

WORK ORDER Summary**Evergreen Analytical, Inc.****09-7835****Rpt To:** Todd Hutson

10/7/2009 12:19:19 PM

Quicksilver Resources Inc.

777 W. Rosedale

Fort Worth, TX 76104

(817) 422-2883

Client Project ID:**QC Level:** LEVEL I**Comments:**

Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Test Code	Test Name	Hold	MS	Date Due	Hold Time
09-7835-01A	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	6010_CR6S	6010: Hexavalent Chromium, Soil	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/29/09
09-7835-01A	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	6010_S *	6010: Soil/Solids	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	3/28/10
09-7835-01A	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	6020_S *	6020 Metals, Soil/Solid	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	3/28/10
09-7835-01A	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	7471_S	7471: Mercury Solid	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/27/09
09-7835-01A	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	TRI_CRS	Trivalent Chromium Calculation, Soil Basis	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	3/28/10
09-7835-01B	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	TEH_S *	8015: TEH-Diesel	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/13/09
09-7835-01C	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	6010_D *	6010: Dissolved Metals	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	3/28/10
09-7835-01C	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	COND_S	Specific Conductance @ 25°C	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/27/09
09-7835-01C	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	PH_S	9045C: pH	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	9/30/09
09-7835-01C	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	SAR_S	Sodium Adsorption Ratio, Soil Leachate	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	3/28/10
09-7835-01D	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	8270_S *	8270C: BNA PAH	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/13/09
09-7835-01E	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	8021_S *	8021: BTEX	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/13/09
09-7835-01E	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	TVH_S *	8015: TVH-Gasoline	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/13/09
09-7835-01F	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	200.7_SBORON	Hot-Water-Soluble Boron, Leachate Basis	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	3/28/10
09-7835-01G	Cherokee Ridge	Soil	9/29/09 1045	9/30/09	LDNR True Total Barium	LDNR True Total Barium	<input type="checkbox"/>	<input type="checkbox"/>	10/14/09	10/13/09

Definitions: * - Test Code has a Select List

Evergreen Analytical, Inc.

Date: 14-Oct-09

Lab Order: 09-7835

Client Project ID

CASE NARRATIVE

SAMPLE RECEIVING

Custody seals were present and intact.

The temperature of the sample(s) upon arrival was 4.5°C.

Sample(s) were received in good condition and in the proper container.

The pH sample was received outside of holding time.

VOC sample(s) were received with no headspace present. JD

QUALITY ASSURANCE (QA)

Analyses performed on samples in this work order by EAL meet the requirements of the EAL Quality Assurance Program unless otherwise explained. Analyses of RCRA samples meet the requirements of NELAC and Utah Rule R444-14 unless otherwise explained. JE

CLIENT SERVICES

The client did not relinquish the COC. There are no other anomalies to report. AE

GENERAL CHEMISTRY

Method SW9045C: The pH analysis was done outside of the holding time for RCRA samples (H). There are no other anomalies to report. MM/JE

METALS ANALYSIS

Method GUPTA: Hot-Water Soluble Boron was detected in the method blank (MB) at 0.034 mg/L. This amount was not subtracted from the sample result. The sample result was greater than five times the MB concentration so no further action was needed. There are no other anomalies to report. MB/JE

Method SW6010B Cr6: The matrix spike, matrix spike duplicate, and post digestion spike (MS/MSD/PDS; on the client's sample from a different work order) recoveries of Hexavalent Chromium are below the QC limits. The Hexavalent Chromium recovery for the laboratory control spike (LCS) is within QC limits, proving the analysis is in control. This is a common occurrence for this method since interferences in the sample can cause the Hexavalent Chromium to be reduced to other forms of Chromium. The MS, MSD, and PDS were analyzed outside of holding time (H). There are no other anomalies to report. MB

Method SW6010B: The matrix spike, matrix spike duplicate and post digestion spike (MS/MSD/PDS; on the client's sample) recoveries of several elements are outside the QC limits. The laboratory

Evergreen Analytical, Inc.**Date:** 14-Oct-09**Lab Order:** 09-7835**Client Project ID****CASE NARRATIVE**

control spike (LCS) recoveries of these analytes are within QC limits, proving the analysis is in control. There are no other anomalies to report. MB/JE

GAS CHROMATOGRAPHY

Method TEH_S: There are no anomalies to report. AS

Method TVH_S: The matrix spike (MS; on the client's sample) recovery of TVH is below the QC limits. The surrogate recovery on the matrix spike duplicate (MSD) is above the QC limits. The TVH recovery for the laboratory control spike (LCS) is within QC limits, proving the analysis is in control. There are no other anomalies to report. LC/JE/TP

Method 8021_S: The matrix spike (MS; on the client's sample) recovery of Toluene is below the QC limits. The Toluene recovery for the laboratory control spike (LCS) is within QC limits, proving the analysis is in control. There are no other anomalies to report. LC/JE

GAS CHROMATOGRAPHY/MASS SPECTROMETRY

Method 8270_S: There are no anomalies to report. TMB

LDNR True Total Barium

The LDNR True Total Barium tests are not yet completed. They will be reported as soon as results are received from Hazen Research. JE

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

Client Sample ID: Cherokee Ridge
Client Project ID:
Date Collected: 9/29/09
Date Received: 9/30/09

Lab Work Order: 09-7835
Lab Sample ID: 09-7835-01
Sample Matrix: Soil

HOT-WATER-SOLUBLE BORON, SOIL BASIS

Method: GUPTA

Prep Method: SW1311,2/3010A

Date Prepared: 10/7/09
Date Analyzed: 10/8/09

Lab File ID: 100809AM
Method Blank: MB-21086

Dilution Factor: 1
Lab Fraction ID: 09-7835-01F

Analytes	CAS Number	Result	LQL	Units
Boron	7440-42-8	2.5 B	0.010	mg/L

6010 HEXAVALENT CHROMIUM, SOIL (3060AMOD DIGEST)

Method: SW6010B Cr6

Prep Method: 3060A_MOD

Date Prepared: 10/9/09
Date Analyzed: 10/12/09

Lab File ID: 101209AM
Method Blank: MB-21117

Dilution Factor: 1
Lab Fraction ID: 09-7835-01A

Analytes	CAS Number	Result	LQL	Units
Chromium, Hexavalent	18540-29-9	U	1.1	mg/Kg

DISSOLVED METALS

Method: SW6010B

Prep Method: E200.7/SW3010A

Date Prepared: 10/3/09
Date Analyzed: 10/5/09

Lab File ID: 100509DY
Method Blank: MB-21025

Dilution Factor: 1
Lab Fraction ID: 09-7835-01C

Analytes	CAS Number	Result	LQL	Units
Calcium	7440-70-2	370	1.9	mg/L
Magnesium	7439-95-4	U	0.75	mg/L

Date Prepared: 10/3/09
Date Analyzed: 10/6/09

Lab File ID: 100609AM
Method Blank: MB-21025

Dilution Factor: 10
Lab Fraction ID: 09-7835-01C

Analytes	CAS Number	Result	LQL	Units
Sodium	7440-23-5	3900	20	mg/L



Analyst



Approved

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S - Spike Recovery outside accepted limits
U - Compound analyzed for but not detected
X - See case narrative
* - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Definitions: NA - Not Applicable
LQL - Lower Quantitation Limit
Surr - Surrogate

Print Date: 10/14/2009

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Evergreen Analytical, Inc.
4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

Client Sample ID: Cherokee Ridge
Client Project ID:
Date Collected: 9/29/09
Date Received: 9/30/09

Lab Work Order: 09-7835
Lab Sample ID: 09-7835-01
Sample Matrix: Soil

METALS

Method: SW6010B

Prep Method: SW3050B

Date Prepared: 10/8/09
Date Analyzed: 10/9/09

Lab File ID: 100909AM
Method Blank: MB-21097

Dilution Factor: 1
Lab Fraction ID: 09-7835-01A

Analytes	CAS Number	Result	LQL	Units
Cadmium	7440-43-9	U	0.75	mg/Kg
Chromium	7440-47-3	9.1	0.75	mg/Kg
Copper	7440-50-8	21	0.37	mg/Kg
Lead	7439-92-1	16	5.4	mg/Kg
Nickel	7440-02-0	8.2	2.2	mg/Kg
Selenium	7782-49-2	U	7.5	mg/Kg
Silver	7440-22-4	U	2.2	mg/Kg
Zinc	7440-66-6	34	2.2	mg/Kg

TOTAL METALS

Method: SW6020

Prep Method: SW3050B

Date Prepared: 10/8/09
Date Analyzed: 10/9/09

Lab File ID: 100909S\09-7835-01A.049
Method Blank: MB-21098

Dilution Factor: 1
Lab Fraction ID: 09-7835-01A

Analytes	CAS Number	Result	LQL	Units
Arsenic	7440-38-2	2.3	0.15	mg/Kg

MERCURY

Method: SW7471A

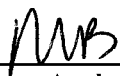
Prep Method: SW7471A

Date Prepared: 10/7/09
Date Analyzed: 10/8/09

Lab File ID: 100809s
Method Blank: MB-21075

Dilution Factor: 1
Lab Fraction ID: 09-7835-01A

Analytes	CAS Number	Result	LQL	Units
Mercury	7439-97-6	0.057	0.0038	mg/Kg



Analyst



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Print Date: 10/14/2009

Evergreen Analytical, Inc.
 4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
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Client Sample ID: Cherokee Ridge
 Client Project ID:
 Date Collected: 9/29/09
 Date Received: 9/30/09

Lab Work Order: 09-7835
 Lab Sample ID: 09-7835-01
 Sample Matrix: Soil

SODIUM ADSORPTION RATIO, SOIL

Method: USDA

Prep Method:

Date Prepared: 10/3/09

Dilution Factor: 1

Date Analyzed: 10/5/09

Lab Fraction ID: 09-7835-01C

Analytes	CAS Number	Result	LQL	Units
Sodium-Adsorption-Ratio		56	0.10	ratio

TRIVALENT CHROMIUM, CALCULATED, SOIL BASIS

Method: CalcCr+3

Prep Method:

Date Prepared: 10/9/09


Dilution Factor: 1

Date Analyzed: 10/13/09

Lab Fraction ID: 09-7835-01A

Analytes	CAS Number	Result	LQL	Units
Chromium+3 Calculated	16065-83-1	9.1	0.30	mg/Kg


 Analyst


 Approved

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Definitions: NA - Not Applicable
 LQL - Lower Quantitation Limit
 Surr - Surrogate

Print Date: 10/14/2009

Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
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Lab Order: 09-7835**Client Project ID:****Matrix:** Soil**Date Received:** 9/30/2009**Date Prepared:** 9/30/2009**Prep Batch ID:** 20977**Units:** mg/Kg

Total Extractable Hydrocarbons
Diesel Fuel (No. 2)

Method: SW8015B Mod**Prep Method:** SW3550B

Lab ID	Client Sample ID	File ID	Date Collected	Date Analyzed	DF	Surr REC	Sample Results	LQL
09-7835-01B	Cherokee Ridge	FC862.D	9/29/2009	9/30/2009	1	48%	180	14

Surrogate QC Limits: 39-130 %REC

Surr: TBB



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S - Spike Recovery outside accepted limits
U - Compound analyzed for but not detected
X - See case narrative
* - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

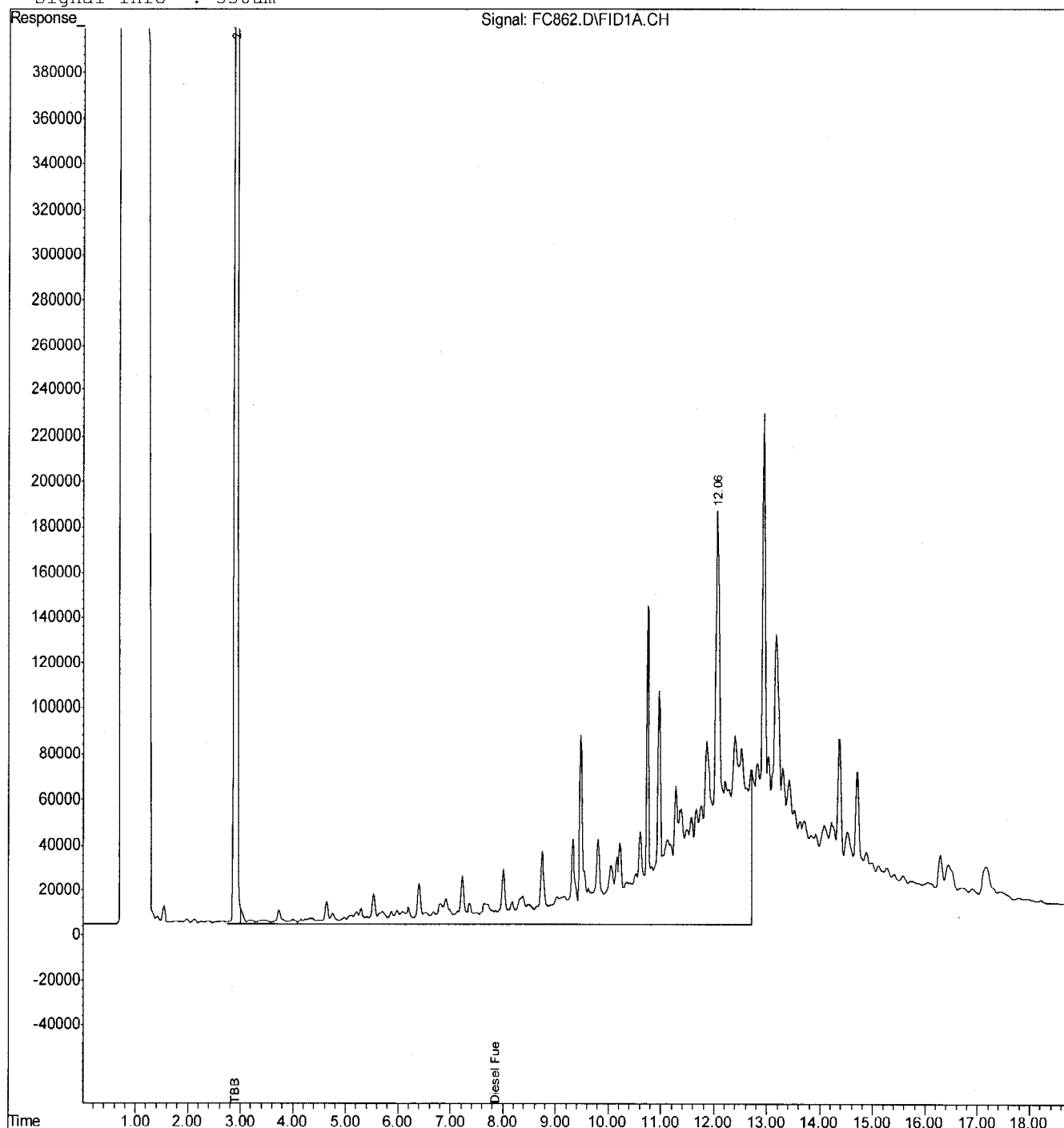
Definitions: DF - Dilution Factor
LQL - Lower Quantitation Limit
Surr - Surrogate

Print Date: 10/1/2009

Data File : C:\MSDCHEM\2\DATA\GFC47\FC862.D Vial: 20
Acq On : 9-30-2009 09:08:39 PM Operator: adams1
Sample : 09-7835-01B Inst : FID5
Misc : ,SAMP,TEH S,1,20977|OP808,GFC47,30.06,,, Multiplr: 1.00
IntFile : DF-GFC42.E
Quant Time: Oct 1 7:12 2009 Quant Results File: DF-GFC42.RES

Quant Method : C:\MSDCHEM\2\METHODS\DF-GFC42.M (Chemstation Integrator)
Title : 8015B TEH
Last Update : Wed Sep 23 15:16:28 2009
Response via : Multiple Level Calibration
DataAcq Meth : FR_BASE.M

Volume Inj. : 1ul
Signal Phase : RTX-5
Signal Info : 530um



Evergreen Analytical, Inc.

4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
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Client Sample ID: Cherokee Ridge
Client Project ID:
Date Collected: 9/29/09 1045
Date Received: 9/30/09

Lab Work Order 09-7835
Lab Sample ID: 09-7835-01
Sample Matrix: Soil

SPECIFIC CONDUCTANCE @ 25°C

Method: Dept of Ag.

Prep Method:

Comments: Method: US Dept. of Ag, Handbook #60, p89

Date Prepared: 10/8/09

Lab File ID: 76

Dilution Factor: 1

Date Analyzed: 10/9/09

Lab Fraction ID: 09-7835-01C

Analytes	CAS Number	Result	LQL	Units
Specific Conductance		18100	1.00	µmhos/cm

PH

Method: SW9045C

Prep Method:

Date Prepared: 9/30/09

Dilution Factor: 1

Date Analyzed: 9/30/09 1312

Lab Fraction ID: 09-7835-01C

Analytes	CAS Number	Result	LQL	Units
pH		10.40 H	1.00	pH Units


Analyst


Approved

Qualifiers: B - Analyte detected in the associated Method Blank, value not subtracted from result
E - Extrapolated value. Value exceeds calibration range
H - Sample analysis exceeded analytical holding time
J - Indicates an estimated value when the compound is detected, but is below the LQL
S - Spike Recovery outside accepted limits
U - Compound analyzed for but not detected
X - See case narrative
* - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Definitions: NA - Not Applicable
LQL - Lower Quantitation Limit
Surr - Surrogate

Print Date: 10/9/2009

Evergreen Analytical, Inc.
4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862
(303) 425-6021

011

Client Sample ID: Cherokee Ridge Client Project ID: Date Collected: 9/29/09 Date Received: 9/30/09 Date Prepared: 10/1/09 Date Analyzed: 10/12/09 Percent Moisture: 38.7	Lab Work Order: 09-7835 Lab Sample ID: 09-7835-01D Sample Matrix: Soil Lab File ID: 101209\1G03562.D Method Blank: MB-20993 Prep Factor: 33.278 Dilution Factor: 5.00
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Method: SW8270C


SEMIVOLATILE ORGANICS

Prep Method: SW3540C

				Units: µg/Kg-dry
Analytes	CAS Number	Result	MDL	LQL
Acenaphthene	83-32-9	U	240	270
Acenaphthylene	208-96-8	U	270	270
Anthracene	120-12-7	290 J	200	290
Benzo(a)anthracene	56-55-3	1900	230	270
Benzo(b)fluoranthene	205-99-2	2500	300	300
Benzo(k)fluoranthene	207-08-9	1200	320	320
Benzo(g,h,i)perylene	191-24-2	1300	200	270
Benzo(a)pyrene	50-32-8	970	200	270
Chrysene	218-01-9	2300	320	320
Dibenz(a,h)anthracene	53-70-3	690	240	270
Fluoranthene	206-44-0	3000	260	270
Fluorene	86-73-7	U	280	280
Indeno(1,2,3-cd)pyrene	193-39-5	1400	220	270
1-Methylnaphthalene	90-12-0	U	300	300
2-Methylnaphthalene	91-57-6	240 J	230	270
Naphthalene	91-20-3	U	270	290
Phenanthrene	85-01-8	2100	290	570
Pyrene	129-00-0	1500	290	290
Surr: 2-Fluorobiphenyl	321-60-8	62	QC Limits:	37-130 %REC
Surr: Nitrobenzene-d5	4165-60-0	61	QC Limits:	33-130 %REC
Surr: Terphenyl-d14	1718-51-0	78	QC Limits:	48-130 %REC



Analyst



Approved

Qualifiers: See case narrative for a discussion

B - Analyte detected in the Method Blank, value not subtracted from result
 E - Extrapolated value. Value exceeds calibration range
 H - Prep or Analytical holding time exceeded
 S - Spike Recovery outside acceptance limits
 X - See case narrative
 * - Value exceeded the Maximum Contamination Level (MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

Qualifiers: U - Analyte not detected at or above the reporting limit

J - Estimated value below the LQL

Definitions: NA - Not Applicable
 LQL - Lower Quantitation Limit
 MDL - Method Detection Limit
 Surr - Surrogate Standard

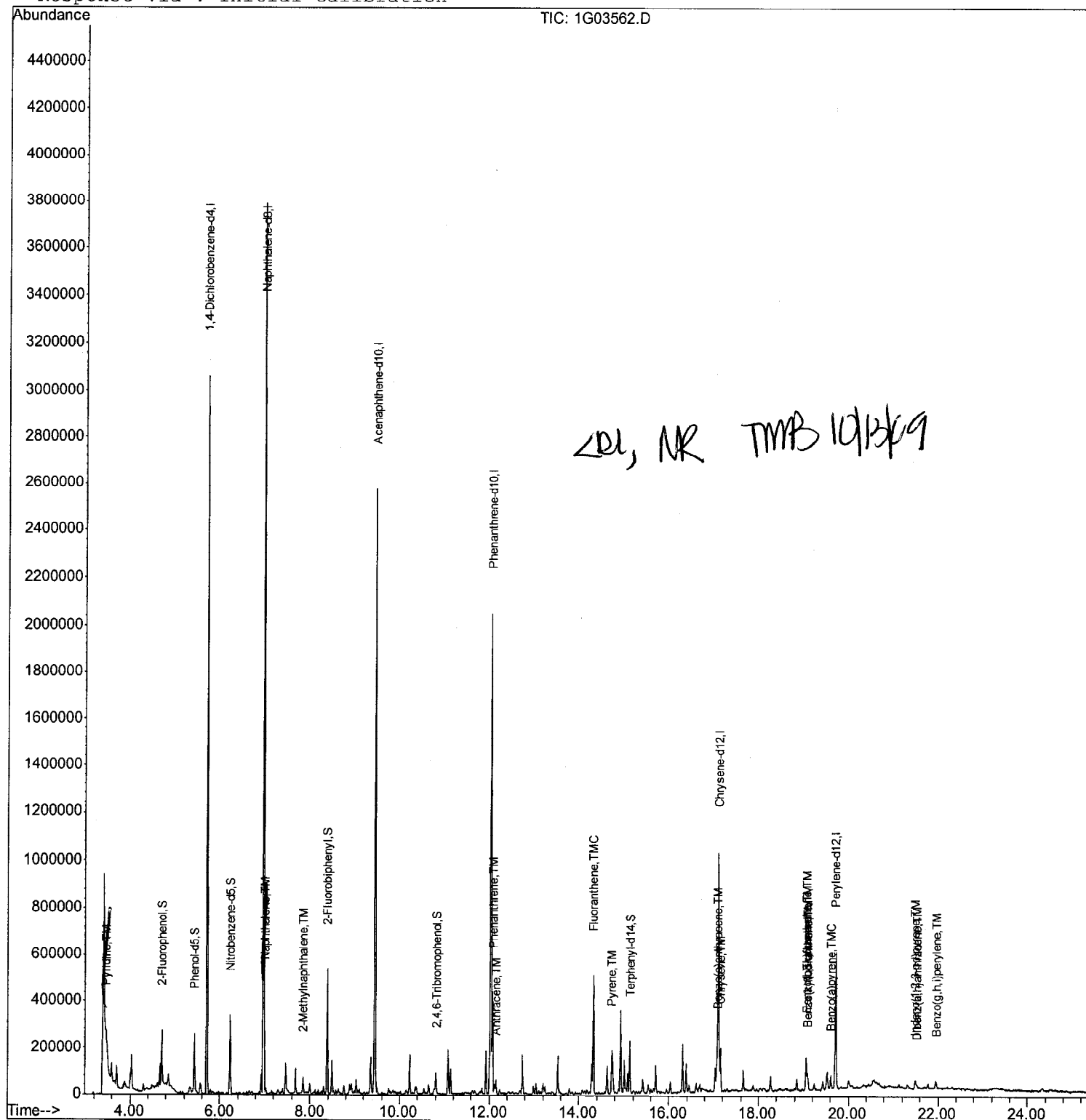
Print Date: 10/13/09

Data File : D:\MSDCHEM\1\DATA\101209\1G03562.D
Acq On : 12 Oct 2009 5:04 pm
Sample : 09-7835-01D
Misc : ,SAMP,8270_S,5,|OP814,E1G109,30,,,1,5
MS Integration Params: RTEINT.P
Quant Time: Oct 13 9:09 2009

Vial: 11
Operator: TAMIB
Inst : GCMS1
Multiplr: 1.00

Quant Results File: BNAE1G105.RES

Method : D:\MSDCHEM\1\METHODS\BNAE1G105.M (RTE Integrator)
Title : 8270C Calibration
Last Update : Mon Oct 05 13:51:25 2009
Response via : Initial Calibration



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Client Sample ID: Cherokee Ridge
Client Project ID:
Date Collected: 9/29/2009
Date Received: 9/30/2009

Lab Work Order: 09-7835
Lab Sample ID: 09-7835-01E
Sample Matrix: Soil

AROMATIC VOLATILE ORGANICS

Method: SW8021B

Prep Method: SW5035

Date Prepared: 10/3/2009

Lab File ID: TA2618.D\FID1A.CH

Dilution Factor: 5

Date Analyzed: 10/4/2009

Method Blank: MB2100309-3

Analytes	CAS Number	Result	LQL	Units
Benzene	71-43-2	13	5.0	µg/Kg
Toluene	108-88-3	26	10	µg/Kg
Ethylbenzene	100-41-4	U	10	µg/Kg
m,p-Xylene	1330-20-7	36	10	µg/Kg
o-Xylene	95-47-6	13	10	µg/Kg
Surr: 1,2,4-Trichlorobenzene (S)	120-82-1	91	QC Limits: 60-140	%REC

TOTAL VOLATILE HYDROCARBONS

Method: SW8015B MOD

Prep Method: SW5035

Date Prepared: 10/3/2009

Lab File ID: TA2618.D\FID1A.CH


Dilution Factor: 5

Date Analyzed: 10/4/2009

Method Blank: MB2100309-3

Analytes	CAS Number	Result	LQL	Units
TVH-Gasoline	86290-81-5	1.4	1.0	mg/Kg
Surr: 1,2,4-Trichlorobenzene (S)	120-82-1	117	QC Limits: 60-140	%REC


 Analyst


 Approved

Notes: Total Xylenes consist of three isomers, two of which co-elute. The Xylene RL is for a single peak. Confirmation analysis was not performed.

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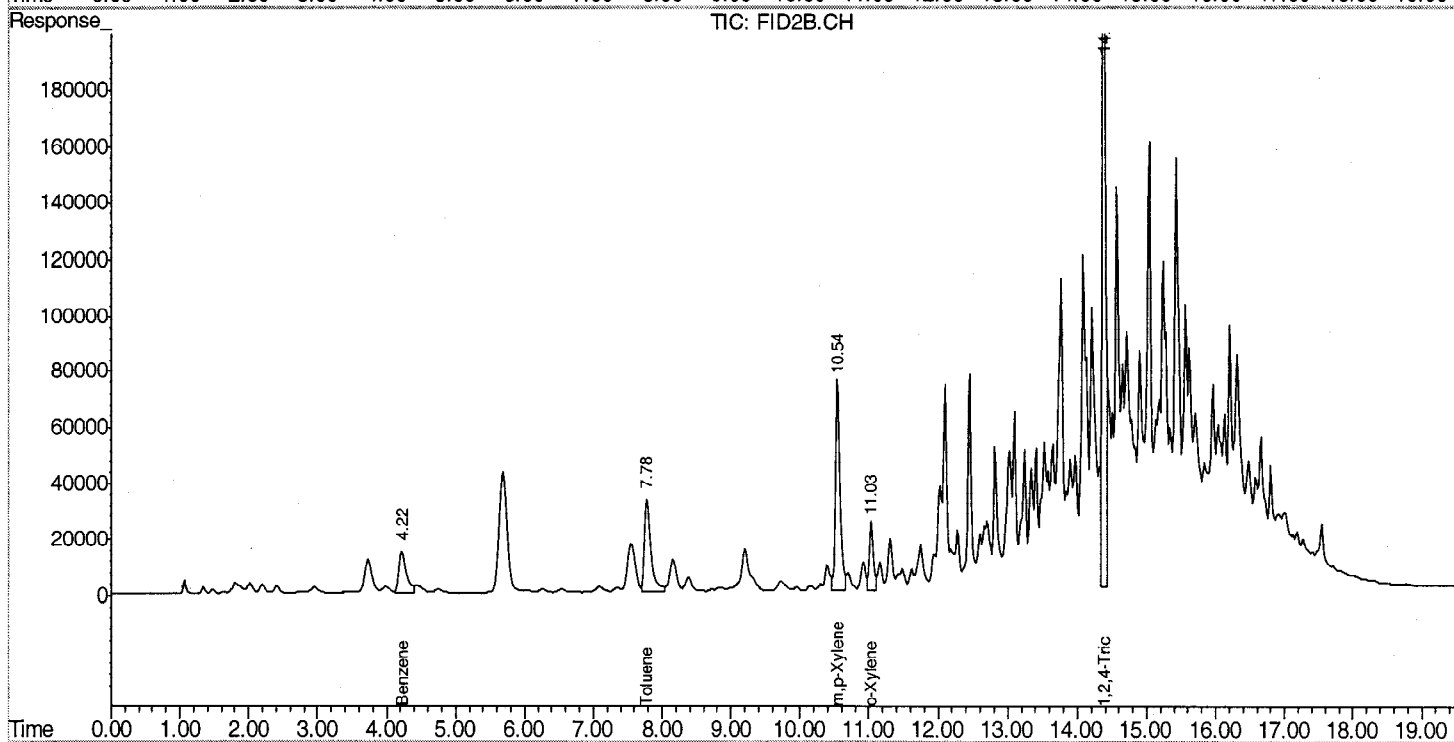
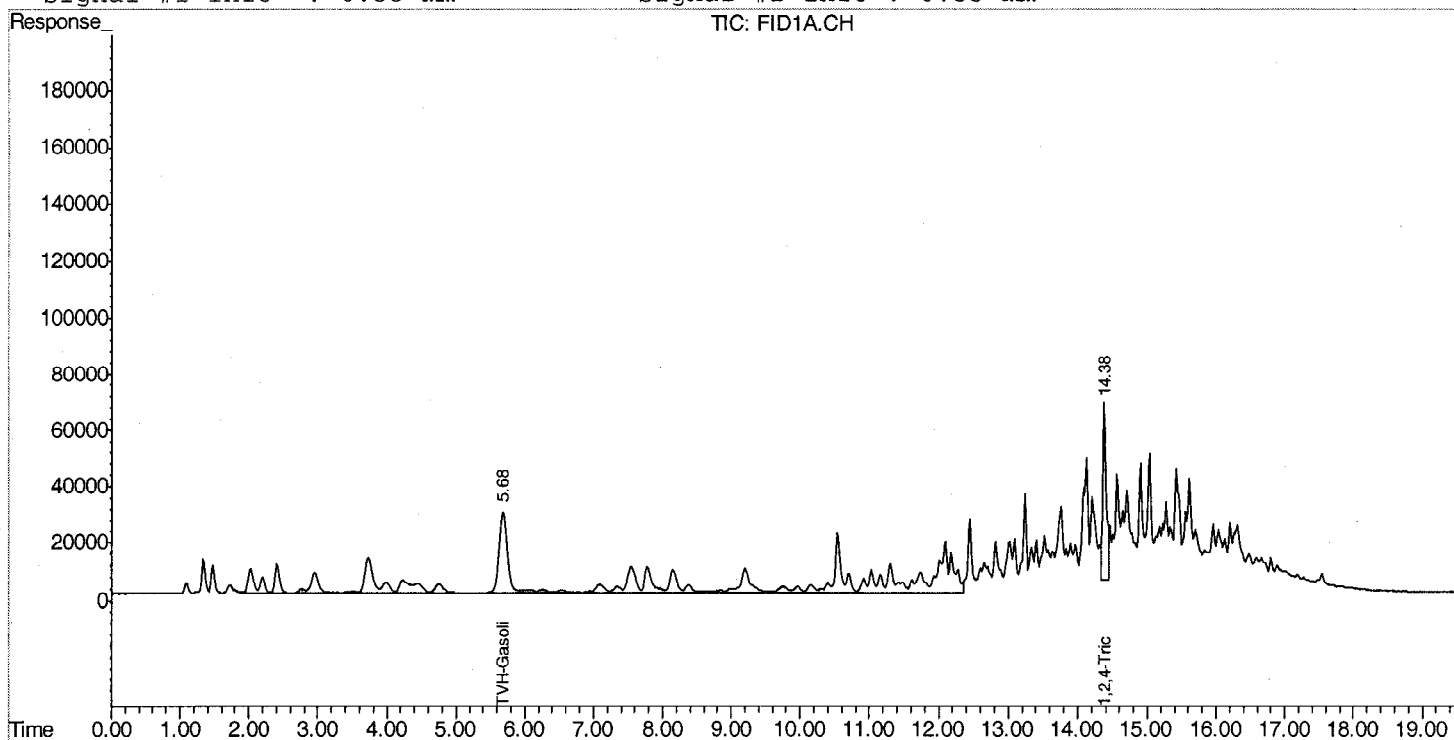
Definitions: LQL - Lower Quantitation Limit
 Surr - Surrogate

Print Date: 10/5/2009

Signal #1 : Z:\100309\TA2618.D\FID1A.CH Vial: 22
Signal #2 : Z:\100309\TA2618.D\FID2B.CH
Acq On : 4 Oct 2009 1:17 am Operator: laurac
Sample : 09-7835-01E Inst : TVHBTEX2
Misc : ,SAMP,8021_S,TVH_S,5,|GC285,GTA143,1,,, Multiplr: 1.00
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E
Quant Time: Oct 5 10:14 2009 Quant Results File: TW20929.RES

Quant Method : C:\MSDCHEM\1\METHODS\TW20929.M (Chemstation Integrator)
Title : 8015B/8021B TVH/BTEX
Last Update : Mon Oct 05 09:54:00 2009
Response via : Multiple Level Calibration
DataAcq Meth : TVB2.M

Volume Inj. :
Signal #1 Phase : DB-624 Signal #2 Phase: DB-624
Signal #1 Info : 0.53 mm Signal #2 Info : 0.53 mm



QUALITY ASSURANCE REPORTS

METHOD BLANKS (MB)

LABORATORY CONTROL SPIKES (LCS)

MATRIX SPIKES (MS/MSD)*

DUPLICATES (DUP)*

* For Metals or Wet Chemistry analyses: only included if requested or if performed on this client's samples.

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

BatchID: 21086

Sample ID: MB-21086	SampType: MBLK	TestCode: 200.7_SBOR	Run ID: ICP-OPTIMA 5300 DV_091008A	Prep Date: 10/7/2009	Units: mg/L						
	Batch ID: 21086	TestNo: GUPTA	FileID: 100809AM	Analysis Date: 10/8/2009	SeqNo: 921902						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Boron	0.03402	0.010									
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Sample ID: LCS-21086	SampType: LCS	TestCode: 200.7_SBOR	Run ID: ICP-OPTIMA 5300 DV_091008A	Prep Date: 10/7/2009	Units: mg/L						
	Batch ID: 21086	TestNo: GUPTA	FileID: 100809AM	Analysis Date: 10/8/2009	SeqNo: 921903						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Boron	4.619	0.010	4.998	0.03402	91.7	85	115	0	0		B
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Sample ID: 09-7710-01FMS	SampType: MS	TestCode: 200.7_SBOR	Run ID: ICP-OPTIMA 5300 DV_091008A	Prep Date: 10/7/2009	Units: mg/L						
	Batch ID: 21086	TestNo: GUPTA	FileID: 100809AM	Analysis Date: 10/8/2009	SeqNo: 921905						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Boron	4.503	0.010	4.988	0.3255	83.8	75	125	0	0		B
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Sample ID: 09-7710-01FMSD	SampType: MSD	TestCode: 200.7_SBOR	Run ID: ICP-OPTIMA 5300 DV_091008A	Prep Date: 10/7/2009	Units: mg/L						
	Batch ID: 21086	TestNo: GUPTA	FileID: 100809AM	Analysis Date: 10/8/2009	SeqNo: 921908						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Boron	4.592	0.010	4.986	0.3255	85.6	75	125	4.503	1.95	30	B
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Qualifiers:

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- X - See case narrative

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

BatchID: 21117

Sample ID: MB-21117	SampType: MBLK	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_091012B	Prep Date: 10/9/2009	Units: mg/Kg						
	Batch ID: 21117	TestNo: SW6010B Cr	FileID: 101209AM	Analysis Date: 10/12/2009	SeqNo: 923382						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent

U

1.8

Sample ID: LCS-21117	SampType: LCS	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_091012B	Prep Date: 10/9/2009	Units: mg/Kg						
	Batch ID: 21117	TestNo: SW6010B Cr	FileID: 101209AM	Analysis Date: 10/12/2009	SeqNo: 923383						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent

60.99

1.8

98.04

0

62.2

28

172

0

0

Sample ID: 09-7922-01DMS	SampType: MS	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_091012B	Prep Date: 10/9/2009	Units: mg/Kg						
	Batch ID: 21117	TestNo: SW6010B Cr	FileID: 101209AM	Analysis Date: 10/12/2009	SeqNo: 923385						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent

U

1.8

77.22

0

0

75

125

0

0

SH

Sample ID: 09-7922-01DMSD	SampType: MSD	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_091012B	Prep Date: 10/9/2009	Units: mg/Kg						
	Batch ID: 21117	TestNo: SW6010B Cr	FileID: 101209AM	Analysis Date: 10/12/2009	SeqNo: 923386						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent

U

2.0

78.13

0

0

75

125

0

0

30

SH

Sample ID: 09-7922-01DPDS	SampType: PDS	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_091012B	Prep Date: 10/9/2009	Units: mg/Kg						
	Batch ID: 21117	TestNo: SW6010B Cr	FileID: 101209AM	Analysis Date: 10/12/2009	SeqNo: 923387						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Chromium, Hexavalent

U

1.9

44.29

0

0

75

125

0

0

SH

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 X - See case narrative

Evergreen Analytical, Inc.

Date: 14-Oct-09

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

BatchID: 21025

Sample ID: MB-21025	SampType: MBLK	TestCode: 6010_D	Run ID: ICP-OPTIMA 5300 DV_091005A	Prep Date: 10/3/2009	Units: mg/L						
	Batch ID: 21025	TestNo: SW6010B	FileID: 100509DY	Analysis Date: 10/5/2009	SeqNo: 920089						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Calcium	U	1.9									
Magnesium	U	0.75									
Sodium	U	2.0									

Sample ID: LCS-21025	SampType: LCS	TestCode: 6010_D	Run ID: ICP-OPTIMA 5300 DV_091005A	Prep Date: 10/3/2009	Units: mg/L						
	Batch ID: 21025	TestNo: SW6010B	FileID: 100509DY	Analysis Date: 10/5/2009	SeqNo: 920090						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Calcium	50.71	1.9	50	0	101	74	113	0	0		
Magnesium	49.98	0.75	50	0.2183	100	76.7	114	0	0		
Sodium	50.64	2.0	50	0	101	80	120	0	0		

Sample ID: LCS-21025-DUP	SampType: LCS	TestCode: 6010_D	Run ID: ICP-OPTIMA 5300 DV_091005A	Prep Date: 10/3/2009	Units: mg/L						
	Batch ID: 21025	TestNo: SW6010B	FileID: 100509DY	Analysis Date: 10/5/2009	SeqNo: 920091						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Calcium	50.55	1.9	50	0	101	74	113	0	0		
Magnesium	50	0.75	50	0.2183	100	76.7	114	0	0		
Sodium	51.02	2.0	50	0	102	80	120	0	0		

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X - See case narrative

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

BatchID: 21097

Sample ID: MB-21097	SampType: MBLK	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_091009A	Prep Date: 10/8/2009	Units: mg/Kg						
	Batch ID: 21097	TestNo: SW6010B	FileID: 100909AM	Analysis Date: 10/9/2009	SeqNo: 922596						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	U	1.0									
Chromium	U	1.0									
Copper	U	0.50									
Lead	U	7.3									
Nickel	U	3.0									
Selenium	U	10									
Silver	U	3.0									
Zinc	U	3.0									

Sample ID: LCS-21097	SampType: LCS	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_091009A	Prep Date: 10/8/2009	Units: mg/Kg						
	Batch ID: 21097	TestNo: SW6010B	FileID: 100909AM	Analysis Date: 10/9/2009	SeqNo: 922597						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	147.2	0.94	176.4	0	83.4	73.3	127	0	0		
Chromium	70.45	0.94	84.43	0	83.4	69.2	131	0	0		
Copper	117.9	0.47	121.7	0.4806	96.5	75.1	126	0	0		
Lead	137.1	6.9	162.3	0	84.5	73.8	126	0	0		
Nickel	79.13	2.8	93.4	0	84.7	72.2	127	0	0		
Selenium	102.3	9.4	139.6	0	73.3	67.1	132	0	0		
Silver	59.13	2.8	62.26	0	95	67	133	0	0		
Zinc	271.1	2.8	371.7	0	72.9	72.6	127	0	0		

Sample ID: 09-7835-01AMS	SampType: MS	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_091009A	Prep Date: 10/8/2009	Units: mg/Kg						
Client ID: Cherokee Ridge	Batch ID: 21097	TestNo: SW6010B	FileID: 100909AM	Analysis Date: 10/9/2009	SeqNo: 922600						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	10.8	0.72	14.49	0	74.5	75	125	0	0		
Chromium	120.8	0.72	144.9	9.136	77.1	75	125	0	0		
Copper	151.7	0.36	144.9	20.59	90.5	75	125	0	0		
Lead	121.2	5.3	144.9	16.12	72.5	75	125	0	0		S

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Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

BatchID: 21097

Sample ID: 09-7835-01AMS	SampType: MS	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_091009A				Prep Date: 10/8/2009	Units: mg/Kg			
Client ID: Cherokee Ridge	Batch ID: 21097	TestNo: SW6010B	FileID: 100909AM				Analysis Date: 10/9/2009	SeqNo: 922600			
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	117	2.2	144.9	8.183	75.1	75	125	0	0		
Selenium	96.83	7.2	144.9	0	66.8	75	125	0	0		S
Silver	13.51	2.2	14.49	0	93.2	75	125	0	0		
Zinc	124.5	2.2	144.9	33.86	62.5	75	125	0	0		S

Sample ID: 09-7835-01AMSD	SampType: MSD	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_091009A				Prep Date: 10/8/2009	Units: mg/Kg			
Client ID: Cherokee Ridge	Batch ID: 21097	TestNo: SW6010B	FileID: 100909AM				Analysis Date: 10/9/2009	SeqNo: 922601			
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	11.99	0.81	16.26	0	73.7	75	125	10.8	10.4	20	S
Chromium	133.3	0.81	162.6	9.136	76.3	75	125	120.8	9.80	20	
Copper	166	0.41	162.6	20.59	89.4	75	125	151.7	8.97	20	
Lead	131.4	5.9	162.6	16.12	70.9	75	125	121.2	8.07	20	S
Nickel	131.3	2.4	162.6	8.183	75.7	75	125	117	11.5	20	
Selenium	107.5	8.1	162.6	0	66.1	75	125	96.83	10.4	20	S
Silver	14.8	2.4	16.26	0	91	75	125	13.51	9.06	20	
Zinc	136.4	2.4	162.6	33.86	63.1	75	125	124.5	9.14	20	S

Sample ID: 09-7835-01APDS	SampType: PDS	TestCode: 6010_S		Run ID: ICP-OPTIMA 5300 DV_091009A				Prep Date: 10/8/2009		Units: mg/Kg	
Client ID: Cherokee Ridge	Batch ID: 21097	TestNo: SW6010B		FileID: 100909AM				Analysis Date: 10/9/2009		SeqNo: 922602	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	11.3	0.75	14.93	0	75.7	75	125	0	0		
Chromium	119.9	0.75	149.3	9.136	74.2	75	125	0	0		S
Copper	146.3	0.37	149.3	20.59	84.2	75	125	0	0		
Lead	126.6	5.4	149.3	16.12	74	75	125	0	0		S
Nickel	119.6	2.2	149.3	8.183	74.7	75	125	0	0		
Selenium	101.7	7.5	149.3	0	68.1	75	125	0	0		S
Silver	63.76	2.2	74.63	0	85.4	75	125	0	0		
Zinc	125.6	2.2	149.3	33.86	61.4	75	125	0	0		S

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H - Prep or analytical holding time exceeded
X - See case narrative

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

BatchID: 21098

Sample ID: MB-21098	SampType: MBLK	TestCode: 6020_S	Run ID: ICPMS_091009B	Prep Date: 10/8/2009	Units: mg/Kg						
	Batch ID: 21098	TestNo: SW6020	FileID: 100909S\MB-21098.047	Analysis Date: 10/9/2009	SeqNo: 923064						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	U	0.20									
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Sample ID: LCS-21098	SampType: LCS	TestCode: 6020_S	Run ID: ICPMS_091009B	Prep Date: 10/8/2009	Units: mg/Kg						
	Batch ID: 21098	TestNo: SW6020	FileID: 100909S\LCS-21098.048	Analysis Date: 10/9/2009	SeqNo: 923065						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	140.5	0.19	149.1	0	94.3	70.3	129	0	0		
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Sample ID: 09-7835-01AMS	SampType: MS	TestCode: 6020_S	Run ID: ICPMS_091009B	Prep Date: 10/8/2009	Units: mg/Kg						
Client ID: Cherokee Ridge	Batch ID: 21098	TestNo: SW6020	FileID: 100909S\09-7835-01AMS.05	Analysis Date: 10/9/2009	SeqNo: 923069						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	129.1	0.14	144.9	2.285	87.5	75	125	0	0		
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Sample ID: 09-7835-01AMSD	SampType: MSD	TestCode: 6020_S	Run ID: ICPMS_091009B	Prep Date: 10/8/2009	Units: mg/Kg						
Client ID: Cherokee Ridge	Batch ID: 21098	TestNo: SW6020	FileID: 100909S\09-7835-01AMSD.0	Analysis Date: 10/9/2009	SeqNo: 923070						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	135.1	0.16	162.6	2.285	81.7	75	125	129.1	4.53	20	
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Sample ID: 09-7835-01APDS	SampType: PDS	TestCode: 6020_S	Run ID: ICPMS_091009B	Prep Date: 10/8/2009	Units: mg/Kg						
Client ID: Cherokee Ridge	Batch ID: 21098	TestNo: SW6020	FileID: 100909S\09-7835-01APDS.0	Analysis Date: 10/9/2009	SeqNo: 923071						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Arsenic	154.2	0.15	149.3	2.285	102	75	125	0	0		
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X - See case narrative

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

BatchID: 21075

Sample ID: MB-21075	SampType: MBLK	TestCode: 7471_S	Run ID: HG ANALYZER_091008B	Prep Date: 10/7/2009	Units: mg/Kg						
	Batch ID: 21075	TestNo: SW7471A	FileID: 100809s	Analysis Date: 10/8/2009	SeqNo: 921824						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	U	0.020									
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Sample ID: LCS-21075	SampType: LCS	TestCode: 7471_S	Run ID: HG ANALYZER_091008B	Prep Date: 10/7/2009	Units: mg/Kg						
	Batch ID: 21075	TestNo: SW7471A	FileID: 100809s	Analysis Date: 10/8/2009	SeqNo: 921827						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	1.013	0.037	1.148	0	88.2	46.5	141	0	0		
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Sample ID: 09-7512-06AMS	SampType: MS	TestCode: 7471_S	Run ID: HG ANALYZER_091008B	Prep Date: 10/7/2009	Units: mg/Kg						
	Batch ID: 21075	TestNo: SW7471A	FileID: 100809s	Analysis Date: 10/8/2009	SeqNo: 921829						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.3538	0.019	0.3774	0	93.8	70	130	0	0		
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Sample ID: 09-7512-06AMSD	SampType: MSD	TestCode: 7471_S	Run ID: HG ANALYZER_091008B	Prep Date: 10/7/2009	Units: mg/Kg						
	Batch ID: 21075	TestNo: SW7471A	FileID: 100809s	Analysis Date: 10/8/2009	SeqNo: 921830						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury	0.3107	0.016	0.3279	0	94.8	70	130	0.3538	13.0	20	
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Evergreen Analytical, Inc.

Date: 01-Oct-09

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: TEH_S

Sample ID: MB-20977	SampType: MBLK	TestCode: TEH_S	Run ID: FID5_090930B	Prep Date: 9/30/2009	Units: mg/Kg						
	Batch ID: 20977	TestNo: SW8015B Mo	FileID: FC844.D	Analysis Date: 9/30/2009	SeqNo: 918118						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	U	14									
Surr: TBB	33.12	0	66.67	0	49.7	39	130	0	0		

Sample ID: LCS-20977	SampType: LCS	TestCode: TEH_S	Run ID: FID5_090930B	Prep Date: 9/30/2009	Units: mg/Kg						
	Batch ID: 20977	TestNo: SW8015B Mo	FileID: FC845.D	Analysis Date: 9/30/2009	SeqNo: 918119						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	597.6	14	666.7	0	89.6	70	130	0	0		
Surr: TBB	42.01	0	66.67	0	63	39	130	0	0		

Sample ID: 09-7819-02BMS	SampType: MS	TestCode: TEH_S	Run ID: FID5_090930B	Prep Date: 9/30/2009	Units: mg/Kg						
	Batch ID: 20977	TestNo: SW8015B Mo	FileID: FC850.D	Analysis Date: 9/30/2009	SeqNo: 918122						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	631.2	14	666	0	94.8	70	130	0	0		
Surr: TBB	44.72	0	66.6	0	67.1	39	130	0	0		

Sample ID: 09-7819-02BMSD	SampType: MSD	TestCode: TEH_S	Run ID: FID5_090930B	Prep Date: 9/30/2009	Units: mg/Kg						
	Batch ID: 20977	TestNo: SW8015B Mo	FileID: FC851.D	Analysis Date: 9/30/2009	SeqNo: 918123						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	629.9	14	666.4	0	94.5	70	130	631.2	0.206	30	
Surr: TBB	44.97	0	66.64	0	67.5	39	130	0	0	0	

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Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: COND_S

Sample ID	LCS	SampType: LCS	TestCode: COND_S		Run ID: COND_091009A			Prep Date: 10/9/2009		Units: μmhos/cm		
		Batch ID: R50550	TestNo: Dept of Ag.		FileID: 75		Analysis Date: 10/9/2009		SeqNo: 922470			
Analyte		Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance		10100	1.00	10230	0	98.7	90	110	0	0		

Qualifiers:

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X - See case narrative

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: PH_S

Sample ID	LCS-R50333	SampType: LCS	TestCode: PH_S	Run ID: PH_090930B	Prep Date: 9/30/2009	Units: pH Units					
		Batch ID: R50333	TestNo: SW9045C	FileID:	Analysis Date: 9/30/2009	SeqNo: 917974					
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.96	1.00	8	0	99.5	99.3	100.7	0	0		

Qualifiers:

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H - Prep or analytical holding time exceeded
X - See case narrative

Evergreen Analytical, Inc.

Date: 13-Oct-09

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S

Sample ID: MB-20993		SampType: MBLK		TestCode: 8270_S		Run ID: GCMS1_091009A		Prep Date: 10/1/09		Units: µg/Kg	
		Batch ID: 20993		TestNo: SW 8270C		FileID: 100909\1G03517.D		Analysis Date: 10/9/09		SeqNo: 922986	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	U	33									
Acenaphthylene	U	33									
Anthracene	U	35									
Benzo(a)anthracene	U	33									
Benzo(b)fluoranthene	U	37									
Benzo(k)fluoranthene	U	39									
Benzo(g,h,i)perylene	U	33									
Benzo(a)pyrene	U	33									
Chrysene	U	39									
Dibenz(a,h)anthracene	U	33									
Fluoranthene	U	33									
Fluorene	U	34									
Indeno(1,2,3-cd)pyrene	U	33									
Naphthalene	U	35									
Phenanthrene	U	70									
Pyrene	U	35									
Surr: 2-Fluorobiphenyl	1015	0	1667	0	60.9	37	130	0	0		
Surr: Nitrobenzene-d5	1145	0	1667	0	68.7	33	130	0	0		
Surr: Terphenyl-d14	1157	0	1667	0	69.4	48	130	0	0		

Sample ID: LCS-20993		SampType: LCS		TestCode: 8270_S		Run ID: GCMS1_091009A		Prep Date: 10/1/09		Units: µg/Kg	
		Batch ID: 20993		TestNo: SW 8270C		FileID: 100909\1G03518.D		Analysis Date: 10/9/09		SeqNo: 922983	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	3096	33	3333	0	92.9	54	130	0	0		
Acenaphthylene	3166	33	3333	0	95	53	130	0	0		
Anthracene	3215	35	3333	0	96.5	54	130	0	0		
Benzo(a)anthracene	3269	33	3333	0	98.1	52	130	0	0		
Benzo(b)fluoranthene	3371	37	3333	0	101	58	130	0	0		

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Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S

Sample ID: LCS-20993	SampType: LCS	TestCode: 8270_S	Run ID: GCMS1_091009A	Prep Date: 10/1/09	Units: µg/Kg						
	Batch ID: 20993	TestNo: SW8270C	FileID: 100909\1G03518.D	Analysis Date: 10/9/09	SeqNo: 922983						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzo(k)fluoranthene	3240	39	3333	0	97.2	53	130	0	0		
Benzo(g,h,i)perylene	2714	33	3333	0	81.4	46	130	0	0		
Benzo(a)pyrene	3333	33	3333	0	100	56	130	0	0		
Chrysene	3166	39	3333	0	95	51	130	0	0		
Dibenz(a,h)anthracene	2784	33	3333	0	83.5	48	130	0	0		
Fluoranthene	3312	33	3333	0	99.4	50	130	0	0		
Fluorene	3197	34	3333	0	95.9	59	130	0	0		
Indeno(1,2,3-cd)pyrene	2804	33	3333	0	84.1	48	130	0	0		
Naphthalene	2939	35	3333	0	88.2	37	130	0	0		
Phenanthrene	3072	70	3333	0	92.2	57	130	0	0		
Pyrene	2845	35	3333	0	85.4	54	130	0	0		
Surr: 2-Fluorobiphenyl	1316	0	1667	0	78.9	37	130	0	0		
Surr: Nitrobenzene-d5	1545	0	1667	0	92.7	33	130	0	0		
Surr: Terphenyl-d14	1404	0	1667	0	84.2	48	130	0	0		

Sample ID: 09-7774-01AMS	SampType: MS	TestCode: 8270_S	Run ID: GCMS1_091009A	Prep Date: 10/1/09	Units: µg/Kg-dry						
	Batch ID: 20993	TestNo: SW8270C	FileID: 100909\1G03525.D	Analysis Date: 10/9/09	SeqNo: 922978						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	2786	36	3598	0	77.4	54	130	0	0		
Acenaphthylene	2808	36	3598	0	78	53	130	0	0		
Anthracene	3050	38	3598	0	84.7	54	130	0	0		
Benzo(a)anthracene	3122	36	3598	0	86.8	52	130	0	0		
Benzo(b)fluoranthene	3234	40	3598	0	89.9	58	130	0	0		
Benzo(k)fluoranthene	3086	42	3598	0	85.8	53	130	0	0		
Benzo(g,h,i)perylene	2587	36	3598	0	71.9	46	130	0	0		
Benzo(a)pyrene	3079	36	3598	0	85.6	56	130	0	0		
Chrysene	2987	42	3598	0	83	51	130	0	0		
Dibenz(a,h)anthracene	2610	36	3598	0	72.5	48	130	0	0		
Fluoranthene	3211	36	3598	0	89.2	50	130	0	0		
Fluorene	3056	37	3598	0	84.9	59	130	0	0		

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Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: 8270_S

Sample ID: 09-7774-01AMS		SampType: MS	TestCode: 8270_S		Run ID: GCMS1_091009A		Prep Date: 10/1/09		Units: µg/Kg-dry		
		Batch ID: 20993	TestNo: SW8270C		FileID: 100909\1G03525.D		Analysis Date: 10/9/09		SeqNo: 922978		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Indeno(1,2,3-cd)pyrene	2643	36	3598	0	73.5	48	130	0	0		
Naphthalene	2268	38	3598	0	63	37	140	0	0		
Phenanthrene	2954	76	3598	0	82.1	57	130	0	0		
Pyrene	2731	38	3598	0	75.9	54	130	0	0		
Surr: 2-Fluorobiphenyl	1070	0	1800	0	59.4	37	130	0	0		
Surr: Nitrobenzene-d5	1165	0	1800	0	64.7	33	130	0	0		
Surr: Terphenyl-d14	1310	0	1800	0	72.8	48	130	0	0		

Sample ID: 09-7774-01AMSD		SampType: MSD	TestCode: 8270_S		Run ID: GCMS1_091009A		Prep Date: 10/1/09		Units: µg/Kg-dry		
		Batch ID: 20993	TestNo: SW8270C		FileID: 100909\1G03526.D		Analysis Date: 10/9/09		SeqNo: 922979		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Acenaphthene	2784	36	3591	0	77.5	54	130	2786	0.0518	30	
Acenaphthylene	2836	36	3591	0	79	53	130	2808	0.984	30	
Anthracene	2911	38	3591	0	81.1	54	130	3050	4.66	30	
Benzo(a)anthracene	2936	36	3591	0	81.7	52	130	3122	6.17	30	
Benzo(b)fluoranthene	3064	40	3591	0	85.3	58	130	3234	5.42	30	
Benzo(k)fluoranthene	3013	42	3591	0	83.9	53	130	3086	2.41	30	
Benzo(g,h,i)perylene	2414	36	3591	0	67.2	46	130	2587	6.92	30	
Benzo(a)pyrene	2953	36	3591	0	82.2	56	130	3079	4.17	30	
Chrysene	2820	42	3591	0	78.5	51	130	2987	5.75	30	
Dibenz(a,h)anthracene	2465	36	3591	0	68.7	48	130	2610	5.71	30	
Fluoranthene	3020	36	3591	0	84.1	50	130	3211	6.11	30	
Fluorene	2906	37	3591	0	80.9	59	130	3056	5.03	30	
Indeno(1,2,3-cd)pyrene	2505	36	3591	0	69.7	48	130	2643	5.38	30	
Naphthalene	2463	38	3591	0	68.6	37	140	2268	8.25	30	
Phenanthrene	2819	76	3591	0	78.5	57	130	2954	4.68	30	
Pyrene	2541	38	3591	0	70.7	54	130	2731	7.21	30	
Surr: 2-Fluorobiphenyl	1141	0	1796	0	63.5	37	130	0	0	0	
Surr: Nitrobenzene-d5	1270	0	1796	0	70.7	33	130	0	0	0	
Surr: Terphenyl-d14	1257	0	1796	0	70	48	130	0	0	0	

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X - See case narrative

Evergreen Analytical, Inc.

Date: 05-Oct-09

Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021_S

Sample ID: MB2100309-3	SampType: MBLK	TestCode: 8021_S	Run ID: TVHBTEX2_091003A	Prep Date: 10/3/2009	Units: µg/Kg						
	Batch ID: R50418-3	TestNo: SW8021B	FileID: TA2616.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919665						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	U	5.0									
Toluene	U	10									
Ethylbenzene	U	10									
m,p-Xylene	U	10									
o-Xylene	U	10									
Surr: 1,2,4-Trichlorobenzene (S)	505.1	0	500	0	101	60	140	0	0		

Sample ID: LCS2100309-3	SampType: LCS	TestCode: 8021_S	Run ID: TVHBTEX2_091003A	Prep Date: 10/3/2009	Units: µg/Kg						
	Batch ID: R50418-3	TestNo: SW8021B	FileID: TA2617.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919666						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	134.5	5.0	136	0	98.9	70	130	0	0		
Toluene	958.6	10	1058	0	90.6	70	130	0	0		
Ethylbenzene	208.5	10	228	0	91.4	70	130	0	0		
m,p-Xylene	691.1	10	750	0	92.1	70	130	0	0		
o-Xylene	311.5	10	329.5	0	94.5	70	130	0	0		
Surr: 1,2,4-Trichlorobenzene (S)	616.9	0	500	0	123	60	140	0	0		

Sample ID: 09-7835-01EMS	SampType: MS	TestCode: 8021_S	Run ID: TVHBTEX2_091003A	Prep Date: 10/3/2009	Units: µg/Kg						
Client ID: Cherokee Ridge	Batch ID: R50418-3	TestNo: SW8021B	FileID: TA2619.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919668						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	113.5	5.0	136	12.54	74.2	70	130	0	0		
Toluene	748.3	10	1058	25.62	68.3	70	130	0	0		S
Ethylbenzene	154.3	10	228	0	67.7	60	130	0	0		
m,p-Xylene	523.3	10	750	35.78	65	60	140	0	0		
o-Xylene	229.1	10	329.5	13.45	65.5	65	135	0	0		
Surr: 1,2,4-Trichlorobenzene (S)	455.9	0	500	0	91.2	60	140	0	0		

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Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: 8021_S

Sample ID: 09-7835-01EMSD	SampType: MSD	TestCode: 8021_S	Run ID: TVHBTEX2_091003A	Prep Date: 10/3/2009	Units: µg/Kg						
Client ID: Cherokee Ridge	Batch ID: R50418-3	TestNo: SW8021B	FileID: TA2620.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919669						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Benzene	125.5	5.0	136	12.54	83.1	70	130	113.5	10.1	30	
Toluene	828.1	10	1058	25.62	75.8	70	130	748.3	10.1	30	
Ethylbenzene	170.2	10	228	0	74.6	60	130	154.3	9.81	30	
m,p-Xylene	562.3	10	750	35.78	70.2	60	140	523.3	7.17	30	
o-Xylene	240.5	10	329.5	13.45	68.9	65	135	229.1	4.83	30	
Surr: 1,2,4-Trichlorobenzene (S)	605.7	0	500	0	121	60	140	0	0	30	

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Work Order: 09-7835

Client Project ID:

ANALYTICAL QC SUMMARY REPORT

TestCode: TVH_S

Sample ID: MB2100309-3	SampType: MBLK	TestCode: TVH_S	Run ID: TVHBTEX2_091003B	Prep Date: 10/3/2009	Units: mg/Kg						
	Batch ID: R50419-2	TestNo: SW8015B Mo	FileID: TA2616.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919680						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TVH-Gasoline	U	1.0									
Surr: 1,2,4-Trichlorobenzene (S)	508.4	0	500	0	102	60	140	0	0		

Sample ID: LCS2100309-3	SampType: LCS	TestCode: TVH_S	Run ID: TVHBTEX2_091003B	Prep Date: 10/3/2009	Units: mg/Kg						
	Batch ID: R50419-2	TestNo: SW8015B Mo	FileID: TA2617.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919681						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TVH-Gasoline	10.36	1.0	11	0	94.1	70	130	0	0		
Surr: 1,2,4-Trichlorobenzene (S)	699.7	0	500	0	140	60	140	0	0		

Sample ID: 09-7835-01EMS	SampType: MS	TestCode: TVH_S	Run ID: TVHBTEX2_091003B	Prep Date: 10/3/2009	Units: mg/Kg						
Client ID: Cherokee Ridge	Batch ID: R50419-2	TestNo: SW8015B Mo	FileID: TA2619.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919683						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TVH-Gasoline	7.895	1.0	11	1.415	58.9	62	130	0	0		S
Surr: 1,2,4-Trichlorobenzene (S)	632.5	0	500	0	126	60	140	0	0		

Sample ID: 09-7835-01EMSD	SampType: MSD	TestCode: TVH_S	Run ID: TVHBTEX2_091003B	Prep Date: 10/3/2009	Units: mg/Kg						
Client ID: Cherokee Ridge	Batch ID: R50419-2	TestNo: SW8015B Mo	FileID: TA2620.D\FID1A.CH	Analysis Date: 10/4/2009	SeqNo: 919684						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TVH-Gasoline	8.785	1.0	11	1.415	67	62	130	7.895	10.7	30	
Surr: 1,2,4-Trichlorobenzene (S)	736.2	0	500	0	147	60	140	0	0	0	S

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October 14, 2009

Todd Hutson
Quicksilver Resources Inc.
777 W. Rosedale
Fort Worth, TX 76104

Lab Work Order: 09-7835
Client Project ID:

Dear Todd Hutson:

Enclosed are the analytical results for the samples shown in the Laboratory Work Order Summary.

THE INVOICE WILL BE MAILED FROM OUR NEW JERSEY OFFICE UNDER SEPARATE COVER.

The enclosed data for testing performed at Accutest Laboratory (formerly Evergreen Analytical) have been reviewed for quality assurance. A case narrative is included to describe any anomalies associated with the samples or data.

Accutest will dispose of all samples 44 days from the sample receipt date. If you want samples returned, please advise us by mail or fax as soon as possible.

A copy of this project report and supporting data will be retained for a period of five years unless we are otherwise advised by you. A document retrieval charge will apply.

Thank you for using the services of Accutest Laboratories. If you have any questions concerning the analytical data, please contact me. Please direct other questions to Client Services.

Sincerely,



Joseph J Egry IV/ Tiffany Pham
Quality Assurance