

**State of Colorado**  
**Oil and Gas Conservation Commission**

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



DE	ET	OE	ES
<div style="border: 2px solid red; padding: 5px; color: red; font-weight: bold;"> RECEIVED 6/14/2013 </div>			
Document Number: 2145531			

**SUNDRY NOTICE**

Submit a signed original. This form is to be used for general, technical and environmental sundry information. For proposed or completed operations, describe in full in Comments or provide as an attachment. Identify Well by API Number; identify Oil and Gas Location by Location ID Number; identify other Facility by Facility ID Number.

OGCC Operator Number: _____	Contact Name _____
Name of Operator: _____	Phone: (    ) _____
Address: _____	Fax: (    ) _____
City: _____	State: _____ Zip: _____ Email: _____

Complete the Attachment  
Checklist

OP OGCC

API Number : 05- _____	OGCC Facility ID Number: _____
Well/Facility Name: _____	Well/Facility Number: _____
Location QtrQtr: _____	Section: _____ Township: _____ Range: _____ Meridian: _____
County: _____	Field Name: _____
Federal, Indian or State Lease Number: _____	

Survey Plat		
Directional Survey		
Srvc Eqpmt Diagram		
Technical Info Page		
Other		

**CHANGE OF LOCATION OR AS BUILT GPS REPORT**

- ☐ Change of Location \*     
 ☐ As-Built GPS Location Report     
 ☐ As-Built GPS Location Report with Survey

\* Well location change requires new plat. A substantive surface location change may require new Form 2A.

**SURFACE LOCATION GPS DATA**      Data must be provided for Change of Surface Location and As Built Reports.

Latitude _____	PDOP Reading _____	Date of Measurement _____
Longitude _____	GPS Instrument Operator's Name _____	

**LOCATION CHANGE (all measurements in Feet)**

Well will be: \_\_\_\_\_ (Vertical, Directional, Horizontal)

Change of **Surface** Footage **From** Exterior Section Lines:

Change of **Surface** Footage **To** Exterior Section Lines:

Current **Surface** Location **From**      QtrQtr \_\_\_\_\_      Sec \_\_\_\_\_

New **Surface** Location **To**      QtrQtr \_\_\_\_\_      Sec \_\_\_\_\_

Change of **Top of Productive Zone** Footage **From** Exterior Section Lines:

Change of **Top of Productive Zone** Footage **To** Exterior Section Lines:

Current **Top of Productive Zone** Location **From**      Sec \_\_\_\_\_

New **Top of Productive Zone** Location **To**      Sec \_\_\_\_\_

Change of **Bottomhole** Footage **From** Exterior Section Lines:

Change of **Bottomhole** Footage **To** Exterior Section Lines:

Current **Bottomhole** Location      Sec \_\_\_\_\_      Twp \_\_\_\_\_

New **Bottomhole** Location      Sec \_\_\_\_\_      Twp \_\_\_\_\_

Is location in High Density Area? \_\_\_\_\_

Distance, in feet, to nearest building \_\_\_\_\_, public road: \_\_\_\_\_, above ground utility: \_\_\_\_\_, railroad: \_\_\_\_\_,

property line: \_\_\_\_\_, lease line: \_\_\_\_\_, well in same formation: \_\_\_\_\_

Ground Elevation \_\_\_\_\_ feet      Surface owner consultation date \_\_\_\_\_

FNL/FSL		FEL/FWL	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Twp <input type="text"/>	Range <input type="text"/>	Meridian <input type="text"/>	
Twp <input type="text"/>	Range <input type="text"/>	Meridian <input type="text"/>	
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Twp <input type="text"/>	Range <input type="text"/>		
Twp <input type="text"/>	Range <input type="text"/>		
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
Range <input type="text"/>			
Range <input type="text"/>			

\*\*

\*\*

\*\* attach deviated drilling plan

**CHANGE OR ADD OBJECTIVE FORMATION AND/OR SPACING UNIT**

<u>Objective Formation</u>	<u>Formation Code</u>	<u>Spacing Order Number</u>	<u>Unit Acreage</u>	<u>Unit Configuration</u>

**OTHER CHANGES**

☐ **REMOVE FROM SURFACE BOND** Signed surface use agreement is a required attachment

☐ **CHANGE OF WELL, FACILITY OR OIL & GAS LOCATION NAME OR NUMBER**

From: Name \_\_\_\_\_ Number \_\_\_\_\_ Effective Date: \_\_\_\_\_

To: Name \_\_\_\_\_ Number \_\_\_\_\_

☐ **ABANDON PERMIT: Permit can only be abandoned if the permitted operation has NOT been conducted. Field inspection will be conducted to verify site status.**

☐ WELL: Abandon Application for Permit-to-Drill (Form2) – Well API Number \_\_\_\_\_ has not been drilled.

☐ PIT: Abandon Earthen Pit Permit (Form 15) – COGCC Pit Facility ID Number \_\_\_\_\_ has not been constructed (Permitted and constructed pit requires closure per Rule 905)

☐ CENTRALIZED E&P WASTE MANAGEMENT FACILITY: Abandon Centralized E&P Waste Management Facility Permit (Form 28) – Facility ID Number \_\_\_\_\_ has not been constructed (Constructed facility requires closure per Rule 908)

OIL & GAS LOCATION ID Number: \_\_\_\_\_

☐ Abandon Oil & Gas Location Assessment (Form 2A) – Location has not been constructed and site will not be used in the future.

☐ Keep Oil & Gas Location Assessment (Form 2A) active until expiration date. This site will be used in the future.

**Surface disturbance from Oil and Gas Operations must be reclaimed per Rule 1003 and Rule 1004.**

☐ **REQUEST FOR CONFIDENTIAL STATUS**

☐ **DIGITAL WELL LOG UPLOAD**

☐ **DOCUMENTS SUBMITTED** Purpose of Submission: \_\_\_\_\_

**RECLAMATION****INTERIM RECLAMATION**

☐ Interim Reclamation will commence approximately \_\_\_\_\_

Per Rule 1003.e.(3) operator shall submit Sundry Notice reporting interim reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.

☐ Interim reclamation complete, site ready for inspection.

Per Rule 1003.e(3) describe interim reclamation procedure in Comments below or provide as an attachment and attach required location photographs.

**Field inspection will be conducted to document Rule 1003.e. compliance**

**FINAL RECLAMATION**

☐ Final Reclamation will commence approximately \_\_\_\_\_

Per Rule 1004.c.(4) operator shall submit Sundry Notice reporting final reclamation is complete and site is ready for inspection when vegetation reaches 80% coverage.

☐ Final reclamation complete, site ready for inspection. Per Rule 1004.c(4) describe final reclamation procedure in Comments below or provide as an attachment.

**Field inspection will be conducted to document Rule 1004.c. compliance**

Comments:

ENGINEERING AND ENVIRONMENTAL WORK

☐ NOTICE OF CONTINUED TEMPORARILY ABANDONED STATUS

Indicate why the well is temporarily abandoned and describe future plans for utilization in the COMMENTS box below or provide as an attachment, as required by Rule 319.b.(3).

Date well temporarily abandoned

Has Production Equipment been removed from site?

Mechanical Integrity Test (MIT) required if shut in longer than 2 years. Date of last MIT

☐ SPUD DATE:

TECHNICAL ENGINEERING AND ENVIRONMENTAL WORK

Details of work must be described in full in the COMMENTS below or provided as an attachment.

☐ NOTICE OF INTENT

Approximate Start Date

☐ REPORT OF WORK DONE

Date Work Completed

☐ Intent to Recomplete (Form 2 also required)

☐ Request to Vent or Flare

☐ E&P Waste Mangement Plan

☐ Change Drilling Plan

☐ Repair Well

☐ Beneficial Reuse of E&P Waste

☐ Gross Interval Change

☐ Rule 502 variance requested. Must provide detailed info regarding request.

☐ Other

☐ Status Update/Change of Remediation Plans for Spills and Releases

COMMENTS:

CASING AND CEMENTING CHANGES

Casing Type	Size	Of	/	Hole	Size	Of	/	Casing	Wt/Ft	Csg/LinTop	Setting Depth	Sacks of Cement	Cement Bottom	Cement Top

H2S REPORTING

Data Fields in this section are intended to document Sample and Location Data associated with the collection of a Gas Sample that is submitted for Laboratory Analysis.

Gas Analysis Report must be attached.

H2S Concentration:

in ppm (parts per million)

Date of Measurement or Sample Collection

Description of Sample Point:

Absolute Open Flow Potential

in CFPD (cubic feet per day)

Description of Release Potential and Duration (If flow is not open to the atmosphere, identify the duration in which the container or pipeline would likely be opened for servicing operations.):

Distance to nearest occupied residence, school, church, park, school bus stop, place of business, or other areas where the public could reasonably be expected to frequent: \_\_\_\_\_

Distance to nearest Federal, State, County, or municipal road or highway owned and principally maintained for public use: \_\_\_\_\_

COMMENTS:

### **BMP**

<u>Type</u>	<u>Comment</u>

### **GROUND WATER SAMPLING**

#### Uses of Ground Water Sampling Section

Request an Exception to Ground Water Sampling Requirements in Greater Wattenberg Area Rule 318A.e(4) or in Statewide Rule 609.c. Request a Previously Sampled Water Source in the COGIS database be used to meet sampling requirements as described in Rule 609.d.(3).

**NOTE: If this Sundry Notice is being submitted to request a Ground Water Sampling Exception it cannot be used for any other purpose except requesting the use of a Previously Sampled Water Source in the COGIS database.**

☐ Request an Exception to Ground Water Sampling Requirements per Greater Wattenberg Area Rule 318A.e(4):There are no Available Water Sources located within the governmental quarter section or within a previously unsampled governmental quarter section within a ½-mile radius of this proposed Oil and Gas Well, Multi-Well Site, or Dedicated Injection Well.

☐ Request an Exception to Ground Water Sampling Requirements per Statewide Rule 609.c.

\_\_\_\_\_ Number of Water Sources located within one-half (1/2) mile of a proposed Oil and Gas Well, Multi-Well Site, or Dedicated Injection Well.

\_\_\_\_\_ Number of Water Source Exceptions requested per Rule 609.c.

\_\_\_\_\_ Number of Water Sources determined to be unsuitable. **The condition of these Water Sources MUST be documented in the comments below or in an attachment.**

\_\_\_\_\_ Number of Water Sources suitable for testing whose owners refused to grant access despite an operator's reasonable good faith efforts to obtain consent to conduct sampling.

**The reasonable good faith efforts used to obtain access from the owners of these Water Sources MUST be documented in the comments below or in an attachment.**

☐ Request a Previously Sampled Water Source in the COGIS database be used to meet sampling requirements as described in Rule 609.d(3)

\_\_\_\_\_ Type of Sample Substitution Request

Enter Sample ID Number from COGIS Maps for each Previous Water Sample:

Sample ID	Facility ID	Sample Date	Sample Purpose

**COMMENTS**

**Operator Comments:**

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

Signed: Garrett Elsener  Print Name: Garrett Elsener

Title: Operations Engineer II

Email: garrett@caerusoilandgas.com

Date: 6/14/13

Based on the information provided herein, this Sundry Notice (Form 4) complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: \_\_\_\_\_

Date: \_\_\_\_\_

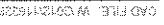
Caerus Oil & Gas, LLC (Caerus) respectfully requests a variance from Colorado Oil and Gas Conservation Commission (COGCC) Rule 908 regarding the establishment of a Centralized E&P Waste Management Facility at Church #2 location (COGCC Remediation #4301). According to COGCC, when E&P waste is treated at a location for more than three years, a Centralized E&P Waste Management facility permit is required.

Caerus recognizes remediation activities have exceeded three years. However, it appears significant progress has been made in remediating the landfarmed soil located at the southern edge of the Church #2 location. In September 2012, results of composite soil sampling showed concentrations of total petroleum hydrocarbons (TPH), consisting of total extractable hydrocarbons (TEPH) and total volatile petroleum hydrocarbons (TVPH), exceeded the Table 910-1 standards for TPH (i.e., 500 mg/kg) in three quadrants at the landfarm. However, the results of a sampling event conducted in early June 2013 indicates TPH levels have remediated below the 500 mg/kg standard in three of the four quadrants of the landfarm.

There is approximately 33,100 cubic feet, or 1,255 cubic yards, of soil contained in the landfarm.

Based on the significant remedial progress as indicated by the results of the June 2013 sampling event, Caerus proposes the following:

1. Till and water the entire landfarm twice a month until the end of September 2013.
2. Collect soil samples at the end of July, 2013 and have them analyzed for TPH to evaluate whether the aggressive approach of tilling and watering is working.
3. Collect soil samples in early October and have them analyzed for TPH. Based on the results of the soil sampling, Caerus will submit a closure report, submit a Form 28, or discuss other remedial options with the COGCC, such as removing and disposing of soil from areas still exceeding Table 910-1 standards while putting the remaining remediated soil to beneficial use.





12065 Lebanon Rd.  
Mt. Juliet, TN 37122  
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Est. 1970

Brad Baum  
Kleinfelder - Littleton, CO  
300 E. Mineral Avenue, Suite 7  
Littleton, CO 80122

## Report Summary

Monday June 10, 2013

Report Number: L639773

Samples Received: 06/06/13

Client Project: 116228

Description: Church 2 Pit Land Farm sample

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

Entire Report Reviewed By:

Mark W. Beasley , ESC Representative

### Laboratory Certification Numbers

A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - 01157CA, CT - PH-0197,  
FL - E87487, GA - 923, IN - C-TN-01, KY - 90010, KYUST - 0016,  
NC - ENV375/DW21704/BIO041, ND - R-140, NJ - TN002, NJ NELAP - TN002,  
SC - 84004, TN - 2006, VA - 460132, WV - 233, AZ - 0612,  
MN - 047-999-395, NY - 11742, WI - 998093910, NV - TN000032011-1,  
TX - T104704245-11-3, OK - 9915, PA - 68-02979, IA Lab #364

Accreditation is only applicable to the test methods specified on each scope of accreditation held by ESC Lab Sciences.

Note: The use of the preparatory EPA Method 3511 is not approved or endorsed by the CA ELAP.

This report may not be reproduced, except in full, without written approval from ESC Lab Sciences. Where applicable, sampling conducted by ESC is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.





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REPORT OF ANALYSIS

Brad Baum  
Kleinfelder - Littleton, CO  
300 E. Mineral Avenue, Suite 7  
Littleton, CO 80122

June 10, 2013

Date Received : June 06, 2013  
Description : Church 2 Pit Land Farm sample  
Sample ID : CH-NW  
Collected By : L. Bolt  
Collection Date : 06/04/13 13:31

ESC Sample # : L639773-01

Site ID :

Project # : 116228

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	06/08/13	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	97.4		% Rec.	602/8015	06/08/13	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	820	200	mg/kg	8015	06/08/13	50
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	06/08/13	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

The reported analytical results relate only to the sample submitted.

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Reported: 06/10/13 14:41 Printed: 06/10/13 17:41



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# REPORT OF ANALYSIS

June 10, 2013

Brad Baum  
Kleinfelder - Littleton, CO  
300 E. Mineral Avenue, Suite 7  
Littleton, CO 80122

Date Received : June 06, 2013  
Description : Church 2 Pit Land Farm sample  
Sample ID : CH-NE  
Collected By : L. Bolt  
Collection Date : 06/04/13 13:44

ESC Sample # : L639773-02

Site ID :

Project # : 116228

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	06/09/13	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	98.1		% Rec.	602/8015	06/09/13	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	BDL	200	mg/kg	8015	06/08/13	50
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	06/08/13	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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# REPORT OF ANALYSIS

Brad Baum  
Kleinfelder - Littleton, CO  
300 E. Mineral Avenue, Suite 7  
Littleton, CO 80122

June 10, 2013

Date Received : June 06, 2013  
Description : Church 2 Pit Land Farm sample  
Sample ID : CH-SE  
Collected By : L. Bolt  
Collection Date : 06/04/13 13:55

ESC Sample # : L639773-03

Site ID :

Project # : 116228

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	06/09/13	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	98.8		% Rec.	602/8015	06/09/13	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	BDL	200	mg/kg	8015	06/08/13	50
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	06/08/13	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

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REPORT OF ANALYSIS

Brad Baum  
Kleinfelder - Littleton, CO  
300 E. Mineral Avenue, Suite 7  
Littleton, CO 80122

June 10, 2013

Date Received : June 06, 2013  
Description : Church 2 Pit Land Farm sample  
Sample ID : CH-SW  
Collected By : L. Bolt  
Collection Date : 06/04/13 14:05

ESC Sample # : L639773-04

Site ID :

Project # : 116228

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	06/09/13	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	99.0		% Rec.	602/8015	06/09/13	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	230	200	mg/kg	8015	06/08/13	50
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	06/08/13	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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# REPORT OF ANALYSIS

June 10, 2013

Brad Baum  
Kleinfelder - Littleton, CO  
300 E. Mineral Avenue, Suite 7  
Littleton, CO 80122

Date Received : June 06, 2013  
Description : Church 2 Pit Land Farm sample  
Sample ID : CH-A  
Collected By : L. Bolt  
Collection Date : 06/04/13 14:18

ESC Sample # : L639773-05

Site ID :

Project # : 116228

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	06/09/13	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	98.8		% Rec.	602/8015	06/09/13	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	740	200	mg/kg	8015	06/08/13	50
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	06/08/13	50

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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# REPORT OF ANALYSIS

Brad Baum  
Kleinfelder - Littleton, CO  
300 E. Mineral Avenue, Suite 7  
Littleton, CO 80122

June 10, 2013

Date Received : June 06, 2013  
Description : Church 2 Pit Land Farm sample  
Sample ID : CH-T  
Collected By : L. Bolt  
Collection Date : 06/04/13 14:28

ESC Sample # : L639773-06

Site ID :

Project # : 116228

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
TPH (GC/FID) Low Fraction	BDL	0.50	mg/kg	8015D/GRO	06/09/13	5
Surrogate Recovery (70-130)						
a,a,a-Trifluorotoluene(FID)	96.8		% Rec.	602/8015	06/09/13	5
Diesel and Oil Ranges						
C10-C28 Diesel Range	18000	400	mg/kg	8015	06/08/13	100
Surrogate Recovery						
o-Terphenyl	0.00		% Rec.	8015	06/08/13	100

BDL - Below Detection Limit

Det. Limit - Practical Quantitation Limit(PQL)

Note:

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Attachment A  
List of Analytes with QC Qualifiers

Sample Number	Work Group	Sample Type	Analyte	Run ID	Qualifier
L639773-01	WG665085	SAMP	o-Terphenyl	R2700784	J7
	WG665428	SAMP	TPH (GC/FID) Low Fraction	R2700261	J6
L639773-02	WG665085	SAMP	C10-C28 Diesel Range	R2700784	O
	WG665085	SAMP	o-Terphenyl	R2700784	J7
L639773-03	WG665085	SAMP	o-Terphenyl	R2700784	J7
L639773-04	WG665085	SAMP	o-Terphenyl	R2700784	J7
L639773-05	WG665085	SAMP	o-Terphenyl	R2700784	J7
L639773-06	WG665085	SAMP	o-Terphenyl	R2700784	J7

Attachment B  
Explanation of QC Qualifier Codes

Qualifier	Meaning
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.
O	(ESC) Sample diluted due to matrix interferences that impaired the ability to make an accurate analytical determination. The detection limit is elevated in order to reflect the necessary dilution.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods, it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable "unless qualified as 'R' (Rejected)."

Definitions

- Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.
- Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Difference.
- Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromatography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.
- TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.





YOUR LAB OF CHOICE

Kleinfelder - Littleton, CO  
Brad Baum  
300 E. Mineral Avenue, Suite 7

Littleton, CO 80122

Quality Assurance Report  
Level II

L639773

12065 Lebanon Rd.  
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		Laboratory Blank							
Analyte	Result	Units	% Rec	Limit	Batch	Date Analyzed			
TPH (GC/FID) Low Fraction	< .1	mg/kg			WG665428	06/08/13	23:12		
a,a,a-Trifluorotoluene(FID)		% Rec.	100.4	59-128	WG665428	06/08/13	23:12		
C10-C28 Diesel Range	< 4	mg/kg			WG665085	06/07/13	22:29		
o-Terphenyl		% Rec.	69.60	50-150	WG665085	06/07/13	22:29		
		Laboratory Control Sample							
Analyte	Units	Known Val	Result	% Rec	Limit	Batch			
TPH (GC/FID) Low Fraction	mg/kg	5.5	5.88	107.	67-135	WG665428			
a,a,a-Trifluorotoluene(FID)				109.7	59-128	WG665428			
		Laboratory Control Sample Duplicate							
Analyte	Units	Result	Ref	%Rec	Limit	RPD	Limit	Batch	
TPH (GC/FID) Low Fraction	mg/kg	5.96	5.88	108.	67-135	1.35	20	WG665428	
a,a,a-Trifluorotoluene(FID)				108.6	59-128			WG665428	
		Matrix Spike							
Analyte	Units	MS Res	Ref Res	TV	% Rec	Limit	Ref Samp	Batch	
TPH (GC/FID) Low Fraction	mg/kg	15.1	0.0618	5.5	54.5*	55-109	L639773-01	WG665428	
a,a,a-Trifluorotoluene(FID)					102.0	59-128		WG665428	
		Matrix Spike Duplicate							
Analyte	Units	MSD	Ref	%Rec	Limit	RPD	Limit	Ref Samp	Batch
TPH (GC/FID) Low Fraction	mg/kg	14.4	15.1	52.2*	55-109	4.39	20	L639773-01	WG665428
a,a,a-Trifluorotoluene(FID)				102.0	59-128				WG665428

Batch number /Run number / Sample number cross reference

WG665428: R2700261: L639773-01 02 03 04 05 06  
WG665085: R2700784: L639773-01 02 03 04 05 06

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



**YOUR LAB OF CHOICE**

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Est. 1970

June 10, 2013

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

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

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

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