

December 18, 2019

**Re: Soil Sampling Summary Attachment
Kerr-McGee Oil and Gas Onshore, LP
Aristocrat 41-9 1 Pit Closure
Form 27 Document # 402068385
Remediation # 12943
NENE SEC 9-T3N-R65W**

Subsurface Assessment

In April and May 2019, fourteen assessment soil borings (SB01 through SB14) were advanced at the former pit location to depths ranging between approximately 6 feet and 32 feet below ground surface (bgs). The soil borings were continuously field screened using a photoionization detector (PID). Based on the PID headspace readings, soil samples were collected from soil borings SB01 through SB08 for laboratory analysis of total petroleum hydrocarbons (TPH), benzene, toluene, ethylbenzene, and total xylenes (BTEX), pH, and specific conductivity (EC). Soil samples from SB03 through SB08 were also analyzed for sodium adsorption ratio (SAR). Laboratory analytical results indicated that samples SB01@6', SB02@6', SB03@14', and SB08@8' exceeded the Colorado Oil and Gas Conservation Commission (COGCC) Table 910-1 allowable level for TPH. Soil sample SB06@14' exceeded the COGCC Table 910-1 allowable level for SAR but was collected below the root zone (greater than 3 feet bgs). The soil boring locations are depicted on the Site Map provided as Figure 1. The soil sample laboratory analytical results are summarized in Table 1, and the laboratory analytical reports are attached.

Excavation Soil Sampling

Based on the subsurface assessment in April and May 2019, excavation of the petroleum hydrocarbon impacted soil was initiated. Seventeen soil samples were collected from the excavation for laboratory analysis of TPH, BTEX, and naphthalene between July 1 and 17, 2019. The base soil samples were also analyzed for pH, EC, and SAR. Laboratory analytical results indicated BTEX, TPH, naphthalene, pH, EC, and SAR concentrations and levels were in full compliance with COGCC Table 910-1 allowable levels at the extent of the excavation. The final extent of the excavation encompassed soil boring locations SB01, SB02, SB03, SB08, and terminated with the SB04 location in the southern sidewall. The excavation soil sample locations are depicted on the Excavation Site Map provided as Figure 2. The excavation soil sample analytical results are summarized in Table 1, and the laboratory analytical reports are attached.