RANGER
ENVIRONMENTAL SERVICES, LLC

REVIEWED
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ANNUAL GROUNDWATER MONITORING REPORT

WILLIAMS PIT (AP-22)
INCIDENT NO. NAUTOFAB000741
UNIT F, SECTION 25, TOWNSHIP 18S, RANGE 26E
EDDY COUNTY, NEW MEXICO
32.720624, -104.336249
RANGER REFERENCE NO. 5375

Review of the Annual Groundwater Monitoring Report (03.27.2024) for Williams Pit (AP-22): accepted for the record and site is currently under review; a meeting is currently being scheduled between OCD and EOG to discuss a work plan and path forward for the site.

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1.0 SITE LOCATION AND BACKGROUND

The Williams Pit (Site) is a historic oil and gas production pit formerly located at the Williams Battery facility pad, an oil and gas production facility located on private land, approximately 9.15 miles south-southwest of Artesia, within Eddy County, New Mexico. The facility is situated in Unit F, Section 25, T18S-R26E at GPS coordinates 32.720624, -104.336249. The Williams Battery is currently active and is being operated by Silverback Operating II (Silverback). Based on the site history and transaction history, EOG Resources, Inc. (EOG) maintains environmental responsibility for the impacts to native media at the Site.

The Williams Battery was historically operated by H&S Oil Company (H&S) and the unlined earthen production pit (Williams Pit) was formerly utilized by H&S for oil and gas fluid storage/impoundment. In 1997, Yates Petroleum Corporation (Yates) acquired the Willaims Battery and associated pit from H&S. While operated by Yates, the pit underwent closure and assessment of the former pit location was conducted. In September 2016, EOG acquired Yates and its associated assets including the Williams Battery which included the subject Williams Pit.

The pit closure and assessment activities completed by Yates documented impacts to the native soil at the subject site, both in the former pit area and outside of the former pit area. Elevated soil BTEX and TPH concentrations were found in soil samples collected from pit area monitor well MW-4. Elevated soil chloride concentrations were also documented in the pit area as well as in all borings/wells installed outside of the pit area. A potential benzene impact to groundwater was documented at the site in the 2002 timeframe through the collection and analysis of a groundwater sample from pit area monitor well MW-4. Elevated chloride and TDS concentrations were found in the groundwater samples from all four of the site monitor wells. Monitor well MW-3, located approximately 122 feet northwest of the former pit boundaries, was documented to contain the highest site chloride and TDS concentrations. Water quality in the immediate vicinity of the former pit was determined to be much better than in the area of MW-3, with pit area monitor well MW-4 being found to contain the lowest site chloride and TDS concentrations.

Due to the documented conditions at the Site, coordination with the New Mexico Oil and Gas Division (NMOCD) was initiated. Communication and coordination between the NMOCD and Yates regarding the subject pit continued until 2005 when a Stage I & II Abatement Plan was submitted to the NMOCD. Based on available information, no response was ever received from the NMOCD regarding this plan. During the 2005 to 2022 timeframe, a total of 13 groundwater monitoring events were conducted at the Site. In May 2021, additional soil investigation activities were completed at the Site.

EOG has engaged Ranger Environmental Services, LLC (Ranger) to assist in the continuation of the assessment and remediation efforts at the Site as well as to re-establish communications with the NMOCD regarding the Site. In May 2023, Ranger personnel established communications with the NMOCD, and began discussion of the Site and the steps needed to bring the Site into compliance with the current regulatory criteria and New Mexico Administrative Code (NMAC). Initial communications were completed with NMOCD representative Mr. Nelson Velez who, at the time of discussion, reported to Ranger that he would be the NMOCD representative in charge of the Site. During discussion on the Site, Mr. Velez directed that a report be prepared summarizing the Site's history and current status, as well as providing formal submittal of all data collected at the Site from 2005 to 2023. Additionally, Mr. Velez directed that a groundwater sampling event be conducted in the fourth quarter of 2023, with the results to be provided in an annual groundwater monitoring report.

Based on the communications with Mr. Velez, a comprehensive *Site Chronology and Status Update* report was prepared and sent to Mr. Velez in draft form on September 19, 2023 for review and further discussion. Prior to receiving a response on the draft *Site Chronology and Status Update* report, on November 16, 2023, Ranger was informed by Mr. Velez that Mr. Mike Buchanan of the NMOCD would be assuming responsibility for the oversight of the project. It was also reported that the draft report pending review would be discussed and provided to Mr. Buchanan for review. As of February 2024, a response from the NMOCD regarding the draft *Site Chronology and Status Update* report had not been received. As such, on February 15, 2024, the *Site Chronology and Status Update* report was submitted to the NMOCD.

Groundwater monitoring activities were continued at the subject site with the directed groundwater monitoring event completed in November 2023. This report has been prepared to document the completion of the 2023 site groundwater monitoring activities.

A *Topographic Map* and *Area Map* noting the location of the subject Site and surrounding areas are attached. A *Site Map* depicting the pertinent site features is also attached.

2.0 SITE CHRONOLOGY

Below is a chronology of the activities undertaken at the Site to date. The information presented below is derived from the proposals, work plans, and other correspondence available to Ranger. All information presented in this section is available via the NMOCD online imaging portal (https://ocdimage.emnrd.nm.gov/imaging/).

2.1 Yates Acquisition and Pit Closure (1997 – 2000)

As previously stated, Yates acquired the Williams Battery and subject Williams Pit from H&S in 1997. At the time of the acquisition, the subject pit remained open. The pit was documented to have dimensions of approximately 45 feet by 45 feet by seven (7) feet deep. According to the November 2000 Environmental Technology Group, Inc. (ETGI) "*Preliminary Site Investigation Report*," the original pit area measured approximately 90 feet by 130 feet; however, the majority of the original pit was apparently taken out of operation with only the southwestern portion of the pit remaining in operation. The pit was noted to be of earthen construction with no liner present. Under Yates' direction, an undated "*Pit Closure*" proposal was submitted to the NMOCD. In June 1998, the NMOCD approved of the proposed closure activities, with conditions of approval that included the vertical delineation of the soil conditions at the Site and directives for sample analysis.

In May 1999, Bioremediation Contractors & Consultants, Inc. (BCC) initiated closure of the pit. The activities completed by BCC included the removal of bird netting, debris, and fluids within the pit location. The pit was then ripped, tilled, sprayed with a BCC microbial product, treated with nutrients, and was then managed to assist in the bioremedial process. Soil samples were collected in September 1999, January 2000, and February 2000 and the pit was subsequently backfilled.

In February 2000, a closure report/request was submitted to the NMOCD. In August 2000, the NMOCD denied the closure request citing lack of pertinent closure details, inadequate soil sampling, and lack of soil chloride analyses.

2.2 Additional Assessment Activities and Stage I & II Abatement Plans (2000 – 2005)

In October 2000, Yates contracted ETGI to perform additional soil delineation activities at the Site. On October 21, 2000, ETGI and a drilling subcontractor installed five soil borings (SB's 1-5) at the Site. Attached is the historic ETGI *Site Map* illustrating the locations of the soil borings. Due to the rudimentary nature of this site map, the locations of SB's 1-5 cannot be accurately plotted on the current site map. The ETGI site map appears to suggest that soil borings SB-4 and SB-5 were installed in an approximate 45' x 45' area located in the southwestern portion of the pit. Ranger suspects that this likely was the area closed by BCC in 1999. The ETGI site map further appears to suggest that the remaining three soil borings (SB's 1-3) were installed within the original portions of the pit that were later placed out of operation with only the southwestern portion of the pit remaining in operation.

During the soil boring installation process, multiple soil samples and a groundwater sample (from boring SB-5) were collected for laboratory analysis. Additionally, a background soil sample was collected from a location outside of the apparent impacted areas at the Site. Elevated soil chloride concentrations were documented to be present in all five soil borings completed at the Site. The background sample was documented to contain a relatively low (142 mg/Kg) concentration of chloride.

The groundwater sample collected from soil boring SB-5 was documented to contain elevated chloride and benzene concentrations. It should be noted, however, that the groundwater sample appears to have been collected from an open soil boring subject to sloughing effects from overlying soils. As such, the results of the water sample may or may not have been representative of the actual groundwater quality.

The findings of the October 2000 site assessment activities were documented in the ETGI-prepared *Preliminary Site Investigation Report* dated November 2000. In December 2000, Yates submitted the ETGI report and previous BCC report to the NMOCD and petitioned for closure of the Site. On March 7, 2001, the NMOCD denied site closure based on the fact that the groundwater contained benzene and chloride concentrations in excess of the New Mexico Water Quality Commission (WQCC) standards. The NMOCD directed that an abatement plan be prepared and submitted.

In July 2001, a *Stage 1 Abatement Plan Proposal* prepared by Harding ESE (Harding) was submitted to the NMOCD. The proposal included provisions for the installation and sampling of three soil borings and the conversion of the soil borings into permanent monitor wells to allow for the collection of representative groundwater samples for laboratory analysis. On September 25, 2001, the NMOCD responded to the proposal with the statement that the plans were

"*administratively complete*" and that prior to the NMOCD review of the proposed activities public notification was to be completed.

On October 19, 2001, Yates submitted documentation of the required public notification to the NMOCD with the request that the Harding-prepared *Stage 1 Abatement Plan Proposal* be reviewed. On February 1, 2002, the NMOCD granted approval of the proposed activities with conditions of approval including the requirement that a Stage I Investigation report be submitted to the NMOCD by April 1, 2002. Due to various reasons, including the transfer of the project from Harding back to ETGI, multiple project timeline extension requests were submitted and approved by the NMOCD.

A June 2003 ETGI-prepared *Preliminary Site Investigation Report* documenting the installation and sampling of four monitor wells (MW's 1-4) was subsequently submitted to the NMOCD. The information provided in the report indicated that impacts to soil and groundwater were present at the Site. The MW-4 soil analytical data documented elevated TPH and BTEX concentrations in the pit area samples collected a depth of five and ten feet below ground surface (bgs). The sample collected a depth of 29 feet bgs was documented to contain nondetectable BTEX and TPH concentrations. No elevated BTEX or TPH concentrations were documented in the monitor wells (MW's 1-3) located outside of the pit area. Elevated soil chloride concentrations were documented in all four monitor wells (MW's 1-4). Generally, chloride concentrations were less in the borehole that penetrated the pit and higher in the other monitor well boreholes.

Groundwater samples collected from monitor well MW-1 and MW-2 were documented to contain non-detectable BTEX concentrations. The samples collected from monitor wells MW-3 and MW-4 were noted to have detectable BTEX concentrations, with the sample collected from pit area monitor well MW-4 exceeding WQCC standards. The groundwater samples collected from all four monitor wells were documented to contain total dissolved solid (TDS) concentrations greater than 10,000 milligrams per liter (mg/L) as well as elevated chloride concentrations ranging from 8,150 mg/L to 33,700 mg/L. Pit area monitor well MW-4 contained the lowest site TDS and chloride concentrations thus suggesting that the pit may not be the source for the elevated groundwater chloride and TDS concentrations.

Within the report ETGI noted that the elevated TDS concentrations at the site indicate that "*the shallow aquifer is not considered to be of foreseeable beneficial use.*" Based on this information, ETGI proposed that site specific risk-based closure criteria be established, a long-term groundwater monitoring plan be implemented, and to prevent unintended human exposure, the site should be deed restricted to restrict future consideration of development or improvements.

Based on the information presented in the June 2003 ETGI report, the NMOCD issued a response dated October 6, 2004. The NMOCD response stated that the extent of the groundwater impacts at the Site had not been delineated and requested that a groundwater delineation work plan be submitted by December 31, 2004. Prior to the submittal of the NMOCD-directed plan, ETGI was replaced by Safety & Environmental Solutions, Inc. (SESI) who had been retained by Yates to conduct the further site investigative activities. During the transfer of the project from ETGI to SESI, a 45-day extension request was submitted and approved by the NMOCD to allow for the project transition.

In February 2005, an SESI-prepared *Amended Stage 1 Abatement Plan Proposal*, dated February 15, 2005, was submitted to the NMOCD. The amended plan included SESI's review of the previously collected Site data and conditions and proposed additional site investigation activities. SESI noted that, in general, the soil chloride concentrations had previously been

documented to be less in the pit area borehole (MW-4) than in the other monitor well boreholes, and that the water quality in pit area monitor well MW-4 was noticeably different and somewhat better than the surrounding wells, and that the water quality was worst in monitor well MW-3.

SESI's proposed site activities included the installation of a background monitor well in an undisturbed area located upgradient from the former pit area, with the most likely area being to the north or northeast of the pit location. The stated purpose for the background monitor well was to determine if background shallow water quality is as poor as indicated by the analytical results for the existing site wells. SESI noted that "*Shallow groundwater in bottomland areas immediately west of the Pecos River is known to be brackish. Cooperative studies performed by the NM State Engineer Office and the US Geological Survey document increased sodium chloride mineralization mainly due to natural upward discharge of groundwater followed by evapotranspiration especially by phreatophytes such as salt cedar and mesquite*."

Within the SESI plan, details regarding variations in the site groundwater flow direction were discussed, as well as the seemingly anomalous MW-4 groundwater elevations. The SESI plan proposed the resurveying of the site monitor wells, the plugging of pit area monitor well MW-4, and continued groundwater monitoring activities.

On July 18, 2005, the NMOCD responded to SESI's *Amended Stage 1 Abatement Plan Proposal* and denied the proposed activities. The NMOCD response cited a lack of adequate characterization of the impacts at the Site, and insufficient proposed delineation locations. The response also disagreed with the potential of elevated concentrations associated with naturally occurring conditions. The NMOCD requested submittal of a revised Stage 1 Abatement Plan by August 19, 2005.

As requested by the NMOCD, an *Amended Stage 1 Abatement Plan Proposal*, prepared by SESI and dated August 19, 2005, was subsequently submitted to the NMOCD. The updated plan revisited the information presented in the February 15, 2005 version, including the potential for naturally occurring elevated conditions at the site, and proposed additional activities to address the NMOCD concerns and requests. The plan proposed four soil borings, with the possibility for additional borings, to be installed within the former pit area to assist in the characterization/delineation of the soil impacts. The plan also included provisions for the installation of a minimum of two additional monitor wells. Additional proposed activities included the determination of hydraulic conductivity and transmissivity via groundwater slug tests and the continued monitoring and sampling of the Site monitor wells.

Based on available information, it does not appear that the NMOCD ever replied to SESI's August 19, 2005 *Amended Stage 1 Abatement Plan Proposal*. The final correspondence available via the NMOCD online resources is noted to be a cover letter that appears to have been submitted with the August 19, 2005 amended plan. EOG also conducted an internal review of the project files transferred to them by Yates and an NMOCD response to the August 19, 2005 plan was not discovered.

2.3 2021 SESI Soil Investigation

In May 2021, additional soil investigation activities were completed at the Site by SESI. SESI installed a total of 57 test excavations, collected a total of 91 samples for field screening, and submitted a total of 13 soil samples to the laboratory for analysis. The test excavations were installed to depths ranging from 4' to 8' bgs.

Elevated chloride concentrations above the 19.15.29.12 NMAC *Table 1 Closure Criteria for Soils Impacted by a Release (GW ≤ 50')* were documented to remain present at the site that will require remediation. The elevated soil chloride concentrations were found to be relatively widespread across the site, extending approximately 135'-150' west-northwest of the former pit boundaries, approximately 140' south of the pit boundaries, and approximately 160' east of the former pit boundaries (Note: These measurements are from the smaller 45' x 45' pit area closed by BCC). The extent of the 0'-8' deep soil chloride exceedances was defined in all directions during the May 2021 soil investigation activities except to the northwest of sample points 25, 26 and 27.

Details of this investigation were provided in the *Site Chronology and Status Update* report submitted to the NMOCD in draft form on September 19, 2023, and in final form on February 15, 2024.

2.4 September 2011 – Tank Battery Release

On September 17, 2011, a release was discovered at the Williams Battery after lightning struck a water tank located inside the lined secondary containment berm at the Site. Information regarding the release is limited to information available via the NMOCD online portal (https://ocdimage.emnrd.nm.gov/imaging/AEOrderFileView.aspx?appNo=pMLB1126434648).

Based on the available information the incident resulted in the release of approximately 189 barrels (bbls) of produced water primarily within the tank battery containment berm. Impacts outside of the tank battery were also observed to the east and south of the tank battery area due to overspray of released fluids. Based on the available information, emergency vacuum trucks were dispatched to the location and were successful in the recovery of approximately 120 bbls of released fluids.

Information regarding the remediation of the spill is somewhat limited; however, it appears that in November 2011 initial assessment composite soil samples were collected from the impacted areas located outside of the lined tank battery area. Sample results collected from the area documented chloride concentrations in exceedance of the current 19.15.29.12 NMAC Table 1 Criteria. Additional available information indicates that shallow surface soil excavation activities were completed in the impacted areas located outside of the lined tank battery. In December 2011, additional soil samples were collected from depths varying from four to eight feet bgs. The laboratory analytical results for these samples documented chloride concentrations remaining in the soils that were elevated beyond the current 19.15.29.12 NMAC Table 1 Criteria.

Information regarding the outcome of the remedial efforts and site closure are limited to email correspondence and eventual closure approval of the incident by the NMOCD. Copies of email correspondence indicates that in February 2012 representatives of the NMOCD and Yates met in regard to the incident, NMOCD representatives in the Artesia District office discussed the incident with NMOCD representatives in Santa Fe, and that based on these discussions it appears that the NMOCD supported closure of the incident. A final Form C-141 was submitted and closure of the incident was approved by the NMOCD on February 14, 2012.

While information regarding the release, the completed remedial and cleanup confirmation sampling efforts, and the conditions in support of site closure is limited, this data should be considered in the formulation of the remediation plan for the pit area. Sample results from the assessment activities conducted in response to this release incident indicated that soil chloride concentrations greater than 6,000 mg/kg were present at depths of eight feet bgs. Based on the reported surficial nature of impacts to the areas outside of the tank battery, the documented soil

chloride concentrations are not likely to be associated with the September 2011 release incident. While the source of these elevated chloride concentrations is unknown, the available information should be reviewed and considered in the development of the final remedial options for the Williams Pit.

2.5 Groundwater Monitoring (2005 through 2022)

During the 2005 through 2022 timeframe, a total of 13 groundwater monitoring events were conducted at the Site. The site monitoring wells were gauged and sampled during each event. No light nonaqueous phase liquid (LNAPL) was found to be present at the site; however, exceedances of the New Mexico WQCC standards were documented in the groundwater. There were no exceedances of the WQCC groundwater standard for benzene in pit area monitor well MW-4 after the initial sampling of this well in 2002. However, in 2022, elevated concentrations of benzene were documented outside of the pit area in monitor well MW-2. The groundwater analytical data continued to indicate the presence of elevated chloride, sulfate and TDS concentrations at the site. Every sample collected from every well during each sampling event was documented to exceed the WQCC standards for chloride, sulfate and TDS.

Monitor well MW-3, located approximately 122 feet northwest of the former pit boundaries, continued to exhibit the highest site chloride and TDS concentrations. The groundwater analytical data from pit area monitor well MW-4 continued to document better water quality in the pit area of the site, and on four sampling occasions MW-4 was found to contain the lowest site chloride and TDS concentrations. The data suggested the potential that the pit may not be the source for the elevated chloride and TDS concentrations at the site, nor for the elevated benzene concentrations in MW-2.

Below is a more detailed summary of the 2005 – 2022 groundwater monitoring results:

Well Gauging (2005 through 2022)

No LNAPL was documented to be present in the site monitoring wells. The depth to groundwater in the site monitoring wells was documented to range from a minimum of approximately 22.85' below top of casing (btoc) in MW-2 to a maximum of approximately 28.03' btoc in MW-4. The site groundwater flow direction was documented to be variable, with flow to the northwest, west, southwest, south and southeast with relatively flat gradients ranging from approximately 0.001 – 0.003 ft/ft.

Groundwater Anions (2005 through 2022)

Concentrations of chloride and sulfate above the NMAC 20.6.2.3103 criteria were documented in every sample collected from all four site monitoring wells. Monitor well MW-3, located approximately 122 feet northwest of the former pit boundaries, was consistently documented to contain the highest site chloride concentrations. The groundwater analytical data from pit area monitor well MW-4 continued to document better water quality in the pit area of the site, and on four sampling occasions MW-4 was found to contain the lowest site chloride concentrations. This suggested the potential that the pit may not be the source for the elevated chloride concentrations at the site, and indicated the need for further site assessment and background groundwater quality data to confirm whether the pit is the source for the elevated chloride concentrations at the site, or whether these concentrations are a result of background conditions and/or a historic release source other than the pit.

With regard to the site sulfate concentrations, while elevated, these results were not suggestive of an on-site release, particularly from the former pit. The groundwater sulfate analytical results were relatively similar in each monitor well, ranging between 1,600 – 2,400 mg/L. There was no obvious "hot spot" or "source" area for the elevated sulfate concentrations and the fact that similar concentrations were found in each well on each sampling date was indicative of what would be expected if the elevated sulfate concentrations were related to background conditions.

Dissolved Metals (2005 through 2022)

Based upon available information, groundwater dissolved metals analyses were initiated at the site during the March 2012 sampling event. No metals exceedances of the NMAC 20.6.2.3103 criteria were documented in pit area monitor well MW-4, nor in monitor well MW-1. Exceedances of the NMAC 20.6.2.3103 criteria for manganese were documented in samples collected during all 13 events in MW-2. Monitor well MW-2 is located approximately 154 feet south-southeast of the former pit boundaries. The absence of any manganese exceedances in pit area monitor well MW-4 potentially suggested a source other than the former pit (either background conditions and/or a historic release source other than the pit). Various exceedances of other metals were occasionally detected in MW-2 and MW-3; however, these sporadic exceedances of the regulatory criteria were relatively minor and did not exhibit a pattern indicative of impacts from the former pit.

VOCs (2005 through 2022)

There were no exceedances of the WQCC groundwater standard for benzene in pit area monitor well MW-4 since the initial sampling of this well in 2002. However, in 2022, elevated concentrations of benzene were documented outside of the pit area in monitor well MW-2. The data suggested the possibility that the pit may not be the source for the elevated benzene concentrations.

Specific Conductance, pH, Alkalinity, and TDS (2005 through 2022)

Concentrations of TDS above the NMAC 20.6.2.3103 criteria were documented in every sample collected from all four site monitoring wells. Monitor well MW-3, located approximately 122 feet northwest of the former pit boundaries, was consistently documented to contain the highest site TDS concentrations. The groundwater analytical data from pit area monitor well MW-4 continued to document better water quality in the pit area of the site, and on four sampling occasions MW-4 was found to contain the lowest site TDS concentrations. This suggested the potential that the pit may not be the source for the elevated TDS concentrations at the site, and indicated the need for further site assessment and background groundwater quality data to confirm whether the pit is the source for the elevated TDS concentrations at the site, or whether these concentrations are a result of background conditions and/or a historic release source other than the pit.

Isoconcentration Maps

Isoconcentration maps were prepared for varying sampling dates for the primary groundwater constituents of concern (COCs) at the Site, including chloride, sulfate and TDS. As illustrated on the chloride and TDS isoconcentration maps, the overall most affected site monitoring well is monitor well MW-3, located approximately 122 feet northwest of the former pit boundaries. These maps also illustrated that pit area monitor well MW-4 continued to document better water quality in the pit area of the site, and as illustrated on the September 19, 2022, November 8, 2004, March 22, 2022 and August 3, 2022 TDS and chloride isoconcentration maps, MW-4 was found to

contain the lowest site chloride and TDS concentrations. None of the chloride and TDS isoconcentration maps indicated the pit as being a contaminant “hot spot” or “source” area.

The sulfate isoconcentration maps also did not indicate the pit as being a contaminant “hot spot” or “source” area. Rather, they were more indicative of what would be expected if the elevated sulfate concentrations were related to background conditions.

Copies of the referenced isoconcentration maps were provided in the *Site Chronology and Status Update* report submitted to the NMOCD in draft form on September 19, 2023, and in final form on February 15, 2024.

3.0 GROUNDWATER MONITORING (2023)

On November 28, 2023, an annual groundwater monitoring event was conducted at the Site. The site monitoring wells were gauged and sampled.

Ranger has compiled and attached both current (2023) and cumulative tables of the Site well gauging and groundwater analytical data. Also attached are November 2023 isoconcentration maps for the primary groundwater COCs at the Site (chloride, sulfate and TDS), as well as a copy of the laboratory analytical report for the November 2023 annual groundwater sampling event. Below is a summary of the 2023 annual groundwater monitoring activities and results.

3.1 Groundwater Monitoring Methodologies

Upon arrival at the Site, the monitor wells were opened and allowed to equilibrate for approximately 30 minutes prior to the performance of any well gauging or sampling activities. Prior to sampling the groundwater in each monitor well, the wells were first gauged with a decontaminated interface probe to determine the depth to groundwater in each monitor well, and LNAPL thicknesses, if any. This data was utilized to determine the site groundwater flow direction and gradient.

Groundwater samples were subsequently collected using low-flow sampling techniques. The wells were purged and sampled using a low flow rate (0.026 to 0.264 gpm) that minimized drawdown. The pump-intake was located in the middle or slightly above the middle of the saturated screened interval. The monitoring wells were purged until the field water quality parameters (i.e., pH, temperature, and conductivity) stabilized. Parameters were considered to have stabilized if, over three consecutive readings, the following criteria were met:

- pH ±0.1 unit
- Temperature within 3%
- Conductivity within 3%

All sample containers were filled with minimal turbulence. Due to sample turbidity, the samples collected for dissolved metals analysis were first field-filtered through a 10-micron pore size filter. Ranger personnel wore new nitrile gloves while handling each sample in order to prevent cross-contamination of samples.

All samples were containerized using properly selected and cleaned containers, which were preserved by the laboratory as needed for the particular analysis to be performed. All VOC sample vials were filled completely to minimize head space. The samples were subsequently

sealed in one or more ziplock bags and stored in a sample shuttle containing ice until arrival at the laboratory for chemical analysis. All sample containers were labeled with the project name, sample identification, date and time of sample collection, and samplers' initials. Chain-of-custody forms were completed to document sample transport to the analytical laboratory. The groundwater samples were subsequently analyzed for the following:

- **EPA Method 200.8:** Antimony, arsenic, lead, selenium, thallium and uranium
- **EPA Method 300.0:** Fluoride, chloride, bromide, phosphorus, orthophosphate (as P), sulfate, and nitrate+nitrite as N.
- **SM2510B:** Conductivity
- **SM2320B:** Bicarbonate (as CaCO3), carbonate (as CaCO3), and total alkalinity (as CaCO3)
- **SM2540C MOD:** Total dissolved solids
- **SM4500-H+B / 9040C:** pH
- **EPA METHOD 200.7:** Aluminum, barium, beryllium, boron, cadmium, calcium, chromium, cobalt, copper, iron, magnesium, manganese, molybdenum, nickel, potassium, silver, sodium, and zinc
- **EPA METHOD 8260B:** Benzene, toluene, ethylbenzene, and total xylenes (BTEX); naphthalene, 1-methylnaphthalene and 2-methylnaphthalene

A trip blank was included in the sampling cooler to assess the potential cross-contamination of field samples during shipment to, and storage in, the laboratory. The trip blank was analyzed for BTEX, naphthalene, 1-methylnaphthalene and 2-methylnaphthalene using Method 8260. All trip blank results were non-detectable. A temperature blank was also included in the sample shipping container. The temperature blank was received by the laboratory at a temperature below 6°C.

All purge water generated during the well purging process was placed in a sealed and labeled 55-gallon drum and was temporarily stored on-site pending off-site disposal.

3.2 2023 Groundwater Monitoring Results Summary

Well Gauging Results

No LNAPL was documented to be present in the site monitoring wells. The depth to groundwater in the site monitoring wells was documented to range from approximately 25.75' bgs in MW-1 to a maximum of approximately 26.85' bgs in MW-3. As illustrated on the attached groundwater gradient map, the November 28, 2023 site groundwater gradient and flow direction was documented to be approximately 0.003 ft/ft to the northwest, west and southwest, consistent with the historical well gauging results.

Groundwater Analytical Results

- *Groundwater Anions*: Concentrations of chloride and sulfate above the NMAC 20.6.2.3103 criteria were documented in all four site monitoring wells. Monitor well MW-3 was found to contain the highest site chloride concentration (9,700 mg/L) while pit area monitor well MW-4 was found to contain the lowest site chloride concentration (3,200 mg/L). The sulfate concentrations in the site monitoring wells were all very similar ranging from 2,100 – 2,300 mg/L.

Chloride concentrations of 9,400 mg/L and 8,500 mg/L were documented in monitor wells MW-1 and MW-2, respectively. These were the highest chloride concentrations observed in these wells since the 2002 and 2004 sampling events.

- *Dissolved Metals*: Exceedances of the NMAC 20.6.2.3103 criteria for arsenic were documented in monitor wells MW-1, MW-2 and MW-3. This is the first sampling event where arsenic exceedances have been observed in MW-1 and MW-2. Exceedances of arsenic have not been observed in MW-3 since the March 2018 sampling event. Consistent with historical results, an exceedance of the NMAC 20.6.2.3103 criteria for manganese was also documented in monitor well MW-2.

- *VOCs*: Monitor well MW-2 was found to contain 0.026 mg/L benzene which was in excess of the NMAC 20.6.2.3103 criteria. There were no detectable VOC concentrations in the remaining three monitor wells. This was the third consecutive event in which benzene has been detected in MW-2. The initial detection of benzene in this well occurred on March 22, 2022.

- *Specific Conductance, pH, Alkalinity, and TDS*: Elevated TDS concentrations were documented in all four monitor wells at the site. Monitor well MW-3 was found to contain the highest site TDS concentration (21,300 mg/L) while pit area monitor well MW-4 was found to contain the lowest site TDS concentration (8,560 mg/L). A TDS concentration of 19,700 mg/L was documented in upgradient monitor well MW-1. This was the highest TDS concentration observed in this well since the 2002 and 2004 sampling events.

In summary, the 2023 well gauging and analytical data were generally consistent with historic results and the overall data were generally indicative of stable plume conditions. The chloride and TDS concentration increases found in upgradient monitor well MW-1, and the chloride concentration increase found in monitor well MW-2, signals a need to closely evaluate the future data from these wells. Due to the post-2021 detections of benzene in monitor well MW-2, the future benzene data from this well should also be closely evaluated.

4.0 SITE CONDITIONS SUMMARY

Both soil and groundwater impacts have been documented at the subject site. The soils in the pit area have been documented to contain elevated chloride, BTEX and TPH concentrations. Elevated soil chloride concentrations have also been documented to be present in a relatively widespread area across the site.

A benzene impact to groundwater was documented at the site in the 2002 timeframe through the collection and analysis of a groundwater sample from pit area monitor well MW-4. There have been no subsequent exceedances of the WQCC groundwater standard for benzene in pit area monitor well MW-4 since the initial sampling of this well in 2002. This may indicate that the initial WQCC standard exceedance was related to cross-contamination during the monitor well installation process, as discussed by SESI in their February 2005 *Amended Stage 1 Abatement Plan Proposal and Work Plan*.

In 2022, elevated concentrations of benzene were documented to be present at the site in monitor well MW-2. Monitor well MW-2 is located approximately 154 feet south-southeast of the former

pit boundaries. The absence of any significant benzene impacts to groundwater in the pit area suggests the potential that the pit may not be the source for the elevated benzene concentrations documented in MW-2 in 2022. However, MW-2 is located in what has historically been the most dominant downgradient groundwater flow direction from the pit area.

Concentrations of TDS, chloride and sulfate above the NMAC 20.6.2.3103 criteria have been documented in every sample collected to date from all four site monitoring wells. Monitor well MW-3, located approximately 122 feet northwest of the former pit boundaries, has consistently been documented to contain the highest site chloride and TDS concentrations. The groundwater analytical data from pit area monitor well MW-4 is of much better quality and on five sampling occasions MW-4 has been found to contain the lowest site chloride and TDS concentrations. This data suggests the potential that the pit may not be the source for the elevated groundwater chloride and TDS concentrations at the site.

With regard to the site sulfate concentrations, while elevated, these results have not been suggestive of an on-site release, particularly from the former pit. The groundwater sulfate analytical results have all been relatively similar in each monitor well, and there has been no obvious “hot spot” or “source” area for the elevated sulfate concentrations. The data are more indicative of what would be expected if the elevated sulfate concentrations were related to background conditions.

No LNAPL has been documented to be present in the site monitoring wells. The site groundwater flow direction has been documented to be variable, with flow to the northwest, west, southwest, south and southeast with relatively flat gradients ranging from approximately 0.001 – 0.003 ft/ft.

In summary, the site soil analytical data have documented elevated BTEX, TPH and chloride impacts to the soils at the site that will require remediation. With regard to the groundwater conditions at the site, further plume delineation and background groundwater quality data is needed to confirm whether the pit is the source for the elevated groundwater benzene, chloride, sulfate and TDS concentrations at the site, or whether these concentrations are a result of background conditions and/or a historic release source other than the pit.

5.0 CURRENT SITE COMMUNICATIONS AND CORRESPONDENCE

In 2023, EOG engaged Ranger to assist in the continuation of the assessment and remediation efforts at the Site, as well as to re-establish communications with the NMOCD regarding the Site. In May 2023, Ranger personnel established communications with the NMOCD, and began discussion of the Site with Mr. Nelson Velez of the NMOCD including the steps needed to bring the Site into compliance with the current regulatory criteria and New Mexico Administrative Code (NMAC). The call included a review of the Site history, the presentation of data collected since 2005, review of the current status of the Site, and a discussion of the appropriate regulatory path forward.

Based on Ranger’s communications with the NMOCD, on September 19, 2023, a draft comprehensive *Site Chronology and Status Update* report was submitted to Mr. Velez to provide the NMOCD with a summary of the Site history and the cumulative soil and groundwater data so that a regulatory path forward could be established. Additional directives included the completion of a fourth quarter groundwater monitoring event and the preparation of an annual groundwater monitoring report to be submitted by April 1, 2024.

On November 16, 2023, Ranger was informed by Mr. Velez that Mr. Mike Buchanan of the NMOCD would be assuming responsibility for the oversight of the project. Since no response has been received from the NMOCD to date with regard to the draft *Site Chronology and Status Update* report submitted to the NMOCD in September 2023, the report was formally submitted to the NMOCD on February 15, 2024.

Based upon the above, groundwater monitoring activities were continued at the subject site in 2023, with an annual groundwater monitoring event completed in November 2023. On November 21, 2023, EOG provided notice to the NMOCD of the planned annual groundwater monitoring event. A copy of this notification is attached. No NMOCD representatives were present on the day of sampling.

6.0 REGULATORY GUIDANCE REQUEST

In the *Site Chronology and Status Update* report submitted to the NMOCD in draft form in September 2023, and in final form in February 2024, EOG requested NMOCD guidance regarding the appropriate regulatory reporting/proposal format that will be required for the next phase of site activities.

7.0 RECOMMENDATIONS

- The site soil analytical data have documented elevated BTEX, TPH and chloride impacts to the soils at the site that will require further delineation and remediation.

- Further groundwater delineation and background groundwater quality data are needed to determine whether the former production pit is the source for the elevated groundwater benzene, chloride, sulfate and TDS concentrations at the site, or whether these concentrations are a result of background conditions and/or a historic release source other than the former production pit. Ranger has prepared and attached a *Proposed Monitor Well Location Map* illustrating the proposed locations for additional groundwater plume delineation and background groundwater quality monitor wells.

- Upon NMOCD determination of the appropriate regulatory mechanism and reporting format for the next phase of site work, Ranger will prepare a detailed work plan for NMOCD review.

- Until such time that the NMOCD provides the requested project guidance and direction, EOG will initiate quarterly groundwater monitoring activities beginning in the second quarter of 2024. Based upon the cumulative site groundwater monitoring results, which have documented generally stable conditions, Ranger recommends that the site COC's for future groundwater monitoring events be reduced to the following constituents which have been detected in exceedance of the NMAC 20.6.2.3103 criteria on at least one or more occasions:

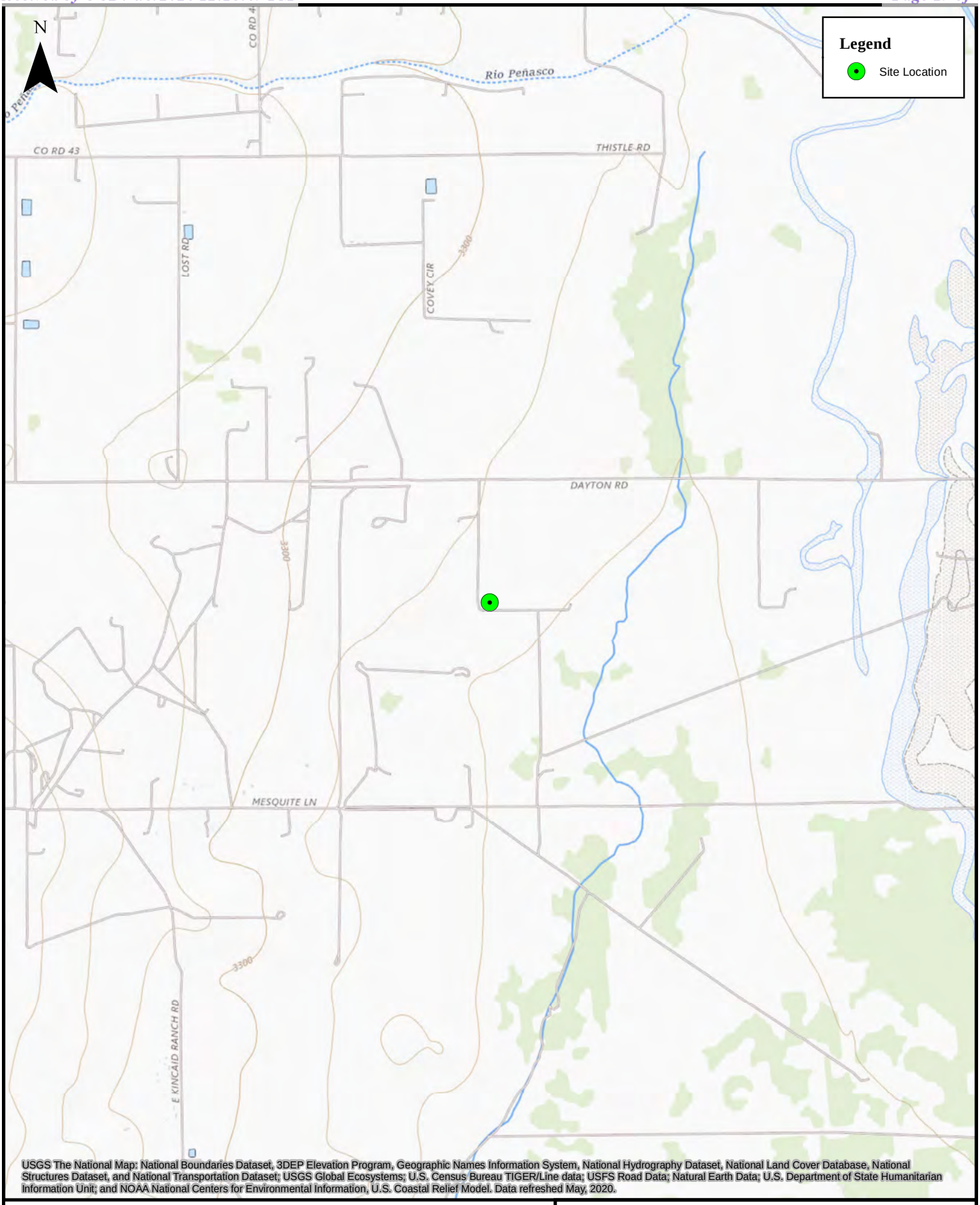
    - Arsenic
    - Benzene
    - Chloride

- Chromium
- Iron
- Manganese
- Selenium
- Silver
- Sulfate
- Total Dissolved Solids

Upon NMOCD review of this report and the *Site Chronology and Status Update* report, the above-recommended subset of the site groundwater monitoring COC's will be modified if requested by the NMOCD.

FIGURES

Topographic Map
Area Map
Site Map
Nov. 14, 2000 ETGI Site Map
Groundwater Gradient Map
Groundwater TDS, Chloride, and Sulfate Isoconcentration Maps
Proposed Monitor Well Location Map

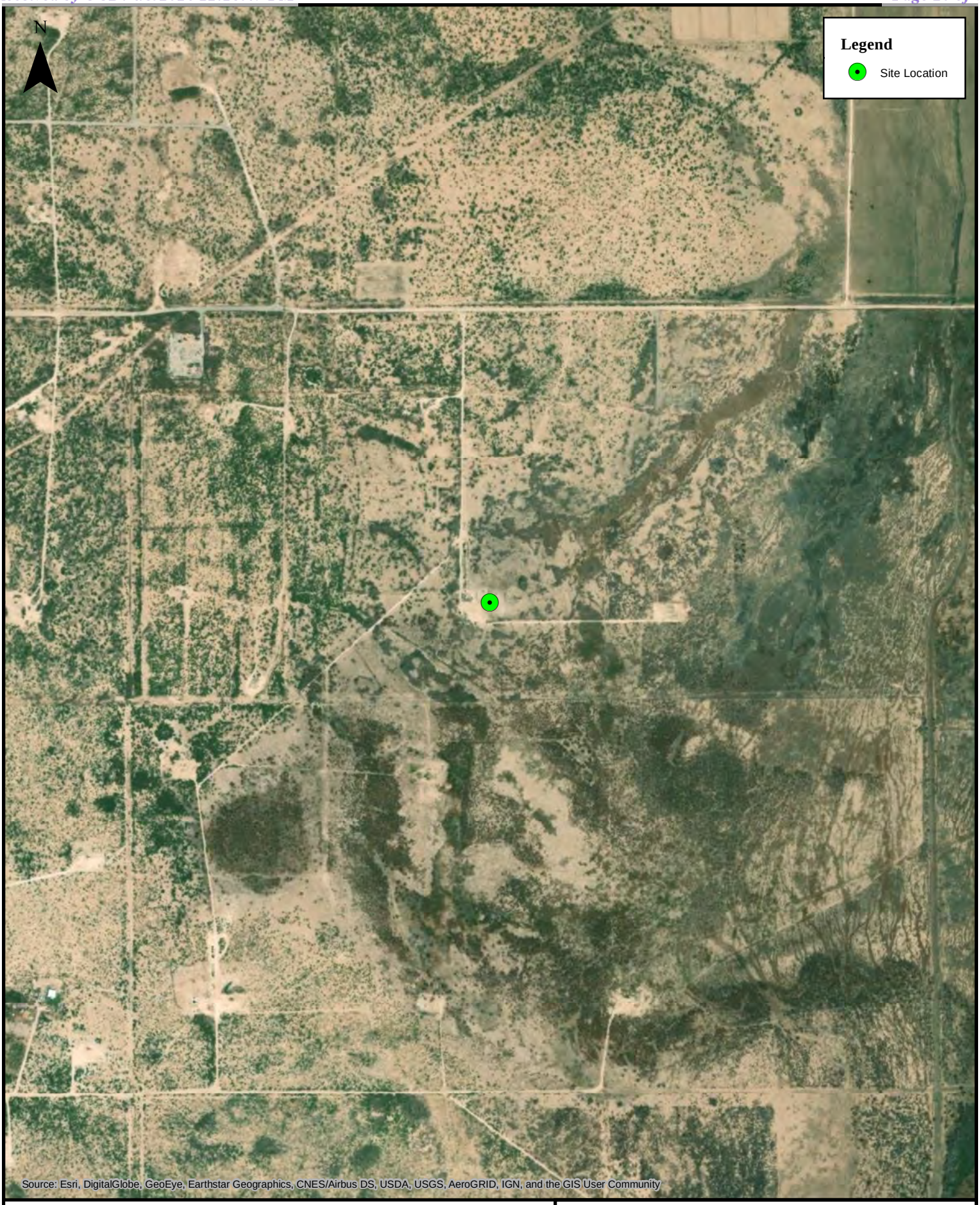


RANGER ENVIRONMENTAL SERVICES, LLC

0 600 1,200 2,400 3,600 4,800 Feet

1:24,000

Topographic Map
Williams Pit
EOG Resources, Inc.



RANGER ENVIRONMENTAL SERVICES, LLC

0 250 500 1,000 1,500 2,000 Feet

1:10,000

Area Map
Williams Pit
EOG Resources, Inc.

NOTES:
1.ALL PROPERTY BOUNDARIES ARE APPROXIMATE AND NOT TO BE USED FOR CONSTRUCTION PURPOSES.
2.AERIAL IMAGERY IS UTILIZED AS A POINT OF REFERENCE; SITE DETAIL LOCATIONS ARE APPROXIMATE.
3.AERIAL MAP IS AN ARCHIVED IMAGE AND MAY NOT REFLECT CURRENT CONDITIONS.
4. MONITOR WELL FORMER PIT AREA LOCATION INFORMATION WERE PROVIDED AND NOT COLLECTED BY RANGER.
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 15 30 60 90 120 Feet

1:750

Site Map
Williams Pit
EOG Resources, Inc.

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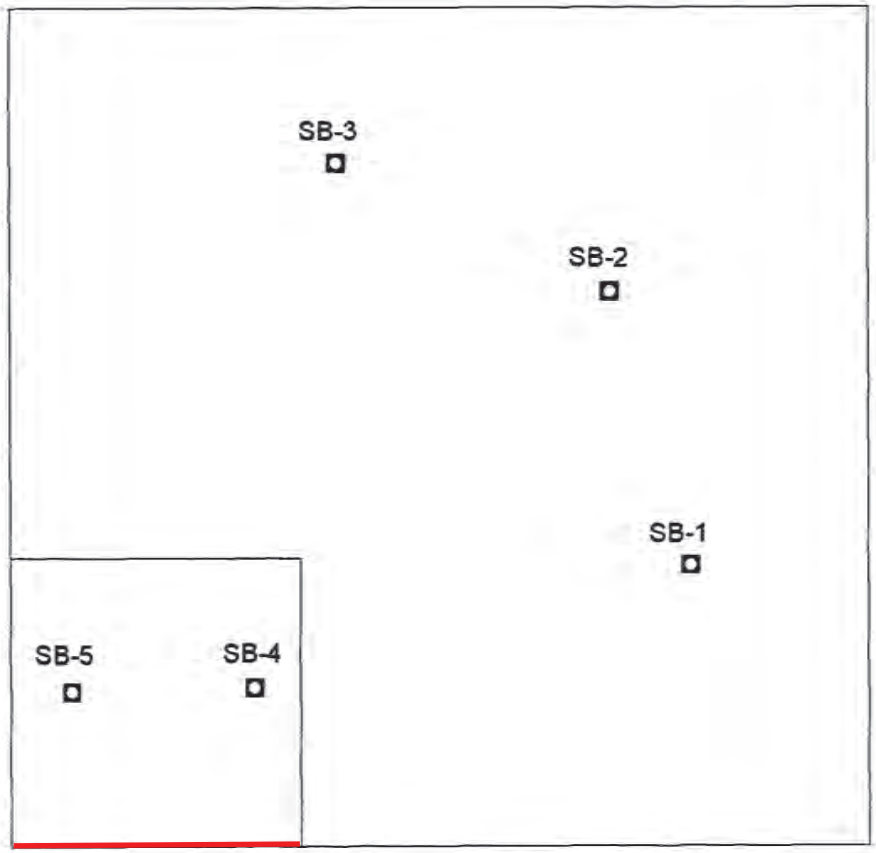

LEGEND:

Soil Boring Location

30 15 0 15 30

Distance in Feet

N

ETGI

Figure 2
Site Map

Yates Petroleum Corp.
Williams Pit
Artesia, NM

Environmental Technology Group, Inc.

Scale: 1" = 30'	Prep By: JDJ	Checked By: JT
November 14, 2000	ETGI Project # YPC 2200D	

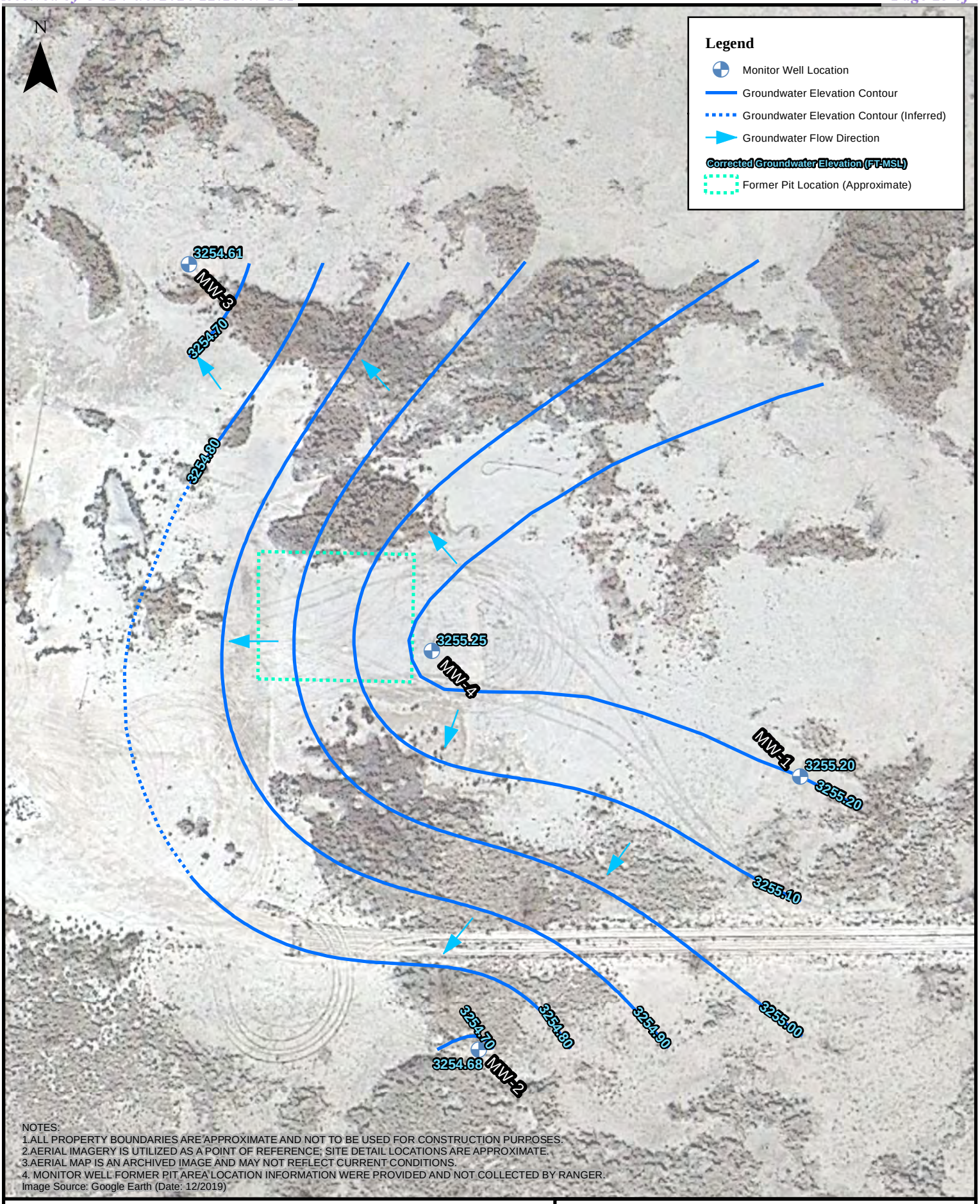

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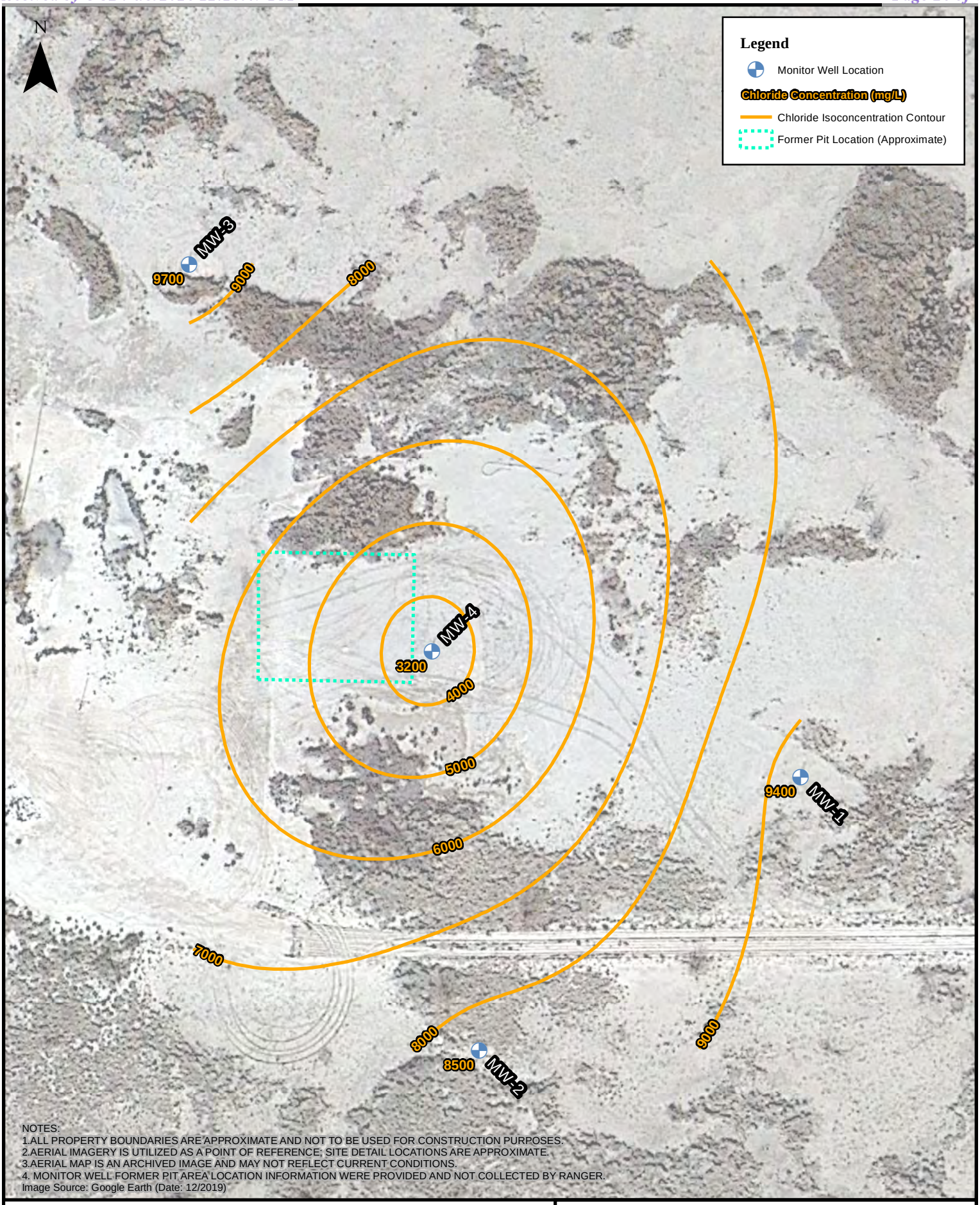
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map
(Date: 11/28/2023)
Williams Pit
EOG Resources, Inc.



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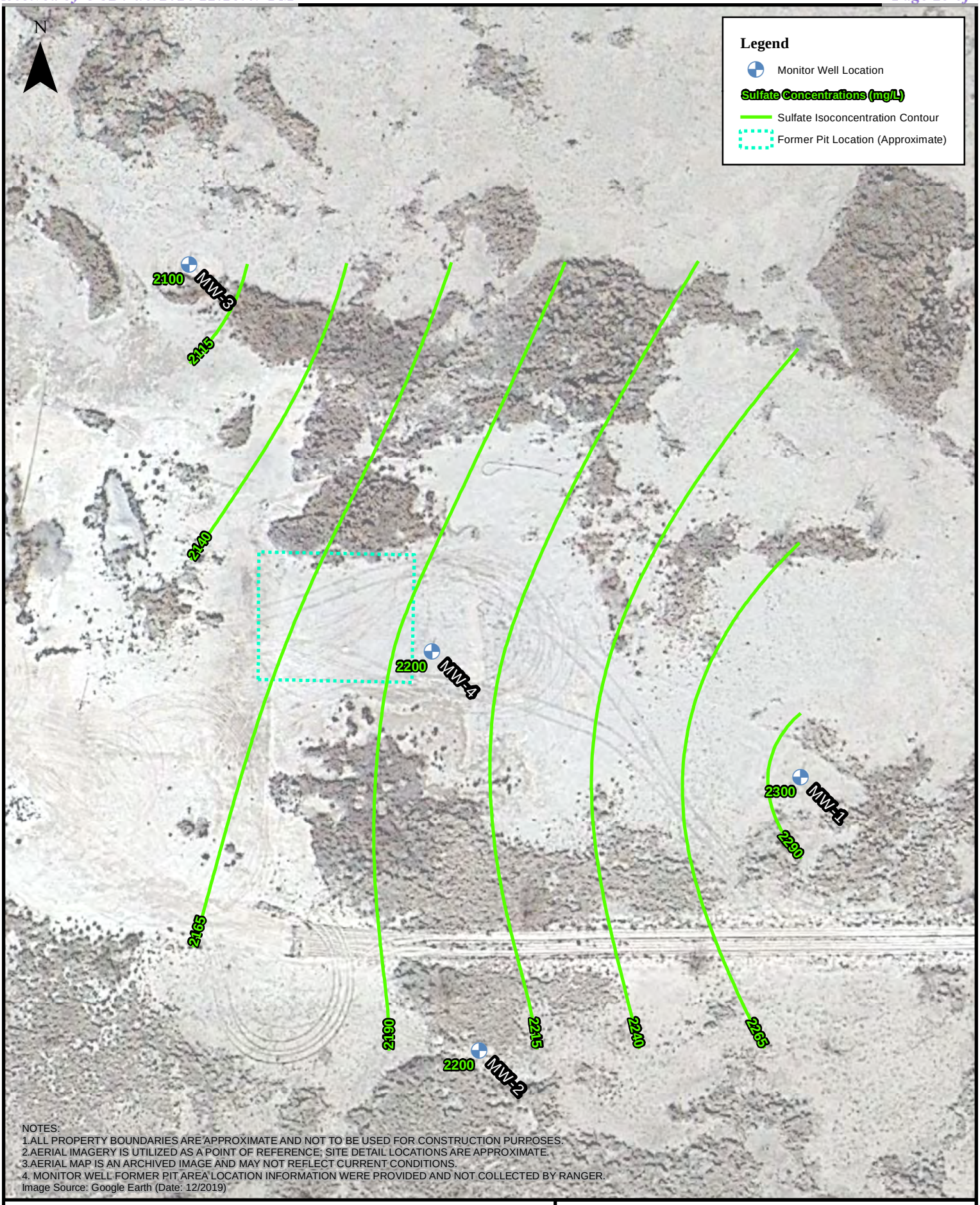
3.AERIAL MAP IS AN ARCHIVED IMAGE AND MAY NOT REFLECT CURRENT CONDITIONS.
4. MONITOR WELL FORMER PIT AREA LOCATION INFORMATION WERE PROVIDED AND NOT COLLECTED BY RANGER.
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Chloride Isoconcentration Map
(Sample Date: 11/28/2023)
Williams Pit
EOG Resources, Inc.



NOTES:
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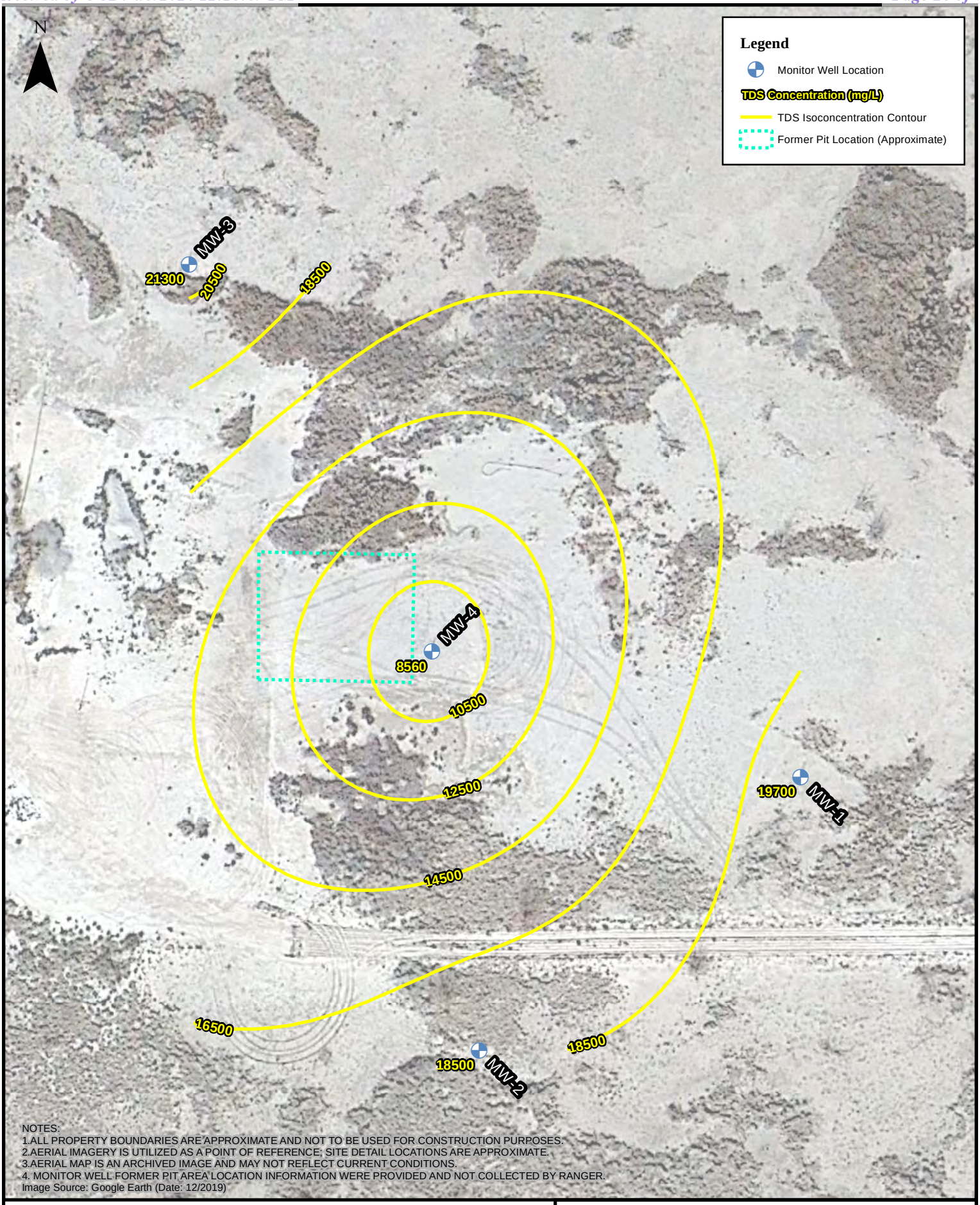
3.AERIAL MAP IS AN ARCHIVED IMAGE AND MAY NOT REFLECT CURRENT CONDITIONS.
4. MONITOR WELL FORMER PIT AREA LOCATION INFORMATION WERE PROVIDED AND NOT COLLECTED BY RANGER.
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Sulfate Isoconcentration Map
(Sample Date: 11/28/2023)
Williams Pit
EOG Resources, Inc.



NOTES:
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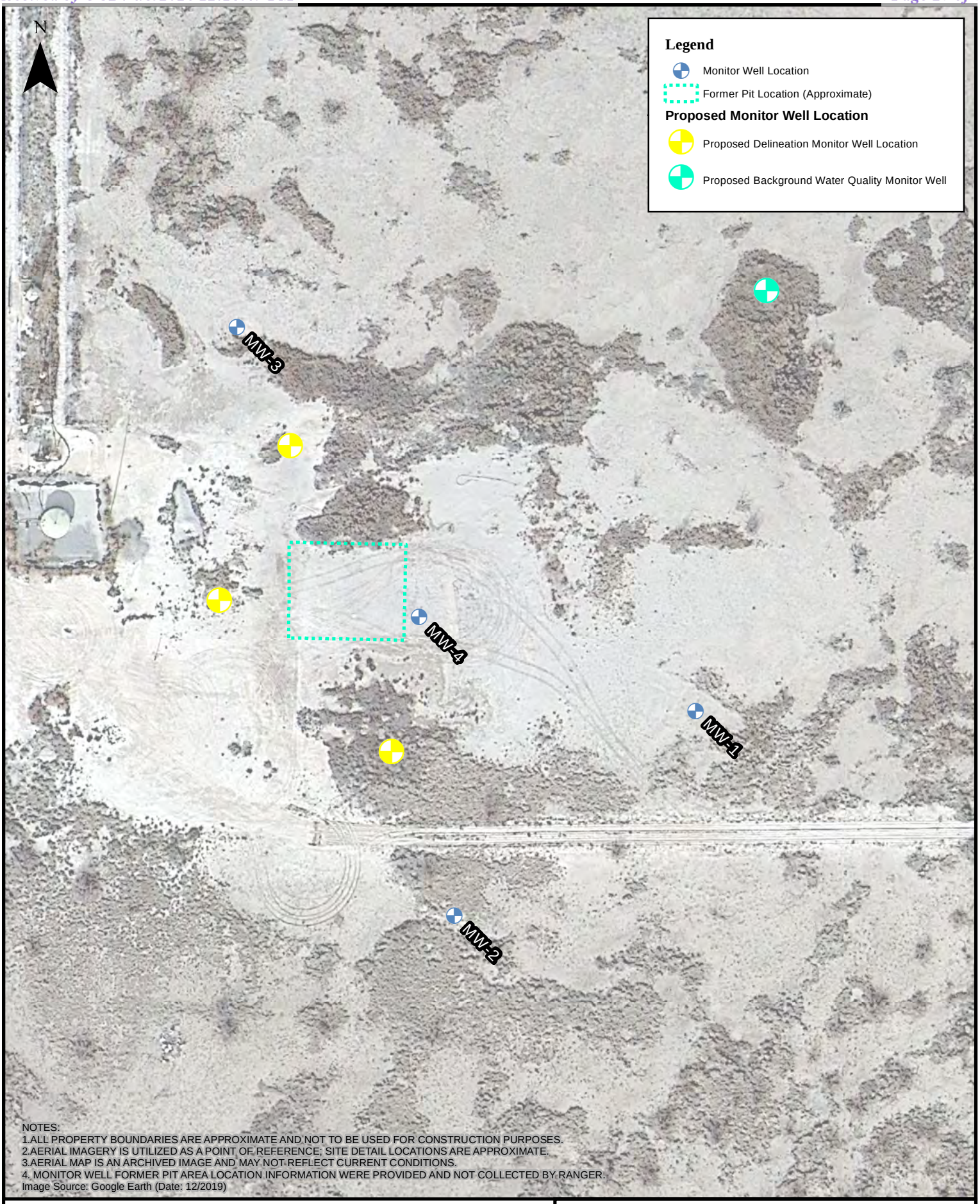
3.AERIAL MAP IS AN ARCHIVED IMAGE AND MAY NOT REFLECT CURRENT CONDITIONS.
4. MONITOR WELL FORMER PIT AREA LOCATION INFORMATION WERE PROVIDED AND NOT COLLECTED BY RANGER.
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater TDS Isoconcentration Map
(Sample Date: 11/28/2023)
Williams Pit
EOG Resources, Inc.



NOTES:
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4. MONITOR WELL FORMER PIT AREA LOCATION INFORMATION WERE PROVIDED AND NOT COLLECTED BY RANGER.
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 15 30 60 90 120 Feet

1:800

Proposed Monitor Well Location Map

Williams Pit
EOG Resources, Inc.

TABLES

CURRENT EVENT TABLES

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Received by OCD: 4/3/2024 12:18:49 PM

WELL GAUGING DATA
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

WELL NUMBER	DATE	CASING ELEV. (FT)	DEPTH TO WATER (FT-BTOC)	LNAPL THICKNESS (FT)	GW ELEVATION (FT)	SCREENED INTERVAL (FT-BGS)
MW-1	11/28/2023	3283.94	28.74	0.00	3255.20	20'-40'
MW-2	11/28/2023	3283.66	28.98	0.00	3254.68	23'-43'
MW-3	11/28/2023	3284.35	29.74	0.00	3254.61	15'-35'
MW-4	11/28/2023	3284.08	28.83	0.00	3255.25	23'-38'

Notes:
1. Elevations referenced to a temporary on-site benchmark.
2. BTOC = below top of casing

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GROUNDWATER EPA METHOD 300.0: ANIONS
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L) unless otherwise noted

SAMPLE ID	DATE	Fluoride	Chloride	Bromide	Phosphorus, Orthophosphate (As P)	Sulfate	Nitrogen, Nitrite (As N)	Nitrogen, Nitrate (As N)	Nitrate+Nitrite as N
MW-1	11/28/2023	<2.0	**9,400**	4.4	<10	**2,300**	---	---	<10
MW-2	11/28/2023	< 2.0	**8,500**	4.6	<10	**2,200**	---	---	< 10
MW-3	11/28/2023	< 2.0	**9,700**	5.4	<10	**2,100**	---	---	< 4.0
MW-4	11/28/2023	< 2.0	**3,200**	2.5	<0.50	**2,200**	---	---	< 4.0
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)				**---**	**---**				
A. Human Health Standards		**1.6**					**1**	**10**	**10** [1]
B. Other Standards for Domestic Water Supply			**250**			**600**			
C. Standards for Irrigation Use									

Notes:
1. This standarad is for nitrate. The nitrite standard is 1.0 mg/L.
2. Exceedances of the listed closure criteria are highlighted in bold, red type.

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GROUNDWATER DISSOLVED METALS (TABLE 1 OF 2)
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Iron	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Silver	Sodium	Zinc
MW-1	11/28/2023	0.027	0.015	<0.0020	0.082	<0.0020	1,500	<0.0060	<0.0060	0.024	460	<0.0020	<0.0080	< 0.010	6	0.034	4,700	<0.010
MW-2	11/28/2023	0.027	0.011	< 0.0020	0.14	<0.0020	1,100	<0.0060	<0.0060	0.032	380	**0.39**	< 0.0080	< 0.010	13	0.025	4,600	<0.010
MW-3	11/28/2023	0.033	0.017	< 0.0020	0.076	< 0.0020	1,300	< 0.0060	< 0.0060	< 0.020	430	< 0.0020	<0.0080	< 0.010	6.5	0.030	5,200	< 0.010
MW-4	11/28/2023	0.031	0.0098	< 0.0020	0.16	< 0.0020	810	< 0.0060	< 0.0060	0.037	340	0.11	< 0.0080	< 0.010	17	0.019	1,700	< 0.010
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)							**---**				**---**				**---**		**---**	
A. Human Health Standards			**2**	**0.004**		**0.005**		**0.05**								**0.05**		
B. Other Standards for Domestic Water Supply										**1.0**		**0.2**						**10**
C. Standards for Irrigation Use		**5.0**			**0.75**				**0.05**				**1.0**	**0.2**				

Notes:
1. Exceedances of the listed closure criteria are highlighted in bold, red type.

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GROUNDWATER DISSOLVED METALS (TABLE 2 OF 2)
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Antimony	Arsenic	Copper	Lead	Mercury	Selenium	Thallium	Uranium
MW-1	11/28/2023	< 0.0010	**0.022**	< 0.0060	< 0.00050	---	0.019	<0.00025	0.0050
MW-2	11/28/2023	< 0.010	**0.015**	< 0.0060	< 0.00050	---	0.017	0.00032	0.0066
MW-3	11/28/2023	< 0.010	**0.019**	< 0.0060	< 0.00050	---	0.017	< 0.00025	0.0062
MW-4	11/28/2023	< 0.0050	0.0087	< 0.0060	<0.0025	---	0.028	< 0.0012	0.0067
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)									
A. Human Health Standards		**0.006**	**0.01**		**0.015**	**0.002**	**0.05**	**0.002**	**0.03**
B. Other Standards for Domestic Water Supply				**1.0**					
C. Standards for Irrigation Use									

Notes:
1. Exceedances of the listed closure criteria are highlighted in bold, red type.

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GROUNDWATER TPH & VOC DATA SUMMARY
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	TPH TOTAL	TPH GRO	TPH DRO	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene
MW-1	11/28/2023	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-2	11/28/2023	---	---	---	---	**0.026**	< 0.001	< 0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-3	11/28/2023	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-4	11/28/2023	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)		**---**	**---**	**---**						**---**	**---**			
A. Human Health Standards						**0.005**	**1**	**0.7**	**0.62**			**0.03** [1]	**0.03** [1]	**0.03** [1]
B. Other Standards for Domestic Water Supply					**0.1**									
C. Standards for Irrigation Use														

Notes:
1. The 0.03 mg/L standard is for total naphthalene plus monomethylnaphthalenes
2. Exceedances of the listed closure criteria are highlighted in bold, red type.

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GROUNDWATER SPECIFIC CONDUCTANCE, pH, ALKALINITY, AND TDS
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Conductivity µmhos/c	pH	Alkalinity (mg/L)			TDS (mg/L)
				Bicarbonate (As CaCO3)	Carbonate (As CaCO3)	Total Alkalinity (as CaCO3)	
MW-1	11/28/2023	33,000	7.01	181.0	<2.000	181.0	**19,700**
MW-2	11/28/2023	32,000	7.04	207.4	<2.000	207.4	**18,500**
MW-3	11/28/2023	36,000	7.05	215.5	< 2.000	215.5	**21,300**
MW-4	11/28/2023	15,000	7.16	232.2	< 2.000	232.2	**8,560**
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)		---		---	---	---	
A. Human Health Standards							
B. Other Standards for Domestic Water Supply			**6 to 9**				**1,000**
C. Standards for Irrigation Use							

Notes:

1. Exceedances of the listed closure criteria are highlighted in bold, red type.

CUMULATIVE TABLES

WELL GAUGING DATA
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

WELL NUMBER	DATE	CASING ELEV. (FT)	DEPTH TO WATER (FT-BTOC)	LNAPL THICKNESS (FT)	GW ELEVATION (FT)	SCREENED INTERVAL (FT-BGS)
MW-1	9/18/2002	3282.57	31.92	0.00	3250.65	20'-40'
MW-1	9/19/2002	3282.57	32.05	0.00	3250.52	20'-40'
MW-1	11/8/2004	3282.57	30.99	0.00	3251.58	20'-40'
MW-1	12/1/2004	3282.57	30.40	0.00	3252.17	20'-40'
MW-1	12/15/2004	3282.57	30.08	0.00	3252.49	20'-40'
MW-1	12/21/2004	3282.57	29.99	0.00	3252.58	20'-40'
MW-1	12/30/2004	3282.57	29.73	0.00	3252.84	20'-40'
MW-1	3/6/2018	3282.57	23.06	0.00	3259.51	20'-40'
MW-1	3/28/2018	3282.57	23.15	0.00	3259.42	20'-40'
MW-1	3/11/2019	3283.94	24.31	0.00	3259.63	20'-40'
MW-1	10/29/2019	3283.94	25.14	0.00	3258.80	20'-40'
MW-1	9/18/2020	3283.94	25.46	0.00	3258.48	20'-40'
MW-1	8/23/2021	3283.94	25.23	0.00	3258.71	20'-40'
MW-1	11/28/2023	3283.94	28.74	0.00	3255.20	20'-40'
MW-2	9/18/2002	3282.34	32.08	0.00	3250.26	23'-43'
MW-2	9/19/2002	3282.34	31.85	0.00	3250.49	23'-43'
MW-2	11/8/2004	3282.34	30.76	0.00	3251.58	23'-43'
MW-2	12/1/2004	3282.34	30.42	0.00	3251.92	23'-43'
MW-2	12/15/2004	3282.34	30.20	0.00	3252.14	23'-43'
MW-2	12/21/2004	3282.34	30.03	0.00	3252.31	23'-43'
MW-2	12/30/2004	3282.34	29.88	0.00	3252.46	23'-43'
MW-2	3/6/2018	3282.34	22.85	0.00	3259.49	23'-43'
MW-2	3/28/2018	3282.34	22.97	0.00	3259.37	23'-43'
MW-2	3/11/2019	3283.66	24.12	0.00	3259.54	23'-43'
MW-2	10/29/2019	3283.66	25.17	0.00	3258.49	23'-43'
MW-2	9/18/2020	3283.66	25.41	0.00	3258.25	23'-43'
MW-2	8/23/2021	3283.66	25.33	0.00	3258.33	23'-43'
MW-2	11/28/2023	3283.66	28.98	0.00	3254.68	23'-43'
MW-3	9/18/2002	3282.98	32.35	0.00	3250.63	15'-35'
MW-3	9/19/2002	3282.98	32.38	0.00	3250.60	15'-35'
MW-3	11/8/2004	3282.98	31.06	0.00	3251.92	15'-35'
MW-3	12/1/2004	3282.98	30.00	0.00	3252.98	15'-35'
MW-3	12/15/2004	3282.98	30.10	0.00	3252.88	15'-35'
MW-3	12/21/2004	3282.98	29.98	0.00	3253.00	15'-35'
MW-3	12/30/2004	3282.98	29.96	0.00	3253.02	15'-35'

WELL GAUGING DATA
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

WELL NUMBER	DATE	CASING ELEV. (FT)	DEPTH TO WATER (FT-BTOC)	LNAPL THICKNESS (FT)	GW ELEVATION (FT)	SCREENED INTERVAL (FT-BGS)
MW-3	3/6/2018	3282.98	23.70	0.00	3259.28	15'-35'
MW-3	3/28/2018	3282.98	23.73	0.00	3259.25	15'-35'
MW-3	3/11/2019	3284.35	24.96	0.00	3259.39	15'-35'
MW-3	10/29/2019	3284.35	25.97	0.00	3258.38	15'-35'
MW-3	9/18/2020	3284.35	26.15	0.00	3258.20	15'-35'
MW-3	8/23/2021	3284.35	26.03	0.00	3258.32	15'-35'
MW-3	11/28/2023	3284.35	29.74	0.00	3254.61	15'-35'
MW-4	9/18/2002	3282.70	31.70	0.00	3251.00	23'-38'
MW-4	9/19/2002	3282.70	31.72	0.00	3250.98	23'-38'
MW-4	11/8/2004	3282.70	30.89	0.00	3251.81	23'-38'
MW-4	12/1/2004	3282.70	31.16	0.00	3251.54	23'-38'
MW-4	12/15/2004	3282.70	30.23	0.00	3252.47	23'-38'
MW-4	12/21/2004	3282.70	30.12	0.00	3252.58	23'-38'
MW-4	12/30/2004	3282.70	29.94	0.00	3252.76	23'-38'
MW-4	3/6/2018	3282.70	23.02	0.00	3259.68	23'-38'
MW-4	3/28/2018	3282.70	23.94	0.00	3258.76	23'-38'
MW-4	3/11/2019	3284.08	23.35	0.00	3260.73	23'-38'
MW-4	10/29/2019	3284.08	28.03	0.00	3256.05	23'-38'
MW-4	9/18/2020	3284.08	25.56	0.00	3258.52	23'-38'
MW-4	8/23/2021	3284.08	25.35	0.00	3258.73	23'-38'
MW-4	11/28/2023	3284.08	28.83	0.00	3255.25	23'-38'

Notes:
1. Elevations referenced to a temporary on-site benchmark.
2. BTOC = below top of casing

GROUNDWATER EPA METHOD 300.0: ANIONS
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L) unless otherwise noted

SAMPLE ID	DATE	Fluoride	Chloride	Bromide	Phosphorus, Orthophosphate (As P)	Sulfate	Nitrogen, Nitrite (As N)	Nitrogen, Nitrate (As N)	Nitrate+Nitrite as N
SB-5	10/21/2000	---	30,842	---	---	---	---	---	---
MW-1	9/19/2002	---	26,600	---	---	---	---	---	---
MW-1	11/8/2004	---	26,992	---	---	---	---	---	---
MW-1	3/17/2012	< 2.0	950	1.3	< 0.50	2,100	---	---	1.7
MW-1	6/18/2012	0.73	1,100	1.8	< 0.50	2,200	---	---	1
MW-1	9/12/2012	0.21	2,200	1.8	< 10	2,200	---	---	< 4.0
MW-1	12/7/2012	< 2.0	2,000	< 2.0	< 10	2,100	---	---	2.5
MW-1	3/12/2013	0.76	1,200	< 2.0	< 10	2,200	---	---	1.7
MW-1	6/27/2013	< 0.50	1,100	1.4	< 0.50	2,000	---	---	2.1
MW-1	3/28/2018	0.13	1,000	1.4	< 10	2,400	---	---	2.6
MW-1	3/11/2019	< 2.0	920	< 2.0	< 10	2,100	---	---	2.4
MW-1	10/29/2019	< 1.0	910	1.4	< 5.0	2,000	<1.0	2.3	---
MW-1	9/18/2020	0.55	960	1.4	< 2.5	2,100	---	---	2.3
MW-1	8/23/2021	< 1.0	980	1.5	< 5.0	2,300	---	---	2.4
MW-1	3/22/2022	0.5	4,400	2.3	< 2.5	2,100	---	---	2.3
MW-1	8/3/2022	< 2.0	5,400	3.6	< 10	2,100	---	---	< 4.0
MW-1	11/28/2023	<2.0	9,400	4.4	<10	2,300	---	---	<10
MW-2	9/19/2002	---	13,300	---	---	---	---	---	---
MW-2	11/8/2004	---	19,994	---	---	---	---	---	---
MW-2	3/17/2012	< 2.0	3,300	2.2	< 0.50	2,200	---	---	< 4.0
MW-2	6/18/2012	0.58	3,700	3.6	< 0.50	2,200	---	---	< 2.0
MW-2	9/12/2012	< 2.0	3,900	< 2.0	< 10	2,200	---	---	< 4.0
MW-2	12/7/2012	< 2.0	2,800	< 2.0	< 10	2,000	---	---	< 4.0
MW-2	3/12/2013	< 2.0	3,500	2.2	< 10	2,200	---	---	< 4.0
MW-2	6/27/2013	< 0.50	3,100	1.7	< 0.50	2,000	---	---	< 4.0
MW-2	3/28/2018	< 2.0	5,400	3	< 0.50	2,400	---	---	< 4.0
MW-2	3/11/2019	< 2.0	4,600	2.2	< 10	1,900	---	---	< 4.0
MW-2	10/29/2019	< 1.0	3,900	2.5	< 5.0	2,100	<1.0	1.9	---
MW-2	9/18/2020	< 0.50	4,200	2.6	< 2.5	2,000	---	---	< 4.0
MW-2	8/23/2021	< 1.0	4,000	2.7	< 5.0	2,300	---	---	< 2.0
MW-2	3/22/2022	< 0.50	5,100	2.8	< 2.5	2,000	---	---	1.7
MW-2	8/3/2022	< 2.0	8,200	5.3	< 10	2,200	---	---	< 10
MW-2	11/28/2023	< 2.0	8,500	4.6	<10	2,200	---	---	< 10
MW-3	9/19/2002	---	33,700	---	---	---	---	---	---
MW-3	11/8/2004	---	35,989	---	---	---	---	---	---
MW-3	3/17/2012	< 2.0	26,000	8.2	< 10	1,900	---	---	< 100
MW-3	6/18/2012	< 2.0	26,000	14	< 10	1,900	---	---	< 10
MW-3	9/12/2012	< 1.0	20,000	< 10	< 50	2,000	---	---	< 4.0
MW-3	12/7/2012	< 2.0	17,000	11	< 10	1,600	---	---	< 20
MW-3	3/12/2013	< 2.0	19,000	3.1	< 10	1,900	---	---	< 20
MW-3	6/27/2013	< 1.0	16,000	6.3	< 10	1,800	---	---	< 10
MW-3	3/28/2018	< 1.0	16,000	4.9	< 5.0	2,400	---	---	< 10
MW-3	3/11/2019	< 2.0	12,000	3.4	< 10	1,700	---	---	< 10
MW-3	10/29/2019	< 1.0	11,000	4	< 5.0	2,000	<10	< 1.0	---
MW-3	9/18/2020	< 2.0	13,000	5.2	< 10	2,100	---	---	< 10
MW-3	8/23/2021	< 1.0	13,000	5.3	< 5.0	2,300	---	---	< 10
MW-3	3/22/2022	< 2.0	12,000	4.7	< 10	2,100	---	---	< 10
MW-3	8/3/2022	< 2.0	9,200	5.7	< 10	2,100	---	---	< 10
MW-3	11/28/2023	< 2.0	9,700	5.4	<10	2,100	---	---	< 4.0

GROUNDWATER EPA METHOD 300.0: ANIONS
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L) unless otherwise noted

SAMPLE ID	DATE	Fluoride	Chloride	Bromide	Phosphorus, Orthophosphate (As P)	Sulfate	Nitrogen, Nitrite (As N)	Nitrogen, Nitrate (As N)	Nitrate+Nitrite as N
MW-4	9/19/2002	---	**8,150**	---	---	---	---	---	---
MW-4	11/8/2004	---	**6,098**	---	---	---	---	---	---
MW-4	3/17/2012	< 2.0	**3,600**	2.7	< 0.50	**2,200**	---	---	< 4.0
MW-4	6/18/2012	0.56	**3,300**	5.3	< 0.50	**2,200**	---	---	< 2.0
MW-4	9/12/2012	< 2.0	**4,000**	< 2.0	< 10	**2,300**	---	---	< 4.0
MW-4	12/7/2012	< 2.0	**3,100**	< 2.0	< 0.50	**2,100**	---	---	< 4.0
MW-4	3/12/2013	< 2.0	**3,100**	2.4	< 10	**2,200**	---	---	< 2.0
MW-4	6/27/2013	< 0.50	**2,500**	2.1	< 0.50	**2,100**	---	---	< 4.0
MW-4	3/28/2018	< 2.0	**5,100**	3	< 0.50	**2,300**	---	---	< 4.0
MW-4	3/11/2019	< 2.0	**3,600**	< 2.0	< 10	**1,900**	---	---	< 4.0
MW-4	10/29/2019	< 1.0	**3,200**	2.3	< 5.0	**2,100**	< 1.0	1.9	---
MW-4	9/18/2020	< 0.50	**3,500**	2.5	< 2.5	**2,000**	---	---	< 4.0
MW-4	8/23/2021	< 1.0	**3,100**	2.6	< 5.0	**2,300**	---	---	< 2.0
MW-4	3/22/2022	< 2.0	**3,200**	2.4	< 10	**1,900**	---	---	1.7
MW-4	8/3/2022	< 2.0	**3,300**	3.8	< 10	**2,100**	---	---	< 4.0
MW-4	11/28/2023	< 2.0	**3,200**	2.5	<0.50	**2,200**	---	---	< 4.0
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)				**---**	**---**				
A. Human Health Standards		**1.6**					**1**	**10**	**10** [1]
B. Other Standards for Domestic Water Supply			**250**			**600**			
C. Standards for Irrigation Use									

Notes:
1. This standarad is for nitrate. The nitrite standard is 1.0 mg/L.
2. Exceedances of the listed closure criteria are highlighted in bold, red type.

Released to Imaging: 9/20/2024 3:10:12 PM
Received by OCD: 4/3/2024 12:18:49 PM

GROUNDWATER DISSOLVED METALS (TABLE 1 OF 2)
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Iron	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Silver	Sodium	Zinc
MW-1	3/17/2012	---	0.008	---	---	< 0.0020	770	< 0.0060	---	0.023	270	0.0041	---	---	2.9	< 0.0050	410	0.017
MW-1	6/18/2012	---	0.01	---	---	< 0.0020	790	< 0.0060	---	0.031	260	0.0033	---	---	2.9	< 0.0050	460	0.012
MW-1	9/12/2012	---	0.0092	---	---	< 0.0020	690	< 0.0060	---	0.039	250	0.0072	---	---	2.7	< 0.0050	520	0.025
MW-1	12/7/2012	---	0.014	---	---	< 0.0020	810	< 0.0060	---	0.41	270	0.018	---	---	5.1	< 0.0050	930	0.022
MW-1	3/12/2013	---	0.0086	---	---	< 0.0020	710	< 0.0060	---	0.039	230	0.0043	---	---	3.5	< 0.0050	510	0.018
MW-1	6/27/2013	---	0.0084	---	---	< 0.0020	800	< 0.0060	---	0.027	250	0.0034	---	---	3.5	< 0.050	520	0.013
MW-1	3/28/2018	---	0.0074	---	---	< 0.010	760	< 0.030	---	< 0.10	290	0.0024	---	---	2.7	0.03	380	< 0.050
MW-1	3/11/2019	0.03	0.0071	---	---	< 0.0020	680	< 0.0060	---	0.058	260	0.0045	---	---	2.7	0.012	360	0.018
MW-1	10/29/2019	< 0.020	0.0058	---	---	< 0.0020	750	< 0.0060	---	< 0.020	260	0.038	---	---	2.7	0.019	360	0.033
MW-1	9/18/2020	< 0.10	0.011	< 0.010	< 0.20	< 0.010	820	< 0.030	< 0.030	< 0.10	280	< 0.010	< 0.040	< 0.050	< 5.0	< 0.025	420	< 0.050
MW-1	8/23/2021	< 0.020	0.0068	< 0.0020	0.15	< 0.0020	690	< 0.0060	< 0.0060	0.037	260	0.0056	< 0.0080	< 0.010	2.9	< 0.0050	340	0.055
MW-1	3/22/2022	< 0.020	0.014	< 0.0020	0.13	< 0.0020	1,100	< 0.0060	0.0086	0.043	380	0.0046	< 0.040	< 0.010	5.2	0.0061	2,100	0.012
MW-1	8/3/2022	< 0.020	0.016	< 0.0020	0.1	< 0.0020	1,300	< 0.0060	< 0.0060	0.059	420	0.0066	< 0.0080	< 0.010	5.2	0.021	3,100	0.022
MW-1	11/28/2023	0.027	0.015	<0.0020	0.082	<0.0020	1,500	<0.0060	<0.0060	0.024	460	<0.0020	<0.0080	< 0.010	6	0.034	4,700	<0.010
MW-2	3/17/2012	---	0.014	---	---	< 0.0020	910	< 0.0060	---	0.85	320	1.1	---	---	10	< 0.0050	1,800	0.041
MW-2	6/18/2012	---	0.023	---	---	< 0.0020	990	0.0071	---	0.41	330	1.3	---	---	9.8	< 0.0050	1,800	0.058
MW-2	9/12/2012	---	0.038	---	---	< 0.0020	840	0.1	---	7.9	280	1.4	---	---	11	< 0.0050	1,800	0.053
MW-2	12/7/2012	---	0.013	---	---	< 0.0020	900	< 0.0060	---	0.09	310	1.2	---	---	14	< 0.0050	1,900	0.11
MW-2	3/12/2013	---	0.011	---	---	< 0.0020	790	< 0.0060	---	0.084	280	1.1	---	---	12	< 0.0050	1,800	< 0.010
MW-2	6/27/2013	---	0.011	---	---	< 0.0020	850	< 0.0060	---	0.033	280	1.1	---	---	11	< 0.25	1,900	< 0.010
MW-2	3/28/2018	---	<0.010	---	---	<0.010	950	< 0.030	---	< 0.10	380	1.1	---	---	9.3	0.037	2,400	< 0.050
MW-2	3/11/2019	<0.020	0.011	---	---	< 0.0020	890	< 0.0060	---	0.046	340	0.88	---	---	9.6	0.015	2,500	0.019
MW-2	10/29/2019	0.45	0.011	---	---	< 0.0020	910	< 0.0060	---	0.27	330	0.82	---	---	10	0.023	2,100	0.062
MW-2	9/18/2020	< 0.10	0.015	< 0.010	0.21	< 0.010	860	< 0.030	< 0.030	< 0.10	330	0.72	< 0.040	< 0.050	11	< 0.025	2,400	< 0.050
MW-2	8/23/2021	< 0.10	0.01	< 0.010	0.21	< 0.010	770	< 0.030	< 0.030	0.036	300	0.72	< 0.040	< 0.050	9.6	< 0.025	2,100	< 0.050
MW-2	3/22/2022	< 0.10	< 0.010	< 0.010	0.21	< 0.010	950	< 0.030	< 0.030	< 0.020	360	0.76	< 0.040	< 0.050	11	< 0.025	2,600	< 0.050
MW-2	8/3/2022	< 0.020	0.016	< 0.0020	0.18	< 0.0020	1,200	< 0.0060	< 0.0060	0.034	400	0.64	< 0.0080	< 0.010	14	0.02	5,400	0.13
MW-2	11/28/2023	0.027	0.011	< 0.0020	0.14	<0.0020	1,100	<0.0060	<0.0060	0.032	380	0.39	< 0.0080	< 0.010	13	0.025	4,600	<0.010
MW-3	3/17/2012	---	0.047	---	---	< 0.010	2,700	< 0.030	---	< 0.10	810	0.015	---	---	12	< 0.025	9,400	< 0.050
MW-3	6/18/2012	---	0.056	---	---	< 0.010	2,900	< 0.030	---	< 0.10	830	0.016	---	---	11	< 0.025	10,000	< 0.050
MW-3	9/12/2012	---	0.047	---	---	< 0.010	2,500	< 0.030	---	< 0.10	750	0.013	---	---	9.3	< 0.025	8,400	< 0.050
MW-3	12/7/2012	---	0.048	---	---	< 0.0020	2,200	< 0.0060	---	0.049	670	0.01	---	---	52	< 0.025	8,800	< 0.010
MW-3	3/12/2013	---	0.048	---	---	< 0.0020	2,700	< 0.0060	---	0.055	820	0.0087	---	---	19	0.0089	8,000	0.017
MW-3	6/27/2013	---	0.042	---	---	< 0.0020	2,400	0.0064	---	0.041	650	0.0073	---	---	16	< 0.25	8,900	< 0.010
MW-3	3/28/2018	---	0.03	---	---	< 0.010	1,400	< 0.030	---	< 0.10	510	< 0.010	---	---	7.5	0.062	6,100	< 0.050
MW-3	3/11/2019	< 0.020	0.028	---	---	< 0.0020	1,500	< 0.0060	---	0.025	470	0.0031	---	---	7	0.024	6,300	< 0.010
MW-3	10/29/2019	< 0.10	0.025			< 0.010	1,500	< 0.030	---	< 0.10	490	< 0.010	---	---	7.5	0.032	6,300	< 0.050
MW-3	9/18/2020	< 0.10	0.032	< 0.010	< 0.20	< 0.010	1,600	< 0.030	< 0.030	< 0.10	520	< 0.010	< 0.040	< 0.050	9.9	< 0.025	5,800	< 0.050
MW-3	8/23/2021	< 0.10	0.026	< 0.010	< 0.20	< 0.010	1,500	< 0.030	< 0.030	0.057	470	< 0.010	< 0.040	< 0.050	10	< 0.025	6,200	< 0.050
MW-3	3/22/2022	< 0.10	0.02	< 0.010	< 0.20	< 0.010	1,300	< 0.030	< 0.030	0.095	440	0.016	< 0.040	< 0.050	9.5	< 0.025	6,300	< 0.050

Released to Imaging: 9/20/2024 3:10:12 PM
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GROUNDWATER DISSOLVED METALS (TABLE 1 OF 2)
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Aluminum	Barium	Beryllium	Boron	Cadmium	Calcium	Chromium	Cobalt	Iron	Magnesium	Manganese	Molybdenum	Nickel	Potassium	Silver	Sodium	Zinc
MW-3	8/3/2022	< 0.020	0.021	< 0.0020	0.096	< 0.0020	1,300	< 0.0060	< 0.0060	0.049	430	0.0039	< 0.0080	< 0.010	6.9	0.021	6,200	0.16
MW-3	11/28/2023	0.033	0.017	< 0.0020	0.076	< 0.0020	1,300	< 0.0060	< 0.0060	< 0.020	430	< 0.0020	<0.0080	< 0.010	6.5	0.030	5,200	< 0.010
MW-4	3/17/2012	---	0.014	---	---	< 0.0020	820	< 0.0060	---	0.11	360	0.011	---	---	18	< 0.0050	1,900	0.015
MW-4	6/18/2012	---	0.018	---	---	< 0.0020	870	< 0.0060	---	0.14	360	0.018	---	---	19	< 0.0050	1,900	0.015
MW-4	9/12/2012	---	0.016	---	---	< 0.0020	760	< 0.0060	---	0.043	340	0.19	---	---	18	< 0.0050	1,800	< 0.010
MW-4	12/7/2012	---	0.014	---	---	< 0.0020	800	< 0.0060	---	0.12	370	0.015	---	---	30	< 0.0050	1,700	< 0.010
MW-4	3/12/2013	---	0.014	---	---	< 0.0020	680	< 0.0060	---	0.07	320	0.025	---	---	19	< 0.0050	1,500	< 0.010
MW-4	6/27/2013	---	0.014	---	---	< 0.0020	810	< 0.0060	---	0.082	360	0.03	---	---	18	< 0.10	1,500	< 0.010
MW-4	3/28/2018	---	0.015	---	---	< 0.010	920	< 0.030	---	< 0.10	430	0.014	---	---	18	0.04	2,300	< 0.050
MW-4	3/11/2019	< 0.020	0.012	---	---	< 0.0020	730	< 0.0060	---	0.032	320	0.0085	---	---	16	0.013	2,000	0.013
MW-4	10/29/2019	< 0.020	0.013	---	---	< 0.0020	800	< 0.0060	---	< 0.020	340	0.026	---	---	16	0.02	2,000	0.013
MW-4	9/18/2020	< 0.10	0.017	< 0.010	0.24	< 0.010	790	< 0.030	< 0.030	< 0.10	320	0.029	< 0.040	< 0.050	16	< 0.025	2,100	< 0.050
MW-4	8/23/2021	< 0.10	< 0.010	< 0.010	0.21	< 0.010	770	< 0.030	< 0.030	< 0.020	330	0.015	< 0.040	< 0.050	17	< 0.025	1,600	< 0.050
MW-4	3/22/2022	< 0.020	0.014	< 0.0020	0.25	< 0.0020	790	< 0.0060	0.0062	< 0.020	340	0.039	< 0.0080	< 0.010	20	< 0.0050	2,000	< 0.010
MW-4	8/3/2022	< 0.020	0.013	< 0.0020	0.25	< 0.0020	790	< 0.0060	< 0.0060	0.037	340	0.2	< 0.0080	< 0.010	18	0.014	2,100	< 0.010
MW-4	11/28/2023	0.031	0.0098	< 0.0020	0.16	< 0.0020	810	< 0.0060	< 0.0060	0.037	340	0.11	< 0.0080	< 0.010	17	0.019	1,700	< 0.010
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)							**---**				**---**				**---**		**---**	
A. Human Health Standards			**2**	**0.004**		**0.005**		**0.05**								**0.05**		
B. Other Standards for Domestic Water Supply										**1.0**		**0.2**						**10**
C. Standards for Irrigation Use		**5.0**			**0.75**				**0.05**				**1.0**	**0.2**				

Notes:
1. Exceedances of the listed closure criteria are highlighted in bold, red type.

GROUNDWATER DISSOLVED METALS (TABLE 2 OF 2)
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Antimony	Arsenic	Copper	Lead	Mercury	Selenium	Thallium	Uranium
MW-1	3/17/2012	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.024	---	0.0062
MW-1	6/18/2012	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.025	---	0.0067
MW-1	9/12/2012	---	0.0022	< 0.0060	< 0.0010	< 0.00020	0.024	---	0.007
MW-1	12/7/2012	---	0.0027	< 0.0060	0.0011	< 0.00020	0.023	---	0.007
MW-1	3/12/2013	---	0.0017	< 0.0060	< 0.0050	< 0.00020	0.022	---	0.007
MW-1	6/27/2013	---	< 0.010	< 0.0060	< 0.0050	< 0.00020	0.032	---	< 0.010
MW-1	3/28/2018	---	< 0.0050	< 0.0050	< 0.0025	< 0.00020	0.02	---	0.0056
MW-1	3/11/2019	< 0.0050	< 0.0050	< 0.0060	< 0.0025	< 0.00020	0.02	< 0.0025	0.0056
MW-1	10/29/2019	< 0.0050	< 0.0050	< 0.0060	< 0.0025	---	0.02	< 0.0025	0.0064
MW-1	9/18/2020	< 0.020	< 0.020	< 0.030	< 0.010	---	< 0.020	< 0.010	< 0.010
MW-1	8/23/2021	< 0.010	< 0.010	< 0.0060	< 0.0050	---	0.017	< 0.0025	0.0056
MW-1	3/22/2022	< 0.020	< 0.020	< 0.020	< 0.010	---	< 0.020	< 0.0050	< 0.010
MW-1	8/3/2022	< 0.010	< 0.010	< 0.0060	< 0.0050	---	0.022	< 0.0025	0.0055
MW-1	11/28/2023	< 0.0010	**0.022**	< 0.0060	< 0.00050	---	0.019	<0.00025	0.0050
MW-2	3/17/2012	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.029	---	0.0089
MW-2	6/18/2012	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.028	---	0.01
MW-2	9/12/2012	---	0.0051	< 0.0060	0.0054	< 0.00020	0.025	---	0.0086
MW-2	12/7/2012	---	0.003	< 0.0060	< 0.0050	< 0.00020	0.026	---	0.0099
MW-2	3/12/2013	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.019	---	0.0084
MW-2	6/27/2013	---	0.0056	< 0.0060	< 0.0050	< 0.00020	**0.054**	---	< 0.010
MW-2	3/28/2018	---	0.0069	< 0.0050	< 0.0025	< 0.00020	0.029	---	0.0081
MW-2	3/11/2019	< 0.0050	< 0.0050	< 0.0060	< 0.0025	< 0.00020	0.024	< 0.0025	0.0079
MW-2	10/29/2019	< 0.010	< 0.010	< 0.0060	< 0.0050	---	0.027	< 0.0050	0.0072
MW-2	9/18/2020	< 0.020	< 0.020	< 0.030	< 0.010	---	0.022	< 0.010	< 0.010
MW-2	8/23/2021	< 0.010	< 0.010	< 0.030	< 0.0050	---	0.019	< 0.0025	0.007
MW-2	3/22/2022	< 0.020	< 0.020	< 0.020	< 0.010	---	< 0.020	< 0.0050	< 0.010
MW-2	8/3/2022	< 0.010	< 0.010	< 0.0060	< 0.0050	---	0.021	< 0.0025	0.0077
MW-2	11/28/2023	< 0.010	**0.015**	< 0.0060	< 0.00050	---	0.017	0.00032	0.0066
MW-3	3/17/2012	---	**0.013**	< 0.030	< 0.025	< 0.00020	0.04	---	0.01
MW-3	6/18/2012	---	< 0.020	< 0.030	< 0.025	< 0.00020	0.036	---	< 0.020
MW-3	9/12/2012	---	0.0081	< 0.0060	< 0.010	< 0.00020	0.037	---	0.011
MW-3	12/7/2012	---	0.0056	< 0.0060	< 0.020	< 0.00020	0.033	---	< 0.020
MW-3	3/12/2013	---	< 0.010	< 0.0060	< 0.0050	< 0.00020	0.018	---	< 0.010
MW-3	6/27/2013	---	**0.019**	< 0.0060	< 0.0050	< 0.00020	**0.088**	---	0.011
MW-3	3/28/2018	---	**0.012**	< 0.010	< 0.0050	< 0.00020	0.018	---	0.007
MW-3	3/11/2019	< 0.0050	< 0.0050	< 0.0060	< 0.0025	< 0.00020	0.019	< 0.0025	0.0072
MW-3	10/29/2019	< 0.010	< 0.010	< 0.030	< 0.0050	---	0.014	< 0.0050	0.0065
MW-3	9/18/2020	< 0.020	< 0.020	< 0.030	< 0.010	---	< 0.020	< 0.010	< 0.010
MW-3	8/23/2021	< 0.010	< 0.010	< 0.030	< 0.0050	---	0.019	< 0.0025	0.0073
MW-3	3/22/2022	< 0.020	< 0.020	< 0.020	< 0.010	---	< 0.020	< 0.0050	< 0.010
MW-3	8/3/2022	< 0.010	< 0.010	< 0.0060	< 0.0050	---	0.016	< 0.0025	0.0063
MW-3	11/28/2023	< 0.010	**0.019**	< 0.0060	< 0.00050	---	0.017	< 0.00025	0.0062
MW-4	3/17/2012	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.026	---	0.009
MW-4	6/18/2012	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.028	---	0.01
MW-4	9/12/2012	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.026	---	0.0092
MW-4	12/7/2012	---	0.0035	< 0.0060	< 0.0050	< 0.00020	0.028	---	0.0089
MW-4	3/12/2013	---	< 0.0050	< 0.0060	< 0.0050	< 0.00020	0.022	---	0.0081
MW-4	6/27/2013	---	< 0.010	< 0.0060	< 0.050	< 0.00020	0.046	---	< 0.010
MW-4	3/28/2018	---	0.0061	< 0.0050	< 0.0025	< 0.00020	0.034	---	0.0083
MW-4	3/11/2019	< 0.0050	< 0.0050	< 0.0060	< 0.0025	< 0.00020	0.026	< 0.0025	0.0073
MW-4	10/29/2019	< 0.010	< 0.010	< 0.0060	< 0.0050	---	0.022	< 0.0050	0.007
MW-4	9/18/2020	< 0.020	< 0.020	< 0.030	< 0.010	---	< 0.020	< 0.010	< 0.010
MW-4	8/23/2021	< 0.010	< 0.010	< 0.030	< 0.0050	---	0.021	< 0.0025	0.0071
MW-4	3/22/2022	< 0.020	< 0.020	< 0.020	< 0.010	---	0.025	< 0.0050	< 0.010
MW-4	8/3/2022	< 0.0050	< 0.0050	< 0.0060	< 0.0025	---	0.022	< 0.0012	0.0068
MW-4	11/28/2023	< 0.0050	0.0087	< 0.0060	<0.0025	---	0.028	< 0.0012	0.0067
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)									
A. Human Health Standards		**0.006**	**0.01**		**0.015**	**0.002**	**0.05**	**0.002**	**0.03**
B. Other Standards for Domestic Water Supply				**1.0**					
C. Standards for Irrigation Use									

Notes:
1. Exceedances of the listed closure criteria are highlighted in bold, red type.

Released to Imaging: 9/20/2024 3:10:12 PM
Received by OCD: 4/3/2024 12:18:49 PM

GROUNDWATER TPH & VOC DATA SUMMARY
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	TPH TOTAL	TPH GRO	TPH DRO	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene
SB-5	10/21/2000	<1.00	<0.5	<0.5	---	**0.535**	0.012	0.02	0.034	---	---	---	---	---
MW-1	9/19/2002	---	---	---	---	<0.001	<0.001	<0.001	<0.001	---	---	---	---	---
MW-1	11/8/2004	---	---	---	---	<0.002	<0.002	<0.002	<0.006	---	---	---	---	---
MW-1	3/17/2012	---	---	---	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.004	<0.004
MW-1	6/18/2012	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-1	9/12/2012	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-1	12/7/2012	---	---	---	---	< 0.002	< 0.002	< 0.002	< 0.004	---	---	< 0.004	---	---
MW-1	3/12/2013	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-1	6/27/2013	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-1	3/28/2018	---	---	---	---	< 0.001	< 0.001	< 0.001	<0.0015	---	---	< 0.002	---	---
MW-1	3/11/2019	---	---	---	---	<0.001	<0.001	<0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-1	10/29/2019	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	---	---
MW-1	9/18/2020	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	< 0.004	< 0.004
MW-1	8/23/2021	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-1	3/22/2022	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-1	8/3/2022	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-1	11/28/2023	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-2	9/19/2002	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	---	---	---	---	---
MW-2	11/8/2004	---	---	---	---	<0.002	<0.002	<0.002	<0.006	---	---	---	---	---
MW-2	3/17/2012	---	---	---	<0.002	<0.002	<0.002	<0.002	<0.004	<0.002	<0.002	<0.004	<0.008	<0.008
MW-2	6/18/2012	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-2	9/12/2012	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-2	12/7/2012	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-2	3/12/2013	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-2	6/27/2013	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-2	3/28/2018	---	---	---	---	< 0.001	< 0.001	< 0.001	<0.0015	---	---	< 0.002	---	---
MW-2	3/11/2019	---	---	---	---	<0.001	<0.001	<0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-2	10/29/2019	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	---	---
MW-2	9/18/2020	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	< 0.004	< 0.004
MW-2	8/23/2021	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-2	3/22/2022	---	---	---	---	**0.0058**	<0.001	< 0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-2	8/3/2022	---	---	---	---	**0.047**	< 0.001	< 0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-2	11/28/2023	---	---	---	---	**0.026**	< 0.001	< 0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-3	9/19/2002	---	---	---	---	0.002	<0.001	<0.001	<0.001	---	---	---	---	---
MW-3	11/8/2004	---	---	---	---	<0.002	<0.002	<0.002	<0.006	---	---	---	---	---
MW-3	3/17/2012	---	---	---	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.004	<0.004
MW-3	6/18/2012	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-3	9/12/2012	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-3	12/7/2012	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-3	3/12/2013	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---

Released to Imaging: 9/20/2024 3:10:12 PM
Received by OCD: 4/3/2024 12:18:49 PM

GROUNDWATER TPH & VOC DATA SUMMARY
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	TPH TOTAL	TPH GRO	TPH DRO	MTBE	Benzene	Toluene	Ethylbenzene	Xylenes	1,2,4-Trimethyl benzene	1,3,5-Trimethyl benzene	Naphthalene	1-Methyl naphthalene	2-Methyl naphthalene
MW-3	6/27/2013	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-3	3/28/2018	---	---	---	---	< 0.001	< 0.001	< 0.001	<0.0015	---	---	< 0.002	---	---
MW-3	3/11/2019	---	---	---	---	<0.001	<0.001	<0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-3	10/29/2019	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	---	---
MW-3	9/18/2020	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	< 0.004	< 0.004
MW-3	8/23/2021	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-3	3/22/2022	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-3	8/3/2022	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-3	11/28/2023	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-4	9/19/2002	---	---	---	---	**0.142**	<0.001	<0.001	0.006	---	---	---	---	---
MW-4	11/8/2004	---	---	---	---	0.002	<0.002	<0.002	<0.006	---	---	---	---	---
MW-4	3/17/2012	---	---	---	<0.001	<0.001	<0.001	<0.001	<0.002	<0.001	<0.001	<0.002	<0.004	<0.004
MW-4	6/18/2012	---	---	---	< 0.001	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-4	9/12/2012	---	---	---	---	0.0014	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-4	12/7/2012	---	---	---	---	0.0022	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-4	3/12/2013	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.002	---	---	< 0.002	---	---
MW-4	6/27/2013	---	---	---	---	0.0014	<0.001	<0.001	<0.002	---	---	<0.002	---	---
MW-4	3/28/2018	---	---	---	---	< 0.001	< 0.001	< 0.001	<0.0015	---	---	< 0.002	---	---
MW-4	3/11/2019	---	---	---	---	<0.001	<0.001	<0.001	<0.0015	---	---	<0.002	<0.004	<0.004
MW-4	10/29/2019	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	---	---
MW-4	9/18/2020	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	< 0.002	< 0.004	< 0.004
MW-4	8/23/2021	---	---	---	---	<0.001	<0.001	<0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-4	3/22/2022	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-4	8/3/2022	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
MW-4	11/28/2023	---	---	---	---	< 0.001	< 0.001	< 0.001	< 0.0015	---	---	<0.002	<0.004	<0.004
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)		---	---	---						---	---			
A. Human Health Standards						**0.005**	**1**	**0.7**	**0.62**			**0.03** [1]	**0.03** [1]	**0.03** [1]
B. Other Standards for Domestic Water Supply					**0.1**									
C. Standards for Irrigation Use														

Notes:

1. The 0.03 mg/L standard is for total naphthalene plus monomethylnaphthalenes
2. Exceedances of the listed closure criteria are highlighted in bold, red type.

GROUNDWATER SPECIFIC CONDUCTANCE, pH, ALKALINITY, AND TDS
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Conductivity µmhos/c	pH	Alkalinity (mg/L)			TDS (mg/L)
				Bicarbonate (As CaCO3)	Carbonate (As CaCO3)	Total Alkalinity (as CaCO3)	
MW-1	9/19/2002	---	---	---	---	---	36,800
MW-1	11/8/2004	---	---	---	---	---	33,500
MW-1	3/17/2012	5,700	7.28	200	< 2.0	200	4,820
MW-1	6/18/2012	5,800	7.09	200	< 2.0	200	5,400
MW-1	9/12/2012	8,400	6.98	220	< 2.0	220	6,300
MW-1	12/7/2012	8,600	6.99	200	< 2.0	200	7,260
MW-1	3/12/2013	6,400	7.34	210	< 2.0	210	5,730
MW-1	6/27/2013	6,900	7.18	210	< 2.0	210	5,270
MW-1	3/28/2018	5,700	---	208	< 2.000	208	5,060
MW-1	3/11/2019	5,900	7.14	202	< 2.000	202	4,620
MW-1	10/29/2019	6,100	---	204.5	< 2.000	204.5	4,880
MW-1	9/18/2020	6,100	7.23	202.4	< 2.000	202.4	5,110
MW-1	8/23/2021	6,100	---	200.2	< 2.000	200.2	4,970
MW-1	3/22/2022	18,000	7.52	188	< 2.000	188	10,500
MW-1	8/3/2022	25,000	7.24	184.8	< 2.000	184.8	14,600
MW-1	11/28/2023	33,000	7.01	181.0	<2.000	181.0	19,700
MW-2	9/19/2002	---	---	---	---	---	22,500
MW-2	11/8/2004	---	---	---	---	---	25,000
MW-2	3/17/2012	13,000	7.23	230	< 2.0	230	8,800
MW-2	6/18/2012	14,000	7.01	220	< 2.0	220	9,880
MW-2	9/12/2012	16,000	6.92	280	< 2.0	280	9,640
MW-2	12/7/2012	14,000	6.94	220	< 2.0	220	8,980
MW-2	3/12/2013	14,000	7.28	230	< 2.0	230	9,630
MW-2	6/27/2013	15,000	7.12	230	< 2.0	230	8,960
MW-2	3/28/2018	18,000	---	227.8	< 2.000	227.8	11,500
MW-2	3/11/2019	20,000	7.09	224.7	< 2.000	224.7	11,200
MW-2	10/29/2019	18,000	---	224.9	< 2.000	224.9	10,500
MW-2	9/18/2020	18,000	7.13	224.1	< 2.000	224.1	10,400
MW-2	8/23/2021	21,000	---	214.7	< 2.000	214.7	10,500
MW-2	3/22/2022	21,000	7.61	207.4	< 2.000	207.4	11,900
MW-2	8/3/2022	38,000	7.00	208.9	< 2.000	208.9	20,700
MW-2	11/28/2023	32,000	7.04	207.4	<2.000	207.4	18,500
MW-3	9/19/2002	---	---	---	---	---	50,100
MW-3	11/8/2004	---	---	---	---	---	54,500
MW-3	3/17/2012	69,000	7.05	210	< 2.0	210	39,000
MW-3	6/18/2012	70,000	6.87	210	< 2.0	210	35,800
MW-3	9/12/2012	67,000	6.78	210	< 2.0	210	38,700
MW-3	12/7/2012	68,000	6.7	200	< 2.0	200	35,300
MW-3	3/12/2013	64,000	7.15	210	< 2.0	210	35,400
MW-3	6/27/2013	65,000	6.96	210	< 2.0	210	34,200
MW-3	3/28/2018	41,000	---	231.7	< 2.000	231.7	24,300
MW-3	3/11/2019	40,000	7.01	222.4	< 2.000	222.4	23,600
MW-3	10/29/2019	38,000	---	223.9	< 2.000	223.9	25,200
MW-3	9/18/2020	42,000	7.12	218.2	< 2.000	218.2	25,000
MW-3	8/23/2021	45,000	---	215.9	< 2.000	215.9	24,300
MW-3	3/22/2022	38,000	7.52	223.4	< 2.000	223.4	22,300
MW-3	8/3/2022	41,000	7.17	224.2	< 2.000	224.2	22,100
MW-3	11/28/2023	36,000	7.05	215.5	< 2.000	215.5	21,300

GROUNDWATER SPECIFIC CONDUCTANCE, pH, ALKALINITY, AND TDS
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

All Values Presented in Parts Per Million (mg/L)

SAMPLE ID	DATE	Conductivity µmhos/c	pH	Alkalinity (mg/L)			TDS (mg/L)
				Bicarbonate (As CaCO3)	Carbonate (As CaCO3)	Total Alkalinity (as CaCO3)	
MW-4	9/19/2002	---	---	---	---	---	**14,700**
MW-4	11/8/2004	---	---	---	---	---	**10,800**
MW-4	3/17/2012	15,000	7.27	260	< 2.0	260	**8,870**
MW-4	6/18/2012	14,000	7.14	260	< 2.0	260	**9,310**
MW-4	9/12/2012	16,000	7.07	270	< 2.0	270	**9,430**
MW-4	12/7/2012	13,000	6.94	250	< 2.0	250	**8,410**
MW-4	3/12/2013	12,000	7.34	250	< 2.0	250	**8,300**
MW-4	6/27/2013	12,000	7.11	250	< 2.0	250	**8,200**
MW-4	3/28/2018	18,000	---	243.8	< 2.000	243.8	**10,600**
MW-4	3/11/2019	16,000	7.12	231.9	< 2.000	231.9	**9,620**
MW-4	10/29/2019	16,000	---	230.6	< 2.000	230.6	**9,340**
MW-4	9/18/2020	15,000	7.20	225	< 2.000	225	**9,000**
MW-4	8/23/2021	17,000	---	217.9	< 2.000	217.9	**9,290**
MW-4	3/22/2022	16,000	7.58	216.8	< 2.000	216.8	**9,230**
MW-4	8/3/2022	17,000	7.28	219.8	< 2.000	219.8	**9,460**
MW-4	11/28/2023	15,000	7.16	232.2	< 2.000	232.2	**8,560**
20.6.2.3103 NMAC GW STANDARDS (<10,000 mg/L)		**---**		**---**	**---**	**---**	
A. Human Health Standards							
B. Other Standards for Domestic Water Supply			**6 to 9**				**1,000**
C. Standards for Irrigation Use							

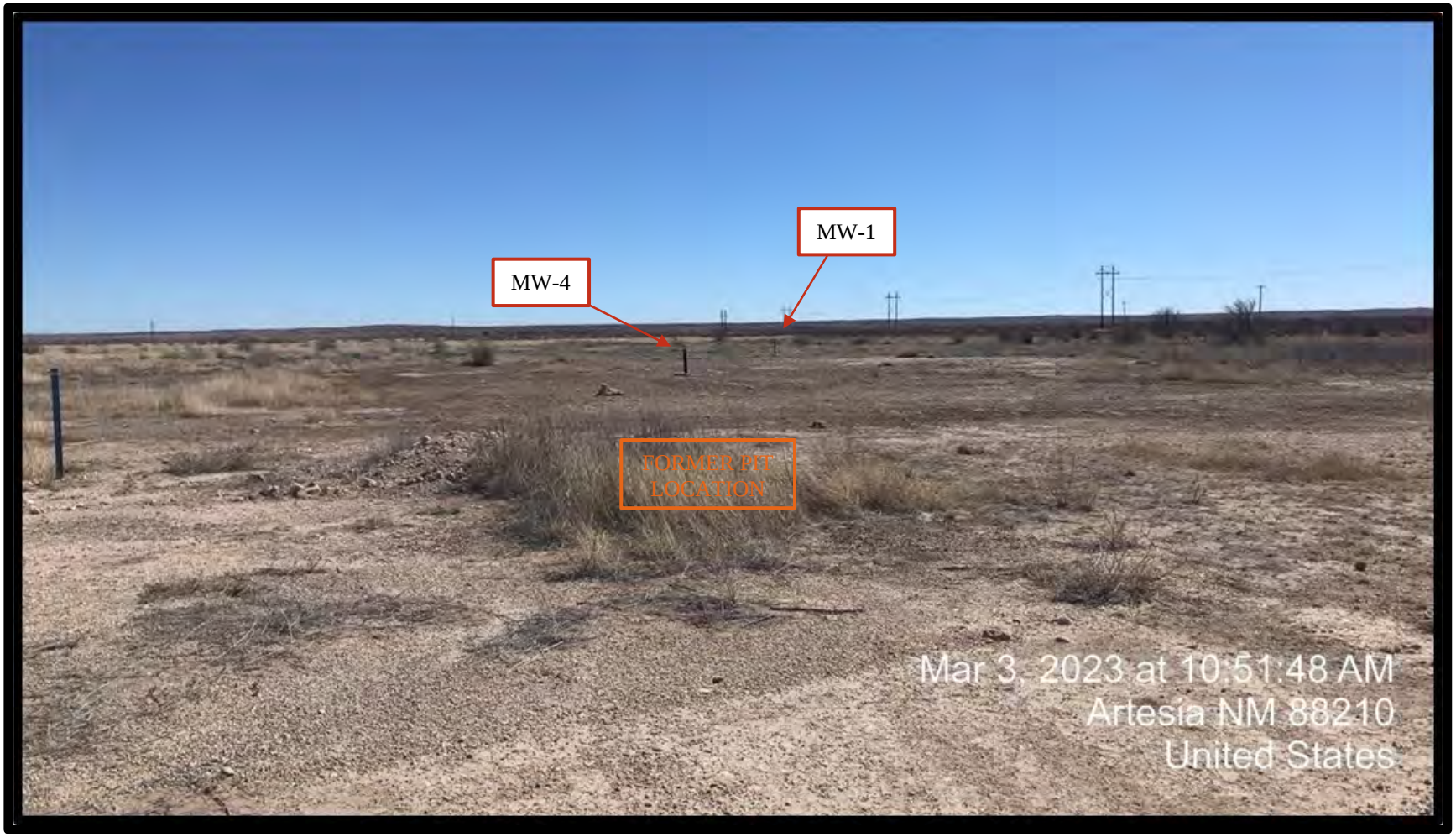
Notes:
1. Exceedances of the listed closure criteria are highlighted in bold, red type.

ATTACHMENT 1 – SITE PHOTOGRAPHS

Released to Imaging: 9/20/2024 3:10:12 PM
Received by OCD: 4/3/2024 12:18:49 PM

PHOTOGRAPH NO. 1 – Former pit location with monitor well "MW-4" visible. The view is towards the northwest.
(Approximate GPS: 32.720493, -104.335875)

Released to Imaging: 9/20/2024 3:10:12 PM
Received by OCD: 4/3/2024 12:18:49 PM



PHOTOGRAPH NO. 2 – An additional view of the approximate former pit area and monitor wells "MW-1" and "MW-4". The view is towards the southeast.

(Approximate GPS: 32.720615, -104.336589)

ATTACHMENT 2 – LABORATORY ANALYTICAL REPORT

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 09, 2024

Will Kierdorf
EOG
105 South Fourth Street
Artesia, NM 88210
TEL:
FAX:

RE: Williams Pit OrderNo.: 2311D93

Dear Will Kierdorf:

Eurofins Environment Testing South Central, LLC received 5 sample(s) on 11/30/2023 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 21, 2023.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated.

Please do not hesitate to contact Eurofins Albuquerque for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0901

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

CLIENT: EOG **Client Sample ID:** Trip Blank
Project: Williams Pit **Collection Date:**
Lab ID: 2311D93-001 **Matrix:** TRIP BLANK **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	12/5/2023 4:39:00 PM	R101602
Toluene	ND	1.0		µg/L	1	12/5/2023 4:39:00 PM	R101602
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 4:39:00 PM	R101602
Naphthalene	ND	2.0		µg/L	1	12/5/2023 4:39:00 PM	R101602
1-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 4:39:00 PM	R101602
2-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 4:39:00 PM	R101602
Xylenes, Total	ND	1.5		µg/L	1	12/5/2023 4:39:00 PM	R101602
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	12/5/2023 4:39:00 PM	R101602
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/5/2023 4:39:00 PM	R101602
Surr: Dibromofluoromethane	99.9	70-130		%Rec	1	12/5/2023 4:39:00 PM	R101602
Surr: Toluene-d8	92.5	70-130		%Rec	1	12/5/2023 4:39:00 PM	R101602

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** MW-1
Project: Williams Pit **Collection Date:** 11/28/2023 3:21:00 PM
Lab ID: 2311D93-002 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0010		mg/L	1	12/1/2023 1:08:43 PM	B101564
Arsenic	0.022	0.00050	*	mg/L	1	12/4/2023 1:46:22 PM	B101582
Lead	ND	0.00050		mg/L	1	12/4/2023 1:46:22 PM	B101582
Selenium	0.019	0.0010		mg/L	1	12/1/2023 1:08:43 PM	B101564
Thallium	ND	0.00025		mg/L	1	12/4/2023 1:46:22 PM	B101582
Uranium	0.0050	0.00050		mg/L	1	12/4/2023 1:46:22 PM	B101582
EPA METHOD 300.0: ANIONS						Analyst: **RBC**	
Fluoride	ND	2.0		mg/L	20	11/30/2023 4:05:49 PM	R101516
Chloride	9400	500	*	mg/L	1E+	12/12/2023 12:41:44 AM	R101762
Bromide	4.4	2.0		mg/L	20	11/30/2023 4:05:49 PM	R101516
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/30/2023 4:05:49 PM	R101516
Sulfate	2300	50	*	mg/L	100	12/12/2023 12:28:53 AM	R101762
Nitrate+Nitrite as N	ND	10		mg/L	50	12/15/2023 6:25:44 PM	R101873
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MCA**	
Conductivity	33000	100	D	µmhos/c	10	12/12/2023 11:34:17 AM	R101791
SM2320B: ALKALINITY						Analyst: **MCA**	
Bicarbonate (As CaCO3)	181.0	20.00		mg/L Ca	1	12/4/2023 11:53:21 AM	R101594
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/4/2023 11:53:21 AM	R101594
Total Alkalinity (as CaCO3)	181.0	20.00		mg/L Ca	1	12/4/2023 11:53:21 AM	R101594
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	19700	250	*D	mg/L	1	12/6/2023 4:35:00 PM	79150
SM4500-H+B / 9040C: PH						Analyst: **MCA**	
pH	7.01		H	pH units	1	12/4/2023 11:53:21 AM	R101594
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Aluminum	0.027	0.020		mg/L	1	12/1/2023 12:27:33 PM	A101536
Barium	0.015	0.0030		mg/L	1	11/30/2023 2:40:34 PM	A101505
Beryllium	ND	0.0020		mg/L	1	11/30/2023 2:40:34 PM	A101505
Boron	0.082	0.040		mg/L	1	11/30/2023 2:40:34 PM	A101505
Cadmium	ND	0.0020		mg/L	1	11/30/2023 2:40:34 PM	A101505
Calcium	1500	100		mg/L	100	11/30/2023 2:56:46 PM	A101505
Chromium	ND	0.0060		mg/L	1	11/30/2023 2:40:34 PM	A101505
Cobalt	ND	0.0060		mg/L	1	11/30/2023 2:40:34 PM	A101505
Copper	ND	0.0060		mg/L	1	11/30/2023 2:40:34 PM	A101505
Iron	0.024	0.020		mg/L	1	11/30/2023 2:40:34 PM	A101505
Magnesium	460	100		mg/L	100	11/30/2023 2:56:46 PM	A101505
Manganese	ND	0.0020		mg/L	1	11/30/2023 2:40:34 PM	A101505

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 11/28/2023 3:21:00 PM
Lab ID: 2311D93-002 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Molybdenum	ND	0.0080		mg/L	1	11/30/2023 2:40:34 PM	A101505
Nickel	ND	0.010		mg/L	1	11/30/2023 2:40:34 PM	A101505
Potassium	6.0	1.0		mg/L	1	11/30/2023 2:40:34 PM	A101505
Silver	0.034	0.0050		mg/L	1	11/30/2023 2:40:34 PM	A101505
Sodium	4700	100		mg/L	100	11/30/2023 2:56:46 PM	A101505
Zinc	ND	0.010		mg/L	1	11/30/2023 2:40:34 PM	A101505
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	12/5/2023 5:03:00 PM	R101602
Toluene	ND	1.0		µg/L	1	12/5/2023 5:03:00 PM	R101602
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 5:03:00 PM	R101602
Naphthalene	ND	2.0		µg/L	1	12/5/2023 5:03:00 PM	R101602
1-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 5:03:00 PM	R101602
2-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 5:03:00 PM	R101602
Xylenes, Total	ND	1.5		µg/L	1	12/5/2023 5:03:00 PM	R101602
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	12/5/2023 5:03:00 PM	R101602
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	12/5/2023 5:03:00 PM	R101602
Surr: Dibromofluoromethane	103	70-130		%Rec	1	12/5/2023 5:03:00 PM	R101602
Surr: Toluene-d8	93.2	70-130		%Rec	1	12/5/2023 5:03:00 PM	R101602

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** MW-2
Project: Williams Pit **Collection Date:** 11/28/2023 4:02:00 PM
Lab ID: 2311D93-003 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0010		mg/L	1	12/1/2023 1:10:59 PM	B101564
Arsenic	0.015	0.00050	*	mg/L	1	12/4/2023 1:50:56 PM	B101582
Lead	ND	0.00050		mg/L	1	12/4/2023 1:50:56 PM	B101582
Selenium	0.017	0.0010		mg/L	1	12/1/2023 1:10:59 PM	B101564
Thallium	0.00032	0.00025		mg/L	1	12/4/2023 1:50:56 PM	B101582
Uranium	0.0066	0.00050		mg/L	1	12/4/2023 1:50:56 PM	B101582
EPA METHOD 300.0: ANIONS						Analyst: **RBC**	
Fluoride	ND	2.0		mg/L	20	11/30/2023 4:31:32 PM	R101516
Chloride	8500	500	*	mg/L	1E+	12/12/2023 1:33:10 AM	R101762
Bromide	4.6	2.0		mg/L	20	11/30/2023 4:31:32 PM	R101516
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/30/2023 4:31:32 PM	R101516
Sulfate	2200	50	*	mg/L	100	12/12/2023 1:20:18 AM	R101762
Nitrate+Nitrite as N	ND	10		mg/L	50	12/15/2023 6:38:36 PM	R101873
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MCA**	
Conductivity	32000	100	D	µmhos/c	10	12/12/2023 11:37:16 AM	R101791
SM2320B: ALKALINITY						Analyst: **MCA**	
Bicarbonate (As CaCO3)	207.4	20.00		mg/L Ca	1	12/4/2023 12:05:31 PM	R101594
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/4/2023 12:05:31 PM	R101594
Total Alkalinity (as CaCO3)	207.4	20.00		mg/L Ca	1	12/4/2023 12:05:31 PM	R101594
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	18500	250	*D	mg/L	1	12/6/2023 4:35:00 PM	79150
SM4500-H+B / 9040C: PH						Analyst: **MCA**	
pH	7.04		H	pH units	1	12/4/2023 12:05:31 PM	R101594
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Aluminum	0.027	0.020		mg/L	1	12/1/2023 12:31:30 PM	A101536
Barium	0.011	0.0030		mg/L	1	11/30/2023 2:44:37 PM	A101505
Beryllium	ND	0.0020		mg/L	1	11/30/2023 2:44:37 PM	A101505
Boron	0.14	0.040		mg/L	1	11/30/2023 2:44:37 PM	A101505
Cadmium	ND	0.0020		mg/L	1	11/30/2023 2:44:37 PM	A101505
Calcium	1100	100		mg/L	100	11/30/2023 3:10:47 PM	A101505
Chromium	ND	0.0060		mg/L	1	11/30/2023 2:44:37 PM	A101505
Cobalt	ND	0.0060		mg/L	1	11/30/2023 2:44:37 PM	A101505
Copper	ND	0.0060		mg/L	1	11/30/2023 2:44:37 PM	A101505
Iron	0.032	0.020		mg/L	1	11/30/2023 2:44:37 PM	A101505
Magnesium	380	100		mg/L	100	11/30/2023 3:10:47 PM	A101505
Manganese	0.39	0.0020	*	mg/L	1	11/30/2023 2:44:37 PM	A101505

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 11/28/2023 4:02:00 PM
Lab ID: 2311D93-003 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Molybdenum	ND	0.0080		mg/L	1	11/30/2023 2:44:37 PM	A101505
Nickel	ND	0.010		mg/L	1	11/30/2023 2:44:37 PM	A101505
Potassium	13	1.0		mg/L	1	11/30/2023 2:44:37 PM	A101505
Silver	0.025	0.0050		mg/L	1	11/30/2023 2:44:37 PM	A101505
Sodium	4600	100		mg/L	100	11/30/2023 3:10:47 PM	A101505
Zinc	ND	0.010		mg/L	1	11/30/2023 2:44:37 PM	A101505
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	26	1.0		µg/L	1	12/5/2023 6:16:00 PM	R101602
Toluene	ND	1.0		µg/L	1	12/5/2023 6:16:00 PM	R101602
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 6:16:00 PM	R101602
Naphthalene	ND	2.0		µg/L	1	12/5/2023 6:16:00 PM	R101602
1-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 6:16:00 PM	R101602
2-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 6:16:00 PM	R101602
Xylenes, Total	ND	1.5		µg/L	1	12/5/2023 6:16:00 PM	R101602
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	12/5/2023 6:16:00 PM	R101602
Surr: 4-Bromofluorobenzene	103	70-130		%Rec	1	12/5/2023 6:16:00 PM	R101602
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	12/5/2023 6:16:00 PM	R101602
Surr: Toluene-d8	93.7	70-130		%Rec	1	12/5/2023 6:16:00 PM	R101602

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** MW-3
Project: Williams Pit **Collection Date:** 11/28/2023 2:13:00 PM
Lab ID: 2311D93-004 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0010		mg/L	1	12/1/2023 1:13:16 PM	B101564
Arsenic	0.019	0.00050	*	mg/L	1	12/4/2023 1:55:29 PM	B101582
Lead	ND	0.00050		mg/L	1	12/4/2023 1:55:29 PM	B101582
Selenium	0.017	0.0010		mg/L	1	12/1/2023 1:13:16 PM	B101564
Thallium	ND	0.00025		mg/L	1	12/4/2023 1:55:29 PM	B101582
Uranium	0.0062	0.00050		mg/L	1	12/4/2023 1:55:29 PM	B101582
EPA METHOD 300.0: ANIONS						Analyst: **RBC**	
Fluoride	ND	2.0		mg/L	20	11/30/2023 4:57:16 PM	R101516
Chloride	9700	500	*	mg/L	1E+	12/12/2023 1:58:55 AM	R101762
Bromide	5.4	2.0		mg/L	20	11/30/2023 4:57:16 PM	R101516
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	11/30/2023 4:57:16 PM	R101516
Sulfate	2100	50	*	mg/L	100	12/12/2023 1:46:02 AM	R101762
Nitrate+Nitrite as N	ND	4.0		mg/L	20	12/13/2023 1:16:34 PM	R101818
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MCA**	
Conductivity	36000	100	D	µmhos/c	10	12/12/2023 11:40:17 AM	R101791
SM2320B: ALKALINITY						Analyst: **MCA**	
Bicarbonate (As CaCO3)	215.5	20.00		mg/L Ca	1	12/4/2023 12:18:30 PM	R101594
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/4/2023 12:18:30 PM	R101594
Total Alkalinity (as CaCO3)	215.5	20.00		mg/L Ca	1	12/4/2023 12:18:30 PM	R101594
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	21300	250	*D	mg/L	1	12/6/2023 4:35:00 PM	79150
SM4500-H+B / 9040C: PH						Analyst: **MCA**	
pH	7.05		H	pH units	1	12/4/2023 12:18:30 PM	R101594
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Aluminum	0.033	0.020		mg/L	1	12/1/2023 12:35:50 PM	A101536
Barium	0.017	0.0030		mg/L	1	11/30/2023 2:48:39 PM	A101505
Beryllium	ND	0.0020		mg/L	1	11/30/2023 2:48:39 PM	A101505
Boron	0.076	0.040		mg/L	1	11/30/2023 2:48:39 PM	A101505
Cadmium	ND	0.0020		mg/L	1	11/30/2023 2:48:39 PM	A101505
Calcium	1300	100		mg/L	100	11/30/2023 3:13:41 PM	A101505
Chromium	ND	0.0060		mg/L	1	11/30/2023 2:48:39 PM	A101505
Cobalt	ND	0.0060		mg/L	1	11/30/2023 2:48:39 PM	A101505
Copper	ND	0.0060		mg/L	1	11/30/2023 2:48:39 PM	A101505
Iron	ND	0.020		mg/L	1	11/30/2023 2:48:39 PM	A101505
Magnesium	430	100		mg/L	100	11/30/2023 3:13:41 PM	A101505
Manganese	ND	0.0020		mg/L	1	11/30/2023 2:48:39 PM	A101505

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 11/28/2023 2:13:00 PM
Lab ID: 2311D93-004 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Molybdenum	ND	0.0080		mg/L	1	11/30/2023 2:48:39 PM	A101505
Nickel	ND	0.010		mg/L	1	11/30/2023 2:48:39 PM	A101505
Potassium	6.5	1.0		mg/L	1	11/30/2023 2:48:39 PM	A101505
Silver	0.030	0.0050		mg/L	1	11/30/2023 2:48:39 PM	A101505
Sodium	5200	100		mg/L	100	11/30/2023 3:13:41 PM	A101505
Zinc	ND	0.010		mg/L	1	11/30/2023 2:48:39 PM	A101505
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	12/5/2023 6:40:00 PM	R101602
Toluene	ND	1.0		µg/L	1	12/5/2023 6:40:00 PM	R101602
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 6:40:00 PM	R101602
Naphthalene	ND	2.0		µg/L	1	12/5/2023 6:40:00 PM	R101602
1-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 6:40:00 PM	R101602
2-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 6:40:00 PM	R101602
Xylenes, Total	ND	1.5		µg/L	1	12/5/2023 6:40:00 PM	R101602
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	12/5/2023 6:40:00 PM	R101602
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/5/2023 6:40:00 PM	R101602
Surr: Dibromofluoromethane	99.6	70-130		%Rec	1	12/5/2023 6:40:00 PM	R101602
Surr: Toluene-d8	90.4	70-130		%Rec	1	12/5/2023 6:40:00 PM	R101602

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG **Client Sample ID:** MW-4
Project: Williams Pit **Collection Date:** 11/28/2023 2:45:00 PM
Lab ID: 2311D93-005 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0050		mg/L	5	12/4/2023 2:00:03 PM	B101582
Arsenic	0.0087	0.0025		mg/L	5	12/4/2023 2:00:03 PM	B101582
Lead	ND	0.0025		mg/L	5	12/4/2023 2:00:03 PM	B101582
Selenium	0.028	0.0050		mg/L	5	12/4/2023 2:00:03 PM	B101582
Thallium	ND	0.0012		mg/L	5	12/4/2023 2:00:03 PM	B101582
Uranium	0.0067	0.0025		mg/L	5	12/4/2023 2:00:03 PM	B101582
EPA METHOD 300.0: ANIONS						Analyst: **RBC**	
Fluoride	ND	2.0		mg/L	20	11/30/2023 5:48:42 PM	R101516
Chloride	3200	250	*	mg/L	500	12/12/2023 2:24:39 AM	R101762
Bromide	2.5	0.10		mg/L	1	11/30/2023 5:35:51 PM	R101516
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	11/30/2023 5:35:51 PM	R101516
Sulfate	2200	50	*	mg/L	100	12/12/2023 2:11:47 AM	R101762
Nitrate+Nitrite as N	ND	4.0		mg/L	20	12/13/2023 1:29:25 PM	R101818
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MCA**	
Conductivity	15000	100	D	µmhos/c	10	12/12/2023 11:43:18 AM	R101791
SM2320B: ALKALINITY						Analyst: **MCA**	
Bicarbonate (As CaCO3)	232.2	20.00		mg/L Ca	1	12/4/2023 12:31:28 PM	R101594
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	12/4/2023 12:31:28 PM	R101594
Total Alkalinity (as CaCO3)	232.2	20.00		mg/L Ca	1	12/4/2023 12:31:28 PM	R101594
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	8560	250	*D	mg/L	1	12/6/2023 4:35:00 PM	79150
SM4500-H+B / 9040C: PH						Analyst: **MCA**	
pH	7.16		H	pH units	1	12/4/2023 12:31:28 PM	R101594
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Aluminum	0.031	0.020		mg/L	1	11/30/2023 2:52:42 PM	A101505
Barium	0.0098	0.0030		mg/L	1	11/30/2023 2:52:42 PM	A101505
Beryllium	ND	0.0020		mg/L	1	11/30/2023 2:52:42 PM	A101505
Boron	0.16	0.040		mg/L	1	11/30/2023 2:52:42 PM	A101505
Cadmium	ND	0.0020		mg/L	1	11/30/2023 2:52:42 PM	A101505
Calcium	810	100		mg/L	100	11/30/2023 3:16:36 PM	A101505
Chromium	ND	0.0060		mg/L	1	11/30/2023 2:52:42 PM	A101505
Cobalt	ND	0.0060		mg/L	1	11/30/2023 2:52:42 PM	A101505
Copper	ND	0.0060		mg/L	1	11/30/2023 2:52:42 PM	A101505
Iron	0.037	0.020		mg/L	1	11/30/2023 2:52:42 PM	A101505
Magnesium	340	100		mg/L	100	11/30/2023 3:16:36 PM	A101505
Manganese	0.11	0.0020	*	mg/L	1	11/30/2023 2:52:42 PM	A101505

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Qualifiers:

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D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

Analytical Report
Lab Order **2311D93**
Date Reported: **1/9/2024**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: EOG
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 11/28/2023 2:45:00 PM
Lab ID: 2311D93-005 **Matrix:** AQUEOUS **Received Date:** 11/30/2023 8:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **VP**	
Molybdenum	ND	0.0080		mg/L	1	11/30/2023 2:52:42 PM	A101505
Nickel	ND	0.010		mg/L	1	11/30/2023 2:52:42 PM	A101505
Potassium	17	1.0		mg/L	1	11/30/2023 2:52:42 PM	A101505
Silver	0.019	0.0050		mg/L	1	11/30/2023 2:52:42 PM	A101505
Sodium	1700	100		mg/L	100	11/30/2023 3:16:36 PM	A101505
Zinc	ND	0.010		mg/L	1	11/30/2023 2:52:42 PM	A101505
EPA METHOD 8260B: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	12/5/2023 7:04:00 PM	R101602
Toluene	ND	1.0		µg/L	1	12/5/2023 7:04:00 PM	R101602
Ethylbenzene	ND	1.0		µg/L	1	12/5/2023 7:04:00 PM	R101602
Naphthalene	ND	2.0		µg/L	1	12/5/2023 7:04:00 PM	R101602
1-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 7:04:00 PM	R101602
2-Methylnaphthalene	ND	4.0		µg/L	1	12/5/2023 7:04:00 PM	R101602
Xylenes, Total	ND	1.5		µg/L	1	12/5/2023 7:04:00 PM	R101602
Surr: 1,2-Dichloroethane-d4	101	70-130		%Rec	1	12/5/2023 7:04:00 PM	R101602
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	12/5/2023 7:04:00 PM	R101602
Surr: Dibromofluoromethane	100	70-130		%Rec	1	12/5/2023 7:04:00 PM	R101602
Surr: Toluene-d8	92.7	70-130		%Rec	1	12/5/2023 7:04:00 PM	R101602

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A101505**	RunNo: **101505**
Prep Date:	Analysis Date: **11/30/2023**	SeqNo: **3736381** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0030								
Beryllium	ND	0.0020								
Boron	ND	0.040								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A101505**	RunNo: **101505**
Prep Date:	Analysis Date: **11/30/2023**	SeqNo: **3736383** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.50	0.020	0.5000	0	100	85	115			
Barium	0.51	0.0030	0.5000	0	101	85	115			
Beryllium	0.51	0.0020	0.5000	0	102	85	115			
Boron	0.50	0.040	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Chromium	0.51	0.0060	0.5000	0	102	85	115			
Cobalt	0.51	0.0060	0.5000	0	102	85	115			
Copper	0.51	0.0060	0.5000	0	102	85	115			
Iron	0.52	0.020	0.5000	0	103	85	115			
Manganese	0.51	0.0020	0.5000	0	102	85	115			
Molybdenum	0.50	0.0080	0.5000	0	99.7	85	115			
Nickel	0.51	0.010	0.5000	0	102	85	115			
Silver	0.50	0.0050	0.5000	0	100	85	115			
Zinc	0.51	0.010	0.5000	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **LCS_CAT-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A101505**	RunNo: **101505**
Prep Date:	Analysis Date: **11/30/2023**	SeqNo: **3736384** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0	99.3	85	115			
Magnesium	50	1.0	50.00	0	99.4	85	115			
Potassium	49	1.0	50.00	0	97.4	85	115			
Sodium	49	1.0	50.00	0	97.9	85	115			

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A101536**	RunNo: **101536**
Prep Date:	Analysis Date: **12/1/2023**	SeqNo: **3738260** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A101536**	RunNo: **101536**
Prep Date:	Analysis Date: **12/1/2023**	SeqNo: **3738262** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.52	0.020	0.5000	0	104	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B101564**	RunNo: **101564**
Prep Date:	Analysis Date: **12/1/2023**	SeqNo: **3739734** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Selenium	ND	0.0010								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B101564**	RunNo: **101564**
Prep Date:	Analysis Date: **12/1/2023**	SeqNo: **3739736** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	97.4	85	115			
Selenium	0.025	0.0010	0.02500	0	98.9	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B101582**	RunNo: **101582**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3740753** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.00050								
Lead	ND	0.00050								
Selenium	ND	0.0010								
Thallium	ND	0.00025								
Uranium	ND	0.00050								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B101582**	RunNo: **101582**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3740755** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.024	0.0010	0.02500	0	96.8	85	115			
Arsenic	0.025	0.00050	0.02500	0	99.3	85	115			
Lead	0.012	0.00050	0.01250	0	95.7	85	115			
Selenium	0.024	0.0010	0.02500	0	96.8	85	115			
Thallium	0.012	0.00025	0.01250	0	96.1	85	115			
Uranium	0.012	0.00050	0.01250	0	98.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R101516**	RunNo: **101516**							
Prep Date:	Analysis Date: **11/30/2023**	SeqNo: **3736673**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R101516**	RunNo: **101516**							
Prep Date:	Analysis Date: **11/30/2023**	SeqNo: **3736674**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.49	0.10	0.5000	0	98.5	90	110			
Bromide	2.4	0.10	2.500	0	95.9	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	95.3	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R101762**	RunNo: **101762**							
Prep Date:	Analysis Date: **12/11/2023**	SeqNo: **3750427**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R101762**	RunNo: **101762**							
Prep Date:	Analysis Date: **12/11/2023**	SeqNo: **3750428**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.9	90	110			
Sulfate	9.9	0.50	10.00	0	99.0	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R101762**	RunNo: **101762**							
Prep Date:	Analysis Date: **12/12/2023**	SeqNo: **3750548**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Sulfate	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R101762**	RunNo: **101762**
Prep Date:	Analysis Date: **12/12/2023**	SeqNo: **3750550** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.7	0.50	5.000	0	94.7	90	110			
Sulfate	9.6	0.50	10.00	0	96.4	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R101818**	RunNo: **101818**
Prep Date:	Analysis Date: **12/13/2023**	SeqNo: **3753571** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R101818**	RunNo: **101818**
Prep Date:	Analysis Date: **12/13/2023**	SeqNo: **3753572** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	98.7	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R101818**	RunNo: **101818**
Prep Date:	Analysis Date: **12/13/2023**	SeqNo: **3753617** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R101818**	RunNo: **101818**
Prep Date:	Analysis Date: **12/13/2023**	SeqNo: **3753618** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.9	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R101873**	RunNo: **101873**
Prep Date:	Analysis Date: **12/15/2023**	SeqNo: **3756389** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R101873**	RunNo: **101873**
Prep Date:	Analysis Date: **12/15/2023**	SeqNo: **3756390** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R101873**	RunNo: **101873**
Prep Date:	Analysis Date: **12/15/2023**	SeqNo: **3756424** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R101873**	RunNo: **101873**
Prep Date:	Analysis Date: **12/15/2023**	SeqNo: **3756425** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.5	0.20	3.500	0	101	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R101873**	RunNo: **101873**
Prep Date:	Analysis Date: **12/15/2023**	SeqNo: **3756452** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R101873**	RunNo: **101873**
Prep Date:	Analysis Date: **12/15/2023**	SeqNo: **3756453** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **100ng lcs 3**	SampType: **LCS**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R101602**	RunNo: **101602**
Prep Date:	Analysis Date: **12/5/2023**	SeqNo: **3742765** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.8	70	130			
Toluene	19	1.0	20.00	0	94.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		102	70	130			
Surr: Toluene-d8	9.4		10.00		94.0	70	130			

Sample ID: **mb 3**	SampType: **MBLK**	TestCode: **EPA Method 8260B: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R101602**	RunNo: **101602**
Prep Date:	Analysis Date: **12/5/2023**	SeqNo: **3742766** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.9		10.00		98.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.3		10.00		92.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Above Quantitation Range/Estimated Value
H	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits
ND	Not Detected at the Reporting Limit	P	Sample pH Not In Range
PQL	Practical Quanitative Limit	RL	Reporting Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID:	**LCS-1 98.9uS eC**	SampType:	**LCS**	TestCode:	**SM2510B: Specific Conductance**
Client ID:	**LCSW**	Batch ID:	**R101791**	RunNo:	**101791**
Prep Date:		Analysis Date:	**12/12/2023**	SeqNo:	**3751696** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	96	10	98.90	0	97.2	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **MB-1 Alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**
Client ID: **PBW**	Batch ID: **R101594**	RunNo: **101594**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3741561** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **LCS-1 Alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW**	Batch ID: **R101594**	RunNo: **101594**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3741573** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.76	20.00	80.00	0	97.2	90	110			

Sample ID: **MBLK-2**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**
Client ID: **PBW**	Batch ID: **R101594**	RunNo: **101594**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3741585** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20.00								

Sample ID: **LCS-2**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW**	Batch ID: **R101594**	RunNo: **101594**
Prep Date:	Analysis Date: **12/4/2023**	SeqNo: **3741586** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.92	20.00	80.00	0	97.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2311D93**

09-Jan-24

Client: EOG

Project: Williams Pit

Sample ID: **MB-79150**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **79150**	RunNo: **101649**
Prep Date: **12/5/2023**	Analysis Date: **12/6/2023**	SeqNo: **3743807** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	50.0								

Sample ID: **LCS-79150**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **79150**	RunNo: **101649**
Prep Date: **12/5/2023**	Analysis Date: **12/6/2023**	SeqNo: **3743808** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1090	50.0	1000	0	109	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
D	Sample Diluted Due to Matrix
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of standard limits. If undiluted results may be estimated.
B	Analyte detected in the associated Method Blank
E	Above Quantitation Range/Estimated Value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

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eurofins | Environment Testing

Eurofins Environment Testing South Central, LLC
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: EOG | Work Order Number: 2311D93 | RcptNo: 1

Received By: Tracy Casarrubias 11/30/2023 8:00:00 AM

Completed By: Tracy Casarrubias 11/30/2023 9:36:46 AM

Reviewed By: JN 11/30/23

Chain of Custody

1. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
2. How was the sample delivered?	Courier		

Log In

3. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
4. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
5. Sample(s) in proper container(s)?	Yes ☑	No ☐	
6. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
7. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
8. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
9. Received at least 1 vial with headspace <1/4" for AQ VOA?	Yes ☑	No ☐	NA ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	Adjusted? NO
13. Is it clear what analyses were requested?	Yes ☑	No ☐	
14. Were all holding times able to be met? (If no. notify customer for authorization.)	Yes ☑	No ☐	Checked by: SCM 11/30/23

Special Handling (if applicable)

15. Was client notified of all discrepancies with this order?	Yes ☐	No ☐	NA ☑

Person Notified: _____ Date: _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

16. Additional remarks:

17. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	0.3	Good	Yes	Morty		

Received by OCD: 4/3/2024 12:18:49 PM

Released to Imaging: 9/20/2024 3:10:12 PM

Released to Imaging: 9/20/2024 3:10:12 PM

Chain-of-Custody Record

Client: EOG-Artesia / Ranger Env.

Mailing Address: EOG - 105 S 4th St, Artesia NM, 88210

Ranger: PO Box 201179, Austin TX 78720

Phone #: 521-335-1785

email or Fax#: Will@RangerEnv.com

QA/QC Package:
■ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance
■ NELAC ☐ Other

■ EDD (Type) Excel

Turn-Around Time:
☒ Standard ☒ Rush 5 Day

Project Name: WILLIAMS PIT

Project #: 5375

Project Manager: W. Kierdorf

Sampler: W. KIERDORF
On Ice: ☑ Yes ☐ No marty
# of Coolers: 1
Cooler Temp (including CF): 0.2+0.1=0.3°

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2311D93	BTEX (8021)	TPH:8015D(GRO / DRO / MRO)	Chloride (EPA 300)	BTEX + NAPHTHALENES	WQCC DISSOLVED METALS	CATIONS ANIONS	TDS	pH	GP COMPOUNDS
11/28/23	—	AQ	TRIP BLANK	2xMCLVOAs	HCL	001				X					
11/28/23	1521	AQ	MW-1	6*	SEE NOTES	002				X	X	X	X	X	X
11/28/23	1602	AQ	MW-2	6*	↓	003				X	X	X	X	X	X
11/28/23	1413	AQ	MW-3	6*	↓	004				X	X	X	X	X	X
11/28/23	1445	AQ	MW-4	6*	↓	005				X	X	X	X	X	X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
11/29/23	0709				11/29/23	0709
11/29/23	1900			Courier	11/30/23	8:00

Remarks: Bill to EOG Artesia
#CONTAINER TYPES
3 x 40 ML MCL VOAs
1 x 500 ML PLASTIC (UN PRES)
1 x 125 ML PLASTIC (H2SO4) & 1 x 125 ML PLASTIC (HNO3)

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical repo

Received by OCD: 4/3/2024 12:18:49 PM

ATTACHMENT 3 – NMOCD CORRESPONDENCE

From: Wells, Shelly, EMNRD <Shelly.Wells@emnrd.nm.gov>
Sent: Tuesday, November 21, 2023 9:29 AM
To: Miriam Morales <Miriam_Morales@eogresources.com>; Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Cc: Artesia Regulatory <Artesia_Regulatory@eogresources.com>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Bratcher, Michael, EMNRD <mike.bratcher@emnrd.nm.gov>
Subject: RE: [EXTERNAL] Williams Pit (NAUTOFAB000741) Sampling Notification

CAUTION: This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

Good morning Miriam,

The OCD has received your notification. Include a copy of this and all notifications in the remedial and/or closure reports to ensure the notifications are documented in the project file.

Thank you,

Shelly

Shelly Wells * Environmental Specialist-Advanced
Environmental Bureau
EMNRD-Oil Conservation Division
1220 S. St. Francis Drive|Santa Fe, NM 87505
(505)469-7520|Shelly.Wells@emnrd.nm.gov
http://www.emnrd.state.nm.us/OCD/

From: Miriam Morales <Miriam_Morales@eogresources.com>
Sent: Tuesday, November 21, 2023 9:26 AM
To: Enviro, OCD, EMNRD <OCD.Enviro@emnrd.nm.gov>; Velez, Nelson, EMNRD <Nelson.Velez@emnrd.nm.gov>; Buchanan, Michael, EMNRD <Michael.Buchanan@emnrd.nm.gov>
Cc: Artesia Regulatory <Artesia_Regulatory@eogresources.com>; Artesia S&E Spill Remediation <Artesia_S&E_Spill_Remediation@eogresources.com>
Subject: [EXTERNAL] Williams Pit (NAUTOFAB000741) Sampling Notification

CAUTION: This email originated outside of our organization. Exercise caution prior to clicking on links or opening attachments.
Good morning,

EOG Resources, Inc. respectfully submits notification (2) business days prior to conducting sampling on the following location. (Due to the holiday this week, this is going out early)

Williams Pit
F-25-18S-26E
Eddy County, NM
NAUTOFAB000741

Sampling will begin at 12:00 p.m. on Tuesday, November 28, 2023.

Thank you,

Miriam Morales

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 329535

CONDITIONS

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 329535
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the Annual Groundwater Monitoring Report (03.27.2024) for Williams Pit (AP-22): accepted for the record and site is currently under review; a meeting is currently being scheduled between OCD and EOG to discuss a work plan and path forward for the site.	9/20/2024