

State of Colorado
Oil and Gas Conservation Commission

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



#7096

RECEIVED

APR 25 2012

COGCC

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): Soil from abandoned skim pit

OGCC Operator Number: 24320Name of Operator: Diamond Operating, Inc.Address: 6666 Gunpark Drive, Suite 200City: Boulder State: CO Zip: 80301

Contact Name and Telephone:

Dave PetersonNo: 303-494-4420Fax: 303-494-3941API Number: 05-121-6946 00County: WashingtonFacility Name: Walters tank batteryFacility Number: 102634Well Name: WaltersWell Number: #1Location: (QtrQtr, Sec, Twp, Rng, Meridian): SE NW 21-T2N-R49W Latitude: 40.12835 Longitude: 102.86318

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc.): Oily soil removed from abandoned skim pitSite 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.): Dry land farming

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.): None

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

Impacted Media (check):



Soils



Vegetation



Groundwater



Surface Water

Extent of Impact:

Minimal; most analyses below 910 standard

How Determined:

Soil sample analysis

REMEDIATION WORKPLAN

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

Impacted soil [35 square yards] was removed from skim pit and stock-piled on location. Soil sample was taken from impacted soil. See attached analyses.

Describe how source is to be removed:

Requesting permission to land farm soil removed from skim pit.

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.:

The site has a large unused area adjacent to the tank battery that is not farmed. We are requesting permission to spread the soil in a portion of this area and mix the soil with a fertilizer compound containing nitrogen in order to enhance microbial activity. This will enable the bioremediation of the soil.

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)894-2109Page 2
REMEDIAL WORKPLAN (Cont.)Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: Walters Tank Battery
Facility Name & No: Pit Facility ID# 102634

OGCC Employee: _____

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

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.

See attached diagram showing location of land farm operation.

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.):

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: March 15, 2012 Date Site Investigation Completed: April 10, 2012 Date Remediation Plan Submitted: April 23, 2012
Remediation Start Date: _____ Anticipated Completion Date: Est. May 15, 2012 Actual Completion Date: _____

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

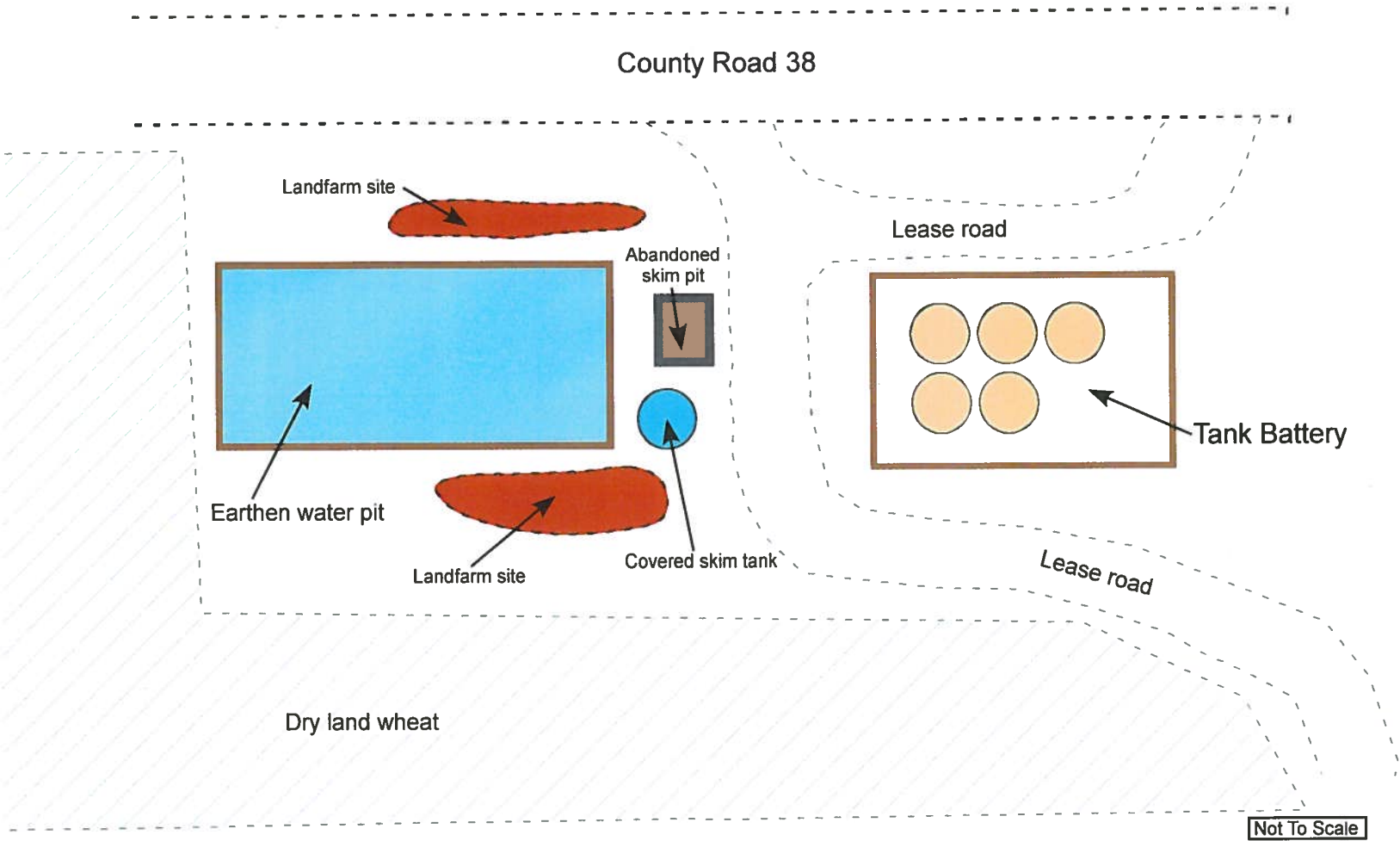
Print Name: David C. Peterson

Signed:

Title: PresidentDate: April 23, 2012

OGCC Approved:

Title: FORDate: 06/19/2012John Axelsson
EPS NE Region



Accutest Laboratories

Sample Summary

Diamond Operating Inc.

Job No: D33655

Walters-Skim Pit Closure

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
D33655-1	04/10/12	10:00 SG	04/13/12	SO	Soil	SOIL FROM PIT - <i>Removed From Pit</i>
D33655-2	04/10/12	10:00 SG	04/13/12	SO	Soil	BASE OF PIT AFTER SOIL REMOVED

Report of Analysis

Client Sample ID: SOIL FROM PIT
Lab Sample ID: D33655-1
Matrix: SO - Soil
Method: SW846 8015B
Project: Walters-Skim Pit Closure

Date Sampled: 04/10/12
Date Received: 04/13/12
Percent Solids: 98.2

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	GB15756.D	1	04/17/12	SK	n/a	n/a	GGB878
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	10	5.1	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:	SOIL FROM PIT	Date Sampled:	04/10/12
Lab Sample ID:	D33655-1	Date Received:	04/13/12
Matrix:	SO - Soil	Percent Solids:	98.2
Method:	SW846 8021B		
Project:	Walters-Skim Pit Closure		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	TB15756.D	1	04/17/12	SK	n/a	n/a	GTB878
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	51	16	ug/kg	
108-88-3	Toluene	ND	100	51	ug/kg	
100-41-4	Ethylbenzene	ND	100	51	ug/kg	
1330-20-7	Xylenes (total)	ND	100	100	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
120-82-1	1,2,4-Trichlorobenzene	89%		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:	SOIL FROM PIT	Date Sampled:	04/10/12
Lab Sample ID:	D33655-1	Date Received:	04/13/12
Matrix:	SO - Soil	Percent Solids:	98.2
Method:	SW846-8015B SW846 3546		
Project:	Walters-Skim Pit Closure		

Run #	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	FH003457.D	1	04/19/12	AV	04/16/12	OP5724	GFH186
Run #2							

Run #	Initial Weight	Final Volume
Run #1	30.0 g	2.0 ml
Run #2		

CAS No.	Compound	Result	RL	MDL	Units	Q
	TPH-DRO (C10-C28)	1430	14	8.8	mg/kg	
CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits		
84-15-1	o-Terphenyl	79%		43-136%		

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: SOIL FROM PIT
Lab Sample ID: D33655-1
Matrix: SO - Soil
Project: Walters-Skim Pit Closure

Date Sampled: 04/10/12
Date Received: 04/13/12
Percent Solids: 98.2

SAR Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed By	Method	Prep Method
Calcium	30.7	2.0	mg/l	1	04/17/12	04/17/12 JB	SW846 6010C ¹	EPA 200.7 ²
Magnesium	5.38	1.0	mg/l	1	04/17/12	04/17/12 JB	SW846 6010C ¹	EPA 200.7 ²
Sodium	91.0	2.0	mg/l	1	04/17/12	04/17/12 JB	SW846 6010C ¹	EPA 200.7 ²

(1) Instrument QC Batch: MA2344

(2) Prep QC Batch: MP7311

Report of Analysis

Client Sample ID: SOIL FROM PIT
Lab Sample ID: D33655-1
Matrix: SO - Soil
Project: Walters-Skim Pit Closure

Date Sampled: 04/10/12
Date Received: 04/13/12
Percent Solids: 98.2

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Sodium Adsorption Ratio ^a	3.98		ratio	1	04/17/12 15:50	JB	USDA HANDBOOK 60
Solids, Percent	98.2		%	1	04/17/12	SWT	SM19 2540B M
Specific Conductivity	561	1.0	umhos/cm	1	04/18/12	CJ	DEPT.OF AG, BOOK N9
pH	9.08		su	1	04/13/12 14:30	CT	SW846 9045C

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