24-Jan-2013

Tim Dobransky
Olsson Associates
826 21 1/2 Road
Grand Junction, Colorado 81505

Tel: (970) 263-7800
Fax: (970) 263-7456

Re: Kimball Creek Pad 23-4C-995 Work Order: **1301338**

Dear Tim,

ALS Environmental received 2 samples on 11-Jan-2013 09:30 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested. Results are expressed as "as received" unless otherwise noted.

QC sample results for this data met EPA or laboratory specifications except as noted in the Case Narrative or as noted with qualifiers in the QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained by ALS Environmental. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 30.

If you have any questions regarding this report, please feel free to call me.

Sincerely,

Patricia L. Lynch

Electronically approved by: Luke F. Hernandez

Patricia L. Lynch
Project Manager

Certificate No: T104704231-09A-TX

ALS Environmental

Date: 24-Jan-13

Client: Olsson Associates
Project: Kimball Creek Pad 23-4C-995
Work Order: **1301338**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1301338-01	23-4C-995 - BG1	Soil		1/10/2013 12:50	1/11/2013 09:30	☐
1301338-02	23-4C-995 - BG2	Soil		1/10/2013 13:05	1/11/2013 09:30	☐

Client:	Olsson Associates
Project:	Kimball Creek Pad 23-4C-995
Work Order:	1301338

Case Narrative

Batch 67157, Metals, Sample 1301412-01: MS/MSD and duplicate are for an unrelated sample.

Batch 67105, PAHs, Sample 1301278-03: MS/MSD is for an unrelated sample.

Batch R141144, BTEX: Numerous MS/MSD recoveries and RPDs are outside the control limits for sample 23-4C-995-BG2. However, all recoveries and RPDs in the associated LCS and LCSD are in control.

ALS Environmental

Date: *24-Jan-13*

Client: Olsson Associates
Project: Kimball Creek Pad 23-4C-995
Work Order: 1301338
Sample ID: 23-4C-995 - BG1
Lab ID: 1301338-01
Collection Date: 1/10/2013 12:50 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
TPH (DRO) - 8015C			**SW8015M**				Analyst: **KMB**
DRO (>C10 - C28)	**3.8**		**1.7**	**mg/Kg**	1	1/16/2013	1/16/2013 04:10 PM
Surr: 2-Fluorobiphenyl	*64.8*		*60-135*	*%REC*	1	1/16/2013	1/16/2013 04:10 PM
GASOLINE RANGE ORGANICS - SW8015C			**SW8015**				Analyst: **KKP**
Gasoline Range Organics	U		0.050	mg/Kg	1		1/16/2013 12:03 PM
Surr: 4-Bromofluorobenzene	*82.8*		*70-130*	*%REC*	1		1/16/2013 12:03 PM
TRIVALENT CHROMIUM			**CALCULATION**				Analyst: **SKS**
Chromium, Trivalent	**14.7**		**5.00**	**mg/Kg**	1		1/18/2013
MERCURY - SW7471B			**SW7471A**				Analyst: **OFO**
Mercury	**0.0114**		**0.00340**	**mg/Kg**	1	1/11/2013	1/11/2013 05:52 PM
METALS			**SW6020**				Analyst: **ALR**
Arsenic	**8.71**		**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Barium	**951**		**4.95**	**mg/Kg**	10	1/16/2013	1/17/2013 06:48 PM
Cadmium	**0.209**	J	**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Chromium	**14.7**		**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Copper	**14.1**		**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Lead	**8.75**		**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Nickel	**14.2**		**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Selenium	**0.498**		**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Silver	**0.0982**	J	**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
Zinc	**33.6**		**0.495**	**mg/Kg**	1	1/16/2013	1/17/2013 04:11 AM
LA29B SODIUM ADSORPTION RATIO			**LA29B SAR**				Analyst: **ALR**
Sodium Adsorption Ratio	**4.23**		**0.0100**	**meq/meq**	1	1/15/2013	1/18/2013
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR			**LA29B-6020**				Analyst: **ALR**
Calcium	**80.8**		**4.97**	**mg/L**	10	1/15/2013	1/17/2013 05:16 AM
Magnesium	**16.8**		**4.97**	**mg/L**	10	1/15/2013	1/17/2013 05:16 AM
Sodium	**160**		**4.97**	**mg/L**	10	1/15/2013	1/17/2013 05:16 AM
LOW-LEVEL PAHS			**SW8270**				Analyst: **ACN**
Acenaphthene	U		0.0066	mg/Kg	1	1/14/2013	1/14/2013 09:02 PM
Anthracene	**0.0016**	J	**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Benz(a)anthracene	**0.025**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Benzo(a)pyrene	**0.0088**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Benzo(b)fluoranthene	**0.012**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Benzo(k)fluoranthene	**0.032**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Chrysene	**0.035**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Dibenz(a,h)anthracene	**0.0055**	J	**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Fluoranthene	**0.023**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Olsson Associates
Project: Kimball Creek Pad 23-4C-995 **Work Order:** 1301338
Sample ID: 23-4C-995 - BG1 **Lab ID:** 1301338-01
Collection Date: 1/10/2013 12:50 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
Fluorene	U		0.0066	mg/Kg	1	1/14/2013	1/14/2013 09:02 PM
Indeno(1,2,3-cd)pyrene	**0.0087**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Naphthalene	**0.0060**	J	**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Pyrene	**0.017**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 09:02 PM
Surr: 2-Fluorobiphenyl	*62.0*		*43-125*	*%REC*	1	1/14/2013	1/14/2013 09:02 PM
Surr: 4-Terphenyl-d14	*89.3*		*32-125*	*%REC*	1	1/14/2013	1/14/2013 09:02 PM
Surr: Nitrobenzene-d5	*58.8*		*37-125*	*%REC*	1	1/14/2013	1/14/2013 09:02 PM
VOLATILES - SW8260C			**SW8260**				Analyst: **WLR**
Benzene	U		0.0050	mg/Kg	1		1/14/2013 03:39 PM
Ethylbenzene	U		0.0050	mg/Kg	1		1/14/2013 03:39 PM
m,p-Xylene	U		0.010	mg/Kg	1		1/14/2013 03:39 PM
o-Xylene	U		0.0050	mg/Kg	1		1/14/2013 03:39 PM
Toluene	U		0.0050	mg/Kg	1		1/14/2013 03:39 PM
Xylenes, Total	U		0.015	mg/Kg	1		1/14/2013 03:39 PM
Surr: 1,2-Dichloroethane-d4	*83.2*		*70-128*	*%REC*	1		1/14/2013 03:39 PM
Surr: 4-Bromofluorobenzene	*96.8*		*73-126*	*%REC*	1		1/14/2013 03:39 PM
Surr: Dibromofluoromethane	*95.2*		*71-128*	*%REC*	1		1/14/2013 03:39 PM
Surr: Toluene-d8	*99.4*		*73-127*	*%REC*	1		1/14/2013 03:39 PM
HEXAVALENT CHROMIUM - SW7196A			**SW7196**				Analyst: **EDG**
Chromium, Hexavalent	U		1.95	mg/Kg	1	1/17/2013	1/18/2013 01:00 PM
LA29B ELECTRICAL CONDUCTIVITY			**LADNR-29B EC**				Analyst: **VAN**
Electrical Conductivity @ saturation	**2.65**		**0.0100**	**mmhos/cm @25°C**	1		1/16/2013 12:55 PM
Electrical Conductivity, 1:1 aqueous	**1.07**		**0.0100**	**mmhos/cm @25°C**	1		1/16/2013 12:55 PM
LA29B SATURATION POINT			**LADNR-29B SP**				Analyst: **KAH**
Saturation Point	**0.403**		**0.100**	**% Saturation as Decimal**	1		1/16/2013 12:55 PM
MOISTURE			**SW3550**				Analyst: **KAH**
Percent Moisture	**18.0**		**0.0100**	**wt%**	1		1/14/2013 03:40 PM
PH - SOIL - SW9045D			**SW9045B**				Analyst: **KL**
pH	**8.46**		**0.100**	**pH Units**	1		1/15/2013 10:00 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

ALS Environmental

Date: *24-Jan-13*

Client: Olsson Associates
Project: Kimball Creek Pad 23-4C-995
Work Order: 1301338
Sample ID: 23-4C-995 - BG2
Lab ID: 1301338-02
Collection Date: 1/10/2013 01:05 PM
Matrix: SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
TPH (DRO) - 8015C			**SW8015M**				Analyst: **KMB**
DRO (>C10 - C28)	**4.3**		**1.7**	**mg/Kg**	1	1/16/2013	1/16/2013 04:10 PM
Surr: 2-Fluorobiphenyl	*80.1*		*60-135*	*%REC*	1	1/16/2013	1/16/2013 04:10 PM
GASOLINE RANGE ORGANICS - SW8015C			**SW8015**				Analyst: **KKP**
Gasoline Range Organics	U		0.050	mg/Kg	1		1/16/2013 12:22 PM
Surr: 4-Bromofluorobenzene	*82.8*		*70-130*	*%REC*	1		1/16/2013 12:22 PM
TRIVALENT CHROMIUM			**CALCULATION**				Analyst: **SKS**
Chromium, Trivalent	**13.3**		**5.00**	**mg/Kg**	1		1/18/2013
MERCURY - SW7471B			**SW7471A**				Analyst: **OFO**
Mercury	**0.0144**		**0.00346**	**mg/Kg**	1	1/11/2013	1/11/2013 06:02 PM
METALS			**SW6020**				Analyst: **ALR**
Arsenic	**6.01**		**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Barium	**500**		**4.55**	**mg/Kg**	10	1/16/2013	1/17/2013 06:53 PM
Cadmium	**0.202**	J	**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Chromium	**13.3**		**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Copper	**12.4**		**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Lead	**7.43**		**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Nickel	**13.1**		**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Selenium	**0.497**		**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Silver	**0.0869**	J	**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
Zinc	**31.4**		**0.455**	**mg/Kg**	1	1/16/2013	1/17/2013 04:16 AM
LA29B SODIUM ADSORPTION RATIO			**LA29B SAR**				Analyst: **ALR**
Sodium Adsorption Ratio	**4.58**		**0.0100**	**meq/meq**	1	1/15/2013	1/18/2013
LA 29B - 1:1 SOLUBLE CATIONS FOR SAR			**LA29B-6020**				Analyst: **ALR**
Calcium	**81.3**		**5.00**	**mg/L**	10	1/15/2013	1/17/2013 05:21 AM
Magnesium	**20.1**		**5.00**	**mg/L**	10	1/15/2013	1/17/2013 05:21 AM
Sodium	**178**		**5.00**	**mg/L**	10	1/15/2013	1/17/2013 05:21 AM
LOW-LEVEL PAHS			**SW8270**				Analyst: **ACN**
Acenaphthene	U		0.0066	mg/Kg	1	1/14/2013	1/14/2013 10:44 PM
Anthracene	U		0.0066	mg/Kg	1	1/14/2013	1/14/2013 10:44 PM
Benz(a)anthracene	**0.016**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Benzo(a)pyrene	**0.011**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Benzo(b)fluoranthene	**0.018**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Benzo(k)fluoranthene	**0.019**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Chrysene	**0.029**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Dibenz(a,h)anthracene	U		0.0066	mg/Kg	1	1/14/2013	1/14/2013 10:44 PM
Fluoranthene	**0.0099**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

Client: Olsson Associates
Project: Kimball Creek Pad 23-4C-995 **Work Order:** 1301338
Sample ID: 23-4C-995 - BG2 **Lab ID:** 1301338-02
Collection Date: 1/10/2013 01:05 PM **Matrix:** SOIL

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Prep	Date Analyzed
Fluorene	U		0.0066	mg/Kg	1	1/14/2013	1/14/2013 10:44 PM
Indeno(1,2,3-cd)pyrene	**0.0079**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Naphthalene	**0.0065**	J	**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Pyrene	**0.010**		**0.0066**	**mg/Kg**	1	1/14/2013	1/14/2013 10:44 PM
Surr: 2-Fluorobiphenyl	*81.4*		*43-125*	*%REC*	1	1/14/2013	1/14/2013 10:44 PM
Surr: 4-Terphenyl-d14	*102*		*32-125*	*%REC*	1	1/14/2013	1/14/2013 10:44 PM
Surr: Nitrobenzene-d5	*76.0*		*37-125*	*%REC*	1	1/14/2013	1/14/2013 10:44 PM
VOLATILES - SW8260C			**SW8260**				Analyst: **WLR**
Benzene	U		0.0050	mg/Kg	1		1/14/2013 04:05 PM
Ethylbenzene	U		0.0050	mg/Kg	1		1/14/2013 04:05 PM
m,p-Xylene	U		0.010	mg/Kg	1		1/14/2013 04:05 PM
o-Xylene	U		0.0050	mg/Kg	1		1/14/2013 04:05 PM
Toluene	U		0.0050	mg/Kg	1		1/14/2013 04:05 PM
Xylenes, Total	U		0.015	mg/Kg	1		1/14/2013 04:05 PM
Surr: 1,2-Dichloroethane-d4	*85.8*		*70-128*	*%REC*	1		1/14/2013 04:05 PM
Surr: 4-Bromofluorobenzene	*96.0*		*73-126*	*%REC*	1		1/14/2013 04:05 PM
Surr: Dibromofluoromethane	*97.3*		*71-128*	*%REC*	1		1/14/2013 04:05 PM
Surr: Toluene-d8	*95.5*		*73-127*	*%REC*	1		1/14/2013 04:05 PM
HEXAVALENT CHROMIUM - SW7196A			**SW7196**				Analyst: **EDG**
Chromium, Hexavalent	U		1.97	mg/Kg	1	1/17/2013	1/18/2013 01:00 PM
LA29B ELECTRICAL CONDUCTIVITY			**LADNR-29B EC**				Analyst: **VAN**
Electrical Conductivity @ saturation	**2.83**		**0.0100**	**mmhos/cm @25°C**	1		1/16/2013 12:55 PM
Electrical Conductivity, 1:1 aqueous	**1.18**		**0.0100**	**mmhos/cm @25°C**	1		1/16/2013 12:55 PM
LA29B SATURATION POINT			**LADNR-29B SP**				Analyst: **KAH**
Saturation Point	**0.417**		**0.100**	**% Saturation as Decimal**	1		1/16/2013 12:55 PM
MOISTURE			**SW3550**				Analyst: **KAH**
Percent Moisture	**17.9**		**0.0100**	**wt%**	1		1/14/2013 03:40 PM
PH - SOIL - SW9045D			**SW9045B**				Analyst: **KL**
pH	**8.52**		**0.100**	**pH Units**	1		1/15/2013 10:00 AM

Note: See Qualifiers Page for a list of qualifiers and their explanation.

QC BATCH REPORT

Batch ID: **67167** Instrument ID **FID-7** Method: **SW8015M**

MBLK Sample ID: **FBLKS1-130116-67167** Units: **mg/Kg** Analysis Date: **1/16/2013 03:25 PM**

Client ID: Run ID: **FID-7_130116A** SeqNo: **3085149** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	U	1.7								
Surr: 2-Fluorobiphenyl	2.609	0	*3.3*	0	*79.1*	*60-135*	0			

LCS Sample ID: **FLCSS1-130116-67167** Units: **mg/Kg** Analysis Date: **1/16/2013 03:48 PM**

Client ID: Run ID: **FID-7_130116A** SeqNo: **3085150** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	33.47	1.7	33.3	0	100	70-130	0			
Surr: 2-Fluorobiphenyl	3.119	0	*3.3*	0	*94.5*	*60-135*	0			

MS Sample ID: **1301338-01AMS** Units: **mg/Kg** Analysis Date: **1/16/2013 03:48 PM**

Client ID: **23-4C-995 - BG1** Run ID: **FID-7_130116A** SeqNo: **3085152** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	33.14	1.7	33.1	3.818	88.6	70-130	0			
Surr: 2-Fluorobiphenyl	2.218	0	*3.28*	0	*67.6*	*60-135*	0			

MSD Sample ID: **1301338-01AMSD** Units: **mg/Kg** Analysis Date: **1/18/2013 12:20 PM**

Client ID: **23-4C-995 - BG1** Run ID: **FID-7_130116A** SeqNo: **3085289** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
DRO (>C10 - C28)	38.91	1.7	33.09	3.818	106	70-130	33.14	16	30	
Surr: 2-Fluorobiphenyl	3	0	*3.279*	0	*91.5*	*60-135*	2.218	*30*	*30*	

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141250** Instrument ID **FID-9** Method: **SW8015**

MBLK Sample ID: **GBLKS-130116-R141250** Units: **mg/Kg** Analysis Date: **1/16/2013 11:25 AM**
Client ID: Run ID: **FID-9_130116A** SeqNo: **3083992** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	U	0.050								
Surr: 4-Bromofluorobenzene	0.08743	0.0050	*0.1*	0	*87.4*	*70-130*	0			

LCS Sample ID: **GLCSS-130116-R141250** Units: **mg/Kg** Analysis Date: **1/16/2013 10:48 AM**
Client ID: Run ID: **FID-9_130116A** SeqNo: **3083988** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	1.027	0.050	1	0	103	70-130	0			
Surr: 4-Bromofluorobenzene	0.09551	0.0050	*0.1*	0	*95.5*	*70-130*	0			

LCSD Sample ID: **GLCSDS-130116-R141250** Units: **mg/Kg** Analysis Date: **1/16/2013 11:06 AM**
Client ID: Run ID: **FID-9_130116A** SeqNo: **3083990** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.9913	0.050	1	0	99.1	70-130	1.027	3.58	30	
Surr: 4-Bromofluorobenzene	0.09242	0.0050	*0.1*	0	*92.4*	*70-130*	0.09551	*3.3*	*30*	

MS Sample ID: **1301338-02AMS** Units: **mg/Kg** Analysis Date: **1/16/2013 12:41 PM**
Client ID: **23-4C-995 - BG2** Run ID: **FID-9_130116A** SeqNo: **3083996** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.8983	0.050	1	0	89.8	70-130	0			
Surr: 4-Bromofluorobenzene	0.08927	0.0050	*0.1*	0	*89.3*	*70-130*	0			

MSD Sample ID: **1301338-02AMSD** Units: **mg/Kg** Analysis Date: **1/16/2013 01:00 PM**
Client ID: **23-4C-995 - BG2** Run ID: **FID-9_130116A** SeqNo: **3083997** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Gasoline Range Organics	0.865	0.050	1	0	86.5	70-130	0.8983	3.77	30	
Surr: 4-Bromofluorobenzene	0.08965	0.0050	*0.1*	0	*89.7*	*70-130*	0.08927	*0.423*	*30*	

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67096** Instrument ID **HG02** Method: **SW7471A**

MBLK Sample ID: **GBLKS2-011113-67096** Units: **µg/Kg** Analysis Date: **1/11/2013 05:48 PM**
Client ID: Run ID: **HG02_130111A** SeqNo: **3080835** Prep Date: **1/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	U	3.3								

LCS Sample ID: **GLCSS2-011113-67096** Units: **µg/Kg** Analysis Date: **1/11/2013 05:50 PM**
Client ID: Run ID: **HG02_130111A** SeqNo: **3080836** Prep Date: **1/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	354.7	3.3	333.3	0	106	85-115	0			

MS Sample ID: **1301338-01AMS** Units: **µg/Kg** Analysis Date: **1/11/2013 05:58 PM**
Client ID: **23-4C-995 - BG1** Run ID: **HG02_130111A** SeqNo: **3080839** Prep Date: **1/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	345.6	3.4	339.4	11.45	98.4	85-115	0			

MSD Sample ID: **1301338-01AMSD** Units: **µg/Kg** Analysis Date: **1/11/2013 06:00 PM**
Client ID: **23-4C-995 - BG1** Run ID: **HG02_130111A** SeqNo: **3080840** Prep Date: **1/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	345	3.4	338.9	11.45	98.4	85-115	345.6	0.17	20	

DUP Sample ID: **1301338-01ADUP** Units: **µg/Kg** Analysis Date: **1/11/2013 05:54 PM**
Client ID: **23-4C-995 - BG1** Run ID: **HG02_130111A** SeqNo: **3080838** Prep Date: **1/11/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Mercury	11.76	3.4	0	0	0		11.45	2.69	20	

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67140** Instrument ID **ICP7500** Method: **La29B-6020**

MBLK Sample ID: **BLK-011613-SAR-67140** Units: **mg/L** Analysis Date: **1/17/2013 05:06 AM**
Client ID: Run ID: **ICP7500_130116A** SeqNo: **3084167** Prep Date: **1/15/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	U	0.50								
Magnesium	U	0.50								
Sodium	U	0.50								

LCS Sample ID: **LCS-011613-SAR-67140** Units: **mg/L** Analysis Date: **1/17/2013 05:11 AM**
Client ID: Run ID: **ICP7500_130116A** SeqNo: **3084169** Prep Date: **1/15/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	9.367	0.50	10	0	93.7	80-120	0			
Magnesium	9.849	0.50	10	0	98.5	80-120	0			
Sodium	9.848	0.50	10	0	98.5	80-120	0			

DUP Sample ID: **1301338-02BDUP** Units: **mg/L** Analysis Date: **1/17/2013 05:26 AM**
Client ID: **23-4C-995 - BG2** Run ID: **ICP7500_130116A** SeqNo: **3084172** Prep Date: **1/15/2013** DF: **10**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Calcium	105.5	5.0	0	0	0		81.33	25.9	30	
Magnesium	21.67	5.0	0	0	0		20.06	7.75	30	
Sodium	179.9	5.0	0	0	0		178.4	0.827	30	

The following samples were analyzed in this batch: 1301338-01B 1301338-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67140a** Instrument ID **MISC-Metals** Method: **La29B SAR**

DUP Sample ID: **1301338-02BDUP** Units: **meq/meq** Analysis Date: **1/18/2013**
Client ID: **23-4C-995 - BG2** Run ID: **MISC-METALS_130118** SeqNo: **3085495** Prep Date: **1/15/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Sodium Adsorption Ratio	4.16	0.010	0	0	0		4.58	9.61	30	

The following samples were analyzed in this batch: 1301338-01B 1301338-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67157** Instrument ID **ICP7500** Method: **SW6020**

MBLK Sample ID: **MBLKS1-011613-67157** Units: **mg/Kg** Analysis Date: **1/17/2013 03:20 AM**
Client ID: Run ID: **ICP7500_130116A** SeqNo: **3084103** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Selenium	0.2022	0.50								J

MBLK Sample ID: **MBLKS1-011613-67157** Units: **mg/Kg** Analysis Date: **1/17/2013 01:05 PM**
Client ID: Run ID: **ICP7500_130117A** SeqNo: **3084390** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	U	0.50								
Barium	0.176	0.50								J
Cadmium	U	0.50								
Chromium	U	0.50								
Copper	U	0.50								
Lead	U	0.50								
Nickel	U	0.50								
Silver	U	0.50								
Zinc	U	0.50								

LCS Sample ID: **MLCSS1-011613-67157** Units: **mg/Kg** Analysis Date: **1/17/2013 03:25 AM**
Client ID: Run ID: **ICP7500_130116A** SeqNo: **3084104** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.857	0.50	10	0	88.6	80-120	0			
Barium	8.68	0.50	10	0	86.8	80-120	0			
Cadmium	8.801	0.50	10	0	88	80-120	0			
Chromium	9.145	0.50	10	0	91.4	80-120	0			
Copper	9.168	0.50	10	0	91.7	80-120	0			
Lead	8.402	0.50	10	0	84	80-120	0			
Nickel	8.851	0.50	10	0	88.5	80-120	0			
Selenium	9.144	0.50	10	0	91.4	80-120	0			
Silver	8.169	0.50	10	0	81.7	80-120	0			
Zinc	8.954	0.50	10	0	89.5	80-120	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67157** Instrument ID **ICP7500** Method: **SW6020**

MS Sample ID: **1301412-01BMS** Units: **mg/Kg** Analysis Date: **1/17/2013 03:45 AM**

Client ID: Run ID: **ICP7500_130116A** SeqNo: **3084108** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	8.736	0.48	9.537	1.332	77.6	75-125	0			
Barium	38.34	0.48	9.537	48.39	-105	75-125	0			SO
Cadmium	7.953	0.48	9.537	0.1485	81.8	75-125	0			
Chromium	11.06	0.48	9.537	8.015	32	75-125	0			S
Copper	16.38	0.48	9.537	9.875	68.3	75-125	0			S
Lead	15.62	0.48	9.537	12.68	30.8	75-125	0			S
Nickel	10.3	0.48	9.537	4.641	59.3	75-125	0			S
Selenium	7.85	0.48	9.537	0.2655	79.5	75-125	0			
Silver	7.268	0.48	9.537	0.2063	74	75-125	0			S
Zinc	51.74	0.48	9.537	64.95	-139	75-125	0			SO

MSD Sample ID: **1301412-01BMSD** Units: **mg/Kg** Analysis Date: **1/17/2013 03:50 AM**

Client ID: Run ID: **ICP7500_130116A** SeqNo: **3084109** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	9.725	0.49	9.749	1.332	86.1	75-125	8.736	10.7	25	
Barium	52.16	0.49	9.749	48.39	38.7	75-125	38.34	30.5	25	SRO
Cadmium	8.979	0.49	9.749	0.1485	90.6	75-125	7.953	12.1	25	
Chromium	13.56	0.49	9.749	8.015	56.9	75-125	11.06	20.3	25	S
Copper	17.7	0.49	9.749	9.875	80.2	75-125	16.38	7.7	25	
Lead	26.5	0.49	9.749	12.68	142	75-125	15.62	51.7	25	SR
Nickel	12.34	0.49	9.749	4.641	79	75-125	10.3	18	25	
Selenium	8.61	0.49	9.749	0.2655	85.6	75-125	7.85	9.24	25	
Silver	8.228	0.49	9.749	0.2063	82.3	75-125	7.268	12.4	25	
Zinc	68.92	0.49	9.749	64.95	40.7	75-125	51.74	28.5	25	SRO

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67157** Instrument ID **ICP7500** Method: **SW6020**

DUP Sample ID: **1301412-01BDUP** Units: **mg/Kg** Analysis Date: **1/17/2013 03:35 AM**

Client ID: Run ID: **ICP7500_130116A** SeqNo: **3084106** Prep Date: **1/16/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Arsenic	1.397	0.49	0	0	0	0-0	1.332	4.72	25	
Barium	49.27	0.49	0	0	0	0-0	48.39	1.8	25	
Cadmium	0.242	0.49	0	0	0	0-0	0.1485	0	25	J
Chromium	7.197	0.49	0	0	0	0-0	8.015	10.7	25	
Copper	13.37	0.49	0	0	0	0-0	9.875	30.1	25	R
Lead	15.55	0.49	0	0	0	0-0	12.68	20.4	25	
Nickel	4.344	0.49	0	0	0	0-0	4.641	6.61	25	
Selenium	0.2852	0.49	0	0	0	0-0	0.2655	0	25	J
Silver	0.615	0.49	0	0	0	0-0	0.2063	99.5	25	R
Zinc	77.04	0.49	0	0	0	0-0	64.95	17	25	

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67105** Instrument ID **SV-4** Method: **SW8270**

MBLK Sample ID: **SBLKS1-130114-67105** Units: **µg/Kg** Analysis Date: **1/14/2013 03:16 PM**
Client ID: Run ID: **SV-4_130114A** SeqNo: **3082562** Prep Date: **1/14/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	U	6.6								
Anthracene	U	6.6								
Benz(a)anthracene	U	6.6								
Benzo(a)pyrene	U	6.6								
Benzo(b)fluoranthene	U	6.6								
Benzo(k)fluoranthene	U	6.6								
Chrysene	U	6.6								
Dibenz(a,h)anthracene	U	6.6								
Fluoranthene	U	6.6								
Fluorene	U	6.6								
Indeno(1,2,3-cd)pyrene	U	6.6								
Naphthalene	U	6.6								
Pyrene	U	6.6								
Surr: 2-Fluorobiphenyl	166	6.6	*166.7*	0	*99.6*	*43-125*	0			
Surr: 4-Terphenyl-d14	185.2	6.6	*166.7*	0	*111*	*32-125*	0			
Surr: Nitrobenzene-d5	153.4	6.6	*166.7*	0	*92*	*37-125*	0			

LCS Sample ID: **SLCSS1-130114-67105** Units: **µg/Kg** Analysis Date: **1/14/2013 03:36 PM**
Client ID: Run ID: **SV-4_130114A** SeqNo: **3082563** Prep Date: **1/14/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	152.5	6.6	166.7	0	91.5	50-120	0			
Anthracene	158.8	6.6	166.7	0	95.3	50-123	0			
Benz(a)anthracene	167.6	6.6	166.7	0	101	50-131	0			
Benzo(a)pyrene	124.7	6.6	166.7	0	74.8	50-130	0			
Benzo(b)fluoranthene	126.3	6.6	166.7	0	75.8	50-137	0			
Benzo(k)fluoranthene	119.3	6.6	166.7	0	71.6	50-143	0			
Chrysene	156.3	6.6	166.7	0	93.8	50-130	0			
Dibenz(a,h)anthracene	111.5	6.6	166.7	0	66.9	50-130	0			
Fluoranthene	162.9	6.6	166.7	0	97.7	50-131	0			
Fluorene	153.4	6.6	166.7	0	92.1	50-125	0			
Indeno(1,2,3-cd)pyrene	119.8	6.6	166.7	0	71.9	45-139	0			
Naphthalene	151.5	6.6	166.7	0	90.9	50-125	0			
Pyrene	161.5	6.6	166.7	0	96.9	45-130	0			
Surr: 2-Fluorobiphenyl	155.1	6.6	*166.7*	0	*93.1*	*43-125*	0			
Surr: 4-Terphenyl-d14	184.8	6.6	*166.7*	0	*111*	*32-125*	0			
Surr: Nitrobenzene-d5	144.3	6.6	*166.7*	0	*86.6*	*37-125*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67105** Instrument ID **SV-4** Method: **SW8270**

MS Sample ID: **1301278-03CMS** Units: **µg/Kg** Analysis Date: **1/14/2013 10:03 PM**

Client ID: Run ID: **SV-4_130114A** SeqNo: **3082565** Prep Date: **1/14/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	166.3	6.6	166.7	5.513	96.5	50-120	0			
Anthracene	196.2	6.6	166.7	13.66	110	50-123	0			
Benz(a)anthracene	276.6	6.6	166.7	58.97	131	50-131	0			
Benzo(a)pyrene	181.2	6.6	166.7	40.47	84.5	50-130	0			
Benzo(b)fluoranthene	173.7	6.6	166.7	26.35	88.4	50-137	0			
Benzo(k)fluoranthene	209	6.6	166.7	48.61	96.2	50-143	0			
Chrysene	266.6	6.6	166.7	70.29	118	50-130	0			
Dibenz(a,h)anthracene	121.4	6.6	166.7	0	72.8	50-130	0			
Fluoranthene	322.1	6.6	166.7	122.7	120	50-131	0			
Fluorene	173.1	6.6	166.7	4.828	101	50-125	0			
Indeno(1,2,3-cd)pyrene	161.5	6.6	166.7	26.35	81.1	45-139	0			
Naphthalene	151.3	6.6	166.7	2.58	89.2	50-125	0			
Pyrene	364	6.6	166.7	128.1	142	45-130	0			SE
Surr: 2-Fluorobiphenyl	145.3	6.6	*166.7*	0	*87.2*	*43-125*	0			
Surr: 4-Terphenyl-d14	182	6.6	*166.7*	0	*109*	*32-125*	0			
Surr: Nitrobenzene-d5	131.7	6.6	*166.7*	0	*79*	*37-125*	0			

MSD Sample ID: **1301278-03CMSD** Units: **µg/Kg** Analysis Date: **1/14/2013 10:23 PM**

Client ID: Run ID: **SV-4_130114A** SeqNo: **3082566** Prep Date: **1/14/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Acenaphthene	144.6	6.6	166.6	5.513	83.5	50-120	166.3	14	30	
Anthracene	188	6.6	166.6	13.66	105	50-123	196.2	4.25	30	
Benz(a)anthracene	217.7	6.6	166.6	58.97	95.3	50-131	276.6	23.8	30	
Benzo(a)pyrene	171.9	6.6	166.6	40.47	78.9	50-130	181.2	5.3	30	
Benzo(b)fluoranthene	152.8	6.6	166.6	26.35	75.9	50-137	173.7	12.9	30	
Benzo(k)fluoranthene	174.9	6.6	166.6	48.61	75.8	50-143	209	17.8	30	
Chrysene	233.1	6.6	166.6	70.29	97.7	50-130	266.6	13.4	30	
Dibenz(a,h)anthracene	139.5	6.6	166.6	0	83.7	50-130	121.4	13.9	30	
Fluoranthene	239.9	6.6	166.6	122.7	70.3	50-131	322.1	29.2	30	
Fluorene	161.4	6.6	166.6	4.828	94	50-125	173.1	6.99	30	
Indeno(1,2,3-cd)pyrene	164.1	6.6	166.6	26.35	82.6	45-139	161.5	1.59	30	
Naphthalene	149.4	6.6	166.6	2.58	88.1	50-125	151.3	1.27	30	
Pyrene	276.3	6.6	166.6	128.1	88.9	45-130	364	27.4	30	
Surr: 2-Fluorobiphenyl	137.8	6.6	*166.6*	0	*82.7*	*43-125*	145.3	*5.27*	*30*	
Surr: 4-Terphenyl-d14	184.7	6.6	*166.6*	0	*111*	*32-125*	182	*1.49*	*30*	
Surr: Nitrobenzene-d5	131.6	6.6	*166.6*	0	*79*	*37-125*	131.7	*0.0991*	*30*	

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67105** Instrument ID **SV-4** Method: **SW8270**

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141144** Instrument ID **VOA3** Method: **SW8260**

MBLK Sample ID: **VBLKS1-011413-R141144** Units: **µg/Kg** Analysis Date: **1/14/2013 03:12 PM**

Client ID: Run ID: **VOA3_130114B** SeqNo: **3081841** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	U	5.0								
Ethylbenzene	U	5.0								
m,p-Xylene	U	10								
o-Xylene	U	5.0								
Toluene	U	5.0								
Xylenes, Total	U	15								
Surr: 1,2-Dichloroethane-d4	43.12	0	*50*	0	*86.2*	*70-128*	0			
Surr: 4-Bromofluorobenzene	48.13	0	*50*	0	*96.3*	*73-126*	0			
Surr: Dibromofluoromethane	47.62	0	*50*	0	*95.2*	*71-128*	0			
Surr: Toluene-d8	49.1	0	*50*	0	*98.2*	*73-127*	0			

LCS Sample ID: **VLCSS1-011413-R141144** Units: **µg/Kg** Analysis Date: **1/14/2013 01:29 PM**

Client ID: Run ID: **VOA3_130114B** SeqNo: **3081839** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	49.78	5.0	50	0	99.6	79-120	0			
Ethylbenzene	50.99	5.0	50	0	102	80-122	0			
m,p-Xylene	100.6	10	100	0	101	79-122	0			
o-Xylene	50.07	5.0	50	0	100	80-123	0			
Toluene	48.08	5.0	50	0	96.2	79-120	0			
Xylenes, Total	150.7	15	150	0	100	80-120	0			
Surr: 1,2-Dichloroethane-d4	43.91	0	*50*	0	*87.8*	*70-128*	0			
Surr: 4-Bromofluorobenzene	49.22	0	*50*	0	*98.4*	*73-126*	0			
Surr: Dibromofluoromethane	50.28	0	*50*	0	*101*	*71-128*	0			
Surr: Toluene-d8	48.42	0	*50*	0	*96.8*	*73-127*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141144** Instrument ID **VOA3** Method: **SW8260**

LCSD Sample ID: **VLCSDS1-011413-R141144** Units: **µg/Kg** Analysis Date: **1/14/2013 01:54 PM**

Client ID: Run ID: **VOA3_130114B** SeqNo: **3081840** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	52	5.0	50	0	104	79-120	49.78	4.38	30	
Ethylbenzene	54.55	5.0	50	0	109	80-122	50.99	6.74	30	
m,p-Xylene	108.5	10	100	0	108	79-122	100.6	7.5	30	
o-Xylene	53.74	5.0	50	0	107	80-123	50.07	7.07	30	
Toluene	50.91	5.0	50	0	102	79-120	48.08	5.7	30	
Xylenes, Total	162.2	15	150	0	108	80-120	150.7	7.35	30	
Surr: 1,2-Dichloroethane-d4	42.96	0	*50*	0	*85.9*	*70-128*	43.91	*2.18*	*30*	
Surr: 4-Bromofluorobenzene	48.96	0	*50*	0	*97.9*	*73-126*	49.22	*0.531*	*30*	
Surr: Dibromofluoromethane	48.34	0	*50*	0	*96.7*	*71-128*	50.28	*3.93*	*30*	
Surr: Toluene-d8	48.31	0	*50*	0	*96.6*	*73-127*	48.42	*0.228*	*30*	

MS Sample ID: **1301338-02AMS** Units: **µg/Kg** Analysis Date: **1/14/2013 05:24 PM**

Client ID: **23-4C-995 - BG2** Run ID: **VOA3_130114B** SeqNo: **3081844** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	32.58	5.0	50	0	65.2	79-120	0			S
Ethylbenzene	29.12	5.0	50	0	58.2	80-122	0			S
m,p-Xylene	55.42	10	100	0	55.4	79-122	0			S
o-Xylene	27.34	5.0	50	0	54.7	80-123	0			S
Toluene	29.99	5.0	50	0	60	79-120	0			S
Xylenes, Total	82.76	15	150	0	55.2	80-120	0			S
Surr: 1,2-Dichloroethane-d4	44.96	0	*50*	0	*89.9*	*70-128*	0			
Surr: 4-Bromofluorobenzene	48.26	0	*50*	0	*96.5*	*73-126*	0			
Surr: Dibromofluoromethane	48.55	0	*50*	0	*97.1*	*71-128*	0			
Surr: Toluene-d8	48.91	0	*50*	0	*97.8*	*73-127*	0			

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141144** Instrument ID **VOA3** Method: **SW8260**

MSD Sample ID: **1301338-02AMSD** Units: **µg/Kg** Analysis Date: **1/14/2013 05:50 PM**

Client ID: **23-4C-995 - BG2** Run ID: **VOA3_130114B** SeqNo: **3081845** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Benzene	43.17	5.0	50	0	86.3	79-120	32.58	28	30	
Ethylbenzene	38.98	5.0	50	0	78	80-122	29.12	29	30	S
m,p-Xylene	76.11	10	100	0	76.1	79-122	55.42	31.5	30	SR
o-Xylene	37.56	5.0	50	0	75.1	80-123	27.34	31.5	30	SR
Toluene	39.76	5.0	50	0	79.5	79-120	29.99	28	30	
Xylenes, Total	113.7	15	150	0	75.8	80-120	82.76	31.5	30	SR
Surr: 1,2-Dichloroethane-d4	44.05	0	*50*	0	*88.1*	*70-128*	44.96	*2.05*	*30*	
Surr: 4-Bromofluorobenzene	47.77	0	*50*	0	*95.5*	*73-126*	48.26	*1.03*	*30*	
Surr: Dibromofluoromethane	49.34	0	*50*	0	*98.7*	*71-128*	48.55	*1.6*	*30*	
Surr: Toluene-d8	47.91	0	*50*	0	*95.8*	*73-127*	48.91	*2.07*	*30*	

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **67203** Instrument ID **UV-2450** Method: **SW7196** **(Dissolve)**

MBLK Sample ID: **WBLKS1-011813-67203** Units: **mg/kg** Analysis Date: **1/18/2013 01:00 PM**
Client ID: Run ID: **UV-2450_130118A** SeqNo: **3085388** Prep Date: **1/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	U	2.0								

LCS Sample ID: **WLCSS1-011813-67203** Units: **mg/kg** Analysis Date: **1/18/2013 01:00 PM**
Client ID: Run ID: **UV-2450_130118A** SeqNo: **3085389** Prep Date: **1/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.44	2.0	10	0	94.4	80-120	0			

LCSD Sample ID: **WLCSDS1-011813-67203** Units: **mg/kg** Analysis Date: **1/18/2013 01:00 PM**
Client ID: Run ID: **UV-2450_130118A** SeqNo: **3085402** Prep Date: **1/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	9.84	2.0	10	0	98.4	80-120	9.44	4.15	20	

MS Sample ID: **1301338-02AMS** Units: **mg/kg** Analysis Date: **1/18/2013 01:00 PM**
Client ID: **23-4C-995 - BG2** Run ID: **UV-2450_130118A** SeqNo: **3085401** Prep Date: **1/17/2013** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Chromium, Hexavalent	4.781	2.0	4.98	0.1181	93.6	75-125	0			

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141158** Instrument ID **Balance1** Method: **SW3550** **(Dissolve)**

DUP Sample ID: **1301338-02ADUP** Units: **wt%** Analysis Date: **1/14/2013 03:40 PM**

Client ID: **23-4C-995 - BG2** Run ID: **BALANCE1_130114B** SeqNo: **3082262** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Percent Moisture	18.41	0.010	0	0	0	0-0	17.88	2.92	20	

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141192** Instrument ID **WetChem** Method: **SW9045B** **(Dissolve)**

LCS Sample ID: **WLCSS1-130115-R141192** Units: **pH Units** Analysis Date: **1/15/2013 10:00 AM**
Client ID: Run ID: **WETCHEM_130115F** SeqNo: **3082862** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	6.04	0.10	6	0	101	90-110	0			

DUP Sample ID: **1301411-01ADUP** Units: **pH Units** Analysis Date: **1/15/2013 10:00 AM**
Client ID: Run ID: **WETCHEM_130115F** SeqNo: **3082869** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
pH	10.84	0.10	0	0	0	0-0	10.79	0.462	20	

The following samples were analyzed in this batch: 1301338-01A 1301338-02A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141259** Instrument ID **Balance1** Method: **LaDNR-29B SP (Dissolve)**

DUP Sample ID: **1301375-01ADUP** Units: **% Saturation as D** Analysis Date: **1/16/2013 12:55 PM**

Client ID: Run ID: **BALANCE1_130116A** SeqNo: **3084192** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Saturation Point	0.48	0.10	0	0	0		0.491	2.27	30	

The following samples were analyzed in this batch: 1301338-01B 1301338-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Work Order: 1301338
Project: Kimball Creek Pad 23-4C-995

QC BATCH REPORT

Batch ID: **R141278** Instrument ID **Balance1** Method: **LaDNR-29B EC (Dissolve)**

MBLK Sample ID: **WBLKW1-011613-R141278** Units: **mmhos/cm @25°** Analysis Date: **1/16/2013 12:55 PM**
Client ID: Run ID: **BALANCE1_130116C** SeqNo: **3084410** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	U	0.010								
Electrical Conductivity, 1:1 aqueous	U	0.010								

LCS Sample ID: **WLCSW1-011613-R141278** Units: **mmhos/cm @25°** Analysis Date: **1/16/2013 12:55 PM**
Client ID: Run ID: **BALANCE1_130116C** SeqNo: **3084411** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity, 1:1 aqueous	1.5	0.010	1.412	0	106	90-110	0			

DUP Sample ID: **1301375-01ADUP** Units: **mmhos/cm @25°** Analysis Date: **1/16/2013 12:55 PM**
Client ID: Run ID: **BALANCE1_130116C** SeqNo: **3084414** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Electrical Conductivity @ saturation	27.29	0.010	0	0	0		26.89	1.47	20	
Electrical Conductivity, 1:1 aqueous	13.1	0.010	0	0	0		13.2	0.76	20	

The following samples were analyzed in this batch: 1301338-01B 1301338-02B

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Olsson Associates
Project: Kimball Creek Pad 23-4C-995
WorkOrder: **1301338**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
M	Manually integrated, see raw data for justification
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DCS	Detectability Check Study
DUP	Method Duplicate
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitation Limit
SD	Serial Dilution
SDL	Sample Detection Limit
TRRP	Texas Risk Reduction Program

Units Reported	Description
% Saturation as Decimal	
meq/meq	
mg/Kg	Milligrams per Kilogram
mg/L	Milligrams per Liter
mmhos/cm @25°C	
pH Units	
wt%	

ALS Environmental

Sample Receipt Checklist

Client Name: **OLSSON ASSOC - GRAND JUNC** Date/Time Received: **11-Jan-13 09:30**

Work Order: **1301338** Received by: **RDN**

Checklist completed by Lehnnie B. Allen (eSignature) 11-Jan-13 (Date) Reviewed by: Patricia L. Lynch (eSignature) 24-Jan-13 (Date)

Matrices: soil
Carrier name: FedEx Priority Overnight

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☐	No ☐	Not Present ☑
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Temperature(s)/Thermometer(s):	2.9 C/uc	IR 1	
Cooler(s)/Kit(s):	3963		
Date/Time sample(s) sent to storage:	1/11/13 11:08		
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:	-		

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

SRC Page 1 of 1

Chain of Custody Form

ALS Environmental

Page 1 of 1

COC ID: 123456

☐ Cincinnati, OH +1 513 733 5336
☐ Everett, WA +1 425 356 2600
☐ Fort Collins, CO +1 970 490 1511

1301338

OLSSON ASSOC - GRAND JUNCTION: Olsson Associates

Project: Kimball Creek Pad 23-4C-995

ALS Project Manager:

Customer Information		Project Information		Parameter/Method Request for Analysis	
Purchase Order		Project Name	Kimball Creek Pad 23-4C-995	A	TPH (GRO & DRO)
Work Order		Project Number	013.0092.100.100001	B	BTEX
Company Name	Olsson Associates	Bill To Company	Olsson Associates	C	PAH (See Attached List)
Send Report To	Tim Dobransky	Invoice Attn.	Tim Dobransky	D	Electrical Conductivity
Address	826 21 1/2 Road	Address	826 21 1/2 Road	E	Sodium Adsorption Ratio
				F	pH
City/State/Zip	Grand Junction, CO	City/State/Zip	Grand Junction, CO	G	Metals (See Attached List)
Phone	970.263.7800	Phone	970.263.7800	H	Arsenic Only
Fax	970.263.7456	Fax	970.263.7456	I	
e-Mail Address	tdobransky@oaconsulting.com	e-Mail Address		J	

No.	Sample Description	Date	Time	Matrix	Pres.	# Bottles	A	B	C	D	E	F	G	H	I	J	Hold
1	23-4C-995 - BG1	01/10/13	1250	Soil	NA	2	X	X	X	X	X	X	X				
2	23-4C-995 - BG2	01/10/13	1305	Soil	NA	1	X	X	X	X	X	X	X				
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	

Sampler(s): Please Print & Sign
Tim Dobransky

Shipment Method: FedEx

Required Turnaround Time: ☐ Other _____
☑ STD 10 Wk Days ☐ 5 Wk Days ☐ 2 Wk Days ☐ 24 Hour

Results Due Date:

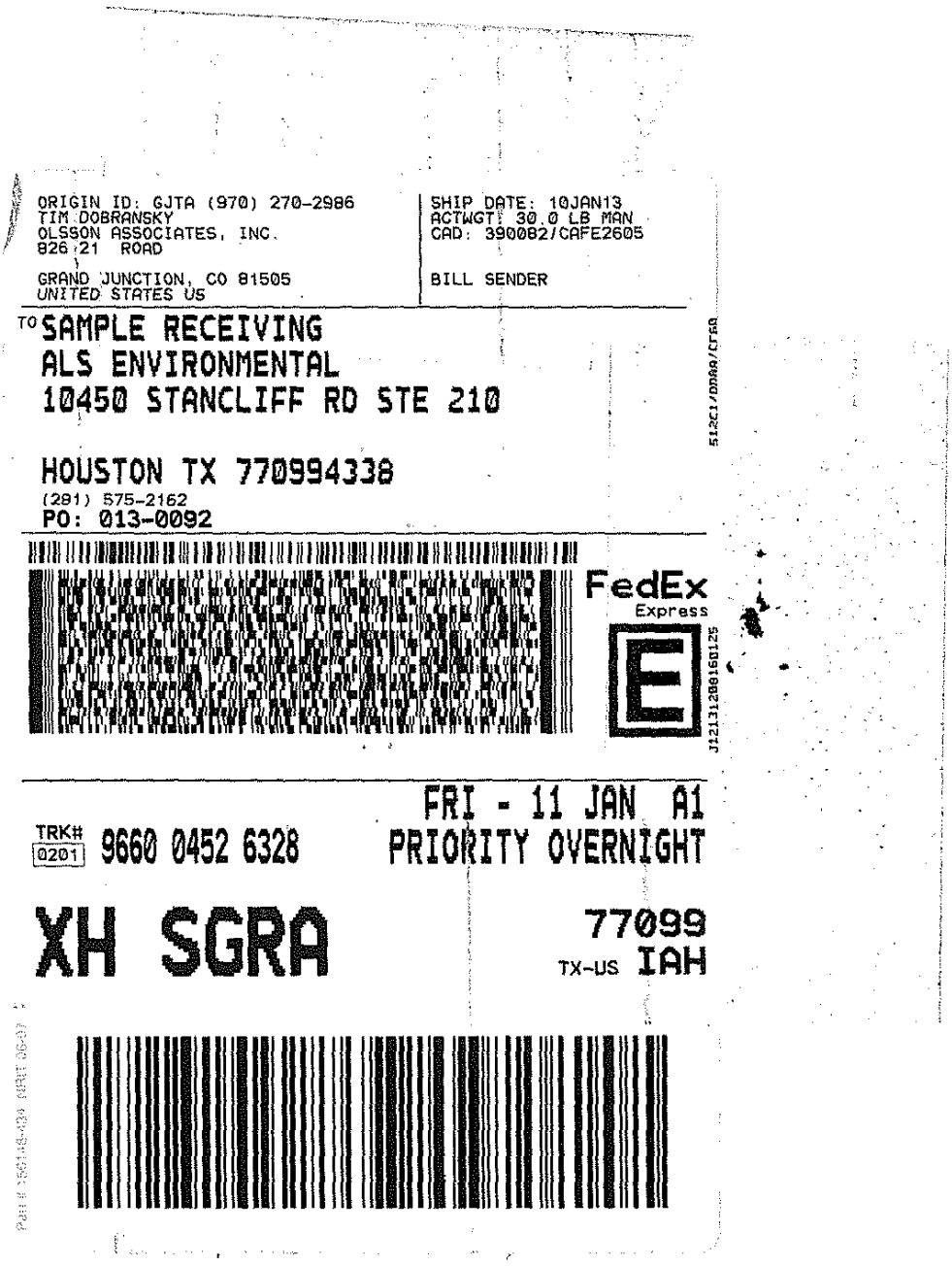
Relinquished by:	Date:	Time:	Received by:	Notes:
	1/11/13	09:30	RW LAS	Chevron Pricing Applies - Per Bruce Schlatter
Relinquished by:	Date:	Time:	Received by (Laboratory):	Cooler Temp.
Logged by (Laboratory):	Date:	Time:	Checked by (Laboratory):	

QC Package: (Check Box Below)

x	Level II: Standard QC		
	Level III: Std QC + Raw Data		
	Level IV: SW846 CLP-Like		
	Other: _____		

Preservative Key: 1-HCL 2-HNO3 3-H2SO4 4-NaOH 5-Na2S2O3 6-NaHSO4 7-Other 8-4 degrees C 9-5035

Note: Any changes must be made in writing once samples and COC Form have been submitted to ALS Environmental.



ORIGIN ID: GJTA (970) 270-2986
TIM DOBRANSKY
OLSSON ASSOCIATES, INC.
826 21 ROAD

GRAND JUNCTION, CO 81505
UNITED STATES US

SHIP DATE: 10JAN13
ACTWGT: 30.0 LB MAN
CAD: 390082/CAFE2605

BILL SENDER

TO SAMPLE RECEIVING
ALS ENVIRONMENTAL
10450 STANCLIFF RD STE 210

HOUSTON TX 770994338
(281) 575-2162
PO: 013-0092

FedEx Express

J12131208160125

FRI - 11 JAN A1
PRIORITY OVERNIGHT

TRK# 0201 9660 0452 6328

XH SGRA

77099
TX-US IAH