

### Soil pH Analysis and Delineation Feasibility at Red Rocks Helium Wells

The following is a discussion of analytical results from soil samples collected from five (5) Red Rocks helium well locations (Red Rocks 1-13, 1-14, 1-16, 35-08, and 35-11) operated by Desert Eagle Operating, LLC in Las Animas County, Colorado. With the exception of pH, all Soil Suitability for Reclamation analytes were within acceptable ranges as listed in *Environmental Impact Prevention – 900 Series Table 915-1 Cleanup Concentrations*. This discussion focuses specifically on pH levels at the Red Rocks 35-08 helium well location and the feasibility of further delineation.

At each well location, soil samples were collected in accordance with ECMC Rule 915.e.(2) Guidance Document sampling protocols and ECMC Form 27 Site Investigation and Remediation Workplans approved sampling locations. Between two (2) and fourteen (14) samples were obtained per location based on investigatory requirements and ECMC guidance. Samples collected from on, or in the immediate vicinity of, each helium well pad are herein referred to as a sample series. Each sampling series included one (1) up-gradient background sample (denoted as BG-01) from an undisturbed area to establish a baseline for naturally occurring contaminants to be compared to Table 915-1 Cleanup Concentration values. Background sample locations were carefully chosen to avoid areas of known violations or potential impacts from drilling operations. **Table-1** below presents pH values for the background samples at each Red Rocks location.

**Table-1**

Sample ID	Result (pH)	Highest Result in Series (pH)
RR3511-BG01	7.8	<b>8.5</b>
RR3508-BG01	8.3	<b>8.4</b>
RR113-BG01	<b>8.9</b>	<b>8.9^</b>
RR114-BG01	<b>8.5</b>	<b>8.8</b>
RR116-BG01	<b>8.8</b>	<b>8.8^</b>

**\*Bolded entry indicates result outside of Table 915-1 Cleanup Concentration range**

**\*\* ^ indicates highest result in series is Background (BG)**

As shown in **Figure A-1**, the Analysis Area spans approximately 144-acres, wherein pH values in undisturbed native soils range from 7.8 to 8.9. Analytical results for the sample series collected from Red Rocks 1-13 and Red Rocks 1-16 exhibit the highest pH concentrations in soils collected from the background sample locations (RR113-BG01 and RR116-BG01). As these samples were collected from undisturbed native soils it is reasonably assumed that the pH concentrations are representative of the greater 144-acre Analysis Area and are not the result of helium well drilling operations.

The naturally occurring pH levels across the Analysis Area exceed Table 915-1 Cleanup Concentration values. Given that the highest recorded pH values were from undisturbed background samples, further delineation is not warranted or feasible. It is the professional opinion of Topographic that additional investigation would not provide meaningful data, as native soils inherently exceed regulatory thresholds.

Respectfully,



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