July 28, 2023
Kleinfelder Project No.: 24000859.001A

Mr. Blair Rollins
Caerus Piceance, LLC
143 Diamond Avenue
Parachute, Colorado 81635

SUBJECT: **Site Investigation Report**
Spill / Release Point ID: 484391
Love Ranch 8 Off-Location Flowline Release
Rio Blanco County, Colorado

Dear Mr. Rollins:

Kleinfelder Inc. (Kleinfelder) performed investigation activities at the Love Ranch 8 Off-Location Flowline Release site in Rio Blanco County, Colorado under contract by Caerus Piceance LLC (Caerus). Enclosed is the report of work complete for this effort.

Please do not hesitate to contact me at 303.319.2456 or by email at VDeCianne@kleinfelder.com should you have questions or concerns.

Respectfully submitted,

KLEINFELDER, INC.

Vince DeCianne
VP, Senior Principal Professional

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

SITE INVESTIGATION REPORT
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO
KLEINFELDER PROJECT NO. 24000859.001A

JULY 28, 2023

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601

A Report Prepared for:

Mr. Blair Rollins
Caerus Piceance, LLC
143 Diamond Avenue
Parachute, CO 81635

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SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

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SITE INVESTIGATION REPORT
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RIO BLANCO COUNTY, COLORADO

1 INTRODUCTION

This document was prepared by Kleinfelder Inc. (Kleinfelder) on behalf of Caerus Piceance, LLC (Caerus) to provide documentation of recent investigation and sampling support services conducted at the Love Ranch 8 Off-Location Flowline Release site (the Site) located in Rio Blanco County, Colorado (**Figure 1**).

1.1 BACKGROUND

Kleinfelder has been contracted by Caerus to perform surface water and soil sampling support services to provide necessary information to complete the Colorado Energy and Carbon Management Commission (ECMC) (formerly Colorado Oil and Gas Conservation Commission, (COGCC)) Form 27 for Caerus' upstream oil and gas production facilities located in the Piceance Basin. According to the approved COGCC Form 19 Spill/Release Report (Initial) (document #403391282) and approved Form 19 Spill/Release Report (Supplemental) (document # 403398312) provided to Kleinfelder by Caerus (**Appendix A),** Caerus identified the Love Ranch 8 Off-Location Flowline Release (the Site) by observing a sheen emanating on Piceance Creek along a known pipeline corridor on May 2, 2023.

1.2 RESPONSE ACTIVITIES

Caerus immediately initiated spill response procedures including:

- Deploying sorbent booms across Piceance Creek and adjacent irrigation channels,
- Deploying sorbent pads immediately surrounding the point of release (POR),
- Starting active fluid recovery via surface water and groundwater rainbow sheen skimming near the POR with a transport truck,
- Completing all regulatory notifications,
- Shutting in flowlines within the pipeline corridor, and

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- Pressure testing the pipelines.

Surface water samples were immediately collected to characterize the release as part of the initial release response efforts. An approximately six-foot-long by three-foot-wide by two-foot-deep excavation was completed directly above the suspected release point within the pipeline corridor on the bank of Piceance Creek as part of the initial release response efforts to further identify and characterize the release. The excavated material was placed directly south of the point of release area. When pressure testing the pipelines within this pipeline corridor, a slug of fresh water was sent through the pipeline and was observed by Caerus personnel to be surfacing from the pipeline corridor in this excavation. A combination of large super-sack sandbags and regular sandbags were put in place around this excavation to limit surface water interaction with the impacts associated with the point of release area.

1.3 MONITORING

Twenty-two surface water samples were collected on May 2, 2023, by Caerus contracted environmental consultants, excluding Kleinfelder, from a 5.5-mile segment of Piceance Creek. The surface water sampling was duplicated again on May 3, 2023, with six additional surface water sample locations added to the event, for a total of 28 surface water samples. The surface sampling event from May 3, 2023 was replicated on May 4, 2023. The surface water samples were shipped same day to Pace Analytical Laboratory for full COGCC Table 915-1 analysis. The analytical results for these sampling events were previously submitted to ECMC under the Form 19 Spill/Release Report Supplemental Form (documents #403401872, #403401876, #403401877, and #403401878). Caerus monitored the sorbent booms and pads for saturation and routinely replaced the booms and pads as needed. Wildlife observation walks were completed upstream and downstream of the POR to monitor any abnormal environmental conditions or wildlife behavior.

Kleinfelder completed its first onsite visit to the Site with Caerus on May 4, 2023. Beginning May 5, 2023, Caerus directed Kleinfelder to initiate regular surface water sampling at six points along Piceance Creek to characterize stream conditions, complete wildlife observation walks downstream of the POR, and photo document site conditions. A summary of the surface water samples collected by Kleinfelder is listed in **Table 1.** Caerus reduced the frequency of surface water sample collection to weekly as response efforts began to stabilize the Site. Project objectives shifted to site investigation in an effort to characterize the release and observed conditions at the Site through soil sampling and continued surface water sampling. Laboratory analytical results for Site surface water samples are

detailed in **Table 2** and the laboratory analytical results of the Site soil samples are detailed in **Table 3**. A brief timeline of activities completed at the Site are outlined below and explained in greater detail within the subsequent sections of this report.

2 SITE LOCATION AND GEOLOGIC SETTING

The Love Ranch 8 Off-Location Flowline Release is located in Rio Blanco County, Colorado (SWNW, Section 9, Township 2 South, Range 97 West) near the northeastern edge of the Piceance Basin, a large structural basin in the Uinta-Piceance geologic province of Colorado and Utah consisting of sandstones and siltstones, containing reserves of coal, natural gas, and oil shale. The Site location and topographical information are shown in **Figure 1**.

The main geologic units in this area (from youngest to oldest) are the Uinta formation, Green River Formation, Wasatch formation, Mesa Verde Group, and Mancos Shale. The Green River Formation is visible along the slopes and ridges on either side of the Piceance Creek valley. The Green River Formation is an Eocene lacustrine formation associated with lake deposits from Lake Uinta, which once covered large areas of northwestern Colorado and northeastern Utah and southwestern Wyoming. The Green River Formation includes siltstones, sandstones, mudstones, and oil shale, as well as various lacustrine limestones and dolomites and saline evaporites. The only significant North American deposit of the sodium bicarbonate (i.e., baking soda) mineral Nahcolite is located within Green River deposits. Nahcolite is mined in the region and processed at a facility in the Piceance Creek valley.

The Site is located in a wide, flat valley bottom in the vicinity of Piceance Creek, as shown on **Figure** 1. **Figure 2** shows the localized Site surficial geology, which consists of Quaternary (Holocene) Piney Creek Alluvium. The Piney Creek Alluvium generally consists of mildly calcareous unconsolidated silts, clays, and sands.

Piceance Creek flows from south to north in this valley toward its confluence with the White River approximately nine miles north of the Site. Piceance Creek is a meandering perennial stream. The Site is in a high altitude semi-arid region, and runoff is generally associated with snowmelt or summertime short-duration, high-intensity thunderstorms. Maximum flows in Piceance Creek typically occur during spring snowmelt runoff with peak flow commonly occurring in April - May of each year and lowest flow in the fall, typically in October - November.

In addition to Piceance Creek, there is also a small irrigation ditch to the west of the creek in the valley near where the Site is located. The ditch is used by a local rancher for irrigation. The valley is irrigated to allow for cattle grazing.

Five piezometers were installed by Caerus in May 2023 as part of the Site investigation activities to monitor the localized potentiometric surface, groundwater flow direction, and groundwater gradient. Groundwater depth measurements and corresponding groundwater elevations are summarized in **Table 4**. Groundwater can be as shallow as a few feet below ground surface (bgs) in the central part of the valley near Piceance Creek. Groundwater depth varies by at least a few feet seasonally as evidence by the changes in depth to groundwater during the May - July measurement time frame.

The locations of the piezometers are shown on the groundwater potentiometric surface maps for May, June, and July 2023 presented in **Figures 4A, 4B, and 4C**. The groundwater flow direction is generally to the north-northwest in the vicinity of the site, generally similar to the Piceance Creek flow direction. Considering the shallow depth to groundwater, it may be in hydraulic connection with Piceance Creek, though there is currently insufficient site-specific data (e.g., flux study) to confirm whether Piceance Creek is a gaining or losing stream in the area of the Site or whether this could vary seasonally.

3 FIELD ACTIVITIES

Following the discovery of the Love Ranch 8 Off-Location Flowline Release on May 2, 2023, Caerus initiated the field activities below to identify, respond, investigate, and monitor the release at the Site:

3.1 RELEASE IDENTIFICATION AND INITIAL RESPONSE – MAY 2023

Upon discovery of the rainbow sheen on Piceance Creek, Caerus immediately initiated spill response procedures including:

- Deploying sorbent booms across Piceance Creek and adjacent irrigation channels,
- Deploying sorbent pads immediately surrounding the POR,
- Starting active fluid recovery via surface water and groundwater rainbow sheen skimming near the POR with a transport truck,
- Completing all regulatory notifications,
- Shutting in flowlines within the pipeline corridor,
- Pressure testing the pipelines, and
- Fluid recovery via surface water and groundwater rainbow sheen skimming near the POR with a transport truck.

The rainbow sheen on the water surface of Piceance Creek was primarily being contained within the sorbent booms deployed around the point of release area and subsequent boom deployments downstream of the point of release area. Caerus monitored the sorbent booms and pads for saturation and routinely replaced the booms and pads as needed. Large super-sack sandbags were put in place to surround the point of release area to keep surface water from interacting with the release as much as possible.

3.2 SURFACE WATER SAMPLING – MAY THROUGH JULY 2023

Upon discovery of the rainbow sheen on Piceance Creek, Caerus immediately initiated a series of robust surface water sampling events including:

- Collecting twenty-two surface water samples from a 5.5-mile segment of Piceance Creek on May 2, 2023, and shipped same-day to Pace Analytical Laboratory for full COGCC Table 915-1 analysis.
- Collecting twenty-eight surface water samples from the same 5.5-mile segment of Piceance Creek and additional samples from the adjacent irrigation ditch on May 3 and 4, 2023 and shipped same-day to Pace Analytical Laboratory for full COGCC Table 915-1 analysis.
- Caerus reduced the surface water sampling frequency of Piceance Creek following the review of surface water laboratory analytical data of samples to date which indicated site conditions were stabilizing.
- Kleinfelder has completed weekly surface water sampling through July 2023 at UG02, POR, DG14, DG13, DG12, and DG11 as depicted in **Figure 3.**
- As the Site has stabilized, Kleinfelder has completed Site visits at least twice per week to monitor and document Site conditions. Daily photo logs and wildlife observation walks were completed upstream and downstream of the POR to monitor any abnormal environmental conditions or wildlife behavior.
- Kleinfelder continues to complete weekly surface water sampling at UG02, POR, DG14, DG13, DG12, and DG11 as depicted in **Figure 3.** Surface water samples collected on July 17, 2023 and July 24, 2023 are pending laboratory analytical results.

3.3 INITIAL INVESTIGATION ACTIVITIES – JUNE THROUGH JULY 2023

As the conditions at the Site stabilized, Caerus promptly shifted their Site objectives to completing initial investigation and release characterization activities including:

- Two exploratory hydrovac potholes (Pothole A and Pothole B) were completed as depicted in **Figure 5** directly west of the POR area to allow additional groundwater rainbow sheen skimming and contaminant recovery.
- Kleinfelder collected three Material of Interest (ST-PC-MOI01) surface water samples and one Material of Interest (MOI01) soil sample from the excavation directly above the suspected release point within the POR area to characterize potential Site impacts. Laboratory analytical results of these Material of Interest samples are summarized in **Table 2.**
- Eight additional exploratory hydrovac potholes were completed as depicted in **Figure 5** were completed surrounding the POR area to allow observation of subsurface conditions and allow additional groundwater skimming of rainbow sheen and contaminant recovery, as necessary.

- Five piezometers as depicted in **Figures 4A-4C** were installed by a Caerus contracted driller at the Site on the east and west sides of Piceance Creek to provide additional data on groundwater level and flow direction.
- Eagle Synergistic (Eagle) was contracted to provide subsurface high-resolution site characterization (HRSC), specifically a direct push rig with downhole tools including laser-induced fluorescence (LIF)/optical image profiler (OIP), hydraulic profiling tool (HPT), and electrical conductivity (EC) at the Site.
- Eagle begins soil borings at the Site beginning May 31, 2023 through June 9, 2023 in an attempt to characterize subsurface conditions surrounding the point of release area.
- Kleinfelder collected 16 soil samples from various Eagle soil borings at the Site. The soil samples were field screened using a photoionization detector (PID) and are summarized in **Table 1.** Analytical results for these soil samples are summarized in **Table 3**. The locations of these soil samples are depicted in **Figure 6**.
- Eagle returned to the Site to complete additional HRSC services and further characterize subsurface conditions surrounding the point of release area.
- Kleinfelder collected one soil sample during the second Eagle site visit from soil boring 01 at nine feet. The soil sample was field screened using a PID and is summarized in **Table 1.** Analytical results for this soil sample are summarized in **Table 3**. The location of the soil sample is depicted in **Figure 6**.
- Kleinfelder collected one composite soil sample of the stockpile of soil excavated from the point of release area. The soil sample was field screened using a PID and is summarized in **Table 1.** Analytical results for this soil sample are summarized in **Table 3**. The location of the soil sample is depicted in **Figure 6**.

Kleinfelder used an EOS Arrow 100 Submeter GNSS receiver to record latitude and longitude at each sample location and the sample locations are shown on **Figure 6**. Surface water samples were collected using five laboratory-supplied sample bottles placed directly into Piceance Creek.

Soil samples were collected using a stainless-steel trowel and placed into one laboratory-supplied, nine-ounce jar with a Teflon lid per sample. Each sample was collected directly from the hollow stem auger, from the appropriate depth, and placed into the glass jar. The samples were immediately placed on ice in a cooler. Standard chain-of-custody (COC) procedures were used during sampling and transportation to Pace in Mount Juliet, Tennessee (via FEDEX).

Soil samples collected in unison with Eagle soil borings were analyzed for COGCC Table 915-1 Organic Compounds and TPH. Sampling equipment (i.e., auger, soil sampler, etc.) was washed with a solution of Liquinox® detergent, rinsed with tap water, and then distilled water between samples.

During soil sampling activities, Kleinfelder documented staining and/or odor observations, if any, and screened the soil with a PID. Kleinfelder placed the soil into a Ziploc® plastic bag directly from the hand auger for screening with the PID. The PID is a MiniRAE 3000®, which is owned and maintained by Kleinfelder. Prior to use, Kleinfelder calibrated the PID, which passed calibration.

Soil sample conditions and observations are provided in **Table 1**.

4 FINDINGS

The results and findings of the May - July 2023 investigation of the Love Ranch 8 Off-Location Flowline release are discussed in this section. As described in Section 3 and as noted on the initial Form 19 (document #403391282), the first evidence of a release in the vicinity of Love Ranch 8 was visual observation of a "rainbow sheen" on surface water in Piceance Creek on May 2, 2023. The sheen was visually traced to a location identified on **Figure 1** as the "point of release" or POR. A subsurface pipeline that crosses under the creek in this approximate location at roughly 17 ft bgs was identified and pressure tested and failed this test. It was taken out of service, pigged, and flushed with fresh water and capped. This line has remained out of service ("shut-in") since the initial failed pressure test in early May 2023.

Surface water samples identified as material of interest (ST-PC-MOI01) and point of release (ST-PC-POR) during the 2023 investigation activities were collected and analyzed to characterize the source material and are depicted in **Figure 3**. (ST-PC-POR) samples were collected at the visible point of release near the western bank of Piceance Creek where a "rainbow sheen" was evident. During the fresh water flushing of the out-of-service line, water was observed coming to the surface at the (ST-PC-POR) location, presumably short-circuiting upward from the subsurface line failure point. (ST-PC-MOI01) samples were collected from Caerus' shallow excavation to the west of the POR location and included water with a rainbow sheen and saturated soil with strong hydrocarbon odor and oily/rainbow sheen. Note that although there was a rainbow sheen visible at the POR/MOI area, there was insufficient non-aqueous phase liquid (NAPL) for a stand-alone NAPL sample to be collected. The (ST-PC-MOI01) and (ST-PC-POR) water samples were primarily water with a sheen that was too thin to skim off as a separate-phase NAPL sample. The (ST-PC-POR) and (ST-PC-MOI01) water results exceeded the Table 915-1 groundwater delineation levels by orders of magnitude. One (ST-PC-MOI01) water sample was also analyzed for gasoline range organics (GRO) and diesel range organics (DRO) even though those analytes are not listed on Table 915-1 thresholds for groundwater. The GRO/DRO results indicate that the source is proportionately more on the lighter hydrocarbon range.

In addition to the water samples at the source/POR area, a soil (MOI01) sample was collected from a shallow excavation adjacent to and west of Piceance Creek. This soil sample was saturated and had a strong hydrocarbon odor and visible rainbow sheen. The highest PID headspace reading from this investigation was from the (MOI01) soil sample (headspace result of 1801 parts per million (ppm)).

Results of the (MOI01) soil sample exceeded Table 915-1 values for several constituents, as discussed in Section 4.3.

The investigation activities to date have focused on surface water and soil only. The subsections below summarize the results and findings of Kleinfelder's surface water and soil investigation efforts in May - July 2023, including:

- Surface water sampling from Piceance Creek,
- High-resolution site characterization efforts, and
- Soil sample results.

Surface water sample results are presented in **Table 2**. Results from the high-resolution site characterization efforts, including OIP Tool/Laser Induced Fluorescence, HPT, and EC are provided in **Appendix B.** Soil results are presented in **Table 3**. As required for delineation, the analytical results were compared to the COGCC's Table 915-1 protection of groundwater soil screening levels (GWSSLs). Laboratory analytical reports from Pace Analytical National lab are provided in **Appendix D.**

4.1 SURFACE WATER FINDINGS

Surface water sampling results for multiple points along Piceance Creek upstream and downstream from the POR are presented in **Table 2**. Surface water sample results upstream from the release (denoted with "UG" in the sample identification) were non-detect for Table 915-1 organics for groundwater. Surface water sample results downstream from the release (denoted with "DG" in the sample identification) were either non-detect or J-flagged results an order of magnitude or more below the Table 915-1 organic thresholds for groundwater.

TDS, chloride, and sulfate were detected at similar concentrations in the upstream and downstream surface water samples. As shown in **Table 2**, the TDS, chloride, and sulfate concentrations gradually increased as surface water flow volume in Piceance Creek decreased from its peak in May 2023. Results for TDS, chloride, and sulfate were higher in July than in May 2023. One notable exception to this pattern is the TDS result (TDS 4,960 mg/L) at location ST-PC-UG02 on 5/15/2023. This appears to be a spurious result.

4.2 HIGH-RESOLUTION SITE CHARACTERIZATION FINDINGS

In addition to the collection of discrete soil and surface water samples, direct-push borings were advanced with downhole tools including LIF/OIP, HPT, and EC for HRSC. The HRSC results are provided in **Appendix B** and briefly summarized below.

The intent of using the HRSC tools, particularly the OIP, was to quickly and broadly assess the extent of potential NAPL, if any, in the subsurface and to inform subsequent targeted soil sampling locations and depths for delineation purposes. Considering the shallow groundwater table in the investigation area, the use of HRSC tools was considered an expedient way to focus on where to collect samples for NAPL delineation in soil below the water table. The real-time OIP response information was used as an indicator of where to collect soil samples for laboratory analysis.

Two different light sources (green diode, denoted as OIP-G) and ultraviolet (denoted as OIP-UV) were used during this investigation. At the outset of the investigation in late May/early June 2023, both lamps were used on known petroleum-impacted soil to observe which lamp provided a more obvious response. At that time, the OIP-UV had little to no response. The OIP-G tool was used for the majority of HRSC borings at the Site because a fluorescence response was observed in the first few borings. At select OIP locations and depths, a side-by-side boring was advanced to collect soil samples for confirmation laboratory analysis. However, when the confirmation soil analytical results were received and compared to the OIP-G response, it became clear that the OIP-G response did not correspond to laboratory detections of petroleum hydrocarbons at the Site. The soil samples collected in May and early June 2023 had non-detect results for organics or J-flagged results below the SDL, as shown in **Table 3**. One possible reason for the low level OIP-G response may be lithologic, possibly interference from carbonate minerals in the soil. Regardless of the reason, the soil laboratory results showed no correlation between OIP-G fluorescence response and presence of Table 915-1 organic compounds.

On June 27, 2023, in an effort to use the HRSC tools to assist with delineation the drill rig was re-mobilized to the Site to advance a few additional borings with the OIP-UV tool. Five OIP-UV borings were advanced, including borings at three of the previous locations where the OIP-G tool was used. These borings started at the approximate location of SB01 and stepped out to the north, south, east, and west (SB01, SB07, SB08, SB25, and SB26) for delineation purposes. During this second mobilization, the OIP-UV tool response appeared to be better aligned with the laboratory organics results. Specifically, the OIP-UV had a strong (~90% fluorescence) response at one boring and depth, SB01 at 9-ft bgs, and the confirmation soil sample collected from this interval exceeded Table 915-1

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GWSSLs by at least an order of magnitude. The OIP-UV tool had no response other than at SB01 at 9-ft bgs. According to the HRSC subcontractor, Eagle Synergistic, the OIP-UV and visible light images from the SB01 9-ft depth are indicative of the presence of NAPL in this vertically narrow zone (See **Appendix B**). Based on the absence of OIP-UV response in the four borings surrounding SB01, Kleinfelder infers that the horizontal extent of NAPL in the soil is limited and is primarily in the vicinity of SB01, the POR, and the MOI location.

The downhole HPT and EC results provide some indication of the relative permeability and conductivity of the subsurface soils. Detailed results are provided in **Appendix B**. The EC and HPT results showed minor variability in these parameters with depth and no indications of major high permeability/sand zones. Based on the HPT and EC results, the soils are understood to be predominately silt/silty clay underlain by tighter/more clayey zones at deeper intervals (e.g., below about 23 ft bgs at SB01).

4.3 SOIL FINDINGS

Table 1 presented the field screening measurements of the headspace of the soil samples collected at the site in June 2023. A photoionization device (PID) was used to measure the headspace. The highest PID reading was associated with the STOCK01 at 1-ft bgs at 868.3 ppm. The second highest PID reading was associated with SB01 at 20-ft bgs at 60.8 ppm. SB01 at 9-ft bgs was measured at 37.3 ppm. All other soil samples were measured below 10.1 ppm. **Table 3** presents the soil analytical results compared to Table 915-1 GWSSLs. The soil results show detections of organics above Table 915-1 GWSSLs at two of the sampling locations, the source area (ST-PC-MOI01) and soil boring 1 (SB01) at 9-ft bgs. Organics results for SB01 soil samples collected below the 9-ft depth (at 20-ft bgs and 30-ft bgs) were non-detect for organics. The remainder of the soil sample results were non-detect for organics.

The soil sample collected from within the trench at the point of release (MOI01) at ground surface had the maximum detections of organics, including Table 915-1 GWSSL exceedances for BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, and 3 polynuclear aromatic hydrocarbons (PAHs) (1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene). The same constituents were detected at SB01 above Table 915-1 GWSSLs, but at concentrations somewhat lower than in the MOI01 sample. The consistent chemical signature at MOI01 and SB01 is indicative of the same source.

5 SUMMARY AND RECOMMENDATIONS

5.1 SUMMARY

Below is a summary of the May-July Love Ranch 8 Off-Location Flowline release investigation:

- The POR is associated with a failure in a subsurface mixed-fluid line located approximately 17 ft below Piceance Creek. Upon discovery of the release, the line was taken out of service and surface water sampling was conducted starting in early May and is ongoing as of late July 2023.
- No organic compounds were detected in the surface water samples from Piceance Creek upstream or downstream from the point of release; the only detections were at the point of release (ST-PC-POR/ST-PC-MOI01 sample IDs).
- Depth to groundwater was approximately 1 ft bgs in the vicinity of the POR in early May 2023 and the water levels in groundwater and Piceance Creek have been steadily dropping since.
- In May-July 2023, groundwater flow was generally to the North-Northwest in the vicinity of the release, similar to the flow direction of Piceance Creek.
- The extent of hydrocarbon impacts in soil appears to be horizontally limited to the POR/MOI/SB01 area based on soil sample analytical results and OIP-UV response. OIP-G results were inconclusive and not confirmed by soil laboratory results.
- The maximum detected soil impacts were in a zone at approximately 9-ft bgs in SB01. Soil results for BTEX, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, 1-Methylnaphthalene, 2-Methylnaphthalene, and Naphthalene exceeded GWSSLs in this sample.
- The focus of this initial investigation was on the extent of hydrocarbons/NAPL in surface water and soil. Groundwater samples were not collected during this investigation.

5.2 RECOMMENDATIONS

Based on the findings presented herein, Kleinfelder recommends the following:

- Continue to monitor Piceance Creek surface water monthly for Table 915-1 groundwater constituents, including at least one upstream and two downstream sample locations.
- Gauge the existing five piezometers quarterly to monitor groundwater depth and flow conditions (direction, gradient).

- Investigate whether Piceance Creek is a gaining or losing stream seasonally.
- Implement a targeted groundwater investigation in the POR/MOI/SB01 area to delineate potential hydrocarbon impacts.
- Refine the vertical and horizontal delineation of soil impacts via additional soil sampling focused on the area of POR/MOI/SB01.
- Implement targeted remediation at the POR/MOI location.

6 LIMITATIONS

Kleinfelder offers various levels of investigative and engineering services to suit the varying needs of different clients. It should be recognized that definition and evaluation of geologic and environmental conditions are a difficult and inexact science. Judgments leading to conclusions and recommendations are generally made with incomplete knowledge of the subsurface conditions present due to the limitations of data from field studies. Although risk can never be eliminated, more detailed and extensive studies yield more information, which may help understand and manage the level of risk. Since detailed study and analysis involves greater expense, our clients participate in determining levels of service that provide adequate information for their purposes at acceptable levels of risk. More extensive studies, including subsurface studies or field tests, should be performed to reduce uncertainties. Acceptance of this report will indicate that Caerus has reviewed the document and determined that it does not need or want a greater level of service than provided.

During the course of the performance of Kleinfelder's services, hazardous materials may have been discovered. Kleinfelder assumes no responsibility or liability whatsoever for any claim, loss of property value, damage, or injury that results from pre-existing hazardous materials being encountered or present on the project site, or from the discovery of such hazardous materials. Nothing contained in this report should be construed or interpreted as requiring Kleinfelder to assume the status of an owner, operator, or generator, or person who arranges for disposal, transport, storage, or treatment of hazardous materials within the meaning of any governmental statute, regulation, or order. Caerus is solely responsible for directing notification of all governmental agencies, and the public at large, of the existence, release, treatment, or disposal of any hazardous materials observed at the project site, either before or during performance of Kleinfelder's services. Caerus is responsible for directing all arrangements to lawfully store, treat, recycle, dispose, or otherwise handle hazardous materials, including cuttings and samples resulting from Kleinfelder’s services.

TABLES

TABLE 1 - SAMPLE SUMMARY
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Sample ID	Sample Matrix	Location		PID Reading (PPM)	Hydrocarbon Odor Detected (Y/N)	Soil Staining or Surface Sheen Observed (Y/N)	Objective	Comments
		Latitude	Longitude					
20230505-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890784	-108.292980	NM	N	N	Surface water monitoring.	Initial UG02 sampling point.
20230505-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230505-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230505-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	Y	Surface water monitoring.	None
20230505-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	Y	Surface water monitoring.	None
20230505-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	Y	Surface water monitoring.	None
20230508-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890784	-108.292980	NM	N	N	Surface water monitoring.	None
20230508-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230508-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	Y	Surface water monitoring.	None
20230508-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230508-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230508-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230508-LOVE RANCH 8-(ST-PC-MOI01)	Surface Water	39.891258	-108.292717	NM	Y	Y	Characterization sample.	None
20230515-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890784	-108.292980	NM	N	N	Surface water monitoring.	None
20230515-LOVE RANCH 8-(ST-PC-MOI01)	Surface Water	39.891258	-108.292717	NM	Y	Y	Characterization sample.	None
20230515-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230515-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	Y	Surface water monitoring.	None
20230515-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230515-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230515-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230522-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890784	-108.292980	NM	N	N	Surface water monitoring.	None
20230522-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230522-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230522-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230522-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None

TABLE 1 - SAMPLE SUMMARY
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Sample ID	Sample Matrix	Location		PID Reading (PPM)	Hydrocarbon Odor Detected (Y/N)	Soil Staining or Surface Sheen Observed (Y/N)	Objective	Comments
		Latitude	Longitude					
20230522-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230530-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	Relocated UG02 sample location due to safe access concerns.
20230530-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230530-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230530-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230530-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230530-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230601-LOVE RANCH 8-(MOI01)	Soil	39.891258	-108.292717	1801	Y	Y	Characterization sample.	None
20230601-LOVE RANCH 8-(SB01)@20	Soil	39.89120624	-108.29270215	60.8	Y	N	Characterization sample.	None
20230601-LOVE RANCH 8-(SB01)@25	Soil	39.89120624	-108.29270215	10.1	N	N	Characterization sample.	None
20230601-LOVE RANCH 8-(SB01)@30	Soil	39.89120624	-108.29270215	0.6	N	N	Characterization sample.	None
20230601-LOVE RANCH 8-(SB03)@6	Soil	39.89100018	-108.29255838	0.1	N	N	Characterization sample.	None
20230601-LOVE RANCH 8-(SB03)@20	Soil	39.89100018	-108.29255838	0.0	N	N	Characterization sample.	None
20230601-LOVE RANCH 8-(SB03)@30	Soil	39.89100018	-108.29255838	0.0	N	N	Characterization sample.	None
20230605-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20230605-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230605-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230605-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230605-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230605-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230606-LOVE RANCH 8-(SB18)@1	Soil	39.89159479	-108.29260349	0.0	N	N	Characterization sample.	None

TABLE 1 - SAMPLE SUMMARY
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Sample ID	Sample Matrix	Location		PID Reading (PPM)	Hydrocarbon Odor Detected (Y/N)	Soil Staining or Surface Sheen Observed (Y/N)	Objective	Comments
		Latitude	Longitude					
20230606-LOVE RANCH 8-(SB18)@20	Soil	39.89159479	-108.29260349	0.6	N	N	Characterization sample.	None
20230606-LOVE RANCH 8-(SB18)@30	Soil	39.89159479	-108.29260349	0.3	N	N	Characterization sample.	None
20230606-LOVE RANCH 8-(SB21)@1	Soil	39.89138780	-108.29263146	0.0	N	N	Characterization sample.	None
20230606-LOVE RANCH 8-(SB21)@20	Soil	39.89138780	-108.29263146	0.1	N	N	Characterization sample.	None
20230606-LOVE RANCH 8-(SB21)@30	Soil	39.89138780	-108.29263146	0.8	N	N	Characterization sample.	None
20230606-LOVE RANCH 8-(SB23)@1	Soil	39.89170279	-108.29239812	1.8	N	N	Characterization sample.	None
20230606-LOVE RANCH 8-(SB23)@20	Soil	39.89170279	-108.29239812	0.9	N	N	Characterization sample.	None
20230606-LOVE RANCH 8-(SB23)@30	Soil	39.89170279	-108.29239812	1.3	N	N	Characterization sample.	None
20230607-LOVE RANCH 8-(ST-PC-MOI01)	Surface Water	39.891258	-108.292717	NM	Y	Y	Characterization sample.	None
20230612-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20230612-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230612-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230612-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230612-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230612-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230619-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20230619-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	N	Surface water monitoring.	None
20230619-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230619-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230619-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230619-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230626-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20230626-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	Y	Surface water monitoring.	None
20230626-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230626-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230626-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230626-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None

TABLE 1 - SAMPLE SUMMARY
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Sample ID	Sample Matrix	Location		PID Reading (PPM)	Hydrocarbon Odor Detected (Y/N)	Soil Staining or Surface Sheen Observed (Y/N)	Objective	Comments
		Latitude	Longitude					
20230627-LOVE RANCH 8-(SB01)@9	Soil	39.89120624	-108.29270215	37.3	Y	Y	Characterization sample.	None
20230705-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20230705-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	Y	Surface water monitoring.	None
20230705-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230705-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230705-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230705-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None
20230705-LOVE RANCH 8 -(STOCK01)@1	Soil	39.89122464	-108.2927365	868.3	Y	N	Characterization sample.	None
20230710-LOVE RANCH 8-(ST-PC-UG02)	Surface Water	39.890997	-108.292920	NM	N	N	Surface water monitoring.	None
20230710-LOVE RANCH 8-(ST-PC-POR)	Surface Water	39.891282	-108.292728	NM	Y	Y	Surface water monitoring.	None
20230710-LOVE RANCH 8-(ST-PC-DG14)	Surface Water	39.891345	-108.292819	NM	N	N	Surface water monitoring.	None
20230710-LOVE RANCH 8-(ST-PC-DG13)	Surface Water	39.891421	-108.292880	NM	N	N	Surface water monitoring.	None
20230710-LOVE RANCH 8-(ST-PC-DG12)	Surface Water	39.891864	-108.293013	NM	N	N	Surface water monitoring.	None
20230710-LOVE RANCH 8-(ST-PC-DG11)	Surface Water	39.892314	-108.292833	NM	N	N	Surface water monitoring.	None

Notes:
PID = Photo-ionization Detector
PPM = Parts per million

TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1613445	L1613445	L1613445	L1613445	L1613445	L1613445
Location ID		ST-PC-UG02	ST-PC-POR	ST-PC-DG14	ST-PC-DG13	ST-PC-DG12	ST-PC-DG11
Sample Date		5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023	5/5/2023
Sample ID		20230505-LOVE RANCH 8-(ST-PC-UG02)	20230505-LOVE RANCH 8-(ST-PC-POR)	20230505-LOVE RANCH 8-(ST-PC-DG14)	20230505-LOVE RANCH 8-(ST-PC-DG13)	20230505-LOVE RANCH 8-(ST-PC-DG12)	20230505-LOVE RANCH 8-(ST-PC-DG11)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	545	542	537	549	536	544
Chloride	250	9.09	8.99	8.96	8.95	9.04	8.97
Sulfate	250	140	140	139	140	140	140
Benzene	0.005	<0.0000941 U	0.000955 J	0.0000965 J	<0.0000941 U	<0.0000941 U	<0.0000941 U
Toluene	1	<0.000278 U	0.00588	0.000426 J	<0.000278 U	<0.000278 U	<0.000278 U
Ethylbenzene	0.7	<0.000137 U	0.000532 J	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	<0.000174 U	0.00876	0.000416 J	0.000210 J	<0.000174 U	<0.000174 U
1,2,4-trimethylbenzene	0.067	<0.000322 U	0.00211	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	0.00171	<0.000104 U	<0.000104 U	<0.000104 U	<0.000104 U
Naphthalene	0.14	<0.00100 U	0.00105 J	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Concentrations

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estimate
J3 = The associated batch QC was outside the established quality control range for precision.
mg/L = milligram per liter
MOI = material of interest
POR = Point of release
SP = spring
ST = stream, surface water
U = Not detected at the Reporting Limit (or MDL where applicable).

TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1614002	L1614002	L1614002	L1614002	L1614002	L1614002
Location ID		ST-PC-UG02	ST-PC-POR	ST-PC-DG14	ST-PC-DG13	ST-PC-DG12	ST-PC-DG11
Sample Date		5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023	5/8/2023
Sample ID		20230508-LOVE RANCH 8-(ST-PC-UG02)	20230508-LOVE RANCH 8-(ST-PC-POR)	20230508-LOVE RANCH 8-(ST-PC-DG14)	20230508-LOVE RANCH 8-(ST-PC-DG13)	20230508-LOVE RANCH 8-(ST-PC-DG12)	20230508-LOVE RANCH 8-(ST-PC-DG11)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	586	575	584	591	588	580
Chloride	250	9.75	9.91	10.3	10.2	9.86	9.97
Sulfate	250	169	164	172	173	170	172
Benzene	0.005	<0.0000941 U	0.000201 J	<0.0000941 U	<0.0000941 U	<0.0000941 U	<0.0000941 U
Toluene	1	<0.000278 U	0.000754 J	<0.000278 U	<0.000278 U	<0.000278 U	<0.000278 U
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	<0.000174 U	0.000825 J	<0.000174 U	<0.000174 U	<0.000174 U	<0.000174 U
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	0.000110 J	<0.000104 U	<0.000104 U	<0.000104 U	<0.000104 U
Naphthalene	0.14	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
MOI = material of interest
POR = Point of release
SP = spring
ST = stream, surface water
U = Not detected at the Reporting Limit (or MDL where applicable).

TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1614008	L1616578	L1616578	L1616578	L1616578	L1616578
Location ID		ST-PC-MOI01	ST-PC-UG02	ST-PC-MOI01	ST-PC-POR	ST-PC-DG14	ST-PC-DG13
Sample Date		5/8/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023	5/15/2023
Sample ID		20230508-LOVE RANCH 8-(ST-PC-MOI01)	20230515-LOVE RANCH 8-(ST-PC-UG02)	20230515-LOVE RANCH 8-(ST-PC-MOI01)	20230515-LOVE RANCH 8-(ST-PC-POR)	20230515-LOVE RANCH 8-(ST-PC-DG14)	20230515-LOVE RANCH 8-(ST-PC-DG13)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	597	4960	675	871	629	637
Chloride	250	10.9	10.8	14.1	10.8	10.7	10.7
Sulfate	250	174	198	218	197	198	196
Benzene	0.005	0.934	<0.0000941 U	0.0980	0.000312 J	0.000198 J	0.000101 J
Toluene	1	0.836	<0.000278 U	0.221	0.00164	0.000547 J	0.000349 J
Ethylbenzene	0.7	0.0736	<0.000137 U	0.0131	0.000166 J	<0.000137 U	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.254	<0.000174 U	0.221	0.00268 J	0.000289 J	0.000851 J
1,2,4-trimethylbenzene	0.067	0.0254	<0.000322 U	0.0454	0.000430 J	<0.000322 U	<0.000322 U
1,3,5-trimethylbenzene	0.067	0.00636 J	<0.000104 U	0.0384	0.000404 J	<0.000104 U	0.000180 J
Naphthalene	0.14	<0.0250 U	<0.00100 U	0.0113 J	<0.00100 U	<0.00100 U	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
MOI = material of interest
POR = Point of release
SP = spring
ST = stream, surface water
U = Not detected at the Reporting Limit (or MDL where applicable).

TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1616578	L1616578	L1619036	L1619036	L1619036	L1619036
Location ID		ST-PC-DG12	ST-PC-DG11	ST-PC-UG02	ST-PC-POR	ST-PC-DG14	ST-PC-DG13
Sample Date		5/15/2023	5/15/2023	5/22/2023	5/22/2023	5/22/2023	5/22/2023
Sample ID		20230515-LOVE RANCH 8-(ST-PC-DG12)	20230515-LOVE RANCH 8-(ST-PC-DG11)	20230522-LOVE RANCH 8-(ST-PC-UG02)	20230522-LOVE RANCH 8-(ST-PC-POR)	20230522-LOVE RANCH 8-(ST-PC-DG14)	20230522-LOVE RANCH 8-(ST-PC-DG13)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	628	639	729	697	725	711
Chloride	250	10.6	10.6	12.0	12.2	11.7	11.6
Sulfate	250	199	198	249	271	250	248
Benzene	0.005	0.000104 J	0.000113 J	<0.0000941 U	0.000242 J	0.000604 J	0.000271 J
Toluene	1	0.000309 J	0.000298 J	<0.000278 U	0.00204	0.00105	0.000537 J
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	<0.000174 U	0.000204 J	<0.000174 U	0.00336	<0.000174 U	<0.000174 U
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	0.000473 J	<0.000322 U	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U	0.000464 J	<0.000104 U	<0.000104 U
Naphthalene	0.14	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
MOI = material of interest
POR = Point of release
SP = spring
ST = stream, surface water
U = Not detected at the Reporting Limit (or MDL where applicable).

TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1619036	L1619036	L1621522	L1621522	L1621522	L1621522
Location ID		ST-PC-DG12	ST-PC-DG11	ST-PC-UG02	ST-PC-POR	ST-PC-DG14	ST-PC-DG13
Sample Date		5/22/2023	5/22/2023	5/30/2023	5/30/2023	5/30/2023	5/30/2023
Sample ID		20230522-LOVE RANCH 8-(ST-PC-DG12)	20230522-LOVE RANCH 8-(ST-PC-DG11)	20230530-LOVE RANCH 8-(ST-PC-UG02)	20230530-LOVE RANCH 8-(ST-PC-POR)	20230530-LOVE RANCH 8-(ST-PC-DG14)	20230530-LOVE RANCH 8-(ST-PC-DG13)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	708	727	808	796	793	807
Chloride	250	12.0	12.0	12.7	12.8	12.7	12.7
Sulfate	250	237	235	312	316	319	330
Benzene	0.005	0.000226 J	0.000244 J	<0.0000941 U	0.000295 J	0.000895 J	0.000374 J
Toluene	1	0.000570 J	0.000588 J	<0.000278 U	0.00102	0.00179	0.000869 J
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	<0.000174 U	0.000356 J	<0.000174 U	0.00103 J	0.000770 J	0.000355 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U	0.000113 J	<0.000104 U	<0.000104 U
Naphthalene	0.14	<0.00100 U	<0.00100 U	<0.00100 U J3	<0.00100 U J3	<0.00100 U J3	<0.00100 U J3

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
MOI = material of interest
POR = Point of release
SP = spring
ST = stream, surface water
U = Not detected at the Reporting Limit (or MDL where applicable).

TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1621522	L1621522	L1623077	L1623077	L1623077	L1623077
Location ID		ST-PC-DG12	ST-PC-DG11	ST-PC-UG02	ST-PC-P0R	ST-PC-DG14	ST-PC-DG13
Sample Date		5/30/2023	5/30/2023	6/5/2023	6/5/2023	6/5/2023	6/5/2023
Sample ID		20230530-LOVE RANCH 8-(ST-PC-DG12)	20230530-LOVE RANCH 8-(ST-PC-DG11)	20230605-LOVE RANCH 8-(ST-PC-UG02)	20230605-LOVE RANCH 8-(ST-PC-P0R)	20230605-LOVE RANCH 8-(ST-PC-DG14)	20230605-LOVE RANCH 8-(ST-PC-DG13)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	811	808	844	898	874	862
Chloride	250	12.8	13.0	15.3	15.1	15.2	15.1
Sulfate	250	320	320	308	304	304	305
Benzene	0.005	0.000432 J	0.000433 J	<0.0000941 U	0.000413 J	0.000635 J	0.000395 J
Toluene	1	0.00101	0.000990 J	<0.000278 U	0.00158	0.00138	0.000923 J
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	0.000311 J	<0.000137 U	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.000388 J	0.000426 J	<0.000174 U	0.00563	0.000632 J	0.000377 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	0.00179	<0.000322 U	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U	0.00141	<0.000104 U	<0.000104 U
Naphthalene	0.14	<0.00100 U J3	<0.00100 U J3	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
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TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1623077	L1623077	L1624642	L1625442	L1625442	L1625442
Location ID		ST-PC-DG12	ST-PC-DG11	ST-PC-MOI01	ST-PC-UG02	ST-PC-POR	ST-PC-DG14
Sample Date		6/5/2023	6/5/2023	6/7/2023	6/12/2023	6/12/2023	6/12/2023
Sample ID		20230605-LOVE RANCH 8-(ST-PC-DG12)	20230605-LOVE RANCH 8-(ST-PC-DG11)	20230607-LOVE RANCH 8-(ST-PC-MOI01)	20230612-LOVE RANCH 8-(ST-PC-UG02)	20230612-LOVE RANCH 8-(ST-PC-POR)	20230612-LOVE RANCH 8-(ST-PC-DG14)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	896	854	NM	902	910	910
Chloride	250	15.2	15.2	NM	15.2	15.5	15.5
Sulfate	250	304	305	NM	327	326	323
Benzene	0.005	0.000427 J	0.000371 J	10	<0.0000941 U	0.00225 J	0.000760 J
Toluene	1	0.00105	0.000986 J	18.8	<0.000278 U	0.0516	0.00171
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	0.397 J	<0.000137 U	0.0227	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.000422 J	0.000392 J	8.33	<0.000174 U	0.504	0.000668 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	0.446 J	<0.000322 U	0.225	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	0.349 J	<0.000104 U	0.211	<0.000104 U
Naphthalene	0.14	<0.00100 U	<0.00100 U	<0.500 U	<0.00100 U	0.0138 J	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
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J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
MOI = material of interest
POR = Point of release
SP = spring
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U = Not detected at the Reporting Limit (or MDL where applicable).

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TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1625442	L1625442	L1625442	L1627802	L1627802	L1627802
Location ID		ST-PC-DG13	ST-PC-DG12	ST-PC-DG11	ST-PC-UG02	ST-PC-POR	ST-PC-DG14
Sample Date		6/12/2023	6/12/2023	6/12/2023	6/19/2023	6/19/2023	6/19/2023
Sample ID		20230612-LOVE RANCH 8-(ST-PC-DG13)	20230612-LOVE RANCH 8-(ST-PC-DG12)	20230612-LOVE RANCH 8-(ST-PC-DG11)	20230619-LOVE RANCH 8-(ST-PC-UG02)	20230619-LOVE RANCH 8-(ST-PC-POR)	20230619-LOVE RANCH 8-(ST-PC-DG14)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	930	916	910	972	978	1000
Chloride	250	15.9	15.4	15.4	17.3	18.0	17.3
Sulfate	250	323	325	323	395	394	394
Benzene	0.005	0.000404 J	0.000376 J	0.000389 J	<0.0000941 U	0.0182	0.000654 J
Toluene	1	0.00110	0.000946 J	0.000948 J	<0.000278 U	0.0465	0.00157
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	0.00167	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.000418 J	0.000323 J	0.000373 J	<0.000174 U	0.0274	0.000795 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	0.00126	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U	<0.000104 U	0.00114	<0.000104 U
Naphthalene	0.14	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
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TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1627802	L1627802	L1627802	L1629774	L1629774	L1629774
Location ID		ST-PC-DG13	ST-PC-DG12	ST-PC-DG11	ST-PC-UG02	ST-PC-POR	ST-PC-DG14
Sample Date		6/19/2023	6/19/2023	6/19/2023	6/26/2023	6/26/2023	6/26/2023
Sample ID		20230619-LOVE RANCH 8-(ST-PC-DG13)	20230619-LOVE RANCH 8-(ST-PC-DG12)	20230619-LOVE RANCH 8-(ST-PC-DG11)	20230626-LOVE RANCH 8-(ST-PC-UG02)	20230626-LOVE RANCH 8-(ST-PC-POR)	20230626-LOVE RANCH 8-(ST-PC-DG14)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	1030	1020	1010	1080	1110	1070
Chloride	250	18.1	17.2	17.4	18.2	18.4	18.0
Sulfate	250	395	396	408	340	339	340
Benzene	0.005	0.000466 J	0.000429 J	0.000380 J	<0.0000941 U	0.00870	0.000625 J
Toluene	1	0.00119	0.00102	0.00107	<0.000278 U	0.0238	0.00185
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	0.000751 J	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.000562 J	0.000437 J	0.000404 J	<0.000174 U	0.0119	0.000624 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	0.000612 J	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U	<0.000104 U	0.000640 J	<0.000104 U
Naphthalene	0.14	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U	<0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
MOI = material of interest
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TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1629774	L1629774	L1629774	L1633320	L1633320	L1633320
Location ID		ST-PC-DG13	ST-PC-DG12	ST-PC-DG11	ST-PC-UG02	ST-PC-POR	ST-PC-DG14
Sample Date		6/26/2023	6/26/2023	6/26/2023	7/5/2023	7/5/2023	7/5/2023
Sample ID		20230626-LOVE RANCH 8-(ST-PC-DG13)	20230626-LOVE RANCH 8-(ST-PC-DG12)	20230626-LOVE RANCH 8-(ST-PC-DG11)	20230705-LOVE RANCH 8-(ST-PC-UG02)	20230705-LOVE RANCH 8-(ST-PC-POR)	20230705-LOVE RANCH 8-(ST-PC-DG14)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	1060	1080	1100	1200	970	996
Chloride	250	18.1	18.1	18.1	19.5	20.4	19.5
Sulfate	250	340	343	340	361	361	358
Benzene	0.005	0.000516 J	0.000442 J	0.000448 J	<0.0000941 U	0.0357	0.000577 J
Toluene	1	0.00136	0.00113	0.00110	<0.000278 U	0.0455	0.00193
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	0.00334	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.000387 J	0.000283 J	0.000191 J	< 0.000174 U	0.0575	0.00132 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	0.00305	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U	<0.000104 U	0.00265	<0.000104 U
Naphthalene	0.14	<0.00100 U	<0.00100 U	<0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
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J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
MOI = material of interest
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SP = spring
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TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1633320	L1633320	L1633320	L1634094	L1634094	L1634094
Location ID		ST-PC-DG13	ST-PC-DG12	ST-PC-DG11	ST-PC-UG02	ST-PC-POR	ST-PC-DG14
Sample Date		7/5/2023	7/5/2023	7/5/2023	7/10/2023	7/10/2023	7/10/2023
Sample ID		20230705-LOVE RANCH 8-(ST-PC-DG13)	20230705-LOVE RANCH 8-(ST-PC-DG12)	20230705-LOVE RANCH 8-(ST-PC-DG11)	20230710-LOVE RANCH 8-(ST-PC-UG02)	20230710-LOVE RANCH 8-(ST-PC-POR)	20230710-LOVE RANCH 8-(ST-PC-DG14)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)						
Total Dissolved Solids (TDS)	< 1.25X Local Background	990	1000	988	1090	1100	1090
Chloride	250	19.5	19.4	19.6	19.0	19.4	19.1
Sulfate	250	359	356	357	366	364	367
Benzene	0.005	0.000443 J	0.000435 J	0.000394 J	<0.0000941 U	0.0133	0.000400 J
Toluene	1	0.00118	0.00103	0.000962 J	<0.000278 U	0.0364	0.00126
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U	<0.000137 U	0.00141	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.000744 J	0.000667 J	0.000598 J	< 0.000174 U	0.0195	0.000890 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U	<0.000322 U	0.00102	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U	<0.000104 U	0.000852 J	<0.000104 U
Naphthalene	0.14	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U	< 0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Conc

DG = down-gradient
J = The identification of the analyte is acceptable: the reported value is an estima
J3 = The associated batch QC was outside the established quality control range fc
mg/L = milligram per liter
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TABLE 2 - SURFACE WATER ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #		L1634094	L1634094	L1634094
Location ID		ST-PC-DG13	ST-PC-DG12	ST-PC-DG11
Sample Date		7/10/2023	7/10/2023	7/10/2023
Sample ID		20230710-LOVE RANCH 8-(ST-PC-DG13)	20230710-LOVE RANCH 8-(ST-PC-DG12)	20230710-LOVE RANCH 8-(ST-PC-DG11)
Contaminant of Concern	Cleanup Concentration (mg/l unless otherwise noted)			
Total Dissolved Solids (TDS)	< 1.25X Local Background	1100	1100	1080
Chloride	250	19.6	19.2	19.1
Sulfate	250	367	363	364
Benzene	0.005	0.000388 J	0.000352 J	0.000333 J
Toluene	1	0.00117	0.000842 J	0.000858 J
Ethylbenzene	0.7	<0.000137 U	<0.000137 U	<0.000137 U
Xylenes (sum of o-, m- and p- isomers = total xylenes)	10	0.000791 J	0.000577 J	0.000617 J
1,2,4-trimethylbenzene	0.067	<0.000322 U	<0.000322 U	<0.000322 U
1,3,5-trimethylbenzene	0.067	<0.000104 U	<0.000104 U	<0.000104 U
Naphthalene	0.14	< 0.00100 U	< 0.00100 U	< 0.00100 U

NOTES:

Greater than Table 915-1 Cleanup Con

DG = down-gradient

J = The identification of the analyte is acceptable: the reported value is an estima

J3 = The associated batch QC was outside the established quality control range fc

mg/L = milligram per liter

MOI = material of interest

POR = Point of release

SP = spring

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U = Not detected at the Reporting Limit (or MDL where applicable).

TABLE 3 - SOIL ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #			**L1622049**	**L1622049**	**L1622049**	**L1630936**	**L1622049**	**L1622049**	**L1622049**	**L1624260**	**L1624260**
Location ID			**SB01**	**SB01**	**SB01**	**SB01**	**SB03**	**SB03**	**SB03**	**SB18**	**SB18**
Sample Date			**6/1/2023**	**6/1/2023**	**6/1/2023**	**6/27/2023**	**6/1/2023**	**6/1/2023**	**6/1/2023**	**6/6/2023**	**6/6/2023**
Sample ID			**20230601-LOVE RANCH 8-(SB01)@20**	**20230601-LOVE RANCH 8-(SB01)@25**	**20230601-LOVE RANCH 8-(SB01)@30**	**20230627-LOVE RANCH 8-(SB01)@9**	**20230601-LOVE RANCH 8-(SB03)@6**	**20230601-LOVE RANCH 8-(SB03)@20**	**20230601-LOVE RANCH 8-(SB03)@30**	**20230606-LOVE RANCH 8-(SB18)@1**	**20230606-LOVE RANCH 8-(SB18)@20**
Sample Depth (ft bgs)			**20**	**25**	**30**	**9**	**6**	**20**	**30**	**1**	**20**
Contaminant of Concern	**Cleanup Concentration (mg/kg unless otherwise noted)**										
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500		17.06	8.21	8.056	151.62	3.888	5.4064	5.523	64.26	2.5497
TPH Low Fraction GRO (C6-C10)			10.6	6.11	0.126	6.86	0.598 J	0.0664 J	<0.543 U	0.129 B	0.0707 B J
DRO (C10-C28)			1.63 J	<1.61 U	1.81 J	140	<1.61 U	<1.61 U	<1.61 U	7.86	<1.61 U
MRO (C28-C36)			4.83	0.490 J	6.12	4.76	1.68 J	3.73 J	3.37 J	56.4	0.869 J
Soils and Groundwater - liquid hydrocarbons including condensate and oil	Below Visual Detection Limits		Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm		NM	NM	NM	NM	NM	NM	NM	NM	NM
Sodium adsorption ratio (SAR) (by saturated paste method)	<6 SAR units		NM	NM	NM	NM	NM	NM	NM	NM	NM
pH (by saturated paste method)	6–8.3 pH units		NM	NM	NM	NM	NM	NM	NM	NM	NM
Boron (hot water soluble soil extract)	2 mg/L		NM	NM	NM	NM	NM	NM	NM	NM	NM
Organic Compounds in Soils	**Residential Soil Screening Level Concentrations**	**Protection of Groundwater Soil Screening Level Concentrations Risk Based and MCL Based**									
benzene	1.2	0.0026	0.000975 J	0.00123	<0.00467 U	0.165	<0.00467 U	<0.00467 U	<0.00467 U	<0.000467 U	<0.000467 U
toluene	490	0.69	0.0101	0.0142	0.00218 J	0.764	<0.00130 U	<0.00130 U	<0.00130 U	<0.00130 U	<0.00130 U
ethylbenzene	5.8	0.78	0.00103 J	0.00218 J	<0.000737 U	0.0782	<0.000737 U	<0.000737 U	<0.000737 U	<0.000737 U	0.000975 J
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9	0.0189	0.0252	0.00305 J	1.17	0.00120 J	0.00107 J	0.000900 J	0.000925 J	0.00103 J
1,2,4-trimethylbenzene	30	0.0081	0.00423 J	0.00550	<0.00158 U	0.200	<0.00158 U	<0.00158 U	<0.00158 U	<0.00158 U	<0.00158 U
1,3,5-trimethylbenzene	27	0.0087	0.00525	0.00630	<0.00200 U	0.200	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
acenaphthene	360	0.55	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U
anthracene	1800	5.8	<0.00230 U	<0.00230 U	<0.00230 U	0.00235 J	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U
benz(a)anthracene	1.1	0.011	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U
benzo(b)fluoranthene	1.1	0.3	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U
benzo(k)fluoranthene	11	2.9	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U
benzo(a)pyrene	0.11	0.24	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U
chrysene	110	9	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U
dibenz(a,h)anthracene	0.11	0.096	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U
fluoranthene	240	8.9	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U
fluorene	240	0.54	<0.00205 U	<0.00205 U	<0.00205 U	0.00227 U	<0.00205 U	<0.00205 U	<0.00205 U	<0.00205 U	<0.00205 U
indeno(1,2,3-cd)pyrene	1.1	0.98	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U
pyrene	180	1.3	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
1-methylnaphthalene	18	0.006	<0.00449 U	<0.00449 U	<0.00449 U	0.201	<0.00449 U	<0.00449 U	<0.00449 U	<0.00449 U	<0.00449 U
2-methylnaphthalene	24	0.019	0.00869 J	<0.00427 U	<0.00427 U	0.677	<0.00427 U	<0.00427 U	<0.00427 U	<0.00427 U	<0.00427 U
naphthalene	2	0.0038	0.00485 J	<0.00408 U	<0.00408 U	0.322	<0.00408 U	<0.00408 U	<0.00408 U	<0.00408 U J4	<0.00408 U
Metals in Soils	**Residential Soil Screening Level Concentrations**	**Protection of Groundwater Soil Screening Level Concentrations Risk Based and MCL Based**									
arsenic	0.68	0.29	NM	NM	NM	NM	NM	NM	NM	NM	NM
barium	15000	82	NM	NM	NM	NM	NM	NM	NM	NM	NM
cadmium	71	0.38	NM	NM	NM	NM	NM	NM	NM	NM	NM
chromium (VI)	0.3	0.00067	NM	NM	NM	NM	NM	NM	NM	NM	NM
copper	3100	46	NM	NM	NM	NM	NM	NM	NM	NM	NM
lead	400	14	NM	NM	NM	NM	NM	NM	NM	NM	NM
nickel	1500	26	NM	NM	NM	NM	NM	NM	NM	NM	NM
selenium	390	0.26	NM	NM	NM	NM	NM	NM	NM	NM	NM
silver	390	0.8	NM	NM	NM	NM	NM	NM	NM	NM	NM
zinc	23000	370	NM	NM	NM	NM	NM	NM	NM	NM	NM

NOTES:

Greater than Table 915-1 Residential Soil Screening Level (RSSL) Concentrations

Greater than Table 915-1 Protection of Groundwater Soil Screening Level (GWSSL) Concentrations

B = The same analyte is found in the associated blank.
ft bgs = feet below ground surface
GS = Ground surface
J = The identification of the analyte is acceptable: the reported value is an estimate
J3 = The associated batch quality control was outside the established quality control range for precision
J4 = The associated batch quality control was outside the established quality control range for accuracy.
MCL = maximum contaminant level
mg/kg = milligram per kilogram
mg/L = milligram per liter
mmhos/cm = millimhos per centimeter
MOI = material of interest
NM = Not measured
SB = soil boring
U = Not detected at the Reporting Limit (or MDL where applicable).

TABLE 3 - SOIL ANALYTICAL RESULTS
CAERUS PICEANCE, LLC
SITE INVESTIGATION REPORT
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

Lab ID #			**L1624260**	**L1624260**	**L1624260**	**L1624260**	**L1624260**	**L1624260**	**L1624260**	**L1624642**	**L1633322**
Location ID			**SB18**	**SB21**	**SB21**	**SB21**	**SB23**	**SB23**	**SB23**	**MOI01**	**(STOCK01)**
Sample Date			**6/6/2023**	**6/6/2023**	**6/6/2023**	**6/6/2023**	**6/6/2023**	**6/6/2023**	**6/6/2023**	**6/7/2023**	**7/5/2023**
Sample ID			**20230606-LOVE RANCH8-(SB18)@30**	**20230606-LOVE RANCH8-(SB21)@1**	**20230606-LOVE RANCH8-(SB21)@20**	**20230606-LOVE RANCH8-(SB21)@30**	**20230606-LOVE RANCH8-(SB23)@1**	**20230606-LOVE RANCH8-(SB23)@20**	**20230606-LOVE RANCH8-(SB23)@30**	**20230607-LOVE RANCH 8-(MOI01)**	**20230705-LOVE RANCH 8-(STOCK01)@1**
Sample Depth (ft bgs)			**30**	**1**	**20**	**30**	**1**	**20**	**30**	**GS**	**1**
Contaminant of Concern	**Cleanup Concentration (mg/kg unless otherwise noted)**										
Soil TPH (total volatile [C6-C10] and extractable [C10-C36] hydrocarbons)	500		12.2819	7.5985	3.103	4.8128	25.283	2.7783	3.8572	2102.37	1.18
TPH Low Fraction GRO (C6-C10)			0.0719 B J	0.0985 B J	0.586	0.0628 B J	0.123 B	0.0883 B J	0.0572 B J	1610	1.18
DRO (C10-C28)			3.22 J	2.24 J	<1.61 U	<1.61 U	3.86 J	<1.61 U	<1.61 U	491.0	<1.61 U
MRO (C28-C36)			8.99	5.26	0.907 J	3.14 J	21.3	1.08 J	2.19 J	<1.37 U	<0.274 U
Soils and Groundwater - liquid hydrocarbons including condensate and oil	Below Visual Detection Limits		Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Below Visual Detection Limits	Unknown liquid observed within soil.	Below Visual Detection Limits
Electrical conductivity (EC) (by saturated paste method)	<4mmhos/cm		NM	NM	NM	NM	NM	NM	NM	NM	10.200
Sodium adsorption ratio (SAR) (by saturated paste method)	<6 SAR units		NM	NM	NM	NM	NM	NM	NM	NM	15.5
pH (by saturated paste method)	6–8.3 pH units		NM	NM	NM	NM	NM	NM	NM	NM	8.08 T8
Boron (hot water soluble soil extract)	2 mg/L		NM	NM	NM	NM	NM	NM	NM	NM	1.53
Organic Compounds in Soils	**Residential Soil Screening Level Concentrations**	**Protection of Groundwater Soil Screening Level Concentrations Risk Based and MCL Based**									
benzene	1.2	0.0026	<0.000467 U	<0.000467 U	0.0329	<0.000467 U	<0.000467 U	<0.000467 U	<0.000467 U	4.47	<0.000467 U
toluene	490	0.69	<0.00130 U	<0.00130 U	0.0489	0.00138 B J	<0.00130 U	<0.00130 U	<0.00130 U	34.2	<0.00130 U
ethylbenzene	5.8	0.78	<0.000737 U	<0.000737 U	0.00230 J	0.000850 J	0.000850 J	<0.000737 U	0.00105 J	4.6	<0.000737 U J3
xylenes (sum of o-, m- and p- isomers = total xylenes)	58	9.9	0.00105 J	<0.000880 U	0.0124	0.00113 J	<0.000880 U	0.00100 J	0.00107 J	74.0	<0.000880 U
1,2,4-trimethylbenzene	30	0.0081	<0.00158 U	<0.00158 U	<0.00158 U	<0.00158 U	<0.00158 U	<0.00158 U	<0.00158 U	12.1	<0.00158 U
1,3,5-trimethylbenzene	27	0.0087	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	12.3	0.239
acenaphthene	360	0.55	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	<0.00209 U	0.0195	<0.00209 U
anthracene	1800	5.8	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U	<0.00230 U
benz(a)anthracene	1.1	0.011	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U	<0.00173 U
benzo(b)fluoranthene	1.1	0.3	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U	<0.00153 U
benzo(k)fluoranthene	11	2.9	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U	<0.00215 U
benzo(a)pyrene	0.11	0.24	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U	<0.00179 U
chrysene	110	9	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U	<0.00232 U
dibenz(a,h)anthracene	0.11	0.096	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U	<0.00172 U
fluoranthene	240	8.9	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U	<0.00227 U
fluorene	240	0.54	<0.00205 U	<0.00205 U	<0.00205 U	<0.00205 U	<0.00205 U	<0.00205 U	<0.00205 U	0.0456	0.0251
indeno(1,2,3-cd)pyrene	1.1	0.98	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U	<0.00181 U
pyrene	180	1.3	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U	<0.00200 U
1-methylnaphthalene	18	0.006	<0.00449 U	<0.00449 U	<0.00449 U	<0.00449 U	<0.00449 U	<0.00449 U	<0.00449 U	0.629	0.144
2-methylnaphthalene	24	0.019	<0.00427 U	<0.00427 U	<0.00427 U	<0.00427 U	<0.00427 U	<0.00427 U	<0.00427 U	1.99	0.0514
naphthalene	2	0.0038	<0.00408 U	<0.00408 U	<0.00408 U	<0.00408 U	<0.00408 U, J4	<0.00408 U J4	<0.00408 U J4	0.898	0.00758 J
Metals in Soils	**Residential Soil Screening Level Concentrations**	**Protection of Groundwater Soil Screening Level Concentrations Risk Based and MCL Based**									
arsenic	0.68	0.29	NM	NM	NM	NM	NM	NM	NM	NM	3.42
barium	15000	82	NM	NM	NM	NM	NM	NM	NM	NM	285
cadmium	71	0.38	NM	NM	NM	NM	NM	NM	NM	NM	0.160 J
chromium (VI)	0.3	0.00067	NM	NM	NM	NM	NM	NM	NM	NM	<0.255 U
copper	3100	46	NM	NM	NM	NM	NM	NM	NM	NM	10.50
lead	400	14	NM	NM	NM	NM	NM	NM	NM	NM	8.81
nickel	1500	26	NM	NM	NM	NM	NM	NM	NM	NM	12.90
selenium	390	0.26	NM	NM	NM	NM	NM	NM	NM	NM	0.386 J
silver	390	0.8	NM	NM	NM	NM	NM	NM	NM	NM	<0.0865 U
zinc	23000	370	NM	NM	NM	NM	NM	NM	NM	NM	37.30

NOTES:

Greater than Table 915-1 Residential Soil Screening Level (RSSL) Concentrations

Greater than Table 915-1 Protection of Groundwater Soil Screening Level (GWSSL) Concentrations

B = The same analyte is found in the associated blank.
ft bgs = feet below ground surface
GS = Ground surface
J = The identification of the analyte is acceptable: the reported value is an estimate
J3 = The associated batch quality control was outside the established quality control range for precision
J4 = The associated batch quality control was outside the established quality control range for accuracy.
MCL = maximum contaminant level
mg/kg = milligram per kilogram
mg/L = milligram per liter
mmhos/cm = millimhos per centimeter
MOI = material of interest
NM = Not measured
SB = soil boring
U = Not detected at the Reporting Limit (or MDL where applicable).

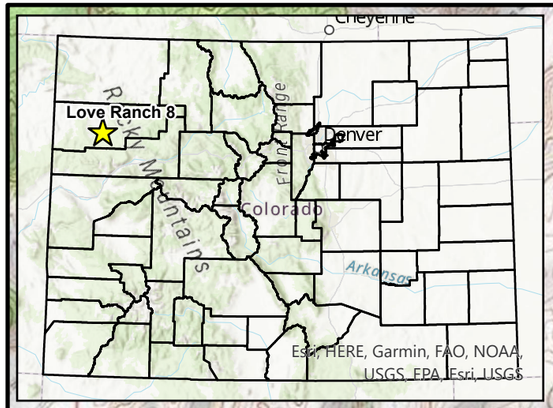
TABLE 4 - PIEZOMETER MEASUREMENTS
CAERUS PICEANCE, LLC
SPILL / RELEASE POINT ID: 484391
LOVE RANCH 8 OFF-LOCATION FLOWLINE RELEASE
RIO BLANCO COUNTY, COLORADO

DATE	PZ01 (TOC to GW, FT)	PZ01 GW Elevation (FT MSL)	PZ02 (TOC to GW, FT)	PZ02 GW Elevation (FT MSL)	PZ03 (TOC to GW, FT)	PZ03 GW Elevation (FT MSL)	PZ04 (TOC to GW, FT)	PZ04 GW Elevation (FT MSL)	PZ05 (TOC to GW, FT)	PZ05 GW Elevation (FT MSL)	Depth to Creek from Footbridge (FT)
5/25/2023	5.40	6107.37	5.20	6106.27	5.40	6106.52	4.20	6106.04	5.40	6106.19	NM
5/26/2023	5.50	6107.27	4.80	6106.67	5.50	6106.42	4.30	6105.94	5.30	6106.29	NM
5/29/2023	5.60	6107.17	4.90	6106.57	5.70	6106.22	4.50	6105.74	5.50	6106.09	NM
5/30/2023	5.80	6106.97	5.10	6106.37	5.80	6106.12	4.60	6105.64	5.60	6105.99	NM
5/31/2023	6.00	6106.77	5.29	6106.18	5.93	6105.99	4.78	6105.46	5.75	6105.84	NM
6/1/2023	6.05	6106.72	5.34	6106.13	6.00	6105.92	4.80	6105.44	5.76	6105.83	NM
6/5/2023	6.13	6106.64	5.37	6106.10	6.09	6105.83	4.84	6105.40	5.81	6105.78	NM
6/6/2023	6.22	6106.55	5.46	6106.01	6.15	6105.77	4.93	6105.31	5.89	6105.70	NM
6/7/2023	6.27	6106.50	5.50	6105.97	6.20	6105.72	4.97	6105.27	5.92	6105.67	NM
6/8/2023	6.29	6106.48	5.52	6105.95	6.23	6105.69	4.99	6105.25	5.95	6105.64	NM
6/12/2023	6.50	6106.27	5.72	6105.75	6.41	6105.51	5.18	6105.06	6.13	6105.46	NM
6/15/2023	6.58	6106.19	5.78	6105.69	6.49	6105.43	5.25	6104.99	6.20	6105.39	NM
6/19/2023	6.62	6106.15	5.81	6105.66	6.56	6105.36	5.28	6104.96	6.25	6105.34	NM
6/22/2023	6.94	6105.83	6.13	6105.34	6.80	6105.12	5.58	6104.66	6.48	6105.11	NM
6/26/2023	6.96	6105.81	6.16	6105.31	6.86	6105.06	5.60	6104.64	6.50	6105.09	NM
6/29/2023	7.20	6105.57	6.40	6105.07	7.10	6104.82	5.80	6104.44	6.70	6104.89	NM
7/3/2023	7.20	6105.57	6.10	6105.37	7.10	6104.82	5.90	6104.34	6.80	6104.79	7.90
7/5/2023	7.26	6105.51	6.50	6104.97	7.12	6104.80	5.99	6104.25	6.86	6104.73	NM
7/10/2023	7.26	6105.51	6.50	6104.97	7.14	6104.78	5.99	6104.25	6.90	6104.69	7.95
7/13/2023	7.32	6105.45	6.56	6104.91	7.21	6104.71	6.01	6104.23	6.96	6104.63	8.07
7/17/2023	7.47	6105.30	6.73	6104.74	7.33	6104.59	6.21	6104.03	7.10	6104.49	8.13
7/20/2023	7.48	6105.29	7.74	6103.73	7.36	6104.56	6.19	6104.05	7.14	6104.45	8.15
7/24/2023	7.40	6105.37	6.69	6104.78	7.31	6104.61	6.17	6104.07	7.13	6104.46	8.02

LEGEND
Dates of Potentiometric Maps
FT: Feet
FT MSL: Feet Above Mean Sea Level
GW: Groundwater
PZ: Piezometer
TOC: Top of Casing

FIGURES

707 17th Street, Suite 3000, Denver, CO 80202 p | 303.237.6601



Piceance Creek

Dudley Gulch

Dudley Bluffs

Miller Hill

Hog Lot Draw

Miller Hill Cem

Mc Kee Gulch

BM 6127

BM 6214

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Date: 7/27/2023 User: ALeonard Path: \\azrgisstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx

LEGEND

✖ Love Ranch 8 Off-Location Flowline Point of Release (POR)

0 1,000 2,000 4,000

Feet

N

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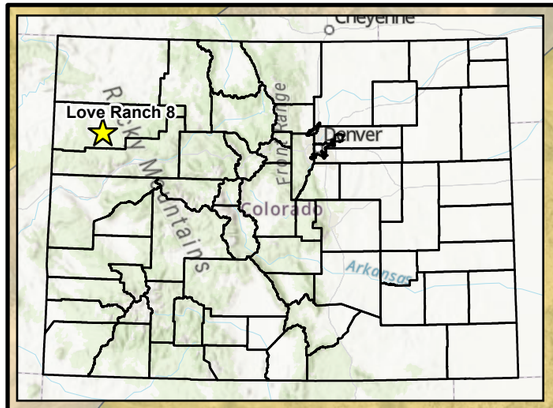
PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F1_LoveRanch8_Topo

Site Location / Topographic Map

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE

1



Piceance Creek

POR

Qa

Tu

Geology Data Source: Green, G.N., 1992, The Digital Geologic Map of Colorado in ARC/INFO Format: U.S. Geological Survey Open-File Report 92-0507, 9 p.; http://pubs.usgs.gov/of/1992/ofr-92-0507/ .

Aerial Image Source: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, USGS, Maxar
Aerial Image Date: 08/24/2021

LEGEND

- Love Ranch 8 Off-Location Flowline Point of Release (POR)
- Tu: Uinta Formation, Sandstone and siltstone; in Piceance basin. Formerly Evacuation Creek Member of Green River Fm
- Qa: Includes Piney Creek Alluvium and younger deposits

0 1,000 2,000 4,000
Feet

N

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PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	KMaestas
FILE NAME:	F2_LoveRanch8_Geology

Geology Map

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
2

LEGEND

- Surface Water Sampling Location
- Love Ranch 8 Off-Location Flowline Point of Release (POR)
- Boom Location

DG = Down-Gradient
PC = Piceance Creek
ST = Stream
UG = Up-Gradient

0 50 100 200
Feet

N

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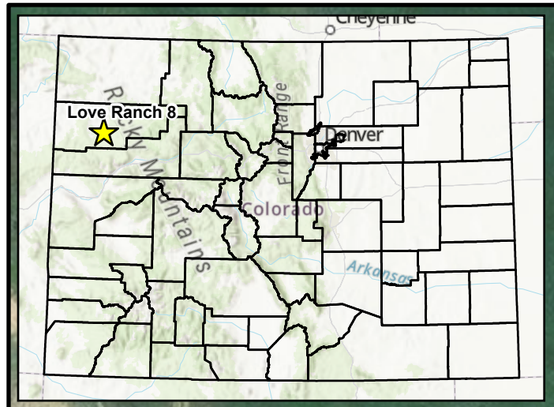
PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F3_LoveRanch8_SurfaceWater

Surface Water Sampling and Boom Locations May-July 2023

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
3

Date: 7/27/2023 User: ALeonard Path: \\azrglisstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx



Piceance Creek

PZ05
6,108.825

PZ04
6,107.535

PZ03
6,109.260

PZ02
6,108.610

PZ01
6,109.740

POR

6106.1
6106.2
6106.3
6106.4
6106.5
6106.6
6106.7
6106.8
6106.9
6107
6107.1
6107.2

Aerial Image Source: Maxar, Microsoft, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, USGS
Aerial Image Date: 08/24/2021

LEGEND

- Piezometer Location
- Love Ranch 8 Off-Location Flowline Point of Release (POR)
- Interpreted Groundwater Flow Direction
- Potentiometric Surface Elevation Contour (ft AMSL)
  Contour Interval = 0.10 Feet
  Dashed Where Inferred

0 50 100 200
Feet

N

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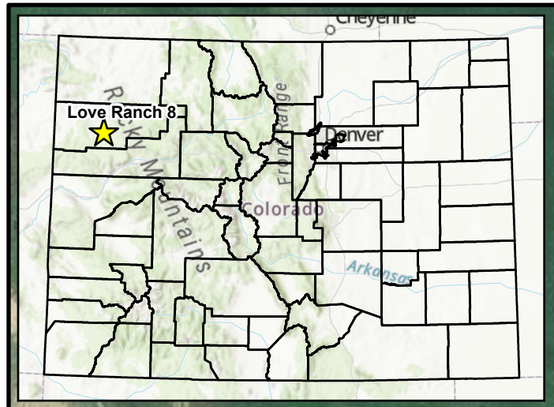
PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F4A_LoveRanch8_GW_May

Potentiometric Groundwater Map
05/25/2023

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
4A

Date: 7/27/2023 User: ALeonard Path: \\azrglsstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx



Piceance Creek

PZ05
6,108.825

PZ04
6,107.535

PZ03
6,109.260

PZ02
6,108.610

POR

PZ01
6,109.740

6105.35
6105.45
6105.55
6105.65
6105.75
6105.85
6105.95
6106.05
6106.15
6106.25
6106.35
6106.45

Aerial Image Source: Maxar, Microsoft, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, USGS
Aerial Image Date: 08/24/2021

LEGEND

- Piezometer Location
- Love Ranch 8 Off-Location Flowline Point of Release (POR)
- Interpreted Groundwater Flow Direction
- Potentiometric Surface Elevation Contour (ft AMSL)
  Contour Interval = 0.10 Feet
  Dashed Where Inferred

0 50 100 200
Feet

N

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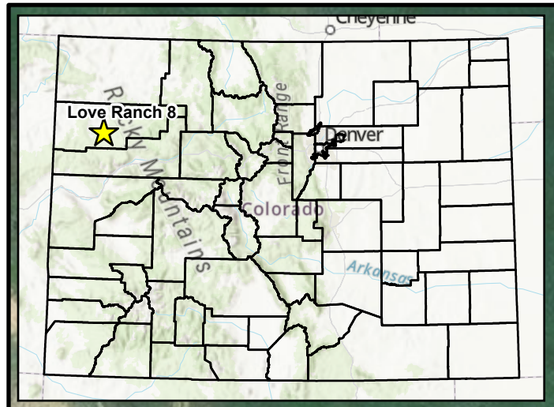
PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F4B_LoveRanch8_GW_June

Potentiometric Groundwater Map
06/07/2023

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
4B

Date: 7/27/2023 User: ALeonard Path: \\azrglisstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx



Piceance Creek

PZ05
6,108.825

PZ04
6,107.535

PZ03
6,109.260

PZ02
6,108.610

POR

PZ01
6,109.740

6104.35
6104.45
6104.55
6104.65
6104.75
6104.85
6104.95
6105.05
6105.15
6105.25
6105.35
6105.45

Aerial Image Source: Maxar, Microsoft, Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, USGS
Aerial Image Date: 08/24/2021

LEGEND

- Piezometer Location
- Love Ranch 8 Off-Location Flowline Point of Release (POR)
- Interpreted Groundwater Flow Direction
- Potentiometric Surface Elevation Contour (ft AMSL)
  Contour Interval = 0.10 Feet
  Dashed Where Inferred

0 50 100 200
Feet

N

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PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F4C_LoveRanch8_GW_July

Potentiometric Groundwater Map
07/05/2023

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
4C

Date: 7/27/2023 User: ALeonard Path: \\azrglisstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx

LEGEND

- Exploratory Pothole Location
- Love Ranch 8 Off-Location Flowline Point of Release (POR)

0 25 50 100
Feet

N

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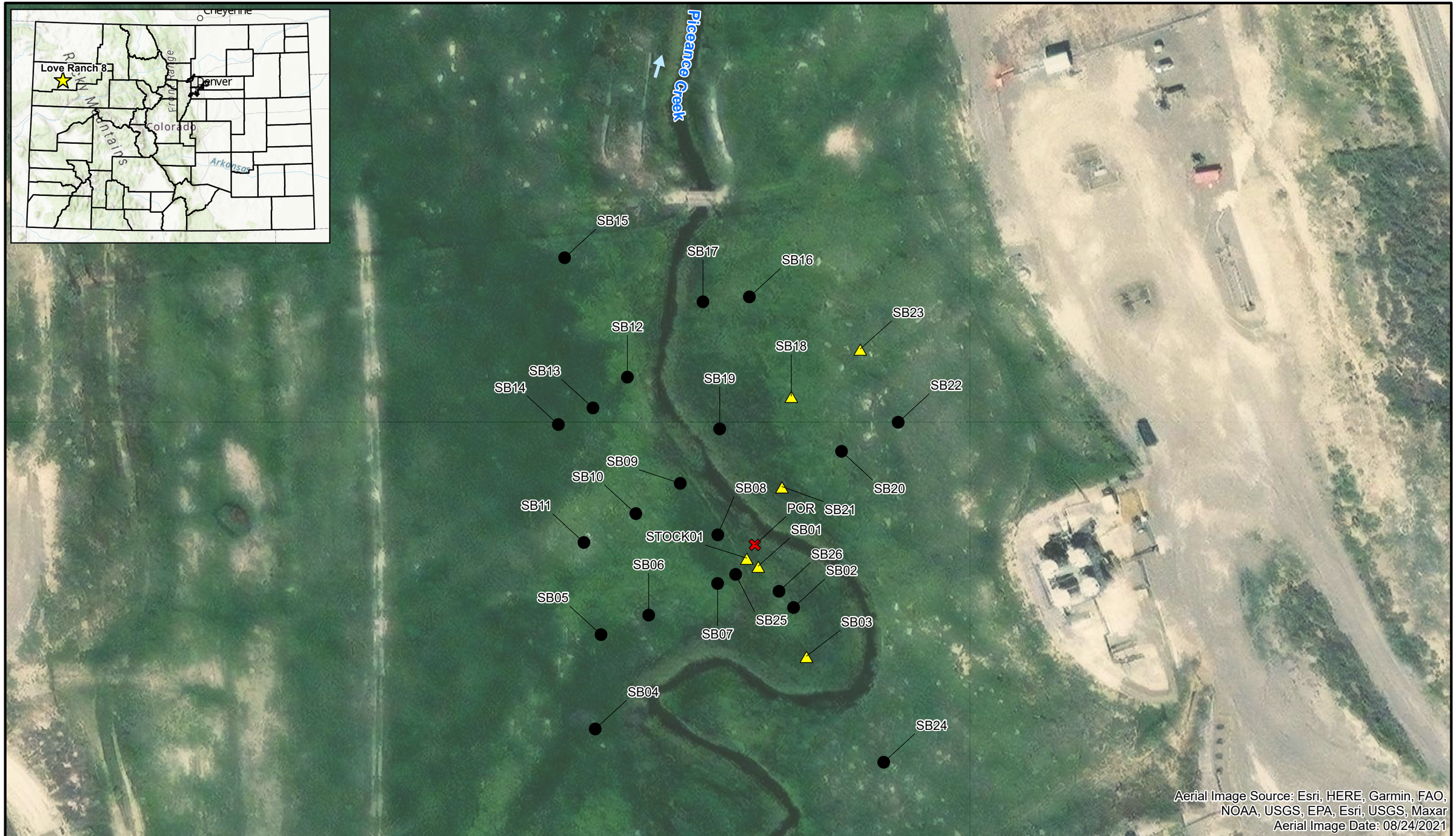
PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F5_LoveRanch8_Pothole

Exploratory Pothole Map

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
5



Aerial Image Source: Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, Esri, USGS, Maxar
Aerial Image Date: 08/24/2021

LEGEND

- Soil Boring Location and Soil Sample Collected
- Soil Boring Location Only, No Soil Sample Collected
- Love Ranch 8 Off-Location Flowline Point of Release (POR)

0 50 100 200
Feet

N

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PROJECT NO.	24000859
CREATED:	7/27/2023
CREATED BY:	ALeonard
CHECKED BY:	JVeith
FILE NAME:	F6_LoveRanch8_Soil

Eagle Synergistic
Soil Boring Map/Soil Sample Map

Caerus Piceance, LLC
Love Ranch 8 Off-Location Flowline
SWNW Sec. 9 T2S R97W
Rio Blanco County, Colorado

FIGURE
6

Date: 7/27/2023 User: ALeonard Path: \\azglisstorp03\GIS_Projects\Client\Caerus_OXY\24000859_LoveRanch\24000859_LoveRanch.aprx