



February 24, 2015

Mr. Mike Shoemaker  
Environmental Specialist Senior Staff  
WPX Energy Rocky Mountain LLC  
1058 County Road 215  
Parachute, Colorado 81635

**RE: Status Report: Baseline Water Quality Sampling – GM 34-4 Drill Pad**

Dear Mr. Shoemaker,

Western Water & Land, Inc. (WWL) completed a hydrologic Water Source evaluation for the WPX Energy Rocky Mountain LLC (WPX) GM 34-4 Drill Pad in accordance with Colorado Oil and Gas Conservation Commission (COGCC) Rule 609. Drill Pad GM 34-4 is located in SW1/4, SE1/4, Section 4, 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 October 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 GM 34-4 Drill Pad are shown in Figure 1. Please see the original Baseline Water Quality Evaluation (October 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 five potentially Available Water Sources located within 0.5 miles of the GM 34-4 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 Colorado River Valley Field Office
- Spring G-7960406-1: water right and property owned by Bureau of Land Management Colorado River Valley Field Office

- Spring G-7960406-2: water right and property owned by Bureau of Land Management Colorado River Valley Field Office
- Spring G-7960406-3: water right and property owned by Bureau of Land Management Colorado River Valley Field Office
- Owens Spring: water right and property owned by Bureau of Land Management Colorado River Valley Field Office

### **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. The preferred potentially Available Water Sources were selected as follows:

- Spring G-7960410-1
- Spring G-7960406-1
- Spring G-7960406-3
- 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**

Potentially Available Water Sources for Drill Pad GM 34-4 include those identified for Drill Pad MV 16-9 and Drill Pad MV 28-4. Access request letters were mailed for Drill Pad GM 34-4 on May 20, 2013 and for Drill Pad MV 16-9 on May 9, 2014. Access request letters were not mailed for Drill Pad MV 28-4.

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 Logs below. Access request letters, certified mailing receipts, mailings that were returned to sender, mailed responses, and email correspondence are included in Attachment A.

Correspondence Log: GM 34-4				
Contact Attempt Date	Contact Name	Contact Method	Responsible Person	Results
10/8/2014	BLM Attn: BLM Oil & Gas Hydrologist; Colorado River Valley Field Office	Certified Mail: Access Request Letter	NWS	Written response granting permission to sample received on 11/19/2014.

### 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 Colorado River Valley Field Office
  - WWL was unable to locate this spring during field reconnaissance.
- Spring G-7960406-1: water right and property owned by Bureau of Land Management Colorado River Valley Field Office
  - WWL was unable to locate this spring during field reconnaissance.
- Spring G-7960406-2: water right and property owned by Bureau of Land Management Colorado River Valley Field Office
  - WWL was unable to locate this spring during field reconnaissance.
- Spring G-7960406-3: water right and property owned by Bureau of Land Management Colorado River Valley Field Office
  - WWL was unable to locate this spring during field reconnaissance.
- Owens Spring: water right and property owned by Bureau of Land Management Colorado River Valley Field Office
  - WWL was unable to locate this spring during field reconnaissance.

WWL personnel conducted a broad field reconnaissance on July 31, 2014 in the area of Drill Pad GM 32-4 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 (see photographs in Attachment B). As a result of these events, no potentially Available Water Sources are included in the baseline water quality sampling program for Drill Pad GM 34-4.

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

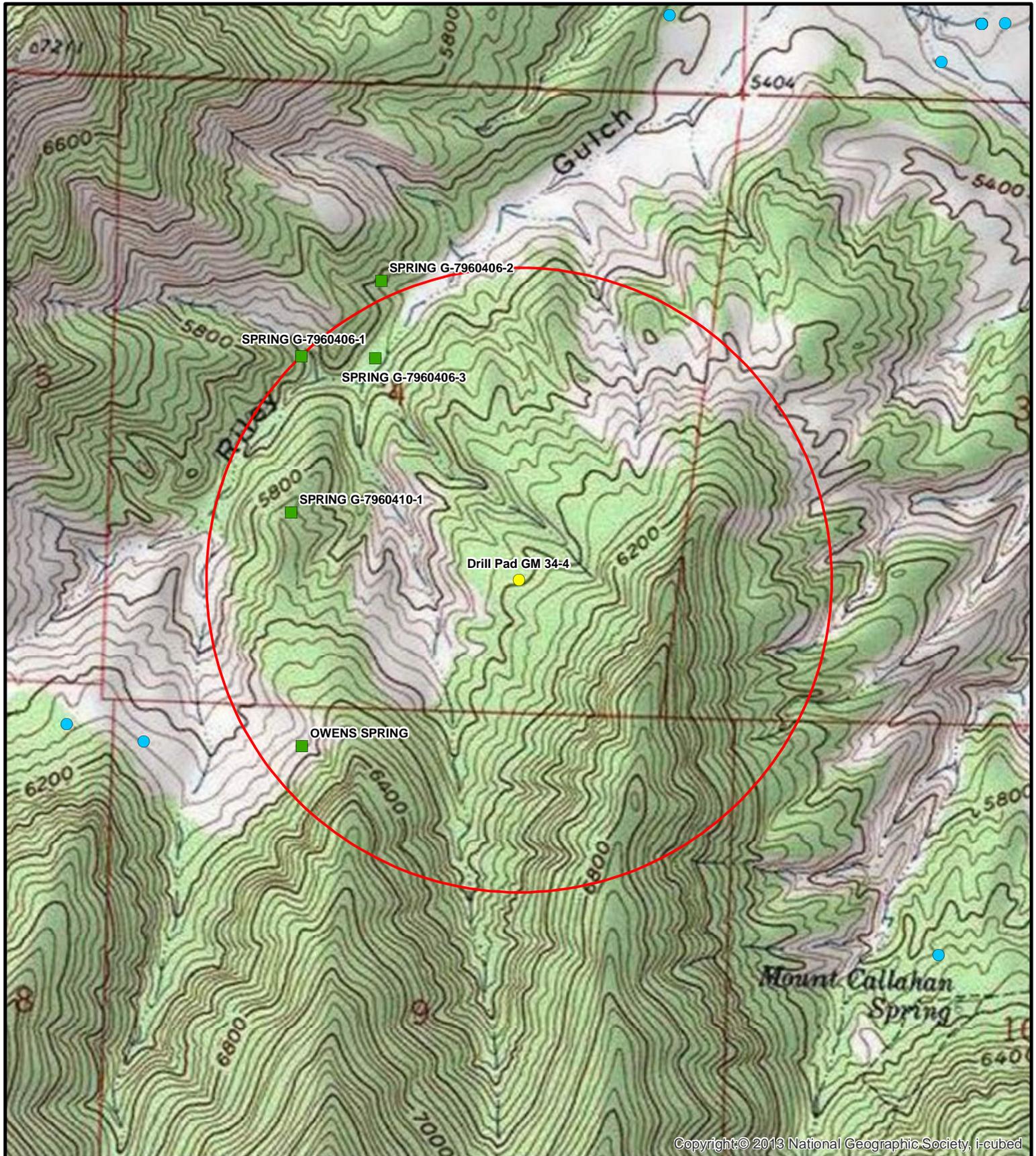
Sincerely,



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

Mr. Mike Shoemaker  
February 24, 2017  
Page 4

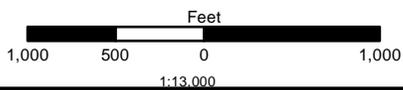
Attachments



Copyright © 2013 National Geographic Society, i-cubed

**Legend**

- Decree
- Constructed well
- Outside permits or decrees
- Drill Pad GM 34-4
- 0.5-Mile radius evaluation area
- Well completion status unknown



**Figure 1: Drill Pad GM 34-4  
0.5 Mile Radius Water Source Evaluation  
SW1/4, SE1/4, S4, T7S, R96W, 6 PM**

Garfield County, Colorado  
WPX Energy Rocky Mountain LLC



Western Water & Land, Inc.  
Applications in Earth Science

Basemap Source: Esri ArcGIS Online

**Attachment A**

**Access Request Documentation**



October 8, 2014

Bureau of Land Management  
Attn: BLM Oil & Gas Hydrologist  
Colorado River Valley Field Office  
2300 River Frontage Road  
Silt, CO 81652

**RE: Baseline Groundwater Monitoring Program: Drill Pad GM 34-4**

To Whom It May Concern:

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 GM 34-4 and/or a new well located in SW1/4, SE1/4, Section 4, 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-7960406-1:** Latitude/Longitude (decimal degrees): 39.466763, -108.116845  
Water Right Case No(s): 83CW0060
2. **Spring G-7960406-2:** Latitude/Longitude (decimal degrees): 39.468579, -108.114504  
Water Right Case No(s): 83CW0060
3. **Spring G-7960406-3:** Latitude/Longitude (decimal degrees): 39.466791, -108.114663  
Water Right Case No(s): 83CW0060

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 GM 34-4 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 970-263-2760, 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,

Michael Gardner  
Environmental Manager North West, WPX Energy

## Baseline Groundwater Quality Monitoring Program Acknowledgment Form

I Allen B. Crockett (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 GM 34-4, located in SW1/4, SE1/4, Section 4, 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 GM 34-4 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-7960406-1*: Latitude/Longitude (decimal degrees): 39.466763, -108.116845  
Water Right Case No(s): 83CW0060
2. *Spring G-7960406-2*: Latitude/Longitude (decimal degrees): 39.468579, -108.114504  
Water Right Case No(s): 83CW0060
3. *Spring G-7960406-3*: Latitude/Longitude (decimal degrees): 39.466791, -108.114663  
Water Right Case No(s): 83CW0060

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: 11/6/14

Print Name: Allen B. Crockett

Address: BLM - 2300 River Frontage Rd.  
Silt, CO 81652

Phone: 970 876 9005

\* subject to accessibility - as approved  
by the BLM



# USPS Tracking™



Customer Service ›  
Have questions? We're here to help.

Tracking Number: 70132630000112128533

Updated Delivery Day: Friday, October 10, 2014

## Product & Tracking Information

Postal Product: First-Class Mail®  
Features: Certified Mail™

## Available Actions

Return Receipt Electronic

DATE & TIME	STATUS OF ITEM	LOCATION
October 9, 2014 , 10:07 am	Delivered	SILT, CO 81652

Text Updates

Email Updates

Your item was delivered at 10:07 am on October 9, 2014 in SILT, CO 81652.

October 9, 2014 , 9:33 am	Out for Delivery	RIFLE, CO 81650
October 9, 2014 , 9:23 am	Sorting Complete	RIFLE, CO 81650
October 9, 2014 , 9:10 am	Arrived at Unit	RIFLE, CO 81650
October 8, 2014 , 10:49 am	Acceptance	GRAND JUNCTION, CO 81501

## Track Another Package

Tracking (or receipt) number

Track It

**U.S. Postal Service™**  
**CERTIFIED MAIL™ RECEIPT**  
*(Domestic Mail Only; No Insurance Coverage Provided)*

For delivery information visit our website at [www.usps.com](http://www.usps.com)

OFFICIAL USE

Postage	\$	
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
<b>Total Postage &amp; Fees</b>	<b>\$</b>	

*Sent To*  
BLM Oil & Gas Hydrologist CO River Valley Field Office  
*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

GM 34-4 + MV 5-10  
Access Request

Date: November 20, 2014

Bruce Smith:

The following is in response to your November 20, 2014 request for delivery information on your Certified Mail™ item number 70132630000112128533. The delivery record shows that this item was delivered on October 9, 2014 at 10:07 am in SILT, CO 81652. The scanned image of the recipient information is provided below.

Signature of Recipient :

Delivery Section	
Signature	
Printed name	KENT LYLES

Address of Recipient :

Delivery 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**

**Attachment B**

**Field Reconnaissance Photographs**



**Photograph 1. View of Riley Gulch (left) during field reconnaissance**



**Photograph 2. Riley Gulch (center with Cottonwood trees) and surrounding landscape.**



**Photograph 3. Riley Gulch with access road and surrounding landscape.**



**Photograph 4. Suspected former seepage area with no observed surface water in upper Riley Gulch.**