

**State of Colorado
Oil and Gas Conservation Commission**



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

#6320

FOR OGCC USE ONLY

RECEIVED
10/7/2011

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: 6720

Name of Operator: Robert L. Bayless LLC

Address: PO Box 168

City: Farmington State: NM Zip: 87499

Contact Name and Telephone:

Habib Guerrero

No: 505-564-7810

Fax: 505-326-6911

API Number: 05-103-10580

County: Rio Blanco

Facility Name: Weaver Ridge 13-9

Facility Number: 419282

(PIT FACILITY ID #) ✓

Well Name: Weaver Ridge 13-9

Well Number: 13-9

Location: (QtrQtr, Sec, Twp, Rng, Meridian): NESE, Sec 13, T1S, R104W, 6th PM Latitude: 39.959660 Longitude: -109.010880

TECHNICAL CONDITIONS

LOCATION ID # 398807 ✓

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

Soil type, if not previously identified on Form 2A or Federal Surface Use Plan: Rentsac-Moyerson-Rock Outcrop Complex, 5 to 60 percent slope

Potential receptors (water wells within 1/4 mi, surface waters, etc.): An un-named tributary lies approximately 268 feet to the west.

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

Impacted Media (check):

- ☐ Soils
☐ Vegetation
☐ Groundwater
☐ Surface Water

Extent of Impact:

The purpose of this Investigation Form 27 is to determine
whether or not there are any impacts to the
surrounding environment.

How Determined:

Visual observations, field screening, and analytical analysis

REMEDIAL WORKPLAN

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

Please see attachment

Describe how source is to be removed:

Please see attachment

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.:

Please see attachment



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.):

Please see attachment

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.

Please see attachment

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:

Please see attachment

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

Please see attachment

IMPLEMENTATION SCHEDULE

Date Site Investigation Began: <u>June 24, 2011</u>	Date Site Investigation Completed: <u>June 24, 2011</u>	Date Remediation Plan Submitted: <u>October 6, 2011</u>
Remediation Start Date: <u>July 2011</u>	Anticipated Completion Date: <u>August 2011</u>	Actual Completion Date: <u>July 11, 2011</u>

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

Print Name: Habib Guerrero

Signed: _____

Title: Operations Engineer

Date: 5/27/2011

OGCC Approved: _____

Title: FOR

Date: 10/13/2011

Chris Canfield
EPS NW Region

FORM
2ARev
04/01State of Colorado
Oil and Gas Conservation Commission

1120 Lincoln Street, Suite 801, Denver, Colorado 80205 Phone: (303) 894-2100 Fax: (303) 894-2109



DE ET OE ES

Document Number:

400064044

Oil and Gas Location Assessment

☐ New Location ☒ Amend Existing Location Location#: 398807

Submit original plus one copy. This form is to be submitted to the COGCC prior to any ground disturbance activity associated with oil and gas development operations. This Assessment may be approved as a stand alone application or submitted as an informational report accompanying an Application for Permit-To-Drill, Form 2. Approval of this Assessment will allow for the construction of the below specified location; however, it does not supersede any land use rules applied by the local land use authority. This form may serve as notice to land owners and other interested parties, please see the COGCC web site at <http://colorado.gov/cogcc/> for all accompanying information pertinent to this Oil and Gas Location Assessment.

Location ID:

398807

Expiration Date:

08/19/2013☒ This location assessment is included as part of a permit application.

1. CONSULTATION

- ☐ This location is included in a Comprehensive Drilling Plan. CDP # _____
- ☒ This location is in a sensitive wildlife habitat area.
- ☐ This location is in a wildlife restricted surface occupancy area.
- ☐ This location includes a Rule 306.d.(1)A.ii. variance request.

2. Operator

Operator Number: 6720

Name: BAYLESS PRODUCER LLC* ROBERT L

Address: 621 17TH ST STE 2300

City: DENVER State: CO Zip: 80293

3. Contact Information

Name: Habib Guerrero

Phone: (505) 5647810

Fax: (505) 3262659

email: hguerrero@rlbayless.com

4. Location Identification:

Name: Weaver Ridge Number: 13-9

County: RIO BLANCO

QuarterQuarter: NESE Section: 13 Township: 1S Range: 104W Meridian: 6 Ground Elevation: 5856

Define a single point as a location reference for the facility location. This point should be used as the point of measurement in the drawings to be submitted with this application. When the location is to be used as a well site then the point shall be a well location.

Footage at surface: 2145 feet, from North or South section line: FSL and 906 feet, from East or West section line: FEL

Latitude: 39.959660 Longitude: -109.010880 PDOP Reading: 1.2 Date of Measurement: 10/17/2008

Instrument Operator's Name: Mitch Batty (Timberline Eng)

5. Facilities (Indicate the number of each type of oil and gas facility planned on location):

Special Purpose Pits: <input type="text"/>	Drilling Pits: <input type="text" value="1"/>	Wells: <input type="text" value="3"/>	Production Pits: <input type="text"/>	Dehydrator Units: <input type="text"/>
Condensate Tanks: <input type="text" value="6"/>	Water Tanks: <input type="text" value="2"/>	Separators: <input type="text" value="3"/>	Electric Motors: <input type="text"/>	Multi-Well Pits: <input type="text"/>
Gas or Diesel Motors: <input type="text" value="3"/>	Cavity Pumps: <input type="text"/>	LACT Unit: <input type="text"/>	Pump Jacks: <input type="text" value="3"/>	Pigging Station: <input type="text"/>
Electric Generators: <input type="text"/>	Gas Pipeline: <input type="text"/>	Oil Pipeline: <input type="text"/>	Water Pipeline: <input type="text"/>	Flare: <input type="text" value="2"/>
Gas Compressors: <input type="text"/>	VOC Combustor: <input type="text"/>	Oil Tanks: <input type="text"/>	Fuel Tanks: <input type="text"/>	

Other: _____

6. Construction:

Date planned to commence construction: 09/01/2010 Size of disturbed area during construction in acres: 1.80
Estimated date that interim reclamation will begin: 05/01/2011 Size of location after interim reclamation in acres: 1.20
Estimated post-construction ground elevation: 5856 Will a closed loop system be used for drilling fluids: Yes ☐
Will salt sections be encountered during drilling: Yes ☐ No ☒ Is H2S anticipated? Yes ☐ No ☒
Will salt (>15,000 ppm TDS Cl) or oil based muds be used: Yes ☒ No ☐
Mud disposal: Offsite ☐ Onsite ☒ Method: Land Farming ☐ Land Spreading ☐ Disposal Facility ☐
Other: Evaporate and Backfilling

7. Surface Owner:

Name: _____ Phone: _____
Address: _____ Fax: _____
Address: _____ Email: _____
City: _____ State: _____ Zip: _____ Date of Rule 306 surface owner consultation: 05/27/2010
Surface Owner: ☐ Fee ☐ State ☒ Federal ☐ Indian
Mineral Owner: ☐ Fee ☐ State ☒ Federal ☐ Indian
The surface owner is: ☒ the mineral owner ☒ committed to an oil and gas lease
☐ is the executer of the oil and gas lease ☐ the applicant
The right to construct the location is granted by: ☒ oil and gas lease ☐ Surface Use Agreement ☐ Right of Way
☐ applicant is owner
Surface damage assurance if no agreement is in place: ☐ \$2000 ☐ \$5000 ☐ Blanket Surety ID _____

8. Reclamation Financial Assurance:

☐ Well Surety ID: _____ ☐ Gas Facility Surety ID: _____ ☐ Waste Mgnt. Surety ID: _____

9. Cultural:

Is the location in a high density area (Rule 603.b.): Yes ☐ No ☒
Distance, in feet, to nearest building: 43032, public road: 10348, above ground utilit: 39072
, railroad: 5280, property line: 906

10. Current Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP
Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____
Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

11. Future Land Use (Check all that apply):

Crop Land: ☐ Irrigated ☐ Dry land ☐ Improved Pasture ☐ Hay Meadow ☐ CRP
Non-Crop Land: ☒ Rangeland ☐ Timber ☐ Recreational ☐ Other (describe): _____
Subdivided: ☐ Industrial ☐ Commercial ☐ Residential

12. Soils:

List all soil map units that occur within the proposed location. Attach the National Resource Conservation Service (NRCS) report showing the "Map Unit Description" report listing the soil typical vertical profile. This data is to be used when segregating topsoil.

The required information can be obtained from the NRCS web site at <http://soildatamart.nrcs.usda.gov/> or from the COGCC web site GIS Online map page found at <http://colorado.gov/cogcc>. Instructions are provided within the COGCC web site help section.

NRCS Map Unit Name: 74-Rentsac-Moyerson-Rock outcrop complex, 5 to 65 percent slopes

NRCS Map Unit Name: _____

NRCS Map Unit Name: _____

13. Plant Community:

Complete this section only if any portion of the disturbed area of the location's current land use is on non-crop land.

Are noxious weeds present: Yes ☐ No ☒

Plant species from: ☐ NRCS or, ☒ field observation Date of observation: 05/27/2010

List individual species: _____

Check all plant communities that exist in the disturbed area.

- ☐ Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye)
☐ Native Grassland (Bluestern, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome)
☐ Shrub Land (Mahogany, Oak, Sage, Serviceberry, Chokecherry)
☐ Plains Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk)
☐ Mountain Riparian (Cottonwood, Willow, Blue Spruce)
☒ Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Pinyon, Aspen)
☐ Wetlands Aquatic (Bullrush, Sedge, Cattail, Arrowhead)
☐ Alpine (above timberline)
☒ Other (describe): Juniper, Pinyon Pine, Matchbrush, Mountain Mahogany, cheatgrass, Mormon Tea, snowberry, penstemon

14. Water Resources:

Rule 901.e. may require a sensitive area determination be performed. If this determination is performed the data is to be submitted with the Form 2A.

Is this a sensitive area: ☐ No ☒ Yes Was a Rule 901.e. Sensitive Areas Determination performed: ☐ No ☒ Yes

Distance (in feet) to nearest surface water: 268, water well: 40603, depth to ground water: 300

Is the location in a riparian area: ☒ No ☐ Yes Was an Army Corps of Engineers Section 404 permit filed ☒ No ☐ Yes

Is the location within a Rule 317B Surface Water Suppl Area buffer zone:

☒ No ☐ 0-300 ft. zone ☐ 301-500 ft. zone ☐ 501-2640 ft. zone

If the location is within a Rule 317B Surface Water Supply Area buffer have all public water supply systems within 15 miles been notified: ☐ No ☐ Yes

15. Comments:

*Bayless will remain within the original area of disturbance of the existing Weaver Ridge 13-9 wellpad. No new surface disturbance is planned for this pad. *Footages at surface are based on as drilled Lat and long info submitted on 11/07/08. *There are no visible improvements within 400 feet of this location. *Reference area will be in a northerly direction of the existing wellpad. Please use location pictures for reference pictures area. *Bayless intends to use a KCL polymer system (salt >15000 ppm) during drilling. No oil based mud will be used.

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

Signed: [Signature] Date: 07/06/2010 Email: hguerrero@rlbayless.com

Print Name: Habib Guerrero Title: Operations Engineer

Based on the information provided herein, this Application for Permit-to-Drill complies with COGCC Rules and applicable orders and is hereby approved.

COGCC Approved: _____

Director of COGCC

Date: 8/20/2010

CONDITIONS OF APPROVAL, IF ANY:

All representations, stipulations and conditions of approval stated in this Form 2A for this location shall constitute representations, stipulations and conditions of approval for any and all subsequent operations on the location unless this Form 2A is modified by Sundry Notice, Form 4 or an Amended Form 2A.

Location is in a sensitive area because of proximity to surface water; therefore, operator must ensure 110 percent secondary containment for any volume of fluids contained at well site during drilling and completion operations.

Operator must implement best management practices to contain any unintentional release of fluids.

Production pits (if constructed) must be lined.

Either a lined drilling pit or closed loop system must be implemented.

Attachment Check List

Att Doc Num	Name	Doc Description
2033239	CONST. LAYOUT DRAWINGS	LF@2503109 2033239
2033261	CORRESPONDENCE	LF@2506620 2033261
400064044	FORM 2A SUBMITTED	LF@2502268 400064044
400073785	HYDROLOGY MAP A, TOPO	LF@2502270 400073785
400074139	WELL LOCATION PLAT	LF@2502271 400074139
400074423	LOCATION PICTURES	LF@2502272 400074423
400074424	CONST. LAYOUT DRAWINGS	LF@2502273 400074424
400074427	REFERENCE AREA MAP	LF@2502274 400074427
400074428	OTHER	LF@2502275 400074428
400074431	TOPO MAP	LF@2502276 400074431
400074433	PROPOSED BMPs	LF@2502277 400074433
400074435	SURFACE PLAN	LF@2502278 400074435
400074438	ACCESS ROAD MAP	LF@2502279 400074438
400074439	OTHER	LF@2502280 400074439
400074763	MULTI-WELL PLAN	LF@2502281 400074763

Total Attach: 15 Files

General Comments

User Group	Comment	Comment Date
Permit	Changed field from wildcat to Banta Ridge. Removed plugging bond.	8/9/2010 10:16:16 AM
DOW	CDOW has reviewed the lease agreement for this location between the operator and the WRFO of BLM. This location is an already a producing well location. Bayless will be adding an additional three wells with no new surface disturbance. CDOW affirms that the lease stipulations as conditions of approval for this location. Submitted by: Ed Winters, land Use Specialist 13 July 2010 @ 15:06	7/27/2010 10:57:33 AM

Total: 2 comment(s)

Error: Subreport could not be shown.

FORM 27 ATTACHMENT:

Describe initial Action taken:

- At the location(s) of the pit which are the furthest downgradient, lowest in elevation and/or have the potential for pooling of liquid, field-screening will be performed and will utilize appropriate field equipment which may include, but is not limited to the following.
 - a PetroFlag unit,
 - a photoionization gas detector (PID),
 - or similar, for detection of volatile hydrocarbons, in the immediate area of the pit footprint.
- Confirmation sample(s), Rule 905.b.(4), will be collected and submitted for lab analysis and verification to confirm compliance with Rule 910 and Table 910-1 (reference to specific analytes is provided below) relative to the aforementioned field screen activity.
- Other areas of the pit walls and floor will be inspected for evidence of impact via field screening and visual observation. Grab samples will be collected, as appropriate, to demonstrate diligence and thoroughness of investigation activities performed as directed in Rule 905.b.(1). In addition, all field screening activities and results will be documented and compiled into a summary report, table and/or map to be provided with the Site Closure Plan.
- Grab sample(s) will be submitted for laboratory analysis to confirm field screening activities. Sub-liner sample analytes will include considerations identified by Rule 910 and all contaminants of concern for soils from Table 910-1 excluding boron (see attached analyte list in Table 1 of Annex A.)
- A visual assessment will be performed throughout the entire investigation process and will be adequately documented (e.g. field notes, observations, photographs, etc.) by qualified personnel.

Describe how source is to be removed:

The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment. However, should contamination be encountered the following actions will be taken:

- Any spill or release will be reported via a Form 19 and in accordance with Rule 906 and remediation shall be performed in accordance with requirements specified in Rules 909 and 910.
- Notification and consultation with the affected surface owner(s) shall be made with good faith effort and in accordance with Rule 906.c.
- Should a release be identified and attributed to the contents of the pit, the impacted area will be:
 - excavated in which field screen instruments will guide the excavation and laboratory confirmation samples collected to demonstrate compliance with Table 910-1 of the COGCC 900-series rule; and

- placed within a lined and bermed containment cell pending remediation and disposal option described below.
- All pit contents will be evacuated and managed in accordance with all applicable local, state [i.e. Rule 905.b.(2)] and federal regulations. If disposal is required, the relevant media will be disposed of at an approved facility.
- The potential source - production pit - will be closed and reclaimed in accordance with the COGCC 900 and 1000 series rules, respectively.
- The synthetic liner will be removed either recycled/reused or disposed of at an approved facility as a solid waste and in accordance with Rule 905.b.(3).

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, in-situ bioremediation, burning of oily vegetation, etc.:

The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment. However, should contamination be encountered the following actions will be taken:

- Any area(s) determined to be impacted/contaminated will be excavated and managed in accordance with all applicable rules and regulations regarding solid waste including applicable portion of COGCC Rule 907.
- Field screen equipment will be used to guide the excavation to ensure compliance with Table 910-1 of the COGCC 900 series rule.
- The excavated material will be placed within a lined and bermed containment cell pending the following options. Remediation and disposal options may include:
 - on-site treatment/bioremediation,
 - in-situ remediation,
 - and/or disposal at an approved waste, management facility; as consistent with Rule 907.
- Disposal of impacted media will occur at an approved waste facility (i.e. Wray Gulch Landfill) further defined in the "Final disposition of E&P waste" below.
- Final disposition will be dependent upon identified contaminants, contaminant concentration, land availability, landowner approval and waste volume.

If groundwater has been impacted, describe proposed monitoring plan:

- The presence of impact has not been determined at this point. No impacts have been observed to date or any other indication that would suggest there has been an event that would result in impact to the surrounding environment. However, should it be observed or determined that groundwater impacts exist an appropriate site specific monitoring and remediation plan will be developed and submitted for approval.
 - The monitoring and remediation plan will be developed to include, but is not limited to,
 - number of sample wells and/or points;

- proposed location of sample wells and/or points;
- sampling schedule;
- analytical methods including analyte list(s);
- monitoring scheme including end point; and
- potential mitigation or remediation approaches if necessary [Rule 910 (4) E].

Describe reclamation plan:

- The pit will be reclaimed to the present grade of the location or to the approximate original contour of the landscape and consistent with the 1000-series Rule.
- Seeding of the disturbed area will be performed in accordance with its' intended use. The seed mix will be prescribed by the landowner.
- There are no known noxious weeds in the immediate area of the disturbance. A noxious weed survey is performed annually of the Weaver Ridge field, which includes this location.
- As a preventative measure, RL Bayless seeds all disturbed areas as soon as practicable with temporary or sterile annual seed mixes to:
 - provide soil stability, and
 - serve as a nurse or cover crop for desired species; derived from the natural seed bank and/or the applied seed mix.
- Bare ground treatment is a common practice by RL Bayless and any identified noxious weed species will be spot treated for immediate eradication and prevention of encroachment and dispersal.
- A plat of the location is attached for topographic and geographic reference.

Attach samples and analytical results taken to verify remediation of impacts. Show location of samples on an onsite schematic or drawing. Is further site investigation required?:

- The presence of impact has not been determined at this point; therefore, the need for further site investigation has not been determined at this time.
- A determination of whether further site investigation is required and is pending field assessments and screening, which are to be confirmed by analytical results from an accredited - NELAP - laboratory (e.g. ALS Group Laboratory).
- Final documentation of investigation and closure activities shall be submitted to the Division within thirty (30) days after conclusion of any and all remediation and reclamation activity and in accordance with all applicable sections and subsections of Rule 909.

Final disposition of E&P waste:

- If the stockpiled volume is small enough to manage on-site, there is available area on location, concentrations are within a reasonable range to be remediated in a timely manner and the identified contaminants are conducive to bioremediation, landfarming or in-situ remediation may occur as approved and in accordance with Rule 907.

- Should the aforementioned attributes do not exist or concentrations are not conducive to bioremediation then off-site disposal will be the final disposition of all impacted materials.
- If the latter option is taken, disposal will occur at an approved treatment, storage or disposal facility (TSD) which may include, but is not limited to, the following facilities:
 - Wray Gulch Landfill (103-LFL-020; Meeker, CO).
- Any soils requiring treatment that, once treated, fall below the allowable concentrations and levels provided in Table 910-1 may be recycled and reused at RL Bayless facilities as fill material.

ANNEX A:

Confirmatory Analyte List for Potential Contaminants of Concern in Soil:

Table 1 – Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Organics	TVPH (GRO)	SW8015 mod	500 mg/kg	14 days	4 oz. wide mouth jar
	TEPH (DRO)				
	Benzene		0.17 mg/kg		
	Toluene		85 mg/kg		
	Ethylbenzene	SW8021	100 mg/kg	14 days	4 oz. wide mouth jar
	Xylenes (total)		175 mg/kg		
	Acenaphthene		1,000 mg/kg		
	Anthracene				
	Benzo (A) anthracene	SW8270	0.22 mg/kg	14 days	4 oz. wide mouth jar
	Benzo (B) flouranthene				
	Benzo (K) flouranthene				
	Benzo (A) pyrene		0.022 mg/kg		
	Chrysene		22 mg/kg		
	Dibenzo (A,H) anthracene		0.022 mg/kg		
	Fluoranthene		1,000 mg/kg		
	Fluorne				
	Indeno (1,2,3,C,D) pyrene		0.22 mg/kg		
	Naphthalene		23 mg/kg		
Inorganics	Pyrene	USDA Hdbk	1,000 mg/kg	28 days	4 oz. wide mouth jar
	Electrical Conductivity		<4 mmhos/cm or 2x background		
	Sodium Adsorption Rate	USDA Hdbk 60 Method 20B or 3A	<12	180 days	1 gal. ziplock bag
	pH	SW9045	6-9	< 24 hrs.	2 oz. wide mouth jar

Facility Name: Weaver Ridge 13-9
Facility ID# 419282

Name of Operator: Robert L. Bayless LLC
Latitude: 39.959660 Longitude: -109.010880
Location (Qtr, Sec, Twp, Rng, Meridian): NESE, Sec 13, T1S, R104W, 6th PM

COGCC Operator # 6720
County: Rio Blanco

Table 1 Cont'd - Sample collection, handling and analysis summary

Analyte Class	Analysis	Method	COGCC Table 910-1 Standard	Holding Time	Container
Total Metals*	Arsenic	SW 6010, 6020, 7470	0.39 mg/kg	28 days for Hg & 180 days for remaining	4 oz. wide mouth jar
	Barium		15,000 mg/kg		
	Cadmium		70 mg/kg		
	Chromium (III)		120,000 mg/kg		
	Chromium (IV)		23 mg/kg		
	Copper		3,100 mg/kg		
	Lead (inorganic)		400 mg/kg		
	Mercury		23 mg/kg		
	Nickel (soluble salts)		1,600 mg/kg		
	Selenium		390 mg/kg		
	Silver		390 mg/kg		
	Chloride		15,000 mg/kg		

General note: Preservation standards for organics and inorganics in soil are < 4°C as per EAL protocol. Of the above sample methods and procedures, none require a preservative to preserve sample integrity.

Note(*): Boron (hot water soluble) has been excluded from this analyte list as no crops (citrus or nuts) or other vegetation which may be sensitive to boron are known or are expected to be encountered. Should the Director or COGCC EPS decide to, at his discretion, require a Boron analysis the above analyte list will be modified to reflect that change and requirement, at that point in time.