



Western Water & Land, Inc.

September 25, 2015

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

**RE: Drill Pad SG 23-32 Injection Well Baseline Water Quality Evaluation**

Dear Mr. Shoemaker,

Western Water & Land, Inc. (WWL) has completed a hydrologic Water Source evaluation for the WPX Energy Rocky Mountain LLC (WPX) Drill Pad SG 23-32 Injection Well in accordance with Colorado Oil and Gas Conservation Commission (COGCC) Rule 609. Drill Pad SG 23-32 is located in NE<sup>1</sup>/<sub>4</sub>, SW<sup>1</sup>/<sub>4</sub>, Section 32, Township 7 S, Range 96 W, 6<sup>th</sup> P.M. The evaluation considered all Water Sources as defined in Rule 609 within a 0.5-mile radius of the referenced drill pad. Water Sources located on the basis of section quarters were included in the evaluation if any portion of the section quarter(s) lies within the 0.5-mile radius area. A preliminary screening of the Water Sources was completed to identify the sources considered to be potentially available for baseline sampling pending results of the owner questionnaire, consent of the structure owners, and field inspections to verify sampling feasibility. Each potentially Available Water Source was then evaluated to identify the preferred sources for the baseline program. If the resulting number of potentially available sources was four or less, all of the sources were included in the list of preferred sources. If more than four sources were potentially available, the sources were prioritized based on WWL's hydrologic knowledge of the region, general hydrologic rationale, and in accordance with the guidelines specified in Rule 609.

**Water Sources**

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, or 609. Water Sources located within a 0.5-mile radius of Drill Pad SG 23-32 are shown in Figure 1. Well permit files and water right files, where applicable, are included for preferred Water Sources in Attachment A. Structure owners are identified as reported in DWR databases. Monitoring Hole permits (MH designation), and abandoned, canceled, denied, or expired permits of any type are not shown in Figure 1 within the 0.5 mile radius unless otherwise described in this report. Similarly, water right decrees that are shown as having a non-existent or unusable structure in the state database may not be shown as a viable water source in Figure 1. Property owners are identified as reported in county property records. The Water Sources within a 0.5-mile radius of Drill Pad SG 23-32 are summarized as follows:

- Water Well Receipt No. 0000697B
  - Applicant/Owner:  
Occidental Oil  
Grand Junction, CO 81501
  - Property Owner:  
WPX Energy Rocky Mountain, LLC  
C/O Merit Advisors, LP  
PO Box 330  
Gainesville, TX 76241
  - Use(s): Other
  - Well Depth: Unknown
  - Well Yield: Unknown

### **Potentially Available Water Sources**

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. State records do not show that water well receipt no. 0000697B is permitted, or that the well was constructed. In addition, WWL's knowledge of the area indicates that some monitoring wells may have been constructed to support Occidental Oil Shale, Inc. These wells did not have pumps installed. Therefore, this well reference is not considered to qualify as an Available Water Source. No potentially Available Water Sources were identified to fall within the 0.5-mile radius area of Drill Pad SG 23-32.

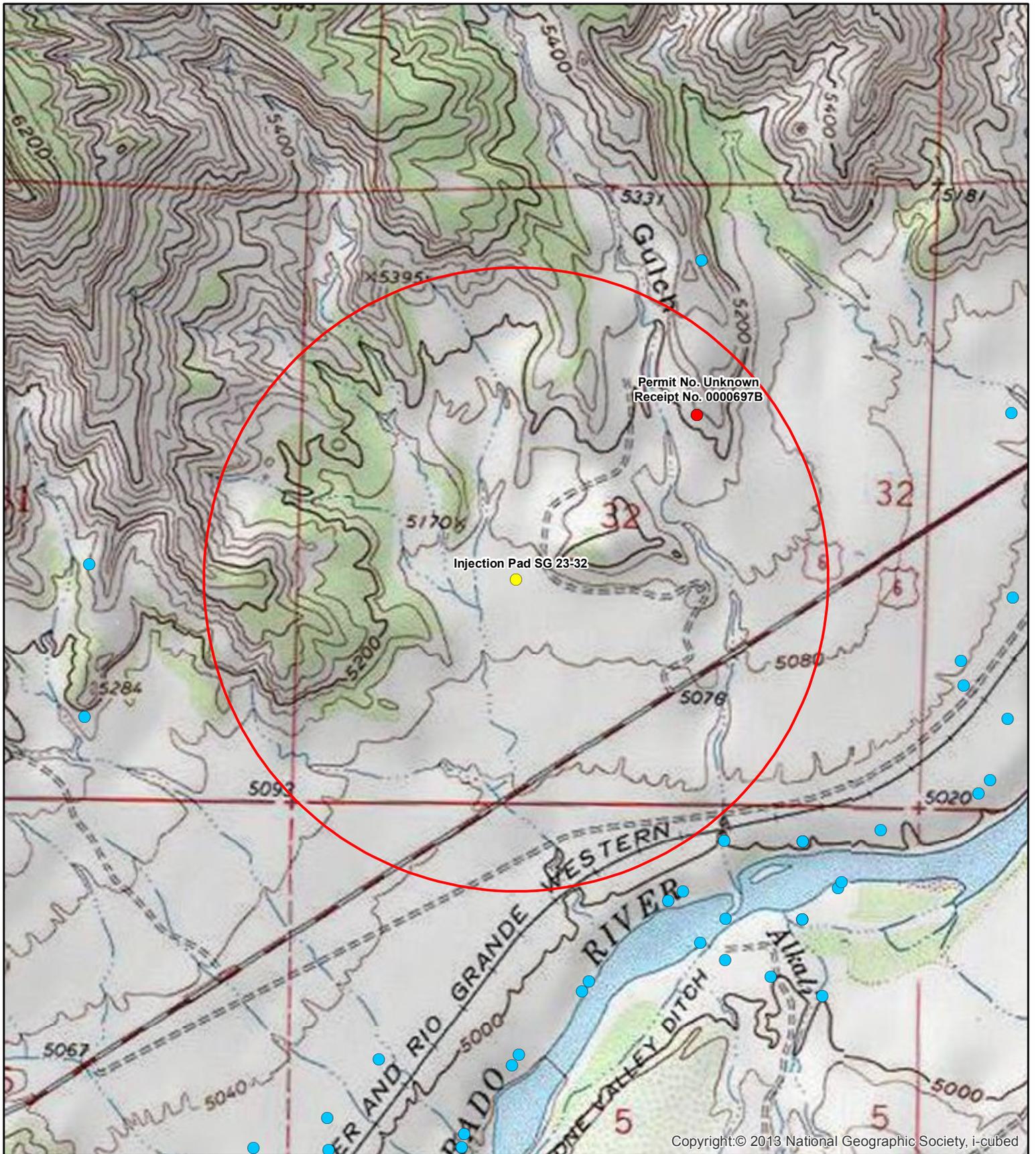
If you have any questions or concerns, please contact me at (970) 242-0170.

Sincerely,



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

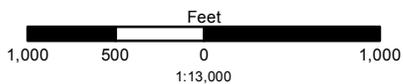
Attachment



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**Legend**

- Decree
- Constructed well
- Outside permits or decrees
- Drill Pad SG 23-32
- 0.5-Mile radius evaluation area
- Well completion status unknown



**Figure 1. Injection Pad SG 23-32  
0.5 Mile Radius Water Source Evaluation  
NE1/4, SW1/4, S32, 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