



01733441

FORM  
27  
Rev 6/99State of Colorado  
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80203 (303)894-2100 Fax:(303)894-2109



RECEIVED

MAY 03 2010  
FOR OGCC USE ONLY

COGCC

## SITE INVESTIGATION AND REMEDIATION WORKPLAN

This form shall be submitted to the Director for approval prior to the initiation of site investigation and remediation activities. Form 27 is intended to be used whenever possible. Additional documentation will be required when large volumes of soil and groundwater have been impacted or involve large facilities with multiple source areas. See Rule 910. Attach as many pages as needed to fully describe the proposed work.

## CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

☐ Spill or Release ☐ Plug & Abandon ☐ Central Facility Closure ☒ Site/Facility Closure ☐ Other (describe):

OGCC Employee:

☐ Spill ☐ Complaint  
☐ Inspection ☐ NOAV

Tracking No:

REM #5085  
Pit Permit#1733277

OGCC Operator Number: 10071

Name of Operator: Bill Barrett Corporation

Address: 1099 18th Street, Suite 2300

City: Denver

State: CO Zip: 80202

Contact Name and Telephone:

Scot Donato

No: 303-293-9100

Fax: 303-291-0420

API Number: 05-083-06657

County: Montezuma

Facility Name: Koskie 13H-27-38-16

Facility Number: 301177 (drilling)

Well Name: Koskie

Well Number: 13H-27-38-16

Location: (QtrQtr, Sec, Twp, Rng, Meridian): SWSW, 27, 38N, 16W, NMPM Latitude: 37.51801 Longitude: -108.60878

## TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): NA

Site Conditions: Is location within a sensitive area (according to Rule 901e)? ☐ Y ☒ N If yes, attach evaluation.

Adjacent land use (cultivated, irrigated, dry land farming, industrial, residential, etc.): Rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Sharps Loam 6-12% slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Dove creek 1080' east, U Lateral Canal 290' south,

Un-named Drainage 40' west

Description of Impact (if previously provided, refer to that form or document):

Impacted Media (check):

Extent of Impact:

How Determined:

☐

Soils

☐

Vegetation

☐

Groundwater

☐

Surface Water

## REMEDATION WORKPLAN

Describe Initial action taken (if previously provided, refer to that form or document):

NA

Describe how source is to be removed:

Free fluids were removed to the extent possible by a vac truck and the remaining drill cuttings were mixed and sampled before burial at a minimum of 3 feet below grade. The pit liner was removed and disposed of at the Montezuma County Landfill.

Describe how remediation of existing impacts is to be accomplished, including removal and disposal at an injection well or licensed facility, land treatment on site, removal of impacted groundwater, in situ bioremediation, burning of oily vegetation, etc.:

BBC collected an initial background sample from the west bank of the drilling pad as well as four composites samples of the pit contents to ensure contents exhibited analyte concentrations in compliance with COGCC Table 910-1 standards. The last two composite samples were collected to ensure pH levels had been remediated to background concentrations. The composite samples were collected from three points in the pit. See attached analytical results.

Submit Page 2 with Page 1





REMEDIAL WORKPLAN (Cont.)

Tracking Number: Koskie 13H-27-38-16  
Name of Operator: drill pit closure  
OGCC Operator No: \_\_\_\_\_  
Received Date: \_\_\_\_\_  
Well Name & No: Koskie 13H-27-38-16  
Facility Name & No: Drilling 301177

Page 2

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):

NA

Describe reclamation plan. Discuss existing and new grade recontouring; method and testing of compaction alleviation; and reseeding program, including location of new seed, seed mix and noxious weed prevention. Attach diagram or drawing. Use additional sheet for description if required.

The drilling pit has been buried at sufficient depth beneath pasture land. The site has been reclaimed to a size sufficient for fracing activities. Reseeding of the reclaimed area will be conducted in the spring.

Attach samples and analytical results taken to verify remediation of impacts. Show locations of samples on an onsite schematic or drawing.

Is further site investigation required? ☐ Y ☒ N If yes, describe:

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

The drill cuttings were buried and sampled to ensure analyte concentrations were in compliance with COGCC Table 910-1 standards. The mixture was then buried at a minimum depth of 3 feet below ground surface (below the root zone) to ensure the materials did not affect future crop growth.

The pit contents pH level is above the COGCC standard at 9.21, but will be buried at a minimum of 3 ft below grade to ensure the root zone is not affected.

Arsenic concentrations are over the Table 910-1 standard, but are within the site-specific background concentrations.

See attached analytical results.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>NA</u>	Date Site Investigation Completed: <u>NA</u>	Date Remediation Plan Submitted: <u>NA</u>
Remediation Start Date: <u>6/10/09</u>	Anticipated Completion Date: <u>6/10/09</u>	Actual Completion Date: <u>6/10/09</u>

I hereby certify that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Scol Donato

Signed: [Signature]

Title: Manager EH&S

Date: 040110

OGCC Approved: [Signature]

Title: EPS II

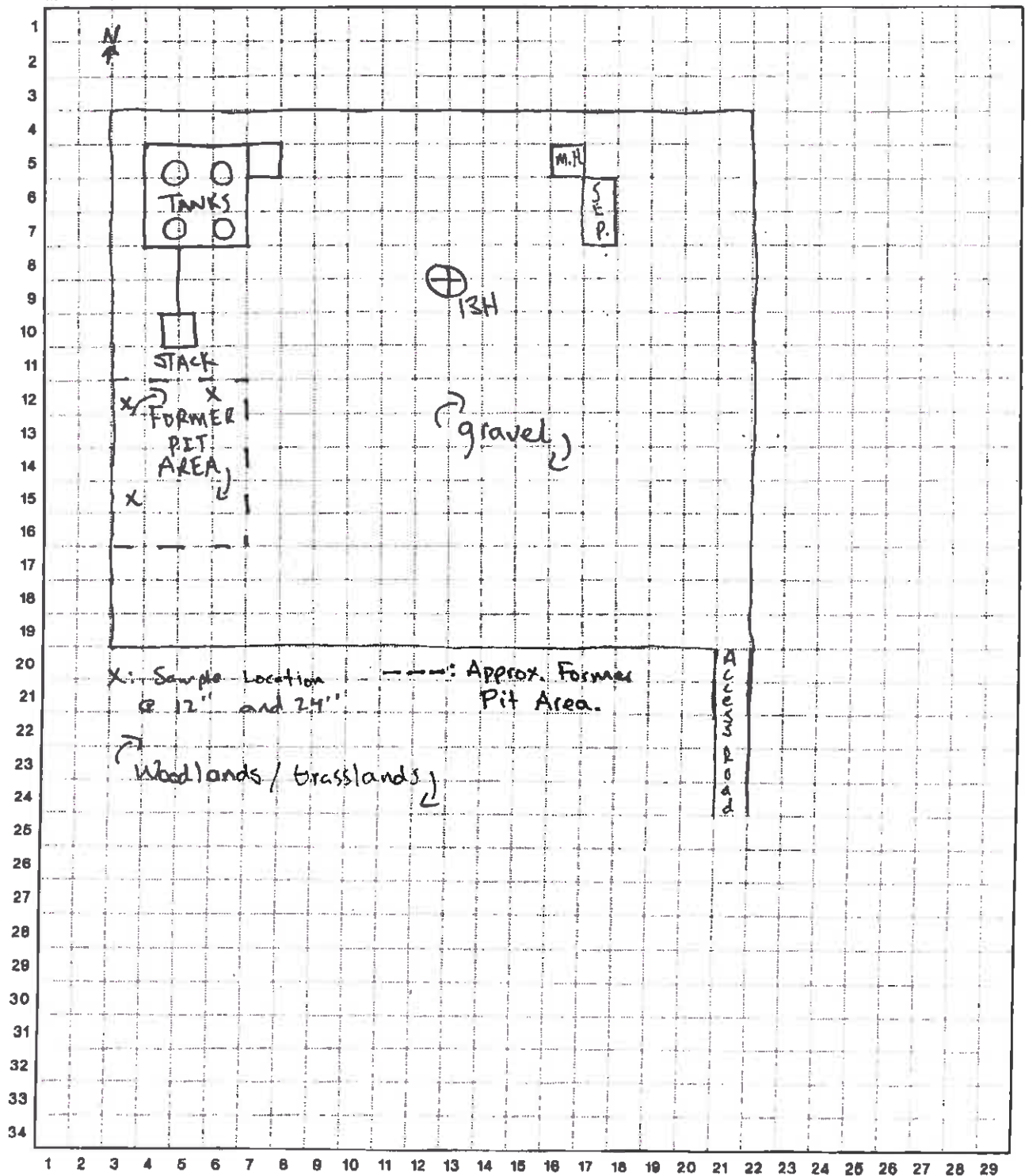
Date: 6/4/2010



PROJECT \_\_\_\_\_  
PROJECT MANAGER \_\_\_\_\_  
JOB No. \_\_\_\_\_  
LOCATION Koskie 13H

DATE \_\_\_\_\_  
CONT. No. \_\_\_\_\_  
BY \_\_\_\_\_ CHK'D \_\_\_\_\_  
SHEET No. \_\_\_\_\_ OF \_\_\_\_\_

04/10/2018 10:00 AM



**PARADOX PRODUCTION PIT SAMPLING RESULTS**  
**BILL BARRETT CORPORATION**

PARAMETER	COGCC STANDARDS	UNITS	Koskie 13H-27 BG	Koskie 13H-27 COMP	Koskie 13H-27 COMP	Koskie 13H-27 COMP 12" BGS	Koskie 13H-27 COMP 24" BGS
Sample Date			3/31/2009	3/31/2009	6/9/2009	10/29/2009	10/29/2009
Arsenic	0.39	mg/kg	11.6	22.7	3.5	—	—
Barium	15,000	mg/kg	131	3,240	1,620	—	—
Boron	2	mg/L			0.30	—	—
Cadmium	70	mg/kg	<1.0	<1.0	<0.71	—	—
Chromium (III)	120,000	mg/kg	9.1	37.5	4.1	—	—
Copper	3,100	mg/kg	7.1	17.9	5.3	—	—
Lead	400	mg/kg	9.4	13.4	<5.2	—	—
Mercury	23	mg/kg	<0.1	<0.1	<0.018	—	—
Nickel	1,600	mg/kg	10.1	15.2	5.5	—	—
Selenium	390	mg/kg	<20.0	<20.0	<7.1	—	—
Silver	390	mg/kg	<1.0	<1.0	<2.1	—	—
Zinc	23,000	mg/kg	37.0	64.4	18	—	—
EC	4.0	mmho/cm	1.73	5.82	3.58	—	—
pH	6 - 9	SU	7.59	9.55	9.31	9.01	9.21
Calcium		meq/L	15.0	3.53	—	—	—
Magnesium		meq/L	4.86	0.33	—	—	—
Sodium		meq/L	0.88	44.8	—	—	—
Calcium		mg/L			66	—	—
Magnesium		mg/L			12	—	—
Sodium		mg/L			78	—	—
SAR	12	unitless	0.28	32.3	2.3	—	—
TPHGRO		mg/kg	—	74.2	13	—	—
TPHDRO		mg/kg	—	181	37	—	—
TPHDRO Extended		mg/kg	—	<10.0	40	—	—
Total TPH	500	mg/kg	—	255.2	90	—	—
Benzene	0.17	mg/kg	—	0.065	—	—	—
Toluene	85	mg/kg	—	0.017	—	—	—
Ethylbenzene	100	mg/kg	—	<0.050	—	—	—
Total Xylenes	175	mg/kg	—	0.614	—	—	—

**NOTES:**

BGS - below ground surface

mg/kg - milligrams per kilogram

EC- electrical conductivity

mmho/cm - millimhos per cm in saturated paste extract

SU - standard unit on saturated paste

meq/L - milliequivalents per liter

mg/L - milligrams per liter

SAR - sodium adsorption ratio

TPHGRO - total petroleum hydrocarbons gasoline range organics

TPHDRO - total petroleum hydrocarbons diesel range organics

TPHDRO Extended - total petroleum hydrocarbons oil range organics

Total TPH - combination of TPHGRO, TPHDRO, and TPHDRO extended.

< - less than the stated reporting limit

— not analyzed

**BOLD** - Indicates result is above the Colorado Oil and Gas Conservation Commission Standard

Samples with the BG suffix denote background samples.

Samples with the COMP suffix denote composite samples from the pit.

Benzene, toluene, ethylbenzene, and total xylenes run when total TPH exceeded 100 mg/kg.

Polycyclic aromatic hydrocarbons (PAHs) were analyzed when TPHDRO and TPHDRO Extended exceeded 500 mg/kg.



Koskie 13H-27-38-16 Analytical Results  
3/31/2009

**Green Analytical Laboratories**  
**75 Suttle Street**  
**Durango, CO 81303**

LT Environmental  
PO Box 874  
Bayfield, CO 81122  
Attention: Travis Laverty

**PROJECT NAME:** Barrett Soil  
**PROJECT NUMBER:** BBC0901  
**SAMPLE I.D.:** Koskie 13H BG

**GAL I.D.:** 903-150-01

Date Received: 03/31/09

Date Reported: 04/21/09

QC Batches:

Sample Date: 03/31/09

Sample Matrix: Soil

Units: mg/kg

## RCRA Metals

### RESULTS

PARAMETER	METHOD	REPORT		DILUTION	DATE	
		LIMIT	RESULT		ANALYZED	ANALYST
Arsenic	6010B	10.0	11.6	100	04/08/09	jm
Barium	6010B	1.0	131	100	04/08/09	jm
Boron	6010B	10.0	15.7	100	04/08/09	jm
Cadmium	6010B	1.0	<1.0	100	04/08/09	jm
Chromium	6010B	1.0	9.1	100	04/08/09	jm
Copper	6010B	2.0	7.1	100	04/08/09	jm
Lead	6010B	5.0	9.4	100	04/08/09	jm
Mercury	7471A	0.1	<0.1	500	04/09/09	jm
Nickel	6010B	2.0	10.1	100	04/08/09	jm
Selenium	6010B	20.0	<20.0	100	04/08/09	jm
Silver	6010B	1.0	<1.0	100	04/08/09	jm
Zinc	6010B	5.0	37.0	100	04/08/09	jm

**Green Analytical Laboratories**  
**75 Suttle Street**  
**Durango, CO 81303**

LT Environmental  
PO Box 874  
Bayfield, CO 81122  
Attention: Travis Lavery

**PROJECT NAME:** Barrett Soil  
**PROJECT NUMBER:** BBC0901  
**SAMPLE I.D.:** Koskie 13H BG

**GAL I.D.:** 903-150-01

Date Received: 03/31/09

Date Reported: 04/21/09

QC Batches:

Sample Date: 03/31/09

Sample Matrix: Soil

## Laboratory Report

### **RESULTS**

PARAMETER	METHOD	REPORT		UNITS
		LIMIT	RESULT	
EC	2510B	1.0	1.73	mmho/cm on Sat. Paste Ext
pH	150.1	NA	7.59	SU on Sat. Paste
Calcium	200.7	0.5	15.0	meq/L
Magnesium	200.7	0.5	4.86	meq/L
Sodium	200.7	0.5	0.88	meq/L
SAR	Calc.		0.28	

---

Debbie Zufelt, Laboratory Manager

**Green Analytical Laboratories**  
**75 Suttle Street**  
**Durango, CO 81303**

LT Environmental  
PO Box 874  
Bayfield, CO 81122  
Attention: Travis Lavery

**PROJECT NAME:** Barrett Soil  
**PROJECT NUMBER:** BBC0901  
**SAMPLE I.D.:** Koskie 13H BG

**GAL I.D.:** 903-150-01

Date Received: 03/31/09

Date Reported: 04/21/09

QC Batches:

Sample Date: 03/31/09

Sample Matrix: Soil

## Petroleum Hydrocarbons

### RESULTS

PARAMETER	METHOD	REPORT		DIL	UNITS
		LIMIT	RESULT		
TPHGRO	8015	10	Attached	1	mg/kg
TPHDRO	8015	10	Attached	1	mg/kg
TPHDROExtended	8015	10	Attached	1	mg/kg



**Green Analytical Laboratories**  
**75 Suttle Street**  
**Durango, CO 81303**

LT Environmental  
PO Box 874  
Bayfield, CO 81122  
Attention: Travis Lavery

**PROJECT NAME:** Barrett Soil  
**PROJECT NUMBER:** BBC0901  
**SAMPLE I.D.:** Koskie 13H Composite

**GAL I.D.:** 903-150-02

**Date Received:** 03/31/09

**Date Reported:** 04/21/09

QC Batches:

**Sample Date:** 03/31/09

**Sample Matrix:** Soil

**Units:** mg/kg

## RCRA Metals

### RESULTS

PARAMETER	METHOD	REPORT		DILUTION	DATE	
		LIMIT	RESULT		ANALYZED	ANALYST
Arsenic	6010B	10.0	22.7	100	04/08/09	jm
Barium	6010B	1.0	3240	100	04/08/09	jm
Boron	6010B	10.0	23.5	100	04/08/09	jm
Cadmium	6010B	1.0	<1.0	100	04/08/09	jm
Chromium	6010B	1.0	37.5	100	04/08/09	jm
Copper	6010B	2.0	17.9	100	04/08/09	jm
Lead	6010B	5.0	13.4	100	04/08/09	jm
Mercury	7471A	0.1	<0.1	500	04/09/09	jm
Nickel	6010B	2.0	15.2	100	04/08/09	jm
Selenium	6010B	20.0	<20.0	100	04/08/09	jm
Silver	6010B	1.0	<1.0	100	04/08/09	jm
Zinc	6010B	5.0	64.4	100	04/08/09	jm

---

Debbie Zufelt, Laboratory Manager

**Green Analytical Laboratories**  
**75 Suttle Street**  
**Durango, CO 81303**

LT Environmental  
PO Box 874  
Bayfield, CO 81122  
Attention: Travis Lavery

**GAL I.D.:** 903-150-02

Date Received: 03/31/09

Date Reported: 04/21/09

QC Batches:

**PROJECT NAME:** Barrett Soil  
**PROJECT NUMBER:** BBC0901  
**SAMPLE I.D.:** Koskie 13H Composite

Sample Date: 03/31/09

Sample Matrix: Soil

## Laboratory Report

### **RESULTS**

PARAMETER	METHOD	REPORT LIMIT	RESULT	UNITS
EC	2510B	1.0	5.82	nmho/cm on Sat. Paste Ex
pH	150.1	NA	9.55	SU on Sat. Paste
Calcium	200.7	0.5	3.53	meq/L
Magnesium	200.7	0.5	0.33	meq/L
Sodium	200.7	0.5	44.8	meq/L
SAR	Calc.		32.3	

---

Debbie Zufelt, Laboratory Manager

**Green Analytical Laboratories**  
**75 Suttle Street**  
**Durango, CO 81303**

LT Environmental  
PO Box 874  
Bayfield, CO 81122  
Attention: Travis Lavery

**PROJECT NAME:** Barrett Soil  
**PROJECT NUMBER:** BBC0901  
**SAMPLE I.D.:** Koskie 13H Composite

**GAL I.D.:** 903-150-02

Date Received: 03/31/09

Date Reported: 04/21/09

QC Batches:

Sample Date: 03/31/09

Sample Matrix: Soil

## Petroleum Hydrocarbons

### RESULTS

PARAMETER	METHOD	REPORT		DIL	UNITS
		LIMIT	RESULT		
TPHGRO	8015	10	Attached	1	mg/kg
TPHDRO	8015	10	Attached	1	mg/kg
TPHDROExtended	8015	10	Attached	1	mg/kg



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

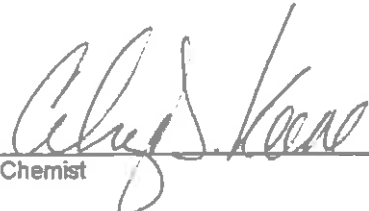
ANALYTICAL RESULTS FOR  
GREEN ANALYTICAL LABORATORIES, INC.  
ATTN: DEBBIE ZUFELT  
75 SUTTLE STREET  
DURANGO, CO 81303

Receiving Date: 04/02/09  
Reporting Date: 04/06/09  
Project Number: 903-150-01 THRU 09  
Project Name: LTE  
Project Location: NOT GIVEN

Sampling Date: 03/31/09  
Sample Type: SOIL/SEDIMENT  
Sample Condition: COOL & INTACT  
Sample Received By: CK  
Analyzed By: AB

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	DRO EXT. (>C <sub>28</sub> -C <sub>35</sub> ) (mg/kg)
ANALYSIS DATE:		04/03/09	04/03/09	04/03/09
H17181-1	KOSKIE 13H-BG	<10.0	<10.0	<10.0
H17181-2	KOSKIE 13H-COMP.	74.2	181	<10.0
Quality Control		557	554	-
True Value QC		500	500	-
% Recovery		111	111	-
Relative Percent Difference		3.9	9.2	-

METHODS: TPH GRO & DRO - EPA SW-846 8015 M

  
Cheryl Keane  
Chemist

  
04/06/09  
Date

H17181 TPHE GAL

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



## CHAIN OF CUSTODY RECORD

Page \_\_\_\_ of \_\_\_\_

Client: GREEN ANALYTICAL  
 Contact: DEBBIE ZUFELT  
 Address: 75 SUTTLE ST  
DURANGO, CO 81303  
 Phone Number: 970-247-4220  
 FAX Number: 970-247-4227

### NOTES:

- 1) Ensure proper container packaging.
- 2) Ship samples promptly following collection.
- 3) Designate Sample Reject Disposition.

PO# GA09-071

Project Name: LTE

### Table 1. - Matrix Type

- 1 = Surface Water, 2 = Ground Water  
 3 = Soil/Sediment, 4 = Rinsate, 5 = Oil  
 6 = Waste, 7 = Other (Specify) \_\_\_\_\_

FOR GAL USE ONLY

GAL JOB # \_\_\_\_\_

Samplers Signature: \_\_\_\_\_

PLEASE CALL WITH ANY QUESTIONS

Lab Name: Green Analytical Laboratories (970) 247-4220 FAX (970) 247-4227										Analyses Required										Comments			
Address: 75 Suttle Street, Durango, CO 81303																							
Sample ID	Collection		Miscellaneous			Preservative(s)																	
	Date	Time	Collected by: (Init.)	Matrix Type From Table 1	No. of Containers	Sample Filtered Y/N	Unpreserved (Ice Only)	HNO3	HCL	H2SO4	NAOH	Other (Specify)	Full TPH	Hold sample for possible GTEX 8021	PAH								
117181-																							
1. Koskie 13H-BG	3-31-09	1115	TL	3	1		X						X	X					903-150-01				
2. Koskie 13H-Comp		1125/1130			2													Please Composite.	-02				
3. Koskie 15H-BG		1155			1														-03				
4. Koskie 15H-Comp		1200/1205 1250			3													Please Composite	-04				
5. Fosnot 13H-6-BG		1300			1														-05				
6. Nealey 13H-7-BG		1315			1														-06				
7. Nealey 13H-7-Comp		1320/1325			2													Please Composite	-07				
8. Johnson 16H-12-BG		1235			1														-08				
9. Johnson 16H-12-Comp		1237/1240			2								X	X				Please Composite	-09				
10.																							

Relinquished by: <u>Debbie Zufelt</u>	Date: <u>4-1-09</u>	Time: <u>1600</u>	Received by: <u>Chloe Keane</u>	Date: <u>4/2/09</u>	Time: <u>10:30</u>
---------------------------------------	---------------------	-------------------	---------------------------------	---------------------	--------------------

\* Sample Reject: [ ] Return [ ] Dispose [ ] Store (30 Days)

0 CFI 7.0°C #26





PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

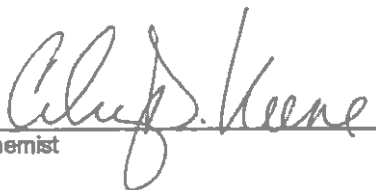
ANALYTICAL RESULTS FOR  
GREEN ANALYTICAL LABORATORIES, INC.  
ATTN: DEBBIE ZUFELT  
75 SUTTLE STREET  
DURANGO, CO 81303

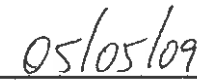
Receiving Date: 04/02/09  
Reporting Date: 05/05/09\*  
Project Number: 903-150-02, 04, 07, 09\*  
Project Name: LTE  
Project Location: NOT GIVEN

Sampling Date: 03/31/09  
Sample Type: SOIL/SEDIMENT  
Sample Condition: COOL & INTACT  
Sample Received By: CK  
Analyzed By: AB

LAB NO.	SAMPLE ID	GRO (C <sub>6</sub> -C <sub>10</sub> ) (mg/kg)	DRO (>C <sub>10</sub> -C <sub>28</sub> ) (mg/kg)	DRO EXT. (>C <sub>28</sub> -C <sub>35</sub> ) (mg/kg)
ANALYSIS DATE:		04/03/09	04/03/09	04/03/09
H17181-2	KOSKIE 13H-COMP.	74.2	181	<10.0
Quality Control		557	554	-
True Value QC		500	500	-
% Recovery		111	111	-
Relative Percent Difference		3.9	9.2	-

METHODS: TPH GRO & DRO - EPA SW-846 8015 M  
\*Revised Report

  
Chemist

  
Date

H17181 TPHE GAL

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Results relate only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.



# ARDINAL LABORATORIES

PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR  
GREEN ANALYTICAL LABORATORIES, INC.  
ATTN: DEBBIE ZUFELT  
75 SUTTLE STREET  
DURANGO, CO 81303

Receiving Date: 04/02/09  
Reporting Date: 05/13/09  
Project Number: 903-150-02, 07, 09\*  
Project Name: LTE  
Project Location: NOT GIVEN

Sampling Date: 03/31/09\*  
Sample Type: SOIL/SEDIMENT  
Sample Condition: COOL & INTACT  
Sample Received By: CK  
Analyzed By: ZL

LAB NO.	SAMPLE ID	BENZENE (mg/kg)	TOLUENE (mg/kg)	ETHYL- BENZENE (mg/kg)	TOTAL XYLENES (mg/kg)
ANALYSIS DATE:		05/13/09	05/13/09	05/13/09	05/13/09
H17181-2	KOSKIE 13H-COMP.	0.065	0.017	<0.050	0.614
Quality Control		0.053	0.049	0.051	0.159
True Value QC		0.050	0.050	0.050	0.150
% Recovery		106	98.0	102	106
Relative Percent Difference		1.8	1.9	11.5	1.2

METHODS: BTEX - SW-846 8021B.

\*Analyzed outside EPA recommended hold time of 14 days.

TEXAS NELAP ACCREDITATION T104704398-08-TX FOR BENZENE, TOLUENE, ETHYL BENZENE,  
AND TOTAL XYLENES.

Chemist

Date

H17181 BTEX GAL

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising, whether based in contract or tort, shall be limited to the amount paid by client for analyses. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within thirty (30) days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including, without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above-stated reasons or otherwise. Result relates only to the samples identified above. This report shall not be reproduced except in full with written approval of Cardinal Laboratories.

**Koskie 13H-27-38-16 Analytical Results**  
**6/9/2009**

# WORK ORDER Summary

Evergreen Analytical, Inc.

09-4144

Rpt To: Brian Dodek  
LT Environmental  
4600 W 60th Ave  
Arvada, CO 80003  
(303) 962-5535

Email To: bdodek@ltenv.com

7/1/2009 12:24:46 PM

Client Project ID: BBC0901.01

QC Level: LEVEL I

Comments Hold Samples. Analyze BTEX when combined GRO, DRO & ORO are > than 100 mg/Kg. Analyze PAH when DRO and ORO are > 500 mg/Kg.

Sample ID	Client Sample ID	Matrix	Collection Date	Date Received	Test Code	Test Name	Hold	MS	Date Due	Hold Time
09-4144-01A	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	6010_D *	6010: Dissolved Metals	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	12/06/09
09-4144-01A	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	COND_S	Specific Conductance @ 25°C	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	7/07/09
09-4144-01A	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	SAR_S	Sodium Adsorption Ratio, Soil Leachate	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	12/06/09
09-4144-01B	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	PH_S	9045C: pH	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	6/10/09
09-4144-01C	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	6010_CR6S	6010: Hexavalent Chromium, Soil	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	7/09/09
09-4144-01C	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	6010_S *	6010: Soil/Solids	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	12/06/09
09-4144-01C	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	6020_S *	6020 Metals, Soil/Solid	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	12/06/09
09-4144-01C	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	7471_S	7471: Mercury Solid	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	7/07/09
09-4144-01C	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	TRI_CRS	Trivalent Chromium Calculation, Soil Basis	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	12/06/09
09-4144-01D	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	200.7_SBORON	Hot-Water-Soluble Boron, Leachate Basis	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	12/06/09
09-4144-01E	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	LDNR True Total Barium	LDNR True Total Barium	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	6/23/09
09-4144-01F	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	TVH_S *	8015: TVH-Gasoline	<input type="checkbox"/>	<input type="checkbox"/>	6/15/09	6/23/09
09-4144-01G	Koskie 13H-27 COMP	Soil	6/09/09 0915	6/10/09	TEH_S *	8015: TEH-Fuel ID	<input type="checkbox"/>	<input type="checkbox"/>	6/24/09	6/23/09

# ACCOUNTTEST

**4405 Vineland Rd., Suite C15  
Orlando, FL 32811  
407.425.6700, fax 407.425.0707**

Accutest Control #:

[illegible]

WO# 09-4144 BOF# 20  
C/S (O) Ya C/S (I) - / 099  
Seals present Y/N/NA Intact Y/N  
Pres Y/N/NA Hd Sp Y/N/NA Loc  
Temp (C) 9.4 Container By JWA

Turnaround Information		Data Deliverable Information		Comments / Remarks
<input type="checkbox"/> 21 Day Standard	Approved By: _____	<input type="checkbox"/> NJ Reduced	<input type="checkbox"/> Commercial "A"	<b>Evergreen Quote 10914</b>  <b>Metals: Cadmium, Chromium, Copper, Lead, Mercury, Nickel, Selenium, Silver, Zinc</b>  <b>OLD SAC</b> <b>100 mg</b>
<input type="checkbox"/> 14 Day	_____	<input type="checkbox"/> NJ Full	<input checked="" type="checkbox"/> Commercial "B"	
<input type="checkbox"/> 7 Days <b>EMERGENCY</b>	_____	<input type="checkbox"/> FULL CLP	<input type="checkbox"/> ASP Category B	
<input checked="" type="checkbox"/> Other <u>2</u> (Days)	_____	<input type="checkbox"/> Disk Deliverable	<input type="checkbox"/> State Forms	
<b>RUSH TAT is for FAX data unless previously approved.</b>		<input checked="" type="checkbox"/> Other (Specify) _____	<b>Report by 6/5/09</b>	

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

Sample Custody must be documented below each time samples change possession, including courier delivery.					
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 <i>Tenn</i>	6-09-09 1500	1 <i>Woril</i>	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3 <i>6/10/9</i> <i>930A</i>	4		4
Relinquished by Sampler:	Date Time:	Received By:	Seal #	Preserved when applicable	On Ice:
5		5		<input type="checkbox"/>	<input type="checkbox"/>



**Evergreen Analytical, Inc.****Date: 26-Jun-09****Lab Order: 09-4144****Client Project ID BBC0901.01****CASE NARRATIVE****SAMPLE RECEIVING**

Custody seals were present and intact.

The temperature of the sample(s) upon arrival was 9.4°C. The temperature of the sample(s) at receipt exceeded the EPA requirement of less than 6.0°C.

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

The pH sample was received out 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. TP

**CLIENT SERVICES**

Standard 10 working day turnaround time confirmed with client. Chromium (Tri & Hex) were analyzed according to the quote referenced in comments. There are no other anomalies to report. PM

**GENERAL CHEMISTRY**

Method SW9045 C: The pH analysis was done outside of the 24-hour holding time for RCRA sample (H). There are no other anomalies to report. MM/TP

**METALS ANALYSIS**

Method GUPTA: The matrix spike and matrix spike duplicate (MS/MSD; on another client's sample) recoveries of Boron is below the QC limits. The recovery for the laboratory control spike (LCS) is within QC limits, proving the analysis is in control. There are no other anomalies to report. MB/SS/TP/JE

Method SW6010B Cr6: The matrix spike, matrix spike duplicate, and post digestion spike (MS/MSD/PDS; on another client's sample) 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. There are no other anomalies to report. MB/SS/TP/JE

**Evergreen Analytical, Inc.****Date:** 26-Jun-09**Lab Order:** 09-4144**Client Project ID** BBC0901.01**CASE NARRATIVE**

Method 6010 soils: Copper was detected in the method blank (MB) at 1.1 mg/Kg. This amount was not subtracted from the sample result. The sample result for Copper was at a similar level as seen in the MB and could be considered laboratory contamination. There are no other anomalies to report. TP/JE

**GAS CHROMATOGRAPHY**

Method TVH\_S: The surrogate recovery for sample Koskie 3H-27 COMP (09-4144-01F) is above the QC limit due to coeluting interference. This does not affect the analysis of the target analytes, which elute before the interference. All quality control spikes associated with this project are within QC limits. There are no other anomalies to report. JCC

Method TEH\_S: The sample indicated tailing in the diesel range and lighter material in the motor oil range. The results for diesel and motor oil may be overstated due to the overlap of the diesel and motor oil patterns. There are no other anomalies to report. AS/JM

JUN 26 2009

005

**Evergreen Analytical, Inc.**

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

PO Number: 9102

**Outside Laboratory:**

Hazen Research, Inc.  
4601 Indiana St  
Golden, CO 80403

TEL: (303) 279-4501  
FAX: (303) 278-1528

Acct #:

**CHAIN-OF-CUSTODY RECORD**

Page 1 of 1

**WorkOrder: 09-4144****10-Jun-09**

Sample ID	Matrix	Collection Date	Bottle Type	CDNR Requested Tests							
				BARIUM							
09-4144-01E	Soil	6/9/2009 9:15:00 AM	4WM	1							

**Comments:**

Relinquished by: <u>Ki Zi</u>	Date/Time: <u>6-11-09 2:15</u>	Received by: <u>Diane Tipton</u>	Date/Time: <u>6-11-09 1415</u>
Relinquished by: _____	Received by: _____	Received by: _____	

JUN 26 2009

006



**Hazen Research, Inc.**  
4601 Indiana Street  
Golden, CO 80403 USA  
Tel: (303) 279-4501  
Fax: (303) 278-1528

DATE June 25, 2009  
HRI PROJECT 009-93  
HRI SERIES NO F236/09  
DATE REC'D. 6/11/2009  
CUST. P.O.# 9102

Evergreen Analytical, Inc.  
Carl Smits  
4036 Youngfield  
Wheat Ridge, CO 80033

## REPORT OF ANALYSIS

SAMPLE NO. F236/09-1


SAMPLE IDENTIFICATION: 09-4144-01E - Soil - Sampled on 06/09/2009 @ 0915 - Reported on dry basis

PARAMETER	RESULT	DETECTION LIMIT	METHOD	ANALYSIS DATE	ANALYST
Barium, mg/kg	1620	10	LDNR	6/18/2009	RG

Results reported herein relate only to discrete samples submitted by the client. Hazen Research, Inc. does not warrant that the results are representative of anything other than the samples that were received in the laboratory.

CODES: (T) = Total (D) = Dissolved (S) = Suspended (R) = Total Recoverable  
(PD) = Potentially Dissolved < = Less Than

By:

  
Robert Rostad  
Laboratory Manager

Page 1 of 1

**Evergreen Analytical, Inc.**

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

Client Sample ID: Koskie 13H-27 COMP  
Client Project ID: BBC0901.01  
Date Collected: 6/9/09 0915  
Date Received: 6/10/09

Lab Work Order 09-4144  
Lab Sample ID: 09-4144-01  
Sample Matrix: Soil

**SPECIFIC CONDUCTANCE @ 25°C****Method: Dept of Ag.****Prep Method:****Comments:** Method: US Dept. of Ag, Handbook #60, p89

Date Prepared: 6/17/09

Lab File ID: 1

Dilution Factor: 1

Date Analyzed: 6/23/09

Lab Fraction ID: 09-4144-01A

Analytes	CAS Number	Result	LQL	Units
Specific Conductance		3580	1.00	µmhos/cm

**PH****Method: SW9045C****Prep Method:**

Date Prepared: 6/10/09

Dilution Factor: 1

Date Analyzed: 6/10/09 1610

Lab Fraction ID: 09-4144-01B

Analytes	CAS Number	Result	LQL	Units
pH		9.31 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: 7/1/2009



**Evergreen Analytical, Inc.**4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
(303) 425-6021Client Sample ID: Koskie 13H-27 COMP  
Client Project ID: BBC0901.01  
Date Collected: 6/9/09  
Date Received: 6/10/09Lab Work Order 09-4144  
Lab Sample ID: 09-4144-01  
Sample Matrix: Soil**HOT-WATER-SOLUBLE BORON, SOIL BASIS**

Method: GUPTA

Prep Method: SW1311,2/3010A

Date Prepared: 6/19/09  
Date Analyzed: 6/22/09Lab File ID: 062109PM  
Method Blank: MB-19574Dilution Factor: 1  
Lab Fraction ID: 09-4144-01D

Analytes	CAS Number	Result	LQL	Units
Boron	7440-42-8	0.30	0.010	mg/L

**6010 HEXAVALENT CHROMIUM, SOIL (3060AMOD DIGEST)**

Method: SW6010B Cr6

Prep Method: 3060A\_MOD

Date Prepared: 6/18/09  
Date Analyzed: 6/20/09Lab File ID: 061909PM  
Method Blank: MB-19553Dilution Factor: 1  
Lab Fraction ID: 09-4144-01C

Analytes	CAS Number	Result	LQL	Units
Chromium, Hexavalent	18540-29-9	U	1.8	mg/Kg

**DISSOLVED METALS**

Method: SW6010B

Prep Method: E200.7/SW3010A

Date Prepared: 6/22/09  
Date Analyzed: 6/23/09Lab File ID: 062209PM  
Method Blank: MB-19599Dilution Factor: 1  
Lab Fraction ID: 09-4144-01A

Analytes	CAS Number	Result	LQL	Units
Calcium	7440-70-2	66	0.39	mg/L
Magnesium	7439-95-4	12	0.15	mg/L
Sodium	7440-23-5	78	0.40	mg/L



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: 7/1/2009

**Evergreen Analytical, Inc.**4036 Youngfield Street, Wheat Ridge, Colorado 80033-3862  
(303) 425-6021Client Sample ID: Koskie 13H-27 COMP  
Client Project ID: BBC0901.01  
Date Collected: 6/9/09  
Date Received: 6/10/09Lab Work Order: 09-4144  
Lab Sample ID: 09-4144-01  
Sample Matrix: Soil**METALS**

Method: SW6010B

Prep Method: SW3050B

Date Prepared: 6/19/09  
Date Analyzed: 6/22/09Lab File ID: 062109PM  
Method Blank: MB-19565Dilution Factor: 1  
Lab Fraction ID: 09-4144-01C

Analytes	CAS Number	Result	LQL	Units
Cadmium	7440-43-9	U	0.71	mg/Kg
Chromium	7440-47-3	4.1	0.71	mg/Kg
Copper	7440-50-8	5.3 B	0.36	mg/Kg
Lead	7439-92-1	U	5.2	mg/Kg
Nickel	7440-02-0	5.5	2.1	mg/Kg
Selenium	7782-49-2	U	7.1	mg/Kg
Silver	7440-22-4	U	2.1	mg/Kg
Zinc	7440-66-6	18	2.1	mg/Kg

**TOTAL METALS**

Method: SW6020

Prep Method: SW3050B

Date Prepared: 6/19/09  
Date Analyzed: 6/22/09Lab File ID: 090622A.B\063SMPL.D  
Method Blank: MB-19566Dilution Factor: 1  
Lab Fraction ID: 09-4144-01C

Analytes	CAS Number	Result	LQL	Units
Arsenic	7440-38-2	3.5	0.14	mg/Kg

**MERCURY**

Method: SW7471A

Prep Method: SW7471A

Date Prepared: 6/18/09  
Date Analyzed: 6/18/09Lab File ID: 61809  
Method Blank: MB-19554Dilution Factor: 1  
Lab Fraction ID: 09-4144-01C

Analytes	CAS Number	Result	LQL	Units
Mercury	7439-97-6	U	0.018	mg/Kg



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: 7/1/2009

**Evergreen Analytical, Inc.**

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

Client Sample ID: Koskie 13H-27 COMP  
Client Project ID: BBC0901.01  
Date Collected: 6/9/09  
Date Received: 6/10/09

Lab Work Order 09-4144  
Lab Sample ID: 09-4144-01  
Sample Matrix: Soil

**SODIUM ADSORPTION RATIO, SOIL****Method: USDA****Prep Method:**

Date Prepared: 6/22/09  
Date Analyzed: 6/23/09

Dilution Factor: 1  
Lab Fraction ID: 09-4144-01A

Analytes	CAS Number	Result	LQL	Units
Sodium-Adsorption-Ratio		2.3	0.10	ratio

**TRIVALENT CHROMIUM, CALCULATED, SOIL BASIS****Method: CalcCr+3****Prep Method:**

Date Prepared: 6/19/09  
Date Analyzed: 6/23/09

Dilution Factor: 1  
Lab Fraction ID: 09-4144-01C

Analytes	CAS Number	Result	LQL	Units
Chromium+3 Calculated	16065-83-1	4.1	0.30	mg/Kg

  
\_\_\_\_\_  
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: 7/1/2009

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

Client Sample ID: Koskie 13H-27 COMP  
Client Project ID: BBC0901.01  
Date Collected: 6/9/2009  
Date Received: 6/10/2009

Lab Work Order 09-4144  
Lab Sample ID: 09-4144-01F  
Sample Matrix: Soil

**TOTAL VOLATILE HYDROCARBONS**

**Method: SW8015B MOD**

**Prep Method: SW5035**

Date Prepared: 6/12/2009

Lab File ID: 061209\TA690

Dilution Factor: 5

Date Analyzed: 6/12/2009

Method Blank: MB2061209

Analytes	CAS Number	Result	LQL	Units
TVH-Gasoline	86290-81-5	13	1.0	mg/Kg
Surr: 1,2,4-Trichlorobenzene (S)	120-82-1	243 S	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.

**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:** LQL - Lower Quantitation Limit  
Surr - Surrogate

Print Date: 7/1/2009

Signal #1 : E:\DATA\061209\TA690.D\FID1A.CH Vial: 10  
Signal #2 : E:\DATA\061209\TA690.D\FID2B.CH  
Acq On : 12 Jun 2009 8:56 pm Operator: laurac  
Sample : 09-4144-01F Inst : TVHBTEX2  
Misc : ,SAMP,8021\_S,TVH\_S,5,(GC,GTA33,,,,,5 Multiplr: 1.00  
IntFile Signal #1: TVH1.E IntFile Signal #2: FB2.E  
Quant Time: Jun 15 8:16 2009 Quant Results File: TW20526.RES

013

Quant Method : C:\MSDCHEM\1\METHODS\TW20526.M (Chemstation Integrator)  
Title : 8015B/8021B TVH/BTEX  
Last Update : Tue Jun 09 14:44:31 2009  
Response via : Multiple Level Calibration  
DataAcq Meth : TVB2.M

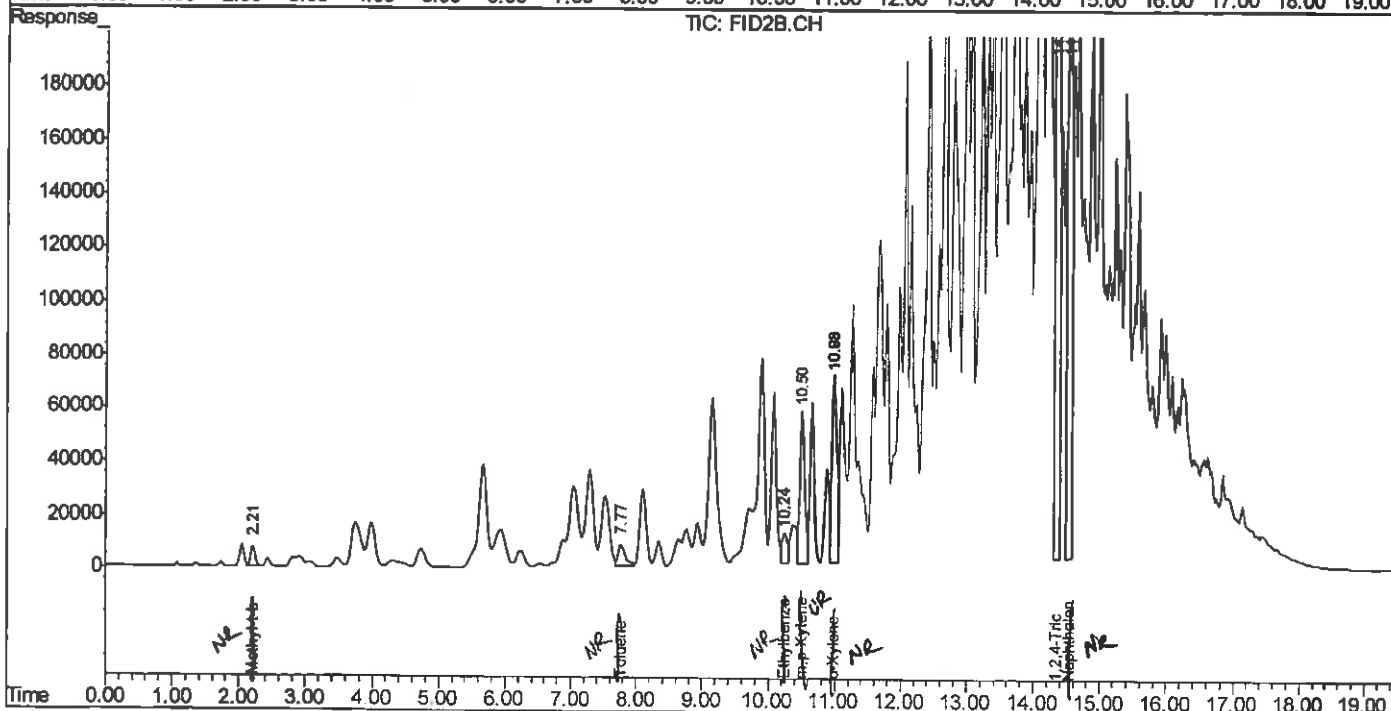
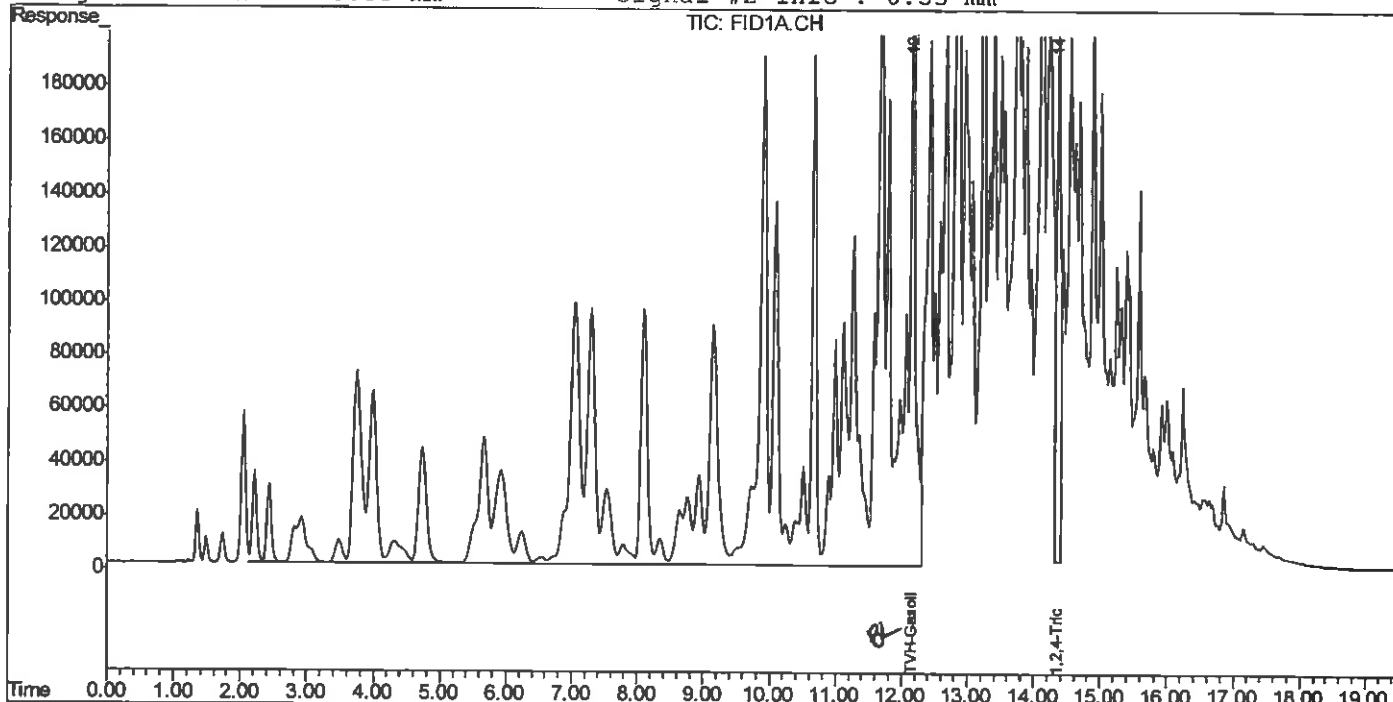
Volume Inj. :

Signal #1 Phase : DB-624

Signal #2 Phase: DB-624

Signal #1 Info : 0.53 mm

Signal #2 Info : 0.53 mm





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

Client Sample ID: Koskie 13H-27 COMP  
Client Project ID: BBC0901.01  
Date Collected: 6/9/2009  
Date Received: 6/10/2009

Lab Work Order 09-4144  
Lab Sample ID: 09-4144-01G  
Sample Matrix: Soil

**TOTAL EXTRACTABLE HYDROCARBONS**

**Method: SW8015B MOD**

**Prep Method: SW3550B**

Date Prepared: 6/11/2009

Lab File ID: GFE23\FE074.D

Dilution Factor: 1

Date Analyzed: 6/12/2009

Method Blank: MB-19467

Analytes	CAS Number	Result	LQL	Units
Diesel Fuel (No. 2)	68334-30-5	37	14	mg/Kg
Gasoline	86290-81-5	U	20	mg/Kg
Jet A	64742-47-8	U	14	mg/Kg
Motor Oil		40	33	mg/Kg
Surr: TBB	98-06-6	61	QC Limits: 39-130	%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.

**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:** LQL - Lower Quantitation Limit  
Surr - Surrogate

Print Date: 7/1/2009

Data File : E:\DATA\GFE23\FE074.D

Vial: 38

Acq On : 12 Jun 2009 4:52 am

Operator: adams1

Sample : 09-4144-01G

Inst : FID6

Misc : ,SAMP,TEH\_S,1,BATCH 19467

Multiplr: 1.00

IntFile : DF060209.E

Quant Time: Jun 12 8:28 2009 Quant Results File: DF060209.RES

Quant Method : C:\MSDCHEM\1\METHODS\DF060209.M (Chemstation Integrator)

Title : 8015B TEH

Last Update : Tue Jun 02 10:19:46 2009

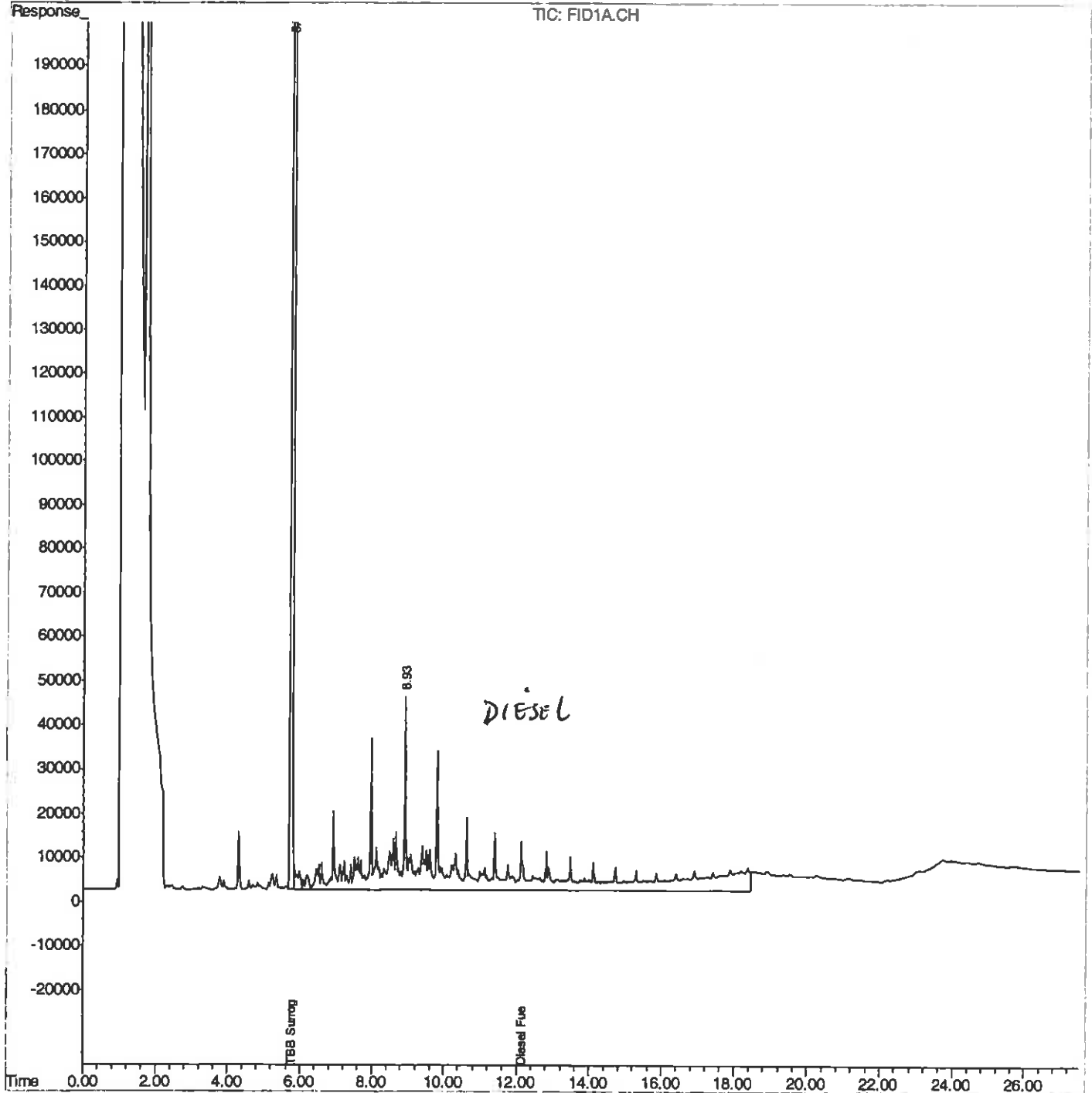
Response via : Multiple Level Calibration

DataAcq Meth : FR\_BASE.M

Volume Inj. : 1ul

Signal Phase : RTX-5

Signal Info : 530um



Data File : E:\DATA\GFE25\FE149.D  
Acq On : 17 Jun 2009 1:03 pm  
Sample : 09-4144-01G  
Misc : ,SAMP,TEH\_S,1,BATCH 19467  
IntFile : DF031709.E

Vial: 48  
Operator: adams1  
Inst : FID6  
Multiplr: 1.00

Quant Time: Jun 17 14:00 2009 Quant Results File: MF061509.RES

Quant Method : C:\MSDCHEM\1\METHODS\MF061509.M (Chemstation Integrator)

Title : 8015B TEH

Last Update : Mon Jun 15 14:33:57 2009

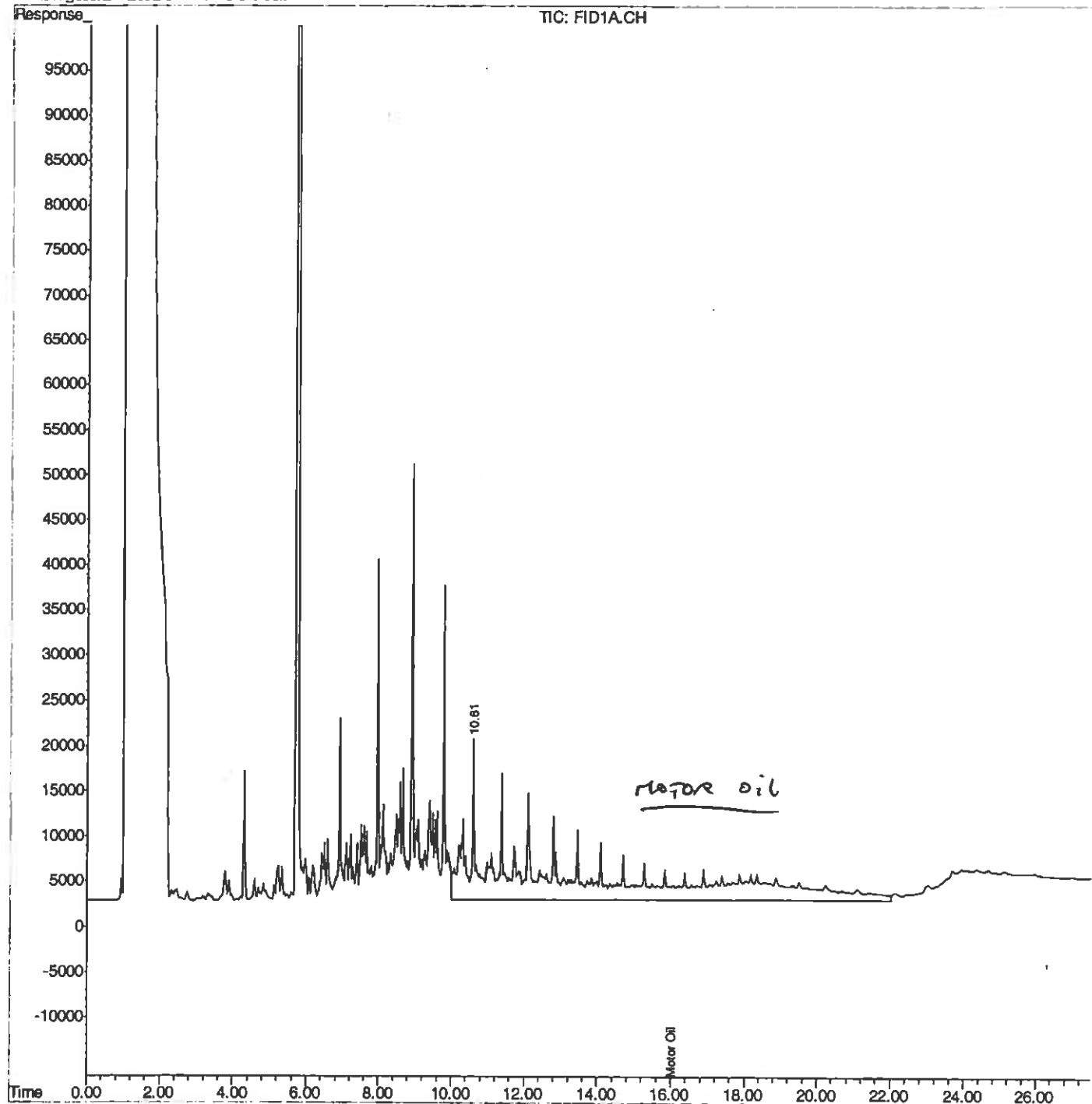
Response via : Multiple Level Calibration

DataAcq Meth : FR\_BASE.M

Volume Inj. : 1ul

Signal Phase : RTX-5

Signal Info : 530um



## **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.

Evergreen Analytical, Inc.

Date: 24-Jun-09

Work Order: 09-4144

Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

BatchID: 19599

Sample ID: MB-19599		SampType: MBLK	TestCode: 6010_D		Run ID: ICP-OPTIMA 5300 DV_090622B		Prep Date: 6/22/2009		Units: mg/L		
		Batch ID: 19599	TestNo: SW6010B		FileID: 062209PM		Analysis Date: 6/23/2009		SeqNo: 860962		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	U	0.39									
Magnesium	U	0.15									
Sodium	U	0.40									

Sample ID: LCS-19599		SampType: LCS	TestCode: 6010_D		Run ID: ICP-OPTIMA 5300 DV_090622B		Prep Date: 6/22/2009		Units: mg/L		
		Batch ID: 19599	TestNo: SW6010B		FileID: 062209PM		Analysis Date: 6/23/2009		SeqNo: 860967		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.65	0.39	10	0	106	74	113	0	0		
Magnesium	10.47	0.15	10	0	105	76.7	114	0	0		
Sodium	10.46	0.40	10	0	105	80	120	0	0		

Sample ID: LCS-19599-DUP		SampType: LCS	TestCode: 6010_D		Run ID: ICP-OPTIMA 5300 DV_090622B		Prep Date: 6/22/2009		Units: mg/L		
		Batch ID: 19599	TestNo: SW6010B		FileID: 062209PM		Analysis Date: 6/23/2009		SeqNo: 860968		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Calcium	10.67	0.39	10	0	107	74	113	0	0		
Magnesium	10.49	0.15	10	0	105	76.7	114	0	0		
Sodium	10.46	0.40	10	0	105	80	120	0	0		

## Qualifiers:

U - Not detected at or above the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative

Work Order: 09-4144

Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

TestCode: COND\_S

Sample ID	LCS	SampType: LCS	TestCode: COND_S	Run ID: COND_090623A	Prep Date: 6/23/2009	Units: μmhos/cm					
		Batch ID: R48041	TestNo: Dept of Ag.	FileID: 143	Analysis Date: 6/23/2009	SeqNo: 860502					
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	10020	1.00	10000	0	100	90	110	0	0		

Sample ID	LCS	SampType: LCS	TestCode: COND_S	Run ID: COND_090623A	Prep Date: 6/23/2009	Units: μmhos/cm					
		Batch ID: R48041	TestNo: Dept of Ag.	FileID: 143	Analysis Date: 6/23/2009	SeqNo: 860523					
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Specific Conductance	9970	1.00	10000	0	99.7	90	110	0	0		

## Qualifiers:

U - Not detected at or above the Reporting Limit  
J - Analyte detected below quantitation limits  
S - Spike Recovery outside acceptance limits  
E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
B - Analyte detected in the associated Method Blank  
H - Prep or analytical holding time exceeded  
X - See case narrative

020

Work Order: 09-4144  
Client Project ID: BBC0901.01

**ANALYTICAL QC SUMMARY REPORT**

TestCode: PH\_S

Sample ID	LCS-R47771	SampType: LCS	TestCode: PH_S	Run ID: PH_090610B	Prep Date: 6/10/2009	Units: pH Units					
		Batch ID: R47771	TestNo: SW9045C	FileID:	Analysis Date: 6/10/2009	SeqNo: 853711					
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.97	1.00	8	0	99.6	99.3	100.7	0	0		

**Qualifiers:**

U - Not detected at or above the Reporting Limit  
J - Analyte detected below quantitation limits  
S - Spike Recovery outside acceptance limits  
E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
B - Analyte detected in the associated Method Blank  
H - Prep or analytical holding time exceeded  
X - See case narrative



Work Order: 09-4144  
Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

BatchID: 19574

Sample ID: MB-19574		SampType: MBLK	TestCode: 200.7_SBOR		Run ID: ICP-OPTIMA 5300 DV_090621A		Prep Date: 6/19/2009		Units: mg/L		
		Batch ID: 19574	TestNo: GUPTA		FileID: 062109PM		Analysis Date: 6/22/2009		SeqNo: 859531		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	ND	0.010	0	0	0	0	0	0	0		

Sample ID: LCS-19574		SampType: LCS	TestCode: 200.7_SBOR		Run ID: ICP-OPTIMA 5300 DV_090621A		Prep Date: 6/19/2009		Units: mg/L		
		Batch ID: 19574	TestNo: GUPTA		FileID: 062109PM		Analysis Date: 6/22/2009		SeqNo: 859532		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	5.385	0.010	4.992	0	108	85	115	0	0		

Sample ID: 09-4089-24DMS		SampType: MS	TestCode: 200.7_SBOR		Run ID: ICP-OPTIMA 5300 DV_090621A		Prep Date: 6/19/2009		Units: mg/L		
		Batch ID: 19574	TestNo: GUPTA		FileID: 062109PM		Analysis Date: 6/22/2009		SeqNo: 859534		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	3.985	0.010	4.992	1.385	52.1	75	125	0	0		S

Sample ID: 09-4089-24DMSD		SampType: MSD	TestCode: 200.7_SBOR		Run ID: ICP-OPTIMA 5300 DV_090621A		Prep Date: 6/19/2009		Units: mg/L		
		Batch ID: 19574	TestNo: GUPTA		FileID: 062109PM		Analysis Date: 6/22/2009		SeqNo: 859535		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Boron	4.237	0.011	4.994	1.385	57.1	75	125	3.985	6.13	30	S

## Qualifiers:

U - Not detected at or above the Reporting Limit  
J - Analyte detected below quantitation limits  
S - Spike Recovery outside acceptance limits  
E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
B - Analyte detected in the associated Method Blank  
H - Prep or analytical holding time exceeded  
X - See case narrative

022

Evergreen Analytical, Inc.

Date: 23-Jun-09

Work Order: 09-4144

Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

BatchID: 19553

Sample ID: MB-19553	SampType: MBLK	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_090619B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19553	TestNo: SW6010B Cr	FileID: 061909PM	Analysis Date: 6/20/2009	SeqNo: 859146						
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-19553	SampType: LCS	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_090619B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19553	TestNo: SW6010B Cr	FileID: 061909PM	Analysis Date: 6/20/2009	SeqNo: 859147						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	148.2	1.8	214	0	69.3	41.6	158.4	0	0		

Sample ID: 09-4089-16CMS	SampType: MS	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_090619B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19553	TestNo: SW6010B Cr	FileID: 061909PM	Analysis Date: 6/20/2009	SeqNo: 859161						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	U	0.90	38.31	0	2.24	75	125	0	0		S

Sample ID: 09-4089-16CMSD	SampType: MSD	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_090619B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19553	TestNo: SW6010B Cr	FileID: 061909PM	Analysis Date: 6/20/2009	SeqNo: 859152						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	4.8	1.2	43.2	0	11.1	75	125	0.857	139	30	SR

Sample ID: 09-4089-16CPDS	SampType: PDS	TestCode: 6010_CR6S	Run ID: ICP-OPTIMA 5300 DV_090619B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19553	TestNo: SW6010B Cr	FileID: 061909PM	Analysis Date: 6/20/2009	SeqNo: 859153						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Chromium, Hexavalent	16.71	1.0	24.73	0	67.6	75	125	0	0		S

Qualifiers:

- U - Not detected at or above the Reporting Limit
- J - Analyte detected below quantitation limits
- S - Spike Recovery outside acceptance limits
- E - Extrapolated value, value exceeds calibration range.

- R - RPD outside acceptance limits
- B - Analyte detected in the associated Method Blank
- H - Prep or analytical holding time exceeded
- X - See case narrative

Work Order: 09-4144  
Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

BatchID: 19565

Sample ID: MB-19565	SampType: MBLK	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_090621A	Prep Date: 6/19/2009	Units: mg/Kg						
	Batch ID: 19565	TestNo: SW6010B	FileID: 062109PM	Analysis Date: 6/22/2009	SeqNo. 859491						
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	1.067	0.50									
Lead	U	7.3									
Nickel	U	3.0									
Selenium	U	10									
Silver	U	3.0									
Zinc	U	3.0									

Sample ID: LCS-19565	SampType: LCS	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_090621A	Prep Date: 6/19/2009	Units: mg/Kg						
	Batch ID: 19565	TestNo: SW6010B	FileID: 062109PM	Analysis Date: 6/22/2009	SeqNo: 859496						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	238.1	1.0	312	0	76.3	60.2	110	0	0		
Chromium	65.34	1.0	59.4	0	110	78.5	151	0	0		
Copper	157.8	0.50	179	1.067	87.5	75.2	125	0	0		B
Lead	82.41	7.3	83.2	0	99	90	163	0	0		
Nickel	158.9	3.0	172	0	92.4	71.5	123	0	0		
Selenium	191.2	10	178	0	107	77	148	0	0		
Silver	54.51	3.0	17	0	321	90	476	0	0		
Zinc	235.7	3.0	329	0	71.6	58	110	0	0		

Sample ID: 09-4150-01AMS	SampType: MS	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_090621A	Prep Date: 6/19/2009	Units: mg/Kg						
	Batch ID: 19565	TestNo: SW6010B	FileID: 062109PM	Analysis Date: 6/22/2009	SeqNo: 859501						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Cadmium	12.67	0.79	15.87	0.2323	79.8	75	125	0	0		
Chromium	152.4	0.79	158.7	14.14	87.1	75	125	0	0		
Copper	142.5	0.40	158.7	13.18	81.5	75	125	0	0		B
Lead	128	5.8	158.7	0	80.6	75	125	0	0		

Qualifiers:  
U - Not detected at or above the Reporting Limit  
J - Analyte detected below quantitation limits  
S - Spike Recovery outside acceptance limits  
E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
B - Analyte detected in the associated Method Blank  
H - Prep or analytical holding time exceeded  
X - See case narrative

Work Order: 09-4144  
Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

BatchID: 19565

Sample ID: 09-4150-01AMS	SampType: MS	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_090621A					Prep Date: 6/19/2009	Units: mg/Kg		
	Batch ID: 19565	TestNo: SW6010B	FileID: 062109PM					Analysis Date: 6/22/2009	SeqNo: 859501		
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Nickel	142.6	2.4	158.7	14.6	80.7	75	125	0	0		
Selenium	119.2	7.9	158.7	0	75.1	75	125	0	0		
Silver	12.04	2.4	15.87	0	75.8	75	125	0	0		
Zinc	160.5	2.4	158.7	35.94	78.5	75	125	0	0		

Sample ID: 09-4150-01AMSD	SampType: MSD	TestCode: 6010_S	Run ID: ICP-OPTIMA 5300 DV_090621A				Prep Date: 6/19/2009	Units: mg/Kg			
	Batch ID: 19565	TestNo: SW6010B	FileID: 062109PM				Analysis Date: 6/22/2009	SeqNo: 859502			
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	12.28	0.76	15.15	0.2323	81.1	75	125	12.67	3.11	20	B
Chromium	148.9	0.76	151.5	14.14	88.9	75	125	152.4	2.36	20	
Copper	136.9	0.38	151.5	13.18	81.6	75	125	142.5	4.06	20	
Lead	124.5	5.5	151.5	0	82.2	75	125	128	2.76	20	
Nickel	136.8	2.3	151.5	14.6	80.6	75	125	142.6	4.19	20	
Selenium	123.5	7.6	151.5	0	81.5	75	125	119.2	3.53	20	
Silver	12.01	2.3	15.15	0	79.3	75	125	12.04	0.245	20	
Zinc	152.8	2.3	151.5	35.94	77.1	75	125	160.5	4.94	20	

Sample ID: 09-4150-01APDS		SampType: PDS	TestCode: 6010_S		Run ID: ICP-OPTIMA 5300 DV_090621A			Prep Date: 6/19/2009		Units: mg/Kg	
		Batch ID: 19565	TestNo: SW6010B		FileID: 062109PM			Analysis Date: 6/22/2009		SeqNo: 859503	
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium	15.94	0.97	16.13	0.2323	98.8	75	125	0	0		
Chromium	183.8	0.97	161.3	14.14	105	75	125	0	0		
Copper	173.6	0.48	161.3	13.18	99.4	75	125	0	0		B
Lead	161.4	7.1	161.3	0	100	75	125	0	0		
Nickel	174.1	2.9	161.3	14.6	98.9	75	125	0	0		
Selenium	153.9	9.7	161.3	0	95.4	75	125	0	0		
Silver	66.78	2.9	80.65	0	82.8	75	125	0	0		
Zinc	186.9	2.9	161.3	35.94	93.6	75	125	0	0		

## Qualifiers:

U - Not detected at or above the Reporting Limit  
J - Analyte detected below quantitation limits  
S - Spike Recovery outside acceptance limits  
E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
B - Analyte detected in the associated Method Blank  
H - Prep or analytical holding time exceeded  
X - See case narrative

025

Evergreen Analytical, Inc.

Date: 24-Jun-09

Work Order: 09-4144

Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_S

Sample ID: MB-19566	SampType: MBLK	TestCode: 6020_S	Run ID: ICPMS_090622A	Prep Date: 6/19/2009	Units: mg/Kg						
	Batch ID: 19566	TestNo: SW6020	FileID: 090622A.BW026SMPL.D	Analysis Date: 6/22/2009	SeqNo: 860595						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	U	0.20									

Sample ID: LCS-19566	SampType: LCS	TestCode: 6020_S	Run ID: ICPMS_090622A	Prep Date: 6/19/2009	Units: mg/Kg						
	Batch ID: 19566	TestNo: SW6020	FileID: 090622A.BW027SMPL.D	Analysis Date: 6/22/2009	SeqNo: 860596						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	241.9	0.20	282	0	85.8	74.4	134	0	0		

## Qualifiers:

U - Not detected at or above the Reporting Limit  
J - Analyte detected below quantitation limits  
S - Spike Recovery outside acceptance limits  
E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
B - Analyte detected in the associated Method Blank  
H - Prep or analytical holding time exceeded  
X - See case narrative

Work Order: 09-4144  
Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

BatchID: 19554

Sample ID: MB-19554	SampType: MBLK	TestCode: 7471_S	Run ID: HG ANALYZER_090618B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19554	TestNo: SW7471A	FileID: 61809	Analysis Date: 6/18/2009	SeqNo: 858195						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury U 0.017

Sample ID: LCS-19554	SampType: LCS	TestCode: 7471_S	Run ID: HG ANALYZER_090618B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19554	TestNo: SW7471A	FileID: 61809	Analysis Date: 6/18/2009	SeqNo: 858196						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 1.075 0.094 1.17 0 91.9 46.5 141 0 0

Sample ID: 09-4089-08CMS	SampType: MS	TestCode: 7471_S	Run ID: HG ANALYZER_090618B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19554	TestNo: SW7471A	FileID: 61809	Analysis Date: 6/18/2009	SeqNo: 858198						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.166 0.0082 0.1639 0.008525 96.1 70 130 0 0

Sample ID: 09-4089-08CMSD	SampType: MSD	TestCode: 7471_S	Run ID: HG ANALYZER_090618B	Prep Date: 6/18/2009	Units: mg/Kg						
	Batch ID: 19554	TestNo: SW7471A	FileID: 61809	Analysis Date: 6/18/2009	SeqNo: 858199						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Mercury 0.1486 0.0072 0.1449 0.008525 96.6 70 130 0.166 11.1 20

## Qualifiers:

U - Not detected at or above the Reporting Limit  
J - Analyte detected below quantitation limits  
S - Spike Recovery outside acceptance limits  
E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
B - Analyte detected in the associated Method Blank  
H - Prep or analytical holding time exceeded  
X - See case narrative

Evergreen Analytical, Inc.

Date: 15-Jun-09

Work Order: 09-4144  
 Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

TestCode: TVH\_S

Sample ID: MB2081209	SampType: MBLK	TestCode: TVH_S	Run ID: TVHBTEX2_090612B	Prep Date: 6/12/2009	Units: mg/Kg						
	Batch ID: R47854	TestNo: SW8015B Mo	FileID: 061209\TA683	Analysis Date: 6/12/2009	SeqNo: 855725						
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)	386	0	500	0	77.2	60	140	0	0		

Sample ID: LCS2061209	SampType: LCS	TestCode: TVH_S	Run ID: TVHBTEX2_090612B	Prep Date: 6/12/2009	Units: mg/Kg						
	Batch ID: R47854	TestNo: SW8015B Mo	FileID: 061209\TA684	Analysis Date: 6/12/2009	SeqNo: 855726						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TVH-Gasoline	10.01	1.0	11	0	91	70	130	0	0		
Surr: 1,2,4-Trichlorobenzene (S)	665.3	0	500	0	133	60	140	0	0		

Sample ID: 09-4142-01BMS	SampType: MS	TestCode: TVH_S	Run ID: TVHBTEX2_090612B	Prep Date: 6/12/2009	Units: mg/Kg						
	Batch ID: R47854	TestNo: SW8015B Mo	FileID: 061209\TA686	Analysis Date: 6/12/2009	SeqNo: 855728						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TVH-Gasoline	7.63	1.0	11	0	69.4	62	130	0	0		
Surr: 1,2,4-Trichlorobenzene (S)	534.7	0	500	0	107	60	140	0	0		

Sample ID: 09-4142-01BMSD	SampType: MSD	TestCode: TVH_S	Run ID: TVHBTEX2_090612B	Prep Date: 6/12/2009	Units: mg/Kg						
	Batch ID: R47854	TestNo: SW8015B Mo	FileID: 061209\TA687	Analysis Date: 6/12/2009	SeqNo: 855729						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

TVH-Gasoline	7.705	1.0	11	0	70	62	130	7.63	0.978	30	
Surr: 1,2,4-Trichlorobenzene (S)	537.8	0	500	0	108	60	140	0	0	0	

Qualifiers: U - Not detected at or above the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative



Evergreen Analytical, Inc.

Date: 18-Jun-09

Work Order: 09-4144

Client Project ID: BBC0901.01

## ANALYTICAL QC SUMMARY REPORT

TestCode: TEH\_S

Sample ID: MB-19467	SampType: MBLK	TestCode: TEH_S	Run ID: FID6_090611A	Prep Date: 6/11/2009	Units: mg/Kg						
	Batch ID: 19467	TestNo: SW8015B Mo	FileID: GFE23\FE067.D	Analysis Date: 6/12/2009	SeqNo: 854711						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	U	14									
Gasoline	U	20									
Jet A	U	20									
Motor Oil	U	33									
Surr: TBB	38.43	0	66.67	0	57.6	39	130	0	0		

Sample ID: LCS-19467	SampType: LCS	TestCode: TEH_S	Run ID: FID6_090611A	Prep Date: 6/11/2009	Units: mg/Kg						
	Batch ID: 19467	TestNo: SW8015B Mo	FileID: GFE23\FE068.D	Analysis Date: 6/12/2009	SeqNo: 854712						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	634.9	14	666.7	0	95.2	70	130	0	0		
Surr: TBB	51.74	0	66.67	0	77.6	42	130	0	0		

Sample ID: 09-4142-03CMS	SampType: MS	TestCode: TEH_S	Run ID: FID6_090611A	Prep Date: 6/11/2009	Units: mg/Kg						
	Batch ID: 19467	TestNo: SW8015B Mo	FileID: GFE23\FE072.D	Analysis Date: 6/12/2009	SeqNo: 854716						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	676.3	14	665.3	35.71	96.3	70	130	0	0		
Surr: TBB	48.77	0	66.53	0	73.3	39	130	0	0		

Sample ID: 09-4142-03CMSD	SampType: MSD	TestCode: TEH_S	Run ID: FID6_090611A	Prep Date: 6/11/2009	Units: mg/Kg						
	Batch ID: 19467	TestNo: SW8015B Mo	FileID: GFE23\FE073.D	Analysis Date: 6/12/2009	SeqNo: 854717						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Diesel Fuel (No. 2)	663.4	14	666.2	35.71	94.2	70	130	676.3	1.92	30	
Surr: TBB	49.21	0	66.62	0	73.9	39	130	0	0	0	

## Qualifiers:

U - Not detected at or above the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative



**ACCUTEST.**

Laboratories

*formerly Evergreen Analytical, Inc.*

June 24, 2009

Brian Dodek  
LT Environmental  
4600 W 60th Ave  
Arvada, CO 80003

Lab Work Order: 09-4144  
Client Project ID: BBC0901.01

Dear Brian Dodek:

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 *W* Tiffany Pham  
Quality Assurance

**Koskie 13H-27-38-16 Analytical Results**  
**10/29/2009**

001

**WORK ORDER Summary****Evergreen Analytical, Inc.****09-8622****Rpt To:** Brian Dodek**Email To:** bdodek@ltenv.com

10/30/2009 4:29:44 PM

LT Environmental

4600 W 60th Ave

Arvada, CO 80003

(303) 962-5535

**Client Project ID:** Paradox Sampling/BBC 0901**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
09-8622-01A	Koskie 13H 3pt. 12"	Soil	10/29/09 1040	10/30/09	PH_S	9045C: pH	<input type="checkbox"/>	<input type="checkbox"/>	11/13/09	10/30/09
09-8622-02A	Koskie 13H 3pt. 24"	Soil	10/29/09 1100	10/30/09	PH_S	9045C: pH	<input type="checkbox"/>	<input type="checkbox"/>	11/13/09	10/30/09
09-8622-03A	Koskie 3H 3pt. 12"	Soil	10/29/09 0945	10/30/09	PH_S	9045C: pH	<input type="checkbox"/>	<input type="checkbox"/>	11/13/09	10/30/09
09-8622-03B	Koskie 3H 3pt. 12"	Soil	10/29/09 0945	10/30/09	6020_S *	6020 Metals, Soil/Solid	<input type="checkbox"/>	<input type="checkbox"/>	11/13/09	4/27/10
09-8622-04A	Koskie 3H 3pt. 24"	Soil	10/29/09 1000	10/30/09	PH_S	9045C: pH	<input type="checkbox"/>	<input type="checkbox"/>	11/13/09	10/30/09
09-8622-04B	Koskie 3H 3pt. 24"	Soil	10/29/09 1000	10/30/09	6020_S *	6020 Metals, Soil/Solid	<input type="checkbox"/>	<input type="checkbox"/>	11/13/09	4/27/10

**Definitions:** \* - Test Code has a Select List


**ACCUTEST.**

**4405 Vineland Rd., Suite C15  
Orlando, FL 32811  
407.425.6700, fax 407.425.0707**

WO# 04-8622 BO# 3420  
C/S(O) 1.35 / JPS  
C/S(I) 1835 / JPS  
Temp 2.4 °C Ice X / N  
Seals: X / N / NA Samples Pres. Y / N / NA  
Id Sp: Y / N / NA By B

[illegible]

**Evergreen Analytical, Inc.**

**Date:** 13-Nov-09

**Lab Order:** 09-8622

**Client Project ID** Paradox Sampling/BBC 0901

## **CASE NARRATIVE**

### **SAMPLE RECEIVING**

Custody seals were present and intact.

The temperature of the sample(s) upon arrival was 2.4°C.

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

The pH samples on the last two samples were received out of holding time. 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. TP

### **CLIENT SERVICES**

There are no anomalies to report. SG

### **GENERAL CHEMISTRY**

Method SW9045C: The pH analysis was done outside of the 24-hour RCRA holding time (H) for all samples, except for sample Koskie 13H 3pt. 24" (09-8622-02A). There are no other anomalies to report. MM/TP/JE

### **METALS ANALYSIS**

There are no anomalies to report. TP

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

Client Project ID BBC 0901

Lab Order: 09-8622  
Units: pH Units

pH

Method: SW9045C

Prep Method: SW9045C

Lab ID	Client ID	Matrix	Date Received	Collection Date	Date Prepared	Date Analyzed	Results	LQL	DF
09-8622-01A	Koskie 13H 3pt. 12"	Soil	10/30/09	10/29/09 1040	10/30/09	10/30/09 1005	9.01 H	1.00	1
09-8622-02A	Koskie 13H 3pt. 24"	Soil	10/30/09	10/29/09 1100	10/30/09	10/30/09 1005	9.21	1.00	1

Comments:

  
\_\_\_\_\_  
Analyst  
\_\_\_\_\_  
Approved

**Qualifiers:** J - Indicates an estimated value when the compound is detected, but is below the LQL  
H - Sample analysis exceeded analytical holding time  
U - Compound analyzed for but not detected  
X - See case narrative  
\*-Value exceeds Maximum Contamination Level(MCL), TCLP limit, or if compound is undetected, LQL exceeds MCL.

**Definitions:** DF - Dilution Factor  
LQL - Lower Quantitation Limit

Print Date: 10/30/2009



## **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.**

007

Evergreen Analytical, Inc.

Date: 30-Oct-09

Work Order: 09-8622

Client Project ID: BBC 0901

## ANALYTICAL QC SUMMARY REPORT

TestCode: PH\_S

Sample ID	LCS-R50981	SampType: LCS	TestCode: PH_S	Run ID: PH_091030A	Prep Date: 10/30/2009	Units: pH Units					
		Batch ID: R50981	TestNo: SW9045C	FileID:	Analysis Date: 10/30/2009	SeqNo: 930655					
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.98	1.00	8	0	99.8	99.3	100.7	0	0		

Sample ID	LCS-R50981	SampType: LCS	TestCode: PH_S	Run ID: PH_091030A	Prep Date: 10/30/2009	Units: pH Units					
		Batch ID: R50981	TestNo: SW9045C	FileID:	Analysis Date: 10/30/2009	SeqNo: 930680					
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
pH	7.98	1.00	8	0	99.8	99.3	100.7	0	0		

## Qualifiers:

U - Not detected at or above the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative

008

Evergreen Analytical, Inc.

Date: 13-Nov-09

Work Order: 09-8622

Client Project ID: Paradox Sampling/BBC 0901

## ANALYTICAL QC SUMMARY REPORT

TestCode: 6020\_S

Sample ID: MB-21409	SampType: MBLK	TestCode: 6020_S	Run ID: ICPMS_091105A	Prep Date: 11/4/2009	Units: mg/Kg						
	Batch ID: 21409	TestNo: SW6020	FileID: 110509S\MB-21409.055	Analysis Date: 11/5/2009	SeqNo: 932733						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	U	0.20									

Sample ID: LCS-21409	SampType: LCS	TestCode: 6020_S	Run ID: ICPMS_091105A	Prep Date: 11/4/2009	Units: mg/Kg						
	Batch ID: 21409	TestNo: SW6020	FileID: 110509S\LCS-21409.056	Analysis Date: 11/5/2009	SeqNo: 932734						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	146.3	0.20	156.4	0	93.5	70.3	129	0	0		

Sample ID: 09-8536-01EMS	SampType: MS	TestCode: 6020_S	Run ID: ICPMS_091105A	Prep Date: 11/4/2009	Units: mg/Kg						
	Batch ID: 21409	TestNo: SW6020	FileID: 110509S\09-8536-01EMS.06	Analysis Date: 11/5/2009	SeqNo: 932738						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	139.3	0.15	151.5	4.083	89.2	75	125	0	0		

Sample ID: 09-8536-01EMSD	SampType: MSD	TestCode: 6020_S	Run ID: ICPMS_091105A	Prep Date: 11/4/2009	Units: mg/Kg						
	Batch ID: 21409	TestNo: SW6020	FileID: 110509S\09-8536-01EMSD.0	Analysis Date: 11/5/2009	SeqNo: 932741						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	135.7	0.15	152.7	4.083	86.2	75	125	139.3	2.62	20	

Sample ID: 09-8536-01EPDS	SampType: PDS	TestCode: 6020_S	Run ID: ICPMS_091105A	Prep Date: 11/4/2009	Units: mg/Kg						
	Batch ID: 21409	TestNo: SW6020	FileID: 110509S\09-8536-01EPDS.0	Analysis Date: 11/5/2009	SeqNo: 932742						
Analyte	Result	LQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Arsenic	153.2	0.14	144.9	4.083	103	75	125	0	0		

## Qualifiers:

U - Not detected at or above the Reporting Limit  
 J - Analyte detected below quantitation limits  
 S - Spike Recovery outside acceptance limits  
 E - Extrapolated value, value exceeds calibration range.

R - RPD outside acceptance limits  
 B - Analyte detected in the associated Method Blank  
 H - Prep or analytical holding time exceeded  
 X - See case narrative

November 13, 2009

Brian Dodek  
LT Environmental  
4600 W 60th Ave  
Arvada, CO 80003

Lab Work Order: 09-8622  
Client Project ID: Paradox Sampling/BBC 090

Dear Brian Dodek:

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 E. IV/ Tiffany Pham  
Quality Assurance