

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

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web: www.awal-labs.com

Kyle F. Gross Laboratory Director

Jose Rocha

QA Officer

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.

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.

Thank You,

Approved by: ______Laboratory Director or designee



Contact: Galen Williams

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

8/9/2011

Analytical Results

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Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Percent Moisture	wt%		8/9/2011 180	0h SM2540B	0.0100	12.5	@
Total Solids	%		8/9/2011 180	0h SM2540B	0.0100	87.5	

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

1347h

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> Jose Rocha QA Officer

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Client: EarthFax Engineering Contact: Galen Williams

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

Analytical Results

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

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Client: EarthFax Engineering Contact: Galen Williams

Project: Red Butte / UC-1300-02

Lab Sample ID:1108182-005Client Sample ID:West Spring BedCollection Date:8/9/20111020hReceived Date:8/9/20111347h

Analytical Results

463 West 3600 South Salt Lake City, UT 84115

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

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Client: EarthFax Engineering Contact: Galen Williams

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

Analytical Results

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

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Client: EarthFax Engineering Contact: Galen Williams

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

Analytical Results

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

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Client: EarthFax Engineering Contact: Galen Williams

Project: Red Butte / UC-1300-02

Lab Sample ID:1108182-010Client Sample ID:Middle Spring BedCollection Date:8/9/20111110hReceived Date:8/9/20111347h

Analytical Results

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

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Client: EarthFax Engineering Contact: Galen Williams

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

Analytical Results

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

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Client: EarthFax Engineering Contact: Galen Williams

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

Analytical Results

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

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Contact: Galen Williams

Client: EarthFax Engineering

Project: Red Butte / UC-1300-02

Lab Sample ID:1108182-015Client Sample ID:East Spring BedCollection Date:8/9/20111205hReceived Date:8/9/20111347h

Analytical Results

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Compound	Units	Date Prepared	Date Analyzed	Method Used	Reporting Limit	Analytical Result	Qual
Percent Moisture	wt%		8/9/2011 18001	sM2540B	0.0100	27.7	
Total Solids	%		8/9/2011 1800h	SM2540B	0.0100	72.3	

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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

 $\textbf{Units:} \quad mg/L$

Salt Lake City, UT 84115

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Dilution Factor: 1 Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	45.1	

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

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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 **CAS** Reporting **Analytical** Compound Number Limit 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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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

 $\textbf{Units:} \quad mg/L$

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Dilution Factor: 1 Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	45.7	

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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 **CAS** Reporting **Analytical** Compound Number Limit 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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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

463 West 3600 South **Dil** Salt Lake City, UT 84115 **Co**

Dilution Factor: 1 **CAS** Reporting **Analytical** Compound Number Limit Result Qual Diesel Range Organics (DRO) (C10-C28) 68476-34-6 0.500 < 0.500 Surr: 4-Bromofluorobenzene 460-00-4 10-190 62.1

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

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

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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

 $\textbf{Units:} \quad mg/L$

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Dilution Factor: 1 Compound	CAS Number	Reporting Limit	Analytical Result	Qual
Diesel Range Organics (DRO) (C10-C28)	68476-34-6	0.500	< 0.500	
Surr: 4-Bromofluorobenzene	460-00-4	10-190	61.9	

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

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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

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Dilution Factor: 1 **CAS** Reporting **Analytical** Compound Number Limit Result Qual Diesel Range Organics (DRO) (C10-C28) 68476-34-6 0.500 < 0.500 Surr: 4-Bromofluorobenzene 460-00-4 10-190 60.0

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

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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 **CAS** Reporting **Analytical** Compound Number Limit 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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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 G

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

Units: mg/L

463 West 3600 South **Dilutio**Salt Lake City, UT 84115 **Compo**

Dilution Factor: 1 **CAS** Reporting **Analytical** Compound Number Limit Result Qual Diesel Range Organics (DRO) (C10-C28) 68476-34-6 0.500 < 0.500 Surr: 4-Bromofluorobenzene 460-00-4 10-190 59.5

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

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> Jose Rocha QA Officer

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

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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

463 West 3600 South Salt Lake City, UT 84115

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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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 26 of 85



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: 1CAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)22.962.7Surr: C2710-200130

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> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 27 of 85



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
CompoundCAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)27.877.3Surr: C2710-200138

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Kyle F. Gross Laboratory Director

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> > Report Date: 8/22/2011 Page 28 of 85



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

 $\textbf{Units:} \quad mg/L$

463 West 3600 South Salt Lake City, UT 84115

Dilution Factor: 1	CAS	Reporting	Analytical	
Compound	Number	Limit	Result	Qual
Oil Range Organics (ORO) (C28-C36)		0.500	< 0.500	
Surr: C27		10-200	104	

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> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 29 of 85



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

463 West 3600 South **Dilution Factor:** 1
Salt Lake City, UT 84115 **Compound**

Compound CAS Reporting Analytical Result Qual

Oil Range Organics (ORO) (C28-C36) 31.6 43.7

Surr: C27 10-200 143

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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 30 of 85



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

 $\textbf{Units:} \quad mg/L$

463 West 3600 South Salt Lake City, UT 84115

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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> > Report Date: 8/22/2011 Page 31 of 85



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: 1CAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)24.872.9Surr: C2710-200140

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> > Report Date: 8/22/2011 Page 32 of 85



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: 1CAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)27.369.9Surr: C2710-200138

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> > Report Date: 8/22/2011 Page 33 of 85



Client: EarthFax Engineering Contact: Galen Williams

Project: Red Butte / UC-1300-02

Lab Sample ID:1108182-009AClient Sample ID:Middle SpringCollection Date:8/9/20111105h

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

463 West 3600 South Salt Lake City, UT 84115

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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> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 34 of 85



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

Surr: C27

Dilution Factor: 1
CAS
Number
Compound
Compound
Compound
CAS
Number
CAS
Reporting
Result
Qual
Coll Range Organics (ORO) (C28-C36)

33.8
267

10-200

141

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> > Report Date: 8/22/2011 Page 35 of 85



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

463 West 3600 South Salt Lake City, UT 84115

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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> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 36 of 85



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

Surr: C27

Dilution Factor: 1CAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)25.585.4

10-200

143

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> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 37 of 85



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: 1CAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)28.0134Surr: C2710-200151

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> > Report Date: 8/22/2011 Page 38 of 85



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

463 West 3600 South Salt Lake City, UT 84115 Dilution Factor: 1
CompoundCAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)0.500< 0.500</td>Surr: C2710-200102

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Kyle F. Gross Laboratory Director

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> > Report Date: 8/22/2011 Page 39 of 85



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: 1CAS
NumberReporting
LimitAnalytical
ResultQualOil Range Organics (ORO) (C28-C36)27.761.5Surr: C2710-200147

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> > Report Date: 8/22/2011 Page 40 of 85



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:** 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

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CAS Reporting **Analytical** Compound Number Limit 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 0.100 120-12-7 < 0.100 Anthracene Benz(a)anthracene 56-55-3 0.100 < 0.100 50-32-8 0.100 < 0.100 Benzo(a)pyrene Benzo(b)fluoranthene 205-99-2 0.100 < 0.100 191-24-2 0.100 Benzo(g,h,i)perylene < 0.100 207-08-9 0.100 < 0.100 Benzo(k)fluoranthene 0.100 Chrysene 218-01-9 < 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 < 0.100 129-00-0 0.100 < 0.100 Pyrene

Kyle F. Gross Laboratory Director

Jose Rocha

QA Officer



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Kyle F. Gross
Laboratory Director

Jose Rocha

QA Officer

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	27.4
Benzo(b)fluoranthene	205-99-2	11.4	< 11.4
Benzo(g,h,i)perylene	191-24-2	11.4	24.4
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	29.0
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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Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Kyle F. Gross Laboratory Director

Jose Rocha

QA Officer

Dilution Factor: 1 Compound	CAS Number	Reporting Limit	Analytical Result Qua	ıl
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	30.6	
Benzo(a)pyrene	50-32-8	13.9	52.8	
Benzo(b)fluoranthene	205-99-2	13.9	45.4	
Benzo(g,h,i)perylene	191-24-2	13.9	30.6	
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	47.2	
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	46.3	
Naphthalene	91-20-3	13.9	< 13.9	
Phenanthrene	85-01-8	13.9	30.6	
Pyrene	129-00-0	13.9	50.0	

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

Report Date: 8/22/2011 Page 43 of 85



Client: EarthFax Engineering **Contact:** Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-004A **Lab Sample ID: Client Sample ID:** West Spring **Collection Date:** 8/9/2011 1010h

Received Date: 8/9/2011 1347h Method: SW8270D

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

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

Units: µg/L

Phenanthrene

Pyrene

Dilution Factor: 1

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CAS Reporting **Analytical** Compound Number Limit Result 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 < 0.100 120-12-7 0.100 < 0.100 Anthracene Benz(a)anthracene 56-55-3 0.100 < 0.100 50-32-8 0.100 < 0.100 Benzo(a)pyrene Benzo(b)fluoranthene 205-99-2 0.100 < 0.100 191-24-2 0.100 Benzo(g,h,i)perylene < 0.100 207-08-9 0.100 < 0.100 Benzo(k)fluoranthene 0.100 Chrysene 218-01-9 < 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

85-01-8

129-00-0

0.100

0.100

Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer

> > Report Date: 8/22/2011 Page 44 of 85

< 0.100

< 0.100

Qual



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Kyle F. Gross

Losa Pacha

Jose Rocha QA Officer

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	32.6
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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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:** SW8270D

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

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

Units: $\mu g/L$

Phenanthrene

Pyrene

463 West 3600 South Salt Lake City, UT 84115

Phone: (801) 263-8686

Fax: (801) 263-8687

Toll Free: (888) 263-8686

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Dilution Factor: 1 **CAS** Reporting **Analytical** Compound Number Limit 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 0.100 120-12-7 < 0.100 Anthracene Benz(a)anthracene 56-55-3 0.100 < 0.100 50-32-8 0.100 < 0.100 Benzo(a)pyrene Benzo(b)fluoranthene 205-99-2 0.100 < 0.100 191-24-2 0.100 Benzo(g,h,i)perylene < 0.100 207-08-9 0.100 < 0.100 Benzo(k)fluoranthene 0.100 Chrysene 218-01-9 < 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

85-01-8

129-00-0

0.100

0.100

Jose Rocha QA Officer

Laboratory Director

Kyle F. Gross

Report Date: 8/22/2011 Page 46 of 85

< 0.100

< 0.100



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-007D **Lab Sample ID:** Client Sample ID: RBC at Barton Bed **Collection Date:** 8/9/2011 1045h

Received Date: 8/9/2011 1347h Method: SW8270D

SVOA SIM List by GC/MS Method 8270D/3546 **Analytical Results**

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

Units: µg/kg-dry **Dilution Factor:** 1

463 West 3600 South

CAS Reporting Compound Number Limit Salt Lake City, UT 84115 1-Methylnaphthalene 90-12-0 12.4 2-Methylnaphthalene 91-57-6 12.4 Phone: (801) 263-8686 Acenaphthene 83-32-9 12.4 Toll Free: (888) 263-8686 Acenaphthylene 208-96-8 12.4 Fax: (801) 263-8687 120-12-7 12.4 Anthracene e-mail: awal@awal-labs.com 56-55-3 12.4 Benz(a)anthracene web: www.awal-labs.com Kyle F. Gross **Laboratory Director** Jose Rocha **QA** Officer

Benz(a)anthracene	56-55-3	12.4	78.5	
Benzo(a)pyrene	50-32-8	12.4	70.2	
Benzo(b)fluoranthene	205-99-2	12.4	70.2	
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	27.3	
Dibenz(a,h)anthracene	53-70-3	12.4	< 12.4	
Fluoranthene	206-44-0	12.4	123	
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	47.1	
Naphthalene	91-20-3	12.4	< 12.4	
Phenanthrene	85-01-8	12.4	120	
Pyrene	129-00-0	12.4	131	
Gel-Permeation Chromatography (GPC) Cleanup, 1	nethod 3640A, utilized for this sample.			

Report Date: 8/22/2011 Page 47 of 85

Analytical

Result

< 12.4

< 12.4

< 12.4

< 12.4

33.1

Qual



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-008D Lab Sample ID: Client Sample ID: RBC at Barton Bank **Collection Date:** 8/9/2011 1050h

Received Date: 8/9/2011 1347h Method: SW8270D

SVOA SIM List by GC/MS Method 8270D/3546 **Analytical Results**

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

Units: µg/kg-dry **Dilution Factor:** 1

463 West 3600 South

CAS Reporting Compound Number Limit Salt Lake City, UT 84115 1-Methylnaphthalene 90-12-0 13.7 2-Methylnaphthalene 91-57-6 13.7 Phone: (801) 263-8686 Acenaphthene 83-32-9 13.7 Toll Free: (888) 263-8686 Acenaphthylene 208-96-8 13.7 Fax: (801) 263-8687 Anthracene 120-12-7 137 e-mail: awal@awal-labs.com web: www.awal-labs.com Kyle F. Gross **Laboratory Director** Jose Rocha

QA Officer

Anthracene	120-12-7	13.7	< 13.7	
Benz(a)anthracene	56-55-3	13.7	53.7	
Benzo(a)pyrene	50-32-8	13.7	< 13.7	
Benzo(b)fluoranthene	205-99-2	13.7	62.8	
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	62.8	
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	48.3	
Naphthalene	91-20-3	13.7	112	
Phenanthrene	85-01-8	13.7	58.3	
Pyrene	129-00-0	13.7	61.9	

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

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Analytical

Result

178

138

< 13.7

< 13.7

Qual



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-009A Lab Sample ID: **Client Sample ID:** Middle Spring **Collection Date:** 8/9/2011 1105h

8/9/2011 **Received Date:** 1347h Method: SW8270D

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

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

Units: µg/L

463 West 3600 South Salt Lake City, UT 84115

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web: www.awal-labs.com

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

Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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web: www.awal-labs.com

Kyle F. Gross
Laboratory Director

Jose Rocha

QA Officer

Dilution Factor: 1 Compound	CAS Number	Reporting Limit	Analytical Result Qual
1-Methylnaphthalene	90-12-0	16.9	47.3
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	169
Benzo(a)pyrene	50-32-8	16.9	226
Benzo(b)fluoranthene	205-99-2	16.9	< 16.9
Benzo(g,h,i)perylene	191-24-2	16.9	127
Benzo(k)fluoranthene	207-08-9	16.9	< 16.9
Chrysene	218-01-9	16.9	130
Dibenz(a,h)anthracene	53-70-3	16.9	33.8
Fluoranthene	206-44-0	16.9	60.8
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	163
Naphthalene	91-20-3	16.9	< 16.9
Phenanthrene	85-01-8	16.9	141
Pyrene	129-00-0	16.9	661

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

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Client: EarthFax Engineering **Contact:** Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-011A **Lab Sample ID: Client Sample ID:** RBC Above Remund **Collection Date:** 8/9/2011 1150h

Received Date: 8/9/2011 1347h Method: SW8270D

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

91-20-3

85-01-8

129-00-0

0.100

0.100

0.100

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

Units: µg/L

Naphthalene

Phenanthrene

Pyrene

463 West 3600 South Salt Lake City, UT 84115

Dilution Factor: 1 **CAS** Reporting **Analytical** Compound Number Limit Result 1-Methylnaphthalene 90-12-0 0.100 < 0.100 2-Methylnaphthalene 91-57-6 0.100 < 0.100 Phone: (801) 263-8686 Acenaphthene 83-32-9 0.100 < 0.100 Toll Free: (888) 263-8686 Acenaphthylene 208-96-8 0.100 < 0.100 Fax: (801) 263-8687 0.100 120-12-7 < 0.100 Anthracene e-mail: awal@awal-labs.com Benz(a)anthracene 56-55-3 0.100 < 0.100 50-32-8 0.100 < 0.100 Benzo(a)pyrene web: www.awal-labs.com Benzo(b)fluoranthene 205-99-2 0.100 < 0.100 191-24-2 0.100 Benzo(g,h,i)perylene < 0.100 207-08-9 0.100 < 0.100 Benzo(k)fluoranthene Kyle F. Gross 0.100 Chrysene 218-01-9 < 0.100 **Laboratory Director** Dibenz(a,h)anthracene 53-70-3 0.100 < 0.100 Fluoranthene 206-44-0 0.100 < 0.100 Jose Rocha Fluorene 86-73-7 0.100 < 0.100 **QA** Officer Indene 95-13-6 0.100 < 0.100 Indeno(1,2,3-cd)pyrene 193-39-5 0.100 < 0.100

Report Date: 8/22/2011 Page 51 of 85

< 0.100

< 0.100

< 0.100

Qual



Client: EarthFax Engineering Contact: Galen Williams

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 **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
at 3600 South Dilution Factor: 1

463 West 3600 South Salt Lake City, UT 84115	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	
Phone: (801) 263-8686	Acenaphthene	83-32-9	12.7	< 12.7	
Toll Free: (888) 263-8686	Acenaphthylene	208-96-8	12.7	< 12.7	
Fax: (801) 263-8687	Anthracene	120-12-7	12.7	< 12.7	
e-mail: awal@awal-labs.com	Benz(a)anthracene	56-55-3	12.7	129	
	Benzo(a)pyrene	50-32-8	12.7	96.0	
web: www.awal-labs.com	Benzo(b)fluoranthene	205-99-2	12.7	122	
	Benzo(g,h,i)perylene	191-24-2	12.7	< 12.7	
Kyle F. Gross	Benzo(k)fluoranthene	207-08-9	12.7	31.4	
Laboratory Director	Chrysene	218-01-9	12.7	59.5	
Laboratory Director	Dibenz(a,h)anthracene	53-70-3	12.7	< 12.7	
Jose Rocha	Fluoranthene	206-44-0	12.7	218	
QA Officer	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	59.5	
	Naphthalene	91-20-3	12.7	< 12.7	
	Phenanthrene	85-01-8	12.7	154	
	Pyrene	129-00-0	12.7	164	
	Cal Parmagtion Chromatography (CPC) Clagrup	mosth of 2640A sufficed for this samuel			

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

Report Date: 8/22/2011 Page 52 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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web: www.awal-labs.com

Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

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	43.8
Benzo(b)fluoranthene	205-99-2	14.0	42.9
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	32.6
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	39.1
Naphthalene	91-20-3	14.0	< 14.0
Phenanthrene	85-01-8	14.0	< 14.0
Pyrene	129-00-0	14.0	35.4

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

Report Date: 8/22/2011 Page 53 of 85



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

CAS

Reporting

Analytical

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

Units: μg/L **Dilution Factor:** 1

463 West 3600 South Salt Lake City, UT 84115

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web: www.awal-labs.com

Number	Limit	Result Qual
90-12-0	0.100	< 0.100
91-57-6	0.100	< 0.100
83-32-9	0.100	< 0.100
208-96-8	0.100	< 0.100
120-12-7	0.100	< 0.100
56-55-3	0.100	< 0.100
50-32-8	0.100	< 0.100
205-99-2	0.100	< 0.100
191-24-2	0.100	< 0.100
207-08-9	0.100	< 0.100
218-01-9	0.100	< 0.100
53-70-3	0.100	< 0.100
206-44-0	0.100	< 0.100
86-73-7	0.100	< 0.100
95-13-6	0.100	< 0.100
193-39-5	0.100	< 0.100
91-20-3	0.100	< 0.100
85-01-8	0.100	< 0.100
129-00-0	0.100	< 0.100
	90-12-0 91-57-6 83-32-9 208-96-8 120-12-7 56-55-3 50-32-8 205-99-2 191-24-2 207-08-9 218-01-9 53-70-3 206-44-0 86-73-7 95-13-6 193-39-5 91-20-3 85-01-8	Number Limit 90-12-0 0.100 91-57-6 0.100 83-32-9 0.100 208-96-8 0.100 120-12-7 0.100 56-55-3 0.100 205-99-2 0.100 191-24-2 0.100 207-08-9 0.100 218-01-9 0.100 53-70-3 0.100 206-44-0 0.100 95-13-6 0.100 193-39-5 0.100 91-20-3 0.100 85-01-8 0.100

Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer



Client: Contact: Galen Williams EarthFax Engineering

Red Butte / UC-1300-02 **Project:**

1108182-015D **Lab Sample ID:** Client Sample ID: East Spring Bed **Collection Date:** 8/9/2011 1205h

Received Date: 8/9/2011 1347h Method: SW8270D

SVOA SIM List by GC/MS Method 8270D/3546 **Analytical Results**

CAS

Reporting

Analytical

Qual

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

Units: µg/kg-dry **Dilution Factor:** 1

463 West 3600 South

Compound Number Limit Result Salt Lake City, UT 84115 1-Methylnaphthalene 90-12-0 13.8 < 13.8 2-Methylnaphthalene 91-57-6 13.8 < 13.8 Phone: (801) 263-8686 Acenaphthene 83-32-9 13.8 < 13.8 Toll Free: (888) 263-8686 Acenaphthylene 208-96-8 13.8 < 13.8 Fax: (801) 263-8687 120-12-7 13.8 < 13.8 Anthracene e-mail: awal@awal-labs.com Benz(a)anthracene 56-55-3 13.8 < 13.8 Benzo(a)pyrene 50-32-8 13.8 < 13.8 web: www.awal-labs.com Benzo(b)fluoranthene 205-99-2 13.8 < 13.8 191-24-2 Benzo(g,h,i)perylene 13.8 < 13.8 Renzo(k)fluoranthene 207.08.0 12 0 Kyle F. Gross **Laboratory Director** Jose Rocha **QA** Officer

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	
Dibenz(a,h)anthracene Fluoranthene Fluorene Indene Indeno(1,2,3-cd)pyrene Naphthalene Phenanthrene	53-70-3 206-44-0 86-73-7 95-13-6 193-39-5 91-20-3 85-01-8	13.8 13.8 13.8 13.8 13.8 13.8	< 13.8 < 13.8 < 13.8 < 13.8 < 13.8 < 13.8 < 13.8 < 13.8	

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

Report Date: 8/22/2011 Page 55 of 85



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:** SW8270D

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

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

Units: $\mu g/L$

463 West 3600 South

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Kyle F. Gross
Laboratory Director

Jose Rocha

QA Officer

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	92.7
Surr: 2-Fluorobiphenyl	321-60-8	10-124	59.3
Surr: 2-Fluorophenol	367-12-4	10-106	31.4
Surr: Nitrobenzene-d5	4165-60-0	10-180	60.1
Surr: Phenol-d6	13127-88-3	10-122	23.2
Surr: Terphenyl-d14	1718-51-0	10-199	95.9

Report Date: 8/22/2011 Page 56 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 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

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Kyle F. Gross

Laboratory Director

Jose Rocha

Jose Rocha QA Officer

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	450
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	562
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	90.6
Surr: 2-Fluorobiphenyl	321-60-8	17-179	86.7
Surr: 2-Fluorophenol	367-12-4	10-186	76.5
Surr: Nitrobenzene-d5	4165-60-0	10-166	107
Surr: Phenol-d6	13127-88-3	10-194	81.7
Surr: Terphenyl-d14	1718-51-0	10-265	102

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

Report Date: 8/22/2011 Page 57 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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> Jose Rocha QA Officer

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	87.6
Surr: 2-Fluorobiphenyl	321-60-8	17-179	78.8
Surr: 2-Fluorophenol	367-12-4	10-186	77.7
Surr: Nitrobenzene-d5	4165-60-0	10-166	103
Surr: Phenol-d6	13127-88-3	10-194	79.8
Surr: Terphenyl-d14	1718-51-0	10-265	102

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

Report Date: 8/22/2011 Page 58 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-004A Lab Sample ID: Client Sample ID: West Spring **Collection Date:** 8/9/2011 1010h

Received Date: 8/9/2011 1347h Method: SW8270D

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

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

Units: µg/L

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Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer

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	82.3
Surr: 2-Fluorobiphenyl	321-60-8	10-124	48.1
Surr: 2-Fluorophenol	367-12-4	10-106	25.2
Surr: Nitrobenzene-d5	4165-60-0	10-180	45.8
Surr: Phenol-d6	13127-88-3	10-122	18.6
Surr: Terphenyl-d14	1718-51-0	10-199	97.2

Report Date: 8/22/2011 Page 59 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Jose Rocha

QA Officer

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	92.6
Surr: 2-Fluorobiphenyl	321-60-8	17-179	78.2
Surr: 2-Fluorophenol	367-12-4	10-186	75.1
Surr: Nitrobenzene-d5	4165-60-0	10-166	104
Surr: Phenol-d6	13127-88-3	10-194	78.4
Surr: Terphenyl-d14	1718-51-0	10-265	99.3

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

Report Date: 8/22/2011 Page 60 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-006A Lab Sample ID: Client Sample ID: RBC at Barton **Collection Date:** 8/9/2011 1040h

8/9/2011 **Received Date:** 1347h Method: SW8270D

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

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

Units: $\mu g/L$

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QA Officer

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	90.8	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	54.0	
Surr: 2-Fluorophenol	367-12-4	10-106	31.9	
Surr: Nitrobenzene-d5	4165-60-0	10-180	57.1	
Surr: Phenol-d6	13127-88-3	10-122	23.4	
Surr: Terphenyl-d14	1718-51-0	10-199	97.6	

Report Date: 8/22/2011 Page 61 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

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	87.6
Surr: 2-Fluorobiphenyl	321-60-8	17-179	82.9
Surr: 2-Fluorophenol	367-12-4	10-186	77.9
Surr: Nitrobenzene-d5	4165-60-0	10-166	105
Surr: Phenol-d6	13127-88-3	10-194	81.5
Surr: Terphenyl-d14	1718-51-0	10-265	108

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

Report Date: 8/22/2011 Page 62 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Jose Rocha QA Officer

Kyle F. Gross

Dilution Factor: 1 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	536	
Pyrene	129-00-0	464	603	
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	92.5	
Surr: 2-Fluorobiphenyl	321-60-8	17-179	82.3	
Surr: 2-Fluorophenol	367-12-4	10-186	74.8	
Surr: Nitrobenzene-d5	4165-60-0	10-166	103	
Surr: Phenol-d6	13127-88-3	10-194	78.9	
Surr: Terphenyl-d14	1718-51-0	10-265	103	

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

Report Date: 8/22/2011 Page 63 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-009A Lab Sample ID: **Client Sample ID:** Middle Spring **Collection Date:** 8/9/2011 1105h

Received Date: 8/9/2011 1347h Method: SW8270D

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

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

Units: µg/L

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> Kyle F. Gross **Laboratory Director**

> > Jose Rocha **QA** Officer

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	85.2
Surr: 2-Fluorobiphenyl	321-60-8	10-124	48.7
Surr: 2-Fluorophenol	367-12-4	10-106	33.1
Surr: Nitrobenzene-d5	4165-60-0	10-180	50.9
Surr: Phenol-d6	13127-88-3	10-122	25.7
Surr: Terphenyl-d14	1718-51-0	10-199	94.4

Report Date: 8/22/2011 Page 64 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Jose Rocha

QA Officer

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	731
Surr: 2,4,6-Tribromophenol	118-79-6	10-237	95.2
Surr: 2-Fluorobiphenyl	321-60-8	17-179	87.7
Surr: 2-Fluorophenol	367-12-4	10-186	79.5
Surr: Nitrobenzene-d5	4165-60-0	10-166	106
Surr: Phenol-d6	13127-88-3	10-194	82.6
Surr: Terphenyl-d14	1718-51-0	10-265	126

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

Report Date: 8/22/2011 Page 65 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-011A Lab Sample ID: Client Sample ID: RBC Above Remund **Collection Date:** 8/9/2011 1150h

8/9/2011 1347h **Received Date:** Method: SW8270D

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

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

Units: µg/L

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Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer

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	91.9
Surr: 2-Fluorobiphenyl	321-60-8	10-124	56.3
Surr: 2-Fluorophenol	367-12-4	10-106	25.4
Surr: Nitrobenzene-d5	4165-60-0	10-180	57.8
Surr: Phenol-d6	13127-88-3	10-122	19.9
Surr: Terphenyl-d14	1718-51-0	10-199	104

Report Date: 8/22/2011 Page 66 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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> Jose Rocha QA Officer

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	1,330
Benzo(k)fluoranthene	207-08-9	433	< 433
Chrysene	218-01-9	433	< 433
Dibenz(a,h)anthracene	53-70-3	433	504
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	780
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	88.6
Surr: 2-Fluorobiphenyl	321-60-8	17-179	84.2
Surr: 2-Fluorophenol	367-12-4	10-186	78.8
Surr: Nitrobenzene-d5	4165-60-0	10-166	103
Surr: Phenol-d6	13127-88-3	10-194	84.0
Surr: Terphenyl-d14	1718-51-0	10-265	107

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

Report Date: 8/22/2011 Page 67 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Kyle F. Gross Laboratory Director

Jose Rocha

QA Officer

Dilution Factor: 1 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	788
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	76.3
Surr: 2-Fluorobiphenyl	321-60-8	17-179	68.6
Surr: 2-Fluorophenol	367-12-4	10-186	64.4
Surr: Nitrobenzene-d5	4165-60-0	10-166	85.1
Surr: Phenol-d6	13127-88-3	10-194	67.5
Surr: Terphenyl-d14	1718-51-0	10-265	83.5

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

Report Date: 8/22/2011 Page 68 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-014A Lab Sample ID: **Client Sample ID:** East Spring

Collection Date: 8/9/2011 1150h

Received Date: 8/9/2011 1347h Method: SW8270D

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

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

Units: µg/L

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> Jose Rocha **QA** Officer

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	93.4	
Surr: 2-Fluorobiphenyl	321-60-8	10-124	64.0	
Surr: 2-Fluorophenol	367-12-4	10-106	35.0	
Surr: Nitrobenzene-d5	4165-60-0	10-180	77.0	
Surr: Phenol-d6	13127-88-3	10-122	26.3	
Surr: Terphenyl-d14	1718-51-0	10-199	107	

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Client: EarthFax Engineering Contact: Galen Williams

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 **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

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Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

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	104
Surr: 2-Fluorobiphenyl	321-60-8	17-179	84.3
Surr: 2-Fluorophenol	367-12-4	10-186	80.3
Surr: Nitrobenzene-d5	4165-60-0	10-166	108
Surr: Phenol-d6	13127-88-3	10-194	85.0
Surr: Terphenyl-d14	1718-51-0	10-265	105

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

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Client: EarthFax Engineering Contact: Galen Williams

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 **Method:** SW8260C

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

Analyzed: 8/9/2011 1701h

Units: mg/L

463 West 3600 South Salt Lake City, UT 84115 **Dilution Factor:** 1 **CAS** Reporting **Analytical** Compound Number Limit 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 77-144 114 Surr: 4-Bromofluorobenzene 460-00-4 80-123 112 Surr: Dibromofluoromethane 1868-53-7 80-124 107 Surr: Toluene-d8 2037-26-5 80-125 98.3

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> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 71 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-002C Lab Sample ID:

Client Sample ID: RBC Below Barton Bed

Collection Date: 8/9/2011 0950h

Received Date: 8/9/2011 1347h Method: SW8260C

VOAs MBTEXN List by GC/MS Method 8260C **Analytical Results**

Analyzed: 8/9/2011 1727h

Units: mg/kg-dry

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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	84.7	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	102	
Surr: Dibromofluoromethane	1868-53-7	71-129	97.0	
Surr: Toluene-d8	2037-26-5	72-129	104	

Sampling and analytical preparation performed by method 5030C.

Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer

> > Report Date: 8/22/2011 Page 72 of 85



Client: EarthFax Engineering **Contact:** Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-003C **Lab Sample ID:**

Client Sample ID: RBC Below Barton Bank

Collection Date: 8/9/2011 0955h

Received Date: 8/9/2011 1347h Method: SW8260C

VOAs MBTEXN List by GC/MS Method 8260C **Analytical Results**

Analyzed: 8/9/2011 1749h

Units: mg/kg-dry **Dilution Factor: 2.5**

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CAS Reporting **Analytical** Compound Number Limit 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 93.0 Surr: 1,2-Dichloroethane-d4 17060-07-0 68-147 Surr: 4-Bromofluorobenzene 460-00-4 71-144 110 Surr: Dibromofluoromethane 1868-53-7 71-129 101 Surr: Toluene-d8 2037-26-5 72-129 105

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Sampling and analytical preparation performed by method 5030C.

Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer

> > Report Date: 8/22/2011 Page 73 of 85



Client: EarthFax Engineering Contact: Galen Williams

Project: Red Butte / UC-1300-02

Lab Sample ID:1108182-004BClient Sample ID:West SpringCollection Date:8/9/20111010h

Received Date: 8/9/2011 1347h **Method:** SW8260C

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

Analyzed: 8/9/2011 1720h

Units: mg/L

463 West 3600 South Salt Lake City, UT 84115 **Dilution Factor:** 1 **CAS** Reporting **Analytical** Compound Number Limit 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 77-144 Surr: 1,2-Dichloroethane-d4 17060-07-0 117 Surr: 4-Bromofluorobenzene 460-00-4 80-123 110 Surr: Dibromofluoromethane 1868-53-7 80-124 109 Surr: Toluene-d8 2037-26-5 80-125 98.6

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> > Report Date: 8/22/2011 Page 74 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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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Compound	CAS Number	Reporting Limit	Analytical Result	Qual	
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	81.0		
Surr: 4-Bromofluorobenzene	460-00-4	71-144	104		
Surr: Dibromofluoromethane	1868-53-7	71-129	98.9		
Surr: Toluene-d8	2037-26-5	72-129	104		

Sampling and analytical preparation performed by method 5030C.

Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 75 of 85



Client: EarthFax Engineering Contact: Galen Williams

Project: Red Butte / UC-1300-02

Lab Sample ID:1108182-006BClient Sample ID:RBC at BartonCollection Date:8/9/20111040h

Received Date: 8/9/2011 1347h **Method:** SW8260C

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

Analyzed: 8/9/2011 1739h

Units: mg/L

463 West 3600 South Salt Lake City, UT 84115 **Dilution Factor:** 1 **CAS** Reporting **Analytical** Compound Number Limit 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 77-144 118 Surr: 4-Bromofluorobenzene 460-00-4 80-123 111 Surr: Dibromofluoromethane 1868-53-7 80-124 109 Surr: Toluene-d8 2037-26-5 80-125 97.6

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> > Report Date: 8/22/2011 Page 76 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-007C Lab Sample ID: Client Sample ID: RBC at Barton Bed **Collection Date:** 8/9/2011 1045h

Received Date: 8/9/2011 1347h Method: SW8260C

VOAs MBTEXN List by GC/MS Method 8260C **Analytical Results**

Analyzed: 8/9/2011 1918h

Units: mg/kg-dry

463 West 3600 South **Dilution Factor: 2.5** Salt Lake City, UT 84115

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	99.7	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	103	
Surr: Dibromofluoromethane	1868-53-7	71-129	102	
Surr: Toluene-d8	2037-26-5	72-129	104	

Sampling and analytical preparation performed by method 5030C.

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> Jose Rocha **QA** Officer

> > Report Date: 8/22/2011 Page 77 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-008C Lab Sample ID: Client Sample ID: RBC at Barton Bank **Collection Date:** 8/9/2011 1050h

Received Date: 8/9/2011 1347h Method: SW8260C

VOAs MBTEXN List by GC/MS Method 8260C **Analytical Results**

Analyzed: 8/9/2011 1940h

Units: mg/kg-dry

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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	89.9	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	106	
Surr: Dibromofluoromethane	1868-53-7	71-129	110	
Surr: Toluene-d8	2037-26-5	72-129	103	

Sampling and analytical preparation performed by method 5030C.

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> Jose Rocha **QA** Officer

> > Report Date: 8/22/2011 Page 78 of 85



Client: EarthFax Engineering Contact: Galen Williams

Project: Red Butte / UC-1300-02

Lab Sample ID:1108182-009BClient Sample ID:Middle SpringCollection Date:8/9/20111105h

Received Date: 8/9/2011 1347h **Method:** SW8260C

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

Analyzed: 8/9/2011 1758h

Units: mg/L **Dilution Factor:** 1

463 West 3600 South Salt Lake City, UT 84115

CAS Reporting **Analytical** Compound Number Limit 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 77-144 Surr: 1,2-Dichloroethane-d4 17060-07-0 117 Surr: 4-Bromofluorobenzene 460-00-4 80-123 111 Surr: Dibromofluoromethane 1868-53-7 80-124 108 Surr: Toluene-d8 2037-26-5 80-125 98.1

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> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 79 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

Surr: Toluene-d8

463 West 3600 South Salt Lake City, UT 84115

CAS Reporting **Analytical** Compound Number Limit 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 108 Surr: 1,2-Dichloroethane-d4 17060-07-0 68-147 Surr: 4-Bromofluorobenzene 460-00-4 71-144 107 Surr: Dibromofluoromethane 1868-53-7 71-129 103

2037-26-5

72-129

104

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Sampling and analytical preparation performed by method 5030C.

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> > Report Date: 8/22/2011 Page 80 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **Method:** SW8260C

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

Analyzed: 8/9/2011 1817h

Units: mg/L
Dilution Factor: 1

463 West 3600 South Salt Lake City, UT 84115

CAS Reporting **Analytical** Compound Number Limit 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 77-144 117 Surr: 4-Bromofluorobenzene 460-00-4 80-123 112 Surr: Dibromofluoromethane 1868-53-7 80-124 108 Surr: Toluene-d8 2037-26-5 80-125 97.0

Phone: (801) 263-8686 Toll Free: (888) 263-8686

Fax: (801) 263-8687

e-mail: awal@awal-labs.com

web: www.awal-labs.com

Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 81 of 85



Client: EarthFax Engineering Contact: Galen Williams

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 **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

463 West 3600 South **Dil** Salt Lake City, UT 84115 **Co**

Dilution Factor: 2.43 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	110	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	105	
Surr: Dibromofluoromethane	1868-53-7	71-129	104	
Surr: Toluene-d8	2037-26-5	72-129	105	

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Sampling and analytical preparation performed by method 5030C.

Kyle F. Gross Laboratory Director

> Jose Rocha QA Officer

> > Report Date: 8/22/2011 Page 82 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-013C Lab Sample ID:

Client Sample ID: RBC Above Remund Bank

Collection Date: 8/9/2011 1225h

Received Date: 8/9/2011 1347h Method: SW8260C

VOAs MBTEXN List by GC/MS Method 8260C **Analytical Results**

Analyzed: 8/9/2011 2046h

Units: mg/kg-dry

463 West 3600 South **Dilution Factor: 2.5** Salt Lake City, UT 84115

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	111	
Surr: 4-Bromofluorobenzene	460-00-4	71-144	111	
Surr: Dibromofluoromethane	1868-53-7	71-129	105	
Surr: Toluene-d8	2037-26-5	72-129	107	

Sampling and analytical preparation performed by method 5030C.

Kyle F. Gross **Laboratory Director**

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web: www.awal-labs.com

Jose Rocha **QA** Officer

Report Date: 8/22/2011 Page 83 of 85



Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-014B Lab Sample ID: **Client Sample ID:** East Spring

Collection Date: 8/9/2011 1150h

Received Date: 8/9/2011 1347h Method: SW8260C

VOAs MBTEXN List by GC/MS Method 8260C/5030C **Analytical Results**

Analyzed: 8/9/2011 1836h

Units: mg/L **Dilution Factor: 1**

463 West 3600 South Salt Lake City, UT 84115

Dilution Factor: 1 Compound	CAS Number	Reporting Limit	Analytical Result Qu	al
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	119	
Surr: 4-Bromofluorobenzene	460-00-4	80-123	111	
Surr: Dibromofluoromethane	1868-53-7	80-124	110	
Surr: Toluene-d8	2037-26-5	80-125	97.7	

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Kyle F. Gross **Laboratory Director**

> Jose Rocha **QA** Officer

> > Report Date: 8/22/2011 Page 84 of 85



Salt Lake City, UT 84115

Phone: (801) 263-8686 Toll Free: (888) 263-8686

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ORGANIC ANALYTICAL REPORT

Client: EarthFax Engineering Contact: Galen Williams

Red Butte / UC-1300-02 **Project:**

1108182-015C Lab Sample ID: Client Sample ID: East Spring Bed **Collection Date:** 8/9/2011 1205h

Received Date: 8/9/2011 1347h Method: SW8260C

VOAs MBTEXN List by GC/MS Method 8260C **Analytical Results**

CAS

Reporting

Analytical

Analyzed: 8/9/2011 2109h

Units: mg/kg-dry

463 West 3600 South **Dilution Factor: 2.46**

Compound	Number	Limit	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	111
Surr: 4-Bromofluorobenzene	460-00-4	71-144	109
Surr: Dibromofluoromethane	1868-53-7	71-129	107
Surr: Toluene-d8	2037-26-5	72-129	105

Sampling and analytical preparation performed by method 5030C.

web: www.awal-labs.com

Jose Rocha

Laboratory Director

QA Officer

Kyle F. Gross

Report Date: 8/22/2011 Page 85 of 85

American West Analytical Laboratories

WORK O	RDER Summary					Work Order	:	1108182
Client:	EarthFax Engineering					Page 1 of 5		8/10/2011
Client ID:	EAR100		Contact: G	alen Williams				
Project:	Red Butte / UC-1300-02		QC Level: L	EVEL I		WO Type:		Standard
Comments:	No Hard Copies. TOC's sent to Pa	aragon and Grain Size sent to	IGES. Use SIM for F	AH. Report TS	and Pmoist;	J.F.		De
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		Walkin 12
						3510-SVOA-PR		Walkin
						3510-TPH-PR		Walkin
						8015-W-ORO(1L)		Walkin
						8015-W-TPH(1L)	V	Walkin
						8270-W	V	Walkin
						8270-W-SIM	V	Walkin
1108182-001B						8260-W-PPM	V	Purge 3
1108182-002A	RBC Below Barton Bed	8/9/2011 0950h			Soil	3546-TPH-PR		hall - tph 1
						8015-S-TPH	✓	hall - tph
						PMOIST		hall - tph
1108182-002B		100 CO				3546-ORO-PR		hall - oro
						8015-S-ORO	✓	hall - oro
1108182-002C						8260-S-PPM	V	Purge
1108182-002D		- 4/MA				3546-SVOA-PR		hall - semi
						8270-S	✓	hall - semi
			1001			8270-S-SIM	✓	hall - semi
1108182-002E				110		OUTSIDE LAB		Paragon
1108182-002F		Alle Lange				OUTSIDE LAB		IGES
1108182-002G						TS-S-2540B		ww - ts
1108182-003A	RBC Below Barton Bank	8/9/2011 0955h				3546-TPH-PR		hall - tph
		ALCONO.				8015-S-TPH	V	hall - tph
						PMOIST		hall - tph
1108182-003B						3546-ORO-PR		hall - oro
				1411		8015-S-ORO	V	hall - oro
1108182-003C		NAME OF THE OWNER OWNER OF THE OWNER OWNE				8260-S-PPM	V	Purge
1108182-003D						3546-SVOA-PR	П	hall - semi

✓ hall - semi

✓ hall - semi

8270-S

8270-S-SIM

WORK O	RDER Summary EarthFax Engineering					Work Order Page 2 of 5		1108182 8/10/2011
Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code		Storage
1108182-003E	RBC Below Barton Bank	8/9/2011 0955h	8/9/2011 1347h	8/23/2011	Soil	OUTSIDE LAB		Paragon 1
1108182-003F						OUTSIDE LAB	Ī	IGES
1108182-003G						TS-S-2540B	$\overline{\Box}$	ww - ts
1108182-004A	West Spring	8/9/2011 1010h			Aqueous	3510-ORO-PR	Ī	Walkin 12
						3510-SVOA-PR	$\overline{\Box}$	Walkin
						3510-TPH-PR		Walkin
						8015-W-ORO(1L)	Ħ	Walkin
						8015-W-TPH(1L)	<u> </u>	Walkin
						8270-W		Walkin
						8270-W-SIM	<u></u>	Walkin
1108182-004B						8260-W-PPM	V	Purge 3
1108182-005A	West Spring Bed	8/9/2011 1020h			Soil	3546-TPH-PR	$\overline{\Box}$	hall - tph 1
						8015-S-TPH	V	hall - tph
						PMOIST	$\overline{\Box}$	hall - tph
1108182-005B						3546-ORO-PR	ī	hall - oro
						8015-S-ORO	<u> </u>	hall - oro
1108182-005C		AND			A A A A A A A A A A A A A A A A A A A	8260-S-PPM	✓	Purge
1108182-005D			4-11	14040		3546-SVOA-PR	$\overline{\Box}$	hall - semi
						8270-S	V	hall - semi
						8270-S-SIM	V	hall - semi
1108182-005E		A Maria Cara Cara Cara Cara Cara Cara Cara				OUTSIDE LAB		Paragon
1108182-005F						OUTSIDE LAB		IGES
1108182-005G						TS-S-2540B		ww - ts
1108182-006A	RBC at Barton	8/9/2011 1040h			Aqueous	3510-ORO-PR		Walkin 12
						3510-SVOA-PR		Walkin
						3510-TPH-PR		Walkin
						8015-W-ORO(1L)		Walkin
						8015-W-TPH(1L)	✓	Walkin
						8270-W	V	Walkin
		A STATE OF THE STA				8270-W-SIM	V	Walkin
1108182-006B						8260-W-PPM	V	Purge 3
1108182-007A	RBC at Barton Bed	8/9/2011 1045h	10 - 400000		Soil	3546-TPH-PR		hall - tph 1
A STATE OF THE PROPERTY OF THE						8015-S-TPH	V	hall - tph
					31.16.000	PMOIST		hall - tph

WORK ORDER Summary						Work Order:	1108182
Client:	EarthFax Engineering					Page 3 of 5	8/10/2011
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	hall - oro
						8015-S-ORO	✓ hall - oro
1108182-007C						8260-S-PPM	✓ Purge
1108182-007D						3546-SVOA-PR	hall - semi
						8270-S	✓ hall - semi
						8270-S-SIM	✓ hall - semi
1108182-007E						OUTSIDE LAB	Paragon
1108182-007F						OUTSIDE LAB	IGES
1108182-007G		***************************************				TS-S-2540B	ww - ts
1108182-008A	RBC at Barton Bank	8/9/2011 1050h				3546-TPH-PR	hall - tph
						8015-S-TPH	✓ hall - tph
						PMOIST	hall - tph
1108182-008B						3546-ORO-PR	hall - oro
						8015-S-ORO	✓ hall - oro
1108182-008C						8260-S-PPM	✓ Purge
1108182-008D						3546-SVOA-PR	hall - semi
						8270-S	✓ hall - semi
						8270-S-SIM	✓ hall - semi
1108182-008E						OUTSIDE LAB	Paragon
1108182-008F						OUTSIDE LAB	☐ IGES
1108182-008G						TS-S-2540B	ww - ts
1108182-009A	Middle Spring	8/9/2011 1105h			Aqueous	3510-ORO-PR	Walkin
						3510-SVOA-PR	Walkin
						3510-TPH-PR	Walkin
						8015-W-ORO(1L)	Walkin
						8015-W-TPH(1L)	✓ Walkin
							✓ Walkin
							✓ Walkin
1108182-009B		**************************************				8260-W-PPM	✓ Purge
1108182-010A	Middle Spring Bed	8/9/2011 1110h			Soil	3546-TPH-PR	hall - tph
						8015-S-TPH	✓ hall - tph
						PMOIST	hall - tph
1108182-010B						3546-ORO-PR	hall - oro
						8015-S-ORO	✓ hall - oro

WORK O Client:	RDER Summary EarthFax Engineering					Work Order Page 4 of 5		108182 /10/2011
Sample ID	Client Sample ID	Collected Date	Received Date	Date Due	Matrix	Test Code		torage
1108182-010C	Middle Spring Bed	8/9/2011 1110h	8/9/2011 1347h	8/23/2011	Soil	8260-S-PPM	<u></u>	Purge
1108182-010D						3546-SVOA-PR		nall - semi
						8270-S	V	nall - semi
		THE STREET STREET		7-700-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-9-		8270-S-SIM	✓ 1	nall - semi
1108182-010E						OUTSIDE LAB		Paragon
1108182-010F						OUTSIDE LAB		IGES
1108182-010G						TS-S-2540B		ww - ts
1108182-011A	RBC Above Remund	8/9/2011 1150h			Aqueous	3510-ORO-PR	,	Walkin 12
						3510-SVOA-PR		Walkin
						3510-TPH-PR		Walkin
						8015-W-ORO(1L)		Walkin
						8015-W-TPH(1L)	✓	Walkin
						8270-W	✓	Walkin
						8270-W-SIM	V	Walkin
1108182-011B						8260-W-PPM	V	Purge 3
1108182-012A	RBC Above Remund Bed	8/9/2011 1210h			Soil	3546-TPH-PR		hall - tph
						8015-S-TPH	V	nall - tph
						PMOIST		ıall - tph
1108182-012B						3546-ORO-PR		nall - oro
						8015-S-ORO	V 1	nall - oro
1108182-012C						8260-S-PPM	V	Purge
1108182-012D						3546-SVOA-PR		nall - semi
						8270-S	V	nall - semi
						8270-S-SIM	V 1	nall - semi
1108182-012E						OUTSIDE LAB		Paragon
1108182-012F						OUTSIDE LAB		GES
1108182-012G						TS-S-2540B		ww - ts
1108182-013A	RBC Above Remond Bank	8/9/2011 1225h				3546-TPH-PR		ıall - tph
						8015-S-TPH	v 1	nall - tph
						PMOIST		nall - tph
1108182-013B						3546-ORO-PR	l	nall - oro
						8015-S-ORO	✓ l	nall - oro
1108182-013C						8260-S-PPM	✓ I	Purge
1108182-013D						3546-SVOA-PR		ıall - semi

WORK O	RDER Summary					Work Order	:	1108182	
Client:	EarthFax Engineering					Page 5 of 5		8/10/2011	
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	<u></u>	hall - semi	1
			Yes Madala	V V V V V V V V V V V V V V V V V V V		8270-S-SIM	✓.	hall - semi	
1108182-013E		The state of the s				OUTSIDE LAB		Paragon	-
1108182-013F						OUTSIDE LAB		IGES	
1108182-013G						TS-S-2540B		ww - ts	
1108182-014A	East Spring	8/9/2011 1150h			Aqueous	3510-ORO-PR		Walkin	12
						3510-SVOA-PR		Walkin	_
						3510-TPH-PR		Walkin	
						8015-W-ORO(1L)		Walkin	_
					****	8015-W-TPH(1L)	V	Walkin	
						8270-W	V	Walkin	
						8270-W-SIM	V	Walkin	
1108182-014B						8260-W-PPM	V	Purge	3
1108182-015A	East Spring Bed	8/9/2011 1205h		***************************************	Soil	3546-TPH-PR		hall - tph	1
						8015-S-TPH	V	hall - tph	
						PMOIST		hall - tph	
1108182-015B						3546-ORO-PR		hall - oro	
		to the state of th				8015-S-ORO	V	hall - oro	_
1108182-015C		4400				8260-S-PPM	V	Purge	***********
1108182-015D						3546-SVOA-PR		hall - semi	
						8270-S	V	hall - semi	
						8270-S-SIM	V	hall - semi	********
1108182-015E						OUTSIDE LAB		Paragon	
1108182-015F						OUTSIDE LAB		IGES	
1108182-015G						TS-S-2540B		ww - ts	_

	Midvell, UT 8 City State Phone 801-1561-1555 Fax Contact Gale Williams E-mail gwilliams @ earled Project Name Red Butte	ess 7324 So. Union Park Ave Midvale, ut 84047 city State Zip ne 801-561-1555 Fax act Galen Williams ail gwilliams @ earle fax. un-					ANALY LABORATO 163 West 3600 Salt Lake City			VEST ICAL RIES South Utah 84115	Fax Em	CHAIN OF CUSTOD (801) 263-8686 (888) 263-8686 (801) 263-8687 (1911) 263-8687 (DY 6 6 7	Page Turn 1 day	Turn Around Ti 1 day 2 day 3			4 day 5 day Standa LABORATORY USE ONL SAMPLES WERE: 1 Shipped of hand deliver	Y
	Project Number/P.O.#_UL-/300-02 Sampler Name_RB WWJc Sample ID			Date/Time Collected All 9 Aug 201)	Matrix	Number of Containers (S	١ ،	西文(8266년	(8270D	TOC (Walkley	Jange (Ast	Total solids (SM 290	Moishore ASTM.		3	2 3+	2. 4		Notes: 2 Ambient or Chilled Notes: 3 Temperature 6.5°	
1	RBC below Beston			9 Aug 2011/09:45	M	15	<u>-</u>	U V	Z	7	•	9		<u>×</u>			OMME	ENIS	S	4 Received Broken/Leakin (Improperly Sealed) Y Notes:	g
Z 3 4	TBC below Berton bent TBC below Berton bent West Spring	9Ay201/09150 09155 10110	S S W	7 7 万	レレ	7 7	7 1 2	1	レ	- 4	\ \ \ \	7						5 Bronerly Preserved N Checked at Bench			
567	RBC at Barton hed			10140	U	_	レレ	1	1	\ \rightarrow\	V	~	~	7	·					Notes: 6 Received Within	
8 9	RBC et Beston bent	·		10145 101,50	S 3 V	2		\(\rightarrow \)	7 7	1	1	7		1						Helding Times Y N Notes:	
Ю	Middle fling bed			11:10	S	7	/	i	i	-1				-							_
	Relinavished By: Signature	Dy Signoture /		$\overline{\parallel}$														COC Tape Was: : 1 Present on Outer Package			
	Relinquished By: Signature PRINT, NAME White Relinquished By: Signature	7fty 201) Time 13.147 Date	PRINT NAI	By: Signature AN LAND AND IN ME ME Sy: Signature	Date 8/9/11 Time 13:47			Special Instructions:									Y N N 2 Unbroken on Outer Package Y N N	A			
	PRINT NAME	Time	PRINT NAI					Date Time												3 Present on Sample	A
	Relinquished By: Signature PRINT NAME	ure Date Received Time PRINT NA				By: <i>Signature</i>														4 Unbroken on Sample Y N	
	Relinquished By: Signature Date Received B			By: Signature	Dat		\dashv											Discrepancies Between Sample Labels and COC Record?)		
	PRINT NAME	NAME Time PRINT NA				AME										***************************************		····		Notes:	

	Client Ezil Fax Eng Address City State Phone Fax Contact Gale Williams	A		4	LAB 63 W	NAL ORA est 36	W YTIC TOI 500 S Sity,	RIES South Utah 14115	Fax Em:	(801 (888 (801 ail: av	HAIN OF USTODY 1) 263-8686 8) 263-8686 1) 263-8687 wal@awal-labs.com								of			
	E-mail			}	Ť		11	=51	5 KI	REQUIRED					QC LEVEL				LABORATORY USE ONLY			
	Project Name			·	ŀ	Total)											4	•		2+	SAMPLES WERE: 1 Shipped or hand deliv	ered
	Project Number/P.O.# UL 7300-02			Date/Time		iners (8		1		l)	· S		*		ı	2	•	27	Notes:	≤ 1
	Sampler Name PB White			Collected		Conta	-226	20			1	83	3	2	1		3	3+	٠ ،	4	2 Ambient of Chilled Notes:	1
	Sample ID				Matrix	Number of Containers (Total)	里	直	BIO	PAR	TOC	प्रदा	1012	Milsture			(СОММ	IENT	·s	3 Temperature	1
11	RBC below Store Remind			11:50	W	15			기				Ť	$\neg \uparrow$		_					(Improperly Sealed))
12	RDC above Remind bed			12110	5	7	i	1	디	-	7		V	7	\neg	7			······································		Notes:	
13	RSC above Remind bank			12:25	5	7	Vi	/ .	7	~	-	1	レ	~					-		5 Properly Preserved N	
14:	Ezst Show			11150	M	15	V		1	1											Checked at Bench	
15	Est Sing hed			12105	5	7	J	2		-		7	7	1					 		Notes:	
	0 0																					
																	**************************************				6 Received Within	
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				<u> </u>																		
					\perp																	
					Ш				4												COC Tape Was:	
					Ш				_	I											1 Present on Outer Package	1
	Reliminished By: Signature	By: Signature 2000 Due	Date	9) u					uctio] Y '(N /	NA				
	PRINT NAME WW.	MESE Bruun				Time 17			TPH-DRO (8015D-G) TPH-DRO U					90	C/FID Extrage)				2 Unbroken on Outer			
	Relinquished By: Signature	By: Signature				, ,	갂	BTOX (8060C GC/MS							i u				Package Y N NA			
	PRINT NAME	Time PRINT N			ME				\dashv	PAAs (8270				od GC/MS/							3 Present on Sample	NA
	Relinquished By: Signature	Date					Time			Good Size CASIM						.)					$\overline{}$	
					By: Signature															4 Unbroken on Sample Y N	NA	
	PRINT NAME	ME			Time			Total solids (年5M Maisture (ASIM 2							2540 B) 216-10				Discrepancies Between Sample Labels and COC	기		
	Relinquished By: Signature	By: Signature	Date)	T	5.011											Record?					
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