



State of Colorado



Oil and Gas Conservation Commission

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

#8253

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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): close earthen skim pit

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

OGCC Operator Number: 24320

Name of Operator: Diamond Operating, Inc.

Address: 6666 Gunpark Drive, Suite 200

City: Boulder State: CO Zip: 80301

Contact Name and Telephone:

Dave Peterson

No: 303-517-3399

Fax: 303-494-3931

API Number: 05-121-07603

County: Washington

Facility Name: Walters skim pit

Facility Number:

Well Name: Walters

Well Number: #1

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NW SW Sec. 1-T3S-R54W

Latitude: 39.815243

Longitude: 103.385718

TECHNICAL CONDITIONS

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

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

Potential receptors (water wells within 1/4 mi, surface waters, etc.): 150' from ephemeral drainage

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

Impacted Media (check):

- ☒ Soils
☐ Vegetation
☐ Groundwater
☐ Surface Water

Extent of Impact:

Oil-stained soil

How Determined:

Visual

REMEDIALTION WORKPLAN

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

Removed screen cover from skim pit. Removed water from pit. Excavated approximately 40 cubic yards of soil with some oil-staining. Placed soil on plastic.

Describe how source is to be removed:

Soil was removed from pit with trackhoe.

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.:

After the pit is closed, excavated soil will be hauled to Clean Harbors – Deer Trail facility for final disposal. Operator will provide COGCC with chain of custody documentation.



Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: _____

REMEDIATION WORKPLAN (Cont.)

OGCC Employee: _____

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

Not applicable

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.

After testing soil sample from base of the pit, if the analytical results comply with concentration levels set forth in Table 910-1, backfill pit using excess soil available on site. Pit area will be restored to original grade. Location of pit is within confines of tank battery site and therefore it will not be reseeded at this time.

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.):

Clean Harbors – Deer Trail, Colorado disposal facility

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 1/21/2014	Date Site Investigation Completed: 1/27/2014	Date Remediation Plan Submitted: 2/7/2014
Remediation Start Date: 3/5/2014	Anticipated Completion Date: 3/10/2014	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: David C. Peterson

Signed: _____

Title: President

Date: 2/11/2014

OGCC Approved: _____

Title: EPS

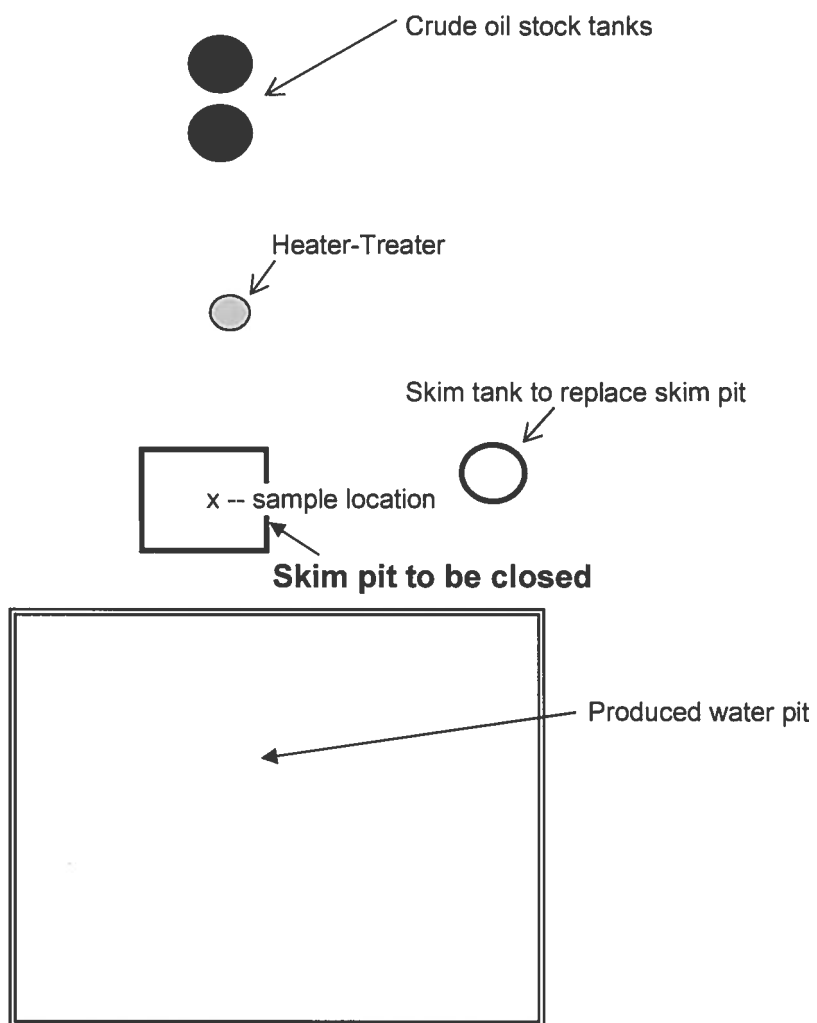
Date: 3/5/14

Attachment to Form 27 - Location of soil sample collection
Diamond Operating Inc.
Walters #1 skim pit [API: 05-121-07603 00]



Earthen Skim Pit -- Schematic Diagram

Plan View of Site





02/04/14

Technical Report for

Diamond Operating Inc.

Walters #1 -Skim Pit

Below Old Skim Pit

Accutest Job Number: D54618

Sampling Date: 01/27/14

Report to:

Diamond Operating Inc.
6666 Gunpark Drive Suite 200
Boulder, CO 80301
davep@flatironenergy.com

ATTN: Dave Peterson

Total number of pages in report: 39



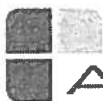
Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Scott Heideman
Laboratory Director

Client Service contact: Renea Jackson 303-425-6021

Certifications: CO (CO00049), ID, NE (CO00049), ND (R-027), NJ (CO 0007), OK (D9942), UT (NELAP CO00049), TX (T104704511)

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.
Test results relate only to samples analyzed.



Mountain States

ACCUTEST
LABORATORIES

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Sample Results

Report of Analysis

Report of Analysis

Page 1 of 1

Client Sample ID:	WALTERS SOIL	Date Sampled:	01/27/14
Lab Sample ID:	D54618-1	Date Received:	01/28/14
Matrix:	SO - Soil	Percent Solids:	92.1
Method:	SW846 8015B		
Project:	Walters #1 -Skim Pit		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB23519.D	1	01/30/14	EV	n/a	n/a	GGB1298
Run #2							

	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-GRO (C6-C10)	ND	12	5.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
120-82-1	1,2,4-Trichlorobenzene	90%		60-140%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: WALTERS SOIL
 Lab Sample ID: D54618-1
 Matrix: SO - Soil
 Method: SW846 8021B
 Project: Walters #1 -Skim Pit

Date Sampled: 01/27/14
 Date Received: 01/28/14
 Percent Solids: 92.1

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB23519.D	1	01/30/14	EV	n/a	n/a	GTB1298
Run #2							

Run #	Initial Weight	Final Volume	Methanol Aliquot
Run #1	5.0 g	5.0 ml	100 ul
Run #2			

Purgeable Aromatics

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	58	19	ug/kg	
108-88-3	Toluene	ND	120	58	ug/kg	
100-41-4	Ethylbenzene	ND	120	58	ug/kg	
1330-20-7	Xylenes (total)	ND	120	120	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	96%		60-140%

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: WALTERS SOIL
 Lab Sample ID: D54618-1
 Matrix: SO - Soil
 Method: SW846-8015B SW846 3546
 Project: Walters #1 -Skim Pit

Date Sampled: 01/27/14
 Date Received: 01/28/14
 Percent Solids: 92.1

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH017684.D	1	01/29/14	JS	01/29/14	OP9322	GFH876
Run #2							

	Initial Weight	Final Volume
Run #1	30.2 g	1.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	9.04	7.2	5.4	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	53%		20-130%		

ND = Not detected MDL - Method Detection Limit
 RL = Reporting Limit
 E = Indicates value exceeds calibration range

J = Indicates an estimated value
 B = Indicates analyte found in associated method blank
 N = Indicates presumptive evidence of a compound

Report of Analysis

Page 1 of 1

Client Sample ID: WALTERS SOIL
Lab Sample ID: D54618-1
Matrix: SO - Soil
Project: Walters #1 -Skim Pit

Date Sampled: 01/27/14
Date Received: 01/28/14
Percent Solids: 92.1

4.1
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General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
%solids							
Solids, Percent	92.1		%	1	01/29/14	SWT	SM2540G-2011 M
prep: DEPT.OF AG, BOOK N9							
Specific Conductivity	485	1.0	umhos/cm	1	02/03/14	KB	SM 2510B-2011 MOD
pH	7.93		su	1	01/31/14 14:50	AK	SW846 9045D

RL = Reporting Limit

Report of Analysis

Client Sample ID: WALTERS SOIL
Lab Sample ID: D54618-1A
Matrix: SO - Soil
Project: Walters #1 -Skim Pit

Date Sampled: 01/27/14
Date Received: 01/28/14
Percent Solids: 92.1

4.2
4

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	54.4	2.0	mg/l	1	01/31/14	02/03/14 KV	SW846 6010C ¹	SW846 3010A/M ²
Magnesium	7.61	1.0	mg/l	1	01/31/14	02/03/14 KV	SW846 6010C ¹	SW846 3010A/M ²
Sodium	8.52	2.0	mg/l	1	01/31/14	02/03/14 KV	SW846 6010C ¹	SW846 3010A/M ²

(1) Instrument QC Batch: MA4425

(2) Prep QC Batch: MP12242

RL = Reporting Limit

Report of Analysis

Page 1 of 1

Client Sample ID:	WALTERS SOIL	Date Sampled:	01/27/14
Lab Sample ID:	D54618-1A	Date Received:	01/28/14
Matrix:	SO - Soil	Percent Solids:	92.1
Project:	Walters #1 -Skim Pit		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	0.286		ratio	1	02/03/14 13:53	KV	USDA HANDBOOK 60

(a) Calculated as: $(\text{Na meq/L}) / \sqrt{[(\text{Ca meq/L}) + (\text{Mg meq/L})/2]}$

RL = Reporting Limit