



October 10, 2014

Mr. Michael Gardner  
WPX Environmental Manager North West  
WPX Energy Rocky Mountain LLC  
1058 County Road 215  
Parachute, Colorado 81635

**RE: Status Report: Baseline Water Quality Sampling – MV 16-9 Drill Pad**

Dear Mr. Gardner,

Western Water & Land, Inc. (WWL) completed a hydrologic Water Source evaluation for the WPX Energy Rocky Mountain LLC (WPX) MV 16-9 Drill Pad in accordance with Colorado Oil and Gas Conservation Commission (COGCC) Rule 609. Drill Pad MV 16-9 is located in NW¼, NW¼, Section 9, Township 7 S, Range 96 W, 6<sup>th</sup> P.M. This status report addresses field revisions and the sampling location status as relevant to the original executed Baseline Water Quality Evaluation dated May 7, 2014.

The original evaluation considered all Water Sources as defined in Rule 609 within a 0.5-mile radius of the referenced drill pad. Water Sources located within a 0.5-mile radius of the MV 16-9 Drill Pad are shown in Figure 1. Please see the original Baseline Water Quality Evaluation (May 7, 2014) for complete details on how the evaluation was conducted.

**Water Source Identification**

Water Sources as defined in Rule 609 include Colorado Division of Water Resources (DWR) registered water wells (water wells with existing valid well permits), permitted or adjudicated springs, and monitoring wells installed for baseline sampling and monitoring under COGCC Rules 318A.e(4), 608, 609, or 908. Each Water Source identified within the 0.5-mile radius area is considered to be a potentially Available Water Source unless existing information suggests that the Water Source would not be suitable for the baseline water quality program. The original Baseline Water Quality Evaluation identified four potentially Available Water Sources located within 0.5 miles of the MV 16-9 Drill Pad (see Figure 1). Well permits with the status “Permit issued; Completion status unknown” were not initially included as potentially Available Water Sources. However, because DWR databases are not always up to date, or may have errors, WWL has since revised this approach and includes permits with this status as potentially Available Water Sources.

The identified potentially Available Water Sources are summarized as follows:

- Spring G-7960410-1: water right and property owned by Bureau of Land Management
- Section 8 Spring: water right and property owned by Bureau of Land Management

- Riley Gulch Spring: water right and property owned by Bureau of Land Management
- Owens Spring: water right and property owned by Bureau of Land Management

### **Preferred Water Sources**

In accordance with Rule 609, all potentially Available Water Sources within a 0.5-mile radius of the drill pad are to be identified and up to a maximum of four sources must be included in the baseline and subsequent monitoring program. Each potentially Available Water Source identified was evaluated based on WWL's hydrologic knowledge of the region, general hydrologic rationale, and in accordance with the guidelines specified in Rule 609 to identify the preferred sources for the baseline program. Since only four potentially Available Water Sources were identified they are considered to be preferred Water Sources. The preferred potentially Available Water Sources were selected as follows:

- Spring G-7960410-1
- Section 8 Spring
- Riley Gulch Spring
- Owens Spring

Preferred Water Sources are incorporated into the baseline water quality monitoring program provided the structures exist, and the structure owner, or land owner if the structure owner is not known, grants approval to sample the source and inspection of the structure confirms that a representative sample can be obtained from the structure.

### **Access Request**

All attempts requesting permission to sample potentially Available Water Sources from the well permit holders and from the property owners are recorded in the Correspondence Log below. Access request letters, certified mailing receipts, mailings that were returned to sender, mailed responses, and email correspondence are included in Attachment A.

<b>Correspondence Log: MV 16-9</b>				
<b>Contact Attempt Date</b>	<b>Contact Name</b>	<b>Contact Method</b>	<b>Responsible Person</b>	<b>Results</b>
5/9/2014	BLM, Attn: Jennifer Robinson, Colorado River Valley Field Office	Certified Mail: Access Request Letter	NWS	Written response granting permission to sample received on 7/23/2014

## Field Results

Each identified potentially Available Water Source and its monitoring status is as follows:

- Spring G-7960410-1: water right and property owned by Bureau of Land Management
  - WWL was unable to locate this spring during field reconnaissance. Field pictures were not taken at this location. Conditions were dry with sparse vegetation.
- Section 8 Spring: water right and property owned by Bureau of Land Management
  - WWL was unable to locate this spring during field reconnaissance.
- Riley Gulch Spring: water right and property owned by Bureau of Land Management
  - WWL was unable to locate this spring during field reconnaissance.
- Owens Spring: water right and property owned by Bureau of Land Management
  - WWL was unable to locate this spring during field reconnaissance.

WWL personnel conducted a broad field reconnaissance on July 31, 2014 in the area where the BLM springs are located according to DWR databases. The area was characterized by piñon-juniper and Gambel oak plant communities and numerous escarpments from slumps on the north-facing slopes. A few cottonwood trees and tamarisk were located but spring emanation points were not found. Pictures from field reconnaissance are included in Attachment B. No identified potentially Available Water Sources were found to be available for sampling for Drill Pad MV 16-9.

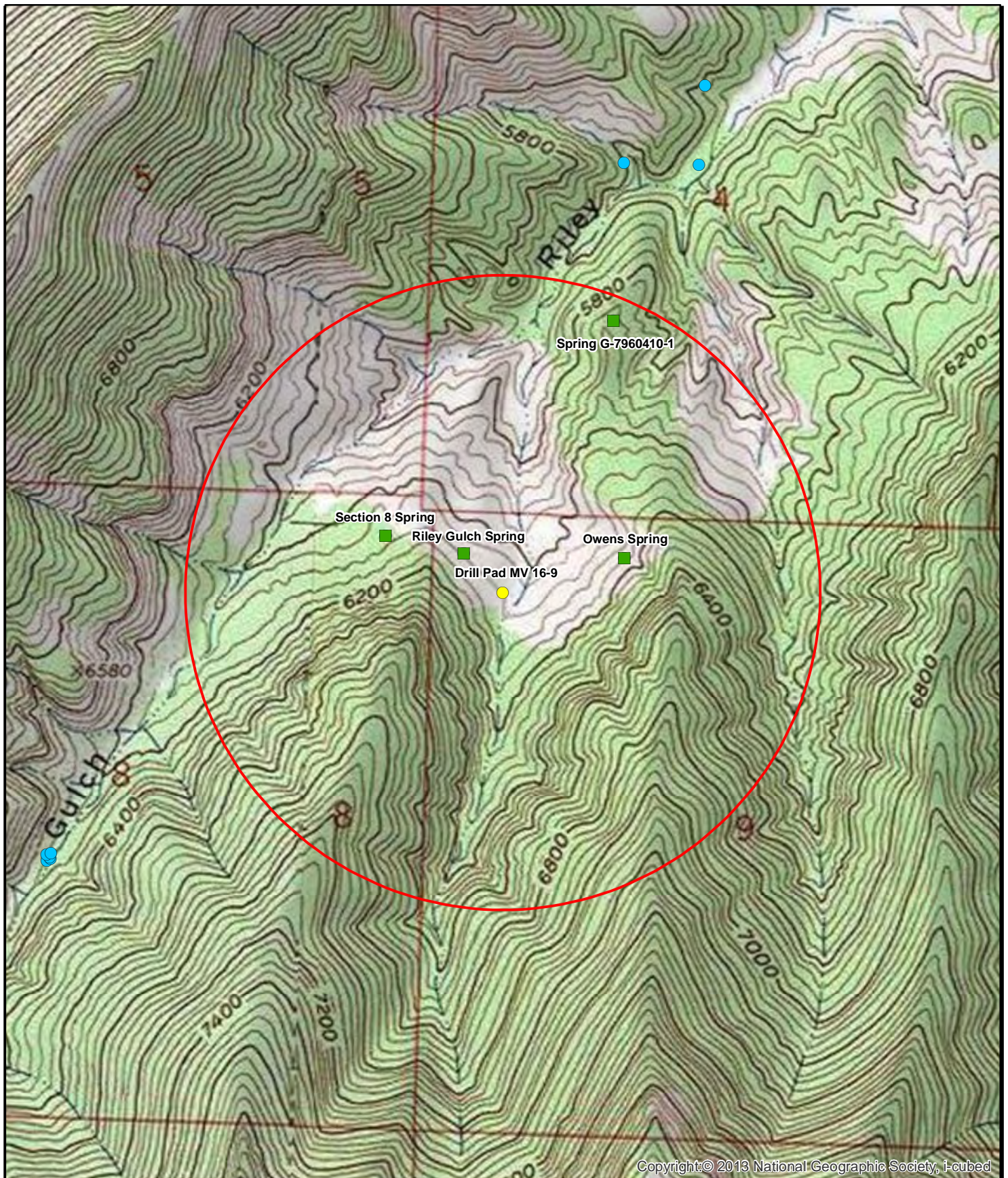
If you have any questions or concerns, please contact me at (970) 242-0170.

Sincerely,



Bruce D. Smith  
Principal Hydrogeologist  
WESTERN WATER & LAND, INC.  
Attachments





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#### Legend

- Decree
- Constructed well
- Outside sources
- Drill Pad MV 16-9
- 0.5-Mile Radius Evaluation Area
- Completion Status Unknown



Feet  
1,000 500 0 1,000  
1:13,000

#### Figure 1: Drill Pad MV 16-9 0.5 Mile Radius Water Source Evaluation NW1/4, NW1/4, S9, T7S, R96W, 6 PM

Garfield County, Colorado  
WPX Energy Rocky Mountain LLC  
Basemap Source: Esri ArcGIS Online



Western Water & Land, Inc.  
Applications in Earth Science



**Attachment A**

**Access Request Documentation**



July 1, 2014

Bureau of Land Management  
Attn: Jennifer Robinson  
Colorado River Valley Field Office  
2300 River Frontage Road  
Silt, CO 81652

**RE: Baseline Groundwater Monitoring Program: Drill Pad MV 16-9**

Dear Ms. Robinson:

Under Colorado Oil and Gas Conservation Commission (COGCC) Rule 609, all oil and gas operators are required to conduct baseline groundwater sampling and monitoring within one-half mile of a well pad containing new production well(s) or injection well(s). The rule was promulgated to gather baseline water quality data prior to oil and gas development occurring within a particular area and to gather additional water quality data after drilling and completion operations.

Sampling sites may be registered water wells or permitted or adjudicated springs. Up to four groundwater sampling sites will be included in the baseline sampling and monitoring program within the one-half mile radius of the well pad. Sampling of these groundwater sites will occur three times; once within 12 months prior to drilling the first well on the pad, once between 6 and 12 months after completion of the last well on the pad, and once between 60 and 72 months after completion of the last well on the pad. Final water quality results of each sample will be provided to the well or spring owner and to COGCC.

WPX Energy Rocky Mountain, LLC (WPX) is planning on constructing Drill Pad MV 16-9 and/or a new well located in NW1/4, NW1/4, Section 9, Township 7 S, Range 96 W, 6<sup>th</sup> P.M. Our research of state databases indicates that you may own property and/or hold one or more state permits or water right decrees for wells or springs located on property within 0.5 miles of the well pad. These identified wells and/or springs are listed below:

1. **Spring G-7960410-1:** Latitude/Longitude (decimal degrees): 39.463139, -108.116978  
Water Right Case No(s): 83CW0060
2. **Section 8 Spring:** Latitude/Longitude (decimal degrees): 39.458050, -108.123475  
Water Right Case No(s): 99CW0295
3. **Riley Gulch Spring:** Latitude/Longitude (decimal degrees): 39.457716, -108.121157  
Water Right Case No(s): 99CW0295
4. **Owens Spring:** Latitude/Longitude (decimal degrees): 39.457731, -108.116419  
Water Right Case No(s): 99CW0295

These structures may qualify for baseline sampling and monitoring under Rule 609. If you do not have a well or spring on your property, or if you choose not to have your well or spring sampled for baseline water quality under Rule 609, please indicate so on the Acknowledgment Form provided in this letter.

This Acceptance Letter and Acknowledgment Form apply to the above water sources only. You may receive additional Acknowledgment Forms in the future for other water sources under your ownership or control that are related to other planned WPX drill pads or wells. Your decision to approve or decline participation in the baseline water quality program for the above water sources will also apply for new future WPX drill pads and wells other than Drill Pad MV 16-9 that are located within the 0.5 mile distance of these water sources. In these cases, a new Acknowledgment Form will not be mailed to you.

If you chose to include your well or spring in the Baseline Groundwater Sampling and Monitoring Program, please complete the attached questionnaire prepared by WPX to evaluate the groundwater source(s). The questionnaire is intended to assist WPX in the assessment of the best potential baseline groundwater monitoring sites.

Completion of the attached questionnaire is not required for consideration of your well or spring for the program, but final selection of sampling sites may be partially dependent on the results of the questionnaire. Completing the questionnaire and approval to sample your water source does not guarantee that your well or spring will be selected for the baseline sampling and monitoring program. Completed questionnaires will be confidential except for information that is required to be reported to the state.

If you agree to have your well or spring become a monitoring site for the program, and said well or spring is selected for sampling and monitoring, water quality data results will be provided to you and to COGCC within 3 months of sample collection. Please note that COGCC will make the results public by posting the results on the agency's public database and that by signing below to agree to have your well sampled, you also grant WPX permission to provide the data results to COGCC and COGCC's public database.

Please sign and date the attached Acknowledgment Form indicating your choice of participation in the program and return the form using the included pre-addressed envelope. If WPX does not receive this executed letter within 30 days from the date above, WPX will consider that you do not want to participate in the program. Please contact your WPX land representative at 970-285-9377, or myself at 970-263-2792, with any questions you may have. We appreciate your time and cooperation.

If at any time after returning the Acknowledgment Form you change your mind about your response, you may revise your response by contacting WPX.

Sincerely,

Brandon Danforth  
Environmental Specialist, WPX Energy

**Baseline Groundwater Quality Monitoring Program  
Acknowledgment Form**

I Allen B Crockett for the BLM (print name), acknowledge that I have been contacted by WPX regarding the possible qualification of my well or spring as a Water Source for baseline groundwater sampling and monitoring under COGCC Rule 609 associated with WPX Drill Pad MV 16-9, located in NW1/4, NW1/4, Section 9, Township 7 S, Range 96 W, 6<sup>th</sup> P.M. If I agree to have my well or spring water sampled for water quality parameters, I understand that the resulting data will be submitted to the COGCC and will be part of a public database. I understand that if my well or spring is selected as an Available Water Source, I will be contacted by WPX representatives to schedule sample collection. I understand that the baseline groundwater program involves three separate sampling events over a period of time. In addition, I understand that this acknowledgment applies to future new drill pads or wells other than WPX Drill Pad MV 16-9 where the specific water sources may be in question under COGCC Rule 609.

☒ I DO want the following well(s) or spring(s) to be monitored for baseline groundwater quality in accordance with Rule 609 of the COGCC regulations.

1. *Spring G-7960410-1*: Latitude/Longitude (decimal degrees): 39.463139, -108.116978  
Water Right Case No(s): 83CW0060
2. *Section 8 Spring*: Latitude/Longitude (decimal degrees): 39.458050, -108.123475  
Water Right Case No(s): 99CW0295
3. *Riley Gulch Spring*: Latitude/Longitude (decimal degrees): 39.457716, -108.121157  
Water Right Case No(s): 99CW0295
4. *Owens Spring*: Latitude/Longitude (decimal degrees): 39.457731, -108.116419  
Water Right Case No(s): 99CW0295

☐ I DO NOT want my well or spring to be monitored for baseline groundwater quality in accordance with Rule 609 of the COGCC regulations.

Signature: Allen B Crockett Date: 2/9/14

Print Name: Allen B Crockett

Address: BLM

2300 River Frontage Rd, Silt, CO 81652

Phone: 970 876 9005



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Certified Mail™

## Available Actions

[Return Receipt Electronic](#)

DATE & TIME	STATUS OF ITEM	LOCATION
May 12, 2014 , 12:21 pm	Delivered	SILT, CO 81652
Your item was delivered at 12:21 pm on May 12, 2014 in SILT, CO 81652.		
May 10, 2014 , 8:53 am	Business Closed	SILT, CO 81652
May 10, 2014 , 8:29 am	Arrived at Unit	RIFLE, CO 81650
May 9, 2014 , 10:50 am	Acceptance	GRAND JUNCTION, CO 81501

MV 16-9  
Access Request

## Track Another Package

What's your tracking (or receipt) number?

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 2121 1000  
 2630 0001  
 7013

Postmark  
 GRAND JUNCTION  
 CO  
 05/09/2014

Sent To  
 ISLM Attn: Jenn Fer Robinson  
 Street, Apt. No., or PO Box No.  
 2300 River Frontage Road  
 City, State, ZIP+4  
 SILT, CO 81652

PS Form 3800, August 2006 See Reverse for Instructions

Date: August 13, 2014

Bruce Smith:

The following is in response to your August 13, 2014 request for delivery information on your Certified Mail™ item number 70132630000112128069. The delivery record shows that this item was delivered on May 12, 2014 at 12:21 pm in SILT, CO 81652. The scanned image of the recipient information is provided below.

Signature of Recipient :

Delivery Section	
Signature	<i>Kent Lyles</i>
Name	KENT LYLES

Address of Recipient :

Address	2300 River Frontage
---------	---------------------

Thank you for selecting the Postal Service for your mailing needs.

If you require additional assistance, please contact your local Post Office or postal representative.

Sincerely,  
United States Postal Service

**Attachment B**

**Field Reconnaissance Photographs**





**Photo 1. Riley Gulch view from access road.**



**Photo 2. Tamarisk at suspected Owens Spring.**





**Photo 3. Desiccation cracks in soil near suspected Owens Spring.**



**Photo 4. Cottonwood trees approaching suspected Riley Gulch Spring.**





**Photo 5. Dry conditions and cottonwood trees near suspected Riley Gulch Spring.**



**Photo 6. Cottonwood trees approaching suspected Section 8 Spring.**





**Photo 7. Dry conditions and cottonwood trees at suspected Section 8 Spring.**