



**Nicholson GeoSolutions LLC**

3433 East Lake Drive  
Centennial, CO 80121

September 20, 2017

Mr. Derek Johnson  
Berry Petroleum Company  
235 Callahan Avenue  
Parachute, Colorado 81635

**Subject: O-29 Landfarm Screening Soil Sample Results**

Dear Derek:

Nicholson GeoSolutions LLC collected a screening level soil sample from the newly constructed landfarm on the O-29 well pad in the Garden Gulch area, Garfield County, Colorado on September 10<sup>th</sup>, 2017. The sample was composited from 16 subsamples collected at depths of about 18 inches across the surface of the landfarm. The sample was analyzed for Total Volatile Petroleum Hydrocarbons (TVPH – gasoline range), Total Extractable Petroleum Hydrocarbons (TEPH – diesel and motor oil range), BTEX (benzene, toluene, ethylbenzene, and xylenes) and PAHs to evaluate compliance with the COGCC Table 910-1 standards and further treatment needs. Inorganic parameters (SAR, pH, conductivity, and metals) were not analyzed for this sample since these parameters have been previously well characterized. The laboratory report is attached.

Benzo(a)pyrene was reported at 0.0234 mg/kg (COGCC standard = 0.022 mg/kg), down from 0.0586 mg/kg in May of 2017. All other results were below the standards.

Further treatment of this landfarm should be conducted. The landfarm should be sampled again in the spring of 2018 to reassess the benzo(a)pyrene concentration and degradation rates.

Nicholson GeoSolutions LLC

A handwritten signature in blue ink that reads "DK Nicholson".

David K. Nicholson, P.G.  
Principal Geologist