Rem: 9490
Document #: 2212241
Date: 04/11/2016

TABLE 1
GROUNDWATER ANALYTICAL RESULTS
RILEY 1 REMEDIATION
CAERUS PICEANCE LLC
PICEANCE BASIN, COLORADO

Sample ID	Date Sampled	Laboratory Analytical Results					
		Benzene	Toluene	Ethyl-benzene	Total Xylenes	TPH GRO	TPH DRO
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
COGCC - Groundwater Standards		0.005	0.56	0.7	1.4	NA	NA
SB01	2/18/2010	**0.00509**	ND	0.00165	0.00205	NS	NS
	4/19/2010	**0.0109**	0.0119	0.00076	0.0116	NS	NS
	9/22/2010	dry	dry	dry	dry	dry	dry
	12/10/2010	dry	dry	dry	dry	dry	dry
	4/18/2011	ND	ND	ND	ND	ND	ND
	6/22/2011	ND	ND	ND	ND	ND	0.100
	9/29/2011	dry	dry	dry	dry	dry	dry
	12/16/2011	dry	dry	dry	dry	dry	dry
SB02	2/18/2010	ND	ND	ND	ND	NS	NS
	9/22/2010	dry	dry	dry	dry	dry	dry
	12/10/2010	dry	dry	dry	dry	dry	dry
	4/18/2011	ND	ND	ND	ND	ND	ND
	6/22/2011	ND	ND	ND	ND	ND	ND
	9/29/2011	ND	ND	ND	ND	NS	NS
	12/16/2011	dry	dry	dry	dry	dry	dry
SB03	2/18/2010	ND	ND	ND	ND	NS	NS
	9/22/2010	dry	dry	dry	dry	dry	dry
	12/10/2010	dry	dry	dry	dry	dry	dry
	4/18/2011	ND	ND	ND	ND	ND	ND
Duplicate	4/18/2011	ND	ND	ND	ND	ND	0.501
	6/22/2011	ND	ND	ND	ND	ND	ND
	9/29/2011	ND	ND	ND	ND	NS	NS
	12/16/2011	frozen	frozen	frozen	frozen	frozen	frozen
SB04	2/18/2010	0.00174	ND	0.00329	0.0104	NS	NS
	9/22/2010	dry	dry	dry	dry	dry	dry
	12/10/2010	dry	dry	dry	dry	dry	dry
	4/18/2011	ND	ND	ND	ND	ND	ND
	6/22/2011	ND	ND	ND	ND	ND	0.309
	9/29/2011	dry	dry	dry	dry	dry	dry
	12/16/2011	0.00054 J	0.0021	ND	ND	0.146	ND

NOTES:
mg/L = milligrams per liter
BOLD = Exceeds COGCC Table 910-1 Concentration Level
COGCC = Colorado Oil and Gas Conservation Commission
J - indicates an estimated value
NA - COGCC does not have a standard
ND - analyte not detected above laboratory reporting limit
NS = not sampled
TPH GRO = total petroleum hydrocarbons gasoline range organics
TPH DRO = total petroleum hydrocarbons diesel range organics

ORIGINS LABORATORY, INC

3/16/2010

LT Environmental, Inc.
Asher Weinberg
4600 West 60th Avenue
Arvada CO 80003

Project Name- PDCW - Riley #1 Investigation Project Number- PDCW0927

Attached are your analytical results for PDCW - Riley #1 Investigation received by Origins Laboratory, Inc. February 19, 2010 10:47 am. This project is associated with Origins project number X002074-01 .

The analytical results in the following report were analyzed under the guidelines of EPA Methods specified in SW-846. The analytical results apply specifically to the samples and analyses specified per the attached Chain of Custody.

Thank you for selecting Origins for your analyical needs. Please contact us with any questions concerning this report, or if we can help with anything at all.

Origins Laboratory, Inc.
303.433.1322
o-squad@oelabinc.com

1725 Elk Place, Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SB01 14-16'	X002074-01	Soil	2/16/2010 2:00:00PM	02/19/2010 10:47
SB01 19-21'	X002074-02	Soil	2/16/2010 2:10:00PM	02/19/2010 10:47
SB01 24-26'	X002074-03	Soil	2/16/2010 2:20:00PM	02/19/2010 10:47
SB01 29-31'	X002074-04	Soil	2/16/2010 2:30:00PM	02/19/2010 10:47
SB02 24-26'	X002074-05	Soil	2/16/2010 4:35:00PM	02/19/2010 10:47
SB03 28-30'	X002074-06	Soil	2/17/2010 9:55:00AM	02/19/2010 10:47
SB04 24-26'	X002074-07	Soil	2/17/2010 2:30:00PM	02/19/2010 10:47
SB05 24-26'	X002074-08	Soil	2/18/2010 10:45:00AM	02/19/2010 10:47
SB06 4-6'	X002074-09	Soil	2/18/2010 11:10:00AM	02/19/2010 10:47
SB06 10-12'	X002074-10	Soil	2/18/2010 11:25:00AM	02/19/2010 10:47
SB06 14-16'	X002074-11	Soil	2/18/2010 11:35:00AM	02/19/2010 10:47
SB06 18-20'	X002074-12	Soil	2/18/2010 11:45:00AM	02/19/2010 10:47
SB06 24-26'	X002074-13	Soil	2/18/2010 12:00:00PM	02/19/2010 10:47
SB06 28-30'	X002074-14	Soil	2/18/2010 12:10:00PM	02/19/2010 10:47
SB07 28-30'	X002074-15	Soil	2/18/2010 12:45:00PM	02/19/2010 10:47
SB01	X002074-16	Water	2/18/2010 2:00:00PM	02/19/2010 10:47
SB02	X002074-17	Water	2/18/2010 2:15:00PM	02/19/2010 10:47

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

CROSS REFERENCE REPORT

Sample ID	Laboratory ID	Matrix	Sampled	Date Received
SB03	X002074-18	Water	2/18/2010 2:30:00PM	02/19/2010 10:47
SB04	X002074-19	Water	2/18/2010 2:50:00PM	02/19/2010 10:47

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

ORIGINS LABORATORY, INC

www.originslaboratory.com

X002074 page 1 of 2

Client: LT Environmental
Address: 4600 W. 60th Ave. Arvada, CO.
Telephone Number: 303-433-9788
Email Address: aweinberg@ltenv.com

Project Manager: Asher Weinberg
Project Name: PDC Riley #1
Project Number: PDCW0927
Samples Collected By: Mike Unger

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative: Unpreserved	HCl	HNO_3	Other	Matrix: Groundwater	Soil	Air Summa Canister #	Other	Analysis: BTEX 8260B	PAHs 8270C SIM	TPH GRO 8015	TPHDRO 8015	Sample Instructions
SB01 14-16'	2-16-10	1400	3						X			X	X	X	X	1
SB01 19-21'	2-16-10	1410	3						X			X	X	X	X	2
SB01 24-26'	2-16-10	1420	3						X			X	X	X	X	3
SB01 29-31'	2-16-10	1430	3						X			X	X	X	X	4
SB02 24-26'	2-16-10	1635	3						X			X	X	X	X	5
SB03 28-30	2-17-10	0955	3						X			X	X	X	X	6
SB04 24-26'	2-17-10	1430	3						X			X	X	X	X	7
SB05 24-26'	2-18-10	1045	2						X			X	X	X	X	8
SB06 4-6'	2-18-10	1110	2						X			X	X	X	X	9
SB06 10-12'	2-18-10	1125	2						X			X	X	X	X	10

Relinquished By: Mike Unger — Date: 2-19-10 — Time: 1400 — Received By: [signature] — Date: — Time:

Relinquished By: — Date: — Time: — Received By: [signature] — Date: 2-19-10 — Time: 1400

Turnaround Time: Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☒

Date Results Needed:

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

ORIGINS LABORATORY, INC
www.originslaboratory.com
X002074 page 2 of 2

Client: LT Environmental
Address: 4600 W. 60th Ave. Arvada, CO.
Telephone Number: 303-433-9788
Email Address: aweinberg@ltenv.com

Project Manager: Asher Weinberg
Project Name: PDC Riley #1
Project Number: PDCW0927
Samples Collected By: Mike Unger

Sample ID Description	Date Sampled	Time Sampled	# of Containers	Preservative: Unpreserved	HCl	HNO_3	Other	Matrix: Groundwater	Soil	Air Summa Canister #	Other	Analysis: BTEX 8260	PAHs 8270 SIM	TPH GRO 8015	TPH DRO 8015	Sample Instructions
SB01 14-16'	2-18-10	1135	2						X			X	X	X	X	1
SB02 18-20'	2-18-10	1145	2						X			X	X	X	X	2
SB03 24-26'	2-18-10	1200	2						X			X	X	X	X	3
SB04 28-30'	2-18-10	1210	2						X			X	X	X	X	4
SB07 28-30'	2-18-10	1245	2						X			X	X	X	X	5
SB01	2-18-10	1400	4	X	X			X				X			X	6
SB02	2-18-10	1415	4	X	X			X				X			X	7
SB03	2-18-10	1430	4	X	X			X				X			X	8
SB04	2-18-10	1450	4	X	X			X				X			X	9
																10

Relinquished By: Mike Unger — Date: 2-19-10 — Time: 1617
Received By: [illegible] — Date: [illegible] — Time: [illegible]
Relinquished By: — Date: — Time:
Received By: — Date: 2/19/10 — Time: 1617

Turnaround Time: Same Day ☐ 24 Hr ☐ 48 Hr ☐ 72 Hr ☐ Standard ☒

Date Results Needed:

1725 Elk Place | Denver, CO 80211 | Phone: 303.433.1322 | Fax: 303.265.9645

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 14-16'

2/16/2010 2:00:00PM

Origins Laboratory, Inc.

X002074-01 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	ND	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/23/2010	
Toluene	0.00080	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	ND	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.0125	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.0190	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*97.8 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*99.6 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*112 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	63.0	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*97.2 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	18	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 14-16'

2/16/2010 2:00:00PM

GENAPURE

X002074-01 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Fluorene	ND	0.028	0.122	mg/kg	1	796254	03/02/2010	03/03/2010	
Benzo(k)fluoranthene	ND	0.04	0.122	"	"	"	"	"	
Chrysene	ND	0.028	0.122	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.033	0.081	"	"	"	"	"	
Fluoranthene	ND	0.046	0.122	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.042	0.122	"	"	"	"	"	
Naphthalene	ND	0.026	0.122	"	"	"	"	"	
Benzo(a)pyrene	ND	0.031	0.081	"	"	"	"	"	
Benzo(a)anthracene	ND	0.034	0.122	"	"	"	"	"	
Pyrene	ND	0.04	0.122	"	"	"	"	"	
Acenaphthene	ND	0.027	0.122	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.024	0.122	"	"	"	"	"	
Anthracene	ND	0.043	0.122	"	"	"	"	"	
Surrogate: Nitrobenzene-d5	*95 %*		*46-137*			"	"	"	
Surrogate: Terphenyl-D14	*102 %*		*43-124*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 19-21'

2/16/2010 2:10:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
X002074-02 (Soil)									
BTEX by EPA 8260B									
Benzene	0.0892	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.250	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	ND	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.0766	0.00034	0.00400	"	"	"	"	"	
m.p-Xylene	0.412	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*102 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*97.1 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	471	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	119	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*108 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	12.4	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 19-21'

2/16/2010 2:10:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
GENAPURE									
X002074-02 (Soil)									
Polyaromatic Hydrocarbons (PAHs) by SW8270C									
Fluorene	ND	0.026	0.114	mg/kg	1	795920	02/25/2010	02/27/2010	
Pyrene	ND	0.038	0.114	"	"	"	"	"	
Naphthalene	ND	0.024	0.114	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.039	0.114	"	"	"	"	"	
Fluoranthene	ND	0.043	0.114	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.031	0.075	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.038	0.114	"	"	"	"	"	
Benzo(a)pyrene	ND	0.029	0.075	"	"	"	"	"	
Benzo(a)anthracene	ND	0.032	0.114	"	"	"	"	"	
Acenaphthene	ND	0.025	0.114	"	"	"	"	"	
Chrysene	ND	0.026	0.114	"	"	"	"	"	
Anthracene	ND	0.04	0.114	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.023	0.114	"	"	"	"	"	
Surrogate: Nitrobenzene-d5	*84 %*		*46-137*			"	"	"	
Surrogate: Terphenyl-D14	*97 %*		*43-124*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 24-26'

2/16/2010 2:20:00PM

Origins Laboratory, Inc.

X002074-03 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.00188	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.00180	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	0.00060	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00316	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.00504	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*102 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*113 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	58.0	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*109 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	14.9	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 24-26'

2/16/2010 2:20:00PM

GENAPURE

X002074-03 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Pyrene	ND	0.039	0.117	mg/kg	1	795920	02/25/2010	02/27/2010	
Anthracene	ND	0.041	0.117	"	"	"	"	"	
Benzo(a)anthracene	ND	0.033	0.117	"	"	"	"	"	
Benzo(a)pyrene	ND	0.029	0.077	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.023	0.117	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.039	0.117	"	"	"	"	"	
Chrysene	ND	0.027	0.117	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.032	0.077	"	"	"	"	"	
Fluoranthene	ND	0.045	0.117	"	"	"	"	"	
Fluorene	ND	0.027	0.117	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.04	0.117	"	"	"	"	"	
Acenaphthene	ND	0.026	0.117	"	"	"	"	"	
Naphthalene	0.063	0.025	0.117	"	"	"	"	"	I
Surrogate: Terphenyl-D14	*101 %*		*43-124*			"	"	"	
Surrogate: Nitrobenzene-d5	*92 %*		*46-137*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 29-31'

2/16/2010 2:30:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
X002074-04 (Soil)									
BTEX by EPA 8260B									
Benzene	0.00744	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.0181	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	0.00584	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00476	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.0497	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*98.3 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*105 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*107 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	44.7	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*105 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	19.6	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01 29-31'

2/16/2010 2:30:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
GENAPURE									
X002074-04 (Soil)									
Polyaromatic Hydrocarbons (PAHs) by SW8270C									
Indeno(1,2,3-c,d)Pyrene	ND	0.042	0.124	mg/kg	1	795920	02/25/2010	03/01/2010	
Anthracene	ND	0.044	0.124	"	"	"	"	"	
Benzo(a)anthracene	ND	0.035	0.124	"	"	"	"	"	
Benzo(a)pyrene	ND	0.031	0.082	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.025	0.124	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.041	0.124	"	"	"	"	"	
Chrysene	ND	0.029	0.124	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.034	0.082	"	"	"	"	"	
Fluorene	ND	0.029	0.124	"	"	"	"	"	
Naphthalene	ND	0.026	0.124	"	"	"	"	"	
Pyrene	ND	0.041	0.124	"	"	"	"	"	
Acenaphthene	ND	0.027	0.124	"	"	"	"	"	
Fluoranthene	ND	0.047	0.124	"	"	"	"	"	
Surrogate: Terphenyl-D14	*102 %*		*43-124*			"	"	"	
Surrogate: Nitrobenzene-d5	*87 %*		*46-137*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB02 24-26'

2/16/2010 4:35:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
X002074-05 (Soil)									
BTEX by EPA 8260B									
Benzene	0.00140	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.00404	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	0.00076	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00088	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.00256	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*104 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*113 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	ND	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*105 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	19.6	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB02 24-26'

2/16/2010 4:35:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
GENAPURE									
X002074-05 (Soil)									
Polyaromatic Hydrocarbons (PAHs) by SW8270C									
Fluoranthene	ND	0.047	0.124	mg/kg	1	795920	02/25/2010	02/27/2010	
Anthracene	ND	0.044	0.124	"	"	"	"	"	
Benzo(a)anthracene	ND	0.035	0.124	"	"	"	"	"	
Benzo(a)pyrene	ND	0.031	0.082	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.025	0.124	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.041	0.124	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.034	0.082	"	"	"	"	"	
Fluorene	ND	0.029	0.124	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.042	0.124	"	"	"	"	"	
Naphthalene	ND	0.026	0.124	"	"	"	"	"	
Pyrene	ND	0.041	0.124	"	"	"	"	"	
Acenaphthene	ND	0.027	0.124	"	"	"	"	"	
Chrysene	ND	0.029	0.124	"	"	"	"	"	
Surrogate: Terphenyl-D14	*111 %*		*43-124*			"	"	"	
Surrogate: Nitrobenzene-d5	*99 %*		*46-137*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB03 28-30'

2/17/2010 9:55:00AM

Origins Laboratory, Inc.

X002074-06 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.0115	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.0122	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	0.0162	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00332	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.0919	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*101 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*103 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*112 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	ND	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*98.6 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	19.8	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB03 28-30'

2/17/2010 9:55:00AM

GENAPURE

X002074-06 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Fluoranthene	ND	0.047	0.125	mg/kg	1	795920	02/25/2010	02/27/2010	
Acenaphthene	ND	0.027	0.125	"	"	"	"	"	
Anthracene	ND	0.044	0.125	"	"	"	"	"	
Benzo(a)anthracene	ND	0.035	0.125	"	"	"	"	"	
Benzo(a)pyrene	ND	0.031	0.082	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.025	0.125	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.034	0.082	"	"	"	"	"	
Fluorene	ND	0.029	0.125	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.042	0.125	"	"	"	"	"	
Naphthalene	ND	0.026	0.125	"	"	"	"	"	
Pyrene	ND	0.041	0.125	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.041	0.125	"	"	"	"	"	
Chrysene	ND	0.029	0.125	"	"	"	"	"	
Surrogate: Terphenyl-D14	*98 %*		*43-124*			"	"	"	
Surrogate: Nitrobenzene-d5	*90 %*		*46-137*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB04 24-26'

2/17/2010 2:30:00PM

Origins Laboratory, Inc.

X002074-07 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.0157	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.0186	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	0.0225	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00448	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.129	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*102 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*111 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	42.4	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*101 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	16.2	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB04 24-26'

2/17/2010 2:30:00PM

GENAPURE

X002074-07 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Naphthalene	0.031	0.025	0.119	mg/kg	1	795920	02/25/2010	03/01/2010	I
Indeno(1,2,3-c,d)Pyrene	ND	0.041	0.119	"	"	"	"	"	
Acenaphthene	ND	0.026	0.119	"	"	"	"	"	
Anthracene	ND	0.042	0.119	"	"	"	"	"	
Benzo(a)anthracene	ND	0.033	0.119	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.024	0.119	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.039	0.119	"	"	"	"	"	
Chrysene	ND	0.027	0.119	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.032	0.079	"	"	"	"	"	
Fluorene	ND	0.027	0.119	"	"	"	"	"	
Pyrene	ND	0.039	0.119	"	"	"	"	"	
Fluoranthene	ND	0.045	0.119	"	"	"	"	"	
Benzo(a)pyrene	ND	0.03	0.079	"	"	"	"	"	
Surrogate: Nitrobenzene-d5	*87 %*		*46-137*			"	"	"	
Surrogate: Terphenyl-D14	*106 %*		*43-124*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB05 24-26'

2/18/2010 10:45:00AM

Origins Laboratory, Inc.

X002074-08 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	ND	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	ND	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	ND	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00048	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	ND	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*104 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*112 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	42.8	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*99.3 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	21	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB05 24-26'

2/18/2010 10:45:00AM

GENAPURE

X002074-08 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Naphthalene	ND	0.027	0.126	mg/kg	1	795920	02/25/2010	03/01/2010	
Indeno(1,2,3-c,d)Pyrene	ND	0.043	0.126	"	"	"	"	"	
Pyrene	ND	0.042	0.126	"	"	"	"	"	
Fluorene	ND	0.029	0.126	"	"	"	"	"	
Anthracene	ND	0.044	0.126	"	"	"	"	"	
Fluoranthene	ND	0.048	0.126	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.025	0.126	"	"	"	"	"	
Acenaphthene	ND	0.028	0.126	"	"	"	"	"	
Chrysene	ND	0.029	0.126	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.034	0.083	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.042	0.126	"	"	"	"	"	
Benzo(a)anthracene	ND	0.035	0.126	"	"	"	"	"	
Benzo(a)pyrene	ND	0.032	0.083	"	"	"	"	"	
Surrogate: Nitrobenzene-d5	*92 %*		*46-137*			"	"	"	
Surrogate: Terphenyl-D14	*104 %*		*43-124*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 4-6'

2/18/2010 11:10:00AM

Origins Laboratory, Inc.

X002074-09 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.298	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	5.39	0.00538	0.0500	"	12.5	"	"	02/26/2010	
Ethylbenzene	0.367	0.00033	0.00400	"	1	"	"	02/24/2010	
o-Xylene	18.6	0.0170	0.200	"	50	"	"	02/26/2010	
m,p-Xylene	90.7	0.0365	0.400	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*98.4 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*96.4 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*114 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	758	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	277	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*98.9 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	16.3	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 4-6'

2/18/2010 11:10:00AM

GENAPURE

X002074-09 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Pyrene	ND	0.039	0.119	mg/kg	1	795920	02/25/2010	03/01/2010	
Benzo(a)anthracene	ND	0.033	0.119	"	"	"	"	"	
Anthracene	0.069	0.042	0.119	"	"	"	"	"	I
Acenaphthene	ND	0.026	0.119	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.024	0.119	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.039	0.119	"	"	"	"	"	
Chrysene	ND	0.028	0.119	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.032	0.079	"	"	"	"	"	
Fluorene	0.088	0.028	0.119	"	"	"	"	"	I
Indeno(1,2,3-c,d)Pyrene	ND	0.041	0.119	"	"	"	"	"	
Fluoranthene	ND	0.045	0.119	"	"	"	"	"	
Benzo(a)pyrene	ND	0.03	0.079	"	"	"	"	"	
Naphthalene	1.95	0.025	0.119	"	"	"	"	"	

Surrogate: Terphenyl-D14	*110 %*	*43-124*	"	"	"
Surrogate: Nitrobenzene-d5	*92 %*	*46-137*	"	"	"

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 10-12'

2/18/2010 11:25:00AM

Origins Laboratory, Inc.

X002074-10 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.136	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	2.57	0.00538	0.0500	"	12.5	"	"	02/26/2010	
Ethylbenzene	6.52	0.0165	0.200	"	50	"	"	02/24/2010	
o-Xylene	28.5	0.0170	0.200	"	"	"	"	02/26/2010	
m,p-Xylene	95.7	0.0365	0.400	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*98.6 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*91.1 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*125 %*		*74.7-123*			"	"	"	*S-04*
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	1670	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	615	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*106 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	21	1	1	%	1	794849	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 10-12'

2/18/2010 11:25:00AM

GENAPURE

X002074-10 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Chrysene	ND	0.029	0.126	mg/kg	1	795920	02/25/2010	03/01/2010	
Anthracene	ND	0.044	0.126	"	"	"	"	"	
Benzo(a)anthracene	ND	0.035	0.126	"	"	"	"	"	
Benzo(a)pyrene	ND	0.032	0.083	"	"	"	"	"	
Acenaphthene	ND	0.028	0.126	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.042	0.126	"	"	"	"	"	
Pyrene	ND	0.042	0.126	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.034	0.083	"	"	"	"	"	
Fluoranthene	ND	0.048	0.126	"	"	"	"	"	
Fluorene	0.088	0.029	0.126	"	"	"	"	"	I
Indeno(1,2,3-c,d)Pyrene	ND	0.043	0.126	"	"	"	"	"	
Naphthalene	1.79	0.027	0.126	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.025	0.126	"	"	"	"	"	

Surrogate: Terphenyl-D14	*106 %*	*43-124*	"	"	"
Surrogate: Nitrobenzene-d5	*102 %*	*46-137*	"	"	"

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 14-16'

2/18/2010 11:35:00AM

Origins Laboratory, Inc.

X002074-11 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.220	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	3.78	0.00538	0.0500	"	12.5	"	"	02/26/2010	
Ethylbenzene	2.23	0.00412	0.0500	"	"	"	"	02/24/2010	
o-Xylene	20.1	0.0170	0.200	"	50	"	"	02/26/2010	
m,p-Xylene	88.7	0.0365	0.400	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*97.9 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*94.9 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*121 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	1270	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	474	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*100 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	19.7	1	1	%	1	794845	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 14-16'

2/18/2010 11:35:00AM

GENAPURE

X002074-11 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Naphthalene	2.03	0.026	0.124	mg/kg	1	795920	02/25/2010	03/01/2010	
Acenaphthene	ND	0.027	0.124	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.042	0.124	"	"	"	"	"	
Fluorene	0.083	0.029	0.124	"	"	"	"	"	I
Pyrene	ND	0.041	0.124	"	"	"	"	"	
Fluoranthene	ND	0.047	0.124	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.034	0.082	"	"	"	"	"	
Chrysene	ND	0.029	0.124	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.041	0.124	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.025	0.124	"	"	"	"	"	
Benzo(a)pyrene	ND	0.031	0.082	"	"	"	"	"	
Anthracene	0.044	0.044	0.124	"	"	"	"	"	I
Benzo(a)anthracene	ND	0.035	0.124	"	"	"	"	"	

Surrogate: Terphenyl-D14	*99 %*	*43-124*	"	"	"
Surrogate: Nitrobenzene-d5	*96 %*	*46-137*	"	"	"

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 18-20'

2/18/2010 11:45:00AM

Origins Laboratory, Inc.

X002074-12 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.00336	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.0136	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	ND	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.0582	0.00034	0.00400	"	"	"	"	"	
m.p-Xylene	0.140	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*107 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*94.8 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*105 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	66.7	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*103 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	14	1	1	%	1	794845	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 18-20'

2/18/2010 11:45:00AM

GENAPURE

X002074-12 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Indeno(1,2,3-c,d)Pyrene	ND	0.04	0.116	mg/kg	1	795920	02/25/2010	03/01/2010	
Naphthalene	ND	0.024	0.116	"	"	"	"	"	
Acenaphthene	ND	0.026	0.116	"	"	"	"	"	
Fluoranthene	ND	0.044	0.116	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.031	0.077	"	"	"	"	"	
Fluorene	ND	0.027	0.116	"	"	"	"	"	
Anthracene	ND	0.041	0.116	"	"	"	"	"	
Benzo(a)anthracene	ND	0.033	0.116	"	"	"	"	"	
Benzo(a)pyrene	ND	0.029	0.077	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.023	0.116	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.038	0.116	"	"	"	"	"	
Chrysene	ND	0.027	0.116	"	"	"	"	"	
Pyrene	ND	0.038	0.116	"	"	"	"	"	
Surrogate: Terphenyl-D14	*100 %*		*43-124*			"	"	"	
Surrogate: Nitrobenzene-d5	*84 %*		*46-137*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 24-26'

2/18/2010 12:00:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
X002074-13 (Soil)									
BTEX by EPA 8260B									
Benzene	0.00080	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.00236	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	0.00128	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.0185	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.0115	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*102 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*96.5 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*112 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	174	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*102 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	16.2	1	1	%	1	794845	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 24-26'

2/18/2010 12:00:00PM

GENAPURE

X002074-13 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Chrysene	ND	0.027	0.119	mg/kg	1	795920	02/25/2010	03/01/2010	
Acenaphthene	ND	0.026	0.119	"	"	"	"	"	
Anthracene	ND	0.042	0.119	"	"	"	"	"	
Benzo(a)anthracene	ND	0.033	0.119	"	"	"	"	"	
Benzo(a)pyrene	ND	0.03	0.079	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.024	0.119	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.039	0.119	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.032	0.079	"	"	"	"	"	
Pyrene	ND	0.039	0.119	"	"	"	"	"	
Fluorene	ND	0.027	0.119	"	"	"	"	"	
Naphthalene	ND	0.025	0.119	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.041	0.119	"	"	"	"	"	
Fluoranthene	ND	0.045	0.119	"	"	"	"	"	
Surrogate: Nitrobenzene-d5	*89 %*		*46-137*			"	"	"	
Surrogate: Terphenyl-D14	*103 %*		*43-124*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 28-30'

2/18/2010 12:10:00PM

Origins Laboratory, Inc.

X002074-14 (Soil)

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
BTEX by EPA 8260B									
Benzene	0.00208	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.00376	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	0.00104	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00340	0.00034	0.00400	"	"	"	"	"	
m,p-Xylene	0.00872	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*103 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*95.8 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*112 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	82.8	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*98.9 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	19.5	1	1	%	1	794845	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB06 28-30'

2/18/2010 12:10:00PM

GENAPURE

X002074-14 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Acenaphthene	ND	0.027	0.124	mg/kg	1	795920	02/25/2010	03/01/2010	
Pyrene	ND	0.041	0.124	"	"	"	"	"	
Fluorene	ND	0.029	0.124	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.042	0.124	"	"	"	"	"	
Benzo(a)pyrene	ND	0.031	0.082	"	"	"	"	"	
Anthracene	ND	0.043	0.124	"	"	"	"	"	
Benzo(a)anthracene	ND	0.035	0.124	"	"	"	"	"	
Fluoranthene	ND	0.047	0.124	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.034	0.082	"	"	"	"	"	
Chrysene	ND	0.029	0.124	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.041	0.124	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.025	0.124	"	"	"	"	"	
Naphthalene	ND	0.026	0.124	"	"	"	"	"	
Surrogate: Terphenyl-D14	*92 %*		*43-124*			"	"	"	
Surrogate: Nitrobenzene-d5	*77 %*		*46-137*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB07 28-30'

2/18/2010 12:45:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
X002074-15 (Soil)									
BTEX by EPA 8260B									
Benzene	0.00100	0.00041	0.00400	mg/kg	1	0B23002	02/23/2010	02/24/2010	
Toluene	0.00160	0.00043	0.00400	"	"	"	"	"	
Ethylbenzene	ND	0.00033	0.00400	"	"	"	"	"	
o-Xylene	0.00128	0.00034	0.00400	"	"	"	"	"	
m.p-Xylene	0.00380	0.00073	0.00800	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*104 %*		*77.6-134*			"	"	"	
Surrogate: Toluene-d8	*94.5 %*		*81.4-121*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*110 %*		*74.7-123*			"	"	"	
GRO/DRO by EPA 8015M									
Gasoline (C6-C10)	ND	25.0	50.0	mg/kg	1	0B22001	02/22/2010	02/23/2010	
Diesel (C10-C28)	45.6	25.0	50.0	"	"	"	"	"	
Surrogate: o-Terphenyl	*101 %*		*65-140*			"	"	"	
Percent Moisture by AD2216A									
Percent Moisture	22.9	1	1	%	1	794845	02/22/2010	02/22/2010	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB07 28-30'

2/18/2010 12:45:00PM

GENAPURE

X002074-15 (Soil)

Polyaromatic Hydrocarbons (PAHs) by SW8270C

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Fluorene	ND	0.03	0.13	mg/kg	1	795920	02/25/2010	03/01/2010	
Acenaphthene	ND	0.029	0.13	"	"	"	"	"	
Anthracene	ND	0.045	0.13	"	"	"	"	"	
Benzo(a)anthracene	ND	0.036	0.13	"	"	"	"	"	
Benzo(a)pyrene	ND	0.032	0.086	"	"	"	"	"	
Benzo(b)fluoranthene	ND	0.026	0.13	"	"	"	"	"	
Benzo(k)fluoranthene	ND	0.043	0.13	"	"	"	"	"	
Chrysene	ND	0.03	0.13	"	"	"	"	"	
Fluoranthene	ND	0.049	0.13	"	"	"	"	"	
Indeno(1,2,3-c,d)Pyrene	ND	0.044	0.13	"	"	"	"	"	
Naphthalene	ND	0.027	0.13	"	"	"	"	"	
Pyrene	ND	0.043	0.13	"	"	"	"	"	
Dibenz(a,h)Anthracene	ND	0.035	0.086	"	"	"	"	"	
Surrogate: Nitrobenzene-d5	*87 %*		*46-137*			"	"	"	
Surrogate: Terphenyl-D14	*101 %*		*43-124*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB01

2/18/2010 2:00:00PM

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Origins Laboratory, Inc.									
X002074-16 (Water)									
BTEX by EPA 8260B									
Benzene	5.09	0.41	1.00	ug/L	1	0B23004	02/23/2010	02/23/2010	
Toluene	ND	0.43	1.00	"	"	"	"	"	
Ethylbenzene	1.65	0.33	1.00	"	"	"	"	"	
o-Xylene	ND	0.34	1.00	"	"	"	"	"	
m,p-Xylene	2.05	0.73	2.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*108 %*		*73.5-130*			"	"	"	
Surrogate: Toluene-d8	*88.7 %*		*79.3-113*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*97.8 %*		*81.5-117*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB02

2/18/2010 2:15:00PM

Origins Laboratory, Inc.

X002074-17 (Water)

BTEX by EPA 8260B

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Benzene	ND	0.41	1.00	ug/L	1	0B23004	02/23/2010	02/23/2010	
Toluene	ND	0.43	1.00	"	"	"	"	"	
Ethylbenzene	ND	0.33	1.00	"	"	"	"	"	
o-Xylene	ND	0.34	1.00	"	"	"	"	"	
m,p-Xylene	ND	0.73	2.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*73.5-130*			"	"	"	
Surrogate: Toluene-d8	*88.8 %*		*79.3-113*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*97.7 %*		*81.5-117*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB03

2/18/2010 2:30:00PM

Origins Laboratory, Inc.

X002074-18 (Water)

BTEX by EPA 8260B

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Benzene	ND	0.41	1.00	ug/L	1	0B23004	02/23/2010	02/23/2010	
Toluene	ND	0.43	1.00	"	"	"	"	"	
Ethylbenzene	ND	0.33	1.00	"	"	"	"	"	
o-Xylene	ND	0.34	1.00	"	"	"	"	"	
m,p-Xylene	ND	0.73	2.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*110 %*		*73.5-130*			"	"	"	
Surrogate: Toluene-d8	*88.4 %*		*79.3-113*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.4 %*		*81.5-117*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

SB04

2/18/2010 2:50:00PM

Origins Laboratory, Inc.

X002074-19 (Water)

BTEX by EPA 8260B

Analyte	Result	Minimum Detection Limit	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Notes
Benzene	1.74	0.41	1.00	ug/L	1	0B23004	02/23/2010	02/23/2010	
Toluene	ND	0.43	1.00	"	"	"	"	"	
Ethylbenzene	3.29	0.33	1.00	"	"	"	"	"	
o-Xylene	ND	0.34	1.00	"	"	"	"	"	
m,p-Xylene	10.4	0.73	2.00	"	"	"	"	"	
Surrogate: 1,2-Dichloroethane-d4	*109 %*		*73.5-130*			"	"	"	
Surrogate: Toluene-d8	*83.9 %*		*79.3-113*			"	"	"	
Surrogate: 4-Bromofluorobenzene	*95.5 %*		*81.5-117*			"	"	"	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch OB22001 - Default Prep GC-Semi										
Blank (OB22001-BLK1)				Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg							
Diesel (C10-C28)	ND	50.0	"							
Surrogate: o-Terphenyl	*48.8*		*g*	*50.0*		*97.6*	*65-140*			
Blank (OB22001-BLK2)				Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg							
Diesel (C10-C28)	ND	50.0	"							
Surrogate: o-Terphenyl	*48.0*		*g*	*50.0*		*95.9*	*65-140*			
LCS (OB22001-BS1)				Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg				65-140			
Diesel (C10-C28)	487	50.0	"	500		97.4	60-140			
Surrogate: o-Terphenyl	*53.0*		*g*	*50.0*		*106*	*65-140*			
LCS (OB22001-BS2)				Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg				65-140			
Diesel (C10-C28)	465	50.0	"	500		93.0	60-140			
Surrogate: o-Terphenyl	*52.3*		*g*	*50.0*		*105*	*65-140*			
Matrix Spike (OB22001-MS1)		Source: X002066-03		Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg		ND		65-130			
Diesel (C10-C28)	484	50.0	"	500	ND	96.8	60-140			
Surrogate: o-Terphenyl	*52.9*		*g*	*50.0*		*106*	*65-140*			
Matrix Spike (OB22001-MS2)		Source: X002066-04		Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg		ND		65-130			
Diesel (C10-C28)	454	50.0	"	500	ND	90.7	60-140			
Surrogate: o-Terphenyl	*51.3*		*g*	*50.0*		*103*	*65-140*			

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

Extractable Petroleum Hydrocarbons by 8015M - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch OB22001 - Default Prep GC-Semi										
Matrix Spike Dup (OB22001-MSD1)		Source: X002066-03		Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg		ND		65-130		20	
Diesel (C10-C28)	479	50.0	"	500	ND	95.7	60-140	1.15	25	
Surrogate: o-Terphenyl	*54.4*		*g*	*50.0*		*109*	*65-140*			
Matrix Spike Dup (OB22001-MSD2)		Source: X002066-04		Prepared: 02/22/2010 Analyzed: 02/22/2010						
Gasoline (C6-C10)	ND	50.0	mg/kg		ND		65-130		20	
Diesel (C10-C28)	477	50.0	"	500	ND	95.4	60-140	5.00	25	
Surrogate: o-Terphenyl	*53.1*		*g*	*50.0*		*106*	*65-140*			

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch OB23002 - EPA 5030B										
Blank (OB23002-BLK1)				Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	ND	0.004	mg/kg							
Toluene	ND	0.004	"							
Ethylbenzene	ND	0.004	"							
o-Xylene	ND	0.004	"							
m,p-Xylene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	*63.6*		*ug/L*	*62.5*		*102*	*77.6-134*			
Surrogate: Toluene-d8	*61.0*		*"*	*62.5*		*97.7*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*66.1*		*"*	*62.5*		*106*	*74.7-123*			
Blank (OB23002-BLK2)				Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	ND	0.004	mg/kg							
Toluene	ND	0.004	"							
Ethylbenzene	ND	0.004	"							
o-Xylene	ND	0.004	"							
m,p-Xylene	ND	0.008	"							
Surrogate: 1,2-Dichloroethane-d4	*63.0*		*ug/L*	*62.5*		*101*	*77.6-134*			
Surrogate: Toluene-d8	*62.7*		*"*	*62.5*		*100*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*68.1*		*"*	*62.5*		*109*	*74.7-123*			
LCS (OB23002-BS1)				Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	0.20	0.004	mg/kg	0.200		99.4	75.2-128			
Toluene	0.18	0.004	"	0.200		91.1	76.3-130			
Surrogate: 1,2-Dichloroethane-d4	*62.4*		*ug/L*	*62.5*		*99.8*	*77.6-134*			
Surrogate: Toluene-d8	*62.3*		*"*	*62.5*		*99.7*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*69.3*		*"*	*62.5*		*111*	*74.7-123*			
LCS (OB23002-BS2)				Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	0.20	0.004	mg/kg	0.200		98.3	75.2-128			

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch OB23002 - EPA 5030B										
LCS (OB23002-BS2)				Prepared: 02/23/2010 Analyzed: 02/23/2010						
Toluene	0.18	0.004	mg/kg	0.200		89.9	76.3-130			
Surrogate: 1,2-Dichloroethane-d4	*64.2*		*ug/L*	*62.5*		*103*	*77.6-134*			
Surrogate: Toluene-d8	*62.5*		*"*	*62.5*		*100*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*68.3*		*"*	*62.5*		*109*	*74.7-123*			
Matrix Spike (OB23002-MS1)		Source: X002067-01		Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	0.20	0.004	mg/kg	0.200	0.002	98.8	77.6-132			
Toluene	0.18	0.004	"	0.200	0.004	85.5	74-136			
Surrogate: 1,2-Dichloroethane-d4	*64.8*		*ug/L*	*62.5*		*104*	*77.6-134*			
Surrogate: Toluene-d8	*63.4*		*"*	*62.5*		*101*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*68.2*		*"*	*62.5*		*109*	*74.7-123*			
Matrix Spike (OB23002-MS2)		Source: X002067-03		Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	0.19	0.004	mg/kg	0.200	0.002	95.0	77.6-132			
Toluene	0.17	0.004	"	0.200	0.005	84.6	74-136			
Surrogate: 1,2-Dichloroethane-d4	*65.1*		*ug/L*	*62.5*		*104*	*77.6-134*			
Surrogate: Toluene-d8	*63.1*		*"*	*62.5*		*101*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*68.1*		*"*	*62.5*		*109*	*74.7-123*			
Matrix Spike Dup (OB23002-MSD1)		Source: X002067-01		Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	0.18	0.004	mg/kg	0.200	0.002	91.9	77.6-132	7.22	13.1	
Toluene	0.17	0.004	"	0.200	0.004	81.7	74-136	4.52	20.9	
Surrogate: 1,2-Dichloroethane-d4	*63.2*		*ug/L*	*62.5*		*101*	*77.6-134*			
Surrogate: Toluene-d8	*63.3*		*"*	*62.5*		*101*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*65.0*		*"*	*62.5*		*104*	*74.7-123*			
Matrix Spike Dup (OB23002-MSD2)		Source: X002067-03		Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	0.19	0.004	mg/kg	0.200	0.002	94.5	77.6-132	0.565	13.1	
Toluene	0.17	0.004	"	0.200	0.005	83.7	74-136	0.971	20.9	

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch OB23002 - EPA 5030B										
Matrix Spike Dup (OB23002-MSD2)		Source: X002067-03		Prepared: 02/23/2010 Analyzed: 02/23/2010						
Surrogate: 1,2-Dichloroethane-d4	*64.9*		*ug/L*	*62.5*		*104*	*77.6-134*			
Surrogate: Toluene-d8	*62.2*		*"*	*62.5*		*99.6*	*81.4-121*			
Surrogate: 4-Bromofluorobenzene	*66.4*		*"*	*62.5*		*106*	*74.7-123*			
Batch OB23004 - EPA 5030B										
Blank (OB23004-BLK1)				Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	ND	1.00	ug/L							
Toluene	ND	1.00	"							
Ethylbenzene	ND	1.00	"							
o-Xylene	ND	1.00	"							
m,p-Xylene	ND	2.00	"							
Surrogate: 1,2-Dichloroethane-d4	*65.5*		*"*	*62.5*		*105*	*73.5-130*			
Surrogate: Toluene-d8	*56.6*		*"*	*62.5*		*90.6*	*79.3-113*			
Surrogate: 4-Bromofluorobenzene	*60.8*		*"*	*62.5*		*97.2*	*81.5-117*			
LCS (OB23004-BS1)				Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	50.2	1.00	ug/L	50.0		100	77.3-128			
Toluene	46.8	1.00	"	50.0		93.5	81.7-118			
Surrogate: 1,2-Dichloroethane-d4	*64.2*		*"*	*62.5*		*103*	*73.5-130*			
Surrogate: Toluene-d8	*57.0*		*"*	*62.5*		*91.3*	*79.3-113*			
Surrogate: 4-Bromofluorobenzene	*60.8*		*"*	*62.5*		*97.2*	*81.5-117*			
Matrix Spike (OB23004-MS1)		Source: X002077-01		Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	50.9	1.00	ug/L	50.0	ND	102	74.5-132			
Toluene	45.4	1.00	"	50.0	ND	90.8	74.2-116			
Surrogate: 1,2-Dichloroethane-d4	*67.1*		*"*	*62.5*		*107*	*73.5-130*			
Surrogate: Toluene-d8	*56.7*		*"*	*62.5*		*90.7*	*79.3-113*			
Surrogate: 4-Bromofluorobenzene	*60.8*		*"*	*62.5*		*97.2*	*81.5-117*			

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

ORIGINS LABORATORY, INC

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

Volatile Organic Compounds by EPA Method 8260B - Quality Control
Origins Laboratory, Inc.

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0B23004 - EPA 5030B										
Matrix Spike Dup (0B23004-MSD1)		Source: X002077-01		Prepared: 02/23/2010 Analyzed: 02/23/2010						
Benzene	48.4	1.00	ug/L	50.0	ND	96.7	74.5-132	5.16	13.1	
Toluene	43.2	1.00	"	50.0	ND	86.4	74.2-116	4.99	21.2	
Surrogate: 1,2-Dichloroethane-d4	*66.2*		"	*62.5*		*106*	*73.5-130*			
Surrogate: Toluene-d8	*55.8*		"	*62.5*		*89.2*	*79.3-113*			
Surrogate: 4-Bromofluorobenzene	*59.8*		"	*62.5*		*95.6*	*81.5-117*			

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

LT Environmental, Inc.
4600 West 60th Avenue
Arvada CO 80003

Asher Weinberg
Project Number: PDCW0927
Project: PDCW - Riley #1 Investigation

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
I	[Undefined]
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference

Origins Laboratory, Inc.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Noelle E Doyle, Laboratory Manager

Gulf Coast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

04/27/10

Technical Report for

LT Environmental

COGCC Project

Riley #1

Accutest Job Number: T51204

Sampling Date: 04/19/10

Report to:

LT Environmental
820 Megan Ave, Unit B
Rifle, CO 81650
aweinberg@ltenv.com; jjanicek@ltenv.com

ATTN: Asher Weinberg

Total number of pages in report: **71**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Paul K Canevaro

Paul Canevaro
Laboratory Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Client Service contact: Georgia Jones 713-271-4700

Certifications: TX (T104704220-09C-TX) AR (88-0756) FL (E87628) KS (E-10366) LA (85695/04004) OK (9103) UT(7132714700)

Test results relate only to samples analyzed.

Table of Contents

-1-

Sample Summary

LT Environmental

Job No: T51204

COGCC Project
Project No: Riley #1

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
T51204-1	04/19/10	10:09	AW	04/20/10	SO	Soil	SB09 3-5'
T51204-1A	04/19/10	10:09	AW	04/20/10	SO	Soil	SB09 3-5'
T51204-2	04/19/10	10:56	AW	04/20/10	SO	Soil	SB12 4-7.5'
T51204-2A	04/19/10	10:56	AW	04/20/10	SO	Soil	SB12 4-7.5'
T51204-3	04/19/10	11:15	AW	04/20/10	AQ	Ground Water	SB01

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8260B	**Percent Solids:**	79.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z008104.D	1	04/22/10	JL	n/a	n/a	VZ2838
Run #2	Z008149.D	4	04/23/10	JL	n/a	n/a	VZ2840

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.32 g	5.0 ml	100 ul
Run #2	5.32 g	5.0 ml	100 ul

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1050	290	51	ug/kg	
108-88-3	Toluene	9130	290	69	ug/kg	
100-41-4	Ethylbenzene	3380	290	65	ug/kg	
1330-20-7	Xylene (total)	88700 [a]	3500	600	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	114%	108%	70-121%
2037-26-5	Toluene-D8	110%	117%	76-132%
460-00-4	4-Bromofluorobenzene	131%	115%	73-165%
17060-07-0	1,2-Dichloroethane-D4	99%	96%	57-122%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8270C BY SIM SW846 3550B	**Percent Solids:**	79.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	H38119.D	1	04/22/10	SC	04/21/10	OP14608	EH2039
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	8.4	1.4	ug/kg	
208-96-8	Acenaphthylene	ND	8.4	2.9	ug/kg	
120-12-7	Anthracene	ND	8.4	1.6	ug/kg	
56-55-3	Benzo(a)anthracene	ND	8.4	1.3	ug/kg	
50-32-8	Benzo(a)pyrene	ND	8.4	4.5	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	8.4	4.4	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	8.4	8.4	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	8.4	5.4	ug/kg	
218-01-9	Chrysene	ND	8.4	2.1	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	8.4	8.1	ug/kg	
206-44-0	Fluoranthene	ND	8.4	1.8	ug/kg	
86-73-7	Fluorene	ND	8.4	3.0	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	8.4	6.3	ug/kg	
90-12-0	1-Methylnaphthalene	43.7	8.4	1.5	ug/kg	
91-57-6	2-Methylnaphthalene	121	8.4	1.4	ug/kg	
91-20-3	Naphthalene	56.4	8.4	1.3	ug/kg	
85-01-8	Phenanthrene	2.9	8.4	1.2	ug/kg	J
129-00-0	Pyrene	ND	8.4	2.8	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	34% [a]		10-127%
321-60-8	2-Fluorobiphenyl	87% [a]		11-133%
1718-51-0	Terphenyl-d14	47% [a]		15-187%

(a) Recovery was adjusted for 10x spiking.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8015	**Percent Solids:**	79.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE054144.D	40	04/26/10	FI	n/a	n/a	GEE2750
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.32 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	622	290	17	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	95%		46-127%
98-08-8	aaa-Trifluorotoluene	99%		44-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	79.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC219097.D	10	04/24/10	EM	04/22/10	OP14625	GCC1092
Run #2							

	Initial Weight	Final Volume
Run #1	30.0 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	205	42	35	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% [a]		33-115%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	79.3
Project:	COGCC Project		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	7.7	0.62	mg/kg	10	04/23/10	04/26/10	ANJ	SW846 6020 [3]	SW846 3050B [6]
Barium	243	14	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Cadmium	< 0.35	0.35	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Chromium	18.9	0.70	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Copper	17.1	1.7	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Lead	15.6	0.70	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Mercury	< 0.019	0.019	mg/kg	1	04/24/10	04/24/10	TW	SW846 7471A [2]	SW846 7471A [5]
Nickel	21.6	2.8	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Selenium	< 0.70	0.70	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Silver	< 0.70	0.70	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Zinc	68.5	1.4	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA4684
(2) Instrument QC Batch: MA4685
(3) Instrument QC Batch: N:MA24181
(4) Prep QC Batch: MP11591
(5) Prep QC Batch: MP11612
(6) Prep QC Batch: N:MP52392A

(a) Elevated detection limit due to dilution required for matrix interference (indicated by failing internal standard on original analysis). Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	79.3
Project:	COGCC Project		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	2.1	2.0	mg/kg	1	04/24/10	KD	SW846 3060/7196A
Chromium, Trivalent [a]	16.8	2.7	mg/kg	1	04/24/10	KD	SW846 6010/7196A M
Solids, Percent	79.3		%	1	04/23/10	MR	SM 2540 G
Specific Conductivity	189	1.0	umhos/cm	1	04/23/10	MC	EPA 120.1
pH	7.85		su	1	04/21/10 18:15	CN	SW846 9045C

(a) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1A	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	79.3
Project:	COGCC Project		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	120	25	mg/l	5	04/23/10	04/24/10	NS	SW846 6010B [1]	LADNR 29B [2]
Magnesium	43.2	25	mg/l	5	04/23/10	04/24/10	NS	SW846 6010B [1]	LADNR 29B [2]
Sodium	210	25	mg/l	5	04/23/10	04/24/10	NS	SW846 6010B [1]	LADNR 29B [2]

(1) Instrument QC Batch: MA4686
(2) Prep QC Batch: MP11601

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB09 3-5'		
Lab Sample ID:	T51204-1A	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	79.3
Project:	COGCC Project		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	4.18		ratio	1	04/24/10 11:25	NS	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8260B	**Percent Solids:**	80.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Z008150.D	40	04/23/10	JL	n/a	n/a	VZ2840
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.34 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	16.0	11	2.0	mg/kg	
108-88-3	Toluene	312	11	2.7	mg/kg	
100-41-4	Ethylbenzene	55.6	11	2.5	mg/kg	
1330-20-7	Xylene (total)	1100	34	5.9	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		70-121%
2037-26-5	Toluene-D8	116%		76-132%
460-00-4	4-Bromofluorobenzene	113%		73-165%
17060-07-0	1,2-Dichloroethane-D4	94%		57-122%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8270C BY SIM SW846 3550B	**Percent Solids:**	80.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	H38146.D	1	04/23/10	SC	04/21/10	OP14608	EH2040
Run #2 [a]	H38145.D	20	04/23/10	SC	04/21/10	OP14608	EH2040

	Initial Weight	Final Volume
Run #1	30.5 g	1.0 ml
Run #2	30.5 g	1.0 ml

BN PAH List

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	1.87 [b]	0.16	0.027	mg/kg	
208-96-8	Acenaphthylene	ND	0.0082	0.0029	mg/kg	
120-12-7	Anthracene	ND	0.0082	0.0016	mg/kg	
56-55-3	Benzo(a)anthracene	0.0055	0.0082	0.0013	mg/kg	J
50-32-8	Benzo(a)pyrene	ND	0.0082	0.0044	mg/kg	
205-99-2	Benzo(b)fluoranthene	ND	0.0082	0.0043	mg/kg	
191-24-2	Benzo(g,h,i)perylene	ND	0.0082	0.0082	mg/kg	
207-08-9	Benzo(k)fluoranthene	ND	0.0082	0.0053	mg/kg	
218-01-9	Chrysene	ND	0.0082	0.0020	mg/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	0.0082	0.0079	mg/kg	
206-44-0	Fluoranthene	0.0102	0.0082	0.0018	mg/kg	
86-73-7	Fluorene	2.15 [b]	0.16	0.058	mg/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	0.0082	0.0061	mg/kg	
90-12-0	1-Methylnaphthalene	2.99 [b]	0.16	0.030	mg/kg	
91-57-6	2-Methylnaphthalene	1.29 [b]	0.16	0.028	mg/kg	
91-20-3	Naphthalene	2.27 [b]	0.16	0.025	mg/kg	
85-01-8	Phenanthrene	0.371	0.0082	0.0011	mg/kg	
129-00-0	Pyrene	0.0110	0.0082	0.0028	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-60-0	Nitrobenzene-d5	16% [c]	43% [c]	10-127%
321-60-8	2-Fluorobiphenyl	34% [c]	207% [d]	11-133%
1718-51-0	Terphenyl-d14	54% [c]	50% [c]	15-187%

(a) Internal standards are not within the advisory limits due to a matrix interference. Confirmed by reanalysis.
(b) Result is from Run# 2
(c) Recovery was adjusted for 10x spiking.
(d) Recovery was adjusted for 10x spiking. Outside of control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8015	**Percent Solids:**	80.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	EE054145.D	200	04/26/10	FI	n/a	n/a	GEE2750
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.34 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	8240	1400	85	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	109%		46-127%
98-08-8	aaa-Trifluorotoluene	102%		44-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
Method:	SW846 8015 M SW846 3550B	**Percent Solids:**	80.3
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CC219151.D	20	04/26/10	EM	04/22/10	OP14625	GCC1092
Run #2							

	Initial Weight	Final Volume
Run #1	30.3 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	5580	82	68	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	0% [a]		33-115%

(a) Outside control limits due to dilution.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	80.3
Project:	COGCC Project		

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic [a]	6.4	0.60	mg/kg	10	04/23/10	04/26/10	ANJ	SW846 6020 [3]	SW846 3050B [6]
Barium	235	15	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Cadmium	< 0.38	0.38	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Chromium	18.1	0.75	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Copper	15.5	1.9	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Lead	13.3	0.75	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Mercury	0.021	0.020	mg/kg	1	04/24/10	04/24/10	TW	SW846 7471A [2]	SW846 7471A [5]
Nickel	18.3	3.0	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Selenium	< 0.75	0.75	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Silver	< 0.75	0.75	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]
Zinc	65.5	1.5	mg/kg	1	04/22/10	04/23/10	NS	SW846 6010B [1]	SW846 3050B [4]

(1) Instrument QC Batch: MA4684
(2) Instrument QC Batch: MA4685
(3) Instrument QC Batch: N:MA24181
(4) Prep QC Batch: MP11591
(5) Prep QC Batch: MP11612
(6) Prep QC Batch: N:MP52392A

(a) Elevated detection limit due to dilution required for matrix interference (indicated by failing internal standard on original analysis). Analysis performed at Accutest Laboratories, Dayton, NJ.

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	80.3
Project:	COGCC Project		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	2.0	2.0	mg/kg	1	04/24/10	KD	SW846 3060/7196A
Chromium, Trivalent [a]	16.1	2.8	mg/kg	1	04/24/10	KD	SW846 6010/7196A M
Solids, Percent	80.3		%	1	04/22/10	MR	SM 2540 G
Specific Conductivity	447	1.0	umhos/cm	1	04/23/10	MC	EPA 120.1
pH	7.92		su	1	04/21/10 18:15	CN	SW846 9045C

(a) Calculated as: (Chromium) - (Chromium, Hexavalent)

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2A	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	80.3
Project:	COGCC Project		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	99.9	25	mg/l	5	04/23/10	04/24/10	NS	SW846 6010B [1]	LADNR 29B [2]
Magnesium	40.3	25	mg/l	5	04/23/10	04/24/10	NS	SW846 6010B [1]	LADNR 29B [2]
Sodium	505	25	mg/l	5	04/23/10	04/24/10	NS	SW846 6010B [1]	LADNR 29B [2]

(1) Instrument QC Batch: MA4686
(2) Prep QC Batch: MP11601

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB12 4-7.5'		
Lab Sample ID:	T51204-2A	**Date Sampled:**	04/19/10
Matrix:	SO - Soil	**Date Received:**	04/20/10
		Percent Solids:	80.3
Project:	COGCC Project		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	10.8		ratio	1	04/24/10 20:14	NS	LADNR29B

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	SB01		
Lab Sample ID:	T51204-3	**Date Sampled:**	04/19/10
Matrix:	AQ - Ground Water	**Date Received:**	04/20/10
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	COGCC Project		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	X0060524.D	1	04/23/10	JL	n/a	n/a	VX512
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	10.9	2.0	0.50	ug/l	
108-88-3	Toluene	11.9	2.0	0.43	ug/l	
100-41-4	Ethylbenzene	0.76	2.0	0.55	ug/l	J
1330-20-7	Xylene (total)	11.6	6.0	1.7	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		79-122%
17060-07-0	1,2-Dichloroethane-D4	92%		75-121%
2037-26-5	Toluene-D8	104%		87-119%
460-00-4	4-Bromofluorobenzene	101%		80-133%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

ACCUTEST

10165 Harwin, Suite 150
Houston, TX 77036
713-271-4700 fax: 713-271-4770

Accutest Job #:
Accutest Control #: T51204

Client Information

Name: LT Environmental
Address: 820 Megan Ave, Unit B
City: Rifle State: CO Zip: 81650
Report to:
Phone #: 970-285-9985

Facility Information

Project Name: Riley #1
Location:
Project No.: PDCW0927
Email: aweinberg@ltenv.com

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCl	NaOH	HNO3	H2SO4	None	8260 BTEX	TPH (GRO/DRO)	PAHs (8270 SIM)	EC	SAR	pH	COGCC Table 910-1 Metals*				
SB09 3-5'	4/19/10	10:09	AW	Soil	4					X	X	X	X	X	X	X	X				
SB12 4-7.5'	4/19/10	10:56	AW	Soil	4					X	X	X	X	X	X	X	X				
SB01	4/19/10	11:15	AW	GW	3	X					X										

Turnaround Information

- [ ] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [X] Other 7 (Days) Per Bruce Schlatter

RUSH TAT is for FAX data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [X] Other (Specify)
- [ ] Commercial "A"
- [X] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

* Metals: arsenic (EPA Method 6020), barium (EPA Metod 6010), cadmium, chromium III, chromium (VI), copper, lead , mercury, nickel, selenium, silver,zinc

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	4/19/10 12:12	1	2 FED EX	4/20/10 0915	2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applicable ☐	On Ice: X 1.0°C

T51204: Chain of Custody
Page 1 of 3

SAMPLE INSPECTION FORM

Accutest Job Number: T51204 Client: LT Environmental Date/Time Received: 4/20/10 09:15

# of Coolers Received: 1 Thermometer #: IR-1 Temperature Adjustment Factor: +0.4

Cooler Temps: #1: 1.0 #2: _____ #3: _____ #4: _____ #5: _____ #6: _____ #7: _____ #8: _____

Method of Delivery: (FEDEX) UPS Accutest Courier Greyhound Delivery Other

Airbill Numbers: _____

COOLER INFORMATION

- [ ] Custody seal missing or not intact
- [ ] Temperature criteria not met
- [ ] Wet ice received in cooler

CHAIN OF CUSTODY

- [ ] Chain of Custody not received
- [ ] Sample D/T unclear or missing
- [ ] Analyses unclear or missing
- [ ] COC not properly executed

SAMPLE INFORMATION

- [ ] Sample containers received broken
- [ ] VOC vials have headspace
- [ ] Sample labels missing or illegible
- [ ] ID on COC does not match label(s)
- [ ] D/T on COC does not match label(s)
- [ ] Sample/Bottles rcvd but no analysis on COC
- [ ] Sample listed on COC, but not received
- [ ] Bottles missing for requested analysis
- [ ] Insufficient volume for analysis
- [ ] Sample received improperly preserved

TRIP BLANK INFORMATION

- [ ] Trip Blank on COC but not received
- [ ] Trip Blank received but not on COC
- [ ] Trip Blank not intact
- [ ] Received Water Trip Blank
- [ ] Received Soil TB

Number of Encores? _____

Number of 5035 kits? _____

Number of lab-filtered metals? _____

Summary of Discrepancies:

TECHNICIAN SIGNATURE/DATE: [signature] 4/20/10

INFORMATION AND SAMPLE LABELING VERIFIED BY: [signature] 4-20-10

CORRECTIVE ACTIONS

Client Representative Notified: _____ **Date:** _____

By Accutest Representative: _____ **Via:** Phone Email

Client Instructions:

i:\mwalker\form-samplemanagement

T51204: Chain of Custody

Page 2 of 3

SAMPLE RECEIPT LOG

JOB #: T51204 DATE/TIME RECEIVED: 4/20/10 09:15

CLIENT: LT Environmental INITIALS: FF

COOLER#	SAMPLE ID	FIELD ID	DATE	MATRIX	VOL	BOTTLE #	LOCATION	PRESERV	PH
1	1	SB09 3-5'	4/19/10 1007	S	Bag	1	2-23	[✓ 1] 2 3 4 5 6 7 8	<2 >12
					4oz	2-4	"	[✓ 1] 2 3 4 5 6 7 8	<2 >12
					4oz	5	VR	[✓ 1] 2 3 4 5 6 7 8	<2 >12
	2	SB12 4-7.5'	1056		Bag	1	2-23	[✓ 1] 2 3 4 5 6 7 8	<2 >12
					4oz	2-4	"	[✓ 1] 2 3 4 5 6 7 8	<2 >12
					4oz	5	VR	[✓ 1] 2 3 4 5 6 7 8	<2 >12
	3	SB01	1115	W	40ml	1-3	VR	1 [✓ 2] 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12
								1 2 3 4 5 6 7 8	<2 >12

FF 4/20/10

PRESERVATIVES: 1: None 2: HCL 3: HNO3 4: H2SO4 5: NAOH 6: DI 7: MeOH 8: Other

LOCATION: 1: Walk-In #1 (Waters) 2: Walk-In #2 (Soils) VR: Volatile Fridge M: Metals SUB: Subcontract EF: Encore Freezer

Rev 8/13/01 ewp

T51204: Chain of Custody

Page 3 of 3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2838-MB	Z008089.D	1	04/21/10	JL	n/a	n/a	VZ2838

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.0	0.70	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	0.90	ug/kg	
108-88-3	Toluene	ND	4.0	0.95	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	107%	70-121%
2037-26-5	Toluene-D8	125%	76-132%
460-00-4	4-Bromofluorobenzene	107%	73-165%
17060-07-0	1,2-Dichloroethane-D4	97%	57-122%

Method Blank Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2840-MB	Z008139.D	1	04/23/10	JL	n/a	n/a	VZ2840

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-1, T51204-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	4.0	0.70	ug/kg	
100-41-4	Ethylbenzene	ND	4.0	0.90	ug/kg	
108-88-3	Toluene	ND	4.0	0.95	ug/kg	
1330-20-7	Xylene (total)	ND	12	2.1	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	108%	70-121%
2037-26-5	Toluene-D8	123%	76-132%
460-00-4	4-Bromofluorobenzene	105%	73-165%
17060-07-0	1,2-Dichloroethane-D4	92%	57-122%

Method Blank Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX512-MB	X0060519.D	1	04/23/10	JL	n/a	n/a	VX512

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-3

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	2.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.55	ug/l	
108-88-3	Toluene	ND	2.0	0.43	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.7	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	101%	79-122%
17060-07-0	1,2-Dichloroethane-D4	100%	75-121%
2037-26-5	Toluene-D8	96%	87-119%
460-00-4	4-Bromofluorobenzene	88%	80-133%

Blank Spike Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2838-BS	Z008087.D	1	04/21/10	JL	n/a	n/a	VZ2838

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.0	94	70-114
100-41-4	Ethylbenzene	50	46.0	92	60-119
108-88-3	Toluene	50	47.6	95	68-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	108%	70-121%
2037-26-5	Toluene-D8	120%	76-132%
460-00-4	4-Bromofluorobenzene	110%	73-165%
17060-07-0	1,2-Dichloroethane-D4	96%	57-122%

Blank Spike Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VZ2840-BS	Z008137.D	1	04/23/10	JL	n/a	n/a	VZ2840

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-1, T51204-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
71-43-2	Benzene	50	47.4	95	70-114
100-41-4	Ethylbenzene	50	46.3	93	60-119
108-88-3	Toluene	50	45.7	91	68-115
1330-20-7	Xylene (total)	150	141	94	61-115

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	107%	70-121%
2037-26-5	Toluene-D8	116%	76-132%
460-00-4	4-Bromofluorobenzene	101%	73-165%
17060-07-0	1,2-Dichloroethane-D4	94%	57-122%

Blank Spike Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VX512-BS	X0060517.D	1	04/23/10	JL	n/a	n/a	VX512

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	25	22.6	90	76-118
100-41-4	Ethylbenzene	25	24.4	98	75-112
108-88-3	Toluene	25	24.2	97	77-114
1330-20-7	Xylene (total)	75	72.7	97	75-111

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	79-122%
17060-07-0	1,2-Dichloroethane-D4	93%	75-121%
2037-26-5	Toluene-D8	99%	87-119%
460-00-4	4-Bromofluorobenzene	98%	80-133%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T51042-7MS	Z008091.D	1	04/21/10	JL	n/a	n/a	VZ2838
T51042-7MSD	Z008092.D	1	04/22/10	JL	n/a	n/a	VZ2838
T51042-7	Z008090.D	1	04/21/10	JL	n/a	n/a	VZ2838

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-1

CAS No.	Compound	T51042-7 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	4.6	U	60.2	53.1	88	41.1	69*	25	70-114/38
100-41-4	Ethylbenzene	4.6	U	60.2	54.2	90	39.5	66	31	60-119/40
108-88-3	Toluene	4.6	U	60.2	52.3	87	39.4	66*	28	68-115/38

CAS No.	Surrogate Recoveries	MS	MSD	T51042-7	Limits
1868-53-7	Dibromofluoromethane	101%	107%	102%	70-121%
2037-26-5	Toluene-D8	113%	113%	119%	76-132%
460-00-4	4-Bromofluorobenzene	103%	105%	105%	73-165%
17060-07-0	1,2-Dichloroethane-D4	89%	102%	95%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T51050-3MS	Z008143.D	1	04/23/10	JL	n/a	n/a	VZ2840
T51050-3MSD	Z008144.D	1	04/23/10	JL	n/a	n/a	VZ2840
T51050-3	Z008142.D	1	04/23/10	JL	n/a	n/a	VZ2840

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-1, T51204-2

CAS No.	Compound	T51050-3 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		58.5	48.8	83	47.2	87	3	70-114/38
100-41-4	Ethylbenzene	ND		58.5	48.0	82	47.2	87	2	60-119/40
108-88-3	Toluene	ND		58.5	48.7	83	46.0	85	6	68-115/38
1330-20-7	Xylene (total)	ND		175	143	81	140	86	2	61-115/39

CAS No.	Surrogate Recoveries	MS	MSD	T51050-3	Limits
1868-53-7	Dibromofluoromethane	105%	105%	104%	70-121%
2037-26-5	Toluene-D8	115%	115%	120%	76-132%
460-00-4	4-Bromofluorobenzene	98%	100%	106%	73-165%
17060-07-0	1,2-Dichloroethane-D4	90%	92%	90%	57-122%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
T51279-8MS	X0060534.D	1	04/23/10	JL	n/a	n/a	VX512
T51279-8MSD	X0060535.D	1	04/23/10	JL	n/a	n/a	VX512
T51279-8	X0060533.D	1	04/23/10	JL	n/a	n/a	VX512

The QC reported here applies to the following samples: **Method:** SW846 8260B

T51204-3

CAS No.	Compound	T51279-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	2.0 U		25	24.1	96	23.9	96	1	76-118/16
100-41-4	Ethylbenzene	2.0 U		25	26.8	107	26.2	105	2	75-112/12
108-88-3	Toluene	0.50	J	25	26.2	103	25.6	100	2	77-114/12
1330-20-7	Xylene (total)	6.0 U		75	80.3	107	79.0	105	2	75-111/12

CAS No.	Surrogate Recoveries	MS	MSD	T51279-8	Limits
1868-53-7	Dibromofluoromethane	98%	102%	101%	79-122%
17060-07-0	1,2-Dichloroethane-D4	98%	104%	101%	75-121%
2037-26-5	Toluene-D8	100%	98%	99%	87-119%
460-00-4	4-Bromofluorobenzene	97%	95%	94%	80-133%

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14608-MB	H38110.D	1	04/22/10	SC	04/21/10	OP14608	EH2039

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

T51204-1, T51204-2

CAS No.	Compound	Result	RL	MDL	Units	Q
83-32-9	Acenaphthene	ND	6.7	1.1	ug/kg	
208-96-8	Acenaphthylene	ND	6.7	2.3	ug/kg	
120-12-7	Anthracene	ND	6.7	1.3	ug/kg	
56-55-3	Benzo(a)anthracene	ND	6.7	1.1	ug/kg	
50-32-8	Benzo(a)pyrene	ND	6.7	3.6	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	6.7	3.5	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	6.7	6.7	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	6.7	4.3	ug/kg	
218-01-9	Chrysene	ND	6.7	1.6	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	6.7	6.4	ug/kg	
206-44-0	Fluoranthene	ND	6.7	1.5	ug/kg	
86-73-7	Fluorene	ND	6.7	2.4	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	6.7	5.0	ug/kg	
90-12-0	1-Methylnaphthalene	ND	6.7	1.2	ug/kg	
91-57-6	2-Methylnaphthalene	ND	6.7	1.2	ug/kg	
91-20-3	Naphthalene	ND	6.7	1.0	ug/kg	
85-01-8	Phenanthrene	ND	6.7	0.93	ug/kg	
129-00-0	Pyrene	ND	6.7	2.3	ug/kg	

CAS No.	Surrogate Recoveries		Limits
4165-60-0	Nitrobenzene-d5	27% [a]	10-127%
321-60-8	2-Fluorobiphenyl	44% [a]	11-133%
1718-51-0	Terphenyl-d14	38% [a]	15-187%

(a) Recovery was adjusted for 10x spiking.

Blank Spike/Blank Spike Duplicate Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14608-BS [a]	H38111.D	1	04/22/10	SC	04/21/10	OP14608	EH2039
OP14608-BSD [a]	H38117.D	1	04/22/10	SC	04/21/10	OP14608	EH2039

The QC reported here applies to the following samples: **Method:** SW846 8270C BY SIM

T51204-1, T51204-2

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	BSD ug/kg	BSD %	RPD	Limits Rec/RPD
83-32-9	Acenaphthene	167	136	82	150	90	10	18-118/30
208-96-8	Acenaphthylene	167	128	77	131	79	2	35-125/30
120-12-7	Anthracene	167	122	73	112	67	9	24-116/30
56-55-3	Benzo(a)anthracene	167	129	77	132	79	2	32-132/30
50-32-8	Benzo(a)pyrene	167	125	75	167	100	29	36-130/30
205-99-2	Benzo(b)fluoranthene	167	122	73	158	95	26	35-134/30
191-24-2	Benzo(g,h,i)perylene	167	109	65	97.9	59	11	18-149/30
207-08-9	Benzo(k)fluoranthene	167	135	81	157	94	15	30-131/30
218-01-9	Chrysene	167	141	85	127	76	10	37-124/30
53-70-3	Dibenzo(a,h)anthracene	167	116	70	105	63	10	23-150/30
206-44-0	Fluoranthene	167	141	85	149	89	6	28-118/30
86-73-7	Fluorene	167	114	68	91.7	55	22	32-106/30
193-39-5	Indeno(1,2,3-cd)pyrene	167	116	70	107	64	8	18-150/30
90-12-0	1-Methylnaphthalene	167	101	61	97.7	59	3	10-128/30
91-57-6	2-Methylnaphthalene	167	116	70	102	61	13	28-113/30
91-20-3	Naphthalene	167	92.2	55	72.5	44	24	31-106/30
85-01-8	Phenanthrene	167	134	80	143	86	6	37-112/30
129-00-0	Pyrene	167	122	73	140	84	14	24-132/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
4165-60-0	Nitrobenzene-d5	36% [b]	31% [b]	10-127%
321-60-8	2-Fluorobiphenyl	25% [b]	31% [b]	11-133%
1718-51-0	Terphenyl-d14	44% [b]	53% [b]	15-187%

(a) Recoveries were adjusted for 1:10 dilution of the 8270 spike amount.
(b) Recovery was adjusted for 1:10 dilution of the 8270 spike amount.

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2750-MB	EE054143.D	1	04/26/10	FI	n/a	n/a	GEE2750

The QC reported here applies to the following samples: **Method:** SW846 8015

T51204-1, T51204-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	5.0	0.30	mg/kg	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	86%	46-127%
98-08-8	aaa-Trifluorotoluene	95%	44-120%

Blank Spike/Blank Spike Duplicate Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEE2750-BS	EE054140.D	1	04/26/10	FI	n/a	n/a	GEE2750
GEE2750-BSD	EE054141.D	1	04/26/10	FI	n/a	n/a	GEE2750

The QC reported here applies to the following samples: **Method:** SW846 8015

T51204-1, T51204-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	BSD mg/kg	BSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.4	0.370	93	0.333	83	11	78-115/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
460-00-4	4-Bromofluorobenzene	90%	89%	46-127%
98-08-8	aaa-Trifluorotoluene	105%	93%	44-120%

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14625-MB	CC219091.D	1	04/24/10	EM	04/22/10	OP14625	GCC1092

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T51204-1, T51204-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	3.3	2.7	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	98%	33-115%

Blank Spike Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14625-BS	CC219092.D	1	04/24/10	EM	04/22/10	OP14625	GCC1092

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T51204-1, T51204-2

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	TPH (C10-C28)	33.3	28.9	87	45-107

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	94%	33-115%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: T51204
Account: LTENCOR LT Environmental
Project: COGCC Project

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP14625-MS	CC219095.D	1	04/24/10	EM	04/22/10	OP14625	GCC1092
OP14625-MSD	CC219096.D	1	04/24/10	EM	04/22/10	OP14625	GCC1092
T51081-2	CC219100.D	10	04/24/10	EM	04/22/10	OP14625	GCC1092

The QC reported here applies to the following samples: **Method:** SW846 8015 M

T51204-1, T51204-2

CAS No.	Compound	T51081-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	472		43.8	432	-91* [a]	431	-94* [a]	0	45-107/34

CAS No.	Surrogate Recoveries	MS	MSD	T51081-2	Limits
84-15-1	o-Terphenyl	71%	68%	0%* [b]	33-115%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Outside control limits due to dilution.

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11591
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/22/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	10	.41	.73		
Antimony	0.50	.05	.085		
Arsenic	0.50	.085	.085		
Barium	10	.049	.069	0.0035	<10
Beryllium	0.25	.0028	.0055		
Boron	5.0	.07	.17		
Cadmium	0.25	.0055	.014	0.0020	<0.25
Calcium	250	.37	1.3		
Chromium	0.50	.012	.023	0.0040	<0.50
Cobalt	2.5	.0075	.03		
Copper	1.3	.056	.056	0.020	<1.3
Iron	5.0	.057	1.1		
Lead	0.50	.05	.05	-0.0045	<0.50
Lithium	15	.1			
Magnesium	250	.38	1.3		
Manganese	0.75	.0027	.037		
Molybdenum	0.50	.02	.025		
Nickel	2.0	.035	.057	0.0	<2.0
Potassium	250	2	10		
Selenium	0.50	.077	.14	-0.038	<0.50
Silver	0.50	.058	.058	0.0015	<0.50
Sodium	250	.46	1.6		
Strontium	1.0	.0031	.059		
Thallium	0.50	.034	.04		
Tin	1.0	.035	.035		
Titanium	1.0	.015	.029		
Vanadium	2.5	.015	.034		
Zinc	1.0	.026	.084	-0.051	<1.0

Associated samples MP11591: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11591
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date:			04/22/10					04/22/10	
Metal	T51006-3 Original	DUP	RPD	QC Limits	T51006-3 Original	MS	Spikelot MPTW4	% Rec	QC Limits
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	16.0	15.5	3.2	0-20	16.0	37.5	23.9	89.8	80-120
Beryllium	anr								
Boron									
Cadmium	0.0	0.0	NC	0-20	0.0	21.3	23.9	89.0	80-120
Calcium	anr								
Chromium	5.2	5.7	9.2	0-20	5.2	27.7	23.9	94.0	80-120
Cobalt	anr								
Copper	2.7	2.8	3.6	0-20	2.7	25.3	23.9	94.4	80-120
Iron	anr								
Lead	5.2	5.2	0.0	0-20	5.2	29.2	23.9	100.3	80-120
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	2.6	2.5	3.9	0-20	2.6	26.5	23.9	99.9	80-120
Potassium	anr								
Selenium	0.0	0.0	NC	0-20	0.0	20.9	23.9	87.3	80-120
Silver	0.0	0.0	NC	0-20	0.0	19.9	23.9	83.2	80-120
Sodium	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Vanadium	anr								
Zinc	5.7	5.5	3.6	0-20	5.7	27.6	23.9	91.5	80-120

Associated samples MP11591: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11591
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/22/10

Metal	T51006-3 Original	MSD	Spikelot MPTW4	% Rec	MSD RPD	QC Limit
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	16.0	38.5	24.6	91.4	2.6	20
Beryllium	anr					
Boron						
Cadmium	0.0	21.9	24.6	89.0	2.8	20
Calcium	anr					
Chromium	5.2	28.5	24.6	94.7	2.8	20
Cobalt	anr					
Copper	2.7	26.1	24.6	95.1	3.1	20
Iron	anr					
Lead	5.2	29.6	24.6	99.1	1.4	20
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	2.6	27.6	24.6	101.6	4.1	20
Potassium	anr					
Selenium	0.0	21.5	24.6	87.4	2.8	20
Silver	0.0	20.3	24.6	82.5	2.0	20
Sodium	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Vanadium	anr					
Zinc	5.7	28.3	24.6	91.8	2.5	20

Associated samples MP11591: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11591
Matrix Type: SOLID

Methods: SW846 6010B
Units: mg/kg

Prep Date: 04/22/10

Metal	LCS Result	Spikelot MPLCD054	% Rec	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	355	348	102.0	81-119
Beryllium	anr			
Boron				
Cadmium	174	187	93.0	82-118
Calcium	anr			
Chromium	85.4	89.5	95.4	79-121
Cobalt	anr			
Copper	130	129	100.8	84-117
Iron	anr			
Lead	189	172	109.9	79-120
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	108	99	109.1	81-119
Potassium	anr			
Selenium	141	148	95.3	78-121
Silver	63.3	66	95.9	66-134
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	373	394	94.7	80-119

Associated samples MP11591: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11591
Matrix Type: SOLID

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/22/10

Metal	T51006-3 Original	SDL 1:5	%DIF	QC Limits
Aluminum	anr			
Antimony	anr			
Arsenic	anr			
Barium	264	292	10.6*(a)	0-10
Beryllium	anr			
Boron				
Cadmium	0.00	0.00	NC	0-10
Calcium	anr			
Chromium	86.5	94.1	8.9	0-10
Cobalt	anr			
Copper	45.1	49.7	10.2 (b)	0-10
Iron	anr			
Lead	85.0	92.2	8.4	0-10
Lithium				
Magnesium	anr			
Manganese	anr			
Molybdenum				
Nickel	42.3	42.2	0.3	0-10
Potassium	anr			
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium	anr			
Strontium				
Thallium	anr			
Tin				
Titanium				
Vanadium	anr			
Zinc	94.2	113	20.4*(a)	0-10

Associated samples MP11591: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.
(b) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11601
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 04/23/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	200	8.3	12		
Antimony	5.0	1	1		
Arsenic	5.0	1.7	1		
Barium	200	.97	3.4		
Beryllium	5.0	.056	.16		
Boron	100	1.4	7.8		
Cadmium	4.0	.11	.09		
Calcium	5000	7.4	25	180	<5000
Chromium	10	.23	.27		
Cobalt	50	.15	.22		
Copper	25	1.1	5.9		
Iron	100	1.1	23		
Lead	3.0	1	1.8		
Lithium	300	2	2		
Magnesium	5000	7.7	7.9	35.6	<5000
Manganese	15	.054	1.9		
Molybdenum	10	.39	.2		
Nickel	40	.69	1.4		
Potassium	5000	39	45		
Selenium	5.0	1.5	.98		
Silver	10	1.2	.24		
Sodium	5000	9.2	100	343	<5000
Strontium	10	.061	.4		
Thallium	10	.67	1.2		
Tin	20	.69	2.8		
Titanium	20	.29	.3		
Vanadium	50	.3	.3		
Zinc	20	.51	3.5		

Associated samples MP11601: T51204-1A, T51204-2A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11601
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 04/23/10

Metal	T51204-1A Original	DUP	RPD	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	120000	124000	3.3	0-20
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	43200	44100	2.1	0-20
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	210000	218000	3.7	0-20
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP11601: T51204-1A, T51204-2A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11601
Matrix Type: AQUEOUS

Methods: LADNR29B, SW846 6010B
Units: ug/l

Prep Date: 04/23/10

Metal	T51204-1A Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	120000	120000	0.0	0-10
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	43200	42900	0.5	0-10
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium	210000	206000	1.9	0-10
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP11601: T51204-1A, T51204-2A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11612 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/24/10

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.017	.0041	.00066	-0.0013	<0.017

Associated samples MP11612: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.1
8

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11612 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/24/10 04/24/10

Metal	T51039-1 Original	DUP	RPD	QC Limits	T51039-1 Original	MS	Spikelot HGTXWS1	% Rec	QC Limits
Mercury	0.014	0.018	25.0 (a)	0-20	0.014	0.29	0.276	99.9	75-125

Associated samples MP11612: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11612 Methods: SW846 7471A
Matrix Type: SOLID Units: mg/kg

Prep Date: 04/24/10

Metal	T51039-1 Original	MSD	Spikelot HGTXWS1	% Rec	MSD RPD	QC Limit
Mercury	0.014	0.28	0.251	105.9	3.5	

Associated samples MP11612: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

QC Batch ID: MP11612
Matrix Type: SOLID

Methods: SW846 7471A
Units: mg/kg

Prep Date: 04/24/10

Metal	LCS Result	Spikelot HGLCD054	% Rec	QC Limits
Mercury	8.6	7.34	117.2	72-128

Associated samples MP11612: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

8.3.3

8

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GN22301	2.0	<2.0	mg/kg	xxxxxxxx	38.4	95.9	80-120%
Specific Conductivity	GN22316	1.0	<1.0	umhos/cm				

Associated Samples:
Batch GN22301: T51204-1, T51204-2
Batch GN22316: T51204-1, T51204-2
(*) Outside of QC limits

9.1
9

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GN22301	T51003-2	mg/kg	6.9	7.1	14.0	0-20%
Solids, Percent	GN22286	T51080-1	%	76.1	75.9	0.3	0-5%
Solids, Percent	GN22330	T51204-1	%	79.3	79.5	0.3	0-5%
Specific Conductivity	GN22316	T51282-4	umhos/cm	18700	11.9	0.2	0-20%
pH	GN22296	T51204-1	su	7.85	7.86	0.1	0-20%

Associated Samples:
Batch GN22286: T51204-2
Batch GN22296: T51204-1, T51204-2
Batch GN22301: T51204-1, T51204-2
Batch GN22316: T51204-1, T51204-2
Batch GN22330: T51204-1
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: T51204
Account: LTENCOR - LT Environmental
Project: COGCC Project

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GN22301	T51003-2	mg/kg	6.9	169.5	172	97.4	75-125%

Associated Samples:
Batch GN22301: T51204-1, T51204-2
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Misc. Forms

Custody Documents and Other Forms

(Accutest New Jersey)

Includes the following where applicable:

- Chain of Custody

SUBCONTRACT COC

ACCUTEST Laboratories

10165 Harwin, Suite 150 - Houston, TX 77036 - 713-271-4700 fax: 713-271-4770

Page 1 of 1

FED-EX Tracking #	Bottle Order Control #
Accutest Quote #	Accutest Job #

Client Information		Subcontract Information	
Company Name: Accutest Gulf Coast		Subcontract Laboratory: Accutest New Jersey	
Project Contact: Georgia Jones	Email: gjones@accutest.com	Laboratory Contact	Email
Address: 10165 Harwin Dr, Suite 150		Address: 2235 Route 130, Building B	
City: Houston	State: TX	Zip: 77036	City: Dayton	State: NJ	Zip: 8810
Phone No.: 713-271-4700		Phone No.: 732-329-0200	

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Wastewater; SW - Surface Water; SO - Soil; SL - Sludge; OI - Oil; LIQ - Liquid; SOL - Other Solid

Accutest Sample Number	Collection Date	Collection Time	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NaOH/ZnAc	TSP	NONE	OTHER	Arsenic / 6020 (Regulatory limit 0.39 mg/Kg.)	LAB USE ONLY
T51204-1	4/19/2010	10:07	SO	1									X	M631
T51204-2	4/19/2010	10:56	SO	1									X	

Turnaround Time (Business days)

- [ ] STANDARD — Approved By:/ Date:
- [x] 5 Day
- [ ] 4 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [ ] Other

Real time analytical data available via Lablink

Data Deliverable Information

- [ ] Commercial "A"
- [x] Commercial "B"
- [ ] Reduced Tier 1
- [ ] Full Data Package
- [ ] TRRP-13
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only

Commercial "B" = Results & Standard QC

Comments / Remarks

Regulatory limit 0.39 mg/Kg

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		1	2	4/21/10 1645	2 FedX
Relinquished by: 3 FedX	Date Time: 4/22/10 0830	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Preserved where applicable [ ]	On Ice [x] Cooler Temp. 2.1

1B

2-23 NZ while

10.1

10

T51204: Chain of Custody

Page 1 of 2

Accutest New Jersey

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: T51204 **Client:** **Immediate Client Services Action Required:** No

Date / Time Received: 4/22/2010 **Delivery Method:** **Client Service Action Required at Login:** No

Project: **No. Coolers:** 1 **Airbill #'s:**

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservatio	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:732.329.0200

2235 US Highway 130
F: 732.329.3499

Dayton, New Jersey
www/accutest.com

T51204: Chain of Custody
Page 2 of 2

Metals Analysis

QC Data Summaries

(Accutest New Jersey)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: T51204
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: LTENCOR: COGCC Project

QC Batch ID: MP52392A
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 04/23/10

Metal	RL	IDL	MDL	MB raw	final
Aluminum	25	1.1	.52		
Antimony	0.25	.0085	.022		
Arsenic	0.50	.061	.11	-0.041	<0.50
Barium	0.50	.017	.038		
Beryllium	0.25	.013	.03		
Boron	2.5	.29	.25		
Cadmium	0.25	.01	.016		
Calcium	130	12	3.1		
Chromium	2.0	.037	.29		
Cobalt	0.25	.004	.016		
Copper	2.0	.024	.036		
Iron	25	3.5	1.9		
Lead	0.25	.0055	.012		
Magnesium	130	1.2	1.4		
Manganese	0.25	.036	.02		
Molybdenum	0.50	.071	.096		
Nickel	2.0	.027	.026		
Potassium	130	2.5	3.9		
Selenium	0.50	.042	.058		
Silver	1.0	.0065	.022		
Sodium	130	5.9	1.3		
Strontium	0.50	.013	.0082		
Thallium	0.25	.012	.0051		
Tin	0.50	.039			
Titanium	0.50	.04	.27		
Uranium	0.50				
Vanadium	2.0	.24	.79		
Zinc	2.0	.25	.91		

Associated samples MP52392A: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T51204
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: LTENCOR: COGCC Project

QC Batch ID: MP52392A
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 04/23/10

Metal	JA44365-1 Original	MS	Spikelot MPIOS4	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	8.1	354	397	87.1	75-125
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron					
Lead	anr				
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP52392A: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: T51204
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: LTENCOR: COGCC Project

QC Batch ID: MP52392A
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 04/23/10

Metal	JA44365-1 Original	MSD	Spikelot MPIOS4	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	8.1	373	406	90.0	5.2	20
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead	anr					
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP52392A: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: T51204
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: LTENCOR: COGCC Project

QC Batch ID: MP52392A
Matrix Type: SOLID

Methods: SW846 6020
Units: mg/kg

Prep Date: 04/23/10

Metal	BSP Result	Spikelot MPIOS4	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	384	400	96.0	80-120
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP52392A: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: T51204
Account: ALGC - Accutest Laboratories Gulf Coast, Inc.
Project: LTENCOR: COGCC Project

QC Batch ID: MP52392A
Matrix Type: SOLID

Methods: SW846 6020
Units: ug/l

Prep Date: 04/23/10

Metal	JA44365-1 Original	SDL 5:25	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	83.4	87.3	4.7	0-10
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron				
Lead	anr			
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP52392A: T51204-1, T51204-2

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Mountain States ACCUTEST LABORATORIES

05/04/11

Technical Report for

Olsson Associates - Denver

Riley #1 Tank Battery

009-2145

Accutest Job Number: D22740

Sampling Date: 04/18/11

Report to:

Olsson Associates
4690 Table Mountain Drive Suite 200
Golden, CO 80403
jcovey@oaconsulting.com

ATTN: Justin Covey

Total number of pages in report: **67**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

John Hamilton
Laboratory Director

Client Service contact: Amanda Kissell 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

Test results relate only to samples analyzed.

Table of Contents

-1-

Accutest Laboratories

Sample Summary

Olsson Associates - Denver

Job No: D22740

Riley #1 Tank Battery
Project No: 009-2145

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D22740-1	04/18/11	11:00	JC	04/18/11	AQ	Ground Water	SB04
D22740-2	04/18/11	11:15	JC	04/18/11	AQ	Ground Water	SB01
D22740-3	04/18/11	11:30	JC	04/18/11	AQ	Ground Water	SB02
D22740-4	04/18/11	11:45	JC	04/18/11	AQ	Ground Water	SB03
D22740-5	04/18/11	11:45	JC	04/18/11	AQ	Ground Water	SB03D

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Olsson Associates - Denver	**Job No**	D22740
Site:	Riley #1 Tank Battery	**Report Dat**	5/4/2011 3:39:37 PM

On 04/18/2011, five (5) samples, 0 Trip Blanks, and 0 Field Blanks were received at Accutest Mountain States (AMS) at a temperature of 2.9°C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D22740 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GC By Method SW846 8015B

Matrix AQ **Batch ID:** GGB608

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D22740-1MS and D22740-1MSD were used as the QC samples indicated.

Volatiles by GC By Method SW846 8021B

Matrix AQ **Batch ID:** GTB607

- All samples were analyzed within the recommended method holding time.
- Samples D22740-1MS and D22740-1MSD were used as the QC samples indicated.
- The method blank for this batch meets method specific criteria.
- The matrix spike and matrix spike duplicate (MS/MSD) recoveries of Ethylbenzene are outside control limits. Probable cause due to matrix interference. Refer to the lab control or spike blank for recovery information.

Extractables by GC By Method SW846-8015B

Matrix AQ **Batch ID:** OP3515

- All samples were extracted and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D22554-11MS and D22554-11MSD were used as the QC samples indicated.

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP4511

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D22740-5MS and D22740-5MSD were used as the QC samples for the metals analysis.
- MP4511-MB1 for Sodium: All sample results >10x method blank concentration.

Metals By Method SW846 7470A

Matrix AQ **Batch ID:** MP4518

- All samples were digested and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D22740-4MS and D22740-4MSD were used as the QC samples for the Mercury analysis.

Wet Chemistry By Method EPA 300/SW846 9056

Matrix AQ	**Batch ID:** GP4241

- All samples were prepared and analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Samples D22740-4MS and D22740-4MSD were used as the QC samples for the anion analysis.
- Samples D22740-1 and D22740-2 for Nitrate-N: The reporting limit (RL) was raised due to matrix interference.

Wet Chemistry By Method SM20 2320B

Matrix AQ	**Batch ID:** GN9226

- All samples were analyzed within the recommended method holding time.
- The method blank for this batch meets method specific criteria.
- Sample D22740-3DUP was used as the QC sample for the Bicarbonate as HCO3 analysis.

Wet Chemistry By Method SM20 2510B

Matrix AQ	**Batch ID:** GP4356

- Sample D23083-1DUP was used as the QC sample for the Specific Conductivity analysis.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix AQ	**Batch ID:** R7294

- The data for USDA HANDBOOK 60 meets quality control requirements.
- Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D22740-1	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8015B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB10460.D	1	04/21/11	BR	n/a	n/a	GGB608
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	87%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D22740-1	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB10460.D	1	04/21/11	BR	n/a	n/a	GTB607
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	89%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D22740-1	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846-8015B SW846 3510C	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI01641.D	1	04/22/11	EH	04/20/11	OP3515	GFI112
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.39	0.26	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	98%		40-137%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D22740-1	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	111	25	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Barium	92.5	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Cadmium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Calcium	72200	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Lead	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Magnesium	54200	200	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Mercury	< 0.10	0.10	ug/l	1	04/21/11	04/22/11	JB	SW846 7470A [1]	SW846 7470A [4]
Potassium	2730	1000	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Selenium	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Silver	< 30	30	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Sodium	86800	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA1477
(2) Instrument QC Batch: MA1479
(3) Prep QC Batch: MP4511
(4) Prep QC Batch: MP4518

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D22740-1	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bicarbonate as HCO3	384	5.0	mg/l	1	04/22/11	CJ	SM20 2320B
Chloride	14.0	0.50	mg/l	1	04/19/11 10:15	JML	EPA 300/SW846 9056
Nitrogen, Nitrate [a]	< 0.23	0.23	mg/l	5	04/19/11 11:41	JML	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.061	0.061	mg/l	1	04/19/11 10:15	JML	EPA 300/SW846 9056
Sodium Adsorption Ratio [b]	1.88		ratio	1	04/22/11 19:06	GJ	USDA HANDBOOK 60
Specific Conductivity	828	1.0	umhos/cm	1	05/04/11	JD	SM20 2510B
Sulfate	216	5.0	mg/l	10	04/19/11 15:03	JML	EPA 300/SW846 9056

(a) Elevated detection limit due to matrix interference.
(b) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB01		
Lab Sample ID:	D22740-2	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8015B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB10463.D	1	04/21/11	BR	n/a	n/a	GGB608
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	97%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB01		
Lab Sample ID:	D22740-2	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB10463.D	1	04/21/11	BR	n/a	n/a	GTB607
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	100%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB01		
Lab Sample ID:	D22740-2	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846-8015B SW846 3510C	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI01642.D	1	04/22/11	EH	04/20/11	OP3515	GFI112
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.39	0.26	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	93%		40-137%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB01		
Lab Sample ID:	D22740-2	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 25	25	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Barium	98.1	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Cadmium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Calcium	91600	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Lead	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Magnesium	53100	200	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Mercury	< 0.10	0.10	ug/l	1	04/21/11	04/22/11	JB	SW846 7470A [1]	SW846 7470A [4]
Potassium	3080	1000	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Selenium	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Silver	< 30	30	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Sodium	88500	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA1477
(2) Instrument QC Batch: MA1479
(3) Prep QC Batch: MP4511
(4) Prep QC Batch: MP4518

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB01		
Lab Sample ID:	D22740-2	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bicarbonate as HCO3	439	5.0	mg/l	1	04/22/11	CJ	SM20 2320B
Chloride	14.8	0.50	mg/l	1	04/19/11 10:29	JML	EPA 300/SW846 9056
Nitrogen, Nitrate [a]	< 0.23	0.23	mg/l	5	04/19/11 11:56	JML	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.061	0.061	mg/l	1	04/19/11 10:29	JML	EPA 300/SW846 9056
Sodium Adsorption Ratio [b]	1.82		ratio	1	04/22/11 19:12	GJ	USDA HANDBOOK 60
Specific Conductivity	910	1.0	umhos/cm	1	05/04/11	JD	SM20 2510B
Sulfate	216	5.0	mg/l	10	04/19/11 15:17	JML	EPA 300/SW846 9056

(a) Elevated detection limit due to matrix interference.
(b) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB02		
Lab Sample ID:	D22740-3	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8015B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB10464.D	1	04/21/11	BR	n/a	n/a	GGB608
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	86%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB02		
Lab Sample ID:	D22740-3	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB10464.D	1	04/21/11	BR	n/a	n/a	GTB607
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	88%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB02		
Lab Sample ID:	D22740-3	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846-8015B SW846 3510C	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI01643.D	1	04/22/11	EH	04/20/11	OP3515	GFI112
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.38	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	97%		40-137%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB02		
Lab Sample ID:	D22740-3	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 25	25	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Barium	57.2	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Cadmium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Calcium	63400	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Lead	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Magnesium	55800	200	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Mercury	< 0.10	0.10	ug/l	1	04/21/11	04/22/11	JB	SW846 7470A [1]	SW846 7470A [4]
Potassium	2610	1000	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Selenium	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Silver	< 30	30	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Sodium	85900	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA1477
(2) Instrument QC Batch: MA1479
(3) Prep QC Batch: MP4511
(4) Prep QC Batch: MP4518

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB02		
Lab Sample ID:	D22740-3	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bicarbonate as HCO3	371	5.0	mg/l	1	04/22/11	CJ	SM20 2320B
Chloride	14.3	0.50	mg/l	1	04/19/11 10:44	JML	EPA 300/SW846 9056
Nitrogen, Nitrate	0.60	0.23	mg/l	5	04/19/11 12:10	JML	EPA 300/SW846 9056
Nitrogen, Nitrite	< 0.061	0.061	mg/l	1	04/19/11 10:44	JML	EPA 300/SW846 9056
Sodium Adsorption Ratio [a]	1.90		ratio	1	04/22/11 19:19	GJ	USDA HANDBOOK 60
Specific Conductivity	867	1.0	umhos/cm	1	05/04/11	JD	SM20 2510B
Sulfate	215	5.0	mg/l	10	04/19/11 17:17	JML	EPA 300/SW846 9056

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB03		
Lab Sample ID:	D22740-4	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8015B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB10465.D	1	04/21/11	BR	n/a	n/a	GGB608
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	91%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB03		
Lab Sample ID:	D22740-4	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB10465.D	1	04/21/11	BR	n/a	n/a	GTB607
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	93%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB03		
Lab Sample ID:	D22740-4	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846-8015B SW846 3510C	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI01644.D	1	04/22/11	EH	04/20/11	OP3515	GFI112
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.38	0.25	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	93%		40-137%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB03		
Lab Sample ID:	D22740-4	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 25	25	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Barium	62.8	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Cadmium	26.7	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Calcium	69300	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Lead	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Magnesium	32000	200	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Mercury	< 0.10	0.10	ug/l	1	04/21/11	04/22/11	JB	SW846 7470A [1]	SW846 7470A [4]
Potassium	2150	1000	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Selenium	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Silver	< 30	30	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Sodium	79000	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA1477
(2) Instrument QC Batch: MA1479
(3) Prep QC Batch: MP4511
(4) Prep QC Batch: MP4518

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB03		
Lab Sample ID:	D22740-4	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bicarbonate as HCO3	164	5.0	mg/l	1	04/22/11	CJ	SM20 2320B
Chloride	14.9	0.50	mg/l	1	04/19/11 10:58	JML	EPA 300/SW846 9056
Nitrogen, Nitrate	4.9	0.45	mg/l	10	04/19/11 12:25	JML	EPA 300/SW846 9056
Nitrogen, Nitrite	0.070	0.061	mg/l	1	04/19/11 10:58	JML	EPA 300/SW846 9056
Sodium Adsorption Ratio [a]	1.97		ratio	1	04/22/11 19:25	GJ	USDA HANDBOOK 60
Specific Conductivity	703	1.0	umhos/cm	1	05/04/11	JD	SM20 2510B
Sulfate	216	5.0	mg/l	10	04/19/11 12:25	JML	EPA 300/SW846 9056

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB03D		
Lab Sample ID:	D22740-5	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8015B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB10466.D	1	04/21/11	BR	n/a	n/a	GGB608
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	88%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB03D		
Lab Sample ID:	D22740-5	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB10466.D	1	04/21/11	BR	n/a	n/a	GTB607
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	91%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB03D		
Lab Sample ID:	D22740-5	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
Method:	SW846-8015B SW846 3510C	**Percent Solids:**	n/a
Project:	Riley #1 Tank Battery		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FI01645.D	1	04/22/11	EH	04/20/11	OP3515	GFI112
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	0.501	0.38	0.26	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	95%		40-137%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB03D		
Lab Sample ID:	D22740-5	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 25	25	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Barium	64.3	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Cadmium	31.1	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Calcium	66500	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Lead	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Magnesium	25900	200	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Mercury	< 0.10	0.10	ug/l	1	04/21/11	04/22/11	JB	SW846 7470A [1]	SW846 7470A [4]
Potassium	2900	1000	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Selenium	< 50	50	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Silver	< 30	30	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]
Sodium	80400	400	ug/l	1	04/20/11	04/22/11	GJ	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA1477
(2) Instrument QC Batch: MA1479
(3) Prep QC Batch: MP4511
(4) Prep QC Batch: MP4518

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB03D		
Lab Sample ID:	D22740-5	**Date Sampled:**	04/18/11
Matrix:	AQ - Ground Water	**Date Received:**	04/18/11
		Percent Solids:	n/a
Project:	Riley #1 Tank Battery		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bicarbonate as HCO3	169	5.0	mg/l	1	04/22/11	CJ	SM20 2320B
Chloride	14.8	0.50	mg/l	1	04/19/11 11:13	JML	EPA 300/SW846 9056
Nitrogen, Nitrate	4.7	0.45	mg/l	10	04/19/11 14:49	JML	EPA 300/SW846 9056
Nitrogen, Nitrite	0.066	0.061	mg/l	1	04/19/11 11:13	JML	EPA 300/SW846 9056
Sodium Adsorption Ratio [a]	2.12		ratio	1	04/22/11 17:42	GJ	USDA HANDBOOK 60
Specific Conductivity	715	1.0	umhos/cm	1	05/04/11	JD	SM20 2510B
Sulfate	216	5.0	mg/l	10	04/19/11 14:49	JML	EPA 300/SW846 9056

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

4036 Youngfield Street, Wheat Ridge, CO 80033
TEL. 303-425-6021 FAX: 303-425-6854
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: D22740

Client / Reporting Information

Company Name: Olsson Associates
Street Address: 4690 Table Mountain Drive
City: Golden, CO 80403
Project Contact: Justin Covey jcovey@oaconsulting.com
Phone #: 303-548-4722
Sampler(s) Name(s): J. Covey

Project Information

Project Name: Riley #1 Tank Battery
Street:
City: Parachute State: CO
Project #: 009-2145
Client Purchase Order #: 009-2145
Project Manager: Brad Stephenson

Billing Information (If different from Report to)

Company Name:
Street Address:
City:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V8021BTX	V8015GRO	B8015DRO	BIC	HM8	SO4, NO3, NO2, CHL	TPC					LAB USE ONLY
	SB04		4/18/11	1100	AC	GW	12			X		X				X	X	X	X	X	X	X					01
	SB01			1115		GW				X		X				X	X	X	X	X	X	X					02
	SB02			1130		GW				X		X				X	X	X	X	X	X	X					03
	SB03			1145		GW				X		X				X	X	X	X	X	X	X					04
	SB03D			1145		GW				X		X				X	X	X	X	X	X	X					05
						GW																					
						GW																					
						GW																					
						GW																					
						GW																					
						GW																					
						GW																					

Turnaround Time (Business days)

- [ ] Std. 15 Business Days
- [X] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day Emergency
- [ ] 2 Day Emergency
- [ ] 1 Day Emergency
- [ ]

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [X] COMMBN
- [ ] COMMBN+
- [ ]

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial BN = Results/QC/Narrative (+ = chromatograms)

- [ ] State Forms Required
- [ ] Send Forms to State
- [ ] Report by Fax
- [X] Report by PDF ONLY
- [ ] EDD Format

Comments / Special Instructions

COCSCOG128

TPC samples included

Client corrected Sample (SB03D) ID on bottle label. (JD)

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	4/18/11 1630	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3 4-18-11 16:30	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp.
5		5		[X] / [ ]	[X]	[X]	2.9

LLD

4.1 4

D22740: Chain of Custody
Page 1 of 6

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D22740 **Client:** OLSSON ASS. **Immediate Client Services Action Required:** No

Date / Time Received: 4/18/2011 4:30:00 PM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: RILEY #1 TANK BATTERY **Airbill #'s:** HD

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021
4036 Youngfield Street
F: (303) 425-6854
Wheat Ridge, CO
www/accutest.com

D22740: Chain of Custody
Page 2 of 6

CHAIN OF CUSTODY

ACCUTEST

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #:	D22740X
Accutest Quote #:	
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information		
Name: Accutest Mountain States (AMS)			Name: Industrial Lab		
Address: 4036 Youngfield St.			Address: 4046 Youngfield St.		
City: Wheat Ridge,	State: CO	Zip: 80033	City: Wheat Ridge	State: CO	Zip: 80033
Send Report to: Tiffany Pham			Contact: Sample Management		
Any questions contact: Amanda Kissell					
Phone/Fax #: (303) 425-6021; (303)425-6854			Phone: (303) 287-9691		

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	Preservation HCL	NaOH	HNO3	H2SO4	None	HPC					Comments
D22740X -1	4/18/11	11:00 AM		AQ	1						X					
-2		11:15 AM		AQ	1						X					
-3		11:30 AM		AQ	1						X					
-4		11:45 AM		AQ	1						X					
-5		11:45 AM		AQ	1						X					
-																
-																

Turnaround Information

[X] 10 Business Day Standard — Approved By:
[ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A"
[ ] Commercial "B"
[ ] Commercial "BN"
[ ] Reduced Tier 1
[ ] Full Tier 1
[ ] PDF
[ ] Compact Disk Deliverable
[ ] Electronic Delivery:
[ ] State Forms
[ ] Other (Specify)

Comments / Remarks

Please use Colorado regulations and RLs.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1	4/18/11	1	4/18/11
2		2	4:45pm
3		3	

For Subcontract Laborartory Use Only

Seal #:
Headspace: Yes [ ] No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C _____ On Ice [ ]

4.1
4

D22740: Chain of Custody
Page 3 of 6

industrial LABORATORIES

Industrial Laboratories is your independent third-party analytical testing laboratory

To: Accutest Mountain States (AMS)
4036 Youngfield St.

Wheat Ridge CO 80033

Attn: Amanda Kissell

TEST REPORT
ACCUTEST - M
Date Received: 4/18/2011
Date Reported: 4/20/2011
PO Number: D22740X

Note: Sample test procedures conform to EPA 40CFR136 requirements.

Lab No.	Sample Description	Test Method	Result	Units	MDL	Analysis Date/By
110418005-01A	D22740X-1, 4/18/11, 11:00	* Heterotrophic Plate Count SM 9215B	8100	CFU/mL		GH 4/18/2011
110418005-02A	D22740X-2, 4/18/11, 11:15	* Heterotrophic Plate Count SM 9215B	13000	CFU/mL		GH 4/18/2011
110418005-03A	D22740X-3, 4/18/11, 11:30	* Heterotrophic Plate Count SM 9215B	1500	CFU/mL		GH 4/18/2011
110418005-04A	D22740X-4, 4/18/11, 11:45	* Heterotrophic Plate Count SM 9215B	14000	CFU/mL		GH 4/18/2011
110418005-05A	D22740X-5, 4/18/11, 11:45	* Heterotrophic Plate Count SM 9215B	24000	CFU/mL		GH 4/18/2011

Department Manager

* = Scope Analysis
\# = Subcontracted Analysis
MDL = Method Detection Limit
ND = Not Detected at the Method Detection Limit

4046 Youngfield Street • Wheat Ridge, Colorado 80033 • (303) 287-9691 • (303) 287-0964 FAX • www.industriallabs.net

CHAIN OF CUSTODY

ACCUTEST

4036 Youngfield St., Wheat Ridge, CO 80033
303-425-6021 FAX: 303-425-6854

Accutest Job #:	D22740X
Accutest Quote #:	
AMS P.O. #:	
Project No.:	

Client Information			Subcontract Laboratory Information		
Name: Accutest Mountain States (AMS)			Name: Industrial Lab		
Address: 4036 Youngfield St.			Address: 4046 Youngfield St.		
City: Wheat Ridge,	State: CO	Zip: 80033	City: Wheat Ridge	State: CO	Zip: 80033
Send Report to: Tiffany Pham			Contact: Sample Management		
Any questions contact: Amanda Kissell					
Phone/Fax #: (303) 425-6021; (303)425-6854			Phone: (303) 287-9691		

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time		Matrix	# of bottles	HCL	NaOH	HNO3	H2SO4	None	HPC					Comments
1104180005																
1A D22740X -1	4/18/11	11:00 AM		AQ	1						X					
2A -2		11:15 AM		AQ	1						X					
3A -3		11:30 AM		AQ	1						X					
4A -4		11:45 AM		AQ	1						X					
5A -5		11:45 AM		AQ	1						X					
-																
-																

Turnaround Information

[X] 10 Business Day Standard — Approved By:
[ ] Other _____ (Days)

10 Day Turnaround Hardcopy, RUSH is FAX Data unless previously approved.

Data Deliverable Information

[ ] Commercial "A"
[ ] Commercial "B"
[ ] Commercial "BN"
[ ] Reduced Tier 1
[ ] Full Tier 1
[ ] PDF
[ ] Compact Disk Deliverable
[ ] Electronic Delivery:
[ ] State Forms
[ ] Other (Specify)

Comments / Remarks

Please use Colorado regulations and RLs.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date & Time:	Received By:	Date & Time:
1 Dick	4/18/11	1 [signature]	1 4/18/11
2		2	2 4:45pm
3		3	3

For Subcontract Laborartory Use Only

Seal #:
Headspace: Yes [ ] No [ ] NA [ ]
Preserved where applicable: [ ]
Temperature °C _____ On Ice [ ]

D22740: Chain of Custody
Page 5 of 6

industrial LABORATORIES

Industrial Laboratories is your independent, third-party analytical testing laboratory

To: Accutest Mountain States (AMS)
4036 Youngfield St.

Wheat Ridge CO 80033

Attn: Amanda Kissell

TEST REPORT
ACCUTEST - M
Date Received: 4/18/2011
Date Reported: 4/20/2011
PO Number: D22740X

Note: Sample test procedures conform to EPA 40CFR136 requirements.

Lab No.	Sample Description	Test Method	Result	Units	MDL	Analysis Date/By
110418005-01A	D22740X-1, 4/18/11, 11:00	* Heterotrophic Plate Count SM 9215B	8100	CFU/mL		GH 4/18/2011
110418005-02A	D22740X-2, 4/18/11, 11:15	* Heterotrophic Plate Count SM 9215B	13000	CFU/mL		GH 4/18/2011
110418005-03A	D22740X-3, 4/18/11, 11:30	* Heterotrophic Plate Count SM 9215B	1500	CFU/mL		GH 4/18/2011
110418005-04A	D22740X-4, 4/18/11, 11:45	* Heterotrophic Plate Count SM 9215B	14000	CFU/mL		GH 4/18/2011
110418005-05A	D22740X-5, 4/18/11, 11:45	* Heterotrophic Plate Count SM 9215B	24000	CFU/mL		GH 4/18/2011

Department Manager

* = Scope Analysis
\# = Subcontracted Analysis
MDL = Method Detection Limit
ND = Not Detected at the Method Detection Limit

4046 Youngfield Street • Wheat Ridge, Colorado 80033 • (303) 287-9691 • (303) 287-0964 FAX • www.industriallabs.net

Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB608-MB	GB10458.D	1	04/21/11	BR	n/a	n/a	GGB608

The QC reported here applies to the following samples: **Method:** SW846 8015B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	91%	60-140%

Method Blank Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTB607-MB	TB10458.D	1	04/21/11	BR	n/a	n/a	GTB607

The QC reported here applies to the following samples: **Method:** SW846 8021B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	2.0	2.0	ug/l	
108-88-3	Toluene	ND	2.0	2.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	93%	60-140%

Blank Spike Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGB608-BS	GB10459.D	1	04/21/11	BR	n/a	n/a	GGB608

The QC reported here applies to the following samples: **Method:** SW846 8015B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	2.46	112	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	102%	60-140%

Blank Spike Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTB607-BS	TB10459.D	1	04/21/11	BR	n/a	n/a	GTB607

The QC reported here applies to the following samples: **Method:** SW846 8021B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	29.8	110	70-130
100-41-4	Ethylbenzene	45.6	48.1	105	70-130
108-88-3	Toluene	212	212	100	70-130
1330-20-7	Xylenes (total)	246	227	92	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	103%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22740-1MS	GB10461.D	1	04/21/11	BR	n/a	n/a	GGB608
D22740-1MSD	GB10462.D	1	04/21/11	BR	n/a	n/a	GGB608
D22740-1	GB10460.D	1	04/21/11	BR	n/a	n/a	GGB608

The QC reported here applies to the following samples: **Method:** SW846 8015B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	D22740-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	ND		2.2	2.19	100	2.30	105	5	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D22740-1	Limits
120-82-1	1,2,4-Trichlorobenzene	95%	95%	87%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D22740-1MS	TB10461.D	1	04/21/11	BR	n/a	n/a	GTB607
D22740-1MSD	TB10462.D	1	04/21/11	BR	n/a	n/a	GTB607
D22740-1	TB10460.D	1	04/21/11	BR	n/a	n/a	GTB607

The QC reported here applies to the following samples: **Method:** SW846 8021B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	D22740-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	ND		27.2	26.7	98	28.4	104	6	70-130/30
100-41-4	Ethylbenzene	ND		45.6	26.6	58* [a]	27.6	61* [b]	4	62-130/30
108-88-3	Toluene	ND		212	184	87	193	91	5	70-130/30
1330-20-7	Xylenes (total)	ND		246	205	83	213	87	4	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D22740-1	Limits
120-82-1	1,2,4-Trichlorobenzene	96%	95%	89%	60-140%

(a) Outside control limits due to matrix interference. Confirmed by MSD.
(b) Outside control limits due to matrix interference.

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3515-MB	FI01636.D	1	04/21/11	EH	04/20/11	OP3515	GFI112

The QC reported here applies to the following samples: **Method:** SW846-8015B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.40	0.27	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	66%	40-137%

Blank Spike Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3515-BS	FI01637.D	1	04/22/11	EH	04/20/11	OP3515	GFI112

The QC reported here applies to the following samples: **Method:** SW846-8015B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	20	16.4	82	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	85%	40-137%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D22740
Account: COCSCOG Olsson Associates - Denver
Project: Riley #1 Tank Battery

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP3515-MS	FI01638.D	1	04/22/11	EH	04/20/11	OP3515	GFI112
OP3515-MSD	FI01639.D	1	04/22/11	EH	04/20/11	OP3515	GFI112
D22554-11	FI01640.D	1	04/22/11	EH	04/20/11	OP3515	GFI112

The QC reported here applies to the following samples: **Method:** SW846-8015B

D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

CAS No.	Compound	D22554-11 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		20	17.0	85	16.3	82	4	70-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D22554-11	Limits
84-15-1	o-Terphenyl	84%	81%	63%	40-137%

Mountain States ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	5.9	5.9		
Antimony	30	3.1	3.1		
Arsenic	25	5.9	5.9	2.4	<25
Barium	10	1.1	1.1	0.0	<10
Beryllium	10	.44	.5		
Boron	50	4.8	4.8		
Cadmium	10	.27	.27	0.10	<10
Calcium	400	9.6	15	335	<400
Chromium	10	.18	.79	-0.10	<10
Cobalt	5.0	.35	.35		
Copper	10	.85	2.8		
Iron	70	3.4	13		
Lead	50	1.6	2.1	-2.2	<50
Lithium	2.0	.28	1.2		
Magnesium	200	5.8	10	40.7	<200
Manganese	5.0	.053	.31		
Molybdenum	10	.45	.87		
Nickel	30	.43	1		
Phosphorus	100	11	20		
Potassium	1000	55	55	217	<1000
Selenium	50	3.8	3.8	0.20	<50
Silicon	50	3.8	3.8		
Silver	30	.18	.31	0.60	<30
Sodium	1000	110	110	983	<1000(a)
Strontium	5.0		.25		
Thallium	10	2.9	2.9		
Tin	50	5.5	9.9		
Titanium	10	.11	.31		
Uranium	50	1.5	3.5		
Vanadium	10	.16	.22		
Zinc	30	.28	1.8		

Associated samples MP4511: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested
(a) All sample results >10x method blank concentration.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/11

Metal	D22740-5 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony	anr				
Arsenic	17.0	1000	1000	98.3	75-125
Barium	64.3	1730	2000	83.3	75-125
Beryllium	anr				
Boron					
Cadmium	31.1	499	500	93.6	75-125
Calcium	66500	89000	25000	90.0	75-125
Chromium	4.4	464	500	91.9	75-125
Cobalt	anr				
Copper	anr				
Iron	anr				
Lead	28.6	962	1000	93.3	75-125
Lithium					
Magnesium	25900	49100	25000	92.8	75-125
Manganese	anr				
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium	2900	26000	25000	92.4	75-125
Selenium	0.0	949	1000	94.9	75-125
Silicon					
Silver	0.50	184	200	91.8	75-125
Sodium	80400	103000	25000	90.4	75-125
Strontium					
Thallium	anr				
Tin					
Titanium					
Uranium					
Vanadium	anr				
Zinc	anr				

Associated samples MP4511: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/11

Metal	D22740-5 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony	anr					
Arsenic	17.0	999	1000	98.2	0.1	20
Barium	64.3	1730	2000	83.3	0.0	20
Beryllium	anr					
Boron						
Cadmium	31.1	505	500	94.8	1.2	20
Calcium	66500	88600	25000	88.4	0.5	20
Chromium	4.4	468	500	92.7	0.9	20
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	28.6	960	1000	93.1	0.2	20
Lithium						
Magnesium	25900	49200	25000	93.2	0.2	20
Manganese	anr					
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium	2900	26200	25000	93.2	0.8	20
Selenium	0.0	946	1000	94.6	0.3	20
Silicon						
Silver	0.50	187	200	93.3	1.6	20
Sodium	80400	103000	25000	90.4	0.0	20
Strontium						
Thallium	anr					
Tin						
Titanium						
Uranium						
Vanadium	anr					
Zinc	anr					

Associated samples MP4511: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 04/20/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony	anr			
Arsenic	1140	1000	114.0	80-120
Barium	1940	2000	97.0	80-120
Beryllium	anr			
Boron				
Cadmium	554	500	110.8	80-120
Calcium	27700	25000	110.8	80-120
Chromium	554	500	110.8	80-120
Cobalt	anr			
Copper	anr			
Iron	anr			
Lead	1110	1000	111.0	80-120
Lithium				
Magnesium	27500	25000	110.0	80-120
Manganese	anr			
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium	27000	25000	108.0	80-120
Selenium	1100	1000	110.0	80-120
Silicon				
Silver	217	200	108.5	80-120
Sodium	29000	25000	116.0	80-120
Strontium				
Thallium	anr			
Tin				
Titanium				
Uranium				
Vanadium	anr			
Zinc	anr			

Associated samples MP4511: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

7.1.3

7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4518
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 04/21/11

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.011	.014	0.025	<0.10

Associated samples MP4518: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4518
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 04/21/11

Metal	D22740-4 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.0	3.3	3.13	104.4	75-125

Associated samples MP4518: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4518
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 04/21/11

Metal	D22740-4 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.2	3.13	102.4	3.1	20

Associated samples MP4518: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

QC Batch ID: MP4518
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 04/21/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	3.0	3.13	96.0	80-120

Associated samples MP4518: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Bicarbonate as HCO3	GN9226	5.0	0.0	mg/l	100	102	101.9	90-110%
Chloride	GP4241/GN9184	0.50	0.20	mg/l	20	20.7	103.5	90-110%
Nitrogen, Nitrate	GP4241/GN9184	0.045	0.0	mg/l	4.52	4.25	94.1	90-110%
Nitrogen, Nitrite	GP4241/GN9184	0.061	0.0	mg/l	6.09	5.94	97.5	90-110%
Specific Conductivity	GP4356/GN9394			umhos/cm	98.7	97.9	99.2	90-110%
Sulfate	GP4241/GN9184	0.50	0.20	mg/l	30	30.0	100.0	90-110%

Associated Samples:
Batch GN9226: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5
Batch GP4241: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5
Batch GP4356: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Bicarbonate as HCO3	GN9226	D22740-3	mg/l	371	367	1.1	0-20%
Specific Conductivity	GP4356/GN9394	D23083-1	umhos/cm	545	549	0.7	0-20%

Associated Samples:
Batch GN9226: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5
Batch GP4356: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP4241/GN9184	D22740-4	mg/l	14.9	10	24.6	97.0	80-120%
Nitrogen, Nitrate	GP4241/GN9184	D22740-4	mg/l	4.9	5.65	10.8	104.4	80-120%
Nitrogen, Nitrite	GP4241/GN9184	D22740-4	mg/l	0.070	0.305	0.36	95.2	80-120%
Sulfate	GP4241/GN9184	D22740-4	mg/l	216	100	316	100.0	80-120%

Associated Samples:
Batch GP4241: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D22740
Account: COCSCOG - Olsson Associates - Denver
Project: Riley #1 Tank Battery

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP4241/GN9184	D22740-4	mg/l	14.9	10	24.7	0.4	20%
Nitrogen, Nitrate	GP4241/GN9184	D22740-4	mg/l	4.9	5.65	10.7	0.9	20%
Nitrogen, Nitrite	GP4241/GN9184	D22740-4	mg/l	0.070	0.305	0.36	0.0	20%
Sulfate	GP4241/GN9184	D22740-4	mg/l	216	100	314	0.6	20%

Associated Samples:
Batch GP4241: D22740-1, D22740-2, D22740-3, D22740-4, D22740-5
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

Southeast
ACCUTEST LABORATORIES

07/08/11

Technical Report for

Olsson Associates, Inc

PDC-Riley #1, CO

010-1905

Accutest Job Number: F83691

Sampling Date: 06/22/11

Report to:

Olsson Associates, Inc
4690 Table Mountain Dr Suite 200
Golden, CO 80403
jlohner@oaconsulting.com; bbaugh@oaconsulting.com

ATTN: John Lohner

Total number of pages in report: **116**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Andrea Colby 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

Test results relate only to samples analyzed.

Sections: 1 2 3 4 5 6 7 8 9 10 11 12

Table of Contents

-1-

Accutest Laboratories

Sample Summary

Olsson Associates, Inc

Job No: F83691

PDC-Riley #1, CO
Project No: 010-1905

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F83691-1	06/22/11	16:00	BB	06/24/11	AQ	Ground Water	MW 04
F83691-1F	06/22/11	16:00	BB	06/24/11	AQ	Groundwater Filtered	MW 04
F83691-2	06/22/11	16:20	BB	06/24/11	AQ	Ground Water	MW 01
F83691-2F	06/22/11	16:20	BB	06/24/11	AQ	Groundwater Filtered	MW 01
F83691-3	06/22/11	16:35	BB	06/24/11	AQ	Ground Water	MW 03
F83691-3F	06/22/11	16:35	BB	06/24/11	AQ	Groundwater Filtered	MW 03
F83691-4	06/22/11	16:50	BB	06/24/11	AQ	Ground Water	MW 02
F83691-4F	06/22/11	16:50	BB	06/24/11	AQ	Groundwater Filtered	MW 02

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Olsson Associates, Inc **Job No:** F83691

Site: PDC-Riley #1, CO **Report Date** 7/8/2011 1:18:58 PM

4 Samples were collected on 06/22/2011 and received at Accutest on 06/24/2011 properly preserved, at 3.6 Deg. C and intact. These Samples received an Accutest job number of F83691. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GC By Method SW846 8015C

Matrix: AQ **Batch ID:** GCD4332

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83538-5MS, F83538-5MSD were used as the QC samples indicated.

Sample(s) F83538-5MS, F83538-5MSD have surrogates outside control limits. Probable cause due to matrix interference.

F83538-5MSD for 4-Bromofluorobenzene: Outside control limits due to matrix interference. Confirmed by reanalysis.

F83538-5MS for 4-Bromofluorobenzene: Outside control limits due to matrix interference. Confirmed by reanalysis.

Volatiles by GC By Method SW846 8021B

Matrix: AQ **Batch ID:** GEF5616

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83430-3MS, F83430-3MSD were used as the QC samples indicated.

F83691-4: Sample was not preserved to a pH < 2.

F83691-1: Sample was not preserved to a pH < 2.

F83691-3: Sample was not preserved to a pH < 2.

F83691-2: Sample was not preserved to a pH < 2.

Extractables by GC By Method SW846 8015C

Matrix: AQ **Batch ID:** OP37693

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

Sample(s) F83627-7MS, F83627-7MSD were used as the QC samples indicated.

All method blanks for this batch meet method specific criteria.

F83691-1 for TPH (C10-C28): Petroleum hydrocarbon pattern extends beyond C28.

Matrix: AQ **Batch ID:** OP37722

All samples were extracted within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83756-9MS, F83756-9MSD were used as the QC samples indicated.

Metals By Method SW846 6010B

Matrix: AQ **Batch ID:** D:MP5085

F83691-2 for Magnesium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-4 for Magnesium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-4 for Calcium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-2 for Calcium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-4 for Sodium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-3 for Sodium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-3 for Calcium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-3 for Magnesium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-1 for Calcium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-1 for Sodium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-2 for Sodium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-1 for Magnesium: Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP20911

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83691-1MS, F83691-1MSD, F83691-1PS, F83691-1SDL, F83691-1DUP were used as the QC samples for metals.

RPD(s) for Duplicate for Chromium, Lead are outside control limits for sample MP20911-D1. RPD acceptable due to low duplicate and sample concentrations.

RPD(s) for Serial Dilution for Arsenic, Cadmium, Chromium, Potassium are outside control limits for sample MP20911-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

MP20911-PS1 for Sodium: Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

MP20911-SD1 for Potassium: Serial dilution indicates possible matrix interference.

Metals By Method SW846 7470A

Matrix: AQ **Batch ID:** MP20925

All samples were digested within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83834-1DUP, F83834-1MS, F83834-1MSD, F83839-1SDL, F83834-1SDL were used as the QC samples for metals.

RPD(s) for Serial Dilution for Mercury are outside control limits for sample MP20925-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Wet Chemistry By Method EPA 120.1

Matrix: AQ **Batch ID:** GN45360

Sample(s) F83691-1DUP were used as the QC samples for Specific Conductivity.

The following samples were run outside of holding time for method EPA 120.1: F83691-1, F83691-2, F83691-3, F83691-4 Sample received outside the holding time.

Wet Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP17231

All samples were prepared within the recommended method holding time.

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83669-1DUP, F83669-1MS were used as the QC samples for Nitrogen, Nitrate, Nitrogen, Nitrite, Sulfate, Chloride.

Matrix Spike Recovery(s) for Nitrogen, Nitrate are outside control limits. Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

F83691-1 for Nitrogen, Nitrite: Dilution required due to matrix interference.

F83691-4 for Nitrogen, Nitrite: Dilution required due to matrix interference.

Wet Chemistry By Method SM19 2320B

Matrix: AQ **Batch ID:** GN45323

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83693-2DUP, F83693-2MS were used as the QC samples for Alkalinity, Total as CaCO3.

Matrix: AQ **Batch ID:** GN45376

All samples were analyzed within the recommended method holding time.

All method blanks for this batch meet method specific criteria.

Sample(s) F83691-2DUP, F83691-2MS were used as the QC samples for Alkalinity, Total as CaCO3.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix: AQ **Batch ID:** D:MP5085

F83691-4 for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-3 for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-1 for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

F83691-2 for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

Accutest Laboratories Southeast (ALSE) certifies that this report meets the project requirements for analytical data produced for the samples as received at ALSE and as stated on the COC. ALSE certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the ALSE Quality Manual except as noted above. This report is to be used in its entirety. ALSE is not responsible for any assumptions of data quality if partial data packages are used

Narrative prepared by:

_____ Date: July 08, 2011

Svetlana Izosimova, QA Officer (signature on file)

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Accutest Laboratories Southeast, Inc.	**Job No**	F83691
Site:	OACCOG: PDC-Riley #1, CO	**Report Dat**	7/7/2011 12:50:19 PM

On 06/24/2011, 4 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 5 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of F83691 was assigned to the project. The lab sample IDs, client sample IDs, and dates of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP5085

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D24910-1AMS, D24910-1AMSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix AQ **Batch ID:** MP5085

- Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Southeast ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 04		
Lab Sample ID:	F83691-1	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD106317.D	1	06/27/11	MM	n/a	n/a	GCD4332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	81%		57-129%
98-08-8	aaa-Trifluorotoluene	74%		58-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 04		
Lab Sample ID:	F83691-1	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EF104487.D	1	06/27/11	LO	n/a	n/a	GEF5616
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		70-120%
98-08-8	aaa-Trifluorotoluene	99%		73-118%

(a) Sample was not preserved to a pH < 2.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 04		
Lab Sample ID:	F83691-1	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C SW846 3510C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF41943.D	1	06/29/11	SJL	06/27/11	OP37693	GZF1700
Run #2							

	Initial Volume	Final Volume
Run #1	1010 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28) [a]	0.309	0.25	0.099	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	54%		42-114%

(a) Petroleum hydrocarbon pattern extends beyond C28.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW 04		
Lab Sample ID:	F83691-1	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium [a]	78.0	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Calcium	73700	1000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Magnesium [a]	60.0	1.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Magnesium	56800	5000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Potassium	< 10000	10000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Sodium [a]	93.8	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Sodium	91900	20000	ug/l	2	07/01/11	07/05/11	RS	SW846 6010C [3]	SW846 3010A [5]

(1) Instrument QC Batch: D:MA1641
(2) Instrument QC Batch: MA9070
(3) Instrument QC Batch: MA9073
(4) Prep QC Batch: D:MP5085
(5) Prep QC Batch: MP20911

(a) Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 04		
Lab Sample ID:	F83691-1	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	343	5.0	mg/l	1	07/06/11	CC	SM18 4500CO2D
Alkalinity, Total as CaCO3	344	5.0	mg/l	1	07/05/11	LE	SM19 2320B
Chloride	10.5	10	mg/l	5	06/24/11 20:39	CC	EPA 300/SW846 9056A
Nitrogen, Nitrate	0.95	0.50	mg/l	5	06/24/11 20:39	CC	EPA 300/SW846 9056A
Nitrogen, Nitrite [a]	0.25 U	0.50	mg/l	5	06/24/11 20:39	CC	EPA 300/SW846 9056A
Sodium Adsorption Ratio [b]	1.94		ratio	1	06/30/11 14:28	AMS	USDA HANDBOOK 60
Specific Conductivity [c]	1050	1.0	umhos/cm	1	07/06/11 16:20	AR	EPA 120.1
Sulfate	268	10	mg/l	5	06/24/11 20:39	CC	EPA 300/SW846 9056A

(a) Dilution required due to matrix interference.
(b) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.
(c) Sample received outside the holding time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 04		
Lab Sample ID:	F83691-1F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Mercury	< 1.0	1.0	ug/l	1	07/06/11	07/06/11	LM	SW846 7470A [2]	SW846 7470A [4]
Selenium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9070
(2) Instrument QC Batch: MA9074
(3) Prep QC Batch: MP20911
(4) Prep QC Batch: MP20925

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 01		
Lab Sample ID:	F83691-2	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD106318.D	1	06/27/11	MM	n/a	n/a	GCD4332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	81%		57-129%
98-08-8	aaa-Trifluorotoluene	76%		58-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 01		
Lab Sample ID:	F83691-2	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EF104488.D	1	06/27/11	LO	n/a	n/a	GEF5616
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	91%		70-120%
98-08-8	aaa-Trifluorotoluene	98%		73-118%

(a) Sample was not preserved to a pH < 2.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 01		
Lab Sample ID:	F83691-2	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C SW846 3510C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF41944.D	1	06/29/11	SJL	06/27/11	OP37693	GZF1700
Run #2							

	Initial Volume	Final Volume
Run #1	1010 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	0.100	0.25	0.099	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	45%		42-114%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW 01		
Lab Sample ID:	F83691-2	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium [a]	445	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Calcium	105000	1000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Magnesium [a]	134	1.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Magnesium	65000	5000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Potassium	< 10000	10000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Sodium [a]	117	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Sodium	98800	20000	ug/l	2	07/01/11	07/05/11	RS	SW846 6010C [3]	SW846 3010A [5]

(1) Instrument QC Batch: D:MA1641
(2) Instrument QC Batch: MA9070
(3) Instrument QC Batch: MA9073
(4) Prep QC Batch: D:MP5085
(5) Prep QC Batch: MP20911

(a) Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 01		
Lab Sample ID:	F83691-2	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	459	5.0	mg/l	1	07/06/11	LT	SM18 4500CO2D
Alkalinity, Total as CaCO3	460	50	mg/l	1	07/06/11	LT	SM19 2320B
Chloride	< 10	10	mg/l	5	06/24/11 20:56	CC	EPA 300/SW846 9056A
Nitrogen, Nitrate	1.2	0.50	mg/l	5	06/24/11 20:56	CC	EPA 300/SW846 9056A
Nitrogen, Nitrite	< 0.50	0.50	mg/l	5	06/24/11 20:56	CC	EPA 300/SW846 9056A
Sodium Adsorption Ratio [a]	1.25		ratio	1	06/30/11 14:34	AMS	USDA HANDBOOK 60
Specific Conductivity [b]	1080	1.0	umhos/cm	1	07/06/11 16:20	AR	EPA 120.1
Sulfate	282	10	mg/l	5	06/24/11 20:56	CC	EPA 300/SW846 9056A

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.
(b) Sample received outside the holding time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 01		
Lab Sample ID:	F83691-2F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Mercury	< 1.0	1.0	ug/l	1	07/06/11	07/06/11	LM	SW846 7470A [2]	SW846 7470A [4]
Selenium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9070
(2) Instrument QC Batch: MA9074
(3) Prep QC Batch: MP20911
(4) Prep QC Batch: MP20925

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 03		
Lab Sample ID:	F83691-3	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD106319.D	1	06/27/11	MM	n/a	n/a	GCD4332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	84%		57-129%
98-08-8	aaa-Trifluorotoluene	77%		58-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 03		
Lab Sample ID:	F83691-3	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EF104489.D	1	06/27/11	LO	n/a	n/a	GEF5616
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	93%		70-120%
98-08-8	aaa-Trifluorotoluene	99%		73-118%

(a) Sample was not preserved to a pH < 2.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 03		
Lab Sample ID:	F83691-3	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C SW846 3510C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF42016.D	1	07/01/11	SJL	06/29/11	OP37722	GZF1701
Run #2							

	Initial Volume	Final Volume
Run #1	1040 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.24	0.096	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	85%		42-114%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW 03		
Lab Sample ID:	F83691-3	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium [a]	155	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Calcium	108000	1000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Magnesium [a]	79.0	1.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Magnesium	61900	5000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Potassium	< 10000	10000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Sodium [a]	105	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Sodium	94900	20000	ug/l	2	07/01/11	07/05/11	RS	SW846 6010C [3]	SW846 3010A [5]

(1) Instrument QC Batch: D:MA1641
(2) Instrument QC Batch: MA9070
(3) Instrument QC Batch: MA9073
(4) Prep QC Batch: D:MP5085
(5) Prep QC Batch: MP20911

(a) Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 03		
Lab Sample ID:	F83691-3	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	454	5.0	mg/l	1	07/06/11	CC	SM18 4500CO2D
Alkalinity, Total as CaCO3	456	5.0	mg/l	1	07/05/11	LE	SM19 2320B
Chloride	< 10	10	mg/l	5	06/24/11 21:13	CC	EPA 300/SW846 9056A
Nitrogen, Nitrate	1.6	0.50	mg/l	5	06/24/11 21:13	CC	EPA 300/SW846 9056A
Nitrogen, Nitrite	< 0.50	0.50	mg/l	5	06/24/11 21:13	CC	EPA 300/SW846 9056A
Sodium Adsorption Ratio [a]	1.71		ratio	1	06/30/11 14:40	AMS	USDA HANDBOOK 60
Specific Conductivity [b]	1060	1.0	umhos/cm	1	07/06/11 16:20	AR	EPA 120.1
Sulfate	276	10	mg/l	5	06/24/11 21:13	CC	EPA 300/SW846 9056A

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.
(b) Sample received outside the holding time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 03		
Lab Sample ID:	F83691-3F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Mercury	< 1.0	1.0	ug/l	1	07/06/11	07/06/11	LM	SW846 7470A [2]	SW846 7470A [4]
Selenium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9070
(2) Instrument QC Batch: MA9074
(3) Prep QC Batch: MP20911
(4) Prep QC Batch: MP20925

RL = Reporting Limit

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 02		
Lab Sample ID:	F83691-4	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	CD106320.D	1	06/28/11	MM	n/a	n/a	GCD4332
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	85%		57-129%
98-08-8	aaa-Trifluorotoluene	78%		58-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 02		
Lab Sample ID:	F83691-4	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	EF104490.D	1	06/27/11	LO	n/a	n/a	GEF5616
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
460-00-4	4-Bromofluorobenzene	94%		70-120%
98-08-8	aaa-Trifluorotoluene	99%		73-118%

(a) Sample was not preserved to a pH < 2.

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest Laboratories

Report of Analysis

Client Sample ID:	MW 02		
Lab Sample ID:	F83691-4	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
Method:	SW846 8015C SW846 3510C	**Percent Solids:**	n/a
Project:	PDC-Riley #1, CO		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	ZF42017.D	1	07/01/11	SJL	06/29/11	OP37722	GZF1701
Run #2							

	Initial Volume	Final Volume
Run #1	1030 ml	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.24	0.097	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	86%		42-114%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW 02		
Lab Sample ID:	F83691-4	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium [a]	84.5	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Calcium	79100	1000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Magnesium [a]	68.9	1.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Magnesium	61900	5000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Potassium	< 10000	10000	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [2]	SW846 3010A [5]
Sodium [a]	98.9	2.0	mg/l	1	06/29/11	06/30/11	AMS	SW846 6010B [1]	EPA 200.7 [4]
Sodium	94200	20000	ug/l	2	07/01/11	07/05/11	RS	SW846 6010C [3]	SW846 3010A [5]

(1) Instrument QC Batch: D:MA1641
(2) Instrument QC Batch: MA9070
(3) Instrument QC Batch: MA9073
(4) Prep QC Batch: D:MP5085
(5) Prep QC Batch: MP20911

(a) Analysis performed at Accutest Laboratories, Wheat Ridge, CO.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 02		
Lab Sample ID:	F83691-4	**Date Sampled:**	06/22/11
Matrix:	AQ - Ground Water	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Alkalinity, Bicarbonate as CaC	339	5.0	mg/l	1	07/06/11	CC	SM18 4500CO2D
Alkalinity, Total as CaCO3	341	5.0	mg/l	1	07/05/11	LE	SM19 2320B
Chloride	10.7	10	mg/l	5	06/24/11 21:30	CC	EPA 300/SW846 9056A
Nitrogen, Nitrate	1.5	0.50	mg/l	5	06/24/11 21:30	CC	EPA 300/SW846 9056A
Nitrogen, Nitrite [a]	0.25 U	0.50	mg/l	5	06/24/11 21:30	CC	EPA 300/SW846 9056A
Sodium Adsorption Ratio [b]	1.94		ratio	1	06/30/11 14:46	AMS	USDA HANDBOOK 60
Specific Conductivity [c]	1090	1.0	umhos/cm	1	07/06/11 16:20	AR	EPA 120.1
Sulfate	283	10	mg/l	5	06/24/11 21:30	CC	EPA 300/SW846 9056A

(a) Dilution required due to matrix interference.
(b) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2] Analysis performed at Accutest Laboratories, Wheat Ridge, CO.
(c) Sample received outside the holding time.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	MW 02		
Lab Sample ID:	F83691-4F	**Date Sampled:**	06/22/11
Matrix:	AQ - Groundwater Filtered	**Date Received:**	06/24/11
		Percent Solids:	n/a
Project:	PDC-Riley #1, CO		

Dissolved Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Barium	< 200	200	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Cadmium	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Chromium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Lead	< 5.0	5.0	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Mercury	< 1.0	1.0	ug/l	1	07/06/11	07/06/11	LM	SW846 7470A [2]	SW846 7470A [4]
Selenium	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]
Silver	< 10	10	ug/l	1	07/01/11	07/01/11	RS	SW846 6010C [1]	SW846 3010A [3]

(1) Instrument QC Batch: MA9070
(2) Instrument QC Batch: MA9074
(3) Prep QC Batch: MP20911
(4) Prep QC Batch: MP20925

RL = Reporting Limit

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY F83691

PAGE ___ OF ___

Accutest Laboratories Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL. 303-425-6021 877-737-4521
FAX 303-425-6021

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #:

Client Information

Company Name: Olsson Associates
Street Address: 4690 table Mtn dr.
City: Golden State: CO Zip: 80403
Project Contact: Ben Baugh E-mail: bbaugh@oa-consulting.com
Phone #: 804-513-0707 Fax #:
Sampler(s) Name(s): Phone #:

Project Information

Project Name: [redacted] PDC - Riley #1
Street:
City:
Project #: 010-1905
Client PO#:
Project Manager: Melissa Lambert

Billing Information (If different from Report to)

Company Name: PDC
Street Address:
City: State: Zip:
Attention: PO#:

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfite	BTEX (8021B) GRO (8015B)	DRO (8015B)	RCRA Metals (3010A) and (7470A)	Major Ions (3010A, 9056 and 22100)	SAR	EC (2510B)					LAB USE ONLY
1	MW04		6/22/11	16:00	BB		8										X	X	X	X	X	X					
2	MW01		6/22/11	16:20	BB		8										X	X	X	X	X	X					
3	MW03		6/22/11	16:35	BB		8										X	X	X	X	X	X					
4	MW02		6/22/11	16:50	BB		8										X	X	X	X	X	X					

Turnaround Time (Business days)
- ☐ Std. 10 Business Days
- ☐ Std. 5 Business Days (By Contract only)
- ☐ 5 Day RI SH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ Commercial "B" +Narrative
- ☐ FULLT1 (Level 3+4)
- ☐ State Forms
- ☐ EDD Format
- ☐ PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

No preservatives in samples

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler	Date Time	Received By	Relinquished By	Date Time	Received By
1 [signature]	6/22 19:20	1 [signature]	2 [signature]	6/24/11 930	2 [signature] / Accutest 6/24/11 930
3		3	4		4
5		5			

Relinquished by Sampler: 3
Relinquished by: 5

Custody Seal #: ☐ Intact ☐ Not Intact
Preserved where applicable: ☐
On Ice: X
Cooler Temp.: 3.6

F83691: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F83691 CLIENT: Olsson PROJECT: PDC

DATE/TIME RECEIVED: 6/24/11 930 {MM/DD/YY 24:00} NIMBER OF COOLERS RECEIVED: 1

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8759 1311 2869

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE PRESENT

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [/] TRIP BLANK NOT PROVIDED
- [/] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? 25-GRAM / 5-GRAM /

NUMBER OF 5035 FIELD KITS ? /

NUMBER OF LAB FILTERED METALS ? /

TEMPERATURE INFORMATION

- [ ] IR THERM ID IR1 CORR. FACTOR 1.4
- [ ] OBSERVED TEMPS: 3.2
- [ ] CORRECTED TEMPS: 3.6

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [/] INCORRECT NUMBER OF CONTAINERS USED
- [/] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] DATES/TIMES ON COC DO NOT MATCH SAMPLE LABEL
- [ ] ID'S ON COC DO NOT MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING OR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

{APPICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS}

SUMMARY OF COMMENTS: Only received 2 vials 8260 and 1 vial GRO per sample. Sample 4 1 Amber Broken. All Ambers received are unpreserved for DRO.

TECHNICIAN SIGNATURE/DATE CL 6/24/11 REVIEWER SIGNATURE/DATE KC 6-24-11

NF 12/10

receipt confirmation 122910.xls

4.1

4

F83691: Chain of Custody
Page 2 of 2

Southeast ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD4332-MB	CD106293.D	1	06/27/11	MM	n/a	n/a	GCD4332

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2, F83691-3, F83691-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.10	0.050	mg/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	113%	57-129%
98-08-8	aaa-Trifluorotoluene	84%	58-120%

Method Blank Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEF5616-MB	EF104484.D	1	06/27/11	LO	n/a	n/a	GEF5616

The QC reported here applies to the following samples: **Method:** SW846 8021B

F83691-1, F83691-2, F83691-3, F83691-4

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.50	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.50	ug/l	
108-88-3	Toluene	ND	1.0	0.50	ug/l	
1330-20-7	Xylenes (total)	ND	3.0	1.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
460-00-4	4-Bromofluorobenzene	92%	70-120%
98-08-8	aaa-Trifluorotoluene	99%	73-118%

Blank Spike Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GCD4332-BS	CD106292.D	1	06/27/11	MM	n/a	n/a	GCD4332

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2, F83691-3, F83691-4

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	0.4	0.426	107	75-129

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	117%	57-129%
98-08-8	aaa-Trifluorotoluene	105%	58-120%

Blank Spike Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GEF5616-BS	EF104483.D	1	06/27/11	LO	n/a	n/a	GEF5616

The QC reported here applies to the following samples: **Method:** SW846 8021B

F83691-1, F83691-2, F83691-3, F83691-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	20	19.1	96	80-120
100-41-4	Ethylbenzene	20	19.2	96	79-121
108-88-3	Toluene	20	19.2	96	79-121
1330-20-7	Xylenes (total)	60	56.3	94	80-119

CAS No.	Surrogate Recoveries	BSP	Limits
460-00-4	4-Bromofluorobenzene	96%	70-120%
98-08-8	aaa-Trifluorotoluene	99%	73-118%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F83538-5MS	CD106300.D	1	06/27/11	MM	n/a	n/a	GCD4332
F83538-5MSD	CD106301.D	1	06/27/11	MM	n/a	n/a	GCD4332
F83538-5	CD106299.D	1	06/27/11	MM	n/a	n/a	GCD4332

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2, F83691-3, F83691-4

CAS No.	Compound	F83538-5 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.611		0.4	0.937	82	0.952	85	2	75-129/13

CAS No.	Surrogate Recoveries	MS	MSD	F83538-5	Limits
460-00-4	4-Bromofluorobenzene	130%* [a]	134%* [a]	120%	57-129%
98-08-8	aaa-Trifluorotoluene	112%	109%	96%	58-120%

(a) Outside control limits due to matrix interference. Confirmed by reanalysis.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
F83430-3MS	EF104508.D	1	06/28/11	LO	n/a	n/a	GEF5616
F83430-3MSD	EF104509.D	1	06/28/11	LO	n/a	n/a	GEF5616
F83430-3 [a]	EF104492.D	1	06/27/11	LO	n/a	n/a	GEF5616

The QC reported here applies to the following samples: **Method:** SW846 8021B

F83691-1, F83691-2, F83691-3, F83691-4

CAS No.	Compound	F83430-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	1.0 U		20	20.1	101	19.9	100	1	80-120/10
100-41-4	Ethylbenzene	1.8		20	22.6	104	22.5	104	0	79-121/9
108-88-3	Toluene	1.0 U		20	20.0	100	19.9	100	1	79-121/10
1330-20-7	Xylenes (total)	8.6		60	71.9	106	71.1	104	1	80-119/8

CAS No.	Surrogate Recoveries	MS	MSD	F83430-3	Limits
460-00-4	4-Bromofluorobenzene	104%	102%	96%	70-120%
98-08-8	aaa-Trifluorotoluene	101%	100%	98%	73-118%

(a) All hits confirmed by dual column analysis.

Southeast ACCUTEST LABORATORIES

GC Volatiles

Raw Data

Quantitation Report (QT Reviewed)

```
Signal #1 : C:\HPCHEM\1\DATA\062711\CD106317.D\FID1B.CH  Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106317.D\FID2A.CH
Acq On    : 27 Jun 2011  11:00 pm                    Operator: MikeM
Sample    : f83691-1                                 Inst    : VOA2
Misc      : gc12373,gcd4332,,,,,                     Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e
Quant Time: Jun 28  7:49 2011  Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title        : EPA 8015B/TPHGRO by GC-PID/FID
Last Update  : Wed Jun 01 12:11:22 2011
Response via : Initial Calibration
DataAcq Meth : GRO.M

Volume Inj.     :
Signal #1 Phase : DB-MTBE           Signal #2 Phase: DB-MTBE
Signal #1 Info  : PID               Signal #2 Info : FID

     Compound                    R.T.       Response    Conc Units
---------------------------------------------------------------------------

System Monitoring Compounds
 1) S   a,a,a-TFT                   7.52          26753   17.348
Spiked Amount     20.000   Range  58 - 120    Recovery   =   86.74%
 2) S   BFB                        11.94          89390   17.418
Spiked Amount     20.000   Range  57 - 129    Recovery   =   87.09%
 4) S   a,a,a-TFT #2                7.52         872970   14.813
Spiked Amount     20.000   Range  58 - 120    Recovery   =   74.06%
 5) S   BFB #2                     11.94         622902   16.141
Spiked Amount     20.000   Range  57 - 129    Recovery   =   80.70%

Target Compounds
 6) H   TPH-GRO (C6-C10)           10.75        1651367   33.246 ug/L
```

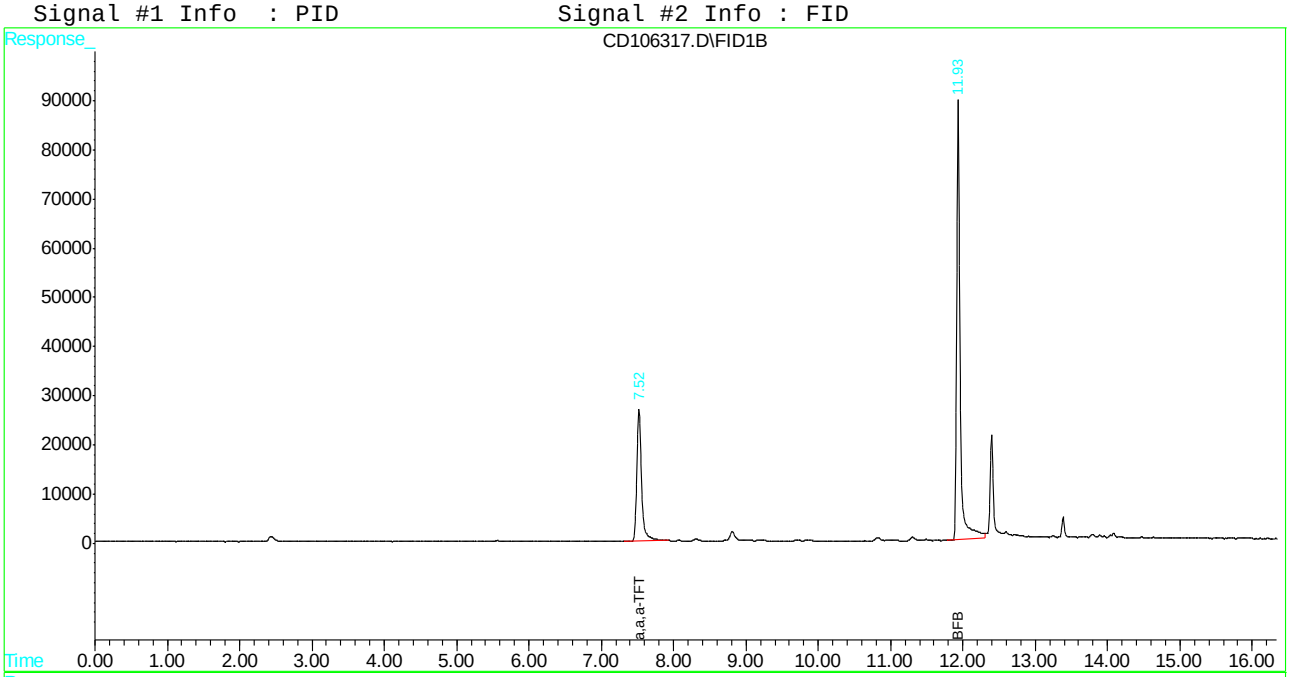
```
---------------------------------------------------------------------------
(f)=RT Delta > 1/2 Window                                (m)=manual int.
CD106317.D  GROW-CD.M      Tue Jun 28 08:26:35 2011
```

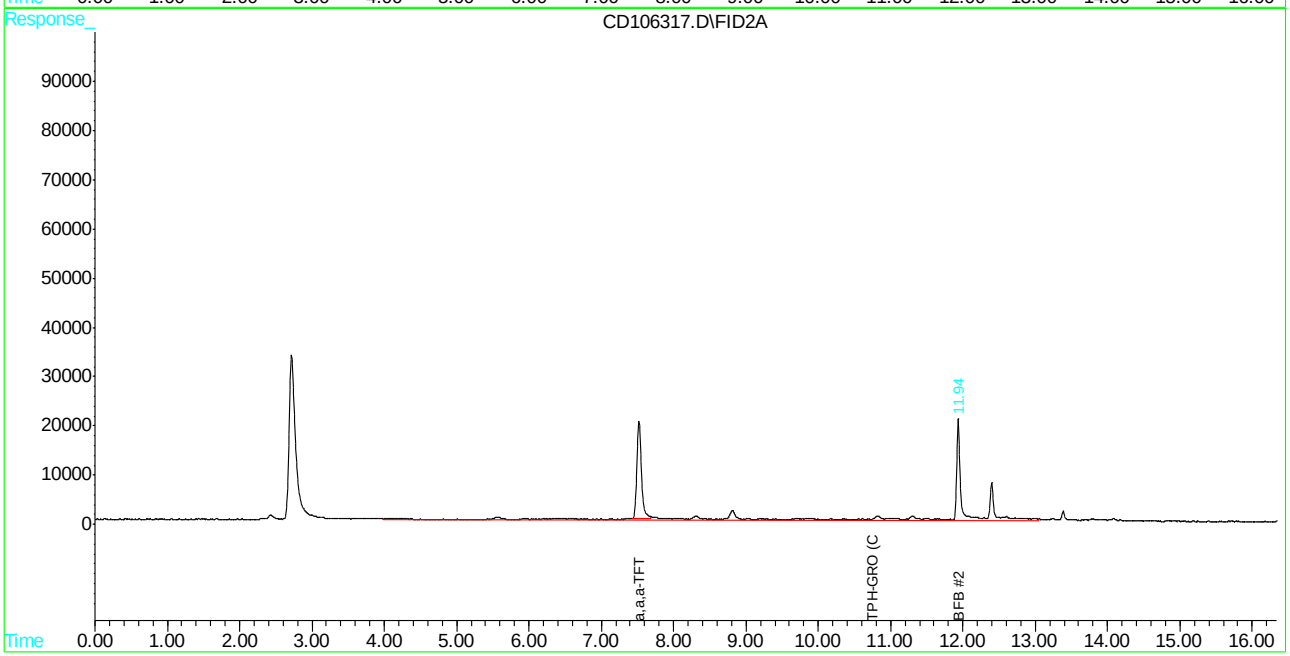
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\CD106317.D\FID1B.CH Vial: 27
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106317.D\FID2A.CH
Acq On : 27 Jun 2011 11:00 pm Operator: MikeM
Sample : f83691-1 Inst : VOA2
Misc : gc12373,gcd4332,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: events2.e
Quant Time: Jun 28 7:49 2011 Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title : EPA 8015B/TPHGRO by GC-PID/FID
Last Update : Wed Jun 01 12:11:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : GRO.M

Volume Inj. :
Signal #1 Phase : DB-MTBE Signal #2 Phase: DB-MTBE
Signal #1 Info : PID Signal #2 Info : FID





Quantitation Report (QT Reviewed)

```
Signal #1 : C:\HPCHEM\1\DATA\062711\CD106318.D\FID1B.CH  Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106318.D\FID2A.CH
Acq On    : 27 Jun 2011  11:28 pm                    Operator: MikeM
Sample    : f83691-2                                 Inst    : VOA2
Misc      : gc12373,gcd4332,,,,,                     Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e
Quant Time: Jun 28  7:49 2011  Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title        : EPA 8015B/TPHGRO by GC-PID/FID
Last Update  : Wed Jun 01 12:11:22 2011
Response via : Initial Calibration
DataAcq Meth : GRO.M

Volume Inj.     :
Signal #1 Phase : DB-MTBE           Signal #2 Phase: DB-MTBE
Signal #1 Info  : PID               Signal #2 Info : FID
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S a,a,a-TFT	7.52	26371	17.100
Spiked Amount 20.000	Range 58 - 120	Recovery =	85.50%
2) S BFB	11.93	87141	16.980
Spiked Amount 20.000	Range 57 - 129	Recovery =	84.90%
4) S a,a,a-TFT #2	7.52	894851	15.184
Spiked Amount 20.000	Range 58 - 120	Recovery =	75.92%
5) S BFB #2	11.93	624763	16.189
Spiked Amount 20.000	Range 57 - 129	Recovery =	80.94%
Target Compounds			
6) H TPH-GRO (C6-C10)	10.75	1617676	32.568 ug/L

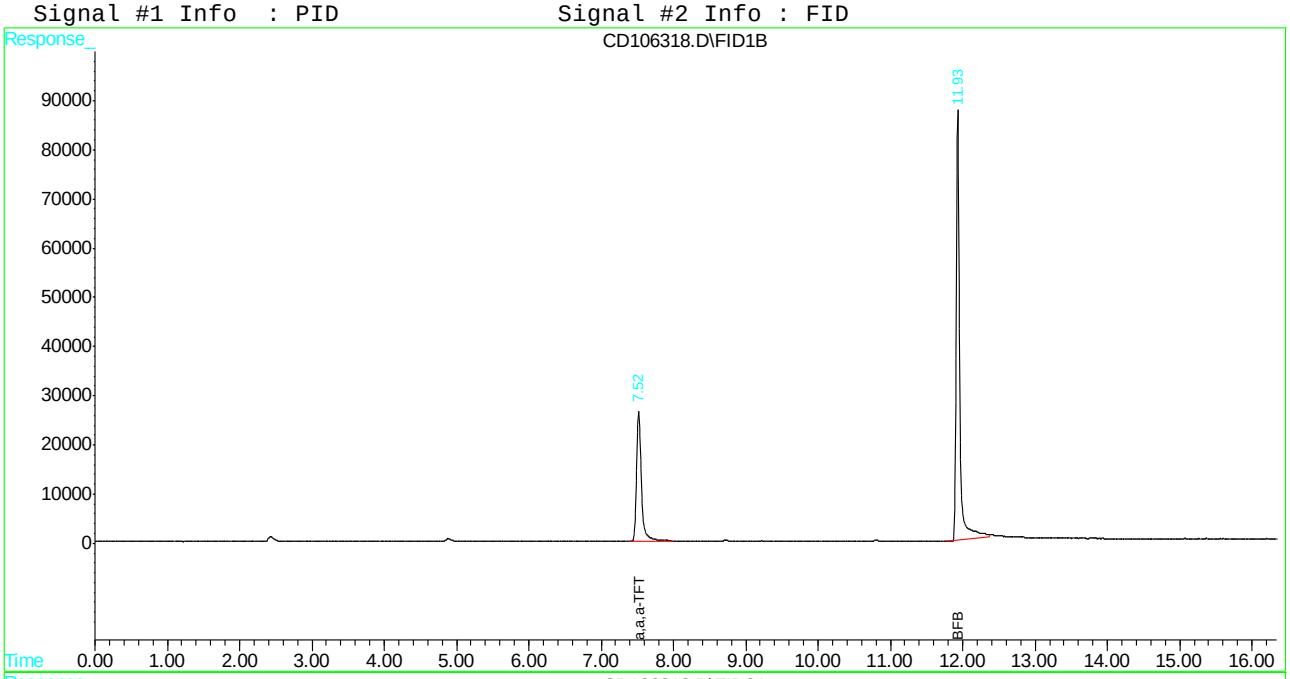
```
(f)=RT Delta > 1/2 Window                          (m)=manual int.
CD106318.D  GROW-CD.M      Tue Jun 28 08:26:38 2011
```

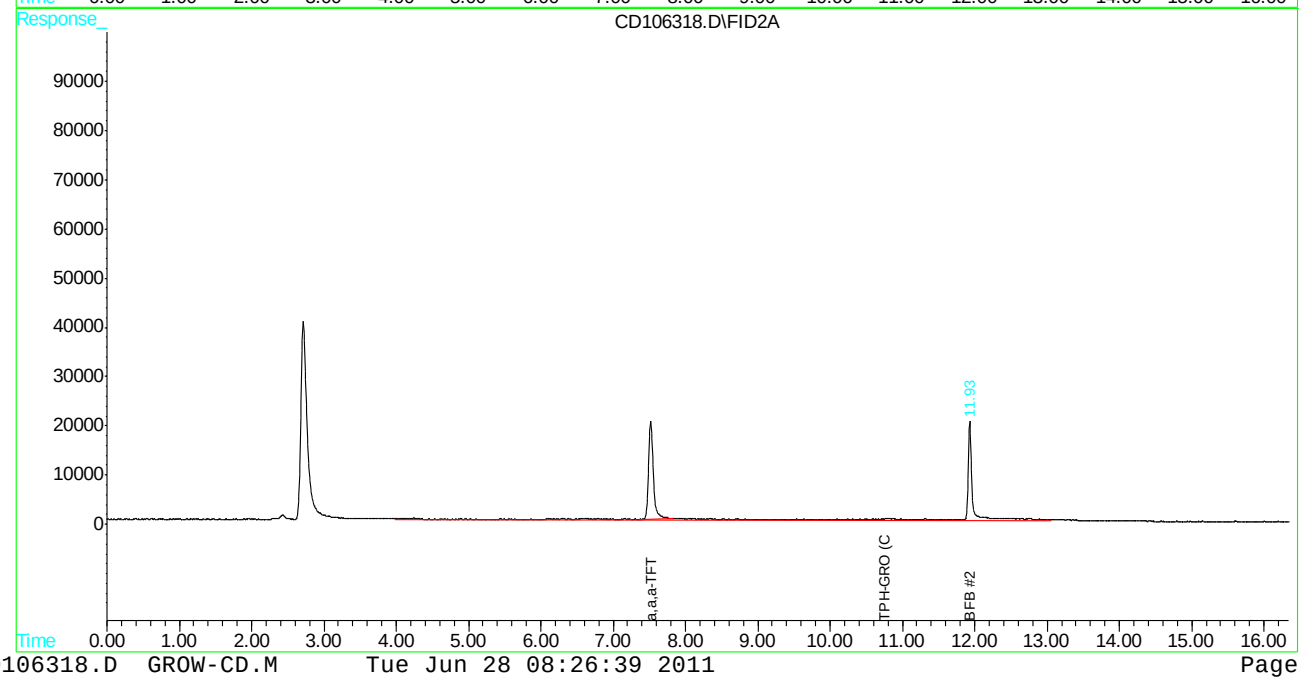
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\CD106318.D\FID1B.CH Vial: 28
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106318.D\FID2A.CH
Acq On : 27 Jun 2011 11:28 pm Operator: MikeM
Sample : f83691-2 Inst : VOA2
Misc : gc12373,gcd4332,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: events2.e
Quant Time: Jun 28 7:49 2011 Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title : EPA 8015B/TPHGRO by GC-PID/FID
Last Update : Wed Jun 01 12:11:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : GRO.M

Volume Inj. :
Signal #1 Phase : DB-MTBE Signal #2 Phase: DB-MTBE
Signal #1 Info : PID Signal #2 Info : FID





Quantitation Report (QT Reviewed)

```
Signal #1 : C:\HPCHEM\1\DATA\062711\CD106319.D\FID1B.CH  Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106319.D\FID2A.CH
Acq On    : 27 Jun 2011  11:55 pm                    Operator: MikeM
Sample    : f83691-3                                 Inst    : VOA2
Misc      : gc12373,gcd4332,,,,,                     Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e
Quant Time: Jun 28  7:49 2011  Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title        : EPA 8015B/TPHGRO by GC-PID/FID
Last Update  : Wed Jun 01 12:11:22 2011
Response via : Initial Calibration
DataAcq Meth : GRO.M

Volume Inj.     :
Signal #1 Phase : DB-MTBE           Signal #2 Phase: DB-MTBE
Signal #1 Info  : PID               Signal #2 Info : FID
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S a,a,a-TFT	7.52	26966	17.486
Spiked Amount 20.000	Range 58 - 120	Recovery =	87.43%
2) S BFB	11.93	90440	17.623
Spiked Amount 20.000	Range 57 - 129	Recovery =	88.12%
4) S a,a,a-TFT #2	7.52	906498	15.382
Spiked Amount 20.000	Range 58 - 120	Recovery =	76.91%
5) S BFB #2	11.93	651293	16.877
Spiked Amount 20.000	Range 57 - 129	Recovery =	84.39%
Target Compounds			
6) H TPH-GRO (C6-C10)	10.75	1413564	28.458 ug/L

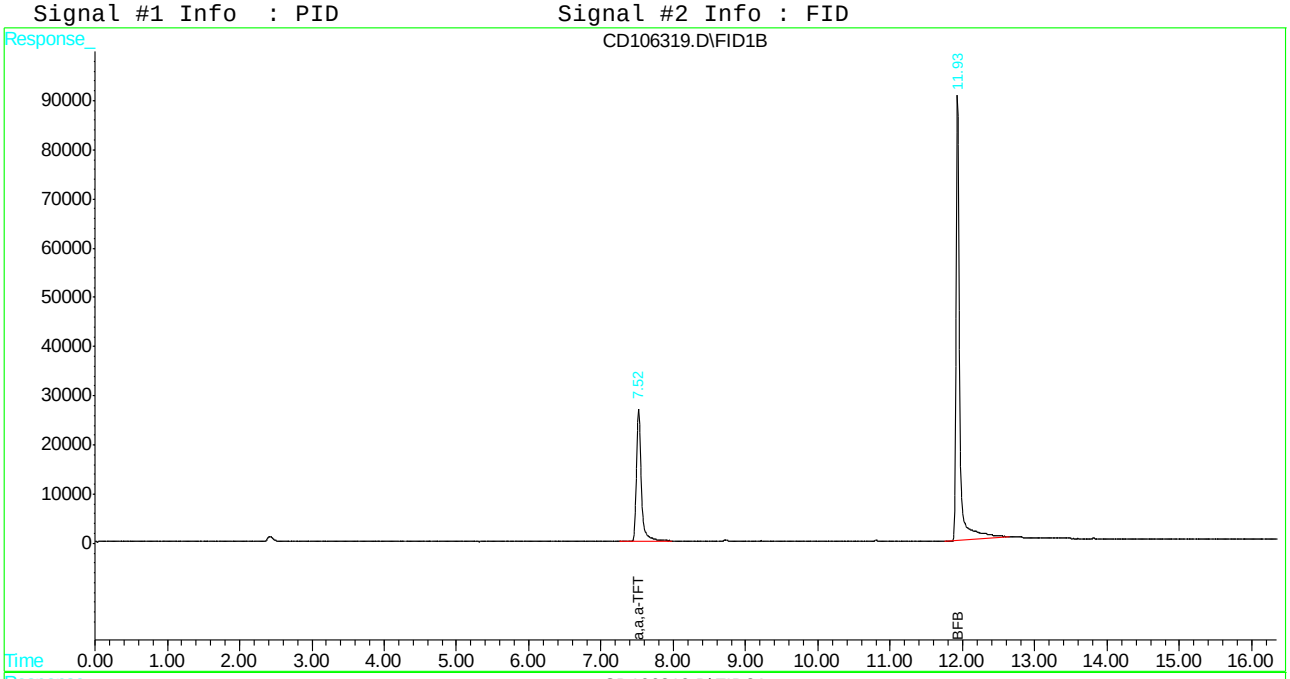
```
(f)=RT Delta > 1/2 Window                          (m)=manual int.
CD106319.D  GROW-CD.M      Tue Jun 28 08:26:40 2011
```

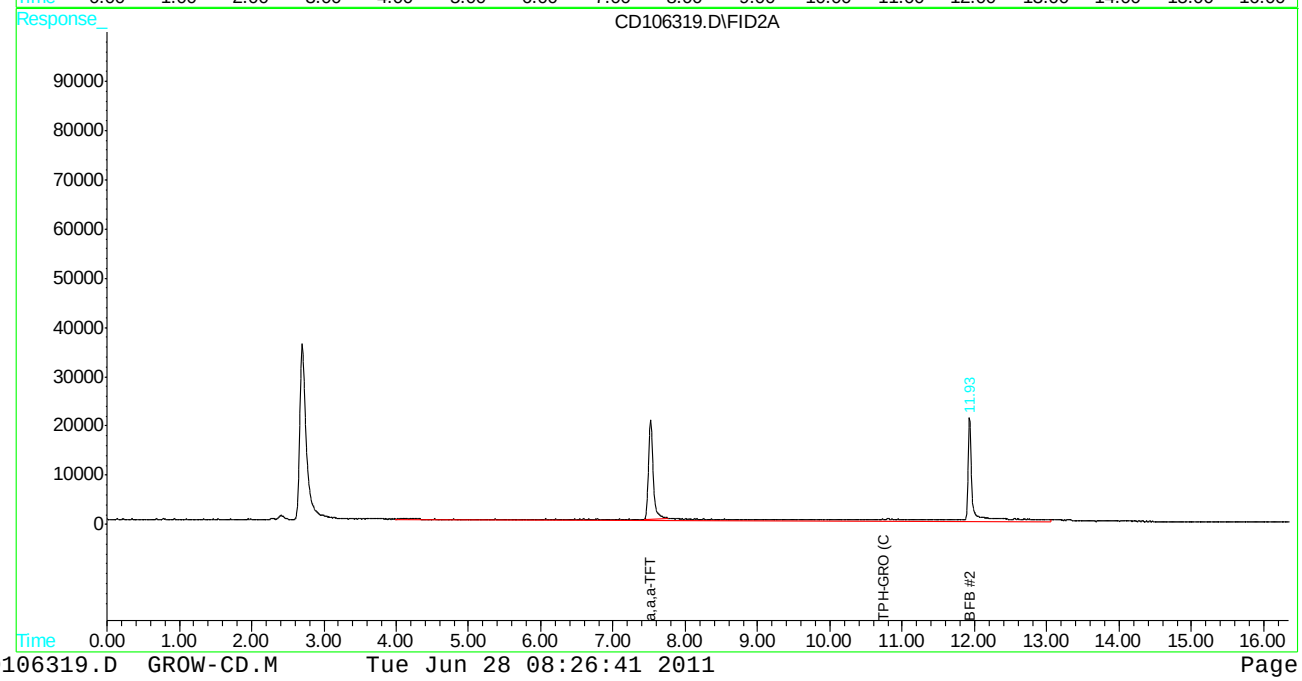
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\CD106319.D\FID1B.CH Vial: 29
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106319.D\FID2A.CH
Acq On : 27 Jun 2011 11:55 pm Operator: MikeM
Sample : f83691-3 Inst : VOA2
Misc : gc12373,gcd4332,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: events2.e
Quant Time: Jun 28 7:49 2011 Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title : EPA 8015B/TPHGRO by GC-PID/FID
Last Update : Wed Jun 01 12:11:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : GRO.M

Volume Inj. :
Signal #1 Phase : DB-MTBE Signal #2 Phase: DB-MTBE
Signal #1 Info : PID Signal #2 Info : FID





Quantitation Report (QT Reviewed)

```
Signal #1 : C:\HPCHEM\1\DATA\062711\CD106320.D\FID1B.CH  Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106320.D\FID2A.CH
Acq On    : 28 Jun 2011  12:23 am                    Operator: MikeM
Sample    : f83691-4                                 Inst    : VOA2
Misc      : gc12373,gcd4332,,,,,                     Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e
Quant Time: Jun 28  7:50 2011  Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title        : EPA 8015B/TPHGRO by GC-PID/FID
Last Update  : Wed Jun 01 12:11:22 2011
Response via : Initial Calibration
DataAcq Meth : GRO.M

Volume Inj.     :
Signal #1 Phase : DB-MTBE           Signal #2 Phase: DB-MTBE
Signal #1 Info  : PID               Signal #2 Info : FID

     Compound                    R.T.       Response    Conc Units
---------------------------------------------------------------------------

System Monitoring Compounds
 1) S   a,a,a-TFT                   7.51          27402   17.768
Spiked Amount     20.000   Range  58 - 120    Recovery   =   88.84%
 2) S   BFB                        11.93          91939   17.915
Spiked Amount     20.000   Range  57 - 129    Recovery   =   89.57%
 4) S   a,a,a-TFT #2                7.51         921120   15.630
Spiked Amount     20.000   Range  58 - 120    Recovery   =   78.15%
 5) S   BFB #2                     11.93         654888   16.970
Spiked Amount     20.000   Range  57 - 129    Recovery   =   84.85%

Target Compounds
 6) H   TPH-GRO (C6-C10)           10.75        1461927   29.432 ug/L
```

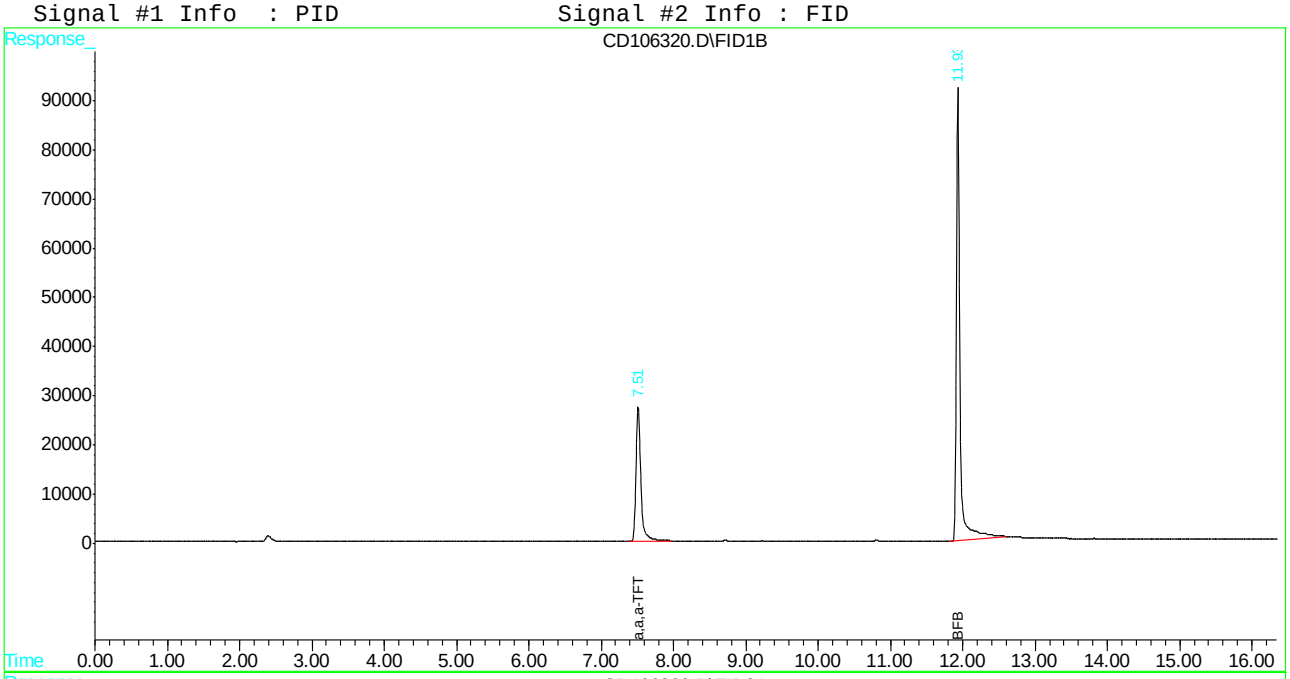
```
---------------------------------------------------------------------------
(f)=RT Delta > 1/2 Window                              (m)=manual int.
CD106320.D  GROW-CD.M      Tue Jun 28 08:26:43 2011
```

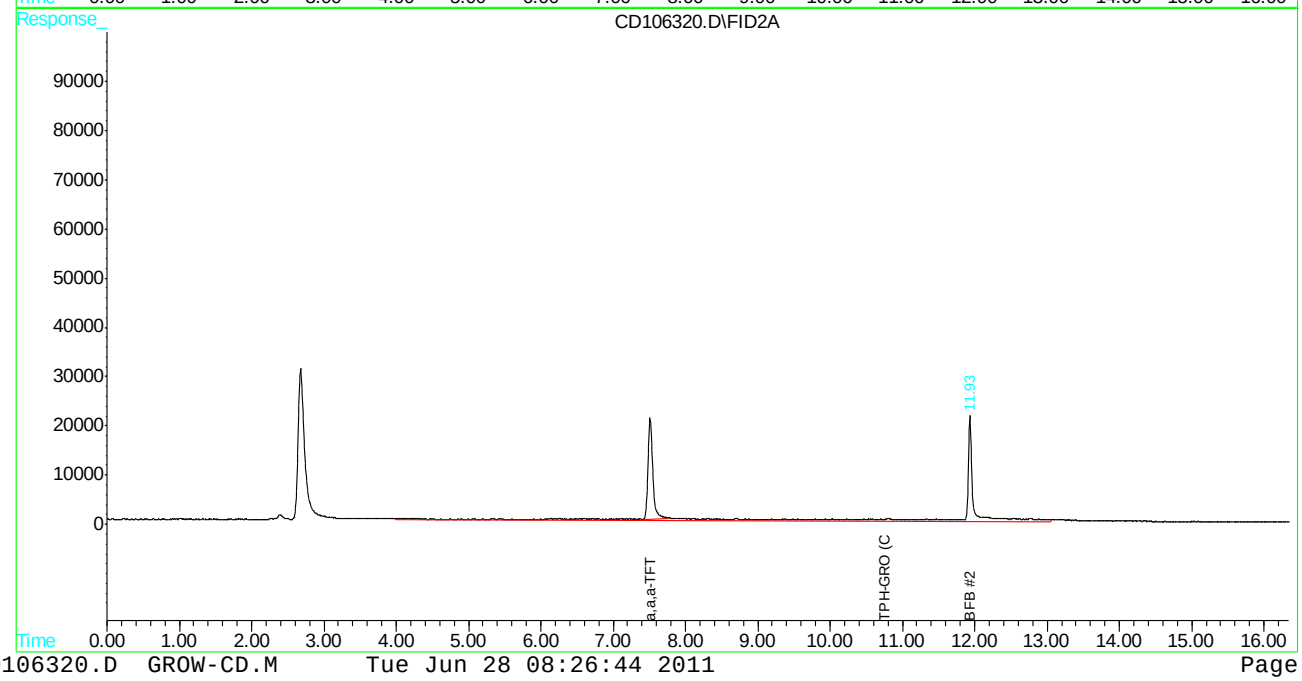
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\CD106320.D\FID1B.CH Vial: 30
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106320.D\FID2A.CH
Acq On : 28 Jun 2011 12:23 am Operator: MikeM
Sample : f83691-4 Inst : VOA2
Misc : gc12373,gcd4332,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: events2.e
Quant Time: Jun 28 7:50 2011 Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title : EPA 8015B/TPHGRO by GC-PID/FID
Last Update : Wed Jun 01 12:11:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : GRO.M

Volume Inj. :
Signal #1 Phase : DB-MTBE Signal #2 Phase: DB-MTBE
Signal #1 Info : PID Signal #2 Info : FID





CD106320.D GROW-CD.M Tue Jun 28 08:26:44 2011 Page 2

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104487.D\FID1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104487.D\FID2B.CH
Acq On : 27 Jun 2011 2:59 pm Operator: LirieO
Sample : F83691-1 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 16:03 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Initial Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
4) S	a,a,a-TFT(S)	6.30	5.47	16369	10137	20.571	19.809
	Spiked Amount 20.000 Range 73 - 118 Recovery =					102.86%	99.05%
10) S	BFB(S)	11.40	10.38	42451	26939	19.375	18.594
	Spiked Amount 20.000 Range 70 - 120 Recovery =					96.88%	92.97%
	Target Compounds						
1)	Methyl tert Buty	0.00	0.00	0	0	N.D.	N.D.
2)	Di-Isopropyl eth	0.00	0.00	0	0	N.D.	N.D.
3)	Benzene	0.00	0.00	0	0	N.D.	N.D.
5)	Toluene	0.00	0.00	0	0	N.D. d	N.D. d
6)	Chlorobenzene	0.00	0.00	0	0	N.D.	N.D.
7)	Ethylbenzene	0.00	0.00	0	0	N.D.	N.D.
8)	m,p-Xylene	0.00	0.00	0	0	N.D.	N.D.
9)	o-Xylene	0.00	0.00	0	0	N.D.	N.D.
11)	1,3-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
12)	1,4-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
13)	1,2-Dichlorobenz	0.00	0.00	0	0	N.D. d	N.D. d

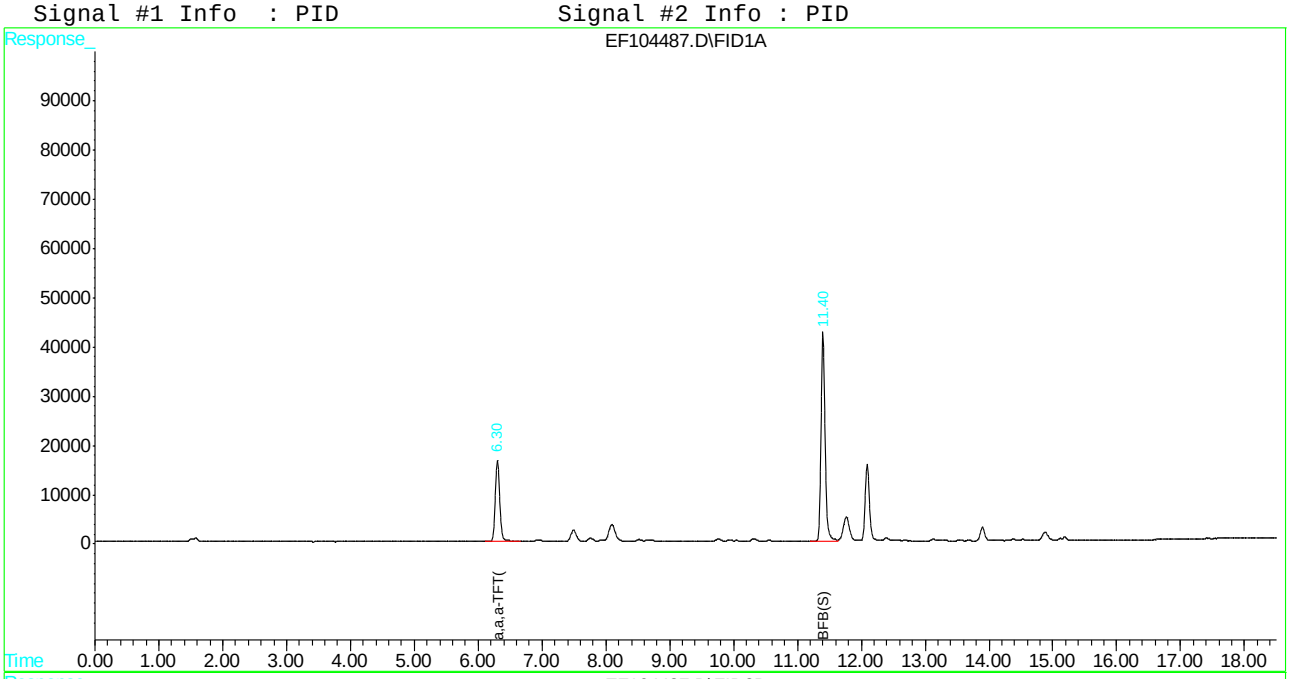
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
EF104487.D 8021EF.M Tue Jun 28 16:08:24 2011

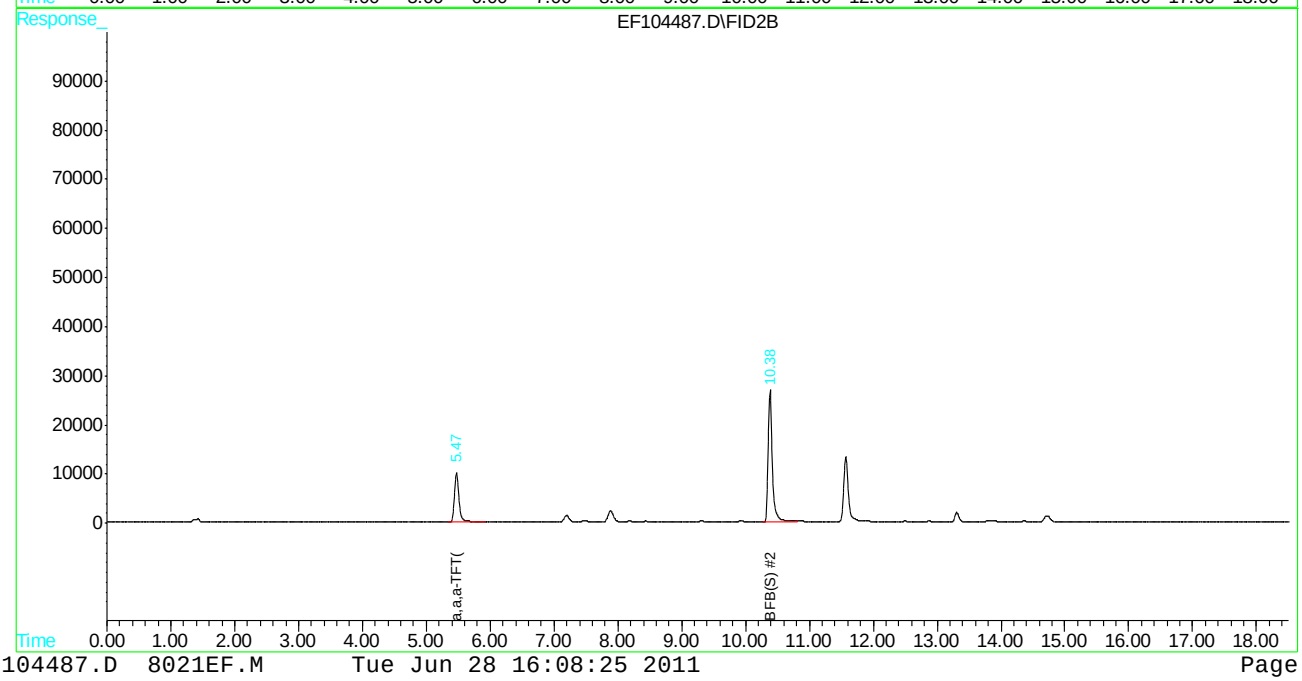
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104487.D\FID1A.CH Vial: 7
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104487.D\FID2B.CH
Acq On : 27 Jun 2011 2:59 pm Operator: LirieO
Sample : F83691-1 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 16:03 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Multiple Level Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104488.D\FID1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104488.D\FID2B.CH
Acq On : 27 Jun 2011 3:27 pm Operator: LirieO
Sample : F83691-2 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:22 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Initial Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
4) S	a,a,a-TFT(S)	6.31	5.47	15993	10032	20.097	19.605
Spiked Amount	20.000 Range 73 - 118 Recovery =					100.49%	98.03%
10) S	BFB(S)	11.40	10.39	41482	26439	18.933	18.249
Spiked Amount	20.000 Range 70 - 120 Recovery =					94.66%	91.25%
	Target Compounds						
1)	Methyl tert Buty	0.00	0.00	0	0	N.D.	N.D.
2)	Di-Isopropyl eth	0.00	0.00	0	0	N.D.	N.D.
3)	Benzene	0.00	0.00	0	0	N.D.	N.D.
5)	Toluene	0.00	0.00	0	0	N.D.	N.D.
6)	Chlorobenzene	0.00	0.00	0	0	N.D.	N.D.
7)	Ethylbenzene	0.00	0.00	0	0	N.D.	N.D.
8)	m,p-Xylene	0.00	0.00	0	0	N.D.	N.D.
9)	o-Xylene	0.00	0.00	0	0	N.D.	N.D.
11)	1,3-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
12)	1,4-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
13)	1,2-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.

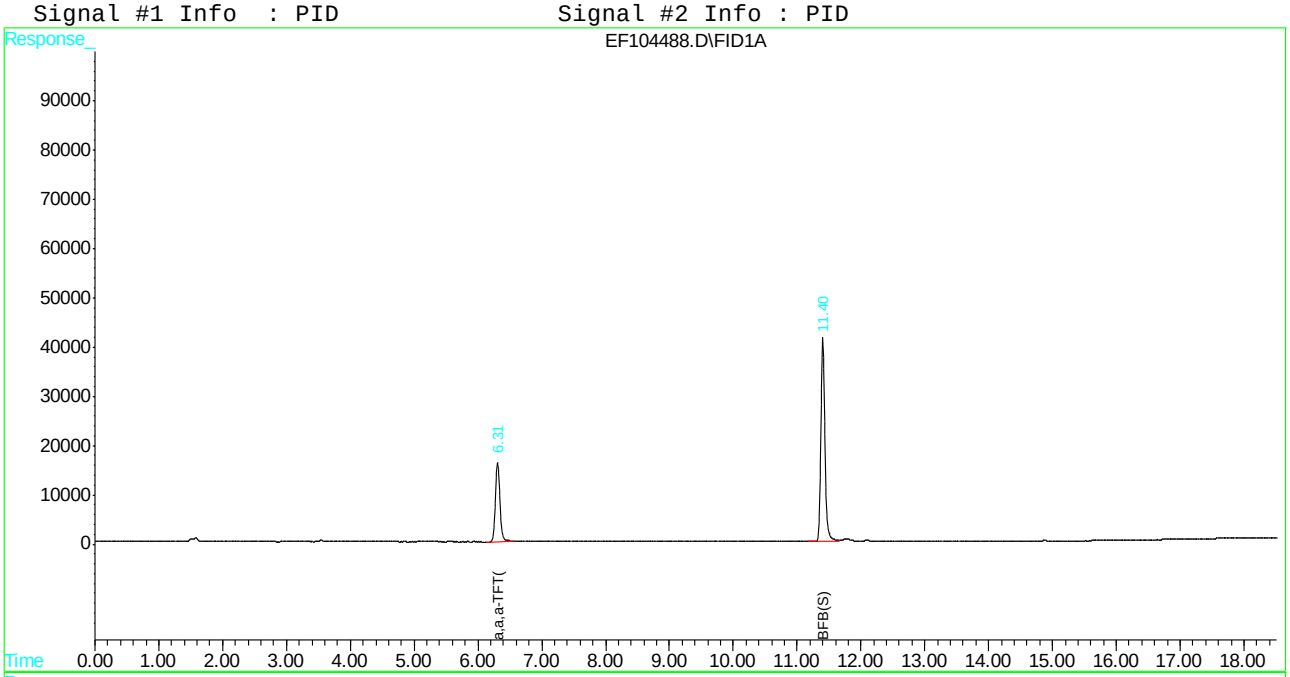
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
EF104488.D 8021EF.M Tue Jun 28 16:08:28 2011

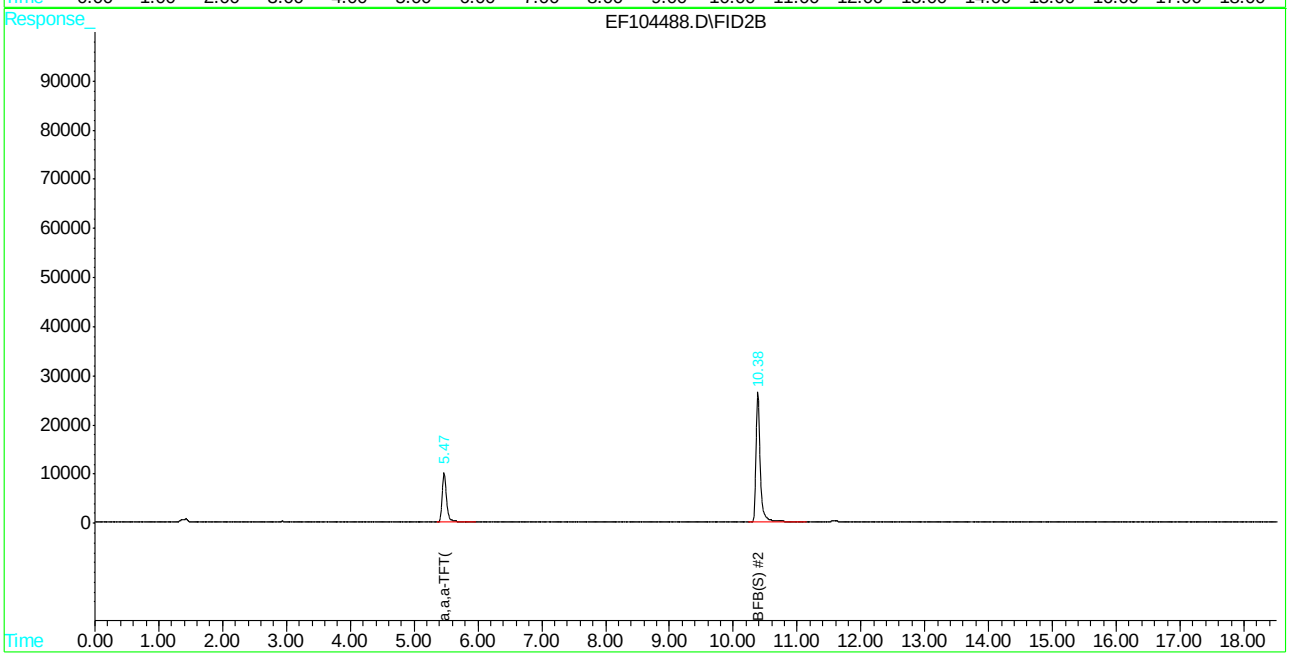
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104488.D\FID1A.CH Vial: 8
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104488.D\FID2B.CH
Acq On : 27 Jun 2011 3:27 pm Operator: LirieO
Sample : F83691-2 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:22 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Multiple Level Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID





EF104488.D 8021EF.M Tue Jun 28 16:08:29 2011 Page 2

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104489.D\FID1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104489.D\FID2B.CH
Acq On : 27 Jun 2011 3:55 pm Operator: LirieO
Sample : F83691-3 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:22 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Initial Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
4) S	a,a,a-TFT(S)	6.31	5.47	16183	10157	20.336	19.849
Spiked Amount		20.000	Range	73 - 118	Recovery	= 101.68%	99.25%
10) S	BFB(S)	11.40	10.38	42186	26974	19.254	18.618
Spiked Amount		20.000	Range	70 - 120	Recovery	= 96.27%	93.09%
	Target Compounds						
1)	Methyl tert Buty	0.00	0.00	0	0	N.D.	N.D.
2)	Di-Isopropyl eth	0.00	0.00	0	0	N.D.	N.D.
3)	Benzene	0.00	0.00	0	0	N.D.	N.D.
5)	Toluene	0.00	0.00	0	0	N.D.	N.D.
6)	Chlorobenzene	0.00	0.00	0	0	N.D.	N.D.
7)	Ethylbenzene	0.00	0.00	0	0	N.D.	N.D.
8)	m,p-Xylene	0.00	0.00	0	0	N.D.	N.D.
9)	o-Xylene	0.00	0.00	0	0	N.D.	N.D.
11)	1,3-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
12)	1,4-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
13)	1,2-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.

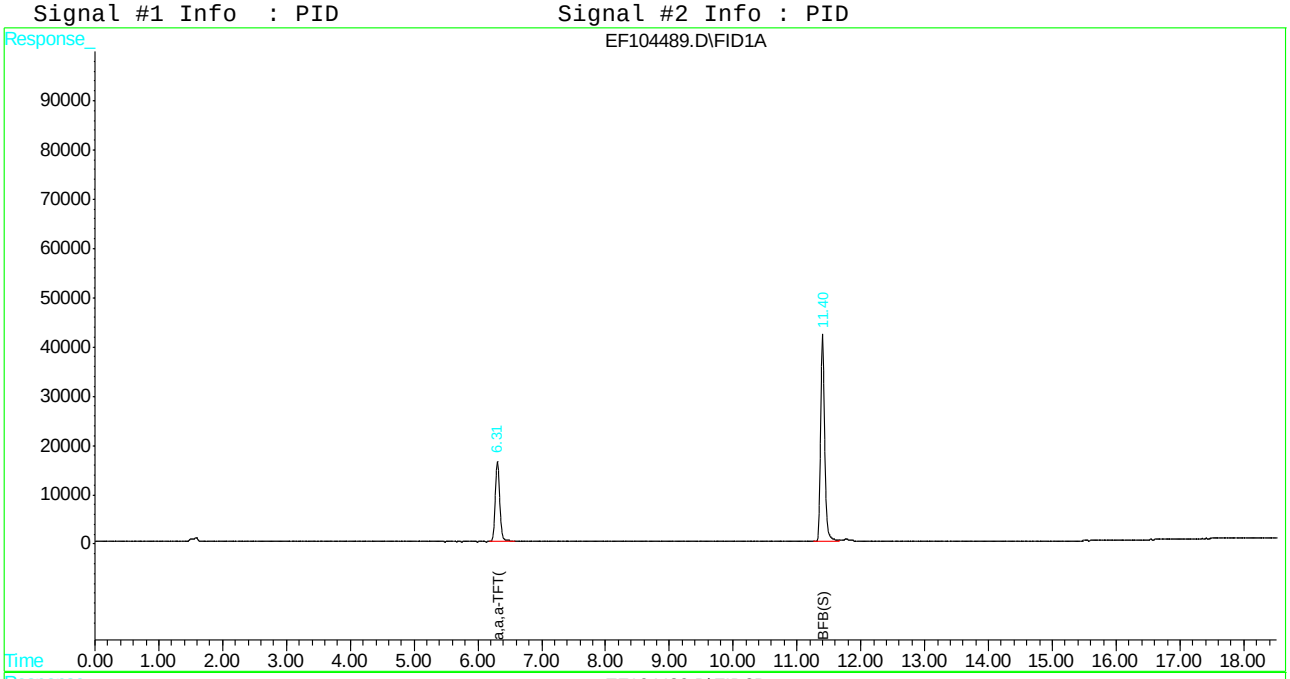
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
EF104489.D 8021EF.M Tue Jun 28 16:08:31 2011

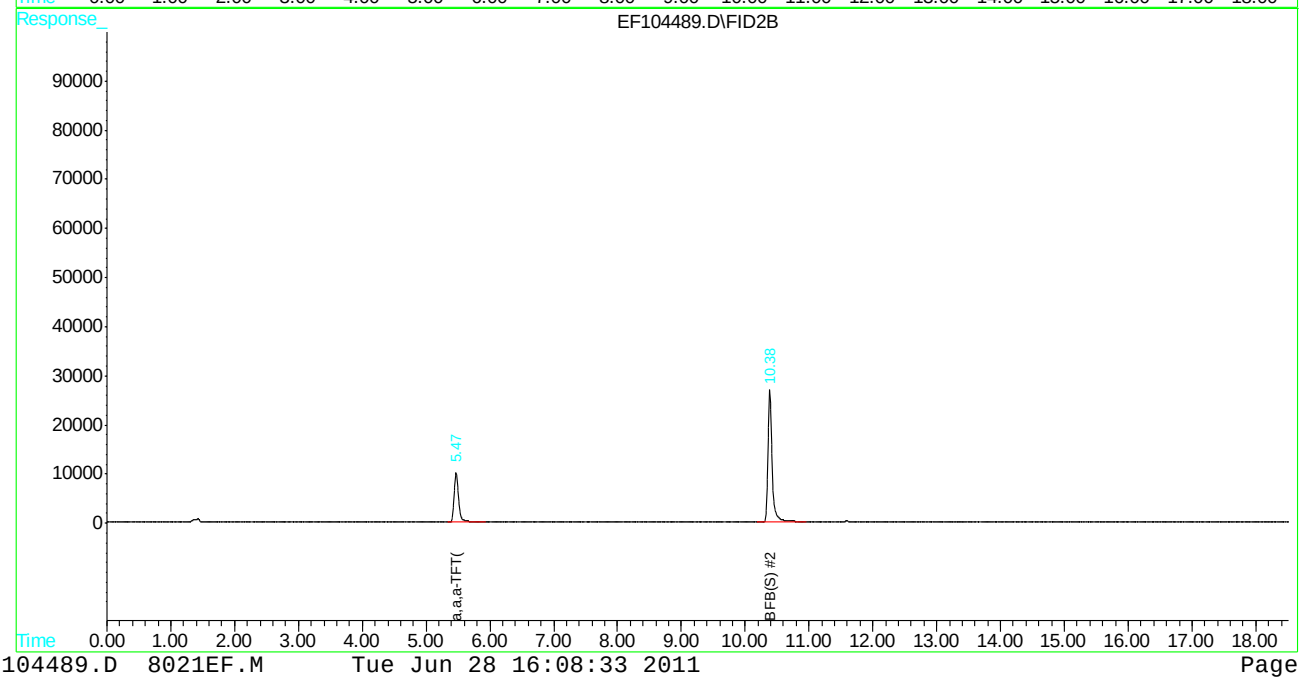
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104489.D\FID1A.CH Vial: 9
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104489.D\FID2B.CH
Acq On : 27 Jun 2011 3:55 pm Operator: LirieO
Sample : F83691-3 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:22 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Multiple Level Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID





EF104489.D 8021EF.M Tue Jun 28 16:08:33 2011 Page 2

Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104490.D\FID1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104490.D\FID2B.CH
Acq On : 27 Jun 2011 4:24 pm Operator: LirieO
Sample : F83691-4 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:22 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Initial Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
4) S	a,a,a-TFT(S)	6.31	5.47	16113	10143	20.248	19.821
	Spiked Amount 20.000 Range 73 - 118 Recovery =					101.24%	99.11%
10) S	BFB(S)	11.40	10.38	42253	27109	19.285	18.711
	Spiked Amount 20.000 Range 70 - 120 Recovery =					96.43%	93.55%
	Target Compounds						
1)	Methyl tert Buty	0.00	0.00	0	0	N.D.	N.D.
2)	Di-Isopropyl eth	0.00	0.00	0	0	N.D.	N.D.
3)	Benzene	0.00	0.00	0	0	N.D.	N.D.
5)	Toluene	0.00	0.00	0	0	N.D.	N.D.
6)	Chlorobenzene	0.00	0.00	0	0	N.D.	N.D.
7)	Ethylbenzene	0.00	0.00	0	0	N.D.	N.D.
8)	m,p-Xylene	0.00	0.00	0	0	N.D.	N.D.
9)	o-Xylene	0.00	0.00	0	0	N.D.	N.D.
11)	1,3-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
12)	1,4-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
13)	1,2-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.

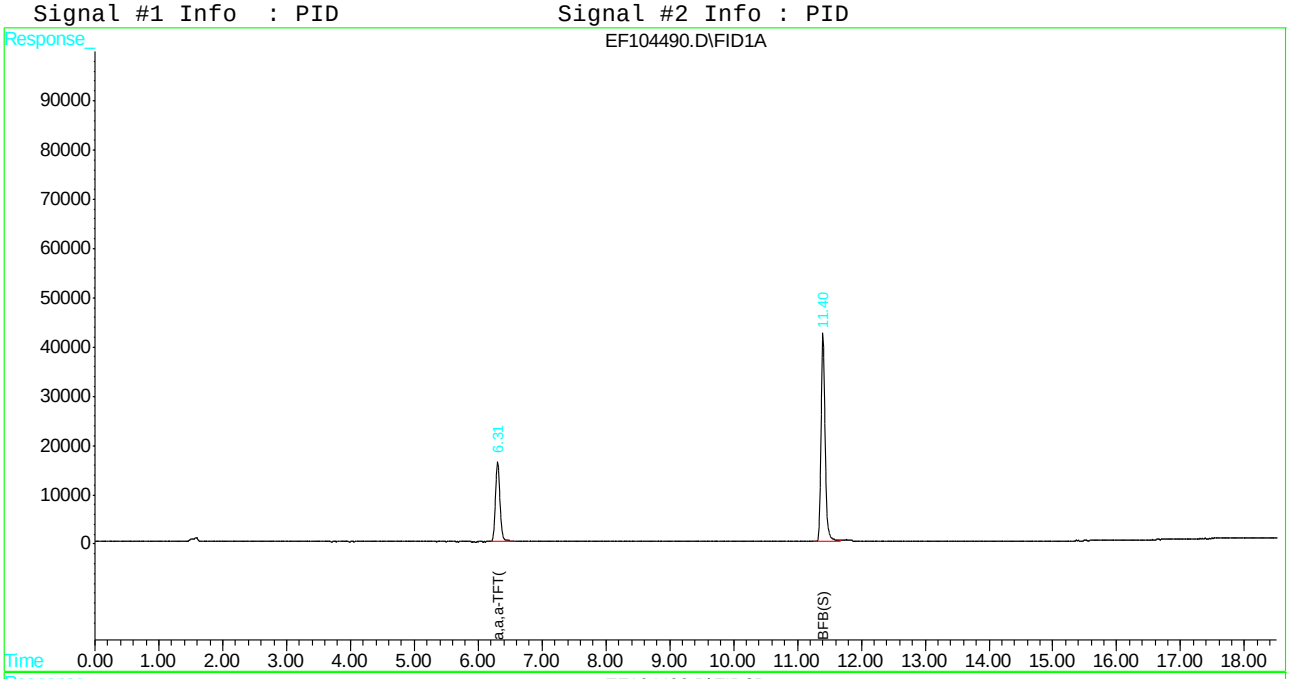
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
EF104490.D 8021EF.M Tue Jun 28 16:08:35 2011

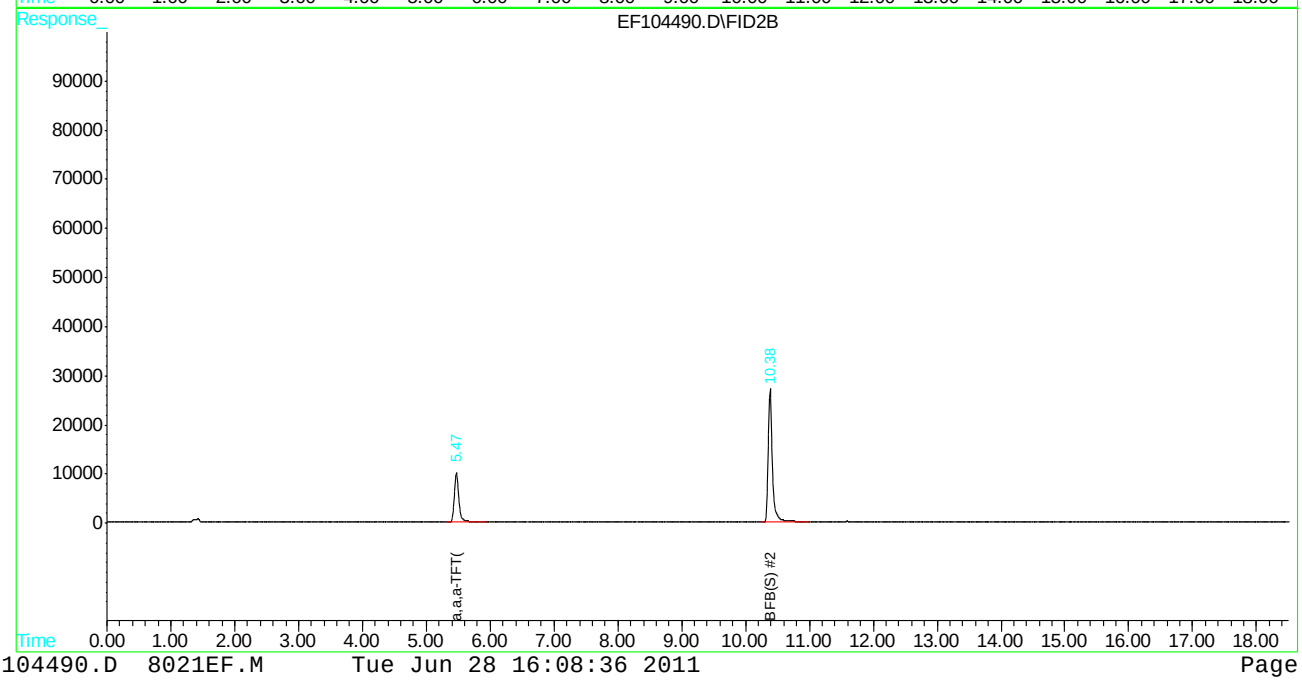
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104490.D\FID1A.CH Vial: 10
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104490.D\FID2B.CH
Acq On : 27 Jun 2011 4:24 pm Operator: LirieO
Sample : F83691-4 Inst : VOA1
Misc : gc12375,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:22 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Multiple Level Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID





Quantitation Report (QT Reviewed)

```
Signal #1 : C:\HPCHEM\1\DATA\062711\CD106293.D\FID1B.CH  Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106293.D\FID2A.CH
Acq On    : 27 Jun 2011  11:59 am                    Operator: MikeM
Sample    : mb                                       Inst    : VOA2
Misc      : gc12359,gcd4332,,,,,                     Multiplr: 1.00
IntFile Signal #1: PID.E        IntFile Signal #2: events2.e
Quant Time: Jun 27 12:16 2011  Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title        : EPA 8015B/TPHGRO by GC-PID/FID
Last Update  : Wed Jun 01 12:11:22 2011
Response via : Initial Calibration
DataAcq Meth : GRO.M

Volume Inj.     :
Signal #1 Phase : DB-MTBE           Signal #2 Phase: DB-MTBE
Signal #1 Info  : PID               Signal #2 Info : FID
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S a,a,a-TFT	7.51	29392	19.059
Spiked Amount 20.000	Range 58 - 120	Recovery =	95.30%
2) S BFB	11.93	125145	24.386
Spiked Amount 20.000	Range 57 - 129	Recovery =	121.93%
4) S a,a,a-TFT #2	7.51	988629	16.775
Spiked Amount 20.000	Range 58 - 120	Recovery =	83.87%
5) S BFB #2	11.93	872343	22.605
Spiked Amount 20.000	Range 57 - 129	Recovery =	113.02%
Target Compounds			
6) H TPH-GRO (C6-C10)	10.75	1527710	30.756 ug/L

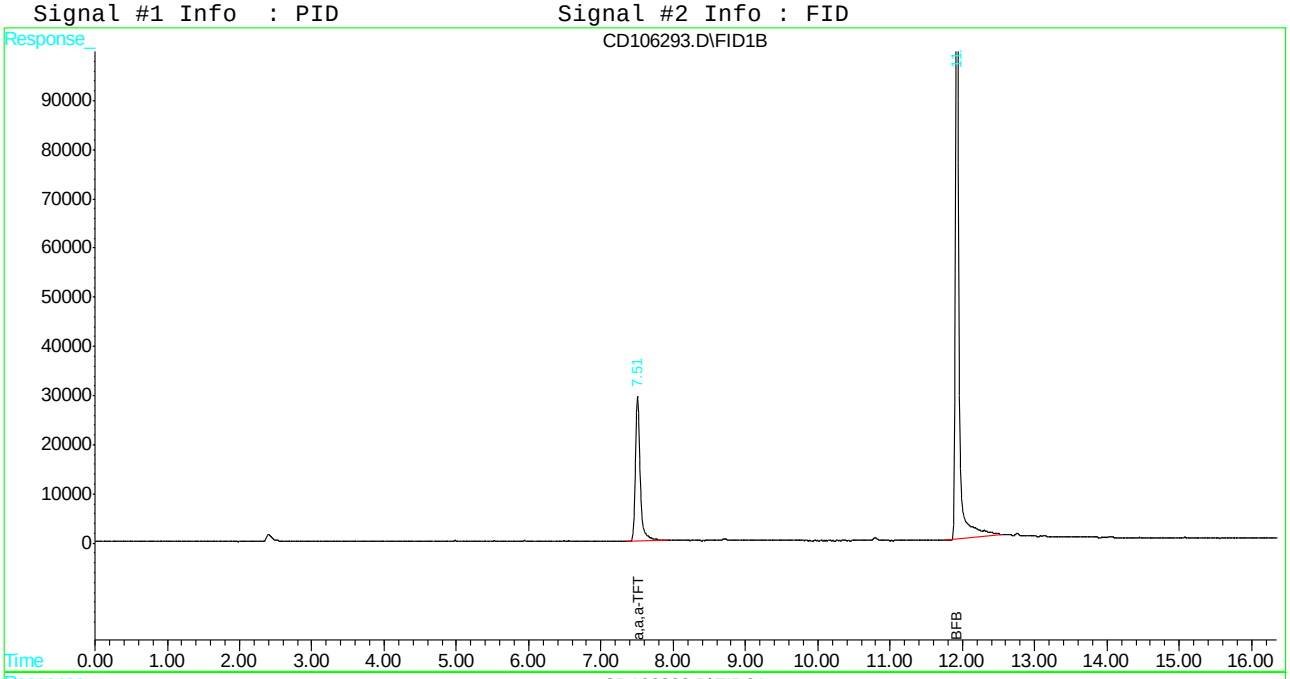
```
(f)=RT Delta > 1/2 Window                                (m)=manual int.
CD106293.D  GROW-CD.M      Mon Jun 27 16:37:19 2011
```

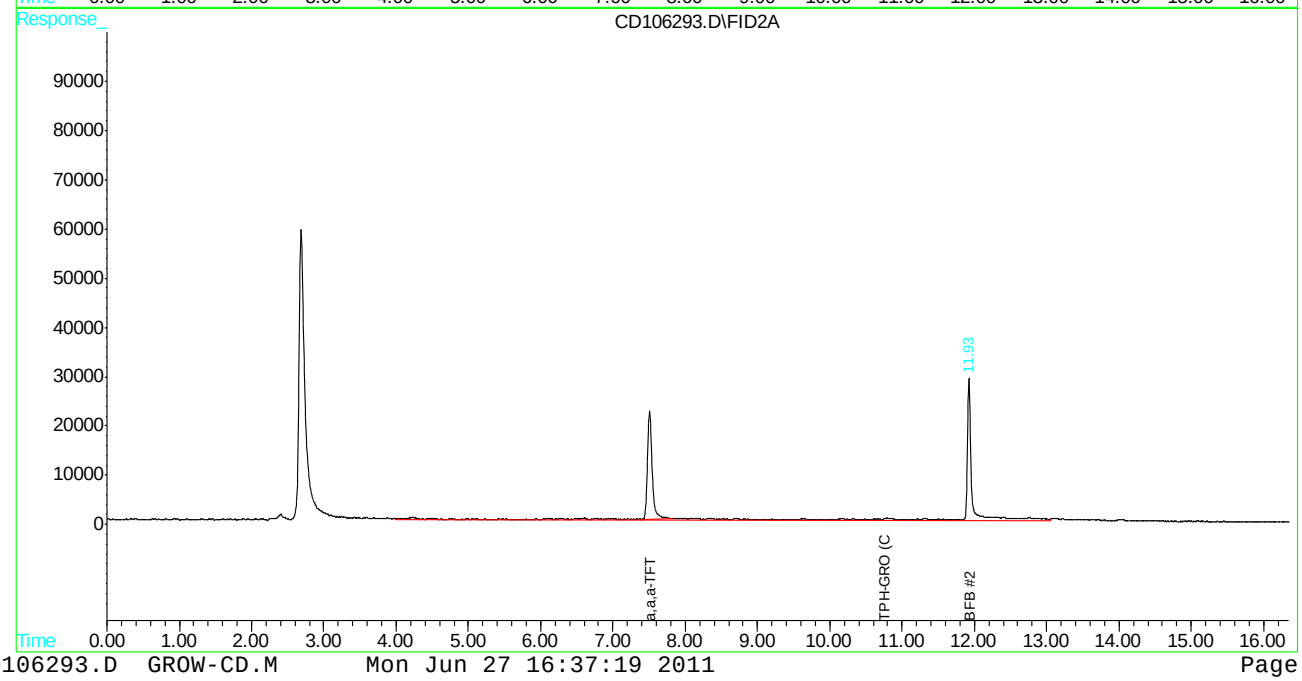
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\CD106293.D\FID1B.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\062711\CD106293.D\FID2A.CH
Acq On : 27 Jun 2011 11:59 am Operator: MikeM
Sample : mb Inst : VOA2
Misc : gc12359,gcd4332,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: events2.e
Quant Time: Jun 27 12:16 2011 Quant Results File: GROW-CD.RES

Quant Method : C:\HPCHEM\1\METHODS\GROW-CD.M (Chemstation Integrator)
Title : EPA 8015B/TPHGRO by GC-PID/FID
Last Update : Wed Jun 01 12:11:22 2011
Response via : Multiple Level Calibration
DataAcq Meth : GRO.M

Volume Inj. :
Signal #1 Phase : DB-MTBE Signal #2 Phase: DB-MTBE
Signal #1 Info : PID Signal #2 Info : FID





Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104484.D\FID1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104484.D\FID2B.CH
Acq On : 27 Jun 2011 12:05 pm Operator: LirieO
Sample : MB Inst : VOA1
Misc : gc12349,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:37 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Initial Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID

	Compound	RT#1	RT#2	Resp#1	Resp#2	ug/L	ug/L
	System Monitoring Compounds						
4) S	a,a,a-TFT(S)	6.30	5.46	16013	10105	20.123	19.746
	Spiked Amount 20.000 Range 73 - 118 Recovery =					100.62%	98.73%
10) S	BFB(S)	11.40	10.38	41660	26609	19.014	18.366
	Spiked Amount 20.000 Range 70 - 120 Recovery =					95.07%	91.83%
	Target Compounds						
1)	Methyl tert Buty	0.00	0.00	0	0	N.D.	N.D.
2)	Di-Isopropyl eth	0.00	0.00	0	0	N.D.	N.D.
3)	Benzene	0.00	0.00	0	0	N.D.	N.D.
5)	Toluene	0.00	0.00	0	0	N.D.	N.D.
6)	Chlorobenzene	0.00	0.00	0	0	N.D.	N.D.
7)	Ethylbenzene	0.00	0.00	0	0	N.D.	N.D.
8)	m,p-Xylene	0.00	0.00	0	0	N.D.	N.D.
9)	o-Xylene	0.00	0.00	0	0	N.D.	N.D.
11)	1,3-Dichlorobenz	0.00	0.00	0	0	N.D.	N.D.
12)	1,4-Dichlorobenz	0.00	0.00	0	0	N.D. d	N.D. d
13)	1,2-Dichlorobenz	0.00	0.00	0	0	N.D. d	N.D. d

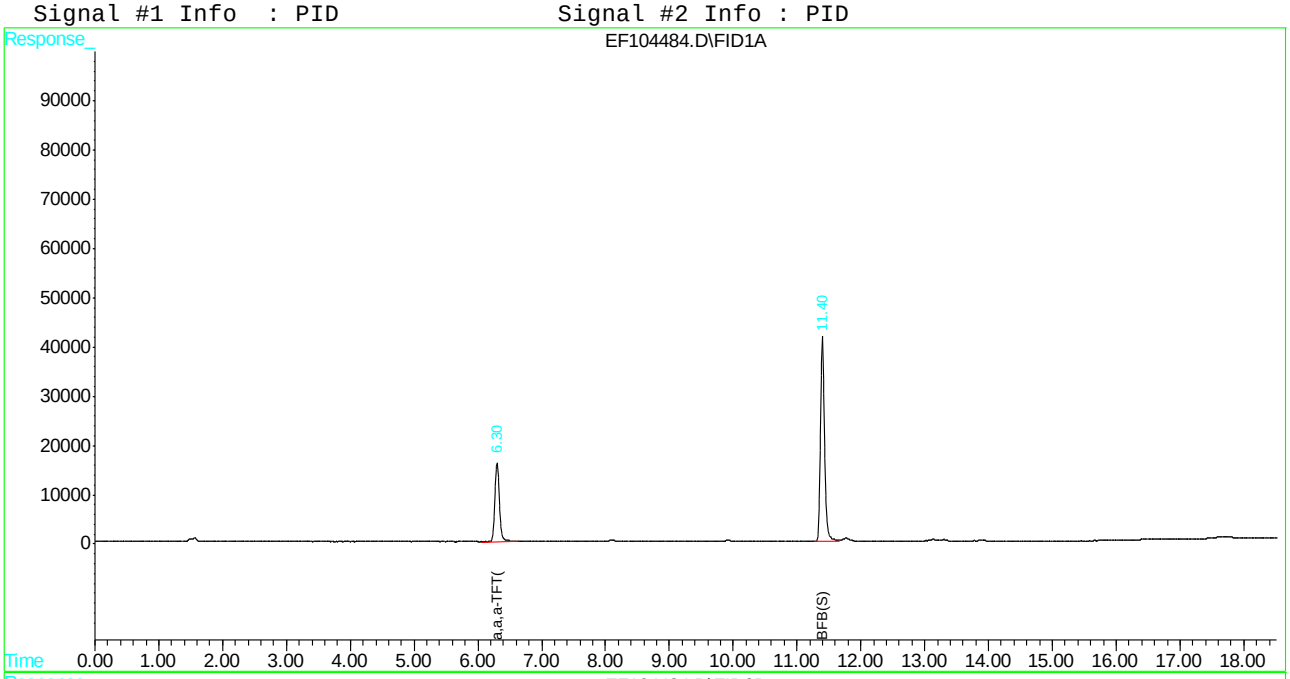
(f)=RT Delta > 1/2 Window (#)=Amounts differ by > 40% (m)=manual int.
EF104484.D 8021EF.M Tue Jun 28 16:08:12 2011

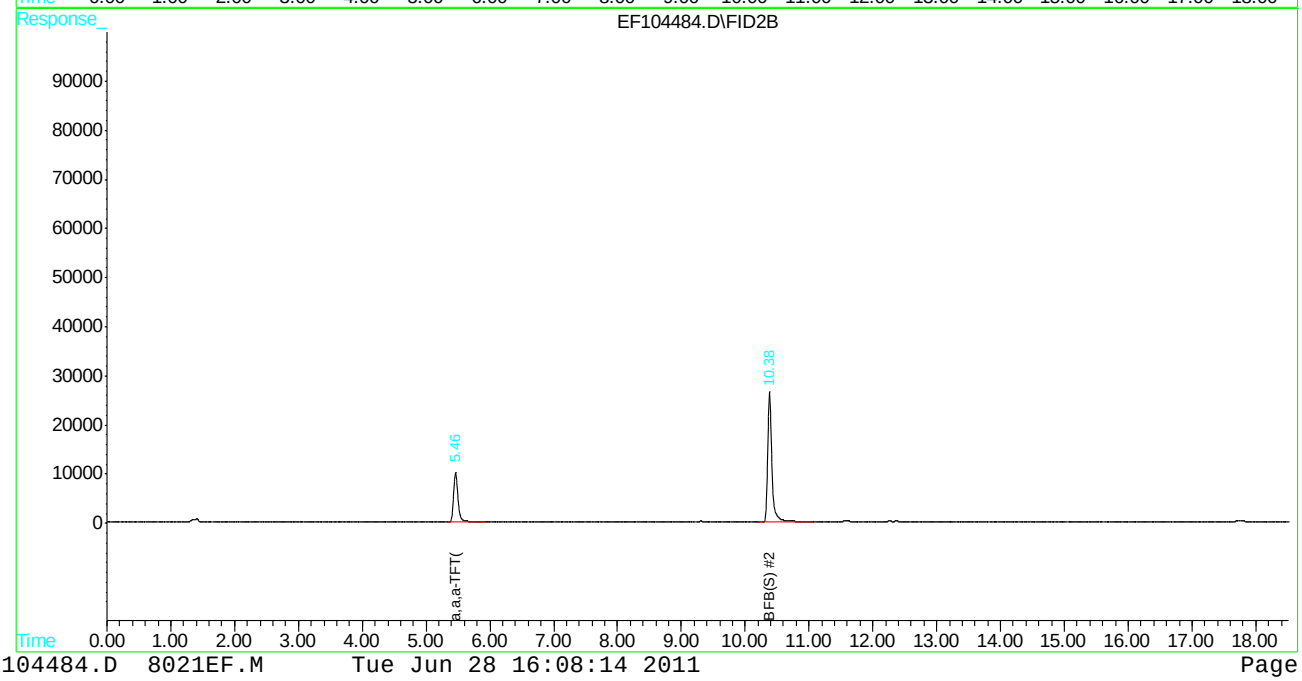
Quantitation Report (QT Reviewed)

Signal #1 : C:\HPCHEM\1\DATA\062711\EF104484.D\FID1A.CH Vial: 4
Signal #2 : C:\HPCHEM\1\DATA\062711\EF104484.D\FID2B.CH
Acq On : 27 Jun 2011 12:05 pm Operator: LirieO
Sample : MB Inst : VOA1
Misc : gc12349,gef5616,,,,, Multiplr: 1.00
IntFile Signal #1: PID.E IntFile Signal #2: PID.E
Quant Time: Jun 28 13:37 2011 Quant Results File: 8021EF.RES

Quant Method : C:\HPCHEM\1\METHODS\8021EF.M (Chemstation Integrator)
Title : EPA 602 & 5030B/8021B
Last Update : Fri Jun 03 13:58:26 2011
Response via : Multiple Level Calibration
DataAcq Meth : DUALPID.M

Volume Inj. : n/a
Signal #1 Phase : DB-624 Signal #2 Phase: DB-VRX
Signal #1 Info : PID Signal #2 Info : PID





Southeast ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37693-MB	ZF41907.D	1	06/28/11	SJL	06/27/11	OP37693	GZF1699

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	71%	42-114%

Method Blank Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37693-MB	ZF41939.D	1	06/29/11	SJL	06/27/11	OP37693	GZF1700

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	53%	42-114%

Method Blank Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37693-MB	ZF42031.D	1	07/01/11	SJL	06/27/11	OP37693	GZF1701

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	79%	42-114%

Method Blank Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37722-MB	ZF42012.D	1	06/30/11	SJL	06/29/11	OP37722	GZF1701

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-3, F83691-4

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH (C10-C28)	ND	0.25	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	92%	42-114%

Blank Spike Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37693-BS	ZF41906.D	1	06/28/11	SJL	06/27/11	OP37693	GZF1699

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C28)	1	0.666	67	59-114

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	81%	42-114%

Blank Spike Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37722-BS	ZF42011.D	1	06/30/11	SJL	06/29/11	OP37722	GZF1701

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-3, F83691-4

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH (C10-C28)	1	0.866	87	59-114

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	100%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37693-MS	ZF41922.D	1	06/28/11	SJL	06/27/11	OP37693	GZF1699
OP37693-MSD	ZF41923.D	1	06/28/11	SJL	06/27/11	OP37693	GZF1699
F83627-7	ZF41921.D	1	06/28/11	SJL	06/27/11	OP37693	GZF1699

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-1, F83691-2

CAS No.	Compound	F83627-7 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	1.70		1.92	3.35	86	3.62	100	8	59-114/34

CAS No.	Surrogate Recoveries	MS	MSD	F83627-7	Limits
84-15-1	o-Terphenyl	85%	84%	78%	42-114%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: F83691
Account: OACCOG Olsson Associates, Inc
Project: PDC-Riley #1, CO

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP37722-MS	ZF42022.D	1	07/01/11	SJL	06/29/11	OP37722	GZF1701
OP37722-MSD	ZF42023.D	1	07/01/11	SJL	06/29/11	OP37722	GZF1701
F83756-9	ZF42021.D	1	07/01/11	SJL	06/29/11	OP37722	GZF1701

The QC reported here applies to the following samples: **Method:** SW846 8015C

F83691-3, F83691-4

CAS No.	Compound	F83756-9 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH (C10-C28)	0.373		1.92	1.96	83	1.90	79	3	59-114/34

CAS No.	Surrogate Recoveries	MS	MSD	F83756-9	Limits
84-15-1	o-Terphenyl	101%	100%	104%	42-114%

Southeast

ACCUTEST LABORATORIES

GC Semi-volatiles

Raw Data

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\0629DRO\ZF41943.D          Vial: 9
Acq On    : 29 Jun 2011   2:46 pm                   Operator: steve
Sample    : f83691-1                                Inst    : FID 3
Misc      : op37693,gzf1700,1010,,,1,1,water        Multiplr: 1.00
IntFile   : events.e
Quant Time: Jun 29 16:31 2011  Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Mon Jun 06 09:58:28 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj.  : 1ul
Signal Phase : DB-5
Signal Info  : 0.25 mm
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-TERPHENYL	6.06	444710	26.814 PPM
Spiked Amount 50.000 Range 42 - 114 Recovery = 53.63%			
Target Compounds			
2) H TPH (C10-C28)	8.63	4977114	312.152 PPM

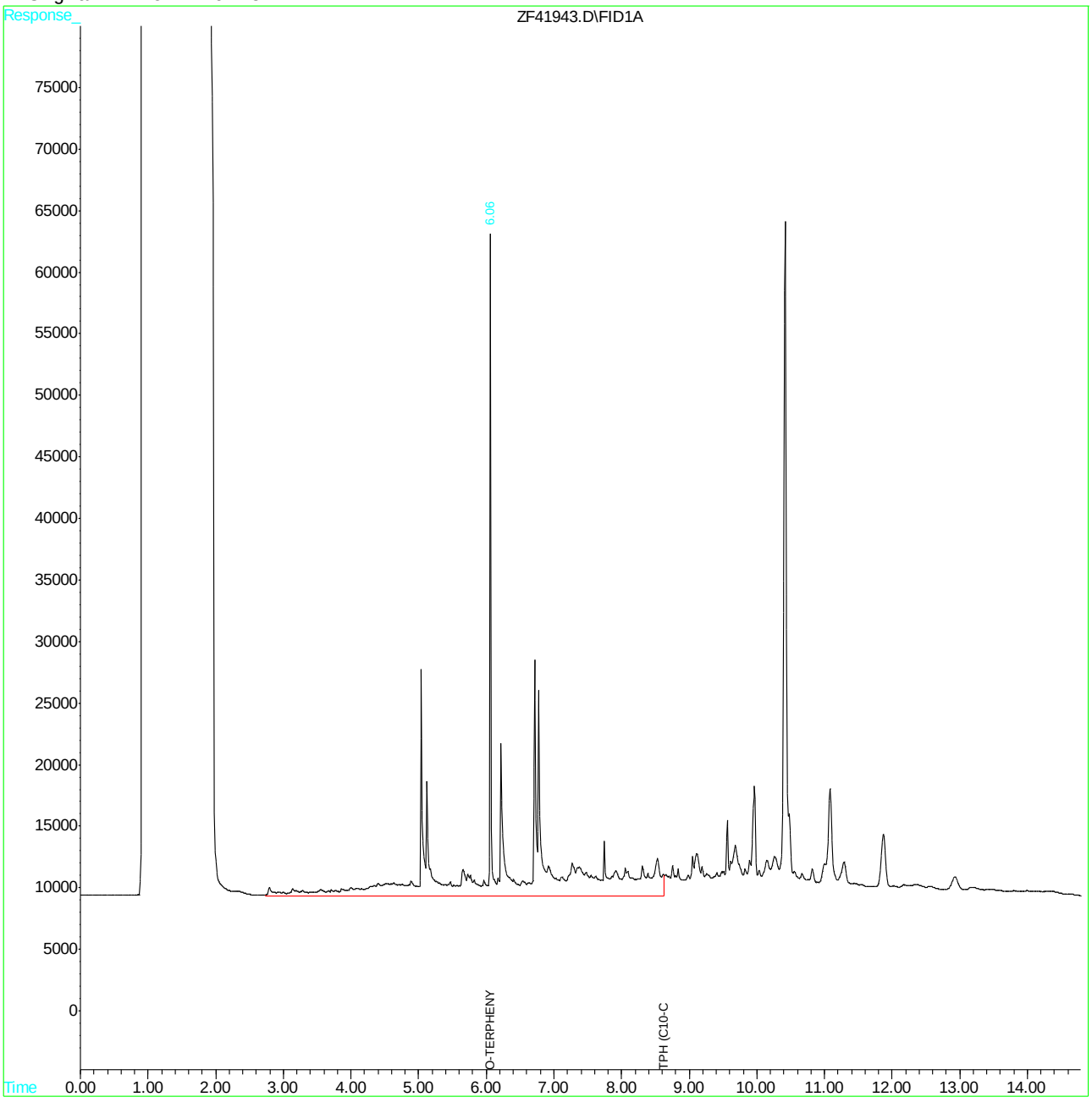
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0629DRO\ZF41943.D Vial: 9
Acq On : 29 Jun 2011 2:46 pm Operator: steve
Sample : f83691-1 Inst : FID 3
Misc : op37693,gzf1700,1010,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 29 16:31 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Mon Jun 06 09:58:28 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Manual Integrations
APPROVED
(compounds with "m" flag)
Mark Erstling
06/30/11 14:02

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\0629DRO\ZF41944.D          Vial: 10
Acq On    : 29 Jun 2011   3:07 pm                   Operator: steve
Sample    : f83691-2                                Inst    : FID 3
Misc      : op37693,gzf1700,1010,,,1,1,water        Multiplr: 1.00
IntFile   : events.e
Quant Time: Jun 29 16:32 2011  Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Mon Jun 06 09:58:28 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj.  : 1ul
Signal Phase : DB-5
Signal Info  : 0.25 mm
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-TERPHENYL	6.06	371458	22.398 PPM m
Spiked Amount 50.000 Range 42 - 114 Recovery = 44.80%			
Target Compounds			
2) H TPH (C10-C28)	8.63	1615321	101.309 PPM

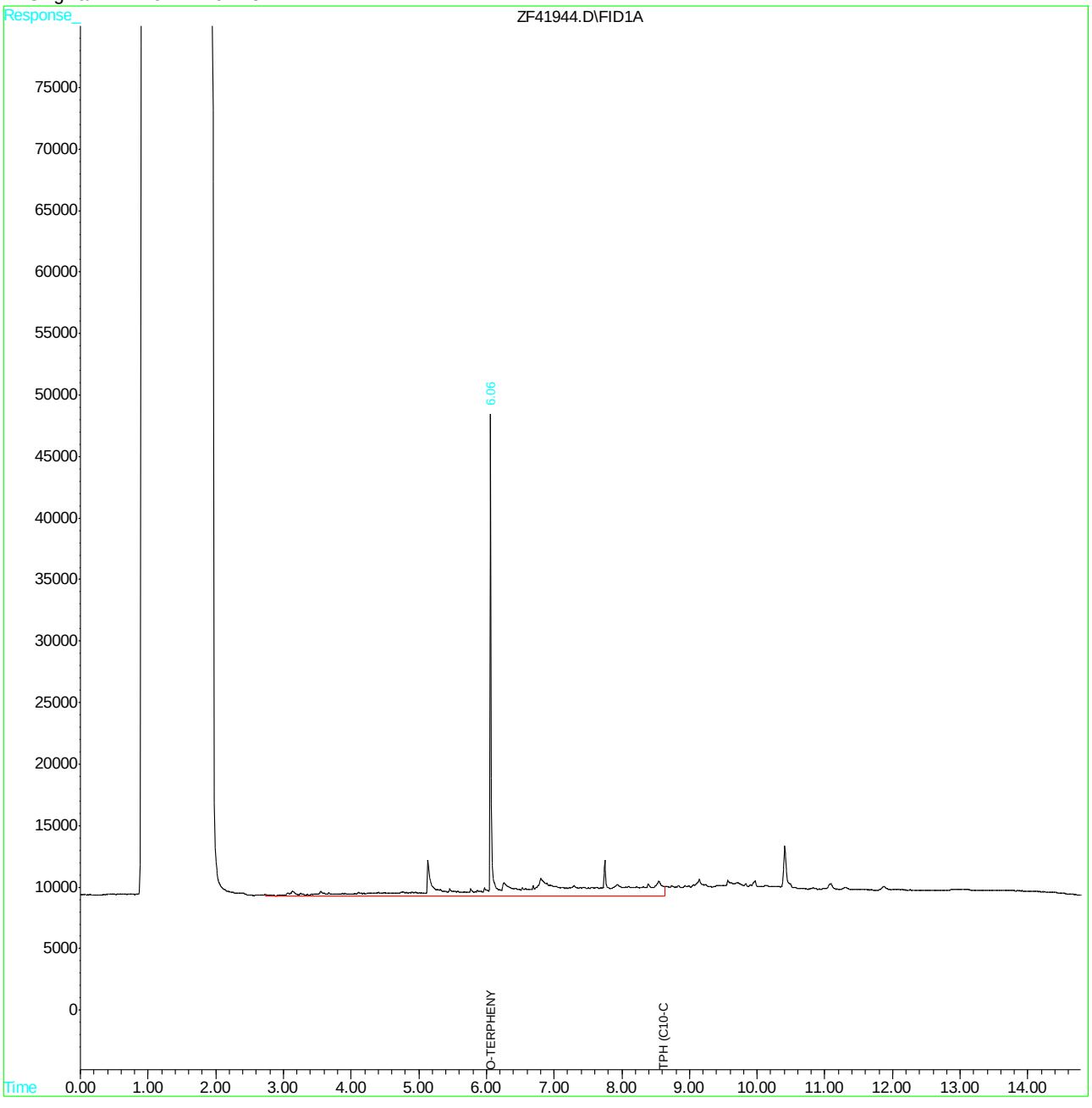
(f)=RT Delta > 1/2 Window (m)=manual int.

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0629DRO\ZF41944.D Vial: 10
Acq On : 29 Jun 2011 3:07 pm Operator: steve
Sample : f83691-2 Inst : FID 3
Misc : op37693,gzf1700,1010,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 29 16:32 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Mon Jun 06 09:58:28 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42016.D Vial: 30
Acq On : 1 Jul 2011 12:45 am Operator: steve
Sample : f83691-3 Inst : FID 3
Misc : op37722,gzf1701,1040,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jul 1 8:44 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Thu Jun 30 17:10:54 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-TERPHENYL	6.05	706153	42.578 PPM
Spiked Amount 50.000 Range 42 - 114 Recovery = 85.16%			
Target Compounds			
2) H TPH (C10-C28)	8.63	1046499	65.634 PPM

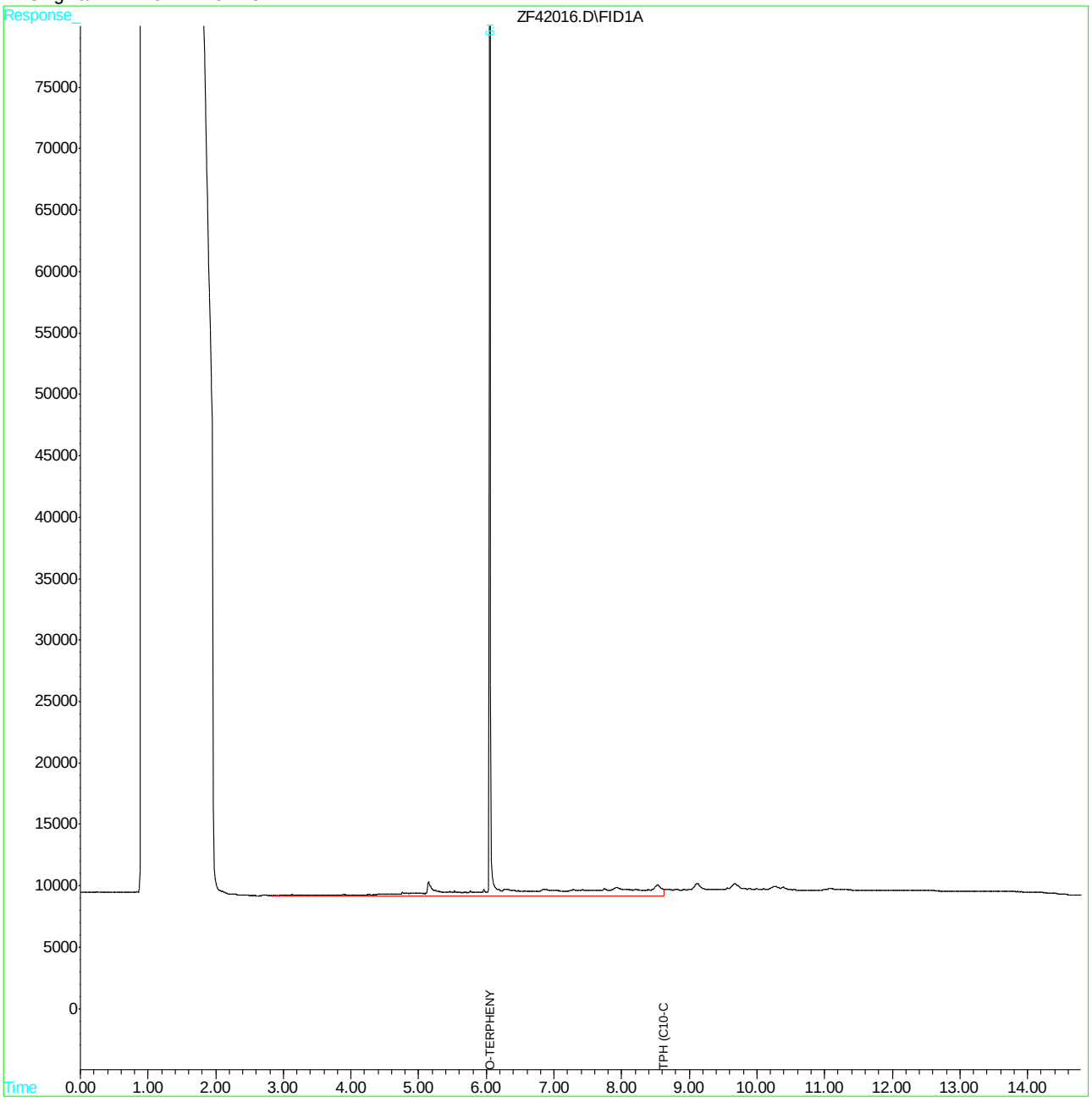
(f)=RT Delta > 1/2 Window (m)=manual int.
ZF42016.D F_DRO.M Fri Jul 01 11:26:47 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42016.D Vial: 30
Acq On : 1 Jul 2011 12:45 am Operator: steve
Sample : f83691-3 Inst : FID 3
Misc : op37722,gzf1701,1040,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jul 1 8:44 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Thu Jun 30 17:10:54 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42017.D          Vial: 31
Acq On    :  1 Jul 2011   1:06 am                   Operator: steve
Sample    : f83691-4                                Inst    : FID 3
Misc      : op37722,gzf1701,1030,,,1,1,water        Multiplr: 1.00
IntFile   : events.e
Quant Time: Jul  1  8:44 2011  Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Thu Jun 30 17:10:54 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj.  : 1ul
Signal Phase : DB-5
Signal Info  : 0.25 mm
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-TERPHENYL	6.05	712044	42.934 PPM
Spiked Amount 50.000 Range 42 - 114 Recovery = 85.87%			
Target Compounds			
2) H TPH (C10-C28)	8.63	992394	62.240 PPM

(f)=RT Delta > 1/2 Window (m)=manual int.

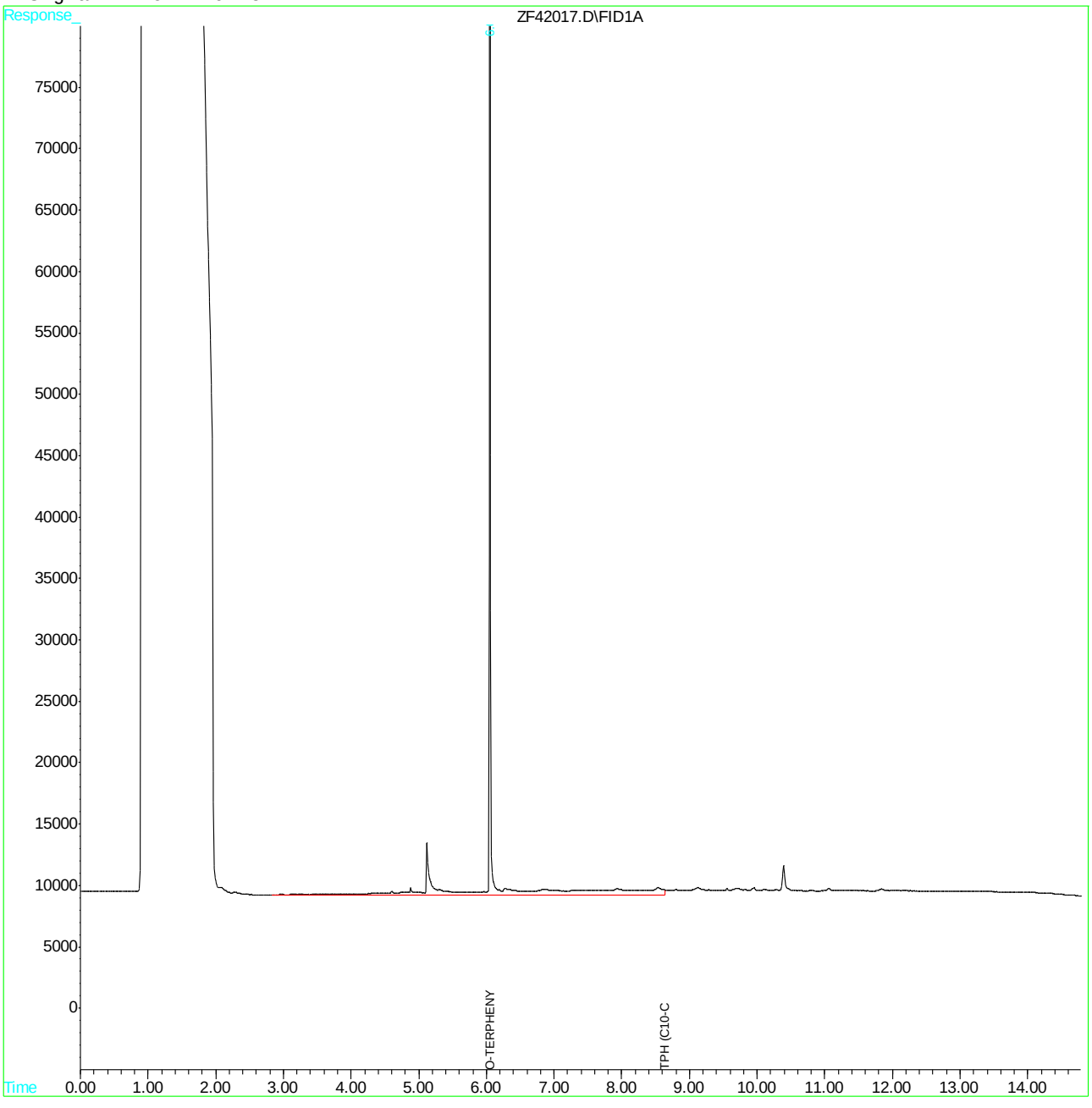
ZF42017.D F_DRO.M Fri Jul 01 11:26:48 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42017.D Vial: 31
Acq On : 1 Jul 2011 1:06 am Operator: steve
Sample : f83691-4 Inst : FID 3
Misc : op37722,gzf1701,1030,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jul 1 8:44 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Thu Jun 30 17:10:54 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\0627DRO\ZF41907.D          Vial: 89
Acq On    : 28 Jun 2011   6:15 pm                   Operator: steve
Sample    : op37693-mb                              Inst    : FID 3
Misc      : op37693,gzf1699,1000,,,1,1,water        Multiplr: 1.00
IntFile   : events.e
Quant Time: Jun 29  8:32 2011  Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Mon Jun 06 09:58:28 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj.  : 1ul
Signal Phase : DB-5
Signal Info  : 0.25 mm
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-TERPHENYL	6.06	591194	35.647 PPM
Spiked Amount 50.000 Range 42 - 114 Recovery = 71.29%			
Target Compounds			
2) H TPH (C10-C28)	8.63	471960	29.600 PPM

(f)=RT Delta > 1/2 Window (m)=manual int.

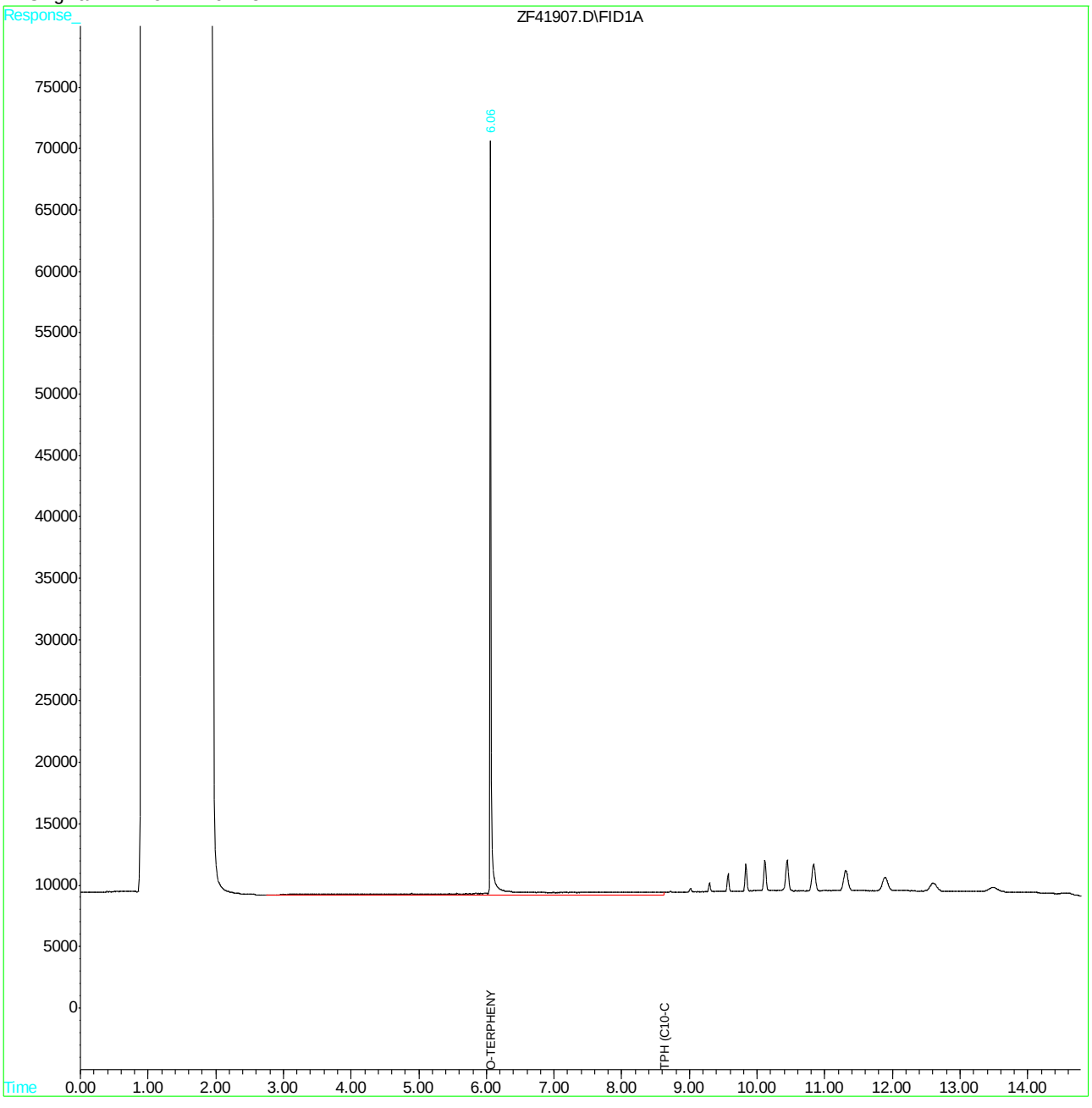
ZF41907.D F_DRO.M Wed Jun 29 08:51:27 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0627DRO\ZF41907.D Vial: 89
Acq On : 28 Jun 2011 6:15 pm Operator: steve
Sample : op37693-mb Inst : FID 3
Misc : op37693,gzf1699,1000,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 29 8:32 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Mon Jun 06 09:58:28 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Manual Integrations
APPROVED
(compounds with "m" flag)
Mark Erstling
06/30/11 14:02

Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\0629DRO\ZF41939.D          Vial: 5
Acq On    : 29 Jun 2011   1:22 pm                   Operator: steve
Sample    : op37693-mb                              Inst    : FID 3
Misc      : op37693,gzf1700,1000,,,1,1,water        Multiplr: 1.00
IntFile   : events.e
Quant Time: Jun 29 16:27 2011  Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Mon Jun 06 09:58:28 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj.  : 1ul
Signal Phase : DB-5
Signal Info  : 0.25 mm

     Compound                    R.T.       Response    Conc Units
---------------------------------------------------------------------------

System Monitoring Compounds
 1) S   O-TERPHENYL                 6.06         442429   26.677 PPM  m
Spiked Amount     50.000   Range  42 - 114    Recovery   =   53.35%

Target Compounds
 2) H   TPH (C10-C28)               8.63         250134   15.688 PPM
```

8.2.2

8

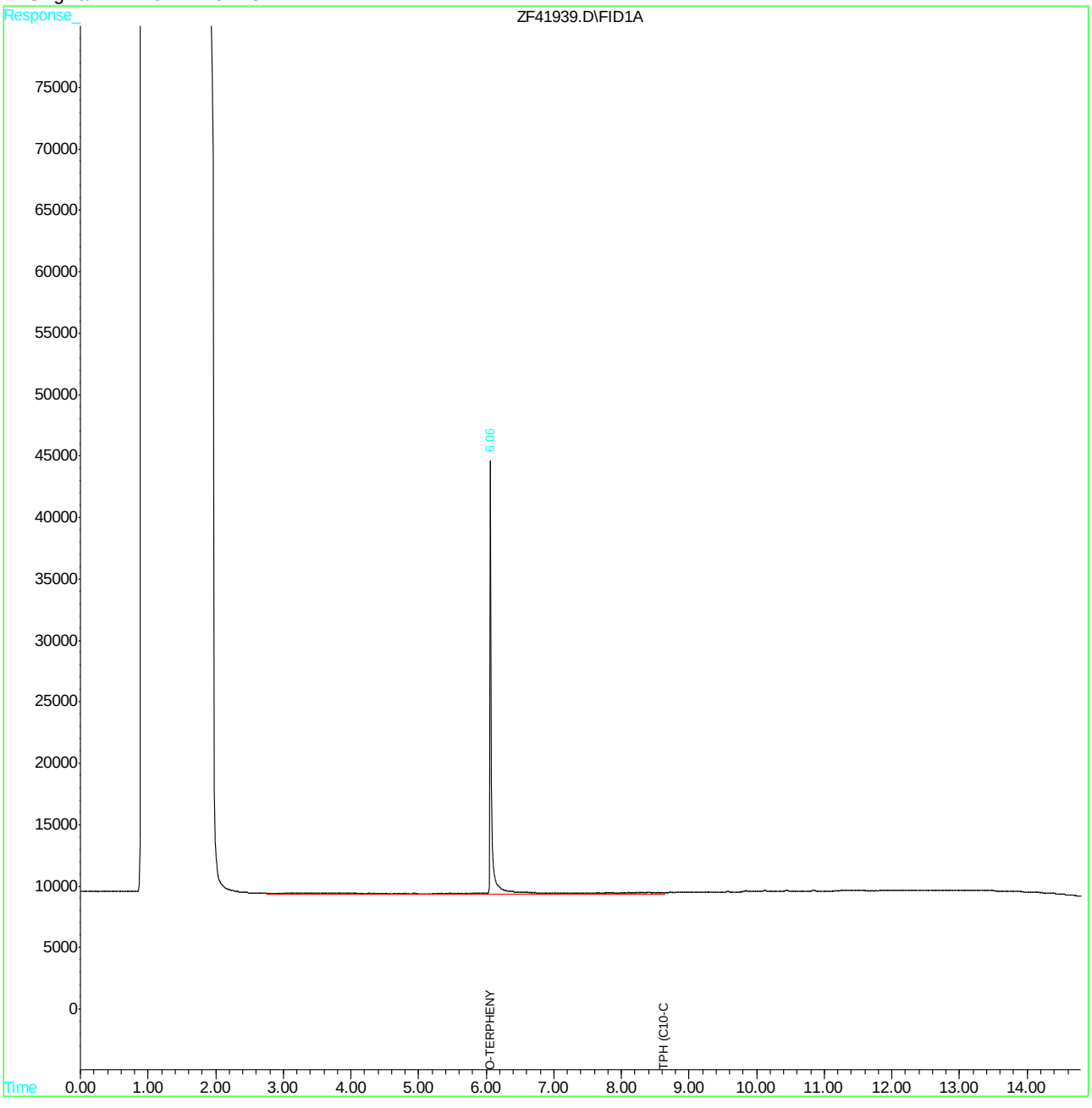
```
---------------------------------------------------------------------------
(f)=RT Delta > 1/2 Window                                (m)=manual int.
ZF41939.D  F_DRO.M      Thu Jun 30 08:45:07 2011
```

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0629DRO\ZF41939.D Vial: 5
Acq On : 29 Jun 2011 1:22 pm Operator: steve
Sample : op37693-mb Inst : FID 3
Misc : op37693,gzf1700,1000,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jun 29 16:27 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Mon Jun 06 09:58:28 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42012.D          Vial: 26
Acq On    : 30 Jun 2011  11:22 pm                   Operator: steve
Sample    : op37722-mb                              Inst    : FID 3
Misc      : op37722,gzf1701,1000,,,1,1,water        Multiplr: 1.00
IntFile   : events.e
Quant Time: Jul  1  8:42 2011  Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Thu Jun 30 17:10:54 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj.  : 1ul
Signal Phase : DB-5
Signal Info  : 0.25 mm
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-TERPHENYL	6.05	765145	46.135 PPM
Spiked Amount 50.000 Range 42 - 114 Recovery = 92.27%			
Target Compounds			
2) H TPH (C10-C28)	8.63	789701	49.528 PPM

(f)=RT Delta > 1/2 Window (m)=manual int.

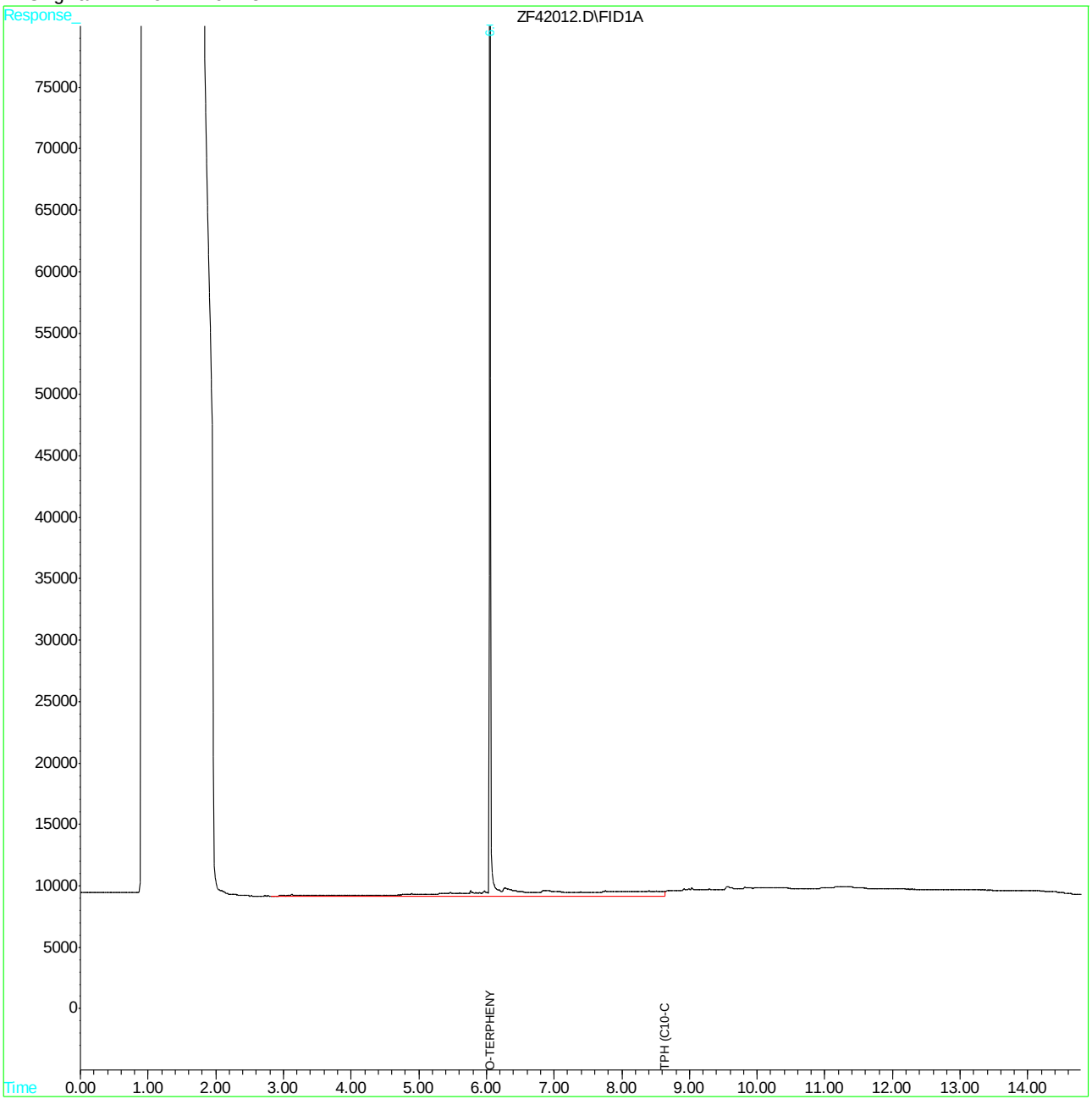
ZF42012.D F_DRO.M Fri Jul 01 11:26:44 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42012.D Vial: 26
Acq On : 30 Jun 2011 11:22 pm Operator: steve
Sample : op37722-mb Inst : FID 3
Misc : op37722,gzf1701,1000,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jul 1 8:42 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Thu Jun 30 17:10:54 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Quantitation Report (QT Reviewed)

```
Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42031.D          Vial: 45
Acq On    :  1 Jul 2011   5:56 am                   Operator: steve
Sample    : op37693-mb                              Inst    : FID 3
Misc      : op37693,gzf1701,1000,,,1,1,water        Multiplr: 1.00
IntFile   : events.e
Quant Time: Jul  1  8:52 2011  Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title        : TPH by SW846 8015C
Last Update  : Thu Jun 30 17:10:54 2011
Response via : Initial Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj.  : 1ul
Signal Phase : DB-5
Signal Info  : 0.25 mm
```

Compound	R.T.	Response	Conc Units
System Monitoring Compounds			
1) S O-TERPHENYL	6.05	654761	39.480 PPM
Spiked Amount 50.000 Range 42 - 114 Recovery = 78.96%			
Target Compounds			
2) H TPH (C10-C28)	8.63	568801	35.674 PPM

(f)=RT Delta > 1/2 Window (m)=manual int.

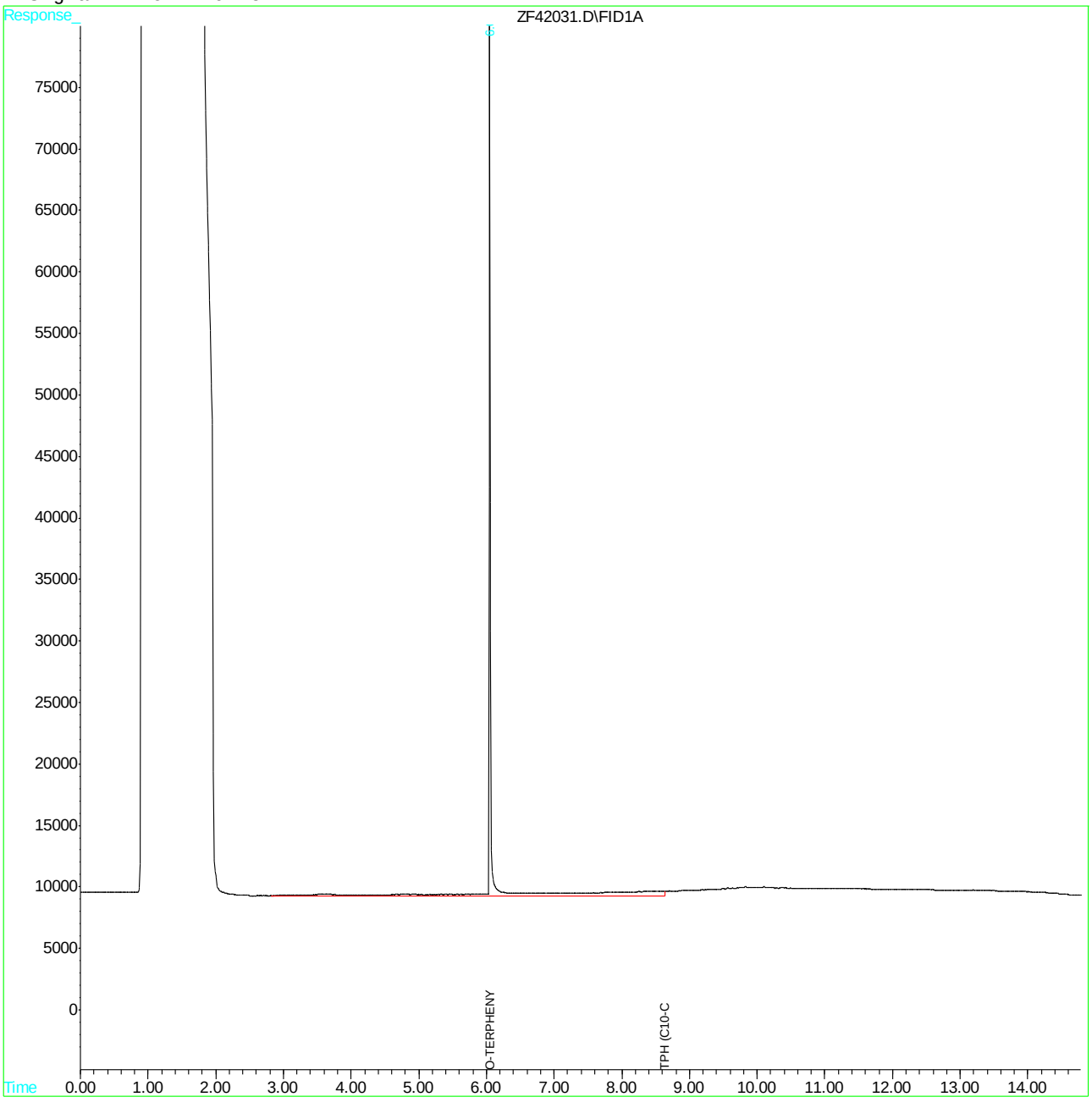
ZF42031.D F_DRO.M Fri Jul 01 11:27:07 2011

Quantitation Report (QT Reviewed)

Data File : C:\HPCHEM\1\DATA\0630DRO\ZF42031.D Vial: 45
Acq On : 1 Jul 2011 5:56 am Operator: steve
Sample : op37693-mb Inst : FID 3
Misc : op37693,gzf1701,1000,,,1,1,water Multiplr: 1.00
IntFile : events.e
Quant Time: Jul 1 8:52 2011 Quant Results File: F_DRO.RES

Quant Method : C:\HPCHEM\1\METHODS\F_DRO.M (Chemstation Integrator)
Title : TPH by SW846 8015C
Last Update : Thu Jun 30 17:10:54 2011
Response via : Multiple Level Calibration
DataAcq Meth : ACQ_DRO.M

Volume Inj. : 1ul
Signal Phase : DB-5
Signal Info : 0.25 mm



Southeast ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20911
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:					07/01/11		07/01/11
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Aluminum	200	24	25				
Antimony	6.0	1	2				
Arsenic	10	1	2	-0.40	<10	-0.70	<10
Barium	200	4	5	-0.30	<200	-0.10	<200
Beryllium	4.0	.1	1				
Cadmium	5.0	.1	1	-0.10	<5.0	-0.10	<5.0
Calcium	1000	50	100	6.2	<1000	44.9	<1000
Chromium	10	1	1	0.0	<10	0.20	<10
Cobalt	50	1	1				
Copper	25	1	2				
Iron	300	23	35				
Lead	5.0	1	1	0.20	<5.0	-0.30	<5.0
Magnesium	5000	50	100	16.3	<5000	10.2	<5000
Manganese	15	1	1				
Molybdenum	50	1	2				
Nickel	40	1	2				
Potassium	10000	50	500	-20	<10000	-8.9	<10000
Selenium	10	2	2	0.70	<10	0.20	<10
Silver	10	1	1	0.10	<10	0.0	<10
Sodium	10000	850	1900	11.5	<10000	49.2	<10000
Strontium	10	1	1				
Thallium	10	1.5	1.9				
Tin	50	1	1				
Titanium	10	1	2				
Vanadium	50	1	1				
Zinc	20	1	5				

Associated samples MP20911: F83691-1, F83691-2, F83691-3, F83691-4, F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20911
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date:			07/01/11					07/01/11	
Metal	F83691-1 Original	DUP	RPD	QC Limits	F83691-1 Original	MS	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum									
Antimony									
Arsenic	12.6	13.8	9.1	0-20	12.6	1960	2000	97.4	80-120
Barium	107	112	4.6	0-20	107	2070	2000	98.2	80-120
Beryllium									
Cadmium	0.10	0.10	0.0	0-20	0.10	48.6	50	97.0	80-120
Calcium	73700	77300	4.8	0-20	73700	96700	25000	92.0	80-120
Chromium	1.1	1.4	24.0 (a)	0-20	1.1	190	200	94.5	80-120
Cobalt									
Copper									
Iron	anr								
Lead	0.0	1.6	200.0(a)	0-20	0.0	473	500	94.6	80-120
Magnesium	56800	59600	4.8	0-20	56800	79400	25000	90.4	80-120
Manganese	anr								
Molybdenum									
Nickel									
Potassium	2900	3020	4.1	0-20	2900	28700	25000	103.2	80-120
Selenium	0.0	0.0	NC	0-20	0.0	2030	2000	101.5	80-120
Silver	0.0	0.0	NC	0-20	0.0	48.8	50	97.6	80-120
Sodium	92600	99000	7.4	0-20	92600	118000	25000	104.4	80-120
Strontium									
Thallium									
Tin									
Titanium									
Vanadium									
Zinc									

Associated samples MP20911: F83691-1, F83691-2, F83691-3, F83691-4, F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20911
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/01/11

Metal	F83691-1 Original	MSD	Spikelot MPFLICP1	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	12.6	1960	2000	97.4	0.0	20
Barium	107	2070	2000	98.2	0.0	20
Beryllium						
Cadmium	0.10	48.6	50	97.0	0.0	20
Calcium	73700	98000	25000	97.2	1.3	20
Chromium	1.1	190	200	94.5	0.0	20
Cobalt						
Copper						
Iron	anr					
Lead	0.0	470	500	94.0	0.6	20
Magnesium	56800	80500	25000	94.8	1.4	20
Manganese	anr					
Molybdenum						
Nickel						
Potassium	2900	29000	25000	104.4	1.0	20
Selenium	0.0	2030	2000	101.5	0.0	20
Silver	0.0	49.2	50	98.4	0.8	20
Sodium	92600	116000	25000	96.4	1.7	20
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP20911: F83691-1, F83691-2, F83691-3, F83691-4, F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20911
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/01/11

Metal	BSP Result	Spikelot MPFLICP1	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	1930	2000	96.5	80-120
Barium	2010	2000	100.5	80-120
Beryllium				
Cadmium	50.2	50	100.4	80-120
Calcium	25300	25000	101.2	80-120
Chromium	196	200	98.0	80-120
Cobalt				
Copper				
Iron	anr			
Lead	480	500	96.0	80-120
Magnesium	24000	25000	96.0	80-120
Manganese	anr			
Molybdenum				
Nickel				
Potassium	25100	25000	100.4	80-120
Selenium	2000	2000	100.0	80-120
Silver	49.2	50	98.4	80-120
Sodium	25100	25000	100.4	80-120
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP20911: F83691-1, F83691-2, F83691-3, F83691-4, F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20911
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/01/11

Metal	F83691-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	12.6	10.4	17.5 (a)	0-10
Barium	107	104	2.5	0-10
Beryllium				
Cadmium	0.100	0.00	100.0(a)	0-10
Calcium	73700	72800	1.2	0-10
Chromium	1.10	0.00	100.0(a)	0-10
Cobalt				
Copper				
Iron	anr			
Lead	0.00	0.00	NC	0-10
Magnesium	56800	55100	2.9	0-10
Manganese	anr			
Molybdenum				
Nickel				
Potassium	2900	2550	11.9*(b)	0-10
Selenium	0.00	0.00	NC	0-10
Silver	0.00	0.00	NC	0-10
Sodium	92600	94700	3.0	0-10
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP20911: F83691-1, F83691-2, F83691-3, F83691-4, F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

POST DIGESTATE SPIKE SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20911
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 07/01/11

Metal	Sample ml	Final ml	F83691-1 Raw	Corr.**	PS ug/l	Spike ml	Spike ug/ml	Spike ug/l	% Rec	QC Limits
Aluminum										
Antimony										
Arsenic	9.8	10	12.6	12.348	110.7	0.2	5	100	98.4	80-120
Barium	9.8	10	106.5	104.37	346.1	0.2	12.5	250	96.7	80-120
Beryllium										
Cadmium	9.8	10	0.1	0.098	49.3	0.2	2.5	50	98.4	80-120
Calcium	9.8	10	73680	72206.4	76750	0.2	250	5000	90.9	80-120
Chromium	9.8	10	1.1	1.078	47.2	0.2	2.5	50	92.2	80-120
Cobalt										
Copper										
Iron										
Lead	9.8	10	0	0	46.9	0.2	2.5	50	93.8	80-120
Magnesium	9.8	10	56780	55644.4	60080	0.2	250	5000	88.7	80-120
Manganese										
Molybdenum										
Nickel										
Potassium	9.8	10	2899	2841.02	12890	0.2	500	10000	100.5	80-120
Selenium	9.8	10	0	0	103.4	0.2	5	100	103.4	80-120
Silver	9.8	10	0	0	49.9	0.2	2.5	50	99.8	80-120
Sodium	9.8	10	92620	90022.8	103400	0.2	500	10000	133.8*(a	80-120
Strontium										
Thallium										
Tin										
Titanium										
Vanadium										
Zinc										

Associated samples MP20911: F83691-1, F83691-2, F83691-3, F83691-4, F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(**) Corr. sample result = Raw * (sample volume / final volume)
(anr) Analyte not requested
(a) Spike recovery indicates matrix interference and/or outside control limits due to high level in sample relative to spike amount.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20925 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date:				07/06/11		07/06/11	
Metal	RL	IDL	MDL	MB raw	final	MB raw	final
Mercury	1.0	.071	.05	-0.083	<1.0	0.068	<1.0

Associated samples MP20925: F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20925
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/06/11 07/06/11

Metal	F83834-1 Original	DUP	RPD	QC Limits	F83834-1 Original	MS	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	1.2	1.2	0.0	0-20	1.2	3.9	3	90.0	80-120

Associated samples MP20925: F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

9.2.2

9

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20925
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/06/11

Metal	F83834-1 Original	MSD	Spikelot HGFLWS1	% Rec	MSD RPD	QC Limit
Mercury	1.2	4.0	3	93.3	2.5	20

Associated samples MP20925: F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20925
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 07/06/11

Metal	BSP Result	Spikelot HGFLWS1	% Rec	QC Limits
Mercury	3.1	3	103.3	80-120

Associated samples MP20925: F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

QC Batch ID: MP20925
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date:			07/06/11				07/06/11	
Metal	F83834-1 Original	SDL 1:5	%DIF	QC Limits	F83839-1 Original	SDL 1:5	%DIF	QC Limits
Mercury	1.19	1.58	32.8 (a)	0-10	0.00	0.00	NC	0-10

Associated samples MP20925: F83691-1F, F83691-2F, F83691-3F, F83691-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).

Southeast ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN45323	5.0	0.0	mg/l	250	258	103.0	90-113%
Alkalinity, Total as CaCO3	GN45376	50	0.0	mg/l	250	245	98.0	90-113%
Chloride	GP17231/GN45176	2.0	0.0	mg/l	50	51.7	103.4	90-110%
Nitrogen, Nitrate	GP17231/GN45176	0.10	0.0	mg/l	2.5	2.59	103.6	90-110%
Nitrogen, Nitrite	GP17231/GN45176	0.10	0.0	mg/l	2.5	2.51	100.4	90-110%
Sulfate	GP17231/GN45176	2.0	0.0	mg/l	50	50.8	101.6	90-110%

Associated Samples:
Batch GN45323: F83691-1, F83691-3, F83691-4
Batch GN45376: F83691-2
Batch GP17231: F83691-1, F83691-2, F83691-3, F83691-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN45323	F83693-2	mg/l	274	263	4.1	0-20%
Alkalinity, Total as CaCO3	GN45376	F83691-2	mg/l	460	470	2.1	0-20%
Chloride	GP17231/GN45176	F83669-1	mg/l	10.7	10.9	1.9	0-20%
Nitrogen, Nitrate	GP17231/GN45176	F83669-1	mg/l	1.4	1.4	0.0	0-20%
Nitrogen, Nitrite	GP17231/GN45176	F83669-1	mg/l	0.0	0.0	0.0	0-20%
Specific Conductivity	GN45360	F83691-1	umhos/cm	1050	1050	0.9	0-10%
Sulfate	GP17231/GN45176	F83669-1	mg/l	4.4	4.9	10.8	0-20%

Associated Samples:
Batch GN45323: F83691-1, F83691-3, F83691-4
Batch GN45360: F83691-1, F83691-2, F83691-3, F83691-4
Batch GN45376: F83691-2
Batch GP17231: F83691-1, F83691-2, F83691-3, F83691-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: F83691
Account: OACCOG - Olsson Associates, Inc
Project: PDC-Riley #1, CO

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Alkalinity, Total as CaCO3	GN45323	F83693-2	mg/l	274	250mg/l	524	100.0	90-113%
Alkalinity, Total as CaCO3	GN45376	F83691-2	mg/l	460	500	950	98.0	90-113%
Chloride	GP17231/GN45176	F83669-1	mg/l	10.7	50	60.2	99.0	90-110%
Nitrogen, Nitrate	GP17231/GN45176	F83669-1	mg/l	1.4	2.5	3.5	84.0N(a)	90-110%
Nitrogen, Nitrite	GP17231/GN45176	F83669-1	mg/l	0.0	2.5	2.4	96.0	90-110%
Sulfate	GP17231/GN45176	F83669-1	mg/l	4.4	50	52.5	96.2	90-110%

Associated Samples:
Batch GN45323: F83691-1, F83691-3, F83691-4
Batch GN45376: F83691-2
Batch GP17231: F83691-1, F83691-2, F83691-3, F83691-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.

Southeast ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

(Accutest Mountain States)

Includes the following where applicable:

- Chain of Custody

Accutest Laboratories Southeast
Subcontract Chain of Custody

ACCUTEST Laboratories

4405 Vineland Road, Suite C-15 Orlando, Fl 32811
TEL: 407-425-6700 FAX: 407-425-0707
www.accutest.com

PAGE 1 OF 1

Client / Reporting Information

Company Name: Accutest Laboratories
Address: 4405 Vineland Rd.
City: Orlando State: FL Zip: 32811
Phone #: (407) 425-6700 Fax#: (407) 425-0707

Project Information

Project Name: F83691
Please send report to dawnd@accutest.com
For any other issues contact munam@accutest.com

Analytical Information

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe

Lab ID #	Sample ID	COLLECTION DATE	TIME	SAMPLED BY:	MATRIX	TOTAL # OF BOTTLES	OTHER	NONE	HCl	NaOH	HNO3	H2SO4	NAOH+ZNAC	DI WATER	MEOH	SAR	LAB USE ONLY
1	MW 04	06/22/11	16:00		GW	1		X								X	01
2	MW 01	06/22/11	16:20		GW	1		X								X	02
3	MW 03	06/22/11	16:35		GW	1		X								X	03
4	MW 02	06/22/11	16:50		GW	1		X								X	04

Turnaround Time (Business days)

Std. 10 Business Days
7 Day *RUSH*
5 Day *RUSH*
3 Day *EMERGENCY*
2 Day *EMERGENCY*
1 Day *EMERGENCY*
Other

Approved By: / Date/Rush Code: 07-08-11

Data Deliverable Information

- [ ] COMMERCIAL "A" (RESULTS ONLY)
- [x] COMMERCIAL "B" (RESULTS PLUS QC) + Narrative
- [ ] REDT1 (EPA LEVEL 3)
- [ ] FULLT1 (EPA LEVEL 4)
- [ ] EDD'S

Comments / Remarks

Ship to Laboratory - Accutest Orlando
Approved by - Muna M.

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler/Affiliation	Date Time:	Received By/Affiliation	Relinquished By/Affiliation	Date Time:	Received By/Affiliation
1	06/28/11 1900	2	3		4 6-29-11 1000
Relinquished by/Affiliation 5	Date Time:	Received By/Affiliation 6	Relinquished By/Affiliation 7	Date Time:	Received By/Affiliation 8

Lab Use Only : Custody Seal in Place: Y N Temp Blank Provided: Y N Preserved Where Applicable: Y N Total # of Coolers: 1 Cooler Temperature (s) Celsius: 5.0

11.1 11

F83691: Chain of Custody
Page 1 of 1
Accutest Mountain States

Southeast

ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

(Accutest Mountain States)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 06/29/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	30	30		
Antimony	150	16	16		
Arsenic	130	30	30		
Barium	50	5.5	5.5		
Beryllium	50	2.2	2.5		
Boron	250	24	24		
Cadmium	50	1.4	1.4		
Calcium	2000	48	75	7.0	<2000
Chromium	50	.9	4		
Cobalt	25	1.8	1.8		
Copper	50	4.3	14		
Iron	350	17	65		
Lead	250	8	11		
Lithium	10	1.4	6		
Magnesium	1000	29	50	57.5	<1000
Manganese	25	.27	1.6		
Molybdenum	50	2.3	4.4		
Nickel	150	2.2	5		
Phosphorus	500	55	100		
Potassium	5000	280	280		
Selenium	250	19	19		
Silicon	250	19	19		
Silver	150	.9	1.6		
Sodium	2000	570	570	-230	<2000
Strontium	25		1.3		
Thallium	50	15	15		
Tin	250	28	50		
Titanium	50	.55	1.6		
Uranium	250	7.5	18		
Vanadium	50	.8	1.1		
Zinc	150	1.4	9		

Associated samples MP5085: F83691-1, F83691-2, F83691-3, F83691-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 06/29/11

Metal	D24910-1A Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	139000	277000	125000	110.4	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	71700	203000	125000	105.0	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	510000	634000	125000	99.2	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP5085: F83691-1, F83691-2, F83691-3, F83691-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 06/29/11

Metal	D24910-1A Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	139000	285000	125000	116.8	2.8	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	71700	208000	125000	109.0	2.4	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	510000	663000	125000	122.4	4.5	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP5085: F83691-1, F83691-2, F83691-3, F83691-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 06/29/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	137000	125000	109.6	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	133000	125000	106.4	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	133000	125000	106.4	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP5085: F83691-1, F83691-2, F83691-3, F83691-4

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: F83691
Account: ALSE - Accutest Laboratories Southeast, Inc.
Project: OACCOG: PDC-Riley #1, CO

QC Batch ID: MP5085
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

e-Hardcopy 2.0
Automated Report

Technical Report for

Olsson Associates

Remote Tank battery (010-1905_101_101001 Riley)

SGS Accutest Job Number: D28195

Sampling Date: 09/29/11

Report to:

jjanicek@caerusoilandgas.com

Total number of pages in report: 15

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Renea Lewis 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), LA (LA150028), TX (T104704511), WY
CO (CO00049), EPA 515.4 Provisional

Test results relate only to samples analyzed.

Table of Contents

-1-

SGS Accutest

Sample Summary

Olsson Associates

Job No: D28195

Remote Tank battery (010-1905_101_101001 Riley)

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D28195-1	09/29/11	10:35	JS	09/30/11	AQ	Ground Water	SB02
D28195-2	09/29/11	10:55	JS	09/30/11	AQ	Ground Water	SB03

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Olsson Associates	**Job No**	D28195
Site:	Remote Tank battery (010-1905_101_101001 Riley)	**Report Date**	10/7/2011 2:15:07 PM

On 09/30/2011, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 5.7 °C. The samples were intact and properly preserved, unless noted below. An AMS Job Number of D28195 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix AQ **Batch ID:** V7V496

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D28194-4MS, D28194-4MSD were used as the QC samples indicated.

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Summary of Hits

Job Number: D28195
Account: Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)
Collected: 09/29/11

3

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
D28195-1	**SB02**					

No hits reported in this sample.

D28195-2	**SB03**

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SB02		
Lab Sample ID:	D28195-1	**Date Sampled:**	09/29/11
Matrix:	AQ - Ground Water	**Date Received:**	09/30/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V09412.D	1	10/01/11	BR	n/a	n/a	V7V496
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	4.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		67-131%
2037-26-5	Toluene-D8	102%		65-130%
460-00-4	4-Bromofluorobenzene	82%		65-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB03		
Lab Sample ID:	D28195-2	**Date Sampled:**	09/29/11
Matrix:	AQ - Ground Water	**Date Received:**	09/30/11
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	7V09413.D	1	10/01/11	BR	n/a	n/a	V7V496
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
1330-20-7	Xylene (total)	ND	4.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		67-131%
2037-26-5	Toluene-D8	102%		65-130%
460-00-4	4-Bromofluorobenzene	83%		65-130%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL. 303-425-6021 877-737-4521
FAX 303-425-6021

PAGE 1 OF 1

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: D28195

Client / Reporting Information

Company Name: Olsson Associates
Street Address: 8960 21 1/2 Rd.
City State Zip: Grand Jct., CO 81505
Project Contact: Tim Dobransky
E-mail: tdobransky@olsson.com
Phone #: 970.263.7800 Fax #: 970.263.7456
Sampler(s) Name(s): J. Strina Phone #: same

Project Information

Project Name: 010-1905_101_101001 Riley #1 Remote Tank Battery
Street:
City:
Project #: 010-1905_101_101001
Client PO#:
Project Manager: Tim. Dobransky

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet): BTEX

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	BTEX	LAB USE ONLY
	SB02		9/29/11	1035	JS	GW	3										X	01
	SB03		9/29/11	1055	JS	GW	3										X	02
																		TB

Turnaround Time (Business days)
- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] Commercial "B" +Narrative
- [ ] FULLT1 (Level 3+4)
- [ ] State Forms
- [ ] EDD Format
- [ ] PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
	9/29/11 1200	Rifle Service Center	2		2 9/30/11 1248
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # HDCO	Intact / Not Intact	Preserved where applicable: ☐ On Ice: ☑ Cooler Temp. 5.7

D28195: Chain of Custody
Page 1 of 2

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D28195 **Client:** OLSSON ASS. **Immediate Client Services Action Required:** No

Date / Time Received: 9/30/2011 12:40:00 PM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: REMOTE TANK BATTERY **Airbill #'s:** HD/CO

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021
4036 Youngfield Street
F: (303) 425-6854
Wheat Ridge, CO
www/accutest.com

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D28195
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V496-MB	7V09394.D	1	10/01/11	BR	n/a	n/a	V7V496

The QC reported here applies to the following samples: **Method:** SW846 8260B

D28195-1, D28195-2

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.25	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.50	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
1330-20-7	Xylene (total)	ND	4.0	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	105%	67-131%
2037-26-5	Toluene-D8	103%	65-130%
460-00-4	4-Bromofluorobenzene	87%	65-130%

Blank Spike Summary

Job Number: D28195
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V7V496-BS	7V09395.D	1	10/01/11	BR	n/a	n/a	V7V496

The QC reported here applies to the following samples: **Method:** SW846 8260B

D28195-1, D28195-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	50	48.1	96	70-130
100-41-4	Ethylbenzene	50	48.1	96	70-130
108-88-3	Toluene	50	46.9	94	70-130
1330-20-7	Xylene (total)	150	142	95	56-138

CAS No.	Surrogate Recoveries	BSP	Limits
17060-07-0	1,2-Dichloroethane-D4	101%	67-131%
2037-26-5	Toluene-D8	101%	65-130%
460-00-4	4-Bromofluorobenzene	96%	65-130%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D28195
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D28194-4MS	7V09397.D	500	10/01/11	BR	n/a	n/a	V7V496
D28194-4MSD	7V09398.D	500	10/01/11	BR	n/a	n/a	V7V496
D28194-4	7V09396.D	250	10/01/11	BR	n/a	n/a	V7V496

The QC reported here applies to the following samples: **Method:** SW846 8260B

D28195-1, D28195-2

CAS No.	Compound	D28194-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	17500		25000	40000	90	25000	41600	96	4	61-133/30
100-41-4	Ethylbenzene	894		25000	24500	94	25000	24900	96	2	70-130/30
108-88-3	Toluene	30900		25000	53800	92	25000	55100	97	2	70-130/30
1330-20-7	Xylene (total)	14800		75000	85000	94	75000	85800	95	1	56-138/30

CAS No.	Surrogate Recoveries	MS	MSD	D28194-4	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	114%	104%	67-131%
2037-26-5	Toluene-D8	102%	101%	102%	65-130%
460-00-4	4-Bromofluorobenzene	97%	94%	85%	65-130%

* = Outside of Control Limits.

Mountain States ACCUTEST LABORATORIES

01/03/12

Technical Report for

Olsson Associates

Remote Tank battery (010-1905_101_101001 Riley)

Accutest Job Number: D30432

Sampling Date: 12/16/11

Report to:

Olsson Associates
826 21 1/2 Road
Grand Junction, CO 81505
tdobransky@oaconsulting.com

ATTN: Tim Dobransky

Total number of pages in report: **54**

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Brad Madadian
Laboratory Director

Client Service contact: 303-425-6021

Certifications: CO, ID, NE, NM, ND (R-027) (PW) UT (NELAP CO00049)

Test results relate only to samples analyzed.

Table of Contents

-1-

Accutest Laboratories

Sample Summary

Olsson Associates

Job No: D30432

Remote Tank battery (010-1905_101_101001 Riley)

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
D30432-1	12/16/11	11:25	JS	12/19/11	AQ	Ground Water	SB04
D30432-1A	12/16/11	11:25	JS	12/19/11	AQ	Ground Water	SB04

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Olsson Associates	**Job No**	D30432
Site:	Remote Tank battery (010-1905_101_101001 Riley)	**Report Date**	1/3/2012 9:48:51 AM

On 12/19/2011, 1 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at Accutest Mountain States (AMS) at a temperature of 2.2 °C. The sample was intact and properly preserved, unless noted below. An AMS Job Number of D30432 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Volatiles by GC By Method SW846 8015B

Matrix AQ **Batch ID:** GGA816

- The sample was analyzed within the recommended method holding time.
- Sample(s) D30432-1MS, D30432-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Volatiles by GC By Method SW846 8021B

Matrix AQ **Batch ID:** GTA816

- The sample was analyzed within the recommended method holding time.
- Sample(s) D30432-1MS, D30432-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Extractables by GC By Method SW846-8015B

Matrix AQ **Batch ID:** OP5035

- The sample was extracted and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D25280-1MS, D25280-1MSD were used as the QC samples indicated.

Metals By Method SW846 6010B

Matrix AQ **Batch ID:** MP6511

- The sample was digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D30425-7MSD, D30425-7MS, D30425-7MSD were used as the QC samples for the metals analysis.
- The matrix spike duplicate (MSD) recovery(s) of Cadmium are outside control limits. Probable cause due to matrix interference.
- The matrix spike (MS) recovery(s) of Sodium, Magnesium are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- MP6511-MB1 for Sodium: All sample results >10x method blank concentration.

Matrix AQ **Batch ID:** MP6546

- The sample was digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D30432-1AMS, D30432-1AMSD were used as the QC samples for the metals analysis.

Metals By Method SW846 7470A

Matrix	AQ	Batch ID:	MP6522

- The sample was digested and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D30432-1MS, D30432-1MSD were used as the QC samples for the metals analysis.

Wet Chemistry By Method EPA 300/SW846 9056

Matrix	AQ	Batch ID:	GP6155

- The sample was prepared and analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) D30399-1MS, D30399-1MSD were used as the QC samples for the Chloride, Nitrogen, Nitrate, Nitrogen, Nitrite, Sulfate, Chloride analysis.
- D30432-1 for Nitrogen, Nitrite: Elevated detection limit due to matrix interference.

Wet Chemistry By Method SM20 2320B

Matrix	AQ	Batch ID:	GN13084

- The sample was analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Wet Chemistry By Method SM20 2510B

Matrix	AQ	Batch ID:	GP6169

- Sample(s) D30425-1DUP were used as the QC samples for the Specific Conductivity analysis.

Wet Chemistry By Method USDA HANDBOOK 60

Matrix	AQ	Batch ID:	MP6546

- D30432-1A for Sodium Adsorption Ratio: Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+(Mg meq/L)/2]

AMS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting AMS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

AMS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by AMS indicated via signature on the report cover.

Mountain States ACCUTEST LABORATORIES

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D30432-1	**Date Sampled:**	12/16/11
Matrix:	AQ - Ground Water	**Date Received:**	12/19/11
Method:	SW846 8015B	**Percent Solids:**	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GA14713.D	1	12/20/11	SK	n/a	n/a	GGA816
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	0.146	0.20	0.10	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	105%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D30432-1	**Date Sampled:**	12/16/11
Matrix:	AQ - Ground Water	**Date Received:**	12/19/11
Method:	SW846 8021B	**Percent Solids:**	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TA14713.D	1	12/20/11	SK	n/a	n/a	GTA816
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.54	1.0	0.20	ug/l	J
108-88-3	Toluene	2.1	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	113%		60-140%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D30432-1	**Date Sampled:**	12/16/11
Matrix:	AQ - Ground Water	**Date Received:**	12/19/11
Method:	SW846-8015B SW846 3510C	**Percent Solids:**	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FD12450.D	1	12/21/11	TR	12/20/11	OP5035	GFD645
Run #2							

	Initial Volume	Final Volume
Run #1	1060 ml	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.38	0.30	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	75%		25-146%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D30432-1	**Date Sampled:**	12/16/11
Matrix:	AQ - Ground Water	**Date Received:**	12/19/11
		Percent Solids:	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Arsenic	46.1	25	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Barium	193	10	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Cadmium	< 10	10	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Calcium	97200	400	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Chromium	10.8	10	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Lead	< 50	50	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Magnesium	61800	200	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Mercury	< 0.10	0.10	ug/l	1	12/21/11	12/21/11	JB	SW846 7470A [1]	SW846 7470A [4]
Selenium	< 50	50	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Silver	< 30	30	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]
Sodium	94200	400	ug/l	1	12/20/11	12/21/11	JM	SW846 6010B [2]	SW846 3010A [3]

(1) Instrument QC Batch: MA2067
(2) Instrument QC Batch: MA2069
(3) Prep QC Batch: MP6511
(4) Prep QC Batch: MP6522

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D30432-1	**Date Sampled:**	12/16/11
Matrix:	AQ - Ground Water	**Date Received:**	12/19/11
		Percent Solids:	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Bicarbonate as HCO3	473	5.0	mg/l	1	12/30/11	JD	SM20 2320B
Chloride	12.1	2.5	mg/l	5	12/19/11 17:12	JML	EPA 300/SW846 9056
Nitrogen, Nitrate	< 0.045	0.045	mg/l	1	12/19/11 16:58	JML	EPA 300/SW846 9056
Nitrogen, Nitrite [a]	< 0.31	0.31	mg/l	5	12/19/11 17:12	JML	EPA 300/SW846 9056
Specific Conductivity	972	1.0	umhos/cm	1	12/21/11	JD	SM20 2510B
Sulfate	210	10	mg/l	20	12/19/11 17:26	JML	EPA 300/SW846 9056

(a) Elevated detection limit due to matrix interference.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D30432-1A	**Date Sampled:**	12/16/11
Matrix:	AQ - Ground Water	**Date Received:**	12/19/11
		Percent Solids:	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Calcium	73.5	2.0	mg/l	1	12/23/11	12/23/11	JB	SW846 6010B [1]	EPA 200.7 [2]
Magnesium	59.0	1.0	mg/l	1	12/23/11	12/23/11	JB	SW846 6010B [1]	EPA 200.7 [2]
Sodium	103	2.0	mg/l	1	12/23/11	12/23/11	JB	SW846 6010B [1]	EPA 200.7 [2]

(1) Instrument QC Batch: MA2075
(2) Prep QC Batch: MP6546

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SB04		
Lab Sample ID:	D30432-1A	**Date Sampled:**	12/16/11
Matrix:	AQ - Ground Water	**Date Received:**	12/19/11
		Percent Solids:	n/a
Project:	Remote Tank battery (010-1905_101_101001 Riley)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio [a]	2.17		ratio	1	12/23/11 13:30	JB	USDA HANDBOOK 60

(a) Calculated as: (Na meq/L) / sqrt [(Ca meq/L)+ (Mg meq/L)/2]

RL = Reporting Limit

Mountain States ACCUTEST LABORATORIES

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST LABORATORIES

CHAIN OF CUSTODY

Accutest Laboratories Mountain States
4036 Youngfield Street Wheat Ridge, Co 80033
TEL. 303-425-6021 877-737-4521
FAX 303-425-6021

FED-EX Tracking #:
Bottle Order Control #:
Accutest Quote #:
Accutest Job #: D30432

Client / Reporting Information

Company Name: Olsson Associates
Street Address: 836 21 1/2 Rd.
City State Zip: Grand Jct. CO 81505
Project Contact: T. Dobransky
E-mail: tdobransky@olsson.com
Phone #: 970.263.7800
Fax #:
Sampler(s) Name(s): J. Sutrina Esme
Phone #:

Project Information

Project Name: 010-1905_101_101001 Riley #1 Remote Tank Battery
Street:
City:
Project#: 010-1905_101_101001
Client PO#:
Project Manager: Tim Dobransky

Billing Information (If different from Report to)

Company Name:
Street Address:
City State Zip:
Attention: PO#:

Requested Analysis (see TEST CODE sheet)

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	Bisulfate	8021B BTEX	8015B GRO/DRO	3010A/7470A RCRA metals*	2510B EC	SAR	3010A/9056/2320B Ions**						LAB USE ONLY
	SB04		12/16/11	1125	JS	GW	11										X	X	X	X	X	X						01 12/19/11

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB- Equipment Blank; RB- Rinse Blank; TB-Trip Blank

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- [x] Std. 10 Business Days
- [ ] Std. 5 Business Days (By Contract only)
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] Commercial "B" +Narrative
- [ ] FULLT1 (Level 3+4)
- [ ] State Forms
- [ ] EDD Format
- [ ] PDF

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary

Comments / Special Instructions

* Metals - please see attached list
** Major Ions - please see attached list

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	12/16/11 1330	Fritz Service Center	2		2 FedEx
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4 12-19-11 07:00
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # FX	[x] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [x] Cooler Temp. 2.2

D30432: Chain of Custody
Page 1 of 3

* Metals Arsenic
Barium
Cadmium
Chromium
Lead
Mercury
Selenium
Silver

** Major Ions Bicarbonate as HCO_3
Chloride
Nitrogen, Nitrate
Nitrogen, Nitrite
Sulfate
Calcium
Magnesium
Sodium

OLSSON ASSOCIATES

PROJECT:
project no.:
drawn by:
date:
page of

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: D30432 **Client:** OLSSON ASSOCIATES **Immediate Client Services Action Required:** No

Date / Time Received: 12/19/2011 7:00:00 AM **No. Coolers:** 1 **Client Service Action Required at Login:** No

Project: RILEY #1 REMOVE TANK BATTERY 010-190 **Airbill #'s:** FX

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	Infared gun		
3. Cooler media:	Ice (bag)		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	
2. Trip Blank listed on COC:	☐		☐	
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Accutest Laboratories
V:(303) 425-6021
4036 Youngfield Street
F: (303) 425-6854
Wheat Ridge, CO
www/accutest.com

D30432: Chain of Custody
Page 3 of 3

Mountain States ACCUTEST LABORATORIES

GC Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA816-MB	GA14711.D	1	12/20/11	SK	n/a	n/a	GGA816

The QC reported here applies to the following samples: **Method:** SW846 8015B

D30432-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	0.20	0.10	mg/l	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	104%	60-140%

Method Blank Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA816-MB	TA14711.D	1	12/20/11	SK	n/a	n/a	GTA816

The QC reported here applies to the following samples: **Method:** SW846 8021B

D30432-1

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
100-41-4	Ethylbenzene	ND	2.0	1.0	ug/l	
108-88-3	Toluene	ND	2.0	1.0	ug/l	
1330-20-7	Xylenes (total)	ND	2.0	2.0	ug/l	

CAS No.	Surrogate Recoveries		Limits
120-82-1	1,2,4-Trichlorobenzene	112%	60-140%

Blank Spike Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GGA816-BS	GA14712.D	1	12/20/11	SK	n/a	n/a	GGA816

The QC reported here applies to the following samples: **Method:** SW846 8015B

D30432-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-GRO (C6-C10)	2.2	2.19	100	70-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	108%	60-140%

Blank Spike Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GTA816-BS	TA14712.D	1	12/20/11	SK	n/a	n/a	GTA816

The QC reported here applies to the following samples: **Method:** SW846 8021B

D30432-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
71-43-2	Benzene	27.2	25.5	94	70-130
100-41-4	Ethylbenzene	45.6	42.4	93	70-130
108-88-3	Toluene	212	190	90	70-130
1330-20-7	Xylenes (total)	216	207	96	68-130

CAS No.	Surrogate Recoveries	BSP	Limits
120-82-1	1,2,4-Trichlorobenzene	117%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D30432-1MS	GA14714.D	5	12/20/11	SK	n/a	n/a	GGA816
D30432-1MSD	GA14715.D	5	12/20/11	SK	n/a	n/a	GGA816
D30432-1	GA14713.D	1	12/20/11	SK	n/a	n/a	GGA816

The QC reported here applies to the following samples: **Method:** SW846 8015B

D30432-1

CAS No.	Compound	D30432-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-GRO (C6-C10)	0.146	J	11	10.5	94	10.5	94	0	61-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D30432-1	Limits
120-82-1	1,2,4-Trichlorobenzene	108%	107%	105%	60-140%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
D30432-1MS	TA14714.D	5	12/20/11	SK	n/a	n/a	GTA816
D30432-1MSD	TA14715.D	5	12/20/11	SK	n/a	n/a	GTA816
D30432-1	TA14713.D	1	12/20/11	SK	n/a	n/a	GTA816

The QC reported here applies to the following samples: **Method:** SW846 8021B

D30432-1

CAS No.	Compound	D30432-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	MSD ug/l	MSD %	RPD	Limits Rec/RPD
71-43-2	Benzene	0.54	J	136	124	91	122	89	2	67-130/30
100-41-4	Ethylbenzene	ND		228	204	89	203	89	0	62-130/30
108-88-3	Toluene	2.1		1060	916	86	908	86	1	66-130/30
1330-20-7	Xylenes (total)	ND		1080	999	93	987	91	1	61-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D30432-1	Limits
120-82-1	1,2,4-Trichlorobenzene	115%	116%	113%	60-140%

Mountain States ACCUTEST LABORATORIES

GC Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5035-MB	FD12426.D	1	12/21/11	TR	12/19/11	OP5035	GFD645

The QC reported here applies to the following samples: **Method:** SW846-8015B

D30432-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	ND	0.40	0.32	mg/l	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	90%	25-146%

Blank Spike Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5035-BS	FD12427.D	1	12/21/11	TR	12/19/11	OP5035	GFD645

The QC reported here applies to the following samples: **Method:** SW846-8015B

D30432-1

CAS No.	Compound	Spike mg/l	BSP mg/l	BSP %	Limits
	TPH-DRO (C10-C28)	20	16.0	80	49-130

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	84%	25-146%

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: D30432
Account: CORCCOGJ Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP5035-MS	FD12428.D	1	12/21/11	TR	12/19/11	OP5035	GFD645
OP5035-MSD	FD12429.D	1	12/21/11	TR	12/19/11	OP5035	GFD645
D25280-1	FD12430.D	1	12/21/11	TR	12/20/11	OP5035	GFD645

The QC reported here applies to the following samples: **Method:** SW846-8015B

D30432-1

CAS No.	Compound	D25280-1 mg/l	Q	Spike mg/l	MS mg/l	MS %	MSD mg/l	MSD %	RPD	Limits Rec/RPD
	TPH-DRO (C10-C28)	ND		20	15.6	78	16.2	81	4	47-130/30

CAS No.	Surrogate Recoveries	MS	MSD	D25280-1	Limits
84-15-1	o-Terphenyl	85%	86%	73%	25-146%

6.3.1

6

Mountain States ACCUTEST LABORATORIES

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 12/20/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	5.9	5.9		
Antimony	30	3.1	3.1		
Arsenic	25	5.9	5.9	-1.7	<25
Barium	10	1.1	1.1	0.10	<10
Beryllium	10	.44	.5		
Boron	50	4.8	4.8		
Cadmium	10	.27	.27	0.10	<10
Calcium	400	9.6	15	102	<400
Chromium	10	.18	.79	0.10	<10
Cobalt	5.0	.35	.35		
Copper	10	.85	2.8		
Iron	70	3.4	13		
Lead	50	1.6	2.1	-0.60	<50
Lithium	2.0	.28	1.2		
Magnesium	200	5.8	10	51.6	<200
Manganese	5.0	.053	.31		
Molybdenum	10	.45	.87		
Nickel	30	.43	1		
Phosphorus	100	11	20		
Potassium	1000	55	55		
Selenium	50	3.8	3.8	4.5	<50
Silicon	50	3.8	3.8		
Silver	30	.18	.31	-1.6	<30
Sodium	400	110	110	403	* (a)
Strontium	5.0		.25		
Thallium	10	2.9	2.9		
Tin	50	5.5	9.9		
Titanium	10	.11	.31		
Uranium	50	1.5	3.5		
Vanadium	10	.16	.22		
Zinc	30	.28	1.8		

Associated samples MP6511: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511 | Methods: SW846 6010B
Matrix Type: AQUEOUS | Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested
(a) All sample results >10x method blank concentration.

7.1.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 12/20/11

Metal	D30425-7 Original	MS	Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic	503	1710	1000	120.7	75-125
Barium	159	2110	2000	98.9	75-125
Beryllium					
Boron	anr				
Cadmium	0.0	623	500	124.6	75-125
Calcium	2570000	2600000	25000	120.0	75-125
Chromium	48.5	563	500	98.8	75-125
Cobalt					
Copper	anr				
Iron	anr				
Lead	0.0	935	1000	93.5	75-125
Lithium					
Magnesium	681000	695000	25000	56.0 (a)	75-125
Manganese	anr				
Molybdenum					
Nickel	anr				
Phosphorus					
Potassium					
Selenium	79.0	858	1000	77.9	75-125
Silicon					
Silver	0.0	242	200	121.0	75-125
Sodium	34500000	33600000	25000	-3600.0a	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6511: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511 Methods: SW846 6010B
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511 Methods: SW846 6010B
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/20/11

Metal	D30425-7 Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	503	1690	1000	118.7	1.2	20
Barium	159	2120	2000	99.4	0.5	20
Beryllium						
Boron	anr					
Cadmium	0.0	626	500	125.2N(a	0.5	20
Calcium	2570000	2660000	25000	360.0(b)	2.3	20
Chromium	48.5	566	500	99.4	0.5	20
Cobalt						
Copper	anr					
Iron	anr					
Lead	0.0	924	1000	92.4	1.2	20
Lithium						
Magnesium	681000	720000	25000	156.0(b)	3.5	20
Manganese	anr					
Molybdenum						
Nickel	anr					
Phosphorus						
Potassium						
Selenium	79.0	866	1000	78.7	0.9	20
Silicon						
Silver	0.0	244	200	122.0	0.8	20
Sodium	34500000	35400000	25000	3600.0(b	5.2	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6511: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511 Methods: SW846 6010B
Matrix Type: AQUEOUS Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike recovery indicates possible matrix interference and/or sample nonhomogeneity.
(b) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date: 12/20/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic	1100	1000	110.0	80-120
Barium	2000	2000	100.0	80-120
Beryllium				
Boron	anr			
Cadmium	539	500	107.8	80-120
Calcium	27500	25000	110.0	80-120
Chromium	540	500	108.0	80-120
Cobalt				
Copper	anr			
Iron	anr			
Lead	1080	1000	108.0	80-120
Lithium				
Magnesium	25700	25000	102.8	80-120
Manganese	anr			
Molybdenum				
Nickel	anr			
Phosphorus				
Potassium				
Selenium	1090	1000	109.0	80-120
Silicon				
Silver	212	200	106.0	80-120
Sodium	25400	25000	101.6	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6511: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6511
Matrix Type: AQUEOUS

Methods: SW846 6010B
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

7.1.3

7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6522
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 12/21/11

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.10	.011	.014	0.035	<0.10

Associated samples MP6522: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6522
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 12/21/11

Metal	D30432-1 Original	MS	Spikelot HGWSR1	% Rec	QC Limits
Mercury	0.0	3.2	3.13	102.4	75-125

Associated samples MP6522: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6522 Methods: SW846 7470A
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 12/21/11

Metal	D30432-1 Original	MSD	Spikelot HGWSR1	% Rec	MSD RPD	QC Limit
Mercury	0.0	3.1	3.13	99.2	3.2	20

Associated samples MP6522: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

7.2.2

7

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6522
Matrix Type: AQUEOUS

Methods: SW846 7470A
Units: ug/l

Prep Date: 12/21/11

Metal	BSP Result	Spikelot HGWSR1	% Rec	QC Limits
Mercury	3.3	3.13	105.6	80-120

Associated samples MP6522: D30432-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

7.2.3

7

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/23/11

Metal	RL	IDL	MDL	MB raw	final
Aluminum	500	30	30		
Antimony	150	16	16		
Arsenic	130	30	30		
Barium	50	5.5	5.5		
Beryllium	50	2.2	2.5		
Boron	250	24	24		
Cadmium	50	1.4	1.4		
Calcium	2000	48	75	99.0	<2000
Chromium	50	.9	4		
Cobalt	25	1.8	1.8		
Copper	50	4.3	14		
Iron	350	17	65		
Lead	250	8	11		
Lithium	10	1.4	6		
Magnesium	1000	29	50	17.0	<1000
Manganese	25	.27	1.6		
Molybdenum	50	2.3	4.4		
Nickel	150	2.2	5		
Phosphorus	500	55	100		
Potassium	5000	280	280		
Selenium	250	19	19		
Silicon	250	19	19		
Silver	150	.9	1.6		
Sodium	2000	570	570	-55	<2000
Strontium	25		1.3		
Thallium	50	15	15		
Tin	250	28	50		
Titanium	50	.55	1.6		
Uranium	250	7.5	18		
Vanadium	50	.8	1.1		
Zinc	150	1.4	9		

Associated samples MP6546: D30432-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

7.3.1

7

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/23/11

Metal	D30432-1A Original MS		Spikelot MPICPALL	% Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium	73500	204000	125000	104.4	75-125
Chromium					
Cobalt					
Copper					
Iron					
Lead					
Lithium					
Magnesium	59000	188000	125000	103.2	75-125
Manganese					
Molybdenum					
Nickel					
Phosphorus					
Potassium					
Selenium					
Silicon					
Silver					
Sodium	103000	235000	125000	105.6	75-125
Strontium					
Thallium					
Tin					
Titanium					
Uranium					
Vanadium					
Zinc					

Associated samples MP6546: D30432-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/23/11

Metal	D30432-1A Original	MSD	Spikelot MPICPALL	% Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium	73500	202000	125000	102.8	1.0	20
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Lithium						
Magnesium	59000	185000	125000	100.8	1.6	20
Manganese						
Molybdenum						
Nickel						
Phosphorus						
Potassium						
Selenium						
Silicon						
Silver						
Sodium	103000	229000	125000	100.8	2.6	20
Strontium						
Thallium						
Tin						
Titanium						
Uranium						
Vanadium						
Zinc						

Associated samples MP6546: D30432-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date: 12/23/11

Metal	BSP Result	Spikelot MPICPALL	% Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium	134000	125000	107.2	80-120
Chromium				
Cobalt				
Copper				
Iron				
Lead				
Lithium				
Magnesium	129000	125000	103.2	80-120
Manganese				
Molybdenum				
Nickel				
Phosphorus				
Potassium				
Selenium				
Silicon				
Silver				
Sodium	132000	125000	105.6	80-120
Strontium				
Thallium				
Tin				
Titanium				
Uranium				
Vanadium				
Zinc				

Associated samples MP6546: D30432-1A

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

QC Batch ID: MP6546
Matrix Type: AQUEOUS

Methods: SW846 6010B, USDA HANDBOOK 60
Units: ug/l

Prep Date:

Metal

(anr) Analyte not requested

7.3.3

7

Mountain States ACCUTEST LABORATORIES

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Bicarbonate as HCO3	GN13084	5.0	0.0	mg/l	100	102	102.1	90-110%
Chloride	GP6155/GN12967	0.50	0.28	mg/l	20	19.7	98.5	90-110%
Nitrogen, Nitrate	GP6155/GN12967	0.045	0.0	mg/l	4.52	4.35	96.3	90-110%
Nitrogen, Nitrite	GP6155/GN12967	0.061	0.0	mg/l	6.09	6.52	107.1	90-110%
Specific Conductivity	GP6169/GN12996			umhos/cm	99.4	96.2	97.1	90-110%
Sulfate	GP6155/GN12967	0.50	0.0	mg/l	30	28.8	96.0	90-110%

Associated Samples:
Batch GN13084: D30432-1
Batch GP6155: D30432-1
Batch GP6169: D30432-1
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Specific Conductivity	GP6169/GN12996	D30425-1	umhos/cm	101000	102000	0.4	0-20%

Associated Samples:
Batch GP6169: D30432-1
(*) Outside of QC limits

8.2
8

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP6155/GN12967	D30399-1	mg/l	58.3	50	110	103.4	80-120%
Nitrogen, Nitrate	GP6155/GN12967	D30399-1	mg/l	3.0	2.83	5.9	102.7	80-120%
Nitrogen, Nitrite	GP6155/GN12967	D30399-1	mg/l	0.0	1.52	1.5	98.5	80-120%
Sulfate	GP6155/GN12967	D30399-1	mg/l	26.2	50	76.1	99.8	80-120%

Associated Samples:
Batch GP6155: D30432-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: D30432
Account: CORCCOGJ - Olsson Associates
Project: Remote Tank battery (010-1905_101_101001 Riley)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Chloride	GP6155/GN12967	D30399-1	mg/l	58.3	50	109	0.9	20%
Nitrogen, Nitrate	GP6155/GN12967	D30399-1	mg/l	3.0	2.83	5.8	1.7	20%
Nitrogen, Nitrite	GP6155/GN12967	D30399-1	mg/l	0.0	1.52	1.5	0.0	20%
Sulfate	GP6155/GN12967	D30399-1	mg/l	26.2	50	74.8	1.7	20%

Associated Samples:
Batch GP6155: D30432-1
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits