



ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Rd.
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Tax I.D. 62-0814289

Est. 1970

Tim Dobransky
Cordilleran Compliance - GJ, CO
826 21 1/2 Road

Grand Junction, CO 81505

Report Summary

Tuesday November 18, 2008

Report Number: L374238

Samples Received: 11/11/08

Client Project: 8385

Description:

The analytical results in this report are based upon information supplied by you, the client, and are for your exclusive use. If you have any questions regarding this data package, please do not hesitate to call.

Entire Report Reviewed By:

John D. Blackman, ESC Representative

Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT - PH-0197, FL - E87487
GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016, NC - ENV375, DW21704, ND - R-140
NJ - TN002, SC - 84004, TN - 2006, VA - 00109, WV - 233
AZ - 0612, MN - 047-999-395, NY - 11742, WI - 998093910

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Where applicable, sampling conducted by ESC is performed per guidance provided
in laboratory standard operating procedures: 060302, 060303, and 060304.



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REPORT OF ANALYSIS

Tim Dobransky
Cordilleran Compliance - GJ, CO
826 21 1/2 Road
Grand Junction, CO 81505

November 18, 2008

Date Received : November 11, 2008
Description :
Sample ID : 5L-SS3
Collected By : Jess Vann
Collection Date : 11/10/08 15:45

ESC Sample # : L374238-01

Site ID :

Project # : 8385

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
pH	8.7		su	9045D	11/13/08	1
Sodium Adsorption Ratio	37.			Calc.	11/17/08	1
Specific Conductance	6800		umhos/cm	9050AMod	11/14/08	1
Mercury	0.021	0.020	mg/kg	7471	11/13/08	1
Arsenic	BDL	1.0	mg/kg	6010B	11/16/08	1
Barium	4500	1.2	mg/kg	6010B	11/17/08	5
Boron	BDL	10.	mg/kg	6010B	11/16/08	1
Cadmium	0.49	0.25	mg/kg	6010B	11/16/08	1
Chromium	8.4	0.50	mg/kg	6010B	11/16/08	1
Copper	19.	1.0	mg/kg	6010B	11/16/08	1
Lead	6.8	0.25	mg/kg	6010B	11/16/08	1
Molybdenum	0.42	0.25	mg/kg	6010B	11/16/08	1
Nickel	13.	1.0	mg/kg	6010B	11/16/08	1
Selenium	BDL	1.0	mg/kg	6010B	11/16/08	1
Silver	BDL	0.50	mg/kg	6010B	11/16/08	1
Zinc	34.	1.5	mg/kg	6010B	11/16/08	1
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	11/12/08	5
Surrogate Recovery-% a,a,a-Trifluorotoluene(FID)	83.9		% Rec.	8015D/GRO	11/12/08	5
TPH (GC/FID) High Fraction	150	4.0	mg/kg	3546/DRO	11/17/08	1
Surrogate recovery(%) o-Terphenyl	139.		% Rec.	3546/DRO	11/17/08	1

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 11/18/08 15:44 Printed: 11/18/08 15:44
L374238-01 (PH) - 8.7@21.0c

Summary of Remarks For Samples Printed
11/18/08 at 15:44:40

TSR Signing Reports: 151
R5 - Desired TAT

cb-1/05; Run ALKs on separate dash, 1 day TAT, R3 priority; Client sends unpreserved vials for all projects; Run BTEXM on separate dash

Sample: L374238-01 Account: CORCOMGCO Received: 11/11/08 09:00 Due Date: 11/18/08 00:00 RPT Date: 11/18/08 15:44
Added Metals per NCF. JCR 11/12



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Analyte	Result	Laboratory Blank		Limit	Batch	Date Analyzed
		Units	% Rec			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG393417	11/12/08 12:30
a,a,a-Trifluorotoluene (FID)		% Rec.	85.46	59-128	WG393417	11/12/08 12:30
pH	5.10	su			WG393591	11/13/08 14:29
Mercury	< .02	mg/kg			WG393527	11/13/08 16:00
Specific Conductance	0.510	umhos/cm			WG393587	11/14/08 11:30
Arsenic	< 1	mg/kg			WG393617	11/16/08 00:00
Barium	< .25	mg/kg			WG393617	11/16/08 00:00
Boron	< 10	mg/kg			WG393617	11/16/08 00:00
Cadmium	< .25	mg/kg			WG393617	11/16/08 00:00
Chromium	< .5	mg/kg			WG393617	11/16/08 00:00
Copper	< 1	mg/kg			WG393617	11/16/08 00:00
Lead	< .25	mg/kg			WG393617	11/16/08 00:00
Molybdenum	< .25	mg/kg			WG393617	11/16/08 00:00
Nickel	< 1	mg/kg			WG393617	11/16/08 00:00
Selenium	< 1	mg/kg			WG393617	11/16/08 00:00
Silver	< .5	mg/kg			WG393617	11/16/08 00:00
Zinc	< 1.5	mg/kg			WG393617	11/16/08 00:00
TPH (GC/FID) High Fraction	< 4	ppm			WG393604	11/17/08 12:52
o-Terphenyl		% Rec.	67.62	50-150	WG393604	11/17/08 12:52

Analyte	Units	Duplicate			Limit	Ref Samp	Batch
		Result	Duplicate	RPD			
pH	su	9.80	9.30	5.24	20	L374292-01	WG393591
Mercury	mg/kg	0.00	0.00	0.00	20	L374285-01	WG393527
Specific Conductance	umhos	28000	28000	0.0714	20	L373840-01	WG393587
Specific Conductance	umhos	6680	6800	1.78	20	L374238-01	WG393587
Arsenic	mg/kg	1.52	1.52	0.00	20	L374388-10	WG393617
Barium	mg/kg	52.1	51.8	0.577	20	L374388-10	WG393617
Boron	mg/kg	4.48	4.19	6.69	20	L374388-10	WG393617
Cadmium	mg/kg	0.279	0.276	1.08	20	L374388-10	WG393617
Chromium	mg/kg	5.86	6.26	6.60	20	L374388-10	WG393617
Copper	mg/kg	4.84	5.02	3.65	20	L374388-10	WG393617
Lead	mg/kg	15.4	19.2	22.0*	20	L374388-10	WG393617
Molybdenum	mg/kg	0.274	0.198	32.2*	20	L374388-10	WG393617
Nickel	mg/kg	2.75	2.94	6.68	20	L374388-10	WG393617
Selenium	mg/kg	0.919	0.336	92.9*	20	L374388-10	WG393617
Silver	mg/kg	0.00290	0.0816	186.*	20	L374388-10	WG393617
Zinc	mg/kg	19.3	20.4	5.54	20	L374388-10	WG393617

* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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Analyte	Laboratory Control		Sample Result	% Rec	Limit	Batch
	Units	Known Val				
TPH (GC/FID) Low Fraction	mg/kg	5.5	4.65	84.5	67-135	WG393417
a,a,a-Trifluorotoluene (FID)				95.99	59-128	WG393417
pH	su	7.42	7.50	101.	97.19-102	WG393591
Mercury	mg/kg	8.77	8.22	93.7	71.6-127.	WG393527
Specific Conductance	umhos/cm	519	540.	104.	85-115	WG393587
Arsenic	mg/kg	192	186.	96.9	78.6-120.	WG393617
Barium	mg/kg	420	405.	96.4	78.8-121.	WG393617
Boron	mg/kg	140	157.	112.	74.3-125.	WG393617
Cadmium	mg/kg	70.1	71.6	102.	78.5-121.	WG393617
Chromium	mg/kg	168	173.	103.	80.4-120.	WG393617
Copper	mg/kg	122	126.	103.	81.6-119.	WG393617
Lead	mg/kg	113	113.	100.	77.3-122.	WG393617
Molybdenum	mg/kg	129	138.	107.	78.3-120.	WG393617
Nickel	mg/kg	74.1	78.8	106.	78.8-121.	WG393617
Selenium	mg/kg	176	182.	103.	75.6-125.	WG393617
Silver	mg/kg	115	131.	114.	66-133.9	WG393617
Zinc	mg/kg	437	436.	99.8	78.5-121.	WG393617
TPH (GC/FID) High Fraction	ppm	60	46.7	77.8	50-150	WG393604
o-Terphenyl				79.48	50-150	WG393604

Analyte	Laboratory Control		Sample Duplicate		Limit	RPD	Limit	Batch
	Units	Result	Ref	%Rec				
TPH (GC/FID) Low Fraction	mg/kg	4.87	4.65	89.0	67-135	4.69	20	WG393417
a,a,a-Trifluorotoluene (FID)				97.22	59-128			WG393417
pH	su	7.40	7.50	100.	97.19-1	1.34	20	WG393591
Specific Conductance	umhos	540.	540.	104.	85-115	0.00	20	WG393587
TPH (GC/FID) High Fraction	ppm	50.8	46.7	85.0	50-150	8.46	25	WG393604
o-Terphenyl				86.67	50-150			WG393604

Analyte	Units	Matrix Spike			% Rec	Limit	Ref Samp	Batch
		MS Res	Ref Res	TV				
TPH (GC/FID) Low Fraction	mg/kg	16.9	0.00	5.5	61.6	55-109	L374238-01	WG393417
a,a,a-Trifluorotoluene (FID)					91.83	59-128		WG393417
Mercury	mg/kg	0.224	0.00	.25	89.6	70-130	L374285-01	WG393527
Arsenic	mg/kg	52.7	1.52	50	102.	75-125	L374388-10	WG393617
Barium	mg/kg	97.1	51.8	50	90.6	75-125	L374388-10	WG393617
Boron	mg/kg	53.9	4.19	50	99.4	75-125	L374388-10	WG393617

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Analyte	Matrix Spike						Limit	Ref Samp	Batch
	Units	MS Res	Ref Res	TV	% Rec				
Cadmium	mg/kg	52.3	0.276	50	104.		75-125	L374388-10	WG393617
Chromium	mg/kg	59.2	6.26	50	106.		75-125	L374388-10	WG393617
Copper	mg/kg	57.3	5.02	50	105.		75-125	L374388-10	WG393617
Lead	mg/kg	69.6	19.2	50	101.		75-125	L374388-10	WG393617
Molybdenum	mg/kg	50.3	0.198	50	100.		75-125	L374388-10	WG393617
Nickel	mg/kg	53.7	2.94	50	102.		75-125	L374388-10	WG393617
Selenium	mg/kg	50.8	0.336	50	101.		75-125	L374388-10	WG393617
Silver	mg/kg	48.6	0.081	50	97.0		75-125	L374388-10	WG393617
Zinc	mg/kg	72.5	20.4	50	104.		75-125	L374388-10	WG393617
TPH (GC/FID) High Fraction o-Terphenyl	ppm	53.1	0.00	60	88.5		50-150	L374174-06	WG393604
					108.0		50-150		WG393604

Analyte	Matrix Spike Duplicate						Limit	RPD	Limit	Ref Samp	Batch
	Units	MSD	Ref	%Rec	Limit						
TPH (GC/FID) Low Fraction a,a,a-Trifluorotoluene (FID)	mg/kg	18.3	16.9	66.6	55-109		7.72	20		L374238-01	WG393417
				94.0	59-128						WG393417
Mercury	mg/kg	0.25	0.22	20.24	70-130		12.2	20		L374285-01	WG393527
Arsenic	mg/kg	51.3	52.7	99.6	75-125		2.69	20		L374388-10	WG393617
Barium	mg/kg	93.0	97.1	82.4	75-125		4.31	20		L374388-10	WG393617
Boron	mg/kg	78.6	53.9	148.8	75-125		37.3*	20		L374388-10	WG393617
Cadmium	mg/kg	50.9	52.3	101.	75-125		2.71	20		L374388-10	WG393617
Chromium	mg/kg	55.6	59.2	98.7	75-125		6.27	20		L374388-10	WG393617
Copper	mg/kg	56.0	57.3	102.	75-125		2.29	20		L374388-10	WG393617
Lead	mg/kg	67.3	69.6	96.2	75-125		3.36	20		L374388-10	WG393617
Molybdenum	mg/kg	48.2	50.3	96.0	75-125		4.26	20		L374388-10	WG393617
Nickel	mg/kg	51.8	53.7	97.7	75-125		3.60	20		L374388-10	WG393617
Selenium	mg/kg	49.2	50.8	97.7	75-125		3.20	20		L374388-10	WG393617
Silver	mg/kg	47.3	48.6	94.4	75-125		2.71	20		L374388-10	WG393617
Zinc	mg/kg	72.2	72.5	104.	75-125		0.41	20		L374388-10	WG393617
TPH (GC/FID) High Fraction o-Terphenyl	ppm	48.6	53.1	80.9	50-150		8.93	25		L374174-06	WG393604
				101.8	50-150						WG393604

Batch number /Run number / Sample number cross reference

WG393417: R533044: L374238-01
WG393591: R533609: L374238-01
WG393527: R533946: L374238-01
WG393587: R534484: L374238-01
WG393617: R535445: L374238-01
WG393606: R535665: L374238-01
WG393604: R537325: L374238-01

* * Calculations are performed prior to rounding of reported values .
* Performance of this Analyte is outside of established criteria.
For additional information, please see Attachment A 'List of Analytes with QC Qualifiers.'



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The data package includes a summary of the analytic results of the quality control samples required by the SW-846 or CWA methods. The quality control samples include a method blank, a laboratory control sample, and the matrix spike/matrix spike duplicate analysis. If a target parameter is outside the method limits, every sample that is effected is flagged with the appropriate qualifier in Appendix B of the analytic report.

Method Blank - an aliquot of reagent water carried through the entire analytic process. The method blank results indicate if any possible contamination exposure during the sample handling, digestion or extraction process, and analysis. Concentrations of target analytes above the reporting limit in the method blank are qualified with the "B" qualifier.

Laboratory Control Sample - is a sample of known concentration that is carried through the digestion/extraction and analysis process. The percent recovery, expressed as a percentage of the theoretical concentration, has statistical control limits indicating that the analytic process is "in control". If a target analyte is outside the control limits for the laboratory control sample or any other control sample, the parameter is flagged with a "J4" qualifier for all effected samples.

Matrix Spike and Matrix Spike Duplicate - is two aliquots of an environmental sample that is spiked with known concentrations of target analytes. The percent recovery of the target analytes also has statistical control limits. If any recoveries that are outside the method control limits, the sample that was selected for matrix spike/matrix spike duplicate analysis is flagged with either a "J5" or a "J6". The relative percent difference (%RPD) between the matrix spike and the matrix spike duplicate recoveries is all calculated. If the RPD is above the method limit, the effected samples are flagged with a "J3" qualifier.