FORM 27 Rev 6/99

#5988

State of Colorado
Oil and Gas Conservation Commission

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

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RECEIVED 4/11/2012

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):

OGCC Operator Number: 16700
Name of Operator: Chevron USA, Inc.
Address: 760 Horizon Drive
City: Grand Junction State: CO Zip: 81506

Contact Name and Telephone:
Eric Page
No: Cell: 832.439.3832 Office: 713.372.1022
Fax: NA

API Number: 045-10713
Facility Name: Skinner Ridge
Well Name: SKINNER RIDGE 698-11-01
Location: (QtrQtr, Sec, Twp, Rng, Meridian): SESE 11 6S 98W

County: Garfield
Facility Number: 286033
Well Number: 324305
Latitude: 39.542395 Longitude: -108.291180

TECHNICAL CONDITIONS

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

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-crop land

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

Potential receptors (water wells within 1/4 mi, surface waters, etc.): Deer Park Gulch and Clear Creek

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

Impacted Media (check):	Extent of Impact:	How Determined:
☑ Soils	Impacted soils in lined pit, no impacts below liner.	See attached analytical results and sampling plan.
☐ Vegetation		
☐ Groundwater		
☐ Surface Water		

REMEDIATION WORKPLAN

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

Initial work at this location consisted of the removal of the netting material and fencing in order to access the pit. The exposed liner material that was on top of the pit contents was removed using an excavator. All pit material was shaken off the liner while it was being removed. The liner material was then cut into manageable sized pieces and was stored temporarily in a bermed area at the pit location.

Describe how source is to be removed:

Excavation of the pit material occurred between 9/1/11 and 9/6/11 in which the material was stockpiled within a bermed area on the well pad. Excavation continued until there were no visual impacts observed after the lower pit liner was encountered. Confirmation samples were collected from the western floor of the excavation and the north and east walls on 9/2/11. Sample results are presented in Table 1 as 11-1 "sample location" CONF.

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.:

Pit contents were mixed with approximately 1,700 cy of soil from a nearby borrow area and tested to verify that constituent concentrations in mixed soil did not exceed COGCC regulatory requirements summarized in Table 910-1 as listed on the attached Table 1. The mix ratio was determined by analyzing three bench scale mixes of borrow material to pit contents (1:1, 2:1, 3:1) presented in Table 1 and identified as 11-1 BENCH "mix ratio". Based on these results, the Pit 11-1 material was mixed at a ratio of 3:1.

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REMEDIATION WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: _____
Facility Name & No: Pit # 286033

OGCC Employee:

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
Impacted material was excavated until clean native soil was observed and tested. No groundwater was observed, therefore groundwater was not impacted from the pit.

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 contents were mixed with soil from the borrow area at a ratio of approximately 3:1 borrow material to pit contents. Mixing occurred by placing one loader bucket of pit material into the pit, then placing 3 loader buckets of borrow material into the pit and mixing the material in the pit with an excavator until well mixed. The material was then compacted by wheel-rolling the material with the front-end loader. Samples were collected from the backfill as it was being placed in the pit. These samples were collected after 200 cubic yards (cy) of pit material was mixed with 600 cy of borrow material, when 350 cy (cumulative) of pit material was mixed with 1050 cy of borrow material, and when 550 cy (cumulative) of pit material was mixed with 1650 cy of borrow material. The final backfill sample (550 cy) exceeded COGCC requirements so the material was mixed with additonal borrow material and resampled. The remixed sample results were within COGCC requirements. The results of these backfill samples are located in Table 1 and are identified as 11-1 BACKFILL "backfill amount". The final surface was graded to match the existng elevation of the well pad and will be utilized as a traffic area.

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:
Based on the backfill and pit confirmation sample results, further investigation is not required. Three background soil samples were collected from the edges of the well pad away from the 11-1 pit and analyzed for Sodium Absorption Ratio (SAR), pH, Arsenic, and Specific Conductivity to justify elevated levels for these constituents in the mixing, backfill, and confirmation samples. The backfill results still have elevated sodium adsorption ratio (SAR), pH, and arsenic above COGCC allowable limits. According to COGCC regulations section 910.b.(3).E, "Where EC of the impacted soil exceeds the level in Table 910-1, the sodium adsorption ratio (SAR) shall also be determined." The electrical conductivity (EC) of the backfill is within COGCC allowable limits. The background samples show comparable concentrations of arsenic. While the background pH samples are relatively high and exceed COGCC allowable limits in one of the samples, the concentrations are not as high as the pH of the backfill which are likely the result of normally high pH soil from the borrow area.

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):
Pit contents were mixed with borrow soil and backfilled within the closed pits.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: 6/6/11	Date Site Investigation Completed: 6/8/11	Date Remediation Plan Submitted: 9/11/11
Remediation Start Date: 8/22/2011	Anticipated Completion Date: 11/30/2011	Actual Completion Date: 10/14/2011

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

Print Name: ERIC PAGE Signed: _____

Title: Project Manager Date: 9/10/12

OGCC Approved: _____ Title: For Chris Canfield Date: 04/13/2012

EPS NW Region

Table 1
Chevron Piceance Pits
Pit 11-1

Sample Summary														
Sample Location	11-1 BENCH 1:1	11-1 BENCH 2:1	11-1 BENCH 3:1	11-1 EAST FLOOR CONF	11-1 NORTH WALL CONF	11-1 WEST FLOOR CONF	11-1 BKGD NORTH	11-1 BKGD SOUTH	11-1 BKGD WEST	11-1 BACKFILL 200 YD	11-1 BACKFILL 350 YD	11-1 BACKFILL 550 YD	11-1 BACKFILL 550 YD-B	
Sample Type	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	Composite	
Sample Date	9/2/2011	9/2/2011	9/2/2011	9/2/2011	9/2/2011	9/2/2011	9/12/2011	9/12/2011	9/12/2011	10/14/2011	10/14/2011	10/14/2011	11/21/2011	
Laboratory Data Summary														
Analytical Parameters													COGCC Allowable Limits Table 910-1	**Units**
Organic Compounds														
TPH-Total	805.7	779.3	337	118	103	110	NA	NA	NA	224	127	734	317	500 (Comb)	mg/kg
Gasoline Range Organics	19.7	16.3	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	*	mg/kg
Diesel Range Organics	786	763	337	118	103	110	NA	NA	NA	224	127	734	317	*	mg/kg
Benzene	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	0.17	mg/kg
Toluene	0.0089	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	85	mg/kg
Ethylbenzene	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	100	mg/kg
Xylenes, Total	0.0426	0.0281	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	175	mg/kg
Acenaphthene	0.0869	0.109	ND	ND	ND	ND	NA	NA	NA	0.0174	0.0116	0.0612	NA	1,000	mg/kg
Anthracene	ND	0.042	ND	ND	ND	ND	NA	NA	NA	0.0046	0.0039	0.0209	NA	1,000	mg/kg
Benzo(a)anthracene	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	0.22	mg/kg
Benzo(a)pyrene	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	0.022	mg/kg
Benzo(b)fluoranthene	ND	ND	ND	0.0057	0.0053	ND	NA	NA	NA	ND	ND	0.0062	NA	0.22	mg/kg
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	2.2	mg/kg
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	0.22	mg/kg
Chrysene	ND	ND	ND	ND	ND	ND	NA	NA	NA	0.0108	0.005	0.0179	NA	22	mg/kg
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	0.022	mg/kg
Fluoranthene	ND	ND	ND	ND	ND	ND	NA	NA	NA	0.0055	ND	0.0128	NA	1,000	mg/kg
Fluorene	0.096	0.146	ND	0.0042	ND	ND	NA	NA	NA	0.0281	0.0177	0.095	NA	1,000	mg/kg
Naphthalene	0.454	0.638	0.296	0.0136	0.0081	0.0167	NA	NA	NA	0.129	0.0447	0.184	NA	23	mg/kg
Pyrene	0.0717	0.0877	ND	0.0068	0.0046	ND	NA	NA	NA	0.021	0.0152	0.0652	NA	1,000	mg/kg
Physical Properties														
Sodium Adsorption Ratio	37.3	32.1	16.7	59.4	72.3	45.4	ND	0.95	ND	12.8	7.6	20.4	NA	<12	
Specific Conductivity	5.48	4.8	3.11	3.28	3.13	2.98	0.0497	0.053	0.0608	2.22	1.61	4	NA	<4	mmhos/cm
pH	11.1	11	10	9.2	9.1	9.1	9	9.1	8.9	9.3	8.8	10	NA	6 to 9	Std. Units
Metals														
Arsenic	21.5	15.1	25.1	26.5	23.7	36.9	13.7	20.3	13.9	11.4	12.9	18.6	NA	0.39	mg/kg
Barium	2430	2230	2150	524	875	467	NA	NA	NA	1130	795	1860	NA	15000	mg/kg
Cadmium	2.9	2.5	2	1.4	1.3	1.6	NA	NA	NA	0.9	0.63	1.4	NA	70	mg/kg
Chromium, Hexavalent	ND	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	23	mg/kg
Chromium, Trivalent	26.6	20.4	23.7	19.5	26	24.2	NA	NA	NA	15.9	19.3	21	NA	120000	mg/kg
Copper	52.3	37.8	38.7	33.4	28.9	32.9	NA	NA	NA	23.3	24.8	27.4	NA	3100	mg/kg
Lead	19.6	14.9	16	15.4	13.8	16.3	NA	NA	NA	11.9	14.2	16.8	NA	400	mg/kg
Mercury	0.045	ND	ND	ND	ND	ND	NA	NA	NA	ND	ND	ND	NA	23	mg/kg
Nickel	21.1	27.3	18.7	23.6	18.2	19.9	NA	NA	NA	13.3	16.4	16.5	NA	1600	mg/kg
Selenium	6.6	5.5	2.8	ND	ND	ND	NA	NA	NA	1.8	ND	3.5	NA	390	mg/kg
Silver	1	0.84	0.94	0.77	0.84	0.81	NA	NA	NA	ND	ND	ND	NA	390	mg/kg
Zinc	67.7	52	62.6	69.5	52.1	58.8	NA	NA	NA	44.8	52.5	50.1	NA	23000	mg/kg

NA - Not analyzed
ND - Parameter reported under detection limit
mg/kg - milligrams per kilogram
mmhos/cm - millohms per centimeter
Bold Font Exceeds COGCC allowable limits