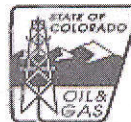


State of Colorado
Oil and Gas Conservation Commission



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

#7102

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6/13/2012

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.

OGCC Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

CAUSE OF CONDITION BEING INVESTIGATED AND REMEDIATED

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

OGCC Operator Number: 100264

Name of Operator: XTO Energy Inc.

Address: PO Box 6501

City: Englewood State: CO Zip: 80155

Contact Name and Telephone:

Jessica Dooling

No: 970-675-4122

Fax: 970-675-4150

API Number: 05-103-09711-00

County: Rio Blanco

Facility Name: Piceance Creek Unit

Facility Number: NA/Partially Buried Tank Pit Closure

Well Name: Piceance Creek Unit

Well Number: F31-19G

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWNE, Sec.19, T2S, R96W, 6thPM Latitude: 39.86638 Longitude: -108.20904

TECHNICAL CONDITIONS

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

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.): non-cropland rangeland

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Torriorthents-Rock outcrop complex

Potential receptors (water wells within 1/4 mi, surface waters, etc.): no water wells within 1/4 mile,

nearest surface water is approximately 2702 feet away.

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

Impacted Media (check):

- ☒ Soils
☐ Vegetation
☐ Groundwater
☐ Surface Water

Extent of Impact:

pit contents: TPH, pH and arsenic

How Determined:

laboratory analysis

REMEDIALTION WORKPLAN

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

The west partially buried tank was removed from the PCU F13-19G location. A composite sample was collected from the pit bottom/sidewalls and analyzed for full Table 910-1. Results indicated that the material was in exeedance of Table 910-1 concentration levels for TPH (764 mg/kg), ph (9.1) and Arsenic (8.2 mg/kg). One foot of material was removed from the pit bottom/sidewalls, a composite sample was collected from the pit/sidewalls and analyzed for TPH and Arsenic. Results are below Table 910-1 concentrations with the exception of Arsenic (8.7 mg/kg).

Describe how source is to be removed:

NA

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.:

Impacted material will be removed and transported to an approved off-site disposal/recycling facility.



REMEDIAL WORKPLAN (Cont.)

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

OGCC Employee: _____

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

Available information indicates that the uppermost groundwater bearing zone is greater than 100 feet below the ground surface. Soil samples were collected for laboratory analysis from beneath the low point of the tank area to confirm no groundwater impact potential exists (see Table 1).

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 pit will be backfilled to existing grade with material imported to the site.

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.):

Impacted material will be removed and transported to an approved off-site disposal/recycling facility.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 5/15/2012 Date Site Investigation Completed: 6/12/2012 Date Remediation Plan Submitted: _____
Remediation Start Date: pending approval Anticipated Completion Date: pending approval Actual Completion Date: TBD

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

Print Name: DOLENA JOHNSON

Signed: Dolena Johnson

Title: REGULATORY COMPLIANCE TECHNICIAN

Date: 06/13/2012

OGCC Approved: Dorena Johnson

Title: FOR Chris Camfield

Date: 06/20/2012

EPS NW Region

Table 1 - West Partially Buried Tank
Location: PCU F31-19G
Lab Summary

6/12/2012

Analytical Parameter (with units)	West Partially Buried Tank				Background Samples (5/31/12)								COGCC	Background
	West Partially Buried Tank 5/15/12	Partially Buried Tank Bottom -1' 5/31/12	Partially Buried Tank West Wall - 1' 5/31/12	Partially Buried Tank East Wall -1' 5/31/12	#1	#2	#3	#4	#5	#6	#7	#8	Table 910-1 Concentration Levels	Maximum based on Background
Accutest Job #	D34583	D35040			D35034									
Sample Type (Composite/Discrete)	C	C	C	C	D	D	D	D	D	D	D	D		
TPH (GRO) (mg/Kg)	ND	ND	ND	ND	-	-	-	-	-	-	-	-	-	-
TPH (DRO) (mg/Kg)	764	442	239	429	-	-	-	-	-	-	-	-	-	-
TPH (GRO + DRO) (mg/Kg)	764	442	239	429	-	-	-	-	-	-	-	-	500	-
Benzene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	0.170	-
Toluene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	85	-
Ethylbenzene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	100	-
Xylenes (total) (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	175	-
Acenaphthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	1000	-
Anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	1000	-
Benzo(A)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(B)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Benzo(K)fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	2.2	-
Benzo(A)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	0.022	-
Chrysene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	22	-
Dibenzo(A,H)anthracene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	0.022	-
Fluoranthene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	1000	-
Fluorene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	1000	-
Indo(1,2,3,C,D)pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	0.22	-
Napthalene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	23	-
Pyrene (mg/Kg)	ND	-	-	-	-	-	-	-	-	-	-	-	1000	-
Electrical Conductivity (mmhos/cm)	0.356	-	-	-	-	-	-	-	-	-	-	-	<4 or 2X BG	-
Sodium Adsorption Ratio (SAR)	0.705	-	-	-	-	-	-	-	-	-	-	-	<12	-
pH	9.10	-	-	-	-	-	-	-	-	-	-	-	6-9	-
Arsenic (mg/kg)	8.2	8.7	-	-	19.4	17.2	21.4	10.4	9.2	8.2	18.1	19.5	0.39	23.5
Barium (mg/kg)	1600	-	-	-	-	-	-	-	-	-	-	-	15000	-
Cadmium (mg/kg)	<1.2	-	-	-	-	-	-	-	-	-	-	-	70	-
Chromium (III) (mg/Kg)	16.4	-	-	-	-	-	-	-	-	-	-	-	120000	-
Chromium (VI) (mg/Kg)	<1.0	-	-	-	-	-	-	-	-	-	-	-	23	-
Copper (mg/kg)	18.6	-	-	-	-	-	-	-	-	-	-	-	3100	-
Lead (inorganic) (mg/kg)	10.4	-	-	-	-	-	-	-	-	-	-	-	400	-
Mercury (mg/kg)	<0.12	-	-	-	-	-	-	-	-	-	-	-	23	-
Nickel (mg/kg)	35.6	-	-	-	-	-	-	-	-	-	-	-	1600	-
Selenium (mg/kg)	<5.8	-	-	-	-	-	-	-	-	-	-	-	390	-
Silver (mg/kg)	<3.5	-	-	-	-	-	-	-	-	-	-	-	390	-
Zinc (mg/kg)	44.2	-	-	-	-	-	-	-	-	-	-	-	23000	-
% Solids	80.9	86.1	87.3	87.1	97.0	97.7	98.5	97.5	95.2	96.3	96.0	96.9		

Notes:

- 1) ND = not detectable to the laboratory detection limit.
- 2) "-" indicates no analysis was performed.
- 3) Results highlighted in yellow exceed Table 910-1 parameters; results highlighted in gray exceed Table 910-1 but are within background.
- 4) Refer to Figure 1 for sample locations.

