

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  
Document 2315025  
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REM 9166

**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: _____	Contact Name and Telephone: _____
Name of Operator: _____	_____
Address: _____	No: _____
City: _____ State: _____ Zip: _____	Fax: _____
API Number: _____	County: _____
Facility Name: _____	Facility Number: _____
Well Name: _____	Well Number: _____
Location: (QtrQtr, Sec, Twp, Rng, Meridian): _____ Latitude: _____ Longitude: _____	

**TECHNICAL CONDITIONS**

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

**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.): \_\_\_\_\_

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.): \_\_\_\_\_

\_\_\_\_\_

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

Impacted Media (check):	Extent of Impact:	How Determined:
Soils	_____	_____
Vegetation	_____	_____
Groundwater	_____	_____
Surface Water	_____	_____

**REMEDIAL WORKPLAN**

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

\_\_\_\_\_

**Describe how source is to be removed:**

\_\_\_\_\_

**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.:**

\_\_\_\_\_



**REMEDIATION WORKPLAN (Cont.)**

OGCC Employee: \_\_\_\_\_

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

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

Depth to groundwater at this locaiton is expected to be deeper than 50 feet.

**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.

See attached document

**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:

See attached document

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

See attached document

**IMPLEMENTATION SCHEDULE**

Date Site Investigation Began: TBD Date Site Investigation Completed: TBD Date Remediation Plan Submitted: 9/1/2015  
Remediation Start Date: TBD Anticipated Completion Date: TBD 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: Karolina Blaney Signed: Karolina Blaney  
Title: Environmental Specialist Date: 7/1/2015

OGCC Approved: \_\_\_\_\_ Title: \_\_\_\_\_ Date: \_\_\_\_\_

## Form 15

FORM

15

Rev 6/99

## State of Colorado

## Oil and Gas Conservation Commission

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## EARTHEN PIT REPORT/PERMIT

This form is to be used for both reporting and permitting pits. Rule 903 describes when a Permit with prior approval, or a Report within 30 days, is required for pits. Submit required attachments and forms.

Complete the  
Attachment Checklist

Oper OGCC

## FORM SUBMITTED FOR:

☐ Pit Report☐ Pit Permit

OGCC Operator Number: 96850

Name of Operator: Williams Production RMT Co.

Address: 1515 Arapahoe Street, Tower 3, #1000

City: Denver State: CO Zip: 80202

Contact Name and Telephone:

Greg Davis

No: 303-606-4071

Fax: 303-629-8285

Detailed Site Plan		
Topo Map w/ Pit Location		
Water Analysis (Form 25)		
Source Wells (Form 26)		
Pit Design/Plan & Cross Sect		
Design Calculations		
Sensitive Area Determin.		
Mud Program		
Form 2A		

API Number (of associated well): AP 41-14-695

OGCC Facility ID (of other associated facility):

Pit Location (Qtr, Sec, Twp, Rng, Meridian): NENE Section 14-T6S-R95W

Latitude: 39 31' 46.6307"

Longitude: 107 57' 40.1114"

County: Garfield

Pit Use: ☒ Production☐ Drilling (Attach mud program)☐ Special Purpose (Describe Use):Pit Type: ☒ Lined☐ Unlined

Surface Discharge Permit:

☒ Yes ☐ No

Offsite disposal of pit contents:

☐ Injection☐ Commercial

Pit/Facility Name:

Pit/Facility No:

Attach Form 25 to identify Source Wells and Form 25 to provide Produced Water Analysis results.

## Existing Site Conditions

Is the location in a "Sensitive Area?"

☐ Yes☐ No

Attach data used for determination.

Distance (in feet) to nearest surface water: CW Guide Appr 800ground water: None shown on mapwater wells: Pump House 4785LAND USE (or attach copy of Form 2A if previously submitted for associated well) Select one which best describes land use:Crop Land: ☐ Irrigated☐ Dry Land☐ Improved Pasture☐ Hay Meadow☐ CRPNon-Crop Land: ☒ Rangeland☐ Timber☐ Recreational☐ Other (describe):Subdivided: ☐ Industrial☐ Commercial☐ Residential

SOILS (or attach copy of Form 2A if previously submitted for associated well)

Soil map units from USNRCS survey: Sheet No: 8Soil Complex/Series No: 62Soils Series Name: See Attached Form 2A

Horizon thickness (in inches): A:

; B:

; C:

Soils Series Name:

Horizon thickness (in inches): A:

; B:

; C:

Attach detailed site plan and topo map with pit location.

## Pit Design and Construction

Size of pit (feet): Length: 100'Width: 50'Depth: 6'Calculated pit volume (bbls): 3952'Daily inflow rate (bbls/day): 28

Daily disposal rates (attach calculations):

Evaporation: 309

bbls/day

Percolation: Lined

bbls/day

Type of liner material: PolyThickness: 12 mil

Attach description of proposed design and construction (include sketches and calculations).

Method of treatment of produced water prior to discharge into pit (separator, heater treater, other):

Is pit fenced?

☒ Yes☐ No

Is pit netted?

☐ Yes☒ No

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

Print Name: Greg Davis

Signed: Greg Davis

Title: Supervisor Permits

Date: 7/13/05OGCC Approved: [Signature]Title: EPSDate: 8/16/05

CONDITIONS OF APPROVAL, IF ANY:

FACILITY NUMBER:

279358

01433058

05-045-11018

## Form 27 Attachment

## State of Colorado

## Oil and Gas Conservation Commission

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FOR OGCC USE ONLY

## DRILL SITE/ACCESS ROAD RECLAMATION FORM

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This form shall be submitted in duplicate with the application for permit-to-drill (OGCC Form 2) unless a Federal 13-point surface plan is included. Also required are a minimum of two photographs (site and access road). Soil and plant community information from United States Natural Resources Conservation Services (USNRCS).

1. OGCC Operator Number: <u>96850</u>		4. Contact Name and Telephone: <u>Greg Davis</u>		Complete the Attachment Checklist	
2. Name of Operator: <u>Williams Production RMT Company</u>		No: <u>(303) 606-4071</u>			
3. Address: <u>1515 Arapahoe Street, Tower 3, Suite 1000</u>		Fax: <u>(303) 629-8275</u>		Oper OGCC	
City: <u>Denver</u>	State: <u>CO</u>	Zip: <u>80202</u>			
5. Well Name and No: <u>AP 41-14-695</u>		6. County: <u>Garfield</u>			
7. Location (Qtr, Sec, Twp, Rng, Meridian): <u>NENE 14 6S 95W 6th P.M.</u>					

## Pre-Drilling Information

## Current Land Use

8. Crop Land:	<input type="checkbox"/> Irrigated	<input type="checkbox"/> Dry Land	<input type="checkbox"/> Improved Pasture	<input type="checkbox"/> Hay Meadow	<input type="checkbox"/> CRP
9. Non-crop land:	<input checked="" type="checkbox"/> Rangeland	<input type="checkbox"/> Timber	<input type="checkbox"/> Recreational	<input type="checkbox"/> Other (describe): _____	
10. Subdivided:	<input type="checkbox"/> Industrial	<input type="checkbox"/> Commercial	<input type="checkbox"/> Residential		

Attach color photographs of drill site and access road; identify each photo by date, well name and location.

## Soils

11. Soil map units from USNRCS survey: Sheet No: <u>8</u>	Soil Complex/Series No: <u>62</u>
Soils Series name: <u>Rock outcrop-Torntonhents complex, very steep</u>	Horizon thickness (in inches): A: _____ ; B: _____ ; C: _____
Soils Series name: _____	Horizon thickness (in inches): A: _____ ; B: _____ ; C: _____
Soils Series name: _____	Horizon thickness (in inches): A: _____ ; B: _____ ; C: _____

## Plant Community

Complete this section only if operations are to be conducted upon non-crop land.

12. Plant species from: <input type="checkbox"/> USNRCS or <input checked="" type="checkbox"/> Field Observation	Date of Observation: <u>6/15/05</u>
List individual species: _____	
13. Check one predominant plant community for the drill site:	
<input type="checkbox"/> Disturbed Grassland (Cactus, Yucca, Cheatgrass, Rye, Thistle) <input type="checkbox"/> Grassland (Bluestem, Grama, Wheatgrass, Buffalograss, Fescue, Oatgrass, Brome) <input checked="" type="checkbox"/> Shrub and Brush Land ( <u>Mahogany Oak</u> , <u>Sage</u> , <u>Serviceberry</u> , Chokecherry) <input type="checkbox"/> Plains Deciduous Riparian (Cottonwood, Willow, Aspen, Maple, Poplar, Russian Olive, Tamarisk) <input type="checkbox"/> Mountain Conifer Riparian (Spruce, Fir, Ponderosa Pine) <input type="checkbox"/> Evergreen Forest Land (Spruce, Fir, Ponderosa Pine, Lodgepole Pine, Juniper, Piñon) <input type="checkbox"/> Aquatic (Bulrush, Sedges, Cattail, Arrowhead) <input type="checkbox"/> Tundra (Alpine, Willow, Currant, Raspberry) Other (describe): _____	

14. Was an Army Corps of Engineers Section 404 Permit filed?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If yes, attach appropriate documentation.
--------------------------------------------------------------	---------------------------------------------------------------------	-------------------------------------------

Comments: Appears not to have been mapped for soil types. Soil Series estimated to be Rock-outcrop Torntonhents complex very steep.

I hereby certify that I, or persons under my direct supervision, have inspected the proposed drill site and access road; that I am familiar with the conditions which presently exist, that the statements made in this form are, to the best of my knowledge, true, correct, and complete.

Print Name: Greg DavisSigned: Greg DavisTitle: Supervisor PermitsDate: 7/13/05

## 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).
- 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 bermed containment cell pending remediation or disposal as 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 the Parachute Centralized E&P Waste Management Facility (COGCC Location # 149015).

**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 bermed containment cell pending an on-site landfarming/bioremediation,

**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 COGCC approval.
- The anticipated depth to ground water is expected to be deeper than 50 feet.

**Describe reclamation plan:**

- The pit will be reclaimed in accordance with the COGCC 1000 Series Rules in addition to any SUA/COAs defined by the surface owner.
- The pit will be reclaimed to the present grade of the location or to the approximate original contour of the landscape
- Seeding of the disturbed area will be performed in accordance with its' intended use. The seed mix will be prescribed by the landowner.
- As a preventative measure, WPX Energy seeds all disturbed areas as soon as practicable with temporary or sterile annual seed mixes to provide soil stability, and

**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.
- 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 which may include, but is not limited to, the following facilities:
- Any soils requiring treatment that, once treated, fall below the allowable concentrations and levels provided in Table 910-1 will be reused as fill material during pit reclamation activities.

## Confirmatory Analyte List for Potential Contaminants of Concern in Soil:

Table 1 – Sample collection, handling and analysis summary

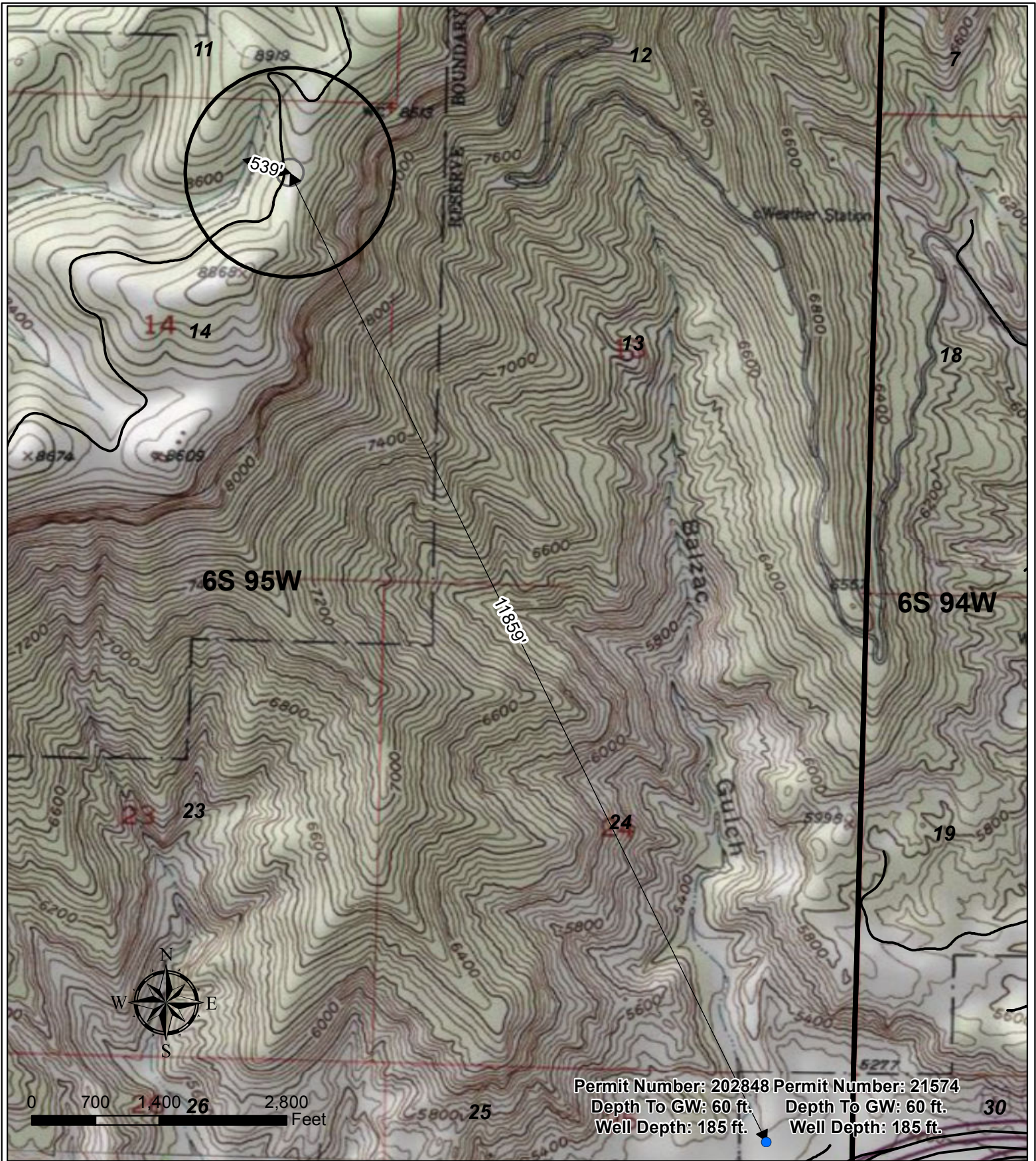
Analyte Class	Analysis	Method	COGCC Table 910-1 Standard
Organics	TVPH (GRO)	SW8015 mod	500 mg/kg
	TEPH (DRO)		
	Benzene	SW8021	0.17 mg/kg
	Toluene		85 mg/kg
	Ethylbenzene		100 mg/kg
	Xylenes (total)		175 mg/kg
	Acenaphthene	SW8270	1,000 mg/kg
	Anthracene		0.22 mg/kg
	Benzo(A)anthracene		
	Benzo(B)fluoranthene		
	Benzo(K)fluoranthene		0.022 mg/kg
	Benzo(A)pyrene		
	Chrysene		22 mg/kg
	Dibenzo(A,H)anthracene		0.022 mg/kg
	Fluoranthene		1,000 mg/kg
	Fluorne		0.22 mg/kg
	Indeno(1,2,3,C,D)pyrene		
	Naphthalene		23 mg/kg
	Pyrene		1,000 mg/kg
Inorganics	Electrical Conductivity	USDA Hdbk	<4 mmhos/cm or 2x background
	Sodium Adsorption Rate	USDA Hdbk 60 Method 20B or 3A	<12
	pH	SW9045	6-9
Total Metals*	Arsenic	SW 6010, 6020, 7470	0.39 mg/kg
	Barium		15,000 mg/kg
	Cadmium		70 mg/kg
	Chromium (III)		120,000 mg/kg
	Chromium (VI)		23 mg/kg
	Copper		3,100 mg/kg
	Lead		400 mg/kg
	Mercury		23 mg/kg
	Nickel		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.*

# Hydrology Map





## Legend

- Water Well
- Existing Road
- Pad
- 1000' Buffer (from edge of pad)

WPX Energy Rocky Mountain, LLC

Plat 5C

AP 41-14-695 Hydrology Map  
T6S R95W, Section 14

