

State of Colorado
Oil and Gas Conservation Commission



FOR OGCC USE ONLY
Received: 12/1/14
REM: 8786
Doc# 2313271

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

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): Pit Closure

OGCC Operator Number: <u>53255</u>	Contact Name and Telephone: <u>Naomi Azulai</u>
Name of Operator: <u>Maralex Resources, Inc.</u>	No: <u>970-563-4000</u>
Address: <u>PO Box 338</u>	Fax: <u>970-563-4116</u>
City: <u>Ignacio</u> State: <u>CO</u> Zip: <u>81137</u>	
API Number: <u>05-045-06092</u> County: <u>Garfield</u>	
Facility Name: <u>Bear Gulch 1-30</u> Facility Number: <u>113598</u>	
Well Name: <u>Bear Gulch</u> Well Number: <u>30-4</u>	
Location: (QtrQtr, Sec, Twp, Rng, Meridian): <u>NWSW SEC30 T5S R100W 6</u> Latitude: <u>39.5843</u> Longitude: <u>-108.6623</u>	

TECHNICAL CONDITIONS

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

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, undeveloped

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Parachute - Irigul Complex 5 to 30 percent slopes

Potential receptors (water wells within 1/4 mi, surface waters, etc.): none within 1/4 mile

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

Impacted Media (check):	Extent of Impact:	How Determined:
<input checked="" type="checkbox"/> Soils	<u>limited to pit</u>	<u>lab analysis</u>
<input type="checkbox"/> Vegetation	_____	_____
<input type="checkbox"/> Groundwater	_____	_____
<input type="checkbox"/> Surface Water	_____	_____

REMEDIALTION WORKPLAN

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

Soils were sampled from the pit bottom by Intertech on 11/19/2014. The soils were analyzed for the COGCC's Table 910-1 parameters.

Describe how source is to be removed:

No source removal is required. The contaminants in the soil do not exceed the Table 910-1 limits with the exception of Arsenic which occurs naturally in the soils in this area at higher than limit levels as reflected in the background sample.

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.:

No remediation is proposed before backfilling the pit. The contaminants in the soil do not exceed the Table 910-1 limits with the exception of Arsenic which occurs naturally in the soils in this area at higher than limit levels.



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.):

There is no suspicion that groundwater has been impacted.

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 reclaimed by backfilling it with soil from the earthen berms. The material will be graded so that water flows away from the pit.

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 E&P waste has been generated.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 11/19/2014 Date Site Investigation Completed: 12/1/2014 Date Remediation Plan Submitted: 12/1/2014
Remediation Start Date: _____ Anticipated Completion Date: 12/2014 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: Naomi Azulai Signed: _____
Title: Production Technician Date: 12/1/2014

OGCC Approved: _____ Title: _____ Date: _____

Table 910-1 Parameters
Summary of Lab Results from Sample Collected from Bear Gulch 30-4 Pit
11/19/2014

Contaminant of Concern in Soil	COGCC Table 910-1 Allowable Conc.	Sample Analysis Pit	Sample Analysis Background	Notes
Organic Compounds				
TPH (DRO + GRO) (mg/kg)	500	36 + ND = 36		
Benzene (mg/kg)	0.17	ND		
Toluene (mg/kg)	85	ND		
Ethylbenzene (mg/kg)	100	ND		
Xylenes (total) (mg/kg)	175	ND		
Acenaphthene (mg/kg)	1,000	ND		
Anthracene (mg/kg)	1,000	ND		
Benzo(A)anthracene (mg/kg)	0.22	ND		
Benzo(B)fluoranthene (mg/kg)	0.22	ND		
Benzo(K)fluoranthene (mg/kg)	2.2	ND		
Benzo(A)pyrene (mg/kg)	0.022	ND		
Chrysene (mg/kg)	22	ND		
Dibenzo(A,H)anthracene (mg/kg)	0.022	ND		
Fluoranthene (mg/kg)	1,000	ND		
Fluorene (mg/kg)	1,000	ND		
Indeno(1,2,3,C,D)pyrene (mg/kg)	0.22	ND		
Napthalene (mg/kg)	23	ND		
Pyrene (mg/kg)	1,000	ND		
Inorganics				
Electrical Conductivity (EC) (mmhos/cm)	<4 or 2x background	0.84		
Sodium Adsorption Ratio (SAR)	<12	0.35	0.22	
pH	6 to 9	8	7.1	
Metals				
Arsenic (mg/kg)	0.39	4.7	4.7	Typical of background values
Barium (LDNR True Total Barium) (mg/kg)	15,000	520		
Boron (Hot Water Soluble) mg/L	2			required only for orchard location
Cadmium (mg/kg)	70	ND		
Chromium III (mg/kg)	120,000	21		
Chromium VI (mg/kg)	23	ND		
Copper (mg/kg)	3,100	23		
Lead (inorganic) (mg/kg)	400	23		
Mercury (mg/kg)	23	0.029		
Nickel (Soluble Salts) (mg/kg)	1,600	18		
Selenium (mg/kg)	390	3		
Silver (mg/kg)	390	ND		
Zinc (mg/kg)	23,000	130		