



**September 29, 2021**

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**RE    Historic Pit Due Diligence  
Horseshoe Canyon (HSC 1-19)  
Remediation: 19356  
Location ID: 311743  
Facility (Pit) ID: 116447  
SWNE, Sec. 29, T9S, R97W, 6<sup>th</sup>  
Mesa County, CO**

This document is being prepared for due diligence work performed seeking closure for the historic pit linked to the Horseshoe Canyon (HSC) 1 pad. During site/facility closure a Form 27 Site Investigation plan was submitted which included the related historic pit to the location. Consistent with Rule 911, the pit would be investigated to obtain closure of the site.

### **Due Diligence Off-Site**

Due diligence of pit consisted of searching through Colorado Oil & Gas Conservation Commission (COGCC) database records, historical mapping, and historical records search provided by the landowner; Bureau of Land Management (BLM). Records and/or mapping that provided information regarding pit location, size, and use are attached to this document. BLM records did not have evidence of pit location from old documents searched.

### **Due Diligence On-Site**

From lack of evidence provided from database and aerial imagery. Typical pit locations were near the separator and were consistently below the tank(s) placement location, utilizing the berm and depression for operations. Years of experience and process knowledge of closing historic pits have limited investigations to these locations. Consistent with the approved Form 27 for the site, heavy equipment was utilized to investigate this area and if no impacts were discovered; excavation was screened via photoionization detector (PID) and a soil sample was collected from

the bottom to provided laboratory analysis. During excavation with heavy equipment, approximately two (2) feet below where the bottom of the tank was place bedrock refusal was encountered. A trench was excavated through the depression area and heavy equipment was unable to go through the bedrock. PID was utilized for the sidewalls and bottom to determine if impacts were present, no impacts were identified by PID and Visual/olfactory. A bottom sample was collected and analyzed for Table 915 where only arsenic was identified (2.96 mg/kg) above table 915 levels. Background samples were collected from the area and identified arsenic levels above the pit sample and is considered to be naturally occurring within the area. If impacts were identified by visual/olfactory, laboratory analysis, and/or PID screening, the pit would be delineated accordingly to Rule 913; however, no impacts were observed or identified.

## Conclusions

During historical pit investigation at the HSC 1 site, excavation was limited from within the tank battery area. Historical imagery is not clear but could depicted a small depression in continuous images located where the tank was placed. No impacts were observed or noted during pit investigation. A grab soil sample was collected at two (2) feet below tank bottom placement and only identified inorganic constituents (Arsenic) that are below background samples collected during investigation. During the investigation, the total depth below working surface that the pit was excavated was to a depth of eight (8) feet. The tank depression was assumed to be utilized for pit operations. With the data presented herein, historical pit (Facility ID: 116447) associated with the HSC 1 was constructed but not used or pit was remediated prior tank placement and documentation was indiscoverable. Environmental concern to soils is not present, and Laramie Energy should request closure of Horseshoe Canyon 1 pit (Facility ID: 116447).

All field screening, sampling locations, and laboratory reports not included in this document are submitted on supplemental form 27(s) under assigned REM 19356. Additional information that might be included in this Form 27 submittal are linked to the Site/Facility closure of the HSC 1 site where all soil investigation was completed parallel to pit investigation activities.

If you have any questions pertaining to this project, please do not hesitate to contact me at (970) 901-9007 or [mkasten@entradainc.com](mailto:mkasten@entradainc.com)

Sincerely,



### **ENTRADA CONSULTING GROUP**

Matt Kasten

*Project Manager*

Attachments  
Historical Imagery / Photo Log  
Site Diagram  
Laboratory Reports  
Laboratory Summary Table