

State of Colorado
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY
 Received 12/5/2014
 REM 3437
 Document 2313583

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): Historical Pit Closure Follow up

OGCC Employee:

☐ Spill ☐ Complaint☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 10261

Name of Operator: Bayswater Exploration & Production

Address: 730 17th St., Suite 610

City: Denver State: CO Zip: 80202

Contact Name and Telephone:

Meagan Miller

No: 303-893-2503

Fax:

API Number: 05-123-12992

County: WELD

Facility Name: Clark

Facility Number:

Well Name: Clark 1-25

Well Number: 1-25

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWSE 25 6N 66W

Latitude: 40.451971 Longitude: 104.48583

TECHNICAL CONDITIONS

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

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.): Cultivated

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan:

Potential receptors (water wells within 1/4 mi, surface waters, etc.):

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

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

Unknown

How Determined:

Soil Sampling

REMEDIALTION WORKPLAN

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

This is a follow up request by COGCC for Bayswater to complete a remediation workplan started by a previous owner.

Describe how source is to be removed:

Bayswater will stake out sample areas for potential utilities to be located. Samples will be taken using a hand auger and analyzed for BTEX and TPH-GRO/DRO to determine if any contamination still exists.

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, insitu bioremediation, burning of oily vegetation, etc.:

Bayswater will analyze samples, if contamination is found, soil will be removed and disposed of accordingly. We will work with COGCC to close out this remediation project.



REMEDIAL WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: Bayswater E&P
OGCC Operator No: 10261
Received Date: 12/5/2014
Well Name & No: Clark 1-25
Facility Name & No: _____

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
None

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.
Bayswater will follow through with conducting the initial remediation plans made by a previous owner. Attached are the sampling results and corresponding maps associated to sampling locations.

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.):

Should it be necessary, soil will be disposed of accordingly and replaced with clean soil, regraded, and vegetated where needed.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>4-13-2005</u>	Date Site Investigation Completed: <u>12-5-2014</u>	Date Remediation Plan Submitted: <u>12-5-2014</u>
Remediation Start Date: <u>4-13-2005</u>	Anticipated Completion Date: <u>12-5-2014</u>	Actual Completion Date: <u>12-5-2014</u>

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

Print Name: Meagan M. Miller

Signed: _____

Title: Environmental Specialist

Date: 12-5-2014

OGCC Approved: _____ Title: Northeast EPS Date: 1/7/2015

FORM
27
Rev. 6/99

State of Colorado
Oil and Gas Conservation Commission

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01983936

#3437



FOR OGCC USE ONLY

RECEIVED

APR 13 05

OGCC Employee

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No.

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) REPAIR GAS LEAK

GENERAL INFORMATION

OGCC Operator Number: <u>100199</u>		Contact Name and Telephone	
Name of Operator: <u>ENERGY OIL & GAS INC</u>		<u>DUANE BACON</u>	
Address: <u>5986 HEMMER WAY</u>		No: <u>303-545-2620</u>	
City: <u>LONGMONT</u> State: <u>CO</u> Zip: <u>80503</u>		Fax: <u>3AME</u>	
API Number: <u>05-123-12681-00</u>		County: <u>WELD</u>	
Facility Name: <u>FAIR MEADOWS</u>		Facility Number: _____	
Well Name: <u>FAIR MEADOWS 1-30</u>		Well Number: <u>1-30</u>	
Location: (QtrQtr, Sec, Twp, Rng, Meridian) <u>SW/4 30 6N-63W</u>		Latitude <u>40.451971</u> Longitude <u>104.46583</u>	

TECHNICAL CONDITIONS

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

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.) Cultivated

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: _____

Potential receptors (water wells within 1/4 mi, surface waters, etc.): _____

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

Impacted Media (check)	Extent of Impact	How Determined
<input type="checkbox"/> Soils	<u>Gas Leak</u>	_____
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface water	_____	_____

REMEDIAL WORKPLAN

Describe initial action taken (if previously provided, refer to that form or document): None

Describe how source is to be removed: WE WILL REPAIR SEAL ON WELL HEAD

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, insitu bioremediation, burning of oily vegetation, etc.: WE WILL TIGHTEN OR REPLACE SEAL



Page 2

State of Colorado
Oil and Gas Conservation Commission
1120 Lincoln Street, Suite 801, Denver, Colorado 80203
(303) 894-2100 Fax: (303) 894-2109



Tracking Number _____
Name of Operator RECEIVED
OGCC Operator No. _____
Received Date APR 13 05
Well Name & No. _____
Facility Name & No. GOGCC

REMEDIAL WORKPLAN (Cont.)

OGCC Employee _____

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

NONE

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.

WE WILL NOT DISTURB EXISTING SOIL

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.)

NO SOIL DAMAGE

IMPLEMENTATION SCHEDULE

Date Site Investigation Began 4-5-05 Date Site Investigation Completed 4-6-06 Date Remediation Plan Submitted 4-10-05
Remediation Start Date 4-20-05 Anticipated Completion Date 4-21-05 Actual Completion Date _____

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

Print Name. ENERGY OIL & GAS INC

Signed: Huani Bacon

Title. President

Date 4-6-05

OGCC Approved _____ Title _____ Date _____

December 2, 2014

Bayswater Exploration & Production
730 17th Street, Suite 610
Denver, CO 80202

Attention: Ms. Meagan Miller

Subject: Limited Subsurface Investigation
Clark 1-25 Facility
Weld County, Colorado
CTL | T Project No. FC06008.008

CTL Thompson, Inc. (CTL) performed a limited Subsurface Investigation at the Clark 1-25 Facility located near Highway 85 in Weld County, Colorado. The Site location is shown on Figure 1. The limited Subsurface Investigation was requested by the Colorado Oil and Gas Conservation Commission (COGCC) to assess potential concerns that date back to the prior operator, Energy Oil & Gas, Inc., which reported a release at the production facilities, including the steel above ground storage tank and the buried produced water vessel. COGCC assigned project number 3437 to the release. COGCC reportedly approved a work plan in which soils impacted by the produced water release would be excavated and remediated on-site. COGCC indicated that it had no documentation that this work plan was ever implemented.

Below is a summary of CTL's services.

Preliminary Assessment and Utility Locates

On November 13, 2014, CTL met with Mr. Kent Moore of Bayswater Exploration & Production. Mr. Moore has worked at the facility since the time of the reported release. He explained that there been an above-ground tank where the underground produced water storage tank is currently, and that he was unaware of any underground tanks on the site at the time of the release. Mr. Moore showed CTL the approximate former location of the above-ground produced water vessel where the release reportedly occurred. CTL marked the location with a stake and notified the local utility marking service to locate public utilities in the vicinity of the staked location.

No stockpiled soils were observed in the vicinity of the former buried produced water vessel.

Subsurface Sampling and Analysis

On November 21, 2014, CTL returned to the facility to conduct the limited subsurface investigation. At the staked sample location, CTL used a pre-cleaned hand auger to advance a soil boring to a depth of 5 feet below grade. Figure 2 shows the site plan and sample location. During advancement of the boring, soils were collected at one-foot



intervals in a zipper-lock plastic bag. Each aliquot of soil was observed in the field for staining and odor, and each aliquot of soil was also screened for the presence of volatiles using a Photoionization Detector (PID). PID measurements are presented on Table 2, attached. The soil aliquot with the highest PID reading (or the sample from the 5-foot depth, if no elevated PID readings were measured) was placed in a container for laboratory analysis. The soil sample was given a unique identification number, preserved on ice in a cooler, and delivered under chain of custody protocol to ALS Laboratory in Fort Collins, Colorado, to be analyzed for total extractable petroleum hydrocarbons (TEPH), total volatile petroleum hydrocarbons (TVPH), and benzene, toluene, ethylbenzene, and xylenes (BTEX).

Laboratory results are attached and are summarized on Table 1, attached. As shown, TEPH and TVPH concentrations were well below the COGCC limit of 500 milligrams per kilogram (mg/kg) and BTEX concentrations were well below associated COGCC limits.

Limitations

The subsurface investigation and chemical analysis were performed for specific parameters, as detailed in this letter. The accuracy and reliability of environmental studies are a reflection of the number and type of samples taken and extent of the analyses conducted, and are thus inherently limited and dependent upon the resources expended. An independent laboratory performed laboratory analysis. We are not responsible for the accuracy of data presented by others. The services performed should not be interpreted as providing any guarantee that the materials are free and clear of all hazardous or toxic materials.

We believe that our services were conducted in a manner consistent with that level of care and skill ordinarily exercised by members of the profession currently practicing under similar conditions in the locality of the project. No warranty, express or implied, is made.

Thank you for choosing us to assist you with this project. If you have any questions or would like further clarification regarding this letter, please call.

CTL|THOMPSON, INC.

Levi Stockton, EIT
Environmental Engineer

Reviewed By:

Dana L. Harris
Environmental Department Manager

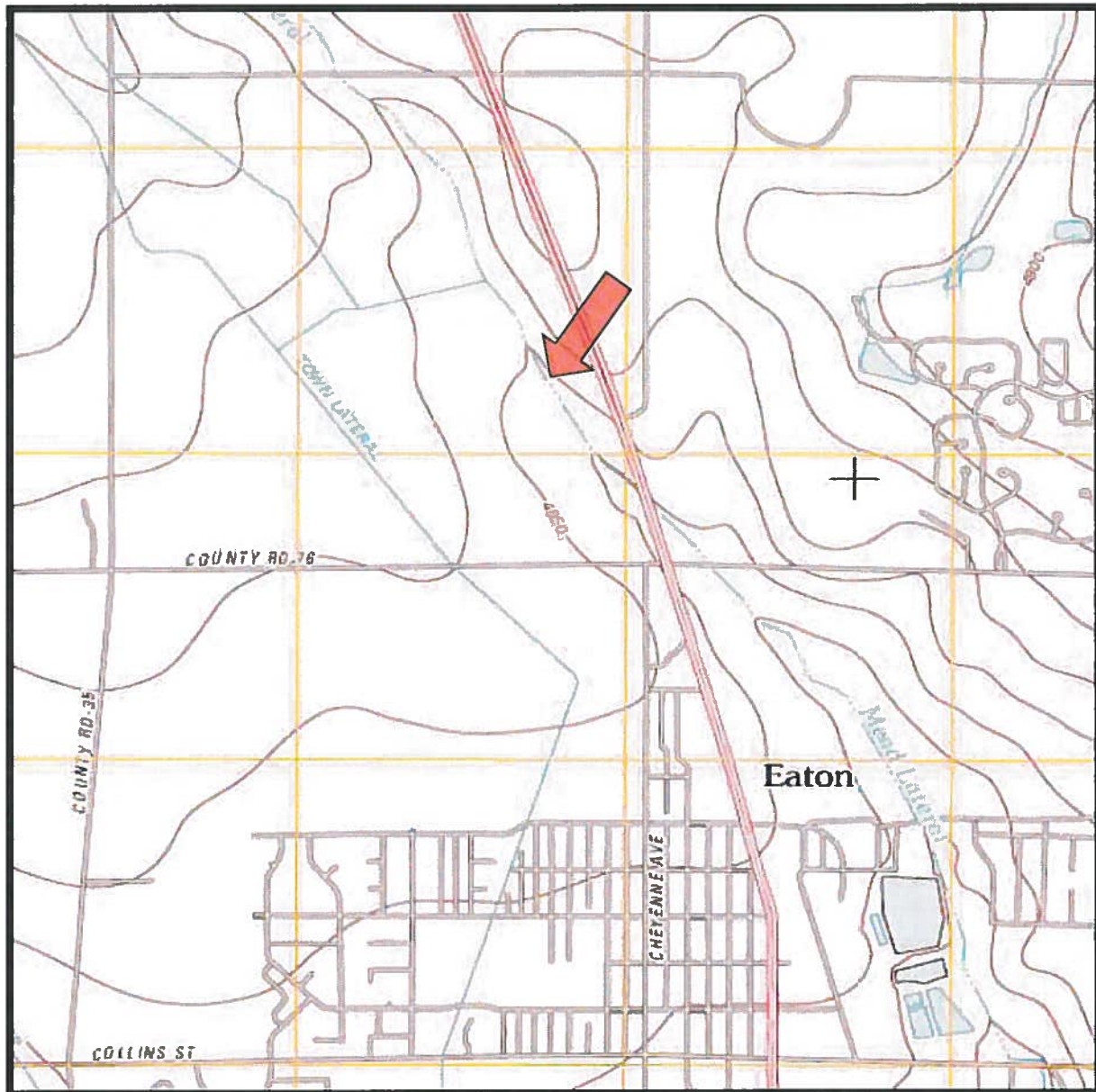
Attachments

Figures
Tables
Laboratory Analytical Results



ATTACHMENT 1

FIGURES

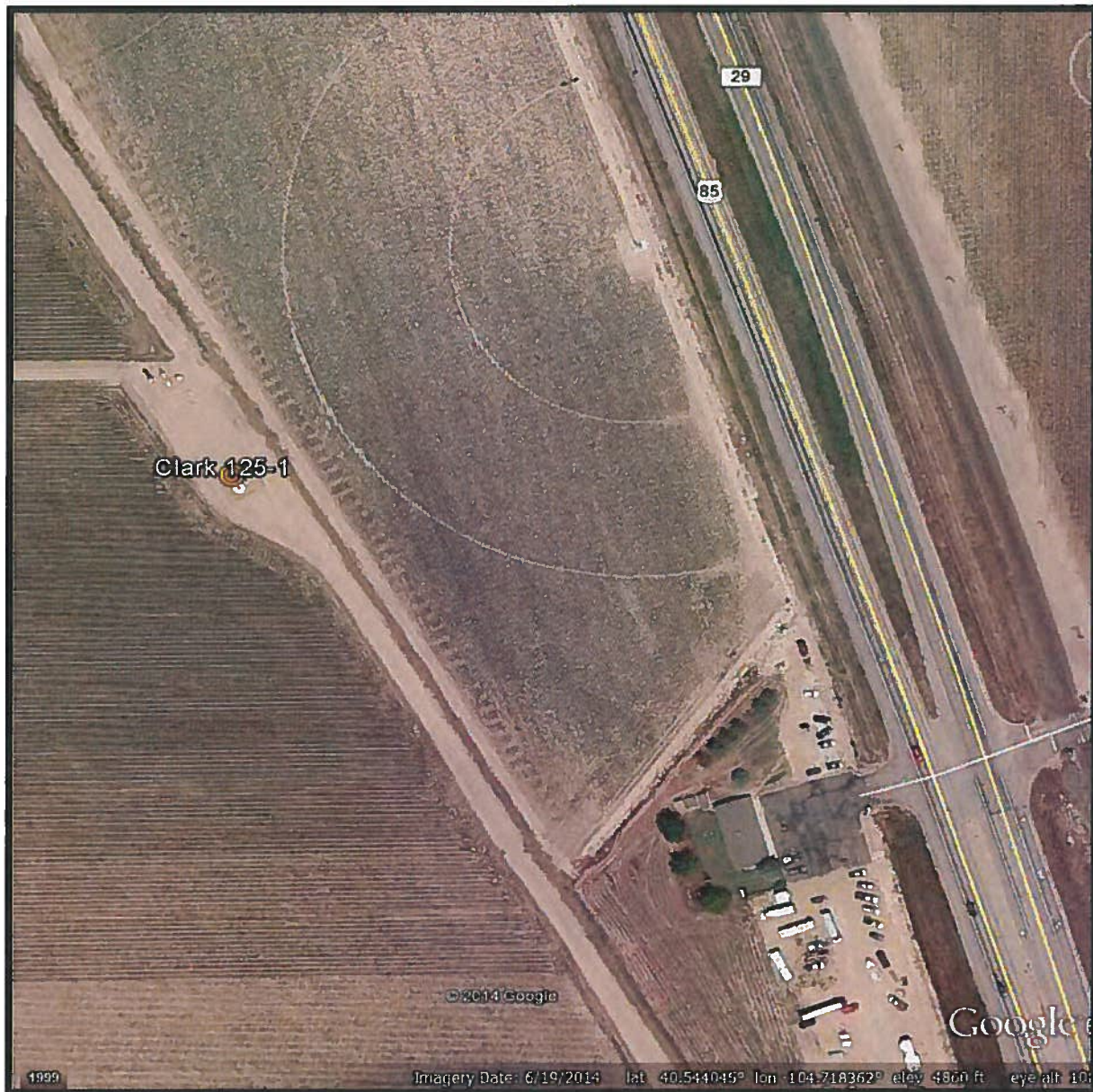


Source:
U.S.G.S. Topographic Map
Eaton CO quadrangle
Photorevised 2011

Bayswater Exploration & Production
Limited Subsurface Investigation of Clark 1-25
Job No. FC06008.008-205

**AREA
MAP**

Fig. 1



Source:
Google Earth
2014 Satellite Photo

Not to Scale

Bayswater Exploration & Production
Limited Subsurface Investigation of Clark 1-25
Job No. FC06008.008-205

SITE
PLAN

Fig. 2



ATTACHMENT 2

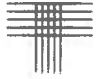
TABLES

Table 1
Soil Analytical Results - 11/30/14
Tank Area Sampling
Clark 1-25 Facility

Sample Description	Sample No.	Sample Depth (ft)	Benzene	Toluene (µg/kg)	Ethylbenzene	Xylenes	TPH-GRO (mg/kg)	TPH-DRO (mg/kg)
Next to Underground Storage Tank	Clark 125-1	5	1	2.2	<4.9	<4.9	<0.46	320
COGCC Limit			170	85000	100000	175000	500	500

Table 2
PID Readings - 11/21/14
Tank Area Sampling
Eleanor Facility

Sample Depth (ft)	PID Reading (ppm)
1	4.3
2	5.5
3	4.9
4	4.1
5	10.6



ATTACHMENT 3
LABORATORY ANALYTICAL RESULTS



1411436

GC/MS Volatiles:

The sample was analyzed using GC/MS following the current revision of SOP 525 based on SW-846 Method 8260C.

All acceptance criteria were met.

GRO:

The sample was analyzed following the current revision of SOP 425 generally based on SW-846 Methods 8000C and 8015D. The procedures are based on these methods because SW-846 does not have a specific method for TVPH or gasoline range organics. The only true modification from these methods is that TVPH is a multicomponent mixture and is quantitated by summing the entire range, rather than individual peaks. The carbon range integrated in this test extends from C₆ to C₁₀.

All acceptance criteria were met.

DRO:

The sample was analyzed following the current revision of SOP 406 generally based on SW-846 Method 8000C and Method 8015D. The procedures are based on this general method because SW-846 does not have a specific method for total extractable petroleum hydrocarbons (TEPH) or diesel range organics. The only true modification from this method is that TEPH is a multicomponent mixture and is quantitated by summing the entire range, rather than individual peaks.

All acceptance criteria were met.

ALS Environmental -- FC

Sample Number(s) Cross-Reference Table

OrderNum: 1411436

Client Name: CTL Thompson

Client Project Name: Clark 1-25

Client Project Number: FC06008.008

Client PO Number:

Client Sample Number	Lab Sample Number	COC Number	Matrix	Date Collected	Time Collected
Clark 125-1	1411436-1		SOIL	21-Nov-14	13:25



2225 Commerce Drive, Fort Collins, Colorado 80524
 TF: (800) 443-1511 PH: (970) 490-1511 FX: (970) 490-1522

Form 202r8

[illegible]

*Time Zone (Circle): EST CST MST PST Matrix: O = oil S = soil NS = non-soil solid W = water L = liquid E = extract F = filter

For metals or anions, please detail analytes below.

<div> <div>3 of 9</div> <div> <div>Comments:</div> <div></div> </div> </div>	<div>QC PACKAGE (check below)</div> <div> <div>LEVEL II (Standard QC)</div> <div>LEVEL III (Std QC + forms)</div> <div>LEVEL IV (Std QC + forms + raw data)</div> </div>
--	--

	SIGNATURE	PRINTED NAME	DATE	TIME
RELINQUISHED BY	<i>Levi Stuckton</i>	Levi Stuckton	11/21	17:27
RECEIVED BY	<i>C Trimble</i>	C Trimble	11-21-14	1727
RELINQUISHED BY				
RECEIVED BY				
RELINQUISHED BY				
RECEIVED BY				



ALS Environmental - Fort Collins
CONDITION OF SAMPLE UPON RECEIPT FORM

Client: CTL Thompson

Workorder No: 1411436

Project Manager: ARW

Initials: ECP Date: 11/22/14

1. Does this project require any special handling in addition to standard ALS procedures?		YES	<u>(NO)</u>
2. Are custody seals on shipping containers intact?	<u>NONE</u>	YES	NO
3. Are Custody seals on sample containers intact?	<u>NONE</u>	YES	NO
4. Is there a COC (Chain-of-Custody) present or other representative documents?		<u>YES</u>	NO
5. Are the COC and bottle labels complete and legible?		<u>YES</u>	NO
6. Is the COC in agreement with samples received? (IDs, dates, times, no. of samples, no. of containers, matrix, requested analyses, etc.)		<u>YES</u>	NO
7. Were airbills / shipping documents present and/or removable?	<u>DROP OFF</u>	YES	NO
8. Are all aqueous samples requiring preservation preserved correctly? (excluding volatiles)	<u>N/A</u>	YES	NO
9. Are all aqueous non-preserved samples pH 4-9?	<u>N/A</u>	YES	NO
10. Is there sufficient sample for the requested analyses?		<u>YES</u>	NO
11. Were all samples placed in the proper containers for the requested analyses?		<u>YES</u>	NO
12. Are all samples within holding times for the requested analyses?		<u>YES</u>	NO
13. Were all sample containers received intact? (not broken or leaking, etc.)		<u>YES</u>	NO
14. Are all samples requiring no headspace (VOC, GRO, RSK/MEE, Rx CN/S, radon) headspace free? Size of bubble: ____ < green pea ____ > green pea	<u>N/A</u>	YES	NO
15. Do any water samples contain sediment? Amount Amount of sediment: ____ dusting ____ moderate ____ heavy	<u>N/A</u>	YES	NO
16. Were the samples shipped on ice?		<u>YES</u>	NO
17. Were cooler temperatures measured at 0.1-6.0°C? IR gun used*: #2 <u>#4</u> RAD ONLY		<u>YES</u>	NO
Cooler #: <u>1</u>			
Temperature (°C): <u>4.2°</u>			
No. of custody seals on cooler: <u>0</u>			
External µR/hr reading: <u>NA</u>			
Background µR/hr reading: <u>14</u>			
Were external µR/hr readings ≤ two times background and within DOT acceptance criteria? YES / NO / <u>NA</u> (If no, see Form 008.)			

Additional Information: PROVIDE DETAILS BELOW FOR A NO RESPONSE TO ANY QUESTION ABOVE, EXCEPT #1 AND #16.

If applicable, was the client contacted? YES / NO / NA Contact: [Signature] Date/Time: _____

Project Manager Signature / Date: [Signature] 11/22/14

ALS Environmental -- FC
SAMPLE SUMMARY REPORT

Client: CTL Thompson
Project: FC06008.008 Clark 1-25
Sample ID: Clark 125-1
Legal Location:
Collection Date: 11/21/2014 13:25

Date: 30-Nov-14
Work Order: 1411436
Lab ID: 1411436-1
Matrix: SOIL
Percent Moisture: 12.7

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
Diesel Range Organics						
Diesel Range Organics	320	DMH	SW8015M		Prep Date: 11/23/2014	PrepBy: JFN
<i>Surr: O-TERPHENYL</i>	93		5.7 MG/KG		1	11/23/2014 19:01
			53-116 %REC		1	11/23/2014 19:01
Gasoline Range Organics						
Gasoline Range Organics	ND		SW8015		Prep Date: 11/24/2014	PrepBy: JFN
GASOLINE RANGE ORGANICS	84		0.46 MG/KG		1	11/24/2014 19:01
<i>Surr: 2,3,4-TRIFLUOROTOLUENE</i>			76-126 %REC		1	11/24/2014 19:01
GC/MS Volatiles						
GC/MS Volatiles			SW8260		Prep Date: 11/26/2014	PrepBy: TWK
BENZENE	1	J	4.9 UG/KG		1	11/26/2014 14:53
TOLUENE	2.2	J	4.9 UG/KG		1	11/26/2014 14:53
ETHYLBENZENE	ND		4.9 UG/KG		1	11/26/2014 14:53
M+P-XYLENE	ND		4.9 UG/KG		1	11/26/2014 14:53
O-XYLENE	ND		4.9 UG/KG		1	11/26/2014 14:53
<i>Surr: DIBROMOFLUOROMETHANE</i>	97		61-134 %REC		1	11/26/2014 14:53
<i>Surr: TOLUENE-D8</i>	106		57-135 %REC		1	11/26/2014 14:53
<i>Surr: 4-BROMOFLUOROBENZENE</i>	96		52-151 %REC		1	11/26/2014 14:53

ALS Environmental -- FC

SAMPLE SUMMARY REPORT

Client: CTL Thompson
Project: FC06008.008 Clark 1-25
Sample ID: Clark 125-1
Legal Location:
Collection Date: 11/21/2014 13:25

Date: 30-Nov-14
Work Order: 1411436
Lab ID: 1411436-1
Matrix: SOIL
Percent Moisture: 12.7

Analyses	Result	Qual	Report Limit	Units	Dilution Factor	Date Analyzed
----------	--------	------	--------------	-------	-----------------	---------------

Explanation of Qualifiers

Radiochemistry:

U or ND - Result is less than the sample specific MDC.
Y1 - Chemical Yield is in control at 100-110%. Quantitative yield is assumed.
Y2 - Chemical Yield outside default limits.
W - DER is greater than Warning Limit of 1.42
* - Aliquot Basis is 'As Received' while the Report Basis is 'Dry Weight'.
- Aliquot Basis is 'Dry Weight' while the Report Basis is 'As Received'.
G - Sample density differs by more than 15% of LCS density.
D - DER is greater than Control Limit
M - Requested MDC not met.
LT - Result is less than requested MDC but greater than achieved MDC.

M3 - The requested MDC was not met, but the reported activity is greater than the reported MDC.
L - LCS Recovery below lower control limit.
H - LCS Recovery above upper control limit.
P - LCS, Matrix Spike Recovery within control limits.
N - Matrix Spike Recovery outside control limits
NC - Not Calculated for duplicate results less than 5 times MDC
B - Analyte concentration greater than MDC.
B3 - Analyte concentration greater than MDC but less than Requested MDC.

Inorganics:

B - Result is less than the requested reporting limit but greater than the instrument method detection limit (MDL).
U or ND - Indicates that the compound was analyzed for but not detected.
E - The reported value is estimated because of the presence of interference. An explanatory note may be included in the narrative.
M - Duplicate injection precision was not met.
N - Spiked sample recovery not within control limits. A post spike is analyzed for all ICP analyses when the matrix spike and or spike duplicate fail and the native sample concentration is less than four times the spike added concentration.
Z - Spiked recovery not within control limits. An explanatory note may be included in the narrative.
* - Duplicate analysis (relative percent difference) not within control limits.
S - SAR value is estimated as one or more analytes used in the calculation were not detected above the detection limit.

Organics:

U or ND - Indicates that the compound was analyzed for but not detected.
B - Analyte is detected in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user.
E - Analyte concentration exceeds the upper level of the calibration range.
J - Estimated value. The result is less than the reporting limit but greater than the instrument method detection limit (MDL).
A - A tentatively identified compound is a suspected aldol-condensation product.
X - The analyte was diluted below an accurate quantitation level.
* - The spike recovery is equal to or outside the control criteria used.
+ - The relative percent difference (RPD) equals or exceeds the control criteria.
G - A pattern resembling gasoline was detected in this sample.
D - A pattern resembling diesel was detected in this sample.
M - A pattern resembling motor oil was detected in this sample.
C - A pattern resembling crude oil was detected in this sample.
4 - A pattern resembling JP-4 was detected in this sample.
5 - A pattern resembling JP-5 was detected in this sample.
H - Indicates that the fuel pattern was in the heavier end of the retention time window for the analyte of interest.
L - Indicates that the fuel pattern was in the lighter end of the retention time window for the analyte of interest.
Z - This flag indicates that a significant fraction of the reported result did not resemble the patterns of any of the following petroleum hydrocarbon products:
- gasoline
- JP-8
- diesel
- mineral spirits
- motor oil
- Stoddard solvent
- bunker C

ALS Environmental -- FC

Date: 11/30/2014 5:55

Client: CTL Thompson

QC BATCH REPORT

Work Order: 1411436

Project: FC06008.008 Clark 1-25

Batch ID: EX141123-99-1 Instrument ID FUELS-1 Method: SW8015M

LCS Sample ID: EX141123-99 Units: MG/KG Analysis Date: 11/23/2014 17:37

Client ID: Run ID: HC141123-7A Prep Date: 11/23/2014 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	142	5	125		114	76-124			20	
Surr: O-TERPHENYL	9.66		12.5		77	53-116				

MB Sample ID: EX141123-99 Units: MG/KG Analysis Date: 11/23/2014 13:54

Client ID: Run ID: HC141123-7A Prep Date: 11/23/2014 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
Diesel Range Organics	ND	5								
Surr: O-TERPHENYL	9.21		12.5		74	53-116				

The following samples were analyzed in this batch:

1411436-1

Client: CTL Thompson
Work Order: 1411436
Project: FC06008.008 Clark 1-25

QC BATCH REPORT

Batch ID: **HC141124-66-1** Instrument ID **FUELS-1** Method: **SW8015**

LCS Sample ID: **HC141124-66** Units: **MG/KG** Analysis Date: **11/24/2014 19:44**

Client ID: Run ID: **HC141124-6A** Prep Date: **11/24/2014** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGA	2.3	0.5	2.5		92	79-118			20	
Surr: 2,3,4-TRIFLUOROT	0.493		0.5		99	76-126				

MB Sample ID: **HC141124-66** Units: **MG/KG** Analysis Date: **11/24/2014 17:38**

Client ID: Run ID: **HC141124-6A** Prep Date: **11/24/2014** DF: **1**

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
GASOLINE RANGE ORGA	ND	0.5								
Surr: 2,3,4-TRIFLUOROT	0.479		0.5		96	76-126				

The following samples were analyzed in this batch:

1411436-1

Client: CTL Thompson
 Work Order: 1411436
 Project: FC06008.008 Clark 1-25

QC BATCH REPORT

Batch ID: VL141126-2-2 Instrument ID HPV1 Method: SW8260

LCS Sample ID: VL141126-2 Units: UG/KG Analysis Date: 11/26/2014 10:05

Client ID: Run ID: VL141126-2A Prep Date: 11/26/2014 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	33.2	5	40		83	73-126				
TOLUENE	35.1	5	40		88	71-127				
ETHYLBENZENE	35	5	40		87	74-127				
M+P-XYLENE	71	5	80		89	79-126				
O-XYLENE	35.6	5	40		89	77-125				
Surr: DIBROMOFLUORO	51		50		102	61-134				
Surr: TOLUENE-D8	49.9		50		100	57-135				
Surr: 4-BROMOFLUORO	49.8		50		100	52-151				

LCSD Sample ID: VL141126-2 Units: UG/KG Analysis Date: 11/26/2014 10:27

Client ID: Run ID: VL141126-2A Prep Date: 11/26/2014 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	39.9	5	40		100	73-126	33.2	18	30	
TOLUENE	42	5	40		105	71-127	35.1	18	30	
ETHYLBENZENE	41.8	5	40		105	74-127	35	18	30	
M+P-XYLENE	85.1	5	80		106	79-126	71	18	30	
O-XYLENE	42.9	5	40		107	77-125	35.6	19	30	
Surr: DIBROMOFLUORO	50.4		50		101	61-134		1		
Surr: TOLUENE-D8	51		50		102	57-135		2		
Surr: 4-BROMOFLUORO	51.3		50		103	52-151		3		

MB Sample ID: VL141126-2 Units: UG/KG Analysis Date: 11/26/2014 10:50

Client ID: Run ID: VL141126-2A Prep Date: 11/26/2014 DF: 1

Analyte	Result	ReportLimit	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	RPD	RPD Limit	Qual
BENZENE	ND	5								
TOLUENE	ND	5								
ETHYLBENZENE	ND	5								
M+P-XYLENE	ND	5								
O-XYLENE	ND	5								
Surr: DIBROMOFLUORO	50.8		50		102	61-134				
Surr: TOLUENE-D8	51.1		50		102	57-135				
Surr: 4-BROMOFLUORO	50.6		50		101	52-151				

The following samples were analyzed in this batch:

1411436-1