

State of Colorado
Oil and Gas Conservation Commission

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



FOR OGCC USE ONLY

REM 8566
Received 9/16/2015
Document 2315544

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 Employee:

☐ Spill ☐ Complaint
☐ Inspection ☐ NOAV

Tracking No:

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:

Marcelo Barberis

No: Cell: 832.693.1679 Office: 713.372.0289

Fax: NA

API Number: _____

County: Rio Blanco

Facility Name: Emergency Pit - Rangely Weber Station 18

Facility Number: 102562

Well Name: N/A

Well Number: N/A

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NWNW 32 2N 102W Latitude: 40.104093 Longitude: -108.874675

TECHNICAL CONDITIONS

Type of Waste Causing Impact (crude oil, condensate, produced water, etc): emergency pressure relief from adjacent collection station

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.): 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:

Hydrocarbon impacts to approximately 5-10 feet below pit bottom

How Determined:

Field screening techniques during excavation

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 posts in order to access the pit. These materials were segregated and stockpiled for recycle and/or disposal. Excess liquids were removed with a vacuum truck for recycling at the Chevron Operations Facility. All piping to the pits was disconnected at the Collection Station and removed from the pit to approximately 30-feet from the limits. It was determined through sampling that piping to the pit was wrapped with asbestos containing material (ACM). The ACM was managed by a certified asbestos contractor (Weldon). Best management practices (BMPs) were utilized in that the piping was wetted, cold-cut, and wrapped in Visqueen plastic. It was then transported to a stockpile area until disposed as ACM waste. ACM material was managed in accordance with OSHA and Colorado standards for managing ACM.

Describe how source is to be removed:

Impacted material was identified by field screening techniques including visual identification of staining and odors in the soil and by use of a photonization detector (PID). Based on screening impacted soil was excavated from the pit, loaded on to trucks, and hauled to the Chevron-operated landfarm for management. A total of 1,584 CY of impacted material was hauled to the landfarm. No groundwater was encountered during the excavation of this pit. Clean borrow material was imported from an off-site source. Discrete confirmation samples were collected from each of the four walls of the excavation, from the floor, and from an area outside of the pit location as a background sample. Samples were collected based on guidance from rule 910.b(2)B which included collected samples from the area most suspected of having impacts based on field screening techniques. The samples collected in accordance with EPA techniques for collecting soil samples and were analyzed by Pace Analytical Laboratories in Lenexa, KS. All sample locations from the pit walls and bottom were surveyed using a global positioning system (GPS) device. A table of the sample results and a figure illustrating the sample locations in relation to the original pit location are attached to this form. See attached explanation concerning the background samples collected.

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.:

Excess liquids removed by vacuum truck were recycled at the Chevron-operated water treatment facility. Impacted soil was loaded and transported by truck to Chevron-operated landfarm in Rangely CO for management.



Page 2
REMEDIAL WORKPLAN (Cont.)

Tracking Number: _____
Name of Operator: _____
OGCC Operator No: _____
Received Date: _____
Well Name & No: Collection Station #18
Facility Name & No: 102562 / Ren B566

OGCC Employee: _____

If groundwater has been impacted, describe proposed monitoring plan (# of wells or sample points, sampling schedule, analytical methods, etc.):
No groundwater was encountered or impacted during remediation activities.

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.

Following impacted soil excavation, soil disposal, and confirmation sampling, the excavation was backfilled and wheel compacted with clean imported soil. Samples were collected from the backfill material to ensure that at least 3 feet of clean import material was placed and compacted as a final backfill layer in the excavation. The area was graded to match existing contours and drainage at the plant. The area was reseeded to comply with COGCC 1004 rules including reseeding using the suggested BLM mix #8 seed mix.

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:
N/A

Final disposition of E&P waste (landtreated and disposed onsite, name of licensed disposal facility, recycling, reuse, etc.):

The final disposition of the E&P waste was at the Chevron-operated Landfarm in Rangely, CO.

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: _____	Date Site Investigation Completed: _____	Date Remediation Plan Submitted: _____
Remediation Start Date: <u>7/14/14</u>	Anticipated Completion Date: <u>10/24/14</u>	Actual Completion Date: <u>10/17/14</u>

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

Print Name: Marcelo Barberis Signed: _____
Title: CHEVRON EPC PM Date: 9/16/15

OGCC Approved: [Signature] Title: EPS Date: 9/23/15

Based on review of DPM presented, it appears the No Further Action is Required at this time. Should conditions at the site indicate contaminant concentration in soils exceeding COGCC standards, further investigation and/or remediation activities may be required at the site.

Pit CS18 Background Samples

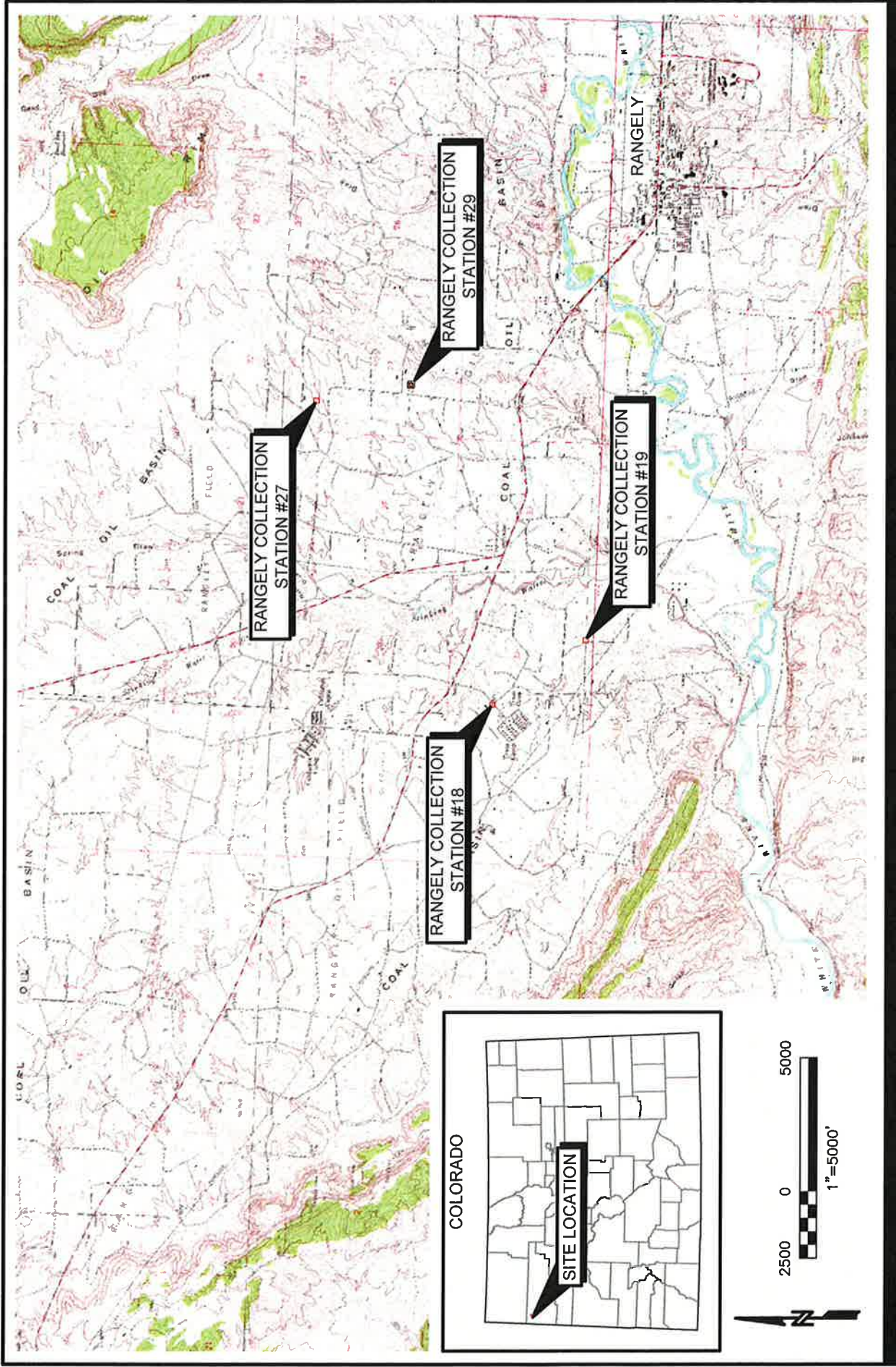
The initial background sample (Sample ID CS18BK) was analyzed for the COGCC 910-1 list of analytes. In addition to arsenic, which is naturally occurring in the area above COGCC allowable limits, the sample exceeded COGCC allowable limits for several polycyclic aromatic hydrocarbons (PAHs). Following discussions with COGCC, collection of an additional background sample was suggested to determine if impacted soil was present in the background sample collection area outside of the CS18 Pit. An additional sample (CS18-BG1) was collected from the location of CS18BK based on the CS18BK GPS coordinates and analyzed for the COGCC Allowable Limits Table 910-1. The initial and additional sample results for the PAHs are listed in the table below and the full analysis results are included as an attachment. Results of the re-sample analysis indicate that impacted material is not present in the background sample collection area at Pit CS18 and that the original results may have been an anomaly.

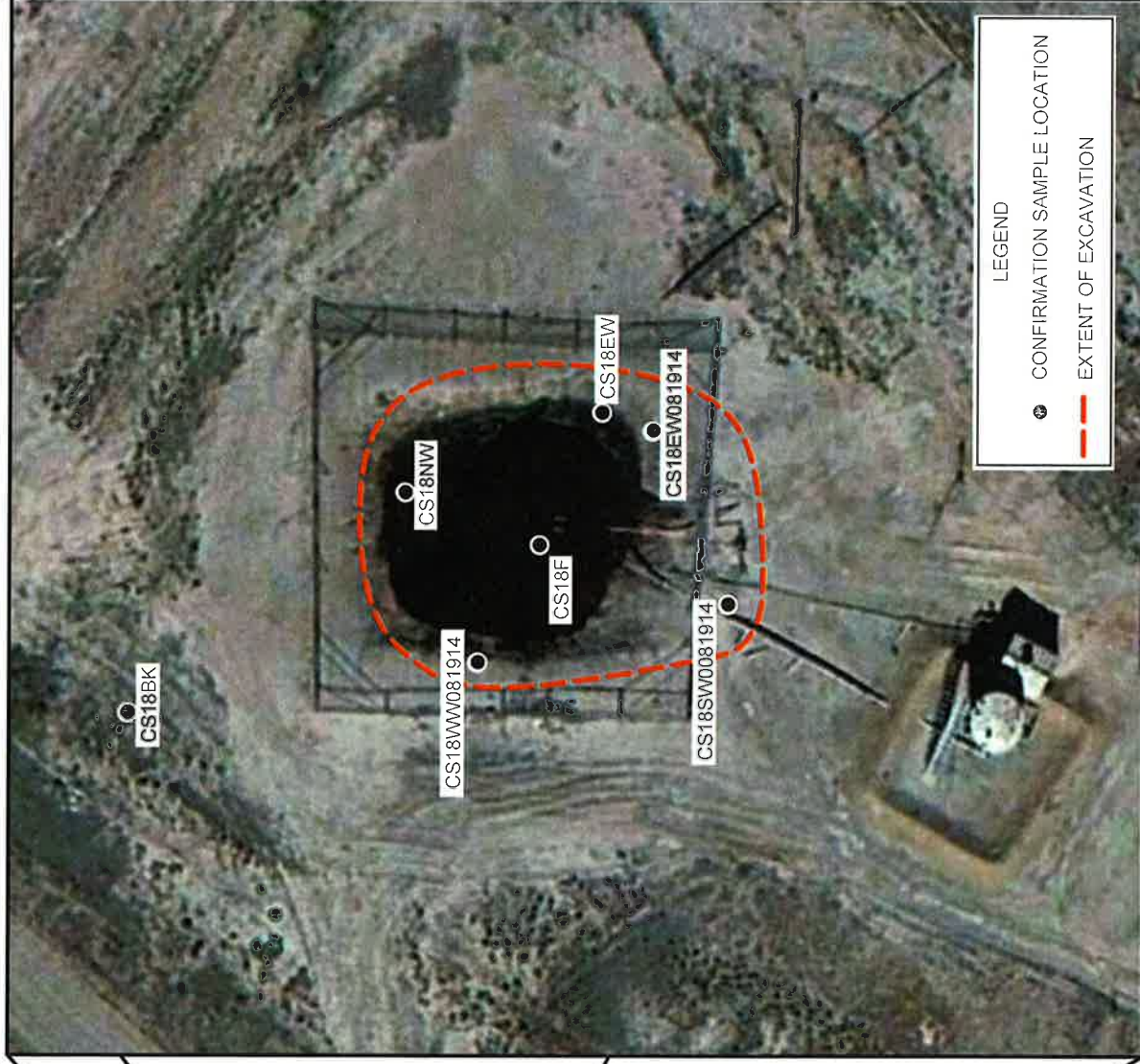
Sample Summary				
Sample ID	CS18BK	CS18-BG1		
Sample Location	Background	Background		
Sample Depth (ft bgs)	0.5-1.0	0.5-1.0		
SDG	60174795	60199291		
Sample Date	7/29/2014	7/24/2015		
Laboratory Data Summary				
Analytical Parameters			COGCC Allowable Limits Table 910-1	Units
<i>Organic Compounds</i>				
Benzo(a)anthracene	2.49	ND	0.22	mg/kg
Benzo(a)pyrene	1.46	ND	0.022	mg/kg
Benzo(b)fluoranthene	2.89	0.0091	0.22	mg/kg
Dibenzo(a,h)anthracene	0.35	ND	0.022	mg/kg
Indeno(1,2,3-cd)pyrene	0.67	ND	0.22	mg/kg

ND - Parameter reported under detection limit

mg/kg - milligrams per kilogram

Result Exceeds COGCC allowable limits





Chevron Rangely
Collection Station Completion Report
Chevron, Rangely, CO
Project No.: 60270693 Date: 11/20/14

COLLECTION STATION #18
CONFIRMATION SAMPLE LOCATIONS

Chevron Rangely 2014 Pit Closures
CS-18

Sample Summary							
Sample ID	CS 18 NW	CS18SW 081914	CS18EW 081914	CS18WW 081914	CS 18 F	CS 18 BK	CS18-BG1
Sample Location	North Wall	South Wall	East Wall	West Wall	Floor	Background	Background
Sample Depth (ft bgs)	10.25	8.80	8.86	5.83	13.20	0.5-1.0	0.5-1.0
SDG	60174795	60176143	60176143	60176143	60174795	60174795	60199291
Sample Date	7/29/2014	8/19/2014	8/19/2014	8/19/2014	7/29/2014	7/29/2014	7/24/2015

Laboratory Data Summary									
Analytical Parameters								COGCC Allowable Limits Table 910-1	Units
<i>Organic Compounds</i>									
TPH-Total	249	14.6	49.8	13.4	205	50.2	35.0	500 (Comb)	mg/kg
Diesel Range Organics	249	14.6	48.3	13.4	205	50.2	35.0	*	mg/kg
Gasoline Range Organics	ND	ND	1.5	ND	ND	ND	ND	*	mg/kg
Benzene	ND	ND	ND	ND	ND	ND	ND	0.17	mg/kg
Toluene	ND	ND	ND	ND	ND	ND	ND	85	mg/kg
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	100	mg/kg
Xylenes, Total	ND	ND	ND	ND	ND	ND	ND	175	mg/kg
Acenaphthene	ND	ND	ND	ND	ND	0.27	ND	1000	mg/kg
Anthracene	0.0052	ND	ND	ND	0.0071	0.92	ND	1000	mg/kg
Benzo(a)anthracene	0.0061	0.039	ND	ND	0.0039	2.49	ND	0.22	mg/kg
Benzo(a)pyrene	0.0050	ND	ND	ND	0.0038	1.46	ND	0.022	mg/kg
Benzo(b)fluoranthene	0.0284	0.0111	0.0136	0.0102	0.0232	2.89	0.0091	0.22	mg/kg
Benzo(k)fluoranthene	ND	ND	ND	ND	ND	ND	0.0046	2.2	mg/kg
Chrysene	0.0314	0.0112	0.0124	0.0058	0.0452	2.62	0.0099	22	mg/kg
Dibenzo(a,h)anthracene	0.0054	ND	ND	ND	ND	0.35	ND	0.022	mg/kg
Fluoranthene	0.0112	0.0119	0.006	0.0044	0.0196	6.28	0.0056	1000	mg/kg
Fluorene	0.0076	ND	ND	ND	0.0091	0.35	ND	1000	mg/kg
Indeno(1,2,3-cd)pyrene	0.0074	0.004	ND	ND	0.0047	0.67	ND	0.22	mg/kg
Naphthalene	ND	0.0142	ND	ND	ND	0.067	0.0055	23	mg/kg
Pyrene	0.0139	0.0132	0.0041	ND	0.0141	4.96	0.0057	1000	mg/kg
<i>Physical Properties</i>									
Sodium Adsorption Ratio	12.8	37	44.8	17.1	11.6	6.3	18.7	<12	
Specific Conductivity	5.06	6.49	5.34	5.59	5.46	2.37	0.021	<4	mmhos/cm
pH	7.6	7.7	8.5	7.9	7.6	7.6	8.1	6 to 9	Std. Units
<i>Metals</i>									
Arsenic	6.6	4.7	7.8	5.3	5.2	7.2	5.7	0.39	mg/kg
Barium	101	45.8	156	133	252	282	276	15000	mg/kg
Beryllium*	0.70	0.6	0.72	0.77	0.69	0.78	NA	TBD	TBD
Cadmium	ND	ND	ND	ND	ND	ND	ND	70	mg/kg
Chromium, Hexavalent	ND	ND	ND	ND	ND	ND	ND	23	mg/kg
Chromium, Trivalent	19.9	15.1	17.4	18.4	19.3	22.8	20.2	120000	mg/kg
Copper	19.6	19.3	19.9	15.7	16.4	19.8	17.9	3100	mg/kg
Lead	19.2	15.5	17.7	16	16.8	20.4	19.8	400	mg/kg
Mercury	0.057	0.051	ND	0.049	0.070	0.048	ND	23	mg/kg
Nickel	22.7	22.6	26	20.9	18.4	22.4	21.1	1600	mg/kg
Selenium	ND	ND	ND	ND	ND	ND	1.5	390	mg/kg
Silver	ND	ND	ND	ND	ND	ND	ND	390	mg/kg
Zinc	92.4	84.4	98.1	84.7	78.1	98.4	96.4	23000	mg/kg

NA - Not analyzed

ND - Parameter reported under detection limit

mg/kg - milligrams per kilogram

mmhos/cm - milliohms per centimeter

Result Exceeds COGCC allowable limits

*COGCC to be determined (TBD)