270D/3510C

**Analyzed:** 8/18/2011 1640h      **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Indene	95-13-6	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Surr: 2,4,6-Tribromophenol	118-79-6	14-159	<b>82.3</b>	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	<b>48.1</b>	
Surr: 2-Fluorophenol	367-12-4	10-106	<b>25.2</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-180	<b>45.8</b>	
Surr: Phenol-d6	13127-88-3	10-122	<b>18.6</b>	
Surr: Terphenyl-d14	1718-51-0	10-199	<b>97.2</b>	

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Jose Rocha  
QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-005D  
**Client Sample ID:** West Spring Bed  
**Collection Date:** 8/9/2011 1020h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/12/2011 1859h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	537	< 537	
2-Methylnaphthalene	91-57-6	537	< 537	
Acenaphthene	83-32-9	537	< 537	
Acenaphthylene	208-96-8	537	< 537	
Anthracene	120-12-7	537	< 537	
Benz(a)anthracene	56-55-3	537	< 537	
Benzo(a)pyrene	50-32-8	537	< 537	
Benzo(b)fluoranthene	205-99-2	537	< 537	
Benzo(g,h,i)perylene	191-24-2	537	< 537	
Benzo(k)fluoranthene	207-08-9	537	< 537	
Chrysene	218-01-9	537	< 537	
Dibenz(a,h)anthracene	53-70-3	537	< 537	
Fluoranthene	206-44-0	537	< 537	
Fluorene	86-73-7	537	< 537	
Indene	95-13-6	537	< 537	
Indeno(1,2,3-cd)pyrene	193-39-5	537	< 537	
Naphthalene	91-20-3	537	< 537	
Phenanthrene	85-01-8	537	< 537	
Pyrene	129-00-0	537	< 537	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>92.6</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>78.2</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>75.1</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>104</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>78.4</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>99.3</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-006A  
**Client Sample ID:** RBC at Barton  
**Collection Date:** 8/9/2011 1040h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNA List by GC/MS Method 8270D/3510C

**Analyzed:** 8/12/2011 1407h      **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Indene	95-13-6	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Surr: 2,4,6-Tribromophenol	118-79-6	14-159	<b>90.8</b>	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	<b>54.0</b>	
Surr: 2-Fluorophenol	367-12-4	10-106	<b>31.9</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-180	<b>57.1</b>	
Surr: Phenol-d6	13127-88-3	10-122	<b>23.4</b>	
Surr: Terphenyl-d14	1718-51-0	10-199	<b>97.6</b>	

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QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-007D  
**Client Sample ID:** RBC at Barton Bed  
**Collection Date:** 8/9/2011 1045h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/12/2011 1927h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	421	< 421	
2-Methylnaphthalene	91-57-6	421	< 421	
Acenaphthene	83-32-9	421	< 421	
Acenaphthylene	208-96-8	421	< 421	
Anthracene	120-12-7	421	< 421	
Benz(a)anthracene	56-55-3	421	< 421	
Benzo(a)pyrene	50-32-8	421	< 421	
Benzo(b)fluoranthene	205-99-2	421	< 421	
Benzo(g,h,i)perylene	191-24-2	421	< 421	
Benzo(k)fluoranthene	207-08-9	421	< 421	
Chrysene	218-01-9	421	< 421	
Dibenz(a,h)anthracene	53-70-3	421	< 421	
Fluoranthene	206-44-0	421	< 421	
Fluorene	86-73-7	421	< 421	
Indene	95-13-6	421	< 421	
Indeno(1,2,3-cd)pyrene	193-39-5	421	< 421	
Naphthalene	91-20-3	421	< 421	
Phenanthrene	85-01-8	421	< 421	
Pyrene	129-00-0	421	< 421	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>87.6</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>82.9</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>77.9</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>105</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>81.5</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>108</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-008D  
**Client Sample ID:** RBC at Barton Bank  
**Collection Date:** 8/9/2011 1050h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/12/2011 1956h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	464	< 464	
2-Methylnaphthalene	91-57-6	464	< 464	
Acenaphthene	83-32-9	464	< 464	
Acenaphthylene	208-96-8	464	< 464	
Anthracene	120-12-7	464	< 464	
Benz(a)anthracene	56-55-3	464	< 464	
Benzo(a)pyrene	50-32-8	464	< 464	
Benzo(b)fluoranthene	205-99-2	464	< 464	
Benzo(g,h,i)perylene	191-24-2	464	< 464	
Benzo(k)fluoranthene	207-08-9	464	< 464	
Chrysene	218-01-9	464	< 464	
Dibenz(a,h)anthracene	53-70-3	464	< 464	
Fluoranthene	206-44-0	464	< 464	
Fluorene	86-73-7	464	< 464	
Indene	95-13-6	464	< 464	
Indeno(1,2,3-cd)pyrene	193-39-5	464	< 464	
Naphthalene	91-20-3	464	< 464	
Phenanthrene	85-01-8	464	<b>536</b>	
Pyrene	129-00-0	464	<b>603</b>	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>92.5</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>82.3</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>74.8</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>103</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>78.9</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>103</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-009A  
**Client Sample ID:** Middle Spring  
**Collection Date:** 8/9/2011 1105h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNA List by GC/MS Method 8270D/3510C

**Analyzed:** 8/12/2011 1437h      **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Indene	95-13-6	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Surr: 2,4,6-Tribromophenol	118-79-6	14-159	<b>85.2</b>	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	<b>48.7</b>	
Surr: 2-Fluorophenol	367-12-4	10-106	<b>33.1</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-180	<b>50.9</b>	
Surr: Phenol-d6	13127-88-3	10-122	<b>25.7</b>	
Surr: Terphenyl-d14	1718-51-0	10-199	<b>94.4</b>	

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QA Officer





# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-010D  
**Client Sample ID:** Middle Spring Bed  
**Collection Date:** 8/9/2011 1110h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/12/2011 2024h **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	575	< 575	
2-Methylnaphthalene	91-57-6	575	< 575	
Acenaphthene	83-32-9	575	< 575	
Acenaphthylene	208-96-8	575	< 575	
Anthracene	120-12-7	575	< 575	
Benz(a)anthracene	56-55-3	575	< 575	
Benzo(a)pyrene	50-32-8	575	< 575	
Benzo(b)fluoranthene	205-99-2	575	< 575	
Benzo(g,h,i)perylene	191-24-2	575	< 575	
Benzo(k)fluoranthene	207-08-9	575	< 575	
Chrysene	218-01-9	575	< 575	
Dibenz(a,h)anthracene	53-70-3	575	< 575	
Fluoranthene	206-44-0	575	< 575	
Fluorene	86-73-7	575	< 575	
Indene	95-13-6	575	< 575	
Indeno(1,2,3-cd)pyrene	193-39-5	575	< 575	
Naphthalene	91-20-3	575	< 575	
Phenanthrene	85-01-8	575	< 575	
Pyrene	129-00-0	575	<b>731</b>	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>95.2</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>87.7</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>79.5</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>106</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>82.6</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>126</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-011A  
**Client Sample ID:** RBC Above Remund  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNA List by GC/MS Method 8270D/3510C

**Analyzed:** 8/12/2011 1505h      **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Indene	95-13-6	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Surr: 2,4,6-Tribromophenol	118-79-6	14-159	<b>91.9</b>	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	<b>56.3</b>	
Surr: 2-Fluorophenol	367-12-4	10-106	<b>25.4</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-180	<b>57.8</b>	
Surr: Phenol-d6	13127-88-3	10-122	<b>19.9</b>	
Surr: Terphenyl-d14	1718-51-0	10-199	<b>104</b>	

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Jose Rocha  
QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-012D  
**Client Sample ID:** RBC Above Remund Bed  
**Collection Date:** 8/9/2011 1210h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/15/2011 1434h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	433	< 433	
2-Methylnaphthalene	91-57-6	433	< 433	
Acenaphthene	83-32-9	433	< 433	
Acenaphthylene	208-96-8	433	< 433	
Anthracene	120-12-7	433	< 433	
Benz(a)anthracene	56-55-3	433	< 433	
Benzo(a)pyrene	50-32-8	433	< 433	
Benzo(b)fluoranthene	205-99-2	433	< 433	
Benzo(g,h,i)perylene	191-24-2	433	<b>1,330</b>	
Benzo(k)fluoranthene	207-08-9	433	< 433	
Chrysene	218-01-9	433	< 433	
Dibenz(a,h)anthracene	53-70-3	433	<b>504</b>	
Fluoranthene	206-44-0	433	< 433	
Fluorene	86-73-7	433	< 433	
Indene	95-13-6	433	< 433	
Indeno(1,2,3-cd)pyrene	193-39-5	433	<b>780</b>	
Naphthalene	91-20-3	433	< 433	
Phenanthrene	85-01-8	433	< 433	
Pyrene	129-00-0	433	< 433	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>88.6</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>84.2</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>78.8</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>103</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>84.0</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>107</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-013D  
**Client Sample ID:** RBC Above Remund Bank  
**Collection Date:** 8/9/2011 1225h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

### Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/15/2011 1504h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

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Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	475	< 475	
2-Methylnaphthalene	91-57-6	475	< 475	
Acenaphthene	83-32-9	475	< 475	
Acenaphthylene	208-96-8	475	< 475	
Anthracene	120-12-7	475	< 475	
Benz(a)anthracene	56-55-3	475	< 475	
Benzo(a)pyrene	50-32-8	475	< 475	
Benzo(b)fluoranthene	205-99-2	475	< 475	
Benzo(g,h,i)perylene	191-24-2	475	<b>788</b>	
Benzo(k)fluoranthene	207-08-9	475	< 475	
Chrysene	218-01-9	475	< 475	
Dibenz(a,h)anthracene	53-70-3	475	< 475	
Fluoranthene	206-44-0	475	< 475	
Fluorene	86-73-7	475	< 475	
Indene	95-13-6	475	< 475	
Indeno(1,2,3-cd)pyrene	193-39-5	475	< 475	
Naphthalene	91-20-3	475	< 475	
Phenanthrene	85-01-8	475	< 475	
Pyrene	129-00-0	475	< 475	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>76.3</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>68.6</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>64.4</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>85.1</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>67.5</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>83.5</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering **Contact:** Galen Williams  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-014A  
**Client Sample ID:** East Spring  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h **Method:** SW8270D

### Analytical Results

SVOA PNA List by GC/MS Method 8270D/3510C

**Analyzed:** 8/12/2011 1535h **Extracted:** 8/10/2011 0844h

**Units:** µg/L

**Dilution Factor:** 1

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Jose Rocha  
QA Officer

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	10.0	< 10.0	
2-Methylnaphthalene	91-57-6	10.0	< 10.0	
Acenaphthene	83-32-9	10.0	< 10.0	
Acenaphthylene	208-96-8	10.0	< 10.0	
Anthracene	120-12-7	10.0	< 10.0	
Benz(a)anthracene	56-55-3	10.0	< 10.0	
Benzo(a)pyrene	50-32-8	10.0	< 10.0	
Benzo(b)fluoranthene	205-99-2	10.0	< 10.0	
Benzo(g,h,i)perylene	191-24-2	10.0	< 10.0	
Benzo(k)fluoranthene	207-08-9	10.0	< 10.0	
Chrysene	218-01-9	10.0	< 10.0	
Dibenz(a,h)anthracene	53-70-3	10.0	< 10.0	
Fluoranthene	206-44-0	10.0	< 10.0	
Fluorene	86-73-7	10.0	< 10.0	
Indene	95-13-6	10.0	< 10.0	
Indeno(1,2,3-cd)pyrene	193-39-5	10.0	< 10.0	
Naphthalene	91-20-3	10.0	< 10.0	
Phenanthrene	85-01-8	10.0	< 10.0	
Pyrene	129-00-0	10.0	< 10.0	
Surr: 2,4,6-Tribromophenol	118-79-6	14-159	<b>93.4</b>	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	<b>64.0</b>	
Surr: 2-Fluorophenol	367-12-4	10-106	<b>35.0</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-180	<b>77.0</b>	
Surr: Phenol-d6	13127-88-3	10-122	<b>26.3</b>	
Surr: Terphenyl-d14	1718-51-0	10-199	<b>107</b>	



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-015D  
**Client Sample ID:** East Spring Bed  
**Collection Date:** 8/9/2011 1205h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8270D

## Analytical Results

SVOA PNAs by GC/MS Method 8270D/3546

**Analyzed:** 8/15/2011 1534h      **Extracted:** 8/10/2011 0844h

**Units:** µg/kg-dry

**Dilution Factor:** 1

Compound	CAS Number	Reporting Limit	Analytical Result	Qual
1-Methylnaphthalene	90-12-0	470	< 470	
2-Methylnaphthalene	91-57-6	470	< 470	
Acenaphthene	83-32-9	470	< 470	
Acenaphthylene	208-96-8	470	< 470	
Anthracene	120-12-7	470	< 470	
Benz(a)anthracene	56-55-3	470	< 470	
Benzo(a)pyrene	50-32-8	470	< 470	
Benzo(b)fluoranthene	205-99-2	470	< 470	
Benzo(g,h,i)perylene	191-24-2	470	< 470	
Benzo(k)fluoranthene	207-08-9	470	< 470	
Chrysene	218-01-9	470	< 470	
Dibenz(a,h)anthracene	53-70-3	470	< 470	
Fluoranthene	206-44-0	470	< 470	
Fluorene	86-73-7	470	< 470	
Indene	95-13-6	470	< 470	
Indeno(1,2,3-cd)pyrene	193-39-5	470	< 470	
Naphthalene	91-20-3	470	< 470	
Phenanthrene	85-01-8	470	< 470	
Pyrene	129-00-0	470	< 470	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	<b>104</b>	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	<b>84.3</b>	
Surr: 2-Fluorophenol	367-12-4	10-186	<b>80.3</b>	
Surr: Nitrobenzene-d5	4165-60-0	10-166	<b>108</b>	
Surr: Phenol-d6	13127-88-3	10-194	<b>85.0</b>	
Surr: Terphenyl-d14	1718-51-0	10-265	<b>105</b>	

*Gel-Permeation Chromatography (GPC) Cleanup, method 3640A, utilized for this sample.*

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Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-001B  
**Client Sample ID:** RBC Below Barton  
**Collection Date:** 8/9/2011 0945h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

## Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C/5030C

**Analyzed:** 8/9/2011 1701h

**Units:** mg/L

**Dilution Factor:** 1

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00100	< 0.00100	
Ethylbenzene	100-41-4	0.00200	< 0.00200	
Toluene	108-88-3	0.00200	< 0.00200	
Xylenes, Total	1330-20-7	0.00200	< 0.00200	
Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	<b>114</b>	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	<b>112</b>	
Surr: Dibromofluoromethane	1868-53-7	80-124	<b>107</b>	
Surr: Toluene-d8	2037-26-5	80-125	<b>98.3</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-002C  
**Client Sample ID:** RBC Below Barton Bed  
**Collection Date:** 8/9/2011 0950h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 1727h

**Units:** mg/kg-dry

**Dilution Factor:** 2.51

#### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00287	< 0.00287	
Ethylbenzene	100-41-4	0.00574	< 0.00574	
Toluene	108-88-3	0.00574	< 0.00574	
Xylenes, Total	1330-20-7	0.00574	< 0.00574	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>84.7</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>102</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>97.0</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>104</b>	

*Sampling and analytical preparation performed by method 5030C.*

Kyle F. Gross

Laboratory Director

Jose Rocha

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-003C  
**Client Sample ID:** RBC Below Barton Bank  
**Collection Date:** 8/9/2011 0955h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 1749h

**Units:** mg/kg-dry

**Dilution Factor:** 2.5

#### **Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00347	< 0.00347	
Ethylbenzene	100-41-4	0.00694	< 0.00694	
Toluene	108-88-3	0.00694	< 0.00694	
Xylenes, Total	1330-20-7	0.00694	< 0.00694	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>93.0</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>110</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>101</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>105</b>	

*Sampling and analytical preparation performed by method 5030C.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-004B  
**Client Sample ID:** West Spring  
**Collection Date:** 8/9/2011 1010h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C/5030C

**Analyzed:** 8/9/2011 1720h

**Units:** mg/L

**Dilution Factor:** 1

#### **Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00100	< 0.00100	
Ethylbenzene	100-41-4	0.00200	< 0.00200	
Toluene	108-88-3	0.00200	< 0.00200	
Xylenes, Total	1330-20-7	0.00200	< 0.00200	
Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	<b>117</b>	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	<b>110</b>	
Surr: Dibromofluoromethane	1868-53-7	80-124	<b>109</b>	
Surr: Toluene-d8	2037-26-5	80-125	<b>98.6</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-005C  
**Client Sample ID:** West Spring Bed  
**Collection Date:** 8/9/2011 1020h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 1856h

**Units:** mg/kg-dry

**Dilution Factor:** 2.53

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<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Benzene	71-43-2	0.00399	< 0.00399	
Ethylbenzene	100-41-4	0.00799	< 0.00799	
Toluene	108-88-3	0.00799	< 0.00799	
Xylenes, Total	1330-20-7	0.00799	< 0.00799	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>81.0</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>104</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>98.9</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>104</b>	

*Sampling and analytical preparation performed by method 5030C.*

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-006B  
**Client Sample ID:** RBC at Barton  
**Collection Date:** 8/9/2011 1040h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

## Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C/5030C

**Analyzed:** 8/9/2011 1739h

**Units:** mg/L

**Dilution Factor:** 1

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00100	< 0.00100	
Ethylbenzene	100-41-4	0.00200	< 0.00200	
Toluene	108-88-3	0.00200	< 0.00200	
Xylenes, Total	1330-20-7	0.00200	< 0.00200	
Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	<b>118</b>	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	<b>111</b>	
Surr: Dibromofluoromethane	1868-53-7	80-124	<b>109</b>	
Surr: Toluene-d8	2037-26-5	80-125	<b>97.6</b>	

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-007C  
**Client Sample ID:** RBC at Barton Bed  
**Collection Date:** 8/9/2011 1045h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

## Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 1918h

**Units:** mg/kg-dry

**Dilution Factor:** 2.5

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00310	< 0.00310	
Ethylbenzene	100-41-4	0.00620	< 0.00620	
Toluene	108-88-3	0.00620	< 0.00620	
Xylenes, Total	1330-20-7	0.00620	< 0.00620	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>99.7</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>103</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>102</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>104</b>	

*Sampling and analytical preparation performed by method 5030C.*

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-008C  
**Client Sample ID:** RBC at Barton Bank  
**Collection Date:** 8/9/2011 1050h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 1940h

**Units:** mg/kg-dry

**Dilution Factor:** 2.5

#### **Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00341	< 0.00341	
Ethylbenzene	100-41-4	0.00683	< 0.00683	
Toluene	108-88-3	0.00683	< 0.00683	
Xylenes, Total	1330-20-7	0.00683	< 0.00683	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>89.9</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>106</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>110</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>103</b>	

*Sampling and analytical preparation performed by method 5030C.*

Kyle F. Gross

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Jose Rocha

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-009B  
**Client Sample ID:** Middle Spring  
**Collection Date:** 8/9/2011 1105h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C/5030C

**Analyzed:** 8/9/2011 1758h

**Units:** mg/L

**Dilution Factor:** 1

#### **Compound**

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00100	< 0.00100	
Ethylbenzene	100-41-4	0.00200	< 0.00200	
Toluene	108-88-3	0.00200	< 0.00200	
Xylenes, Total	1330-20-7	0.00200	< 0.00200	
Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	<b>117</b>	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	<b>111</b>	
Surr: Dibromofluoromethane	1868-53-7	80-124	<b>108</b>	
Surr: Toluene-d8	2037-26-5	80-125	<b>98.1</b>	

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-010C  
**Client Sample ID:** Middle Spring Bed  
**Collection Date:** 8/9/2011 1110h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 2002h

**Units:** mg/kg-dry

**Dilution Factor:** 2.42

#### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00409	< 0.00409	
Ethylbenzene	100-41-4	0.00818	< 0.00818	
Toluene	108-88-3	0.00818	< 0.00818	
Xylenes, Total	1330-20-7	0.00818	< 0.00818	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>108</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>107</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>103</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>104</b>	

*Sampling and analytical preparation performed by method 5030C.*

Kyle F. Gross

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Jose Rocha

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## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-011B  
**Client Sample ID:** RBC Above Remund  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C/5030C

**Analyzed:** 8/9/2011 1817h

**Units:** mg/L

**Dilution Factor:** 1

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<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Benzene	71-43-2	0.00100	< 0.00100	
Ethylbenzene	100-41-4	0.00200	< 0.00200	
Toluene	108-88-3	0.00200	< 0.00200	
Xylenes, Total	1330-20-7	0.00200	< 0.00200	
Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	<b>117</b>	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	<b>112</b>	
Surr: Dibromofluoromethane	1868-53-7	80-124	<b>108</b>	
Surr: Toluene-d8	2037-26-5	80-125	<b>97.0</b>	

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-012C  
**Client Sample ID:** RBC Above Remund Bed  
**Collection Date:** 8/9/2011 1210h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 2024h

**Units:** mg/kg-dry

**Dilution Factor:** 2.43

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<b>Compound</b>	<b>CAS Number</b>	<b>Reporting Limit</b>	<b>Analytical Result</b>	<b>Qual</b>
Benzene	71-43-2	0.00310	< 0.00310	
Ethylbenzene	100-41-4	0.00620	< 0.00620	
Toluene	108-88-3	0.00620	< 0.00620	
Xylenes, Total	1330-20-7	0.00620	< 0.00620	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>110</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>105</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>104</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>105</b>	

*Sampling and analytical preparation performed by method 5030C.*

Kyle F. Gross  
Laboratory Director

Jose Rocha  
QA Officer



## ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-013C  
**Client Sample ID:** RBC Above Remund Bank  
**Collection Date:** 8/9/2011 1225h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

### Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 2046h

**Units:** mg/kg-dry

**Dilution Factor:** 2.5

#### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00349	< 0.00349	
Ethylbenzene	100-41-4	0.00699	< 0.00699	
Toluene	108-88-3	0.00699	< 0.00699	
Xylenes, Total	1330-20-7	0.00699	< 0.00699	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>111</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>111</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>105</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>107</b>	

*Sampling and analytical preparation performed by method 5030C.*

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# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-014B  
**Client Sample ID:** East Spring  
**Collection Date:** 8/9/2011 1150h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

## Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C/5030C

**Analyzed:** 8/9/2011 1836h

**Units:** mg/L

**Dilution Factor:** 1

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00100	< 0.00100	
Ethylbenzene	100-41-4	0.00200	< 0.00200	
Toluene	108-88-3	0.00200	< 0.00200	
Xylenes, Total	1330-20-7	0.00200	< 0.00200	
Surr: 1,2-Dichloroethane-d4	17060-07-0	77-144	<b>119</b>	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	<b>111</b>	
Surr: Dibromofluoromethane	1868-53-7	80-124	<b>110</b>	
Surr: Toluene-d8	2037-26-5	80-125	<b>97.7</b>	

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Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer



# ORGANIC ANALYTICAL REPORT

**Client:** EarthFax Engineering  
**Project:** Red Butte / UC-1300-02  
**Lab Sample ID:** 1108182-015C  
**Client Sample ID:** East Spring Bed  
**Collection Date:** 8/9/2011 1205h  
**Received Date:** 8/9/2011 1347h

**Contact:** Galen Williams

**Method:** SW8260C

## Analytical Results

VOAs MBTEXN List by GC/MS Method 8260C

**Analyzed:** 8/9/2011 2109h

**Units:** mg/kg-dry

**Dilution Factor:** 2.46

### Compound

**CAS  
Number**

**Reporting  
Limit**

**Analytical  
Result**

**Qual**

Benzene	71-43-2	0.00340	< 0.00340	
Ethylbenzene	100-41-4	0.00680	< 0.00680	
Toluene	108-88-3	0.00680	< 0.00680	
Xylenes, Total	1330-20-7	0.00680	< 0.00680	
Surr: 1,2-Dichloroethane-d4	17060-07-0	68-147	<b>111</b>	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	<b>109</b>	
Surr: Dibromofluoromethane	1868-53-7	71-129	<b>107</b>	
Surr: Toluene-d8	2037-26-5	72-129	<b>105</b>	

*Sampling and analytical preparation performed by method 5030C.*

Kyle F. Gross

Laboratory Director

Jose Rocha

QA Officer

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# American West Analytical Laboratories

## WORK ORDER Summary

Client: EarthFax Engineering

Client ID: EAR100

Project: Red Butte / UC-1300-02

Comments: No Hard Copies. TOC's sent to Paragon and Grain Size sent to IGES. Use SIM for PAH. Report TS and Pmoist;

Work Order: **1108182**

Page 1 of 5 8/10/2011

Contact: Galen Williams

QC Level: LEVEL I

WO Type: Standard

DB

Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel	Storage	
1108182-001A	RBC Below Barton	8/9/2011 0945h	8/9/2011 1347h	8/23/2011	Aqueous	3510-ORO-PR	<input type="checkbox"/>	Walkin	12
						3510-SVOA-PR	<input type="checkbox"/>	Walkin	
						3510-TPH-PR	<input type="checkbox"/>	Walkin	
						8015-W-ORO(1L)	<input type="checkbox"/>	Walkin	
						8015-W-TPH(1L)	<input checked="" type="checkbox"/>	Walkin	
						8270-W	<input checked="" type="checkbox"/>	Walkin	
1108182-001B						8270-W-SIM	<input checked="" type="checkbox"/>	Walkin	
						8260-W-PPM	<input checked="" type="checkbox"/>	Purge	3
1108182-002A	RBC Below Barton Bed	8/9/2011 0950h			Soil	3546-TPH-PR	<input type="checkbox"/>	hall - tph	1
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-002B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-002C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-002D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-002E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-002F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-002G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-003A	RBC Below Barton Bank	8/9/2011 0955h				3546-TPH-PR	<input type="checkbox"/>	hall - tph	
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-003B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-003C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-003D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	

# WORK ORDER Summary

Work Order: **1108182**

Client: EarthFax Engineering

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Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel	Storage	
1108182-003E	RBC Below Barton Bank	8/9/2011 0955h	8/9/2011 1347h	8/23/2011	Soil	OUTSIDE LAB	<input type="checkbox"/>	Paragon	1
1108182-003F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-003G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-004A	West Spring	8/9/2011 1010h			Aqueous	3510-ORO-PR	<input type="checkbox"/>	Walkin	12
						3510-SVOA-PR	<input type="checkbox"/>	Walkin	
						3510-TPH-PR	<input type="checkbox"/>	Walkin	
						8015-W-ORO(1L)	<input type="checkbox"/>	Walkin	
						8015-W-TPH(1L)	<input checked="" type="checkbox"/>	Walkin	
						8270-W	<input checked="" type="checkbox"/>	Walkin	
						8270-W-SIM	<input checked="" type="checkbox"/>	Walkin	
1108182-004B						8260-W-PPM	<input checked="" type="checkbox"/>	Purge	3
1108182-005A	West Spring Bed	8/9/2011 1020h			Soil	3546-TPH-PR	<input type="checkbox"/>	hall - tph	1
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-005B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-005C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-005D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-005E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-005F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-005G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-006A	RBC at Barton	8/9/2011 1040h			Aqueous	3510-ORO-PR	<input type="checkbox"/>	Walkin	12
						3510-SVOA-PR	<input type="checkbox"/>	Walkin	
						3510-TPH-PR	<input type="checkbox"/>	Walkin	
						8015-W-ORO(1L)	<input type="checkbox"/>	Walkin	
						8015-W-TPH(1L)	<input checked="" type="checkbox"/>	Walkin	
						8270-W	<input checked="" type="checkbox"/>	Walkin	
						8270-W-SIM	<input checked="" type="checkbox"/>	Walkin	
1108182-006B						8260-W-PPM	<input checked="" type="checkbox"/>	Purge	3
1108182-007A	RBC at Barton Bed	8/9/2011 1045h			Soil	3546-TPH-PR	<input type="checkbox"/>	hall - tph	1
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	

# WORK ORDER Summary

Work Order: **1108182**

Client: EarthFax Engineering

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Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel	Storage	
1108182-007B	RBC at Barton Bed	8/9/2011 1045h	8/9/2011 1347h	8/23/2011	Soil	3546-ORO-PR	<input type="checkbox"/>	hall - oro	1
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-007C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-007D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-007E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-007F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-007G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-008A	RBC at Barton Bank	8/9/2011 1050h				3546-TPH-PR	<input type="checkbox"/>	hall - tph	
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-008B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-008C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-008D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-008E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-008F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-008G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-009A	Middle Spring	8/9/2011 1105h			Aqueous	3510-ORO-PR	<input type="checkbox"/>	Walkin	12
						3510-SVOA-PR	<input type="checkbox"/>	Walkin	
						3510-TPH-PR	<input type="checkbox"/>	Walkin	
						8015-W-ORO(1L)	<input type="checkbox"/>	Walkin	
						8015-W-TPH(1L)	<input checked="" type="checkbox"/>	Walkin	
						8270-W	<input checked="" type="checkbox"/>	Walkin	
						8270-W-SIM	<input checked="" type="checkbox"/>	Walkin	
1108182-009B						8260-W-PPM	<input checked="" type="checkbox"/>	Purge	3
1108182-010A	Middle Spring Bed	8/9/2011 1110h			Soil	3546-TPH-PR	<input type="checkbox"/>	hall - tph	1
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-010B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	



# WORK ORDER Summary

Work Order: **1108182**

Client: EarthFax Engineering

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Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel	Storage	
1108182-010C	Middle Spring Bed	8/9/2011 1110h	8/9/2011 1347h	8/23/2011	Soil	8260-S-PPM	<input checked="" type="checkbox"/>	Purge	1
1108182-010D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-010E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-010F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-010G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-011A	RBC Above Remund	8/9/2011 1150h			Aqueous	3510-ORO-PR	<input type="checkbox"/>	Walkin	12
						3510-SVOA-PR	<input type="checkbox"/>	Walkin	
						3510-TPH-PR	<input type="checkbox"/>	Walkin	
						8015-W-ORO(1L)	<input type="checkbox"/>	Walkin	
						8015-W-TPH(1L)	<input checked="" type="checkbox"/>	Walkin	
						8270-W	<input checked="" type="checkbox"/>	Walkin	
						8270-W-SIM	<input checked="" type="checkbox"/>	Walkin	
1108182-011B						8260-W-PPM	<input checked="" type="checkbox"/>	Purge	3
1108182-012A	RBC Above Remund Bed	8/9/2011 1210h			Soil	3546-TPH-PR	<input type="checkbox"/>	hall - tph	2
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-012B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	1
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-012C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-012D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-012E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-012F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-012G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-013A	RBC Above Remond Bank	8/9/2011 1225h				3546-TPH-PR	<input type="checkbox"/>	hall - tph	
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-013B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-013C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-013D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	

**WORK ORDER Summary**Work Order: **1108182**

Client: EarthFax Engineering

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Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code	Sel	Storage	
1108182-013D	RBC Above Remond Bank	8/9/2011 1225h	8/9/2011 1347h	8/23/2011	Soil	8270-S	<input checked="" type="checkbox"/>	hall - semi	1
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-013E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-013F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-013G						TS-S-2540B	<input type="checkbox"/>	ww - ts	
1108182-014A	East Spring	8/9/2011 1150h			Aqueous	3510-ORO-PR	<input type="checkbox"/>	Walkin	12
						3510-SVOA-PR	<input type="checkbox"/>	Walkin	
						3510-TPH-PR	<input type="checkbox"/>	Walkin	
						8015-W-ORO(1L)	<input type="checkbox"/>	Walkin	
						8015-W-TPH(1L)	<input checked="" type="checkbox"/>	Walkin	
						8270-W	<input checked="" type="checkbox"/>	Walkin	
						8270-W-SIM	<input checked="" type="checkbox"/>	Walkin	
1108182-014B						8260-W-PPM	<input checked="" type="checkbox"/>	Purge	3
1108182-015A	East Spring Bed	8/9/2011 1205h			Soil	3546-TPH-PR	<input type="checkbox"/>	hall - tph	1
						8015-S-TPH	<input checked="" type="checkbox"/>	hall - tph	
						PMOIST	<input type="checkbox"/>	hall - tph	
1108182-015B						3546-ORO-PR	<input type="checkbox"/>	hall - oro	
						8015-S-ORO	<input checked="" type="checkbox"/>	hall - oro	
1108182-015C						8260-S-PPM	<input checked="" type="checkbox"/>	Purge	
1108182-015D						3546-SVOA-PR	<input type="checkbox"/>	hall - semi	
						8270-S	<input checked="" type="checkbox"/>	hall - semi	
						8270-S-SIM	<input checked="" type="checkbox"/>	hall - semi	
1108182-015E						OUTSIDE LAB	<input type="checkbox"/>	Paragon	
1108182-015F						OUTSIDE LAB	<input type="checkbox"/>	IGES	
1108182-015G						TS-S-2540B	<input type="checkbox"/>	ww - ts	

Client Earth-Fax Eng  
 Address 7324 So. Union Park Ave  
Midvale, UT 84047  
 City State Zip

Phone 801-561-1555 Fax \_\_\_\_\_

Contact Galen Williams

E-mail gwilliams@earth-fax.com

Project Name Red Butte

Project Number/P.O.# UL-1300-02

Sampler Name RB White



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CHAIN OF CUSTODY

Lab Sample Set # 1108182

Page 1 of 2

Turn Around Time (Circle One)

1 day 2 day 3 day 4 day 5 day Standard

Sample ID	Date/Time Collected	Matrix	Number of Containers (Total)	TESTS REQUIRED								QC LEVEL			COMMENTS	
				TPH-DRO (801SD - GC/MS)	TPH-DRO (801SD - GC/MS)	BTX (8260C GC/MS/SEM)	PAHs (8270D - GC/MS)	TOC (Walkley - Block)	Grain Size (ASTM D422)	Total Solids (SM 2540B)	Moisture (ASTM D2216-10)	1	2	2+		
1 RBC below Barton	9 Aug 2011 / 09:45	W	15	✓	✓	✓	✓	✓	✓	✓	✓	✓				
2 RBC below Barton bed	9 Aug 2011 / 09:50	S	7	✓	✓	✓	✓	✓	✓	✓	✓	✓				
3 RBC below Barton bank	09:55	S	7	✓	✓	✓	✓	✓	✓	✓	✓	✓				
4 West Spring	10:10	W	15	✓	✓	✓	✓	✓	✓	✓	✓	✓				
5 West Spring bed	10:20	S	7	✓	✓	✓	✓	✓	✓	✓	✓	✓				
6 RBC at Barton	10:40	W	15	✓	✓	✓	✓	✓	✓	✓	✓	✓				
7 RBC at Barton bed	10:45	S	7	✓	✓	✓	✓	✓	✓	✓	✓	✓				
8 RBC at Barton bank	10:50	S	7	✓	✓	✓	✓	✓	✓	✓	✓	✓				
9 Middle Spring	11:05	W	15	✓	✓	✓	✓	✓	✓	✓	✓	✓				
10 Middle Spring bed	11:10	S	7	✓	✓	✓	✓	✓	✓	✓	✓	✓				

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered  
Notes:

2 Ambient or Chilled  
Notes:

3 Temperature 6.5°

4 Received Broken/Leaking (Improperly Sealed)  
Y N  
Notes:

5 Properly Preserved  
Y N  
Checked at Bench  
Y N  
Notes:

6 Received Within Holding Times  
Y N  
Notes:

Relinquished By: Signature <u>Rick White</u>	Date <u>9/9/11</u>	Received By: Signature <u>Denise Brown</u>	Date <u>8/9/11</u>
PRINT NAME <u>Rick White</u>	Time <u>13:47</u>	PRINT NAME <u>Denise Brown</u>	Time <u>10:47</u>
Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time
Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time
Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time

Special Instructions:

COC Tape Was:

1 Present on Outer Package  
Y N NA

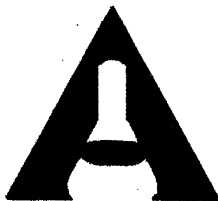
2 Unbroken on Outer Package  
Y N NA

3 Present on Sample  
Y N NA

4 Unbroken on Sample  
Y N NA

Discrepancies Between Sample Labels and COC Record?  
Y N  
Notes:

Client EarthFax Eng  
 Address \_\_\_\_\_  
 City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
 Phone \_\_\_\_\_ Fax \_\_\_\_\_  
 Contact Galen Williams  
 E-mail \_\_\_\_\_



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CHAIN OF CUSTODY

Lab Sample Set # 1108082  
 Page 2 of 2

Turn Around Time (Circle One)

1 day 2 day 3 day 4 day 5 day Standard

Project Name \_\_\_\_\_  
 Project Number/P.O.# UL-1300-02  
 Sampler Name RB White

Sample ID	Date/Time Collected	Matrix	Number of Containers (Total)	TESTS REQUIRED							QC LEVEL			COMMENTS	
				TPH-DRO	TPH-ORO	BTEX	PAHs	TOC	Grain size	Total Solids	Moisture	1	2		2+
11 RBC <del>bed</del> above Remund	11:50	W	5	✓	✓	✓	✓								
12 RBC above Remund bed	12:10	S	7	✓	✓	✓	✓	✓	✓	✓					
13 RBC above Remund bank	12:25	S	7	✓	✓	✓	✓	✓	✓	✓					
14 East Spiry	11:50	W	5	✓	✓	✓	✓								
15 East Spiry bed	12:05	S	7	✓	✓	✓	✓	✓	✓	✓					

LABORATORY USE ONLY

SAMPLES WERE:

1 Shipped or hand delivered  
 Notes: (circled)

2 Ambient or Chilled  
 Notes: (circled)

3 Temperature 6.5

4 Received Broken/Leaking (Improperly Sealed)  
 Y (circled N)  
 Notes:

5 Properly Preserved  
 Y (circled N)  
 Checked at Bench  
 Y (circled N)  
 Notes:

6 Received Within Holding Times  
 Y (circled N)  
 Notes:

COC Tape Was:

1 Present on Outer Package  
 Y (circled N) NA

2 Unbroken on Outer Package  
 Y (circled N) NA

3 Present on Sample  
 Y (circled N) NA

4 Unbroken on Sample  
 Y (circled N) NA

Discrepancies Between Sample Labels and COC Record?  
 Y (circled N)  
 Notes:

Relinquished By: Signature <u>Richard White</u>	Date <u>8/12/11</u>	Received By: Signature <u>Denise Braun</u>	Date <u>8/9/11</u>
PRINT NAME <u>Rich White</u>	Time <u>13:17</u>	PRINT NAME <u>Denise Braun</u>	Time <u>13:47</u>
Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time
Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time
Relinquished By: Signature	Date	Received By: Signature	Date
PRINT NAME	Time	PRINT NAME	Time

Special Instructions:

TPH-DRO (8015D - GC/FID Ext large)

TPH-ORO " " " "

BTEX (8260C GC/MS/SIM)

PAHs (8270D GC/MS/SIM)

TOC (Walkley Block)

Grain size (ASTM D 422)

Total Solids (SM 2040B)

Moisture (ASTM 2216-10)

11  
12  
13  
14  
15