RANGER
ENVIRONMENTAL SERVICES, LLC

SITE CHRONOLOGY AND STATUS UPDATE

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

PREPARED FOR:

EOG RESOURCES, INC.
ARTESIA DIVISION
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SEPTEMBER 19, 2023

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SITE CHRONOLOGY AND STATUS UPDATE
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INCIDENT NO. NAUTOFAB000741
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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 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 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). Based on Ranger's communications with the NMOCD, the following *Site Chronology and Status Update* has been prepared to provide the NMOCD with a summary of the Site history and the cumulative soil and groundwater data so that a regulatory path forward can be established.

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 (1998 – 2005)

Below is a chronology of the activities undertaken at the Site during the timeframe of 1998 through 2005. 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. 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 pits. 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 Environmental Technology Group, Inc. (ETGI) to perform additional soil delineation activities at the Site. On October 21, 2000, ETGI and a drilling subcontractor installed five soil borings at the Site. Attached is the historic ETGI *Site Map* illustrating the locations of the soil borings.

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 for the site be prepared and submitted to the NMOCD.

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 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 areas, 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.

3.0 GROUNDWATER MONITORING AND SITE ASSESSMENT (2005-PRESENT)

3.1 Groundwater Monitoring

Between 2005 and 2022, a total of 13 groundwater monitoring events were conducted at the Site. The site monitoring wells were gauged and sampled during each event. Ranger has compiled and attached cumulative tables of the Site well gauging and groundwater analytical data. Copies of the laboratory analytical reports are also attached. As presented in the attached tables, and as summarized below, no light nonaqueous phase liquid (LNAPL) has been detected in the site monitoring wells to date.

There have been 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 groundwater analytical data has 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 have been 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, has continued to exhibit the highest site chloride and TDS concentrations. The groundwater analytical data from pit area monitor well MW-4 has 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 suggest 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

As summarized above, no LNAPL has been documented to be present in the site monitoring wells to date. The depths to groundwater in the site monitoring wells since 2005 have ranged from a minimum of 22.85' below top of casing (btoc) in MW-2 to a maximum of approximately 28.03' btoc in MW-4. As illustrated on the attached groundwater gradient maps, 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.

The monitor well MW-4 gauging data continues to occasionally yield anomalous results. On occasion this well has the highest site groundwater elevation and on occasion this well has the lowest site groundwater elevation. As such, on the attached groundwater gradient maps Ranger only utilized the MW-4 gauging data to construct the potentiometric surface contours when this data seemed to comport with the remainder of the site monitoring wells. Ranger does not know the cause of the occasional anomalous MW-4 gauging results. One potential cause for the anomalous results may be that MW-4 is slower to equilibrate than the other site wells. Ranger therefore recommends that this well be allowed additional time to come to equilibrium prior to gauging than what is typically allowed after the removal of the well plugs and prior to gauging.

Groundwater Anions

Concentrations of 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 concentrations. The groundwater analytical data from pit area monitor well MW-4 has 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. The available data suggest the potential that the pit may not be the source for the elevated chloride concentrations at the site. Further site assessment and background water quality data is needed 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 release source other than the pit.

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, ranging between 1,600 – 2,400 mg/L since sulfate testing was initiated in 2012. There has been no obvious “hot spot” or “source” area for the elevated sulfate concentrations and the fact that similar concentrations are being found in each well on each sampling date are more indicative of what would be expected if the elevated sulfate concentrations were related to background conditions.

Dissolved Metals

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 have been 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 suggests a source other than the former pit (either background conditions and/or a release source other than the pit). Various exceedances of other metals have been occasionally detected in MW-2 and MW-3, however these sporadic exceedances of the regulatory criteria have been relatively minor and do not exhibit a pattern indicative of impacts from the former pit.

VOCs

There have been 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 suggest that the pit may not be the source for the elevated benzene concentrations documented in MW-2 in 2022.

Specific Conductance, pH, Alkalinity, and TDS

Concentrations of TDS 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 TDS concentrations. The groundwater analytical data from pit area monitor well MW-4 has 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. The available data suggest the potential that the pit may not be the source for the elevated TDS concentrations at the site. Further site assessment and background water quality data is needed 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 release source other than the pit.

Isoconcentration Maps

Attached are isoconcentration maps for varying sampling dates between 2002 and 2022 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 illustrate that pit area monitor well MW-4 has 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 indicate the pit as being a contaminant “hot spot” or “source” area.

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

3.2 2020-2021 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. The attached “*Soil TPH, BTEX & Chloride Data Summary*” table provides a summary of the soil analytical results from this investigation. Also attached are a “*May 2021 Soil Sample Location Map*” illustrating the soil sampling locations and copies of the laboratory analytical reports.

As presented in the attached soil analytical table, elevated chloride concentrations above the 19.15.29.12 NMAC *Table 1 Closure Criteria for Soils Impacted by a Release (GW ≤ 50’)* 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. 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.

4.0 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 regards 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.

5.0 SITE CONDITIONS SUMMARY

As discussed above, 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 that the pit may not be the source for the elevated benzene concentrations documented in MW-2 in 2022.

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 four sampling occasions MW-4 was found to contain the lowest site chloride and TDS concentrations. This data suggests 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. The monitor well MW-4 gauging data continues to occasionally yield anomalous results. One potential cause for the anomalous results might be that MW-4 is slower to equilibrate than the other site wells. This well should be allowed additional time to come to equilibrium prior to gauging.

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 water 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 release source other than the pit.

6.0 CURRENT SITE COMMUNICATIONS AND CORRESPONDENCE

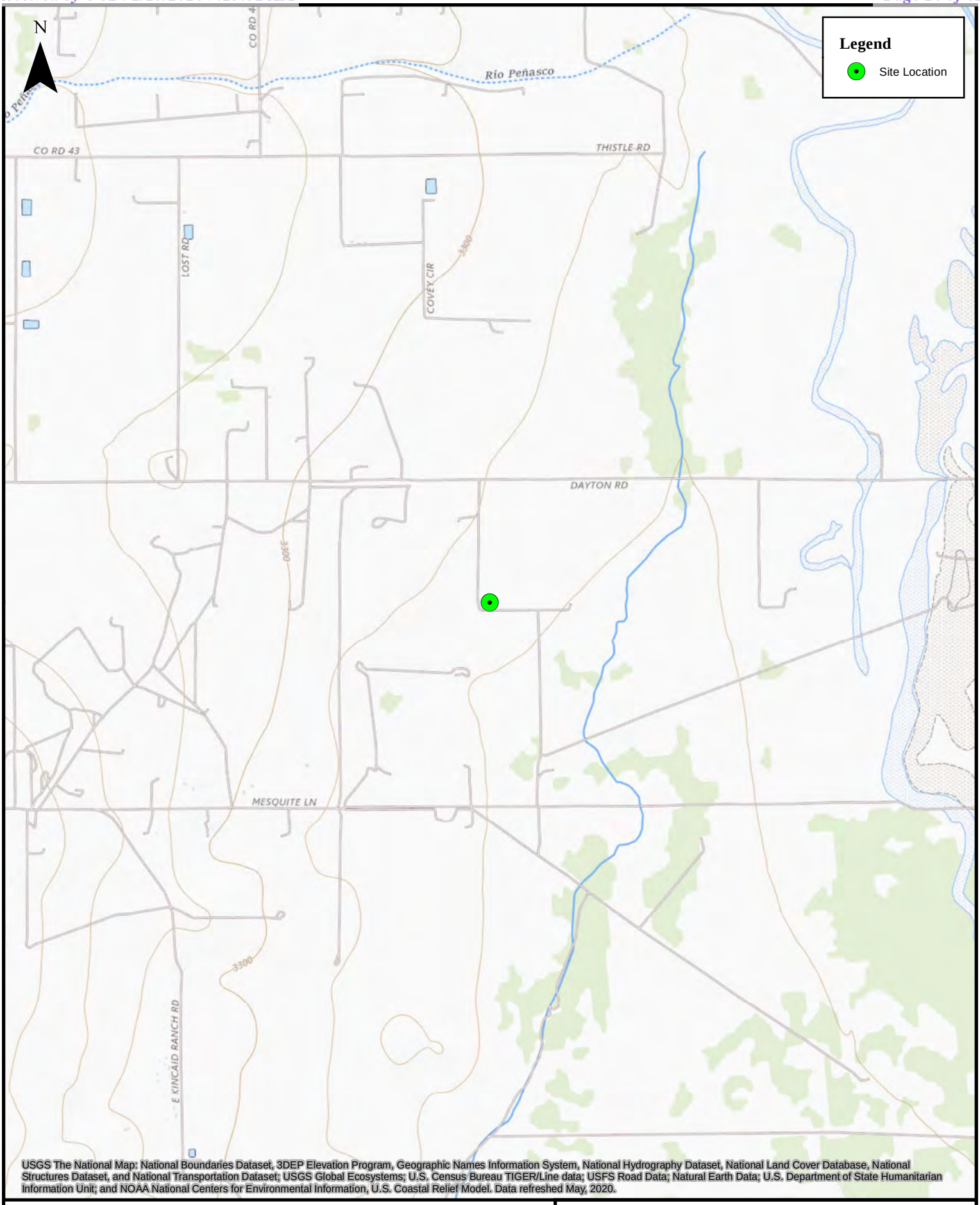
In 2023, EOG engaged Ranger to assist in the continuation of the assessment and remediation efforts at the Site, as well as to re-establish communications with the NMOCD regarding the Site. In May 2023, Ranger personnel participated in a conference call with Mr. Nelson Velez of the NMOCD regarding the subject site. 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. It was agreed this report would be prepared to assist the NMOCD in determining the appropriate path forward for the Site.

7.0 REGULATORY GUIDANCE REQUEST

In a desire to properly address the documented impacts at the Site and bring the Site into compliance with current regulatory guidelines, EOG respectfully requests NMOCD guidance regarding the appropriate regulatory reporting/proposal format that will be required for the next phase of site activities. 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. In the interim, groundwater monitoring activities will be continued along with the submittal of annual groundwater monitoring reports.

FIGURES

Topographic Map
Area Map
Site Map
Groundwater Gradient Maps (2002 – 2021)
Groundwater Isoconcentration Maps
May 2021 Soil Sample Location Map
Soil Chloride Isoconcentration Map

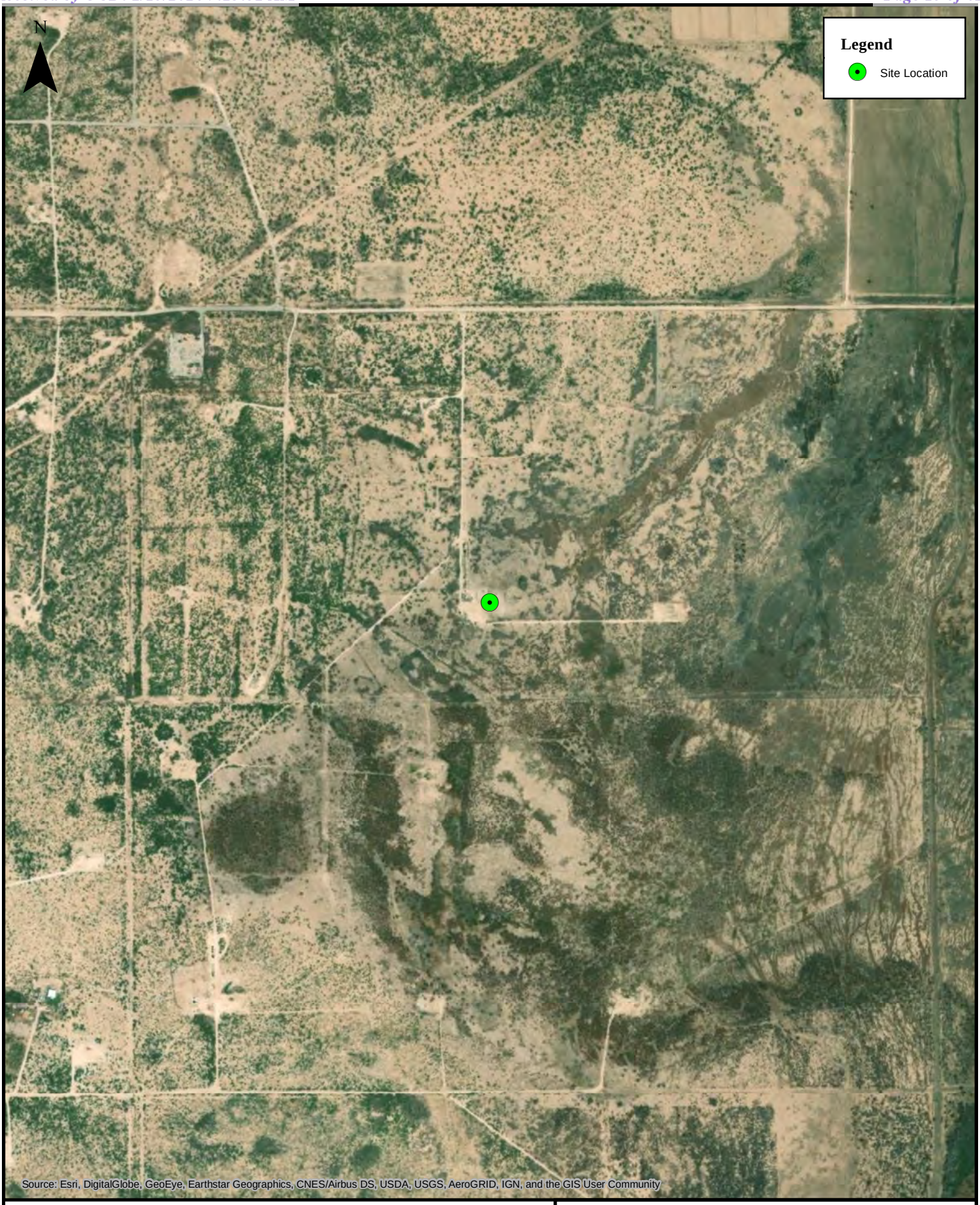


RANGER ENVIRONMENTAL SERVICES, LLC

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.

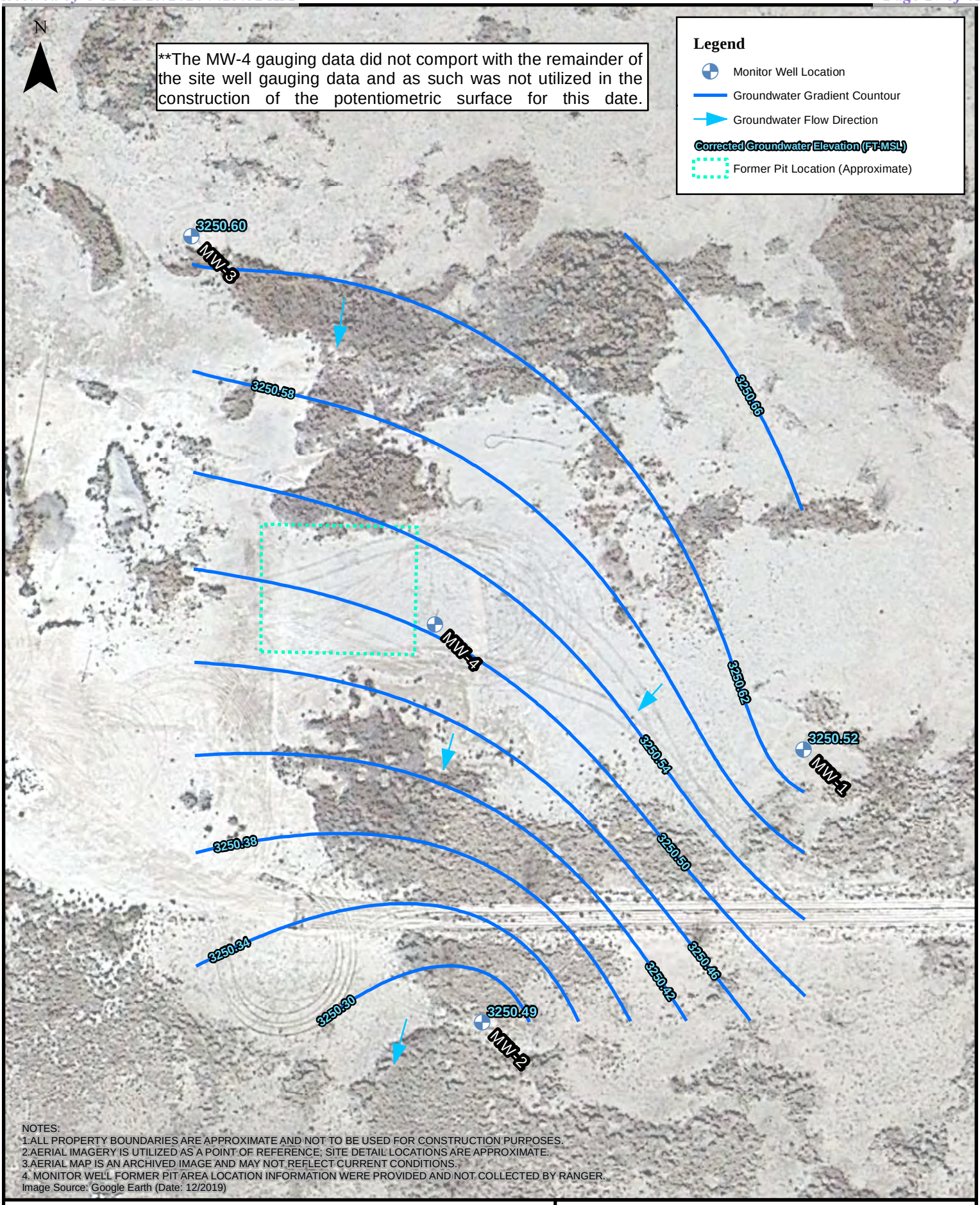
NOTES:
1.ALL PROPERTY BOUNDARIES ARE APPROXIMATE AND NOT TO BE USED FOR CONSTRUCTION PURPOSES.
2.AERIAL IMAGERY IS UTILIZED AS A POINT OF REFERENCE; SITE DETAIL LOCATIONS ARE APPROXIMATE.
3.AERIAL MAP IS AN ARCHIVED IMAGE AND MAY NOT REFLECT CURRENT CONDITIONS.
4. MONITOR WELL FORMER PIT AREA LOCATION 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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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 Gradient Map (09/19/2002)

Williams Pit

EOG Resources, Inc.

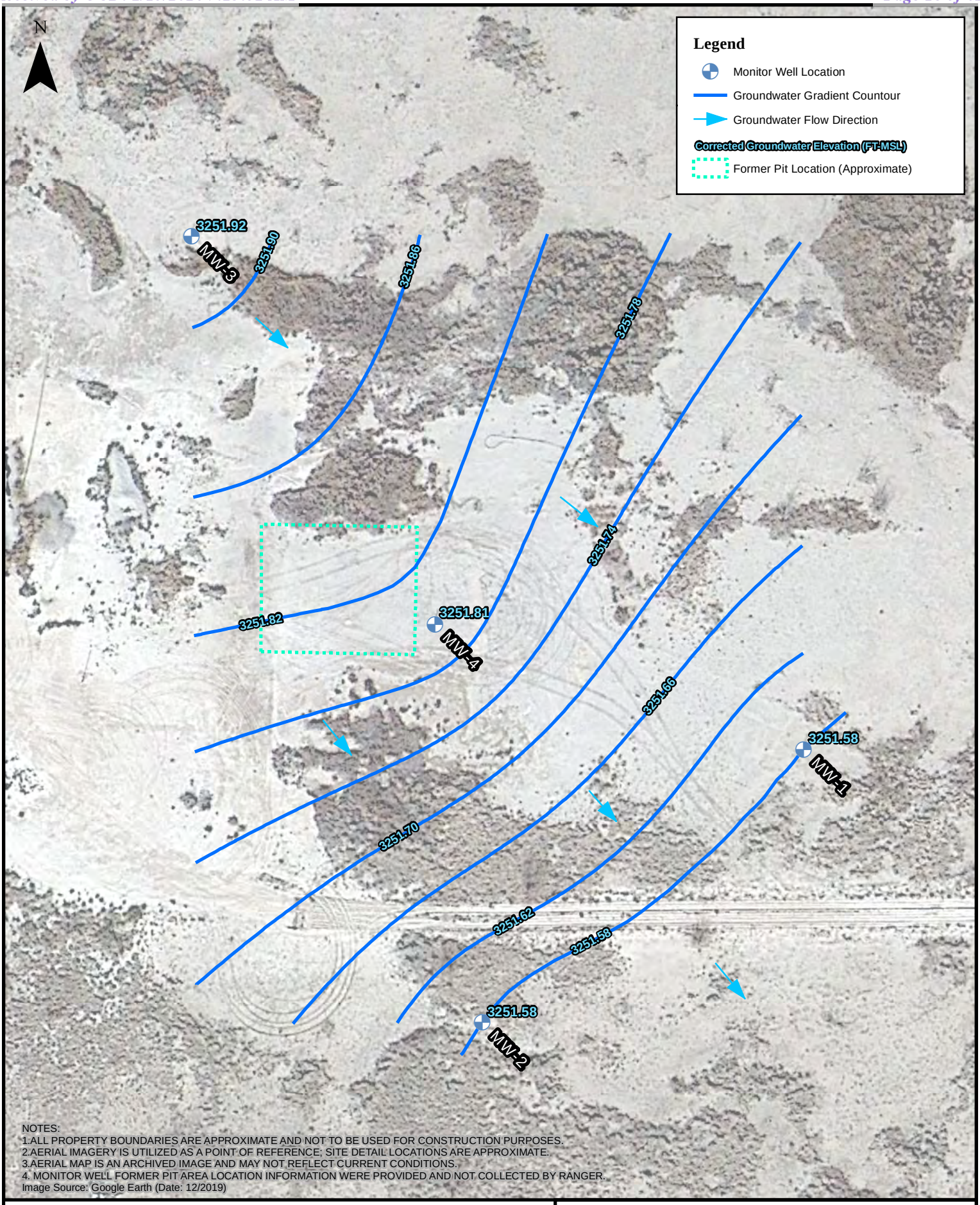

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (11/04/2008)

Williams Pit

EOG Resources, Inc.

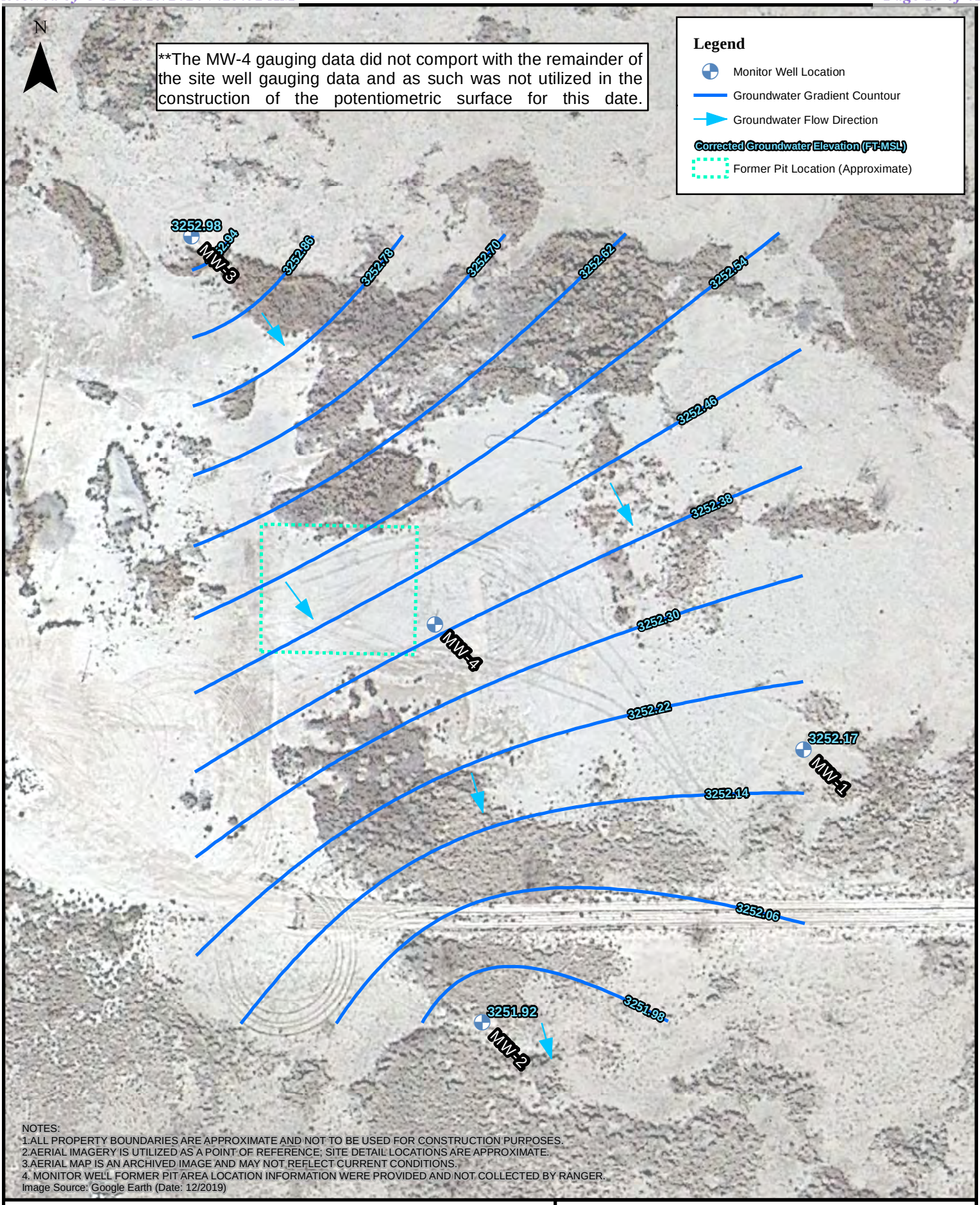

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (12/01/2004)

Williams Pit
EOG Resources, Inc.

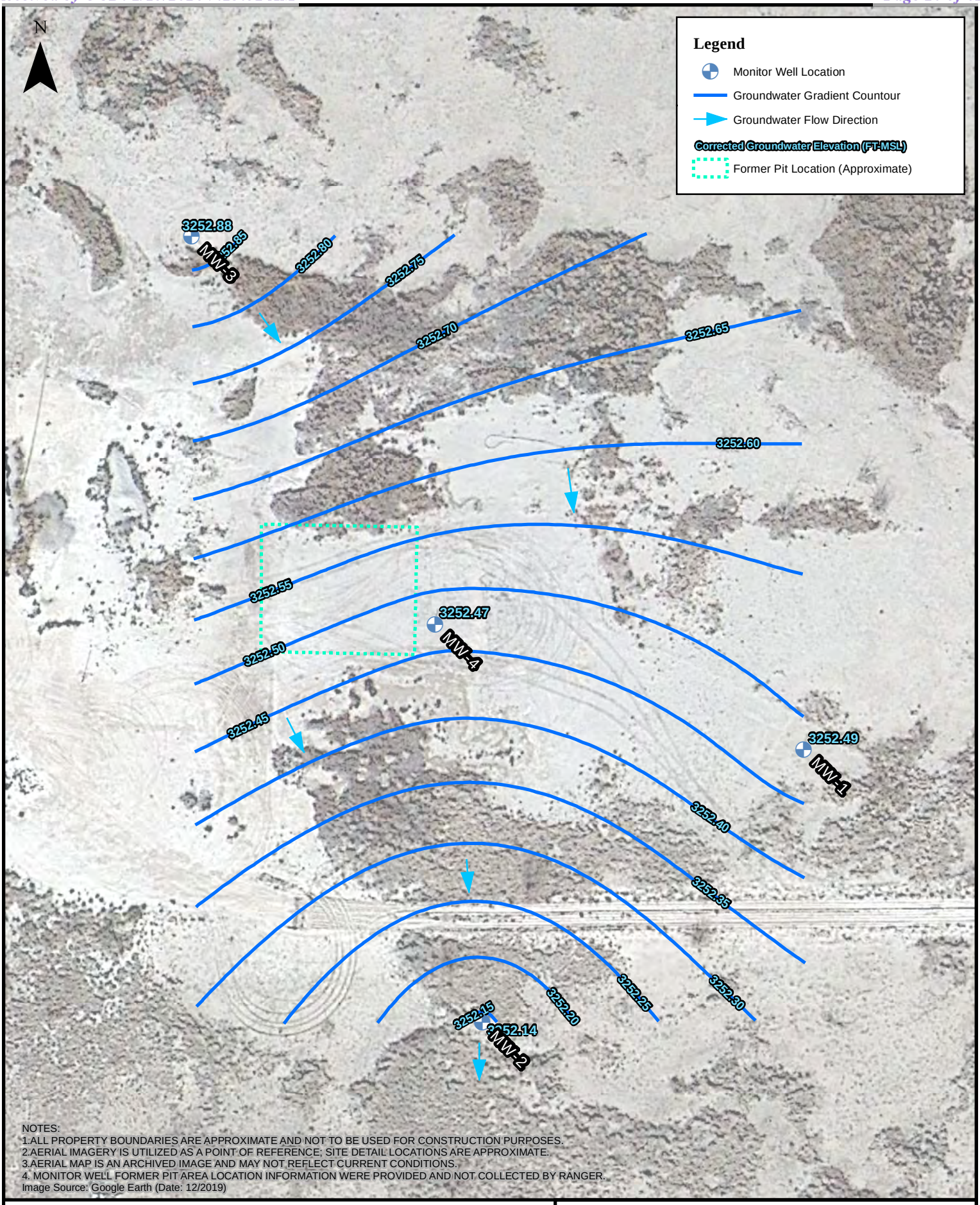

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (12/15/2004)

Williams Pit

EOG Resources, Inc.

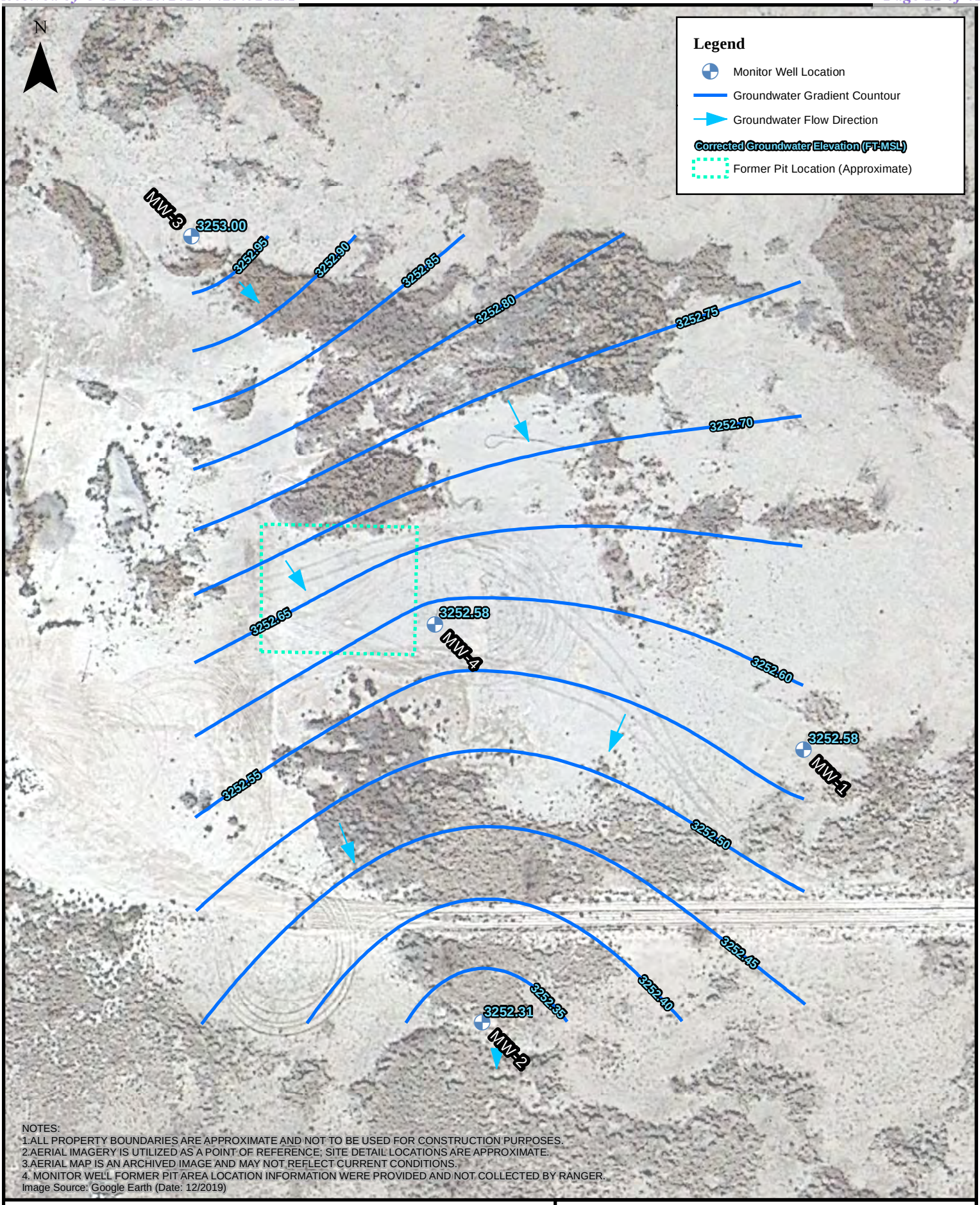

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (12/21/2004)

Williams Pit

EOG Resources, Inc.

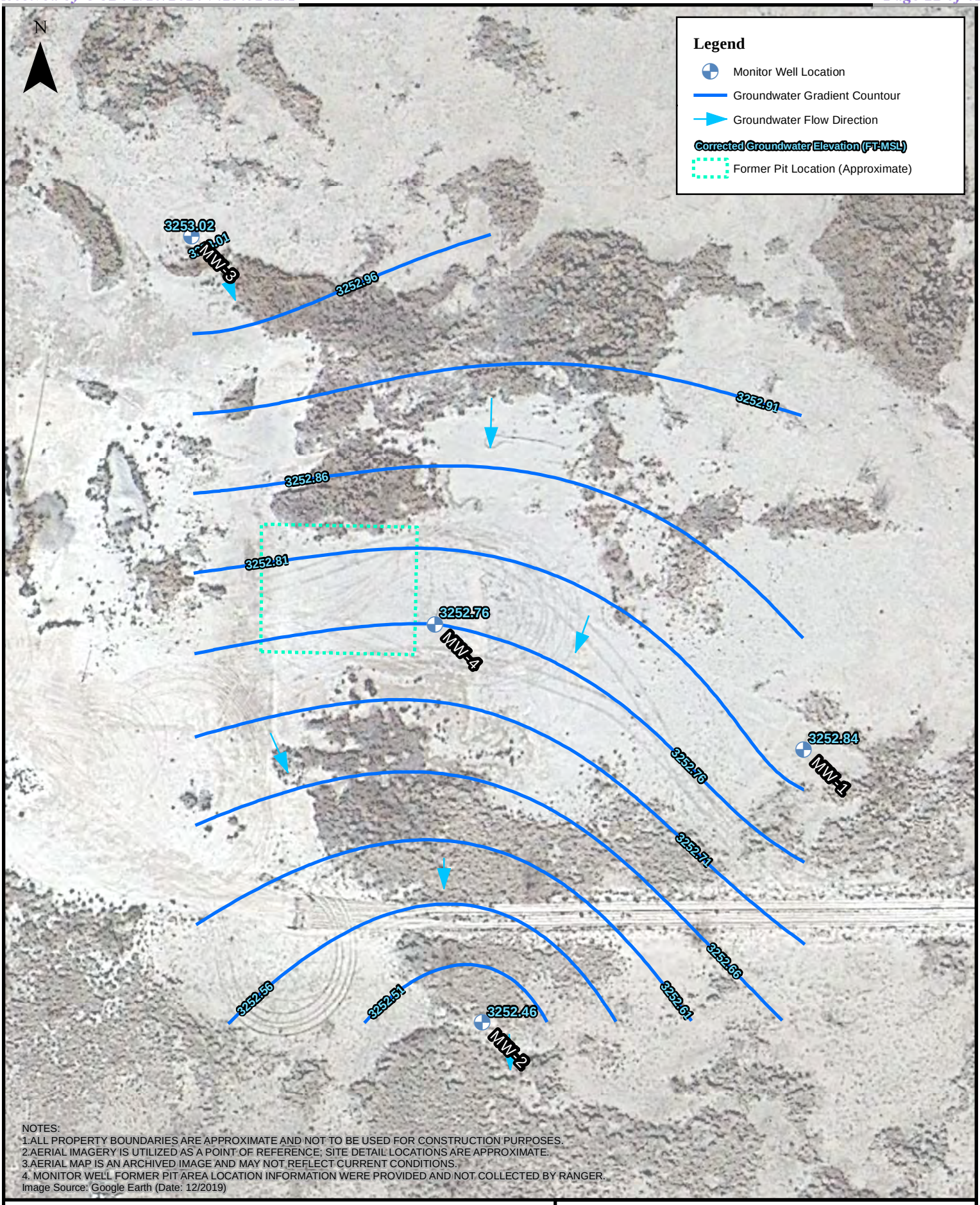

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (12/30/2004)

Williams Pit

EOG Resources, Inc.

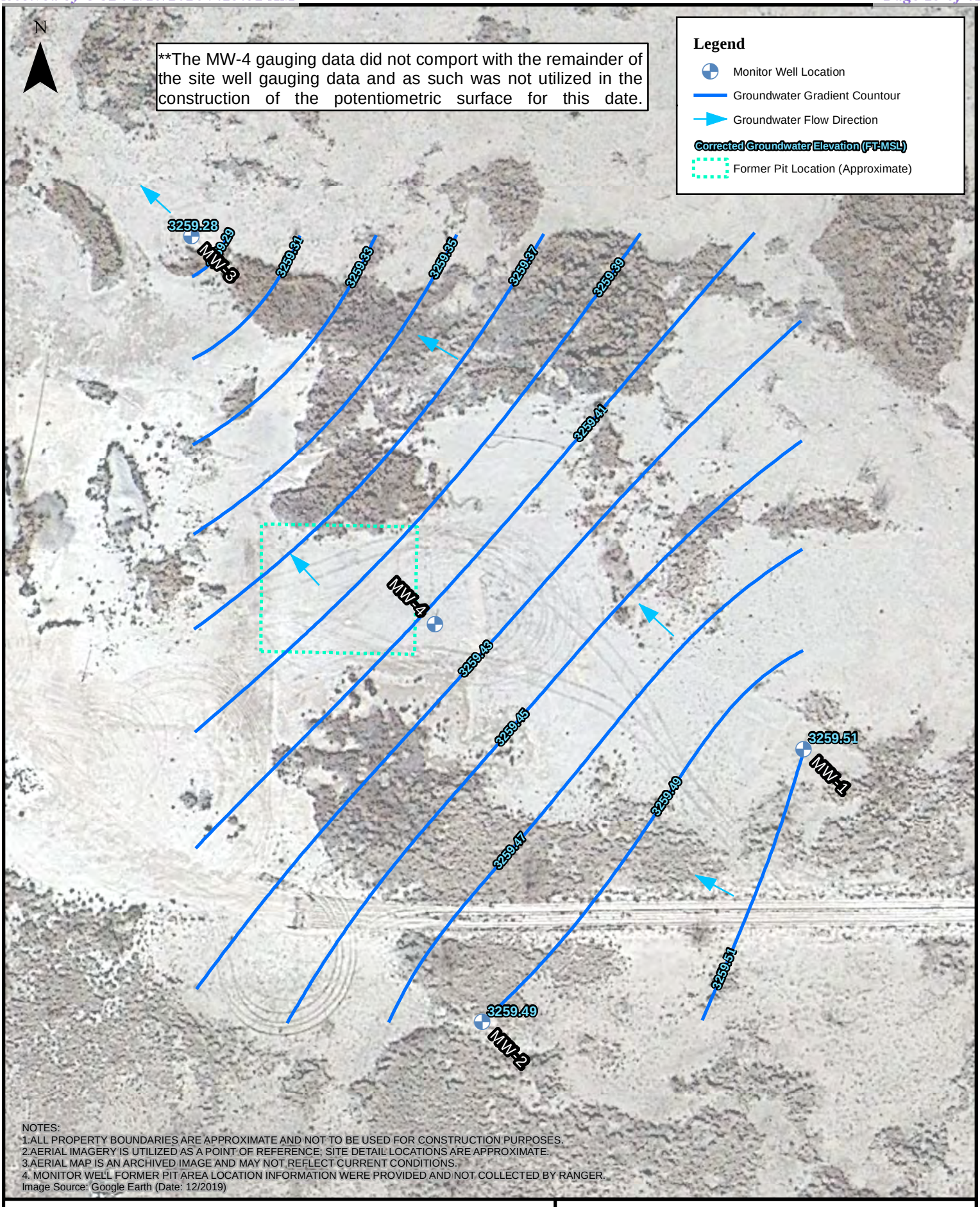

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (03/06/2018)
Williams Pit
EOG Resources, Inc.

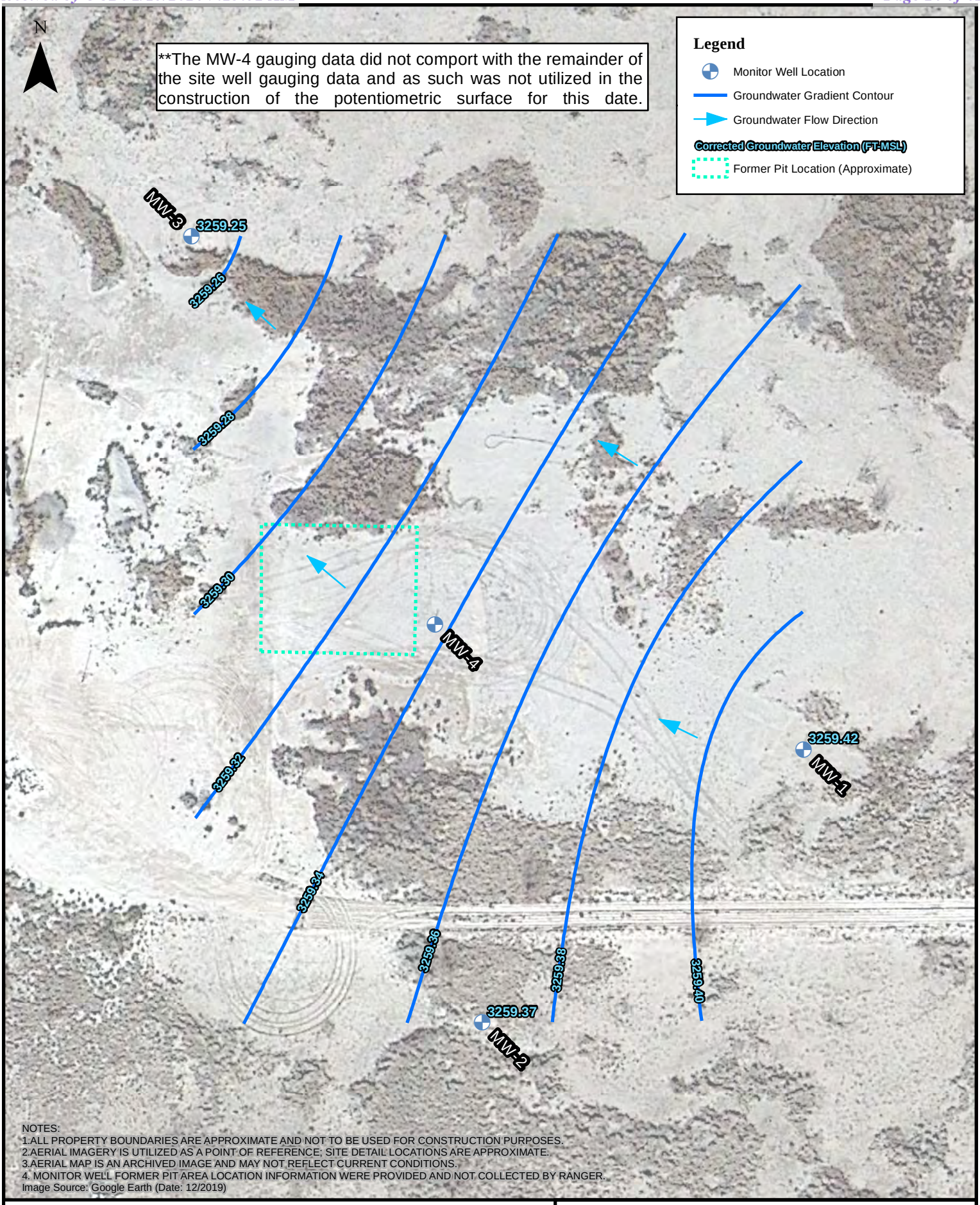

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (03/28/2018)

Williams Pit

EOG Resources, Inc.

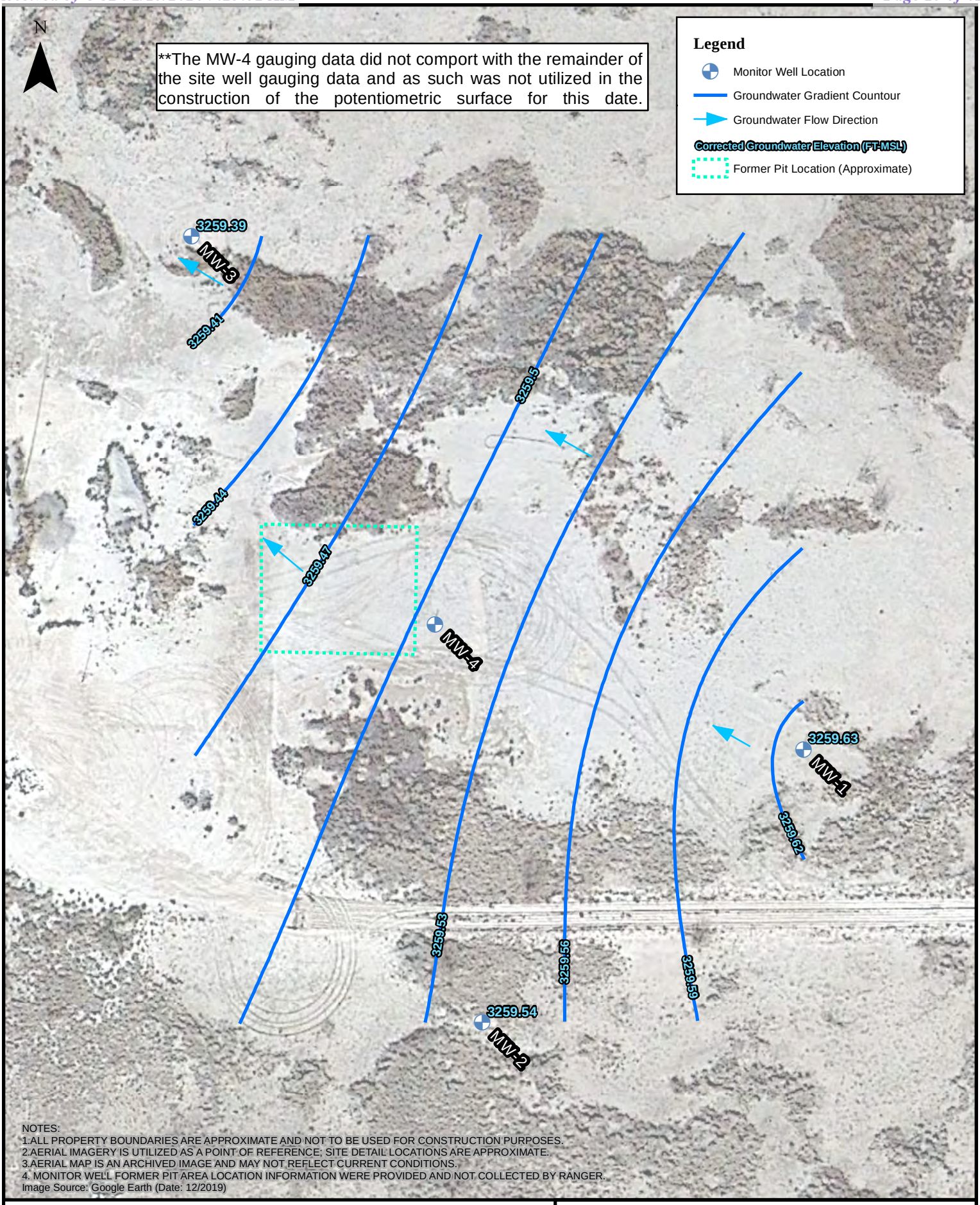

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (03/11/2019)
Williams Pit
EOG Resources, Inc.

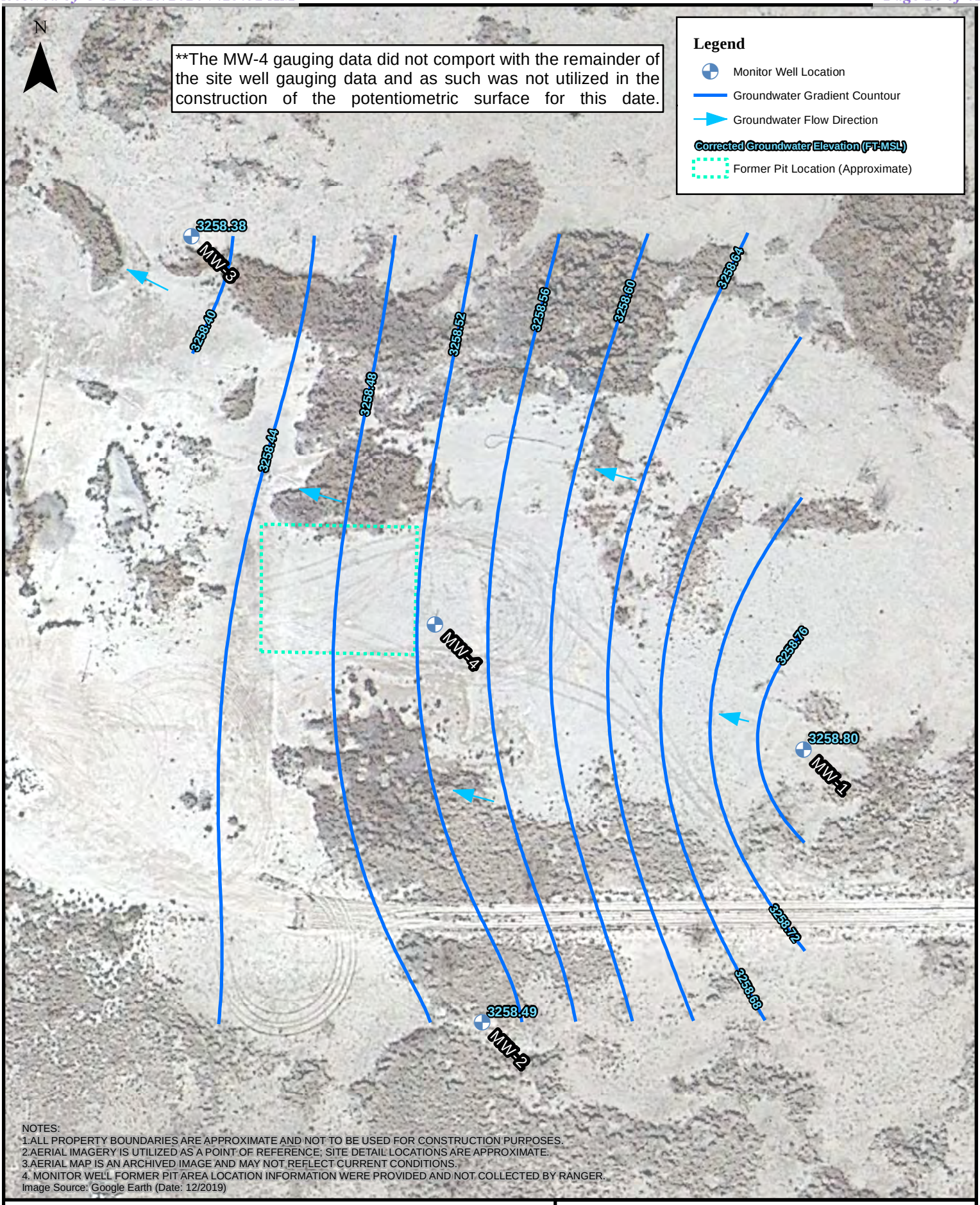

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (10/29/2019)

Williams Pit

EOG Resources, Inc.

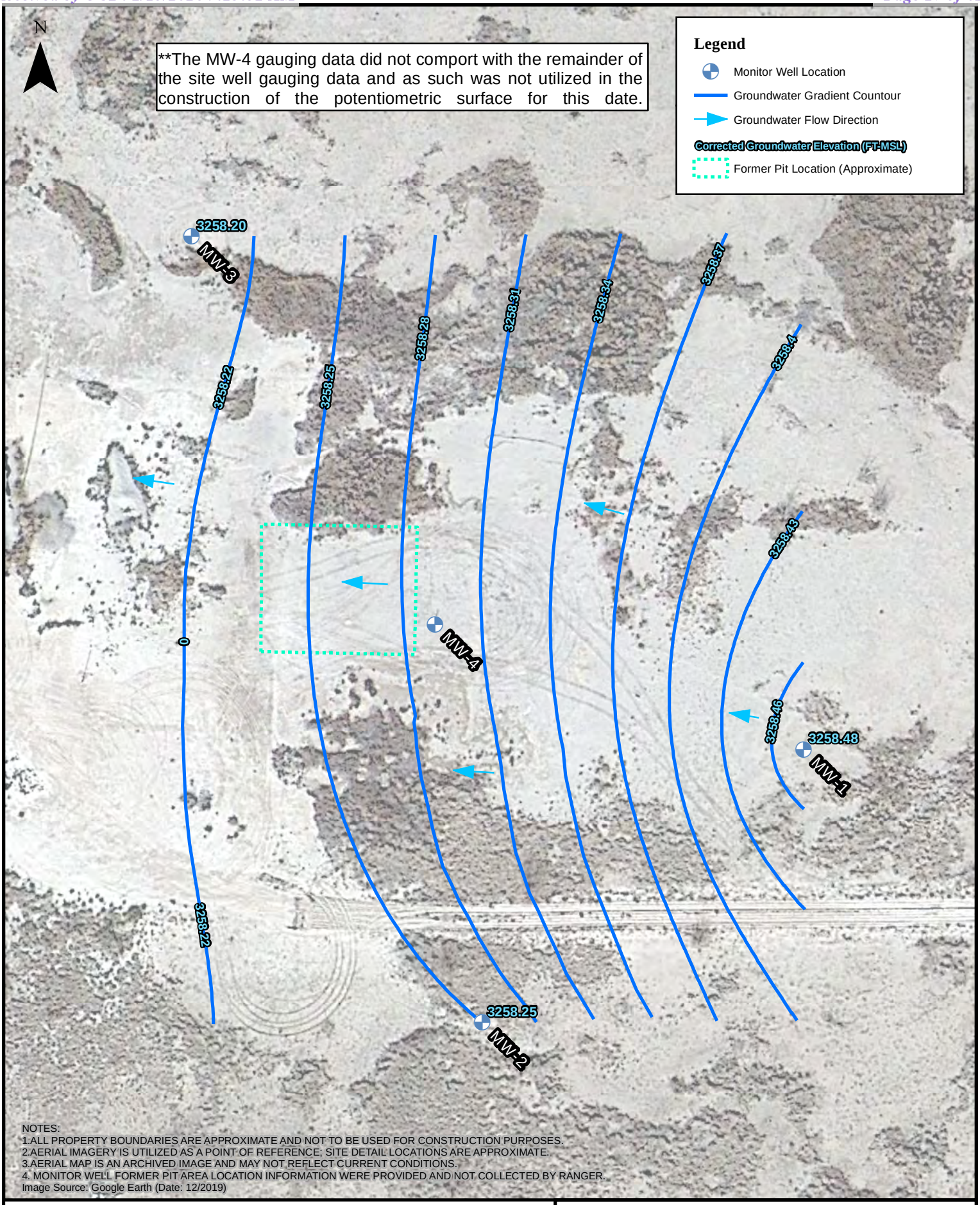

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (09/18/2020)

Williams Pit
EOG Resources, Inc.

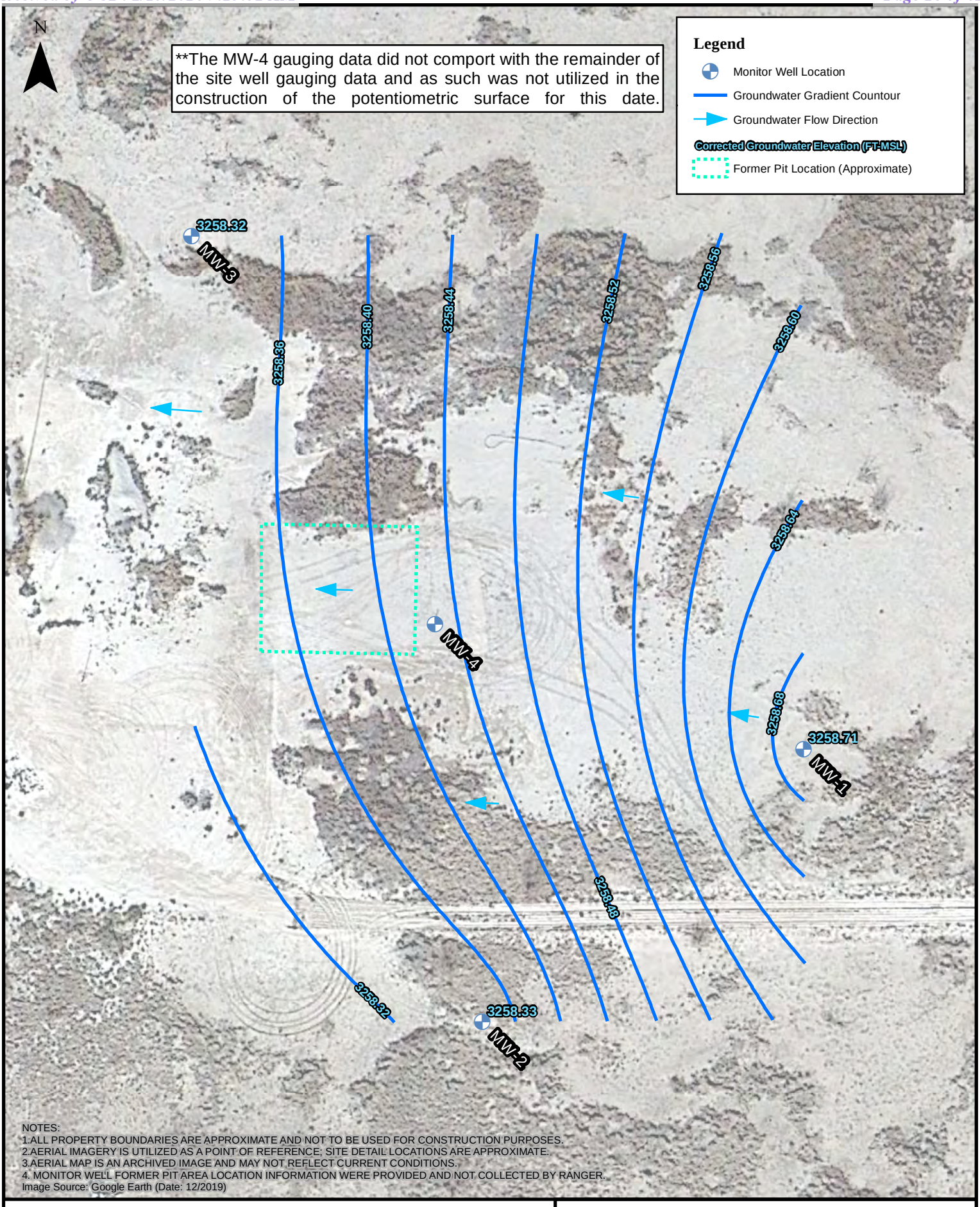

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Groundwater Gradient Map (08/23/2021)

Williams Pit
EOG Resources, Inc.

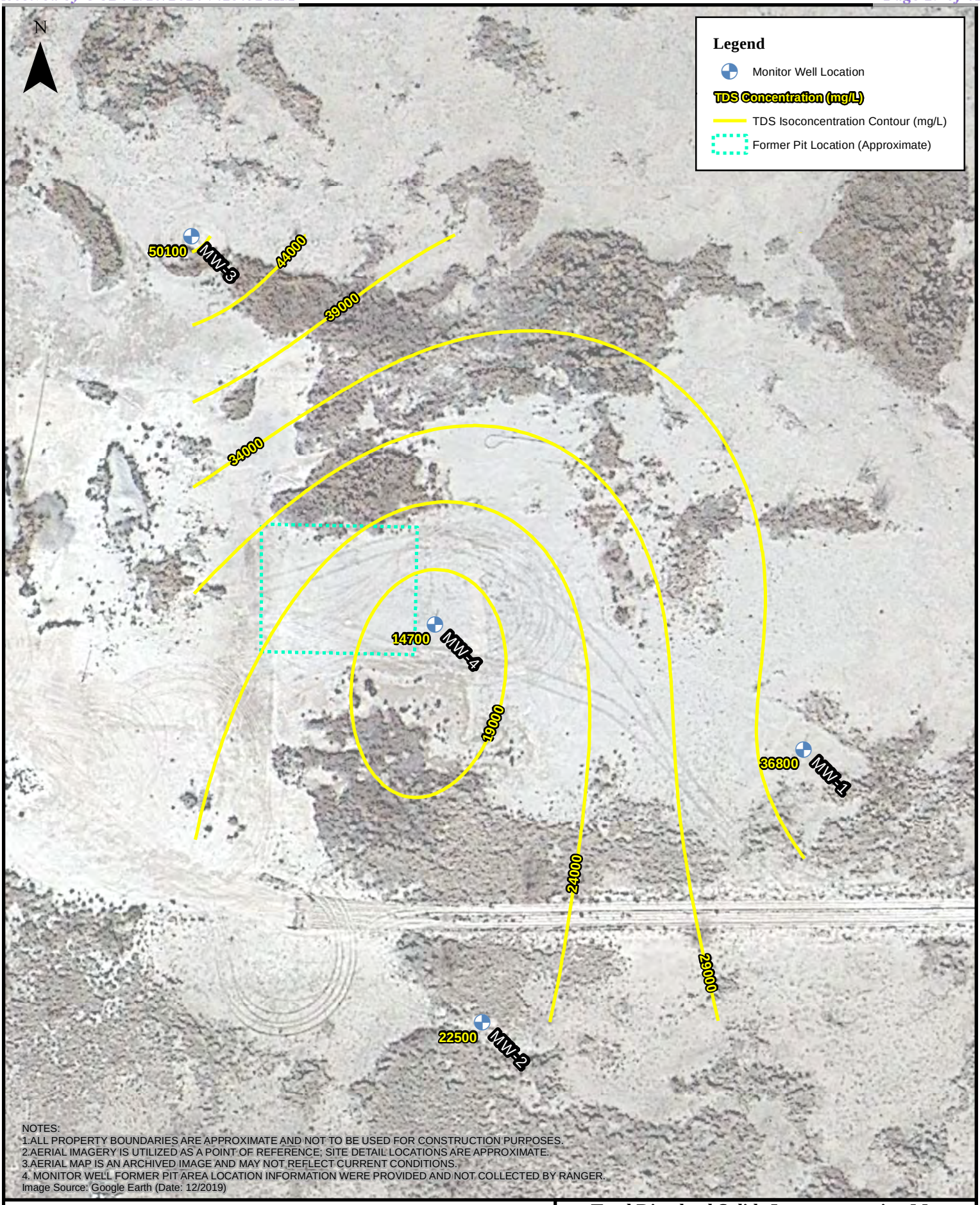

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 09/19/2002)
Williams Pit
EOG Resources, Inc.

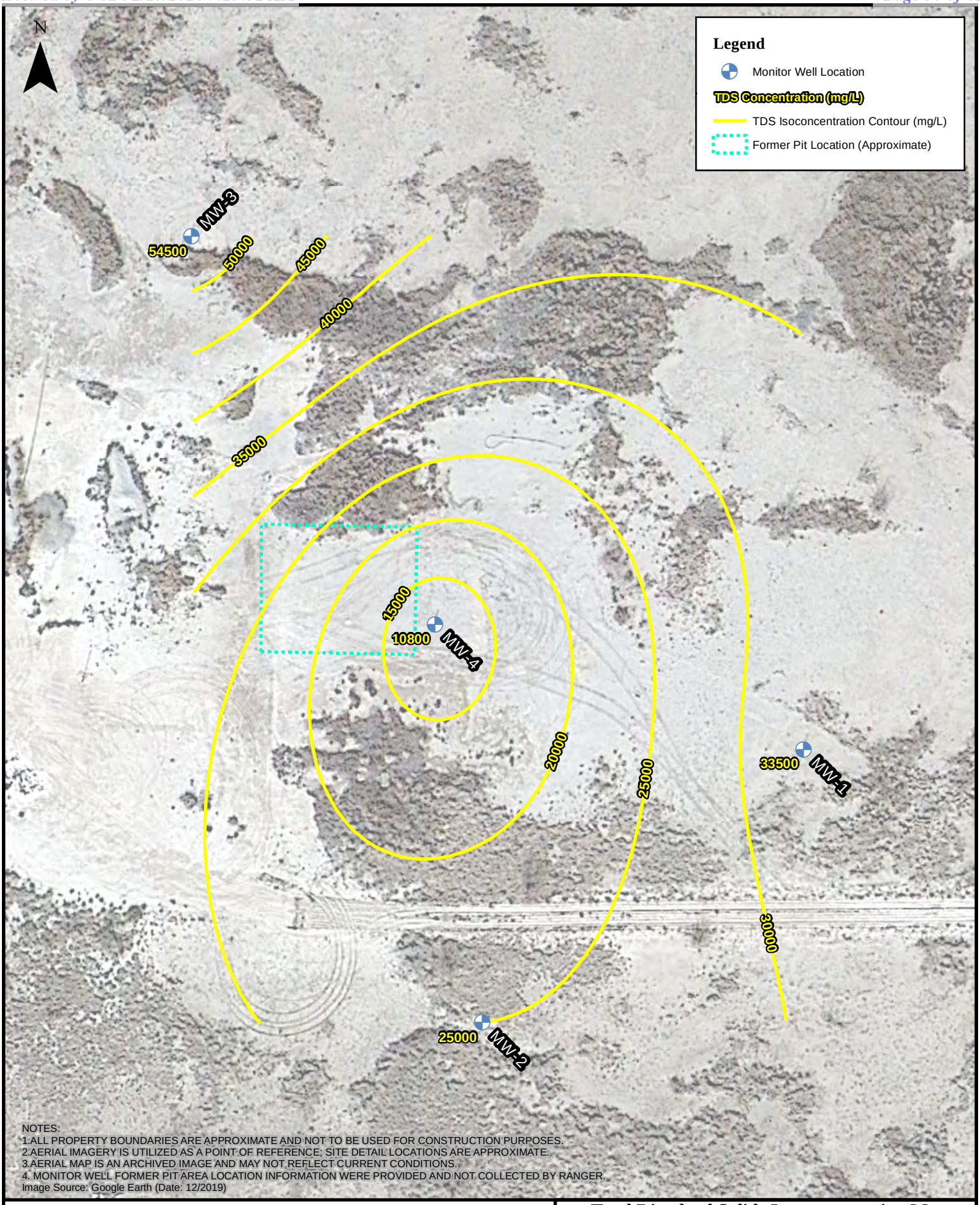

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 11/08/2004)
Williams Pit
EOG Resources, Inc.

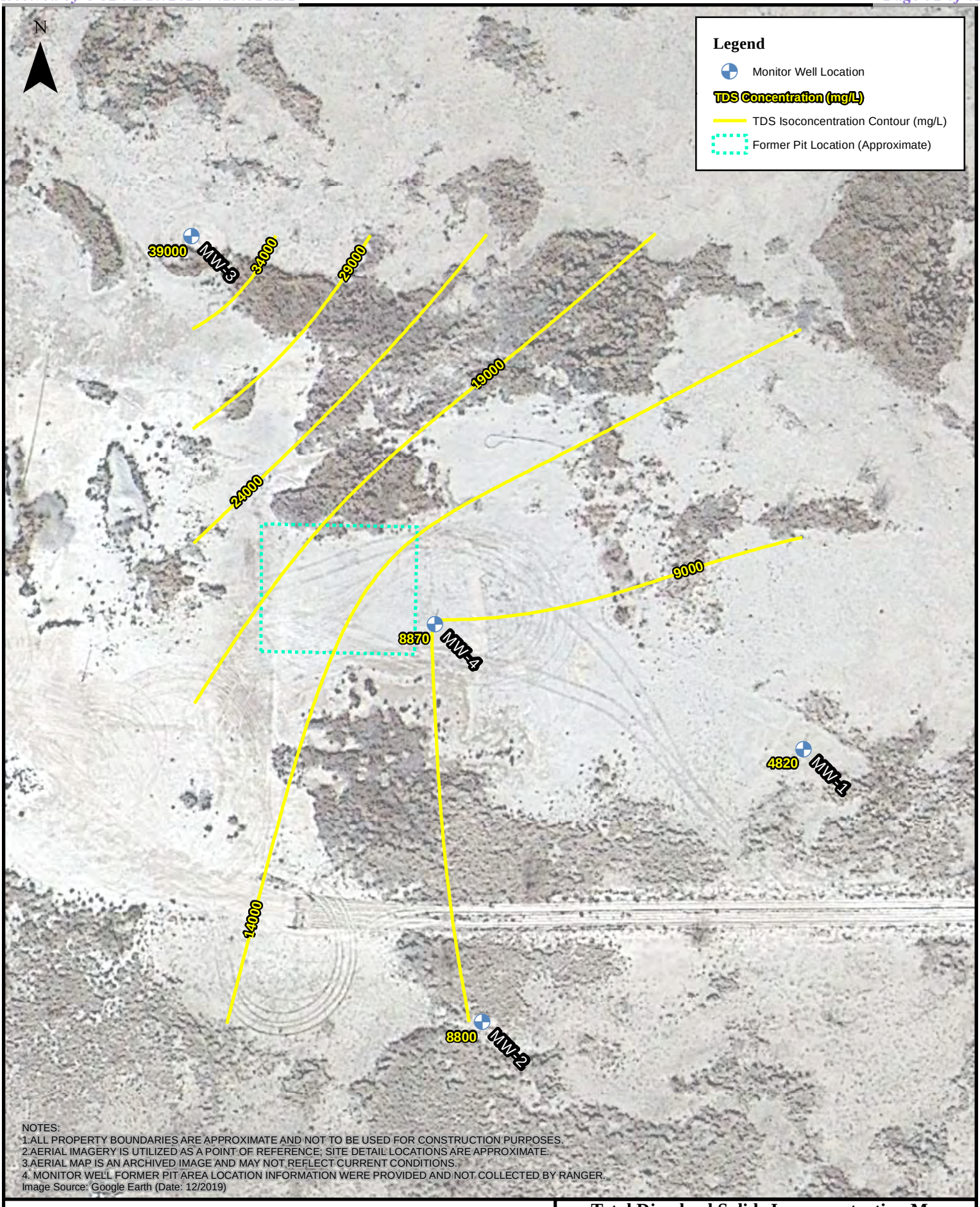

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 03/17/2012)
Williams Pit
EOG Resources, Inc.

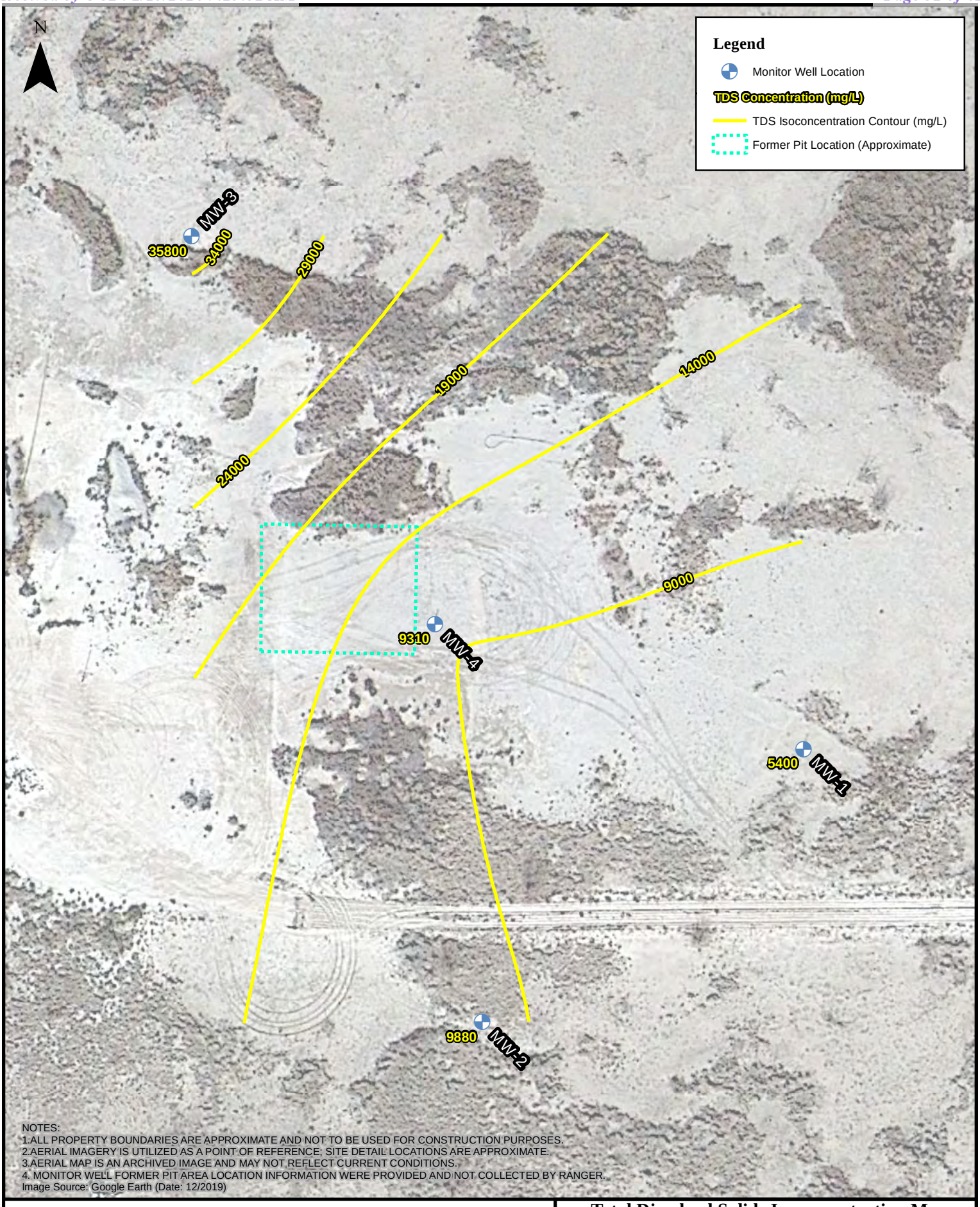

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 06/18/2012)
Williams Pit
EOG Resources, Inc.

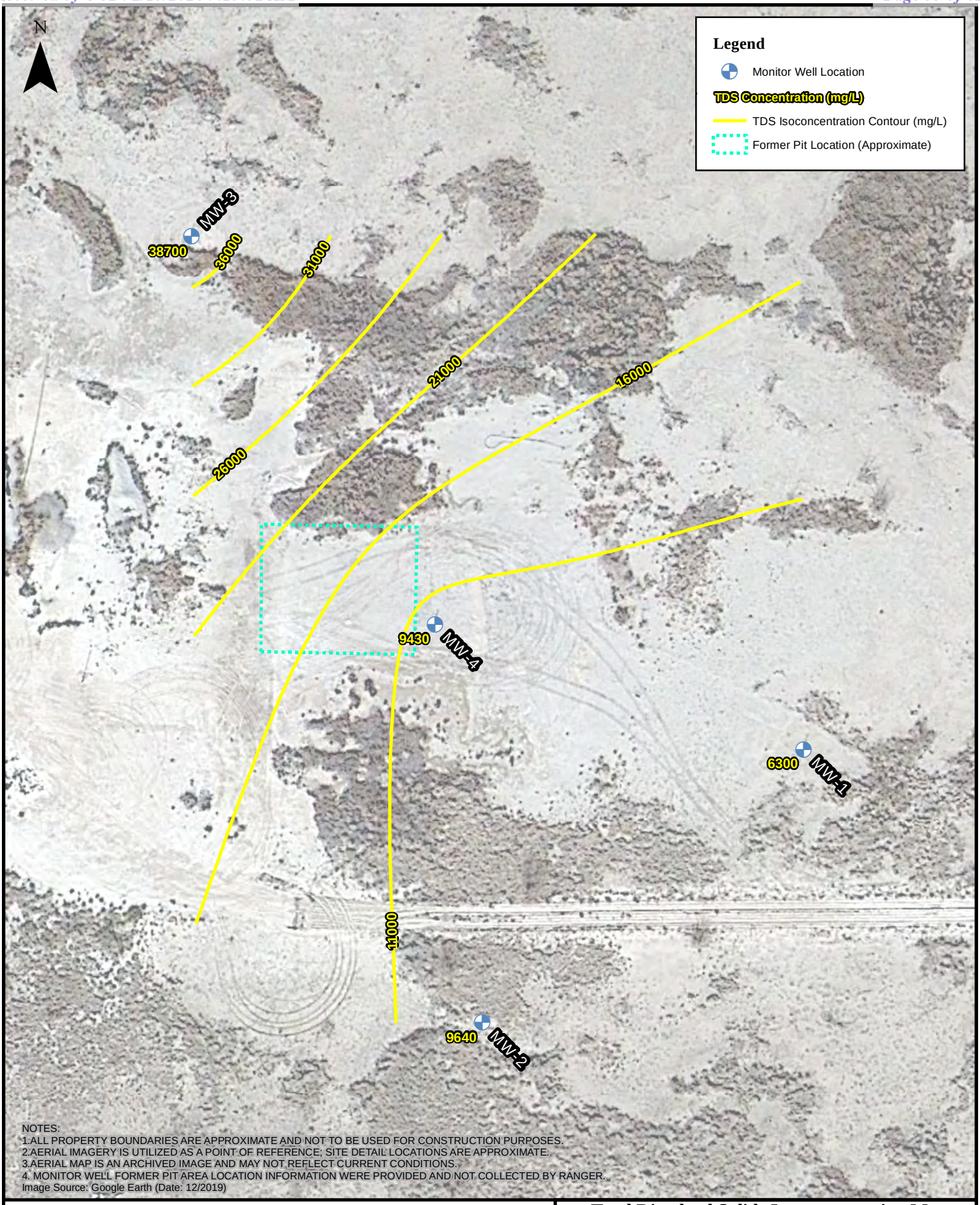

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 09/12/2012)
Williams Pit
EOG Resources, Inc.

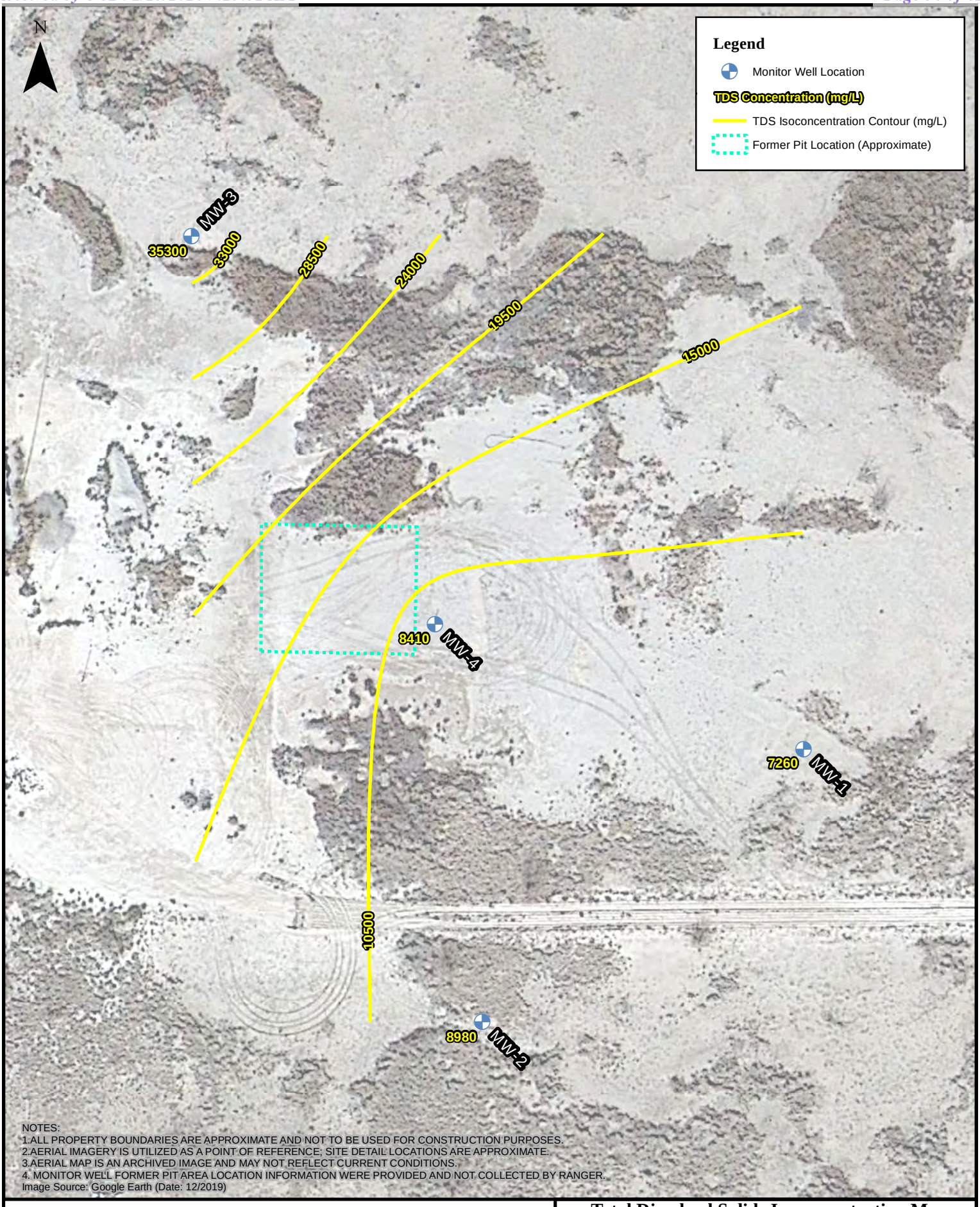

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 12/07/2012)
Williams Pit
EOG Resources, Inc.

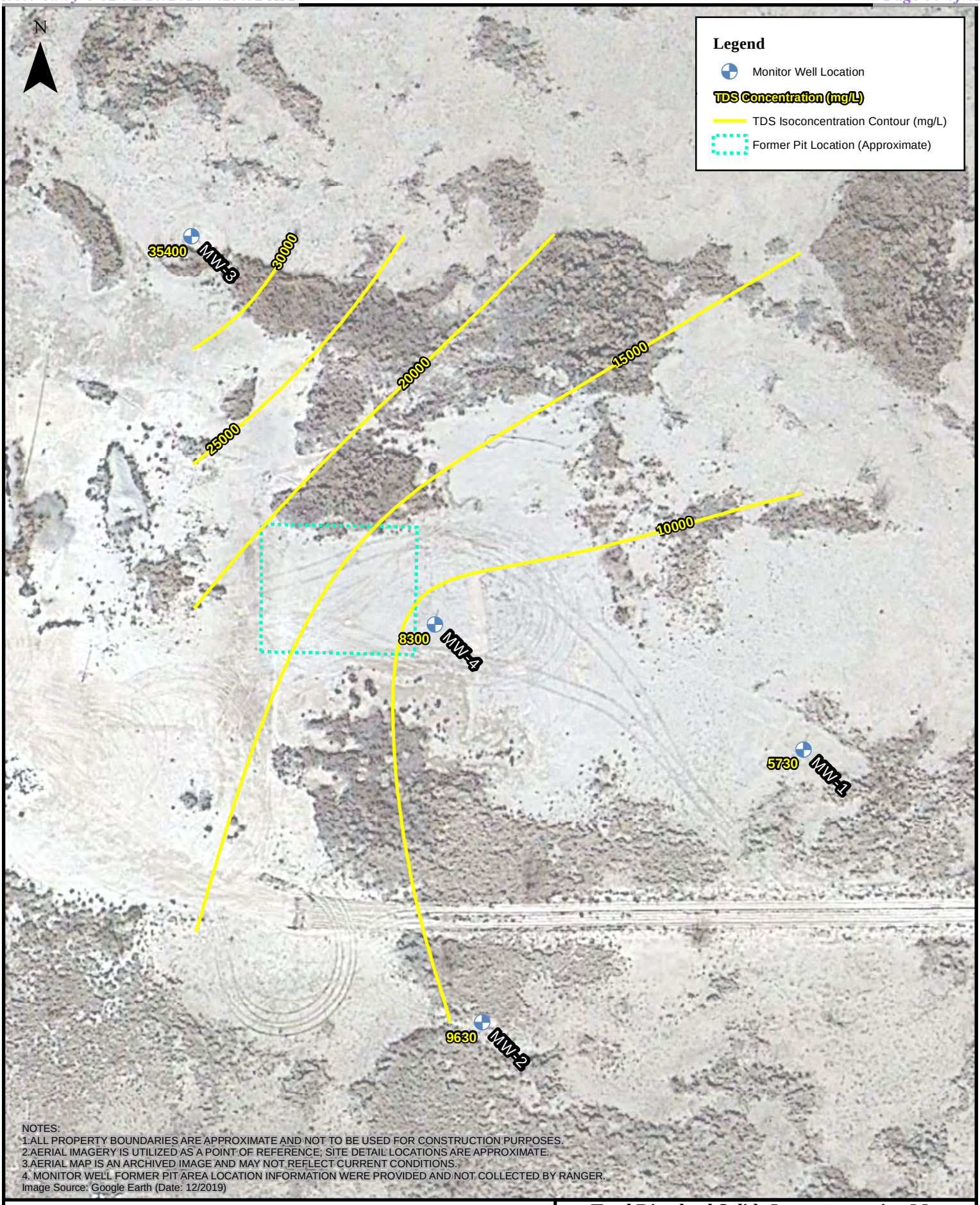

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 03/12/2013)
Williams Pit
EOG Resources, Inc.

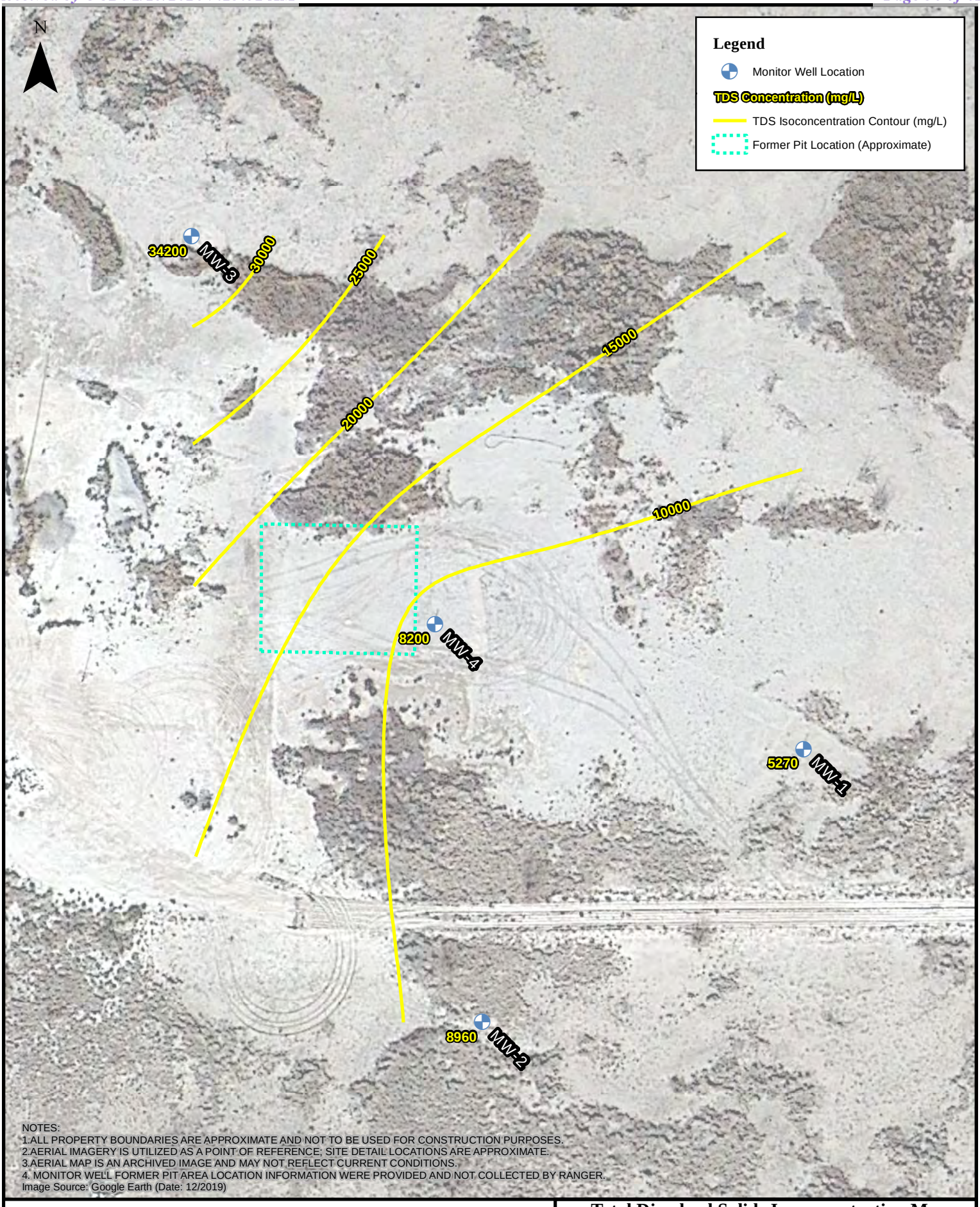

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date:06/27/2013)
Williams Pit
EOG Resources, Inc.

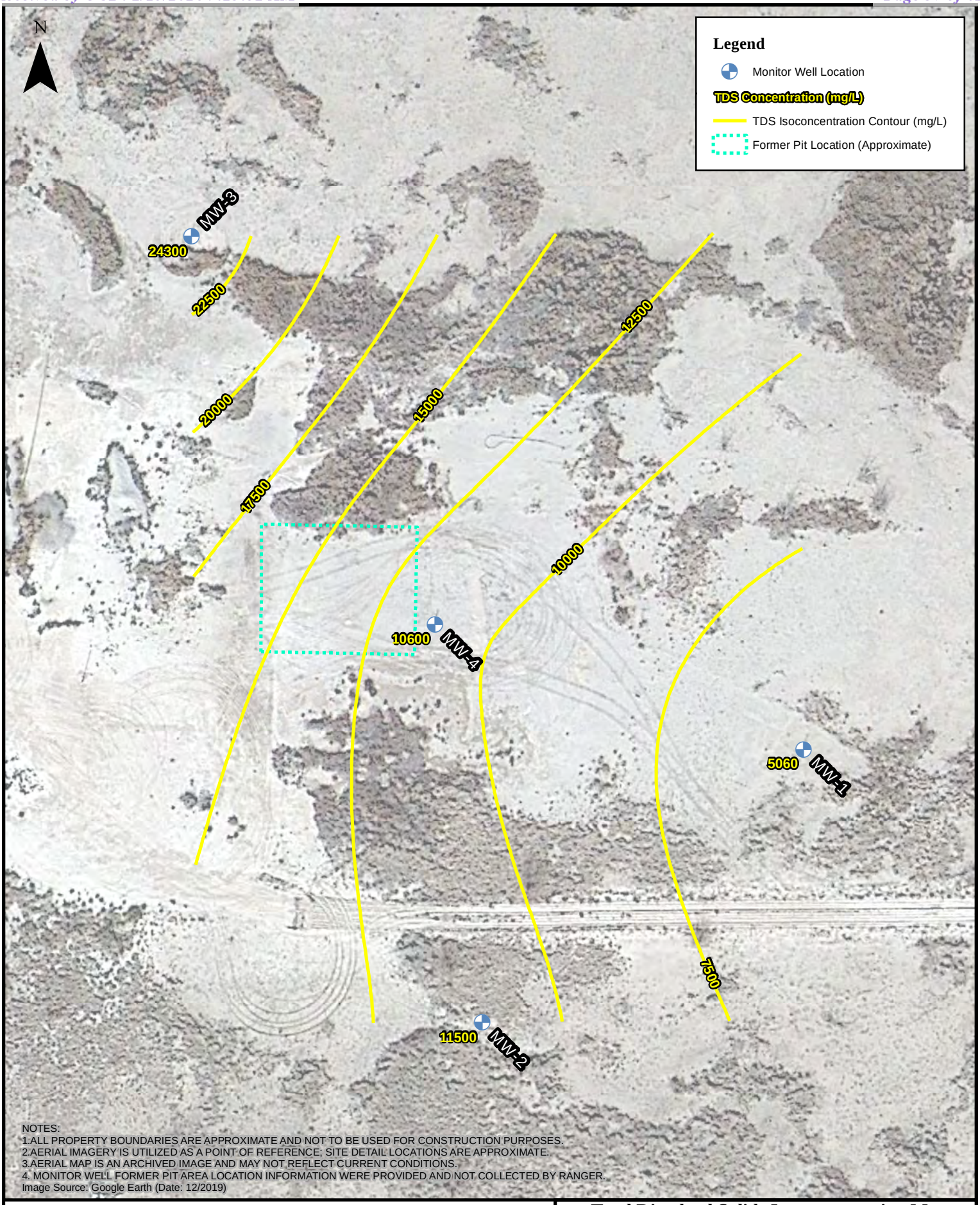

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date:03/28/2018)
Williams Pit
EOG Resources, Inc.

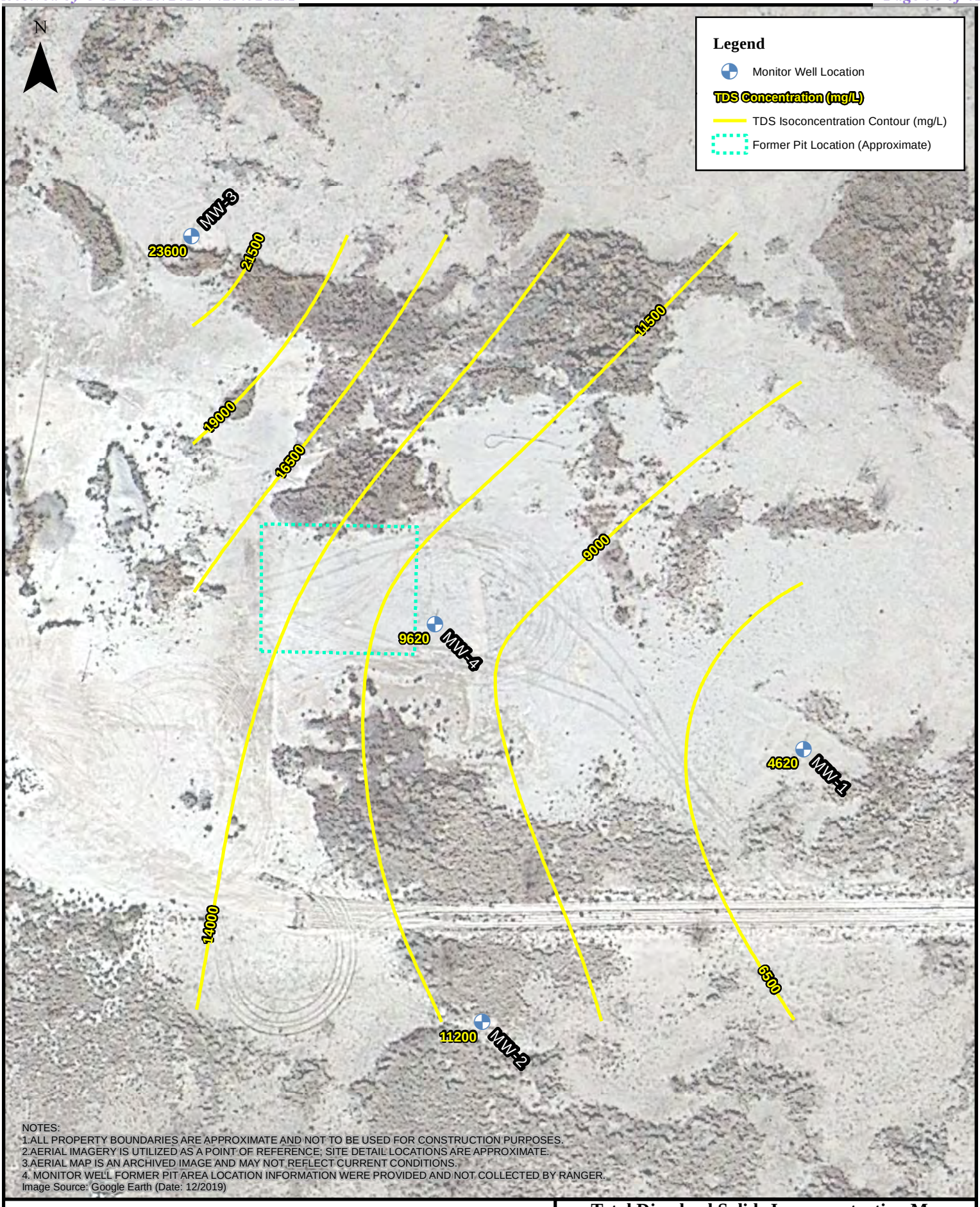

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date:03/11/2019)
Williams Pit
EOG Resources, Inc.

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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

TDS Isoconcentration Map
(Sample Date: 10/29/2019)
Williams Pit
EOG Resources, Inc.

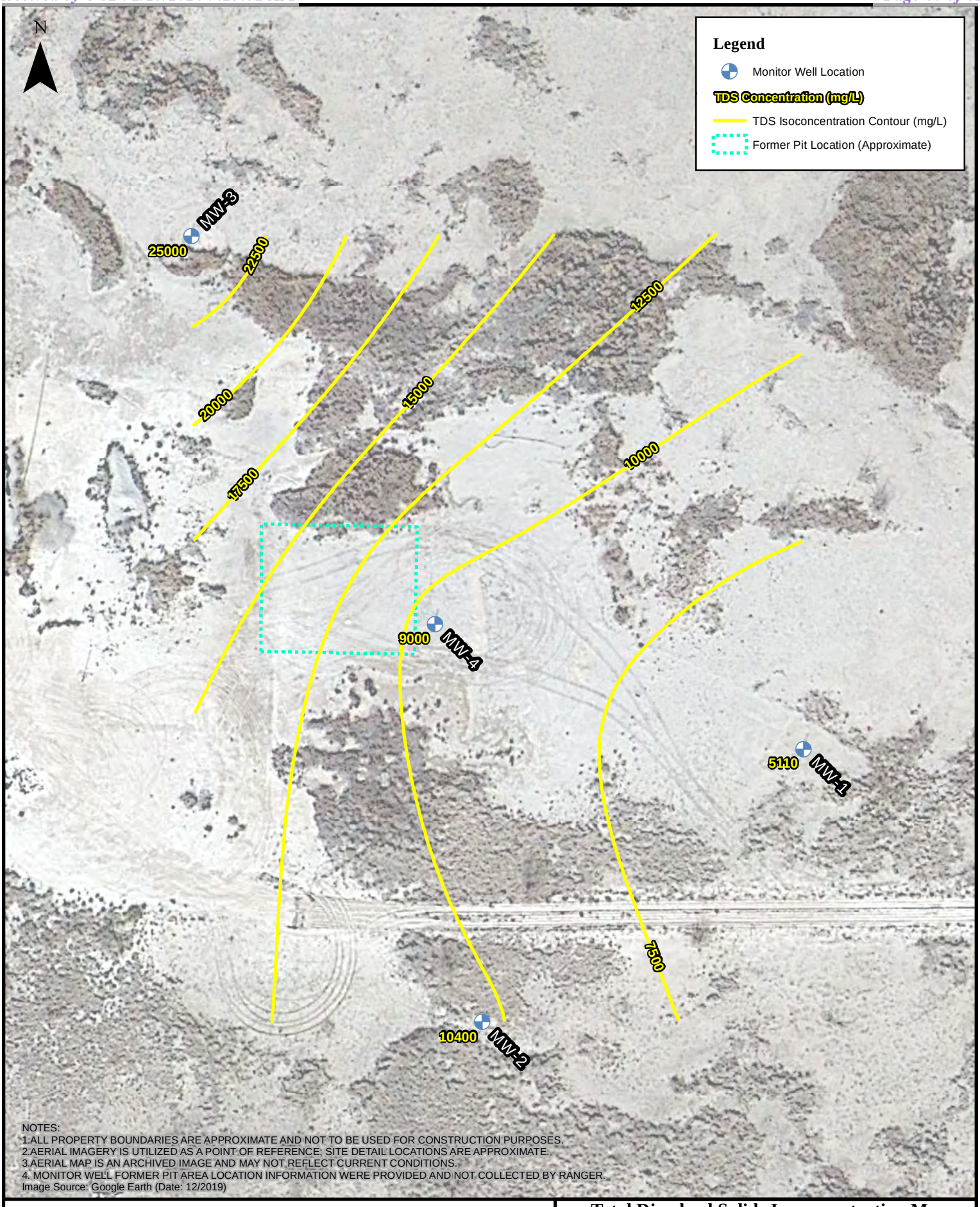

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date:09/18/2020)
Williams Pit
EOG Resources, Inc.

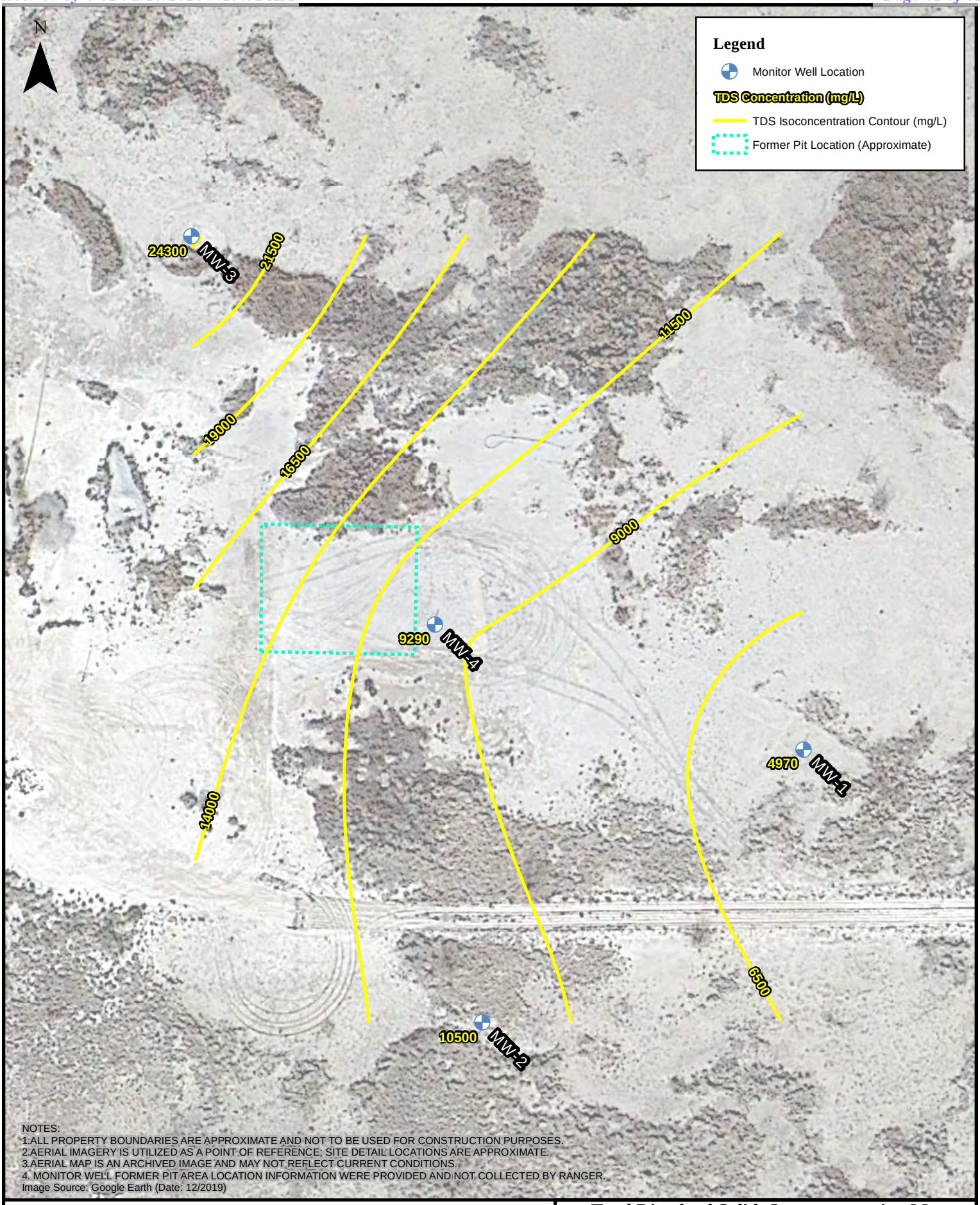

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date:08/23/2021)
Williams Pit
EOG Resources, Inc.

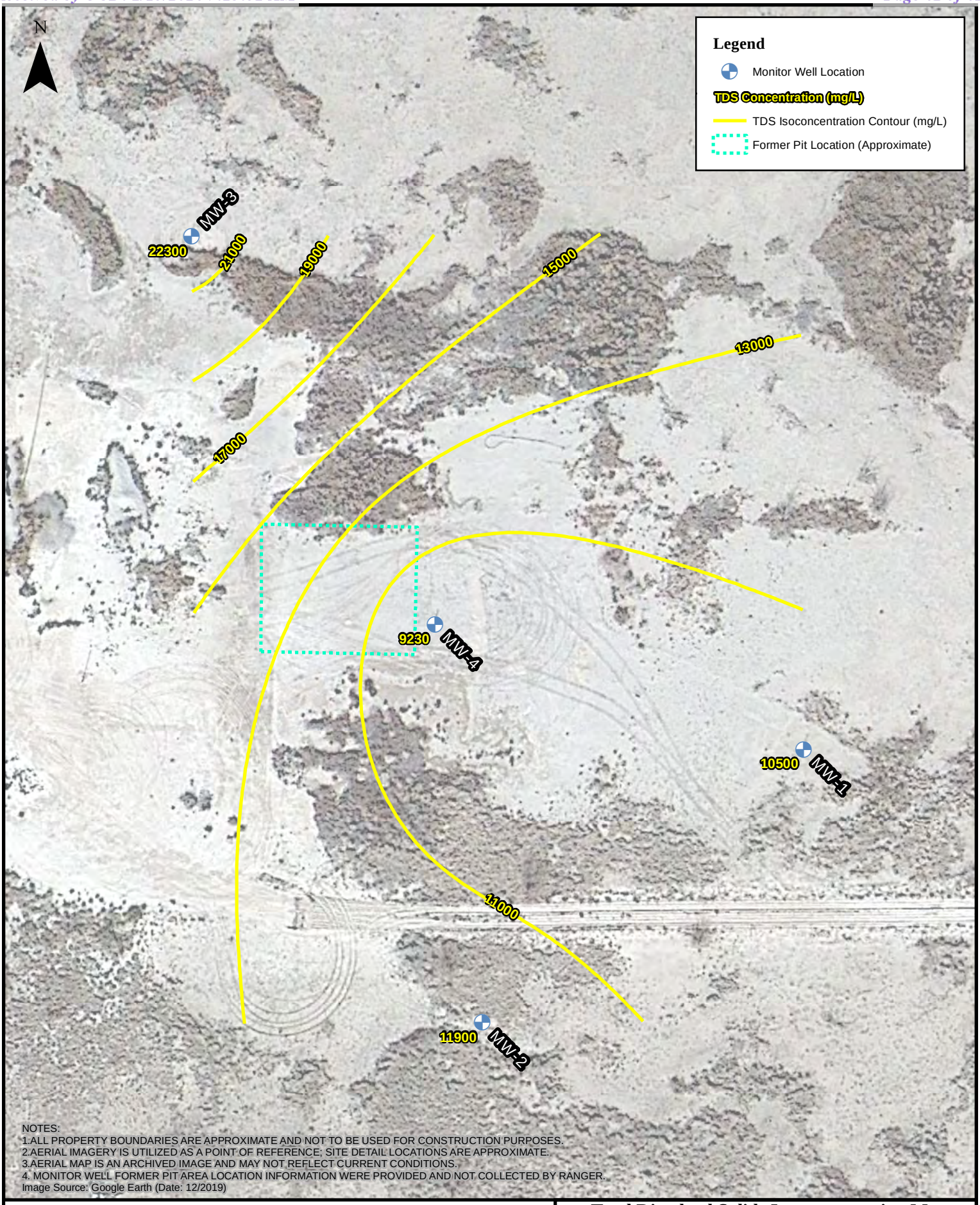

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 03/22/2022)
Williams Pit
EOG Resources, Inc.

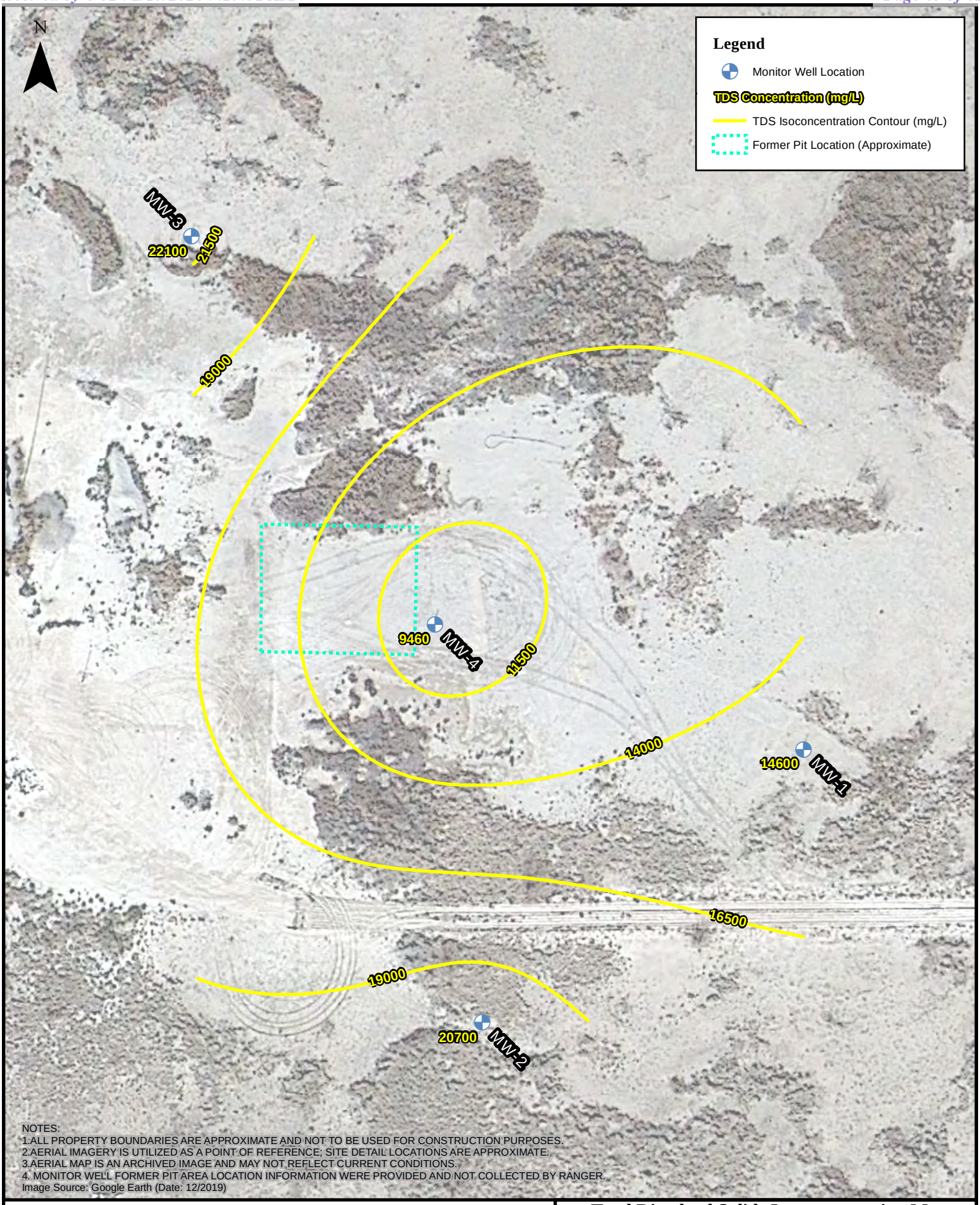

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Total Dissolved Solids Isoconcentration Map
(Sample Date: 08/03/2022)
Williams Pit
EOG Resources, Inc.

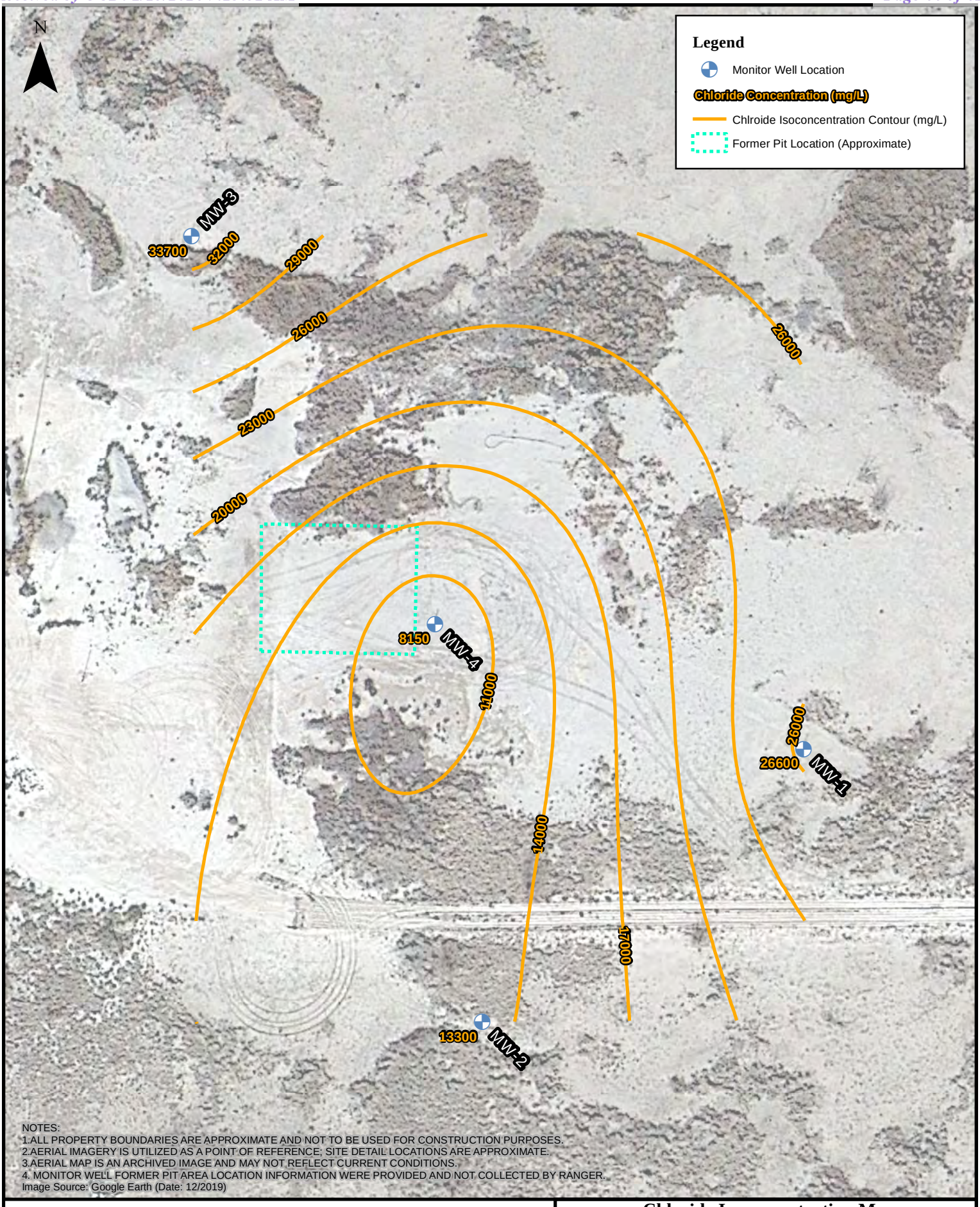

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 09/19/2002)
Williams Pit
EOG Resources, Inc.

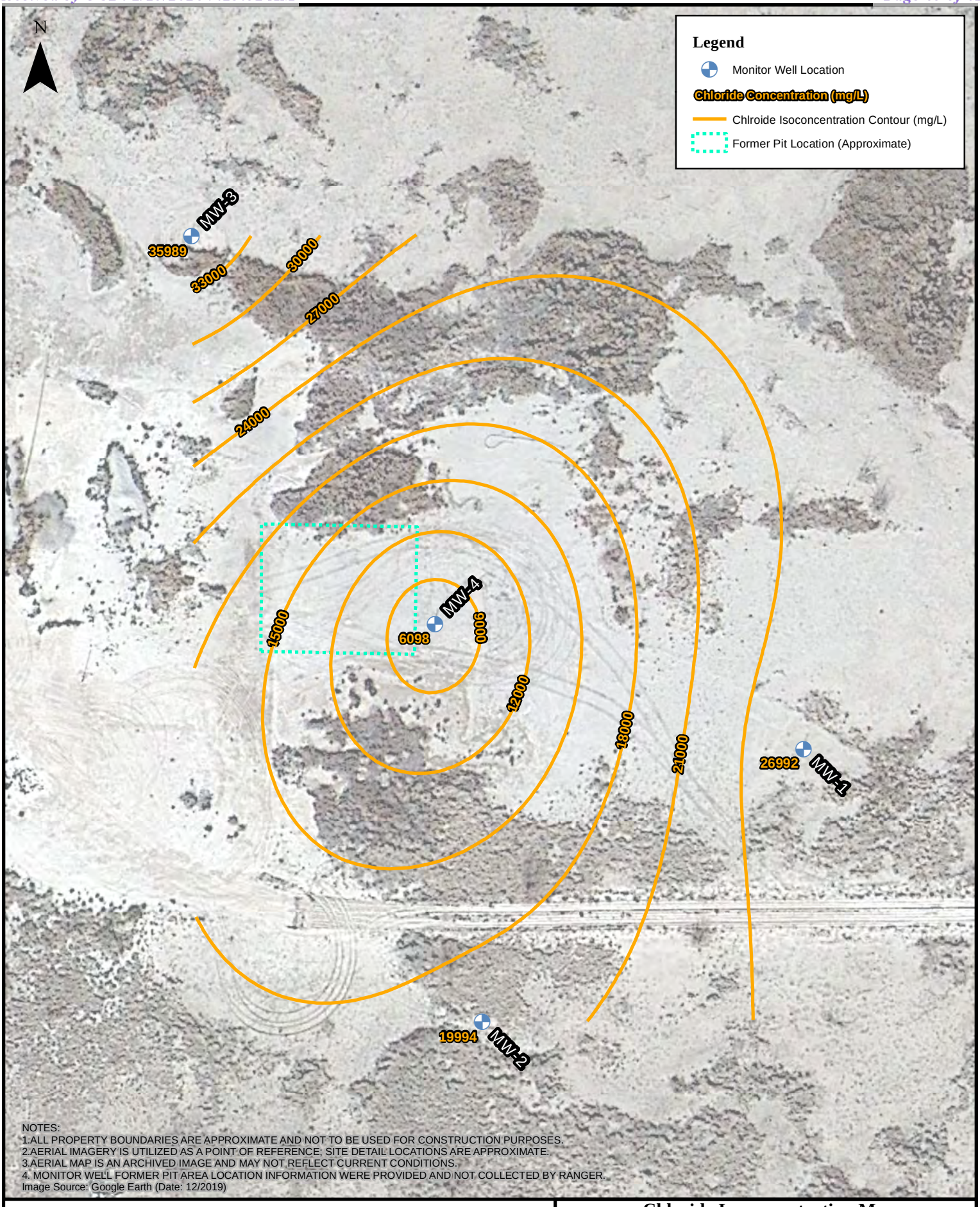

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 11/08/2004)
Williams Pit
EOG Resources, Inc.

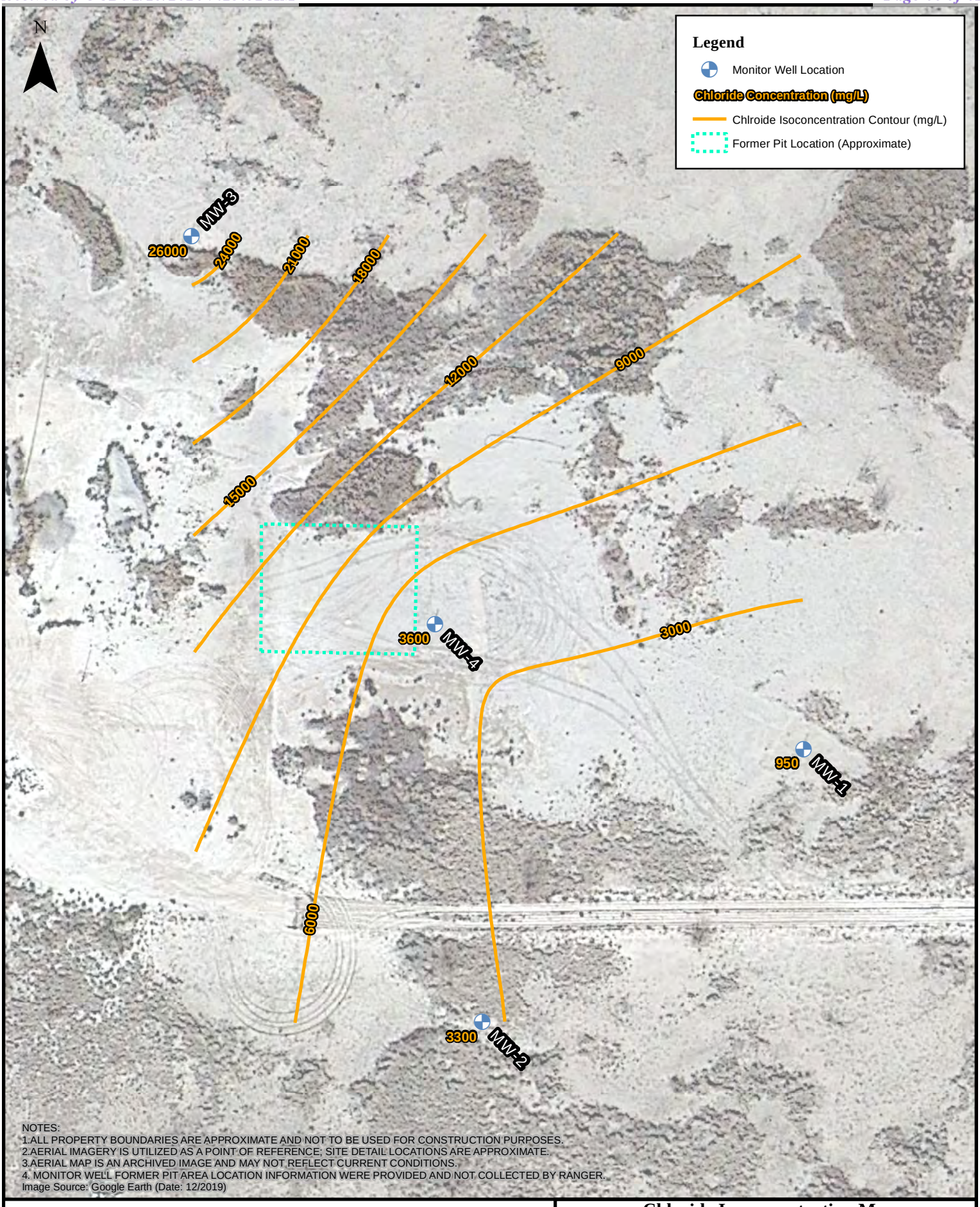

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 03/17/2012)
Williams Pit
EOG Resources, Inc.

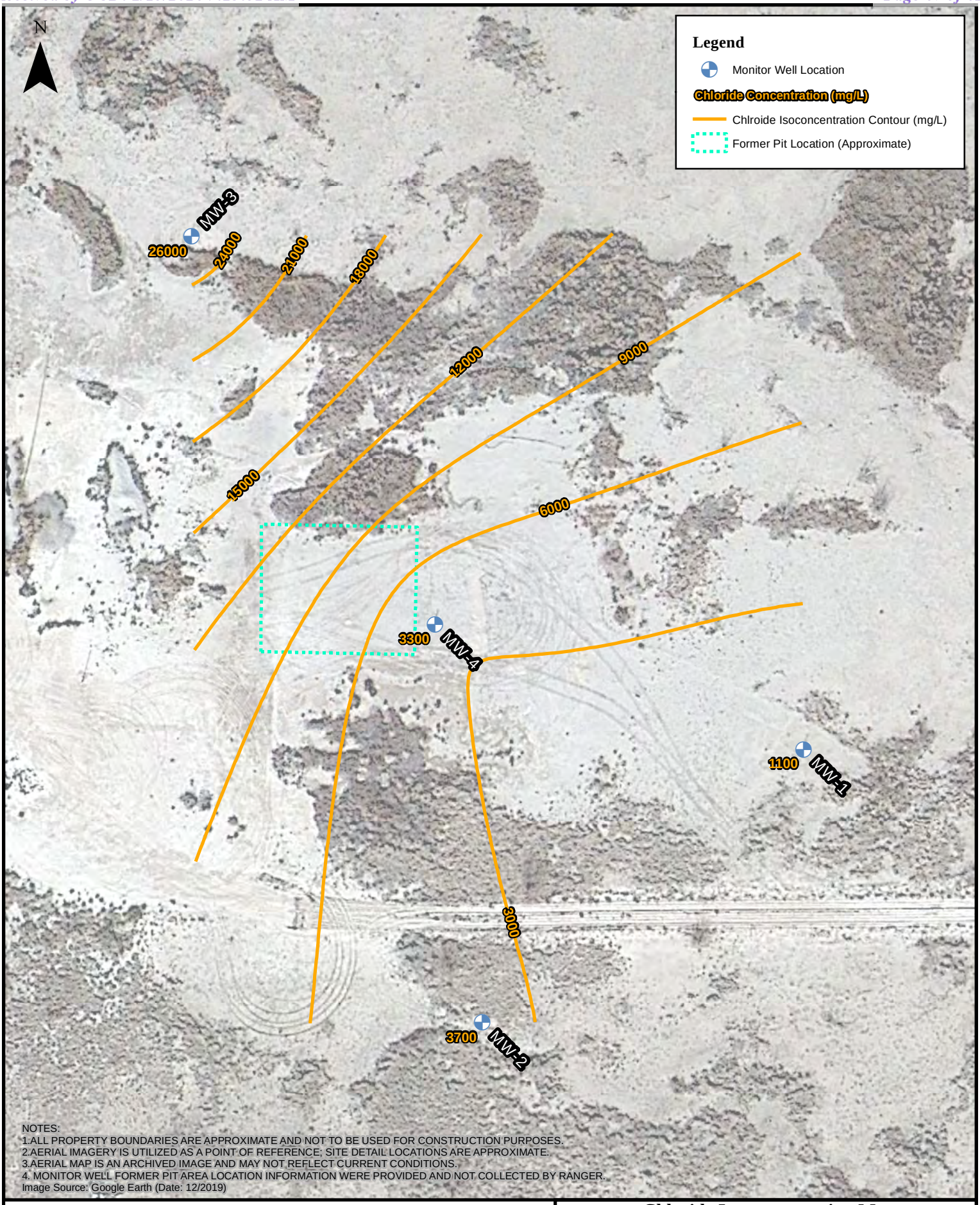

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 06/18/2012)
Williams Pit
EOG Resources, Inc.

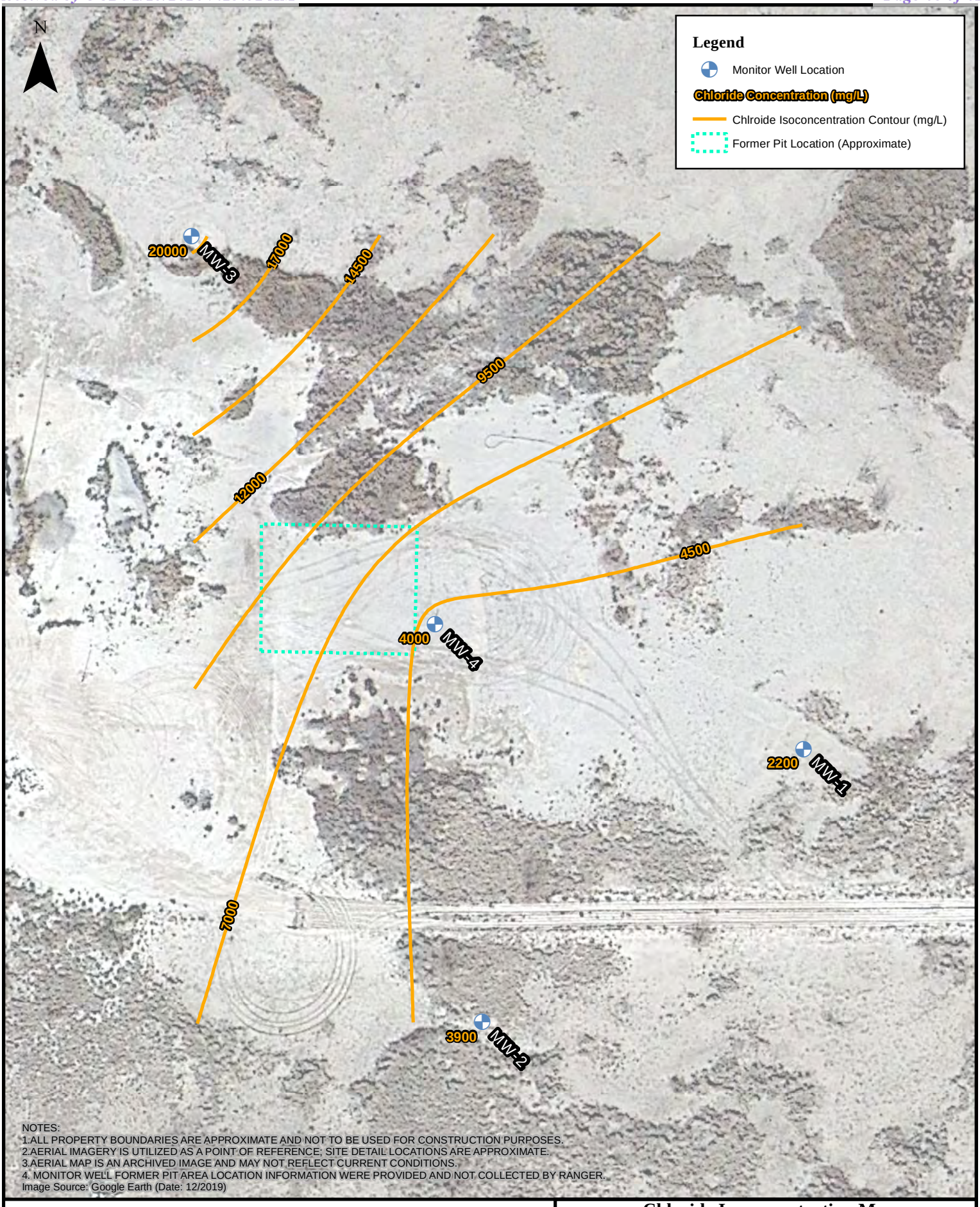

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 09/12/2012)
Williams Pit
EOG Resources, Inc.

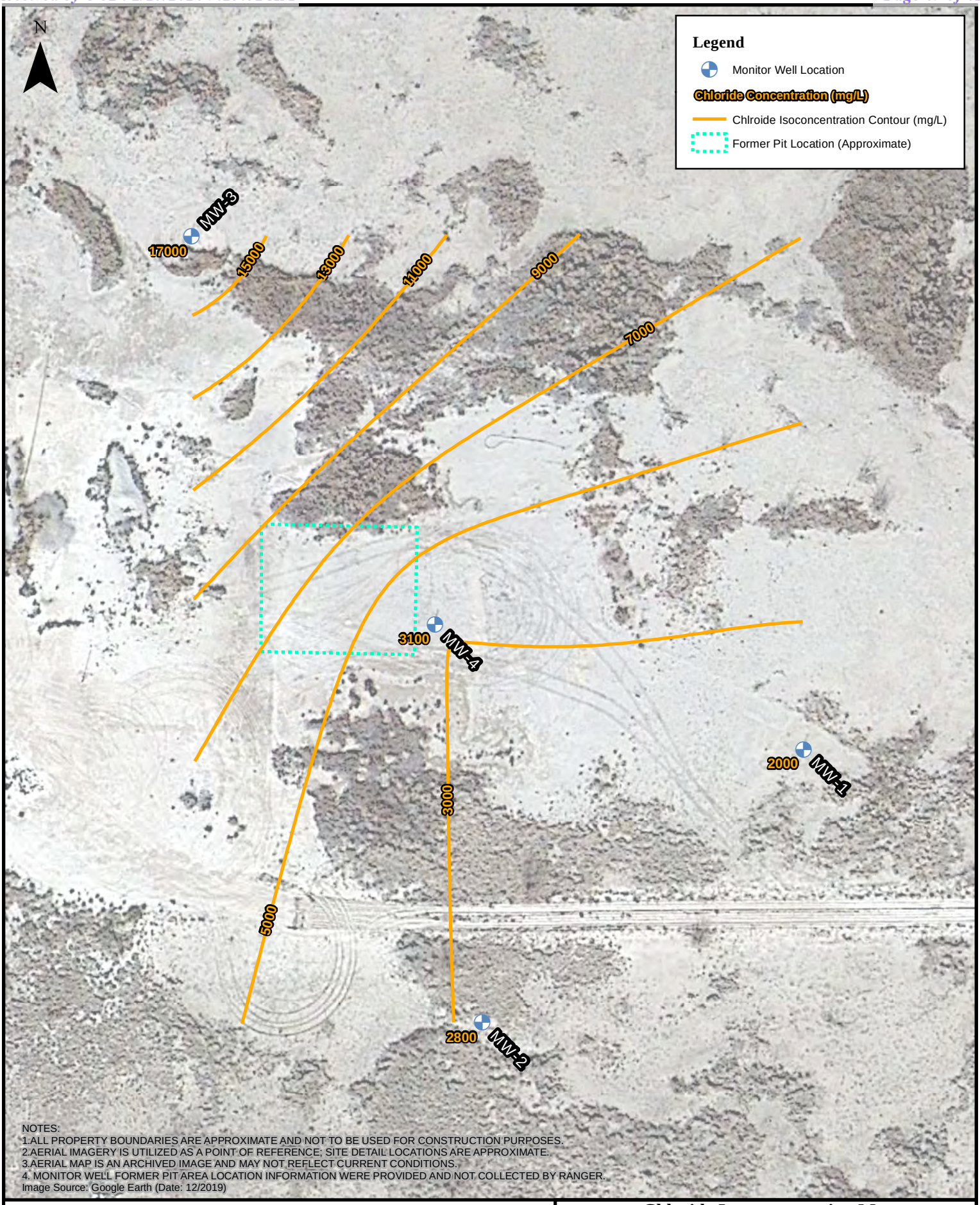

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 12/07/2012)
Williams Pit
EOG Resources, Inc.

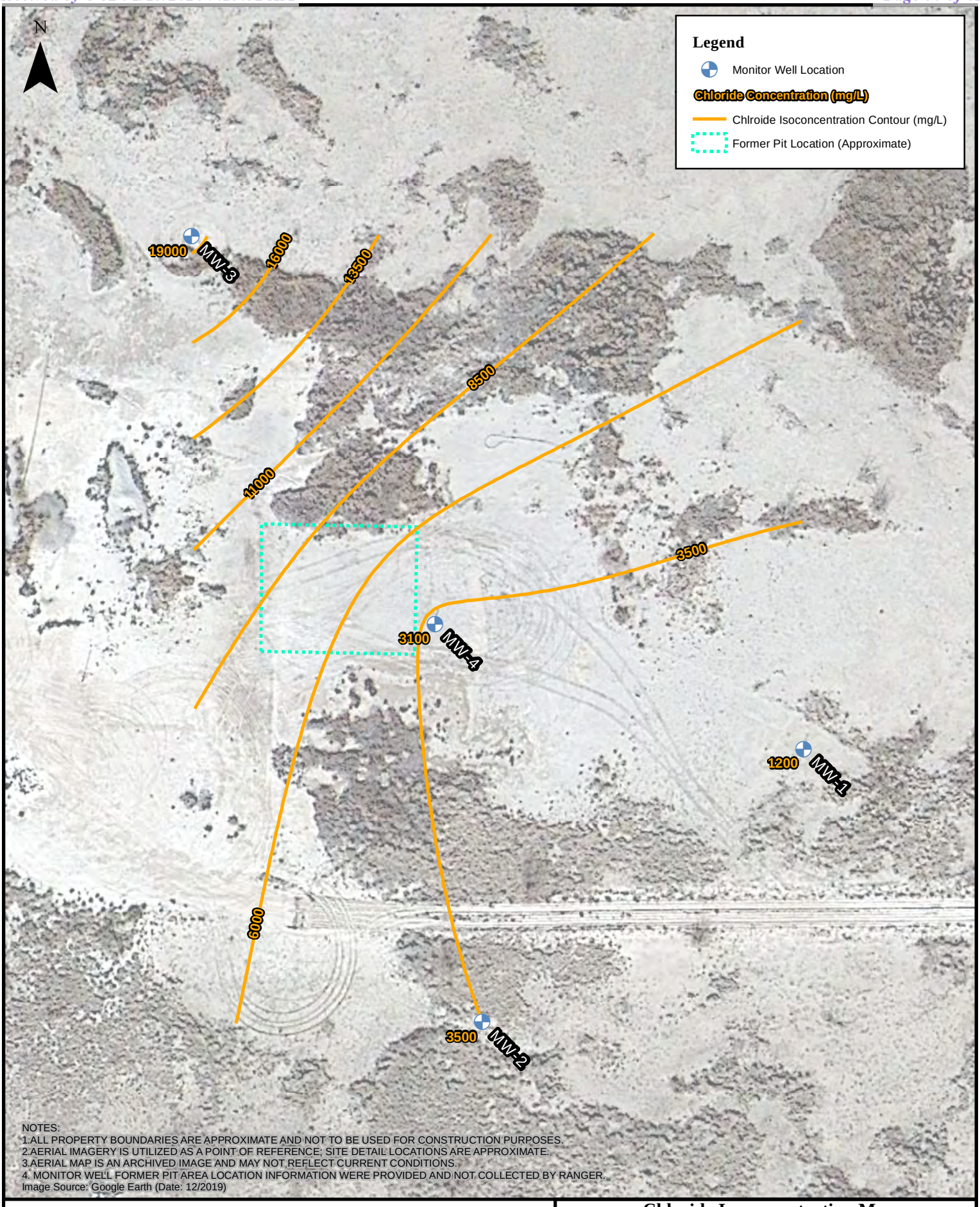

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 03/12/2013)
Williams Pit
EOG Resources, Inc.

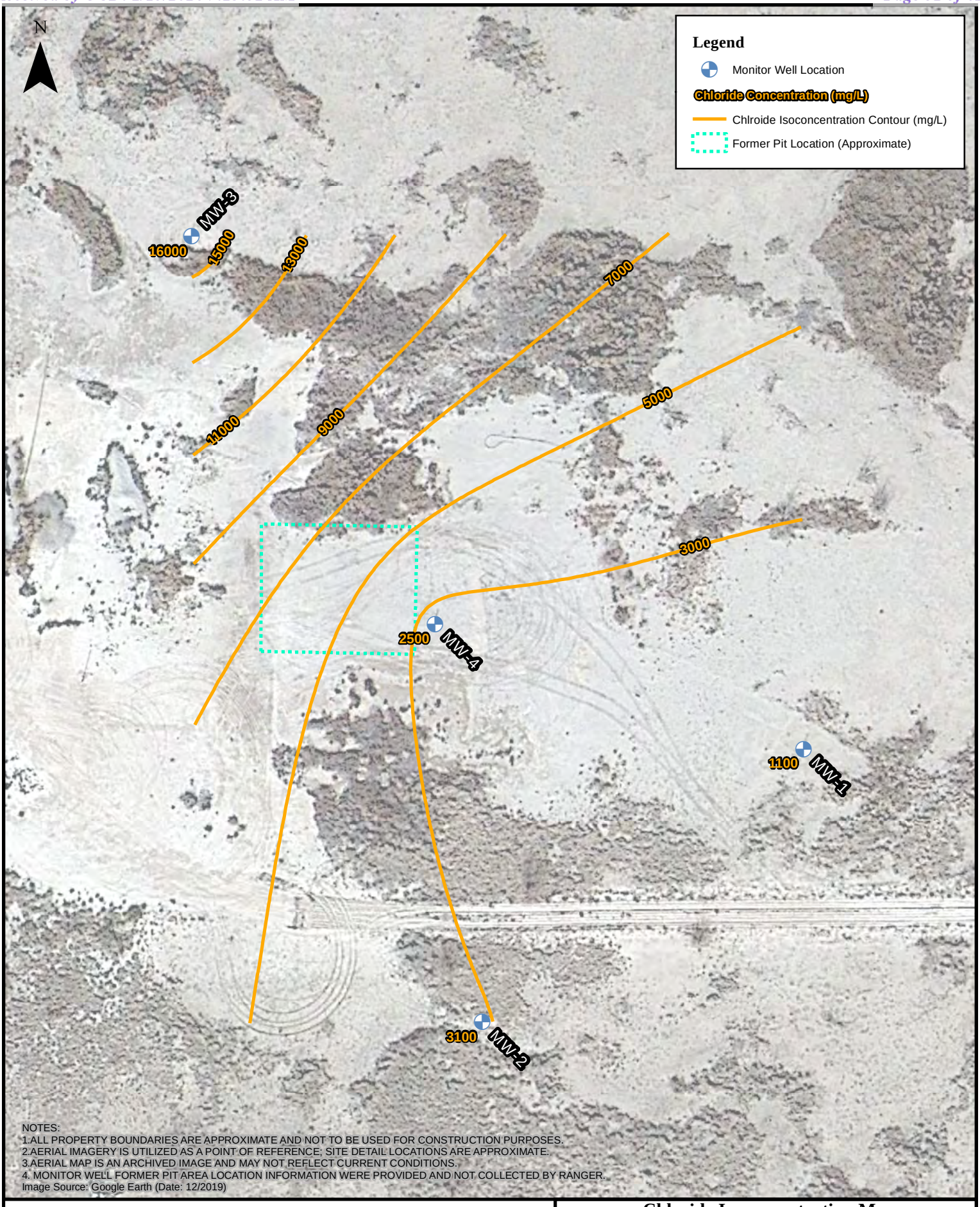

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 06/27/2013)
Williams Pit
EOG Resources, Inc.

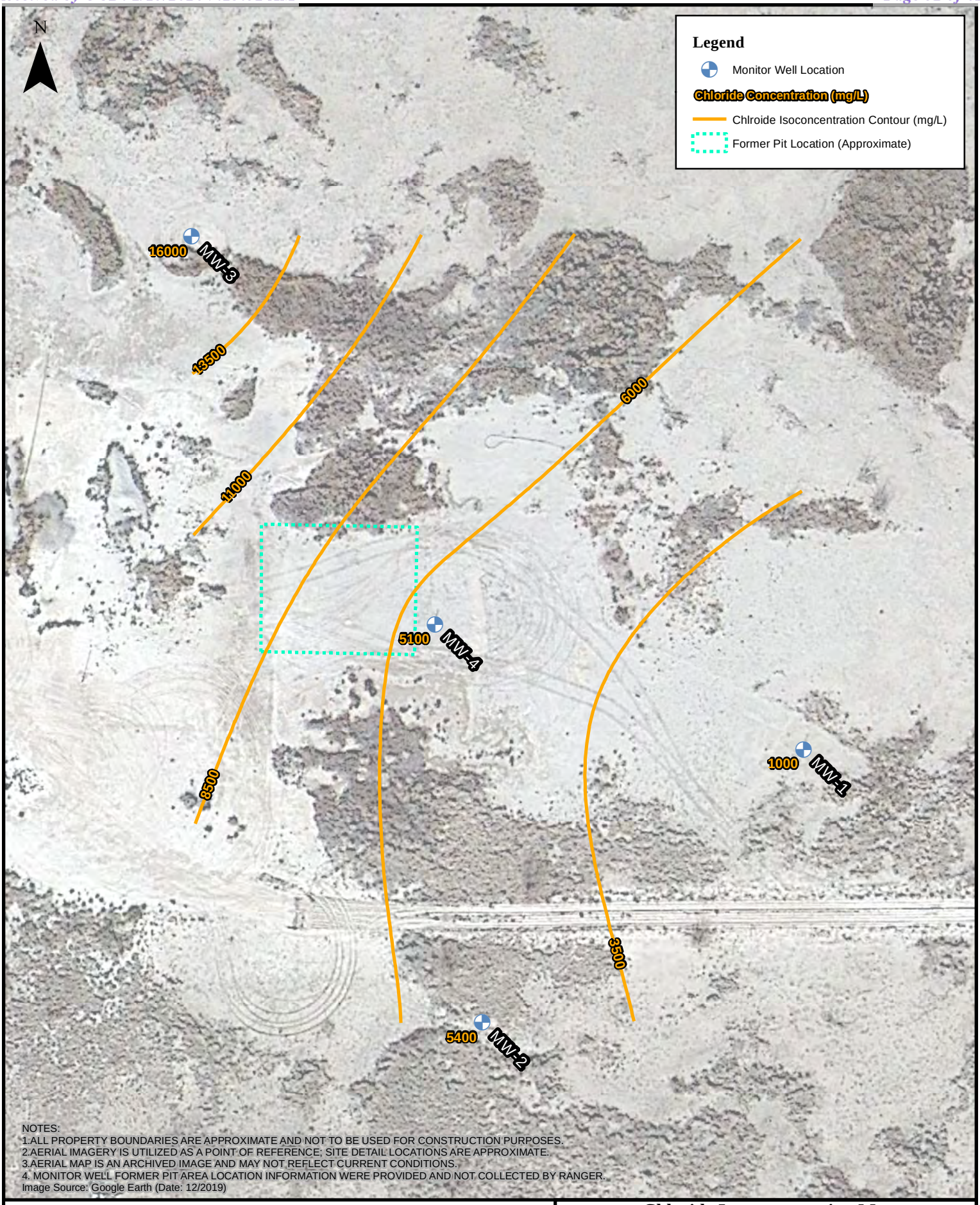

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 03/28/2018)
Williams Pit
EOG Resources, Inc.

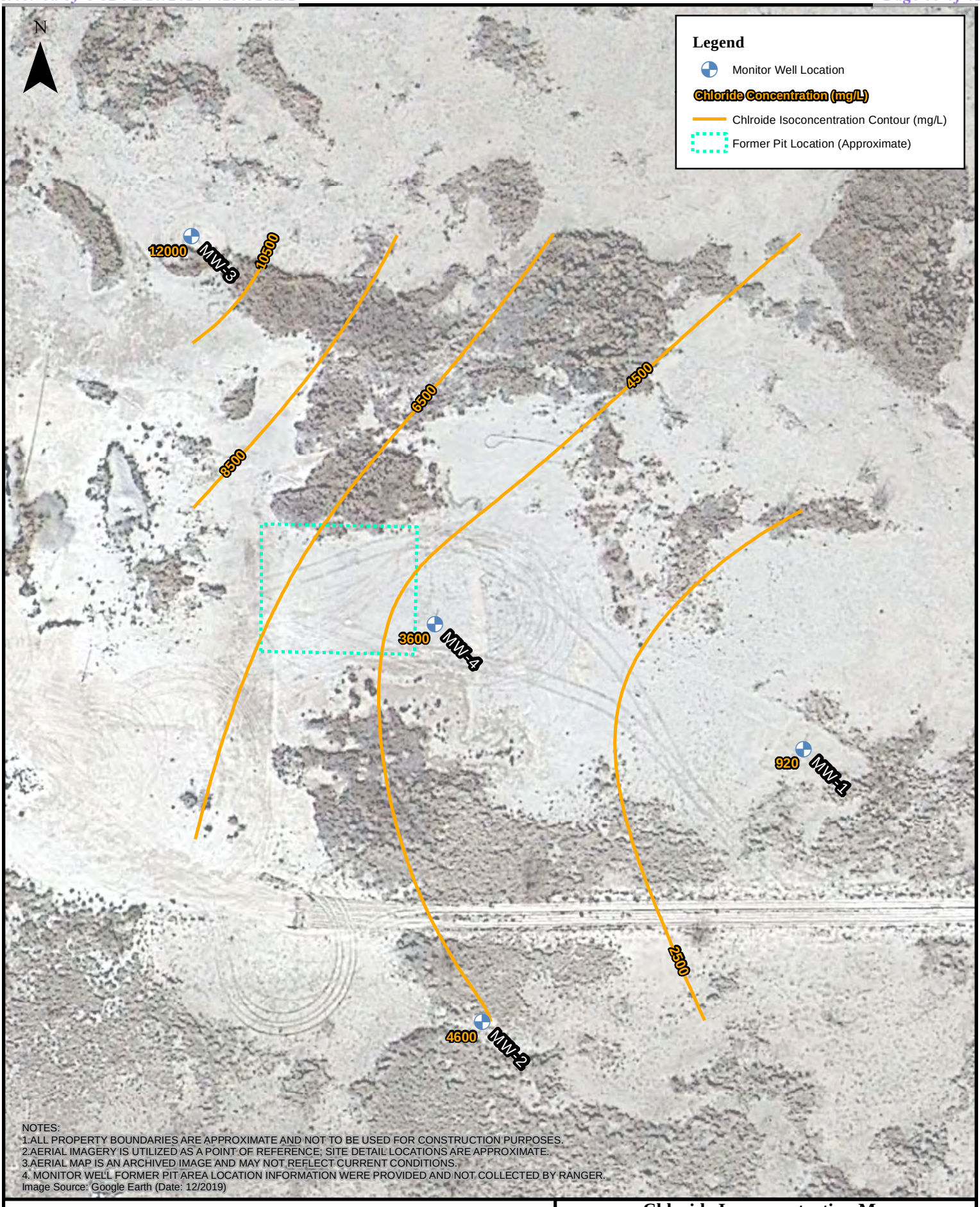

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 03/11/2019)
Williams Pit
EOG Resources, Inc.

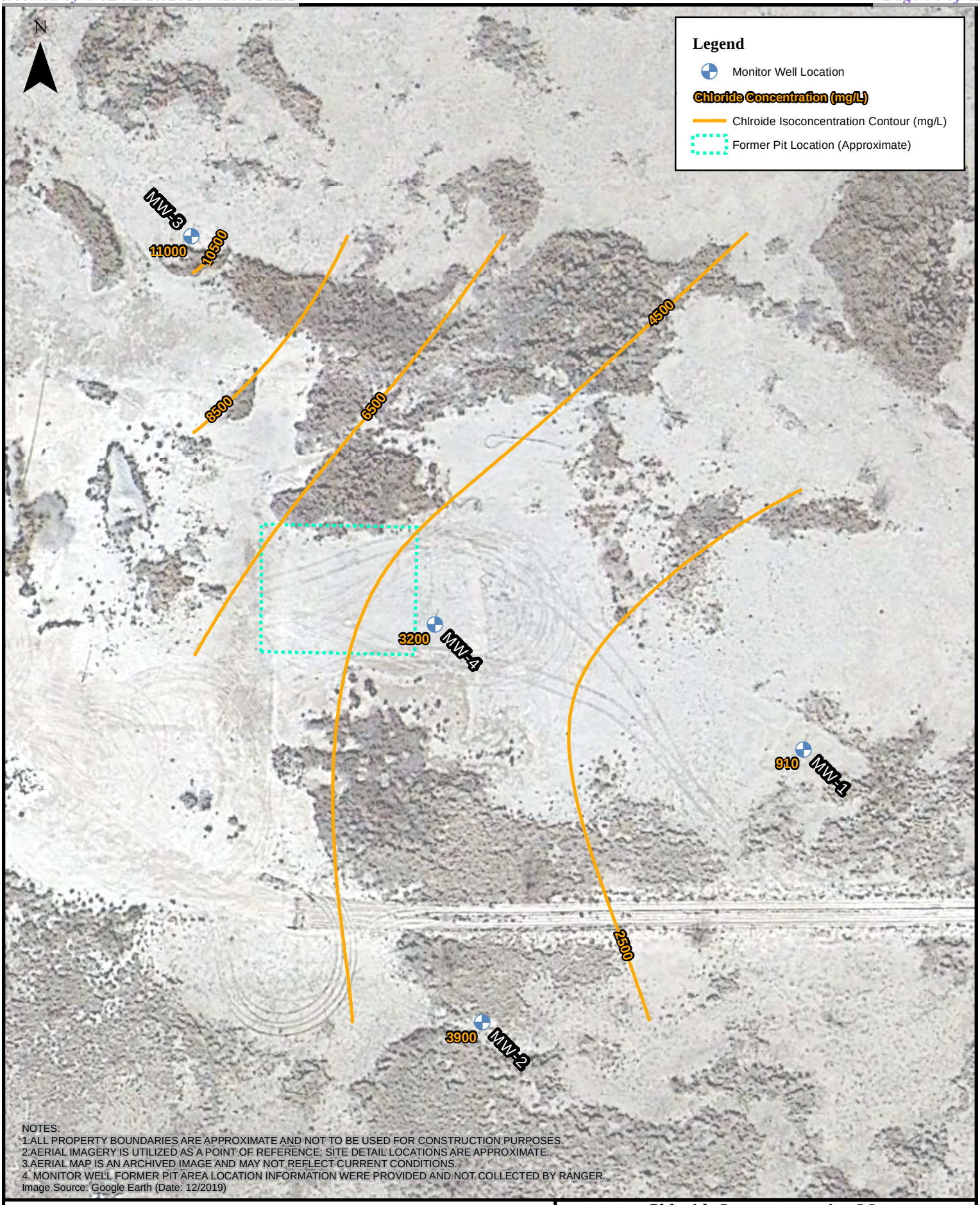

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 10/29/2019)
Williams Pit
EOG Resources, Inc.

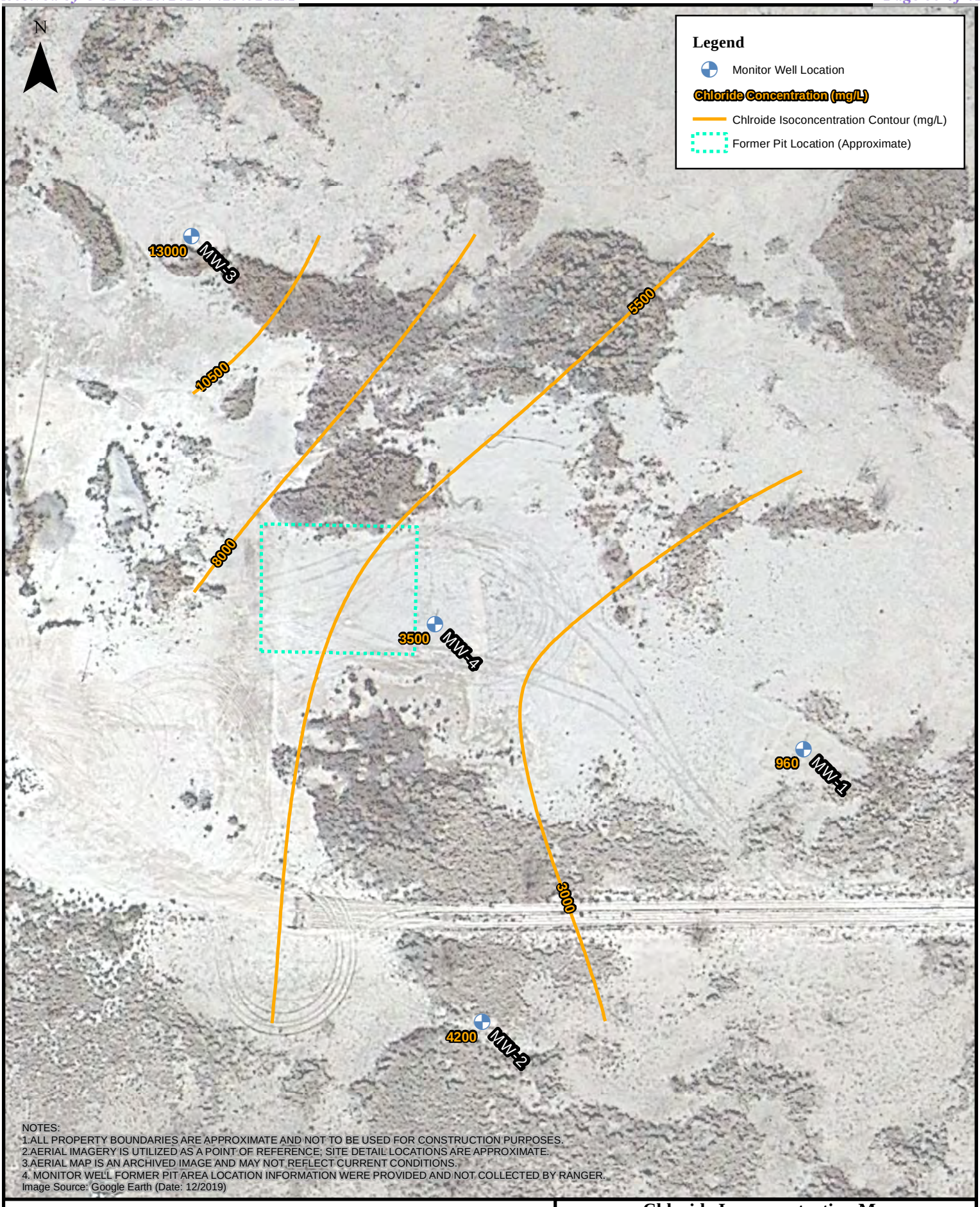

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 09/18/2020)
Williams Pit
EOG Resources, Inc.

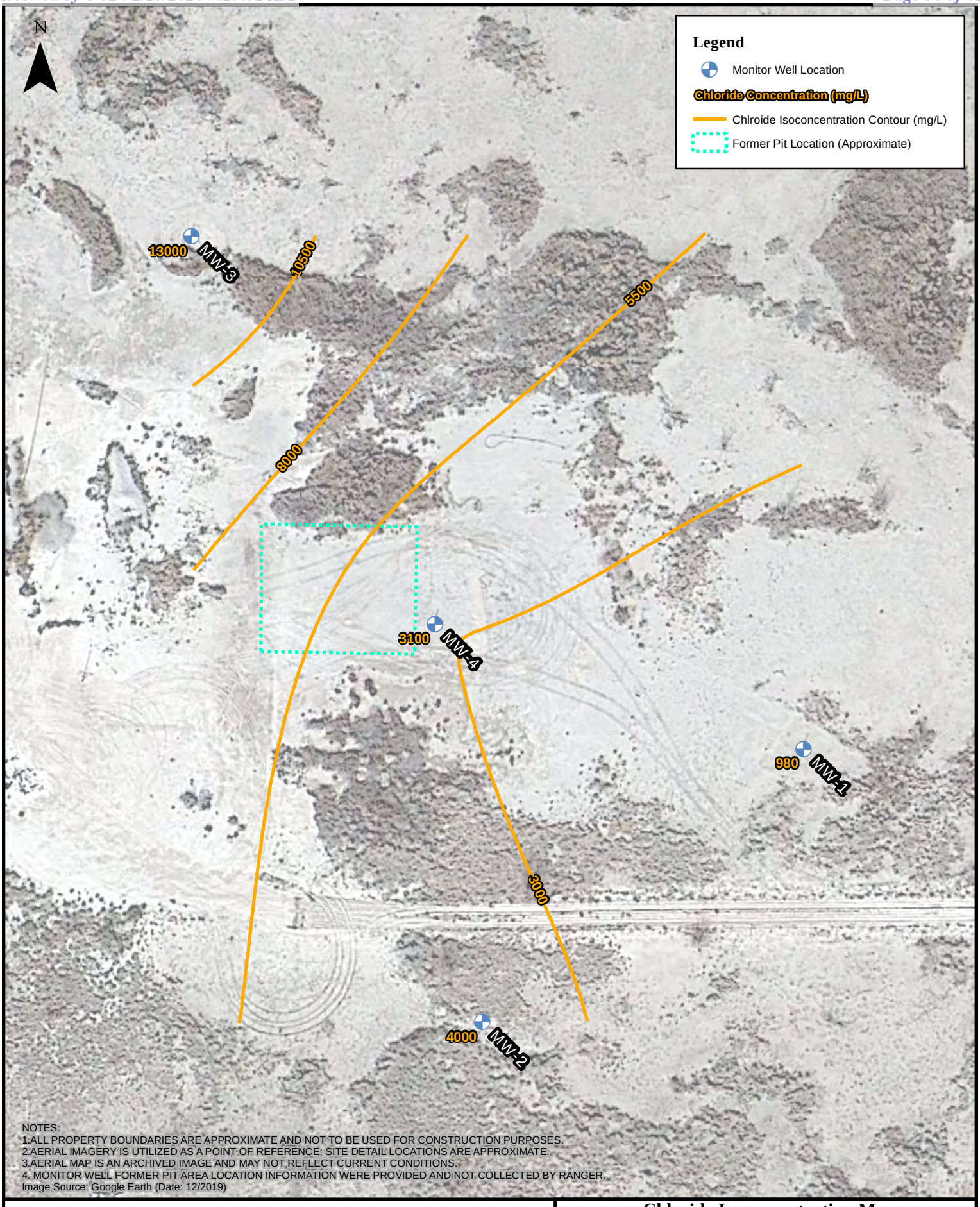

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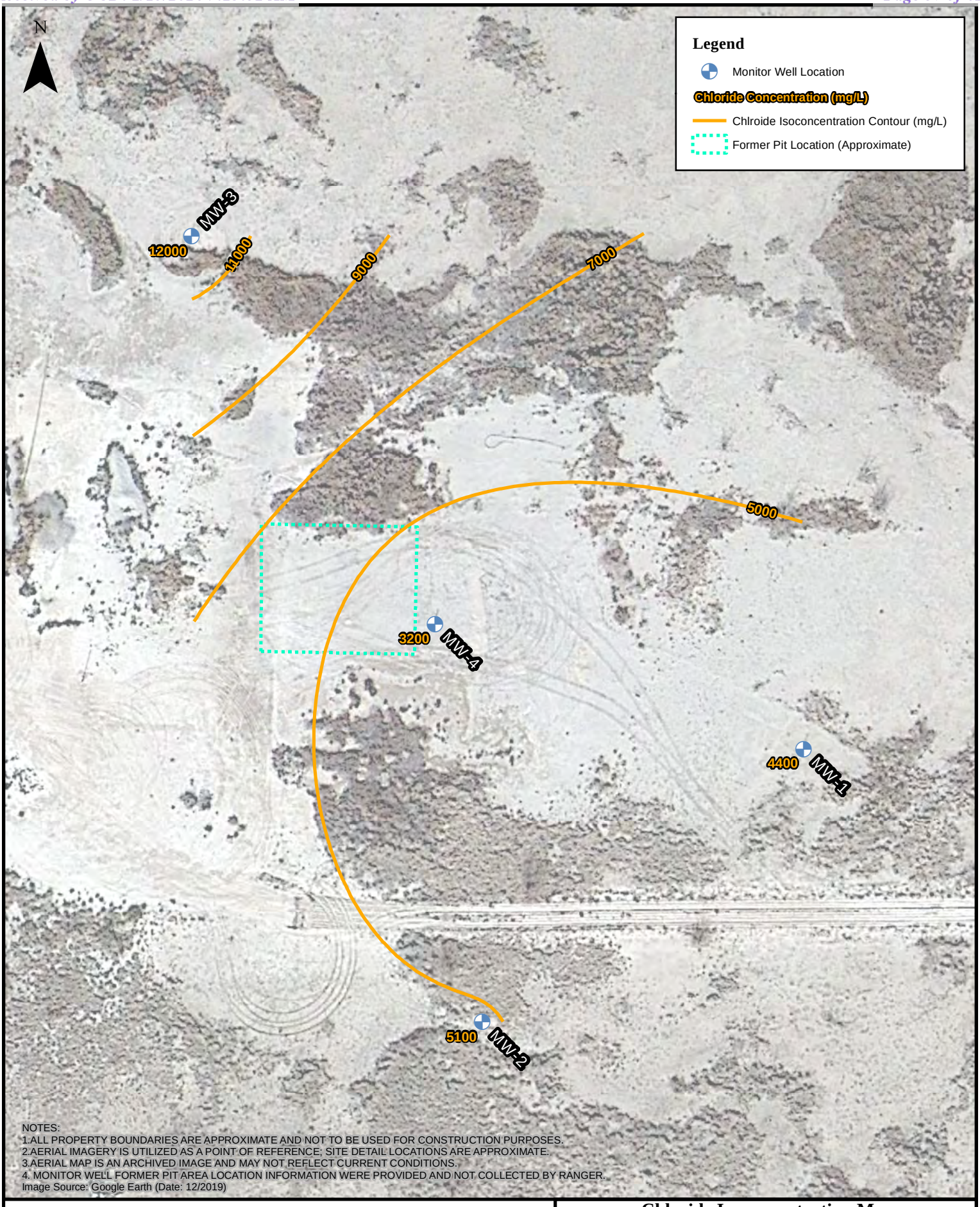
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 08/23/2021)
Williams Pit
EOG Resources, Inc.



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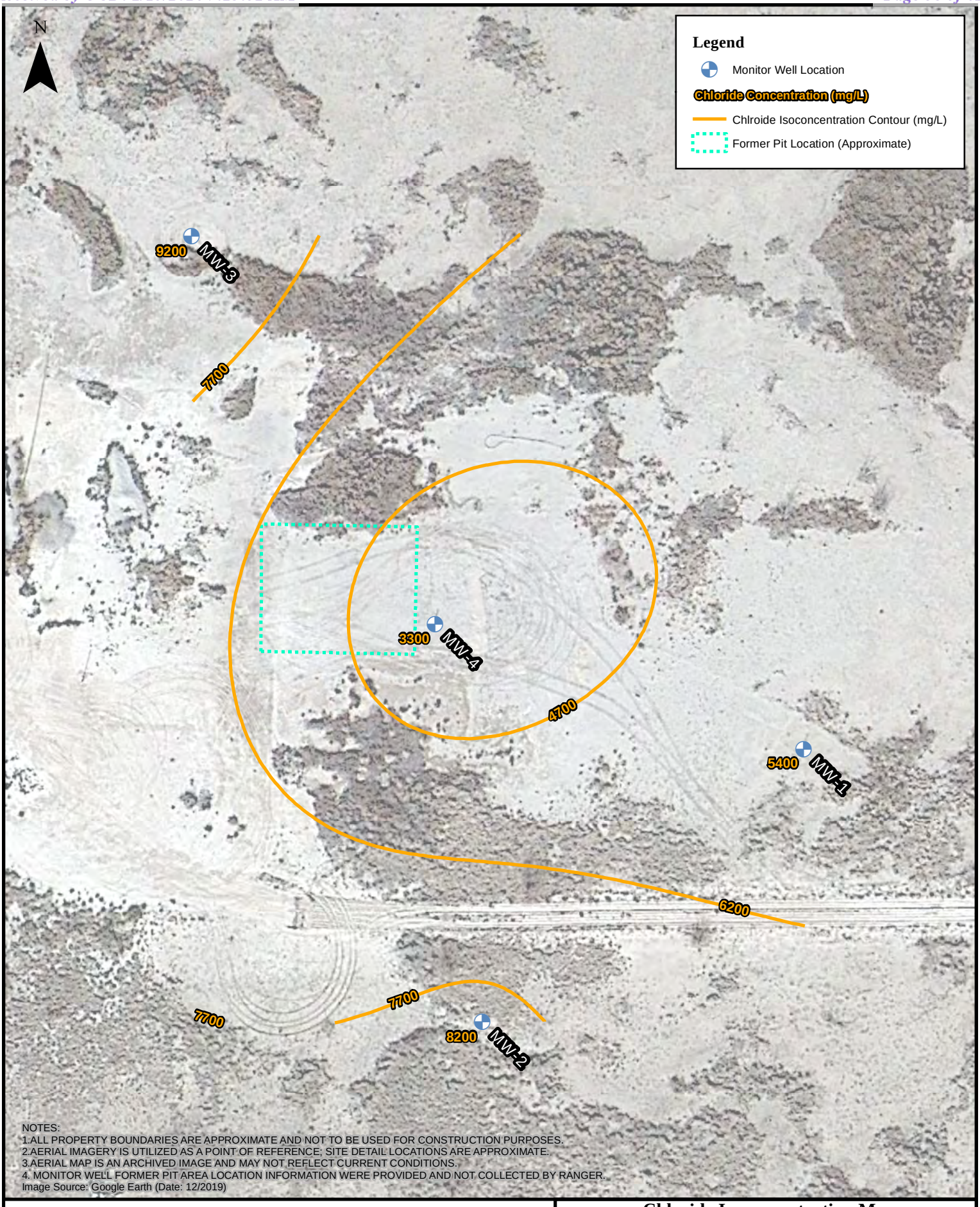
RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 03/22/2022)
Williams Pit
EOG Resources, Inc.



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RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Chloride Isoconcentration Map
(Sample Date: 08/03/2022)
Williams Pit
EOG Resources, Inc.

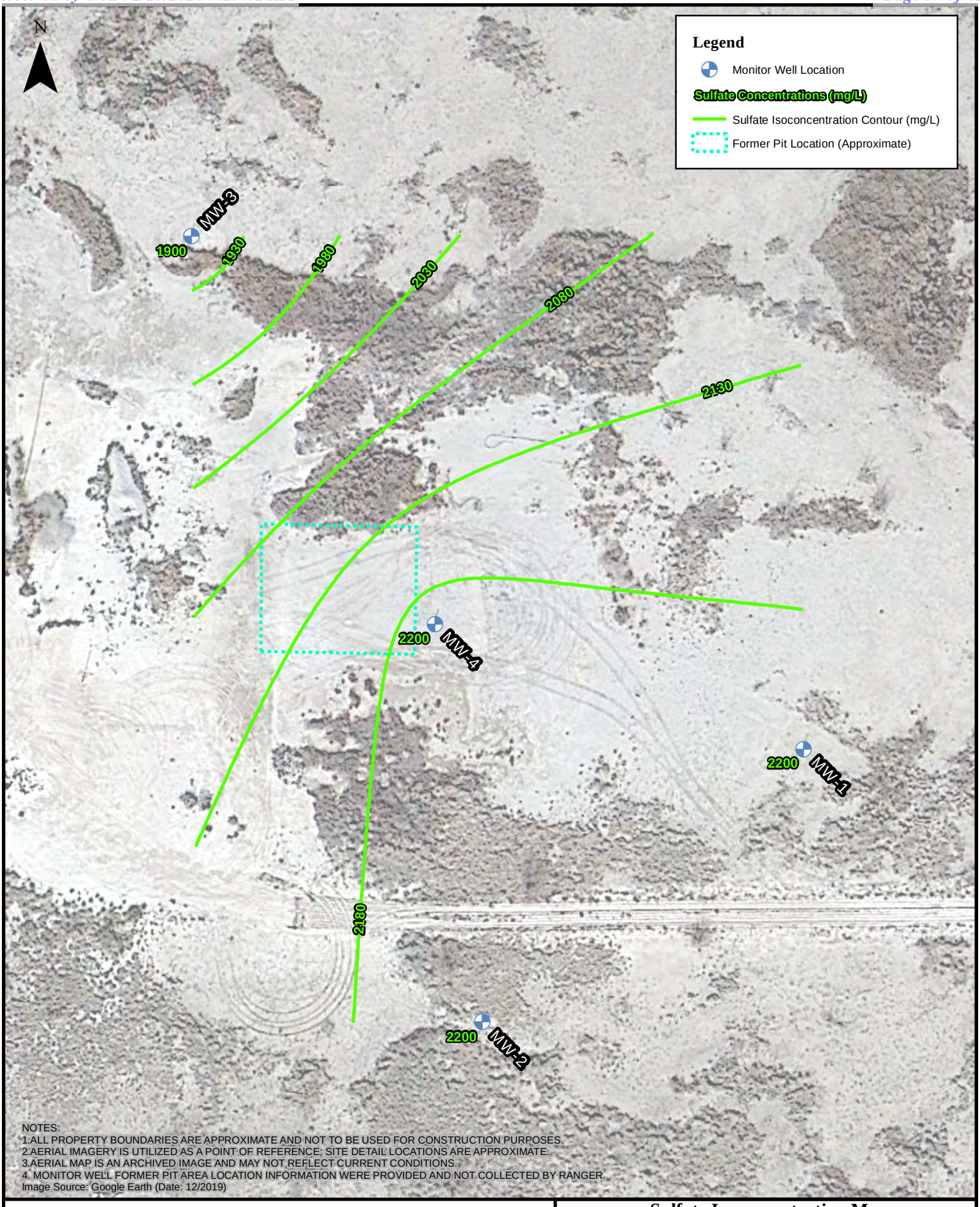

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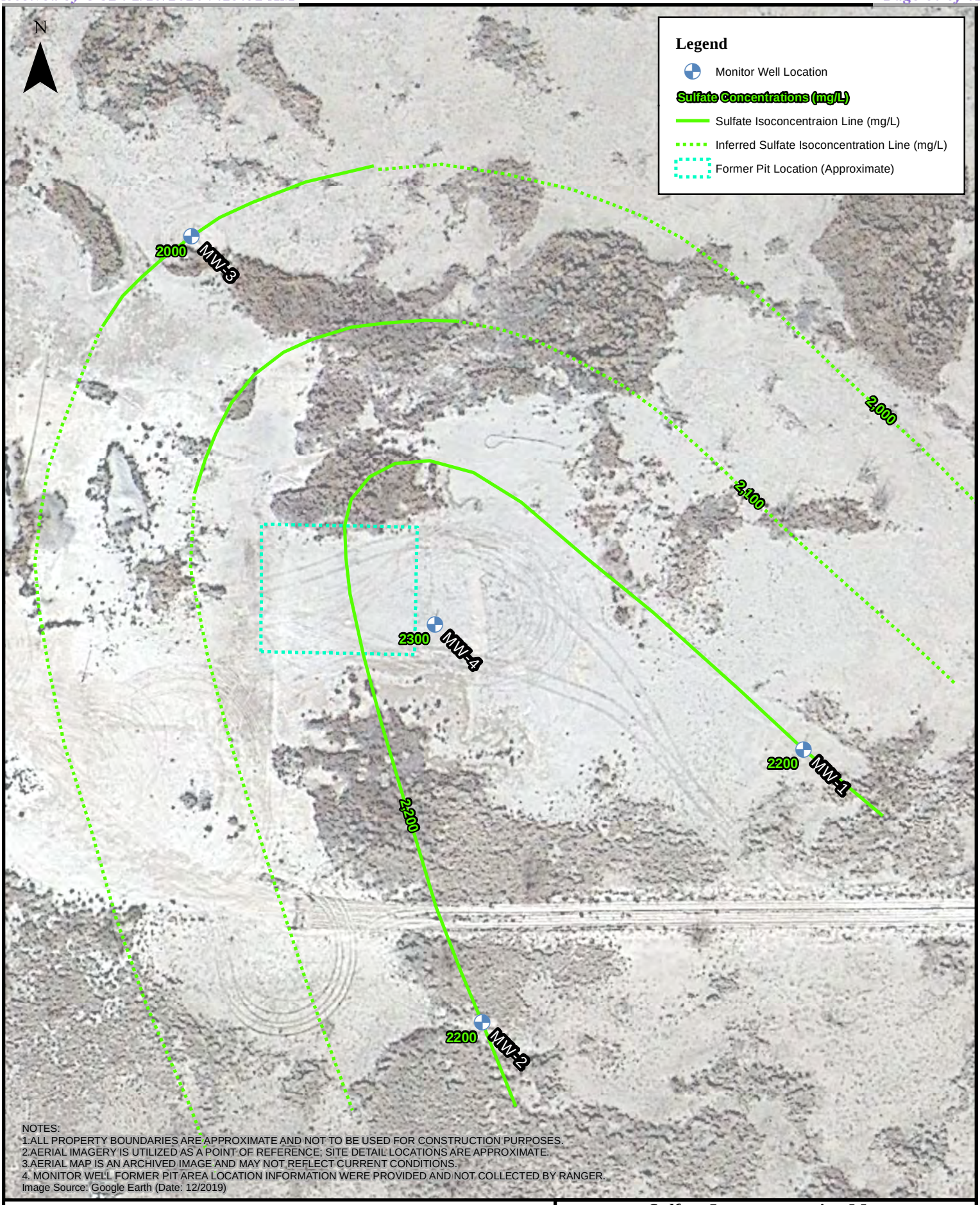
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 06/18/2012)
Williams Pit
EOG Resources, Inc.



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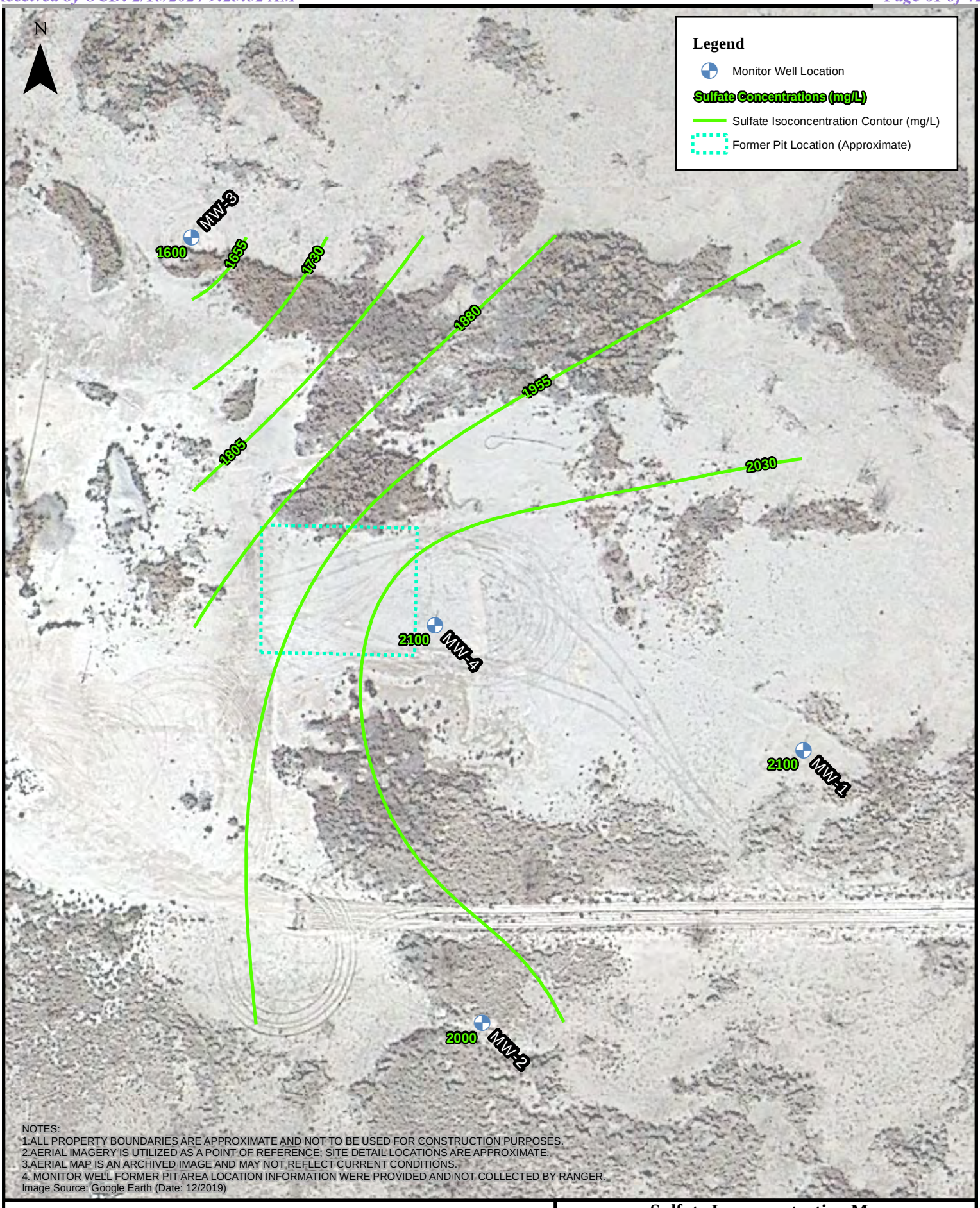
RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 09/12/2012)
Williams Pit
EOG Resources, Inc.



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RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 12/07/2012)
Williams Pit
EOG Resources, Inc.

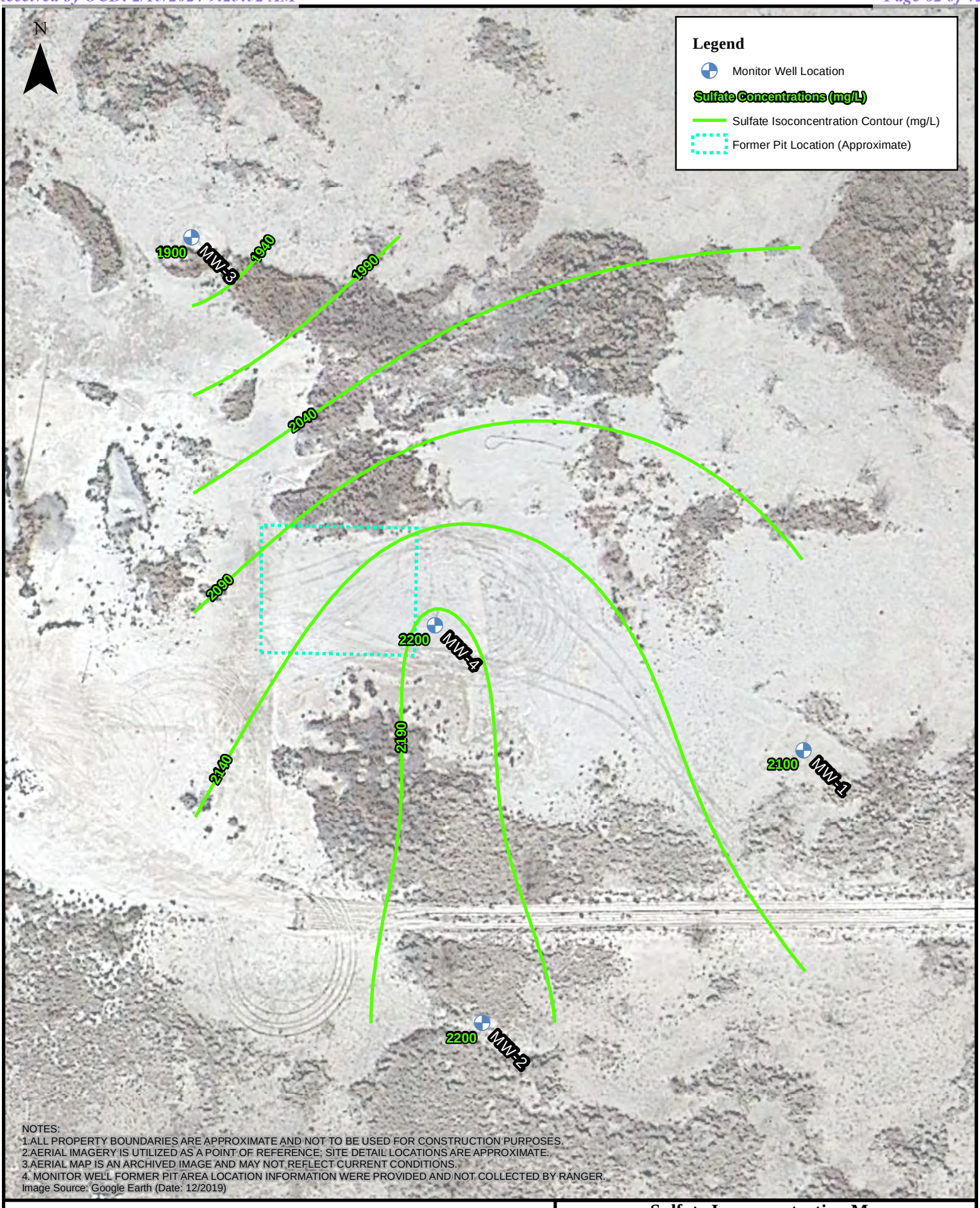

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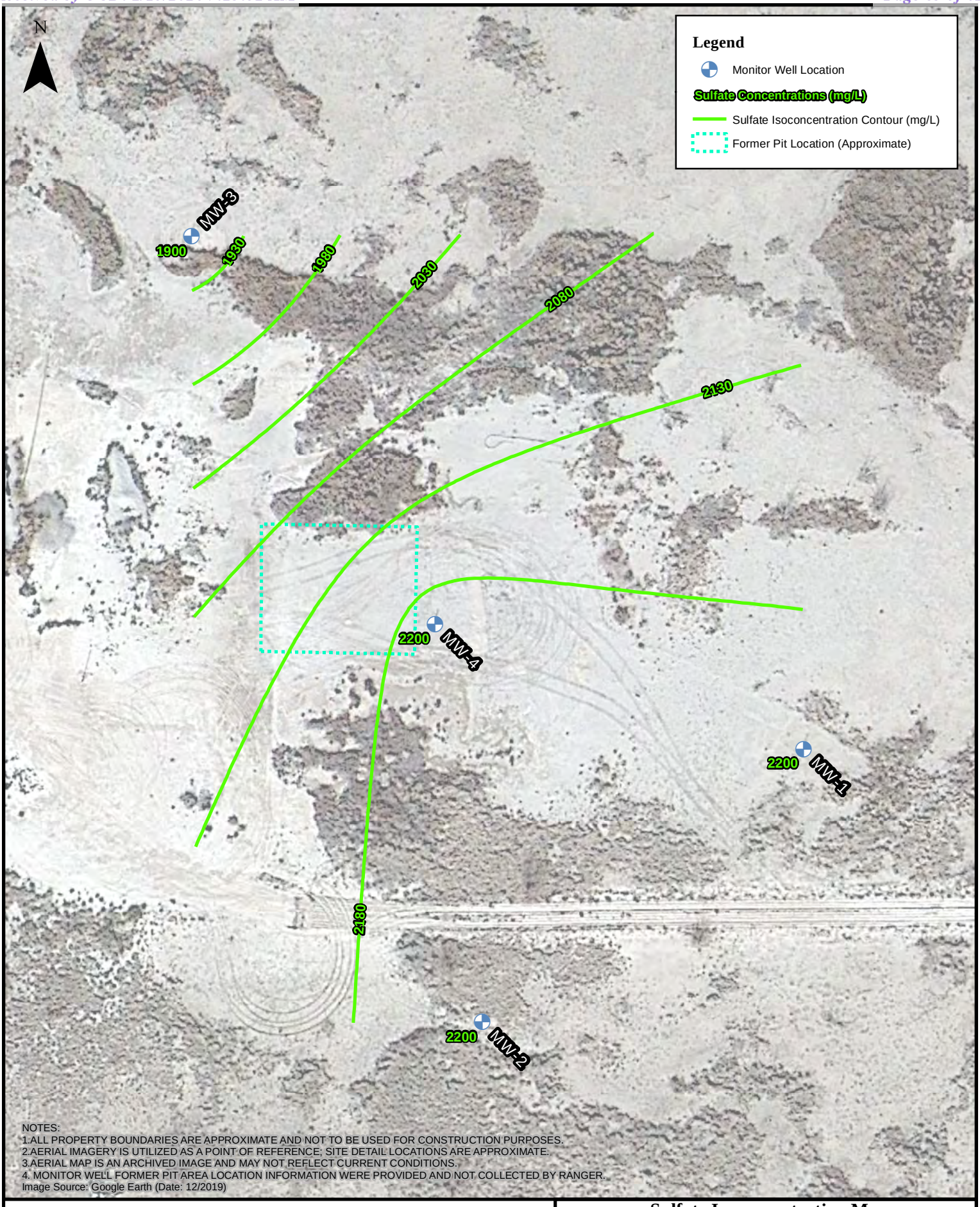
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 03/17/2012)
Williams Pit
EOG Resources, Inc.



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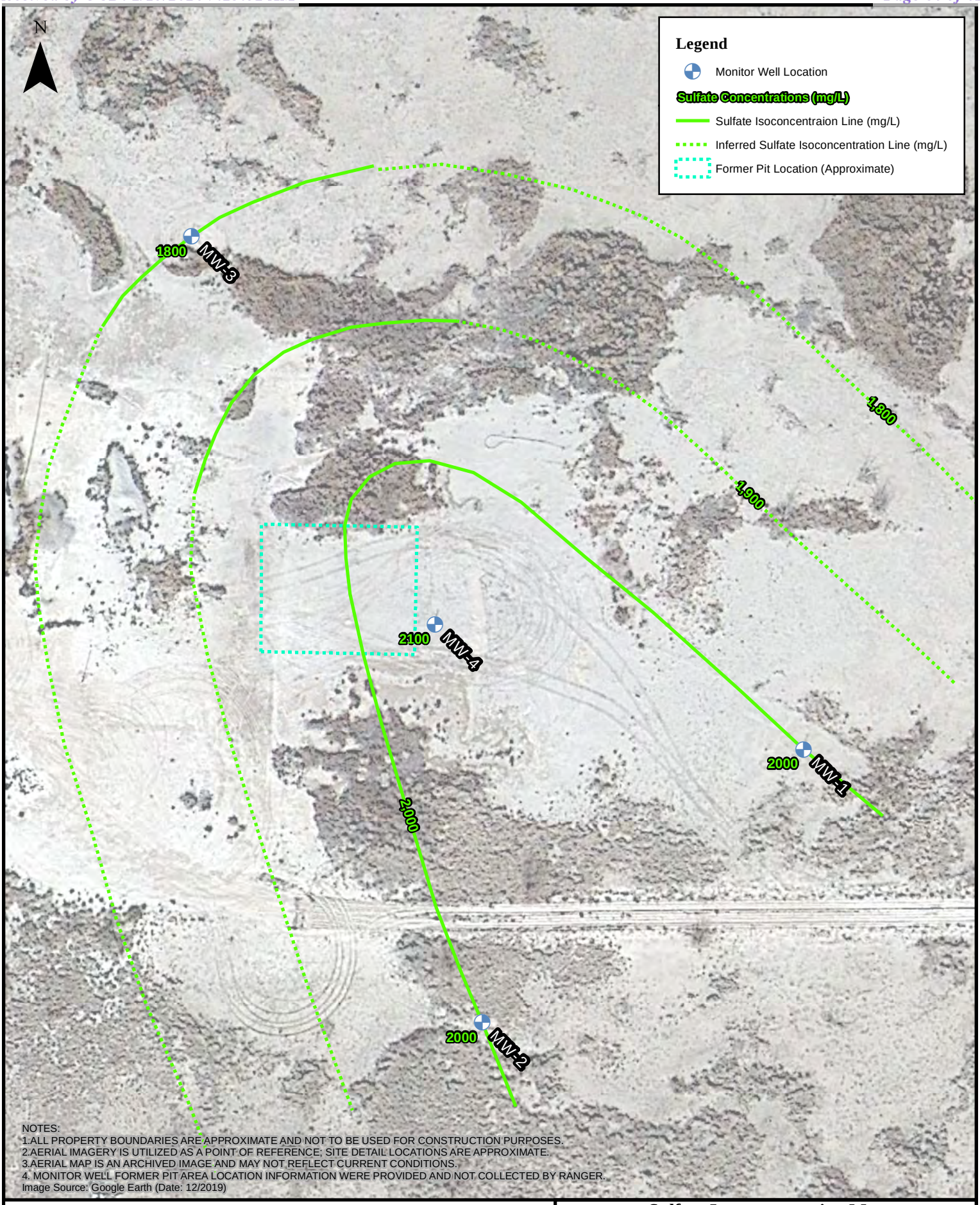
RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 03/12/2013)
Williams Pit
EOG Resources, Inc.



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RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 06/27/2013)
Williams Pit
EOG Resources, Inc.

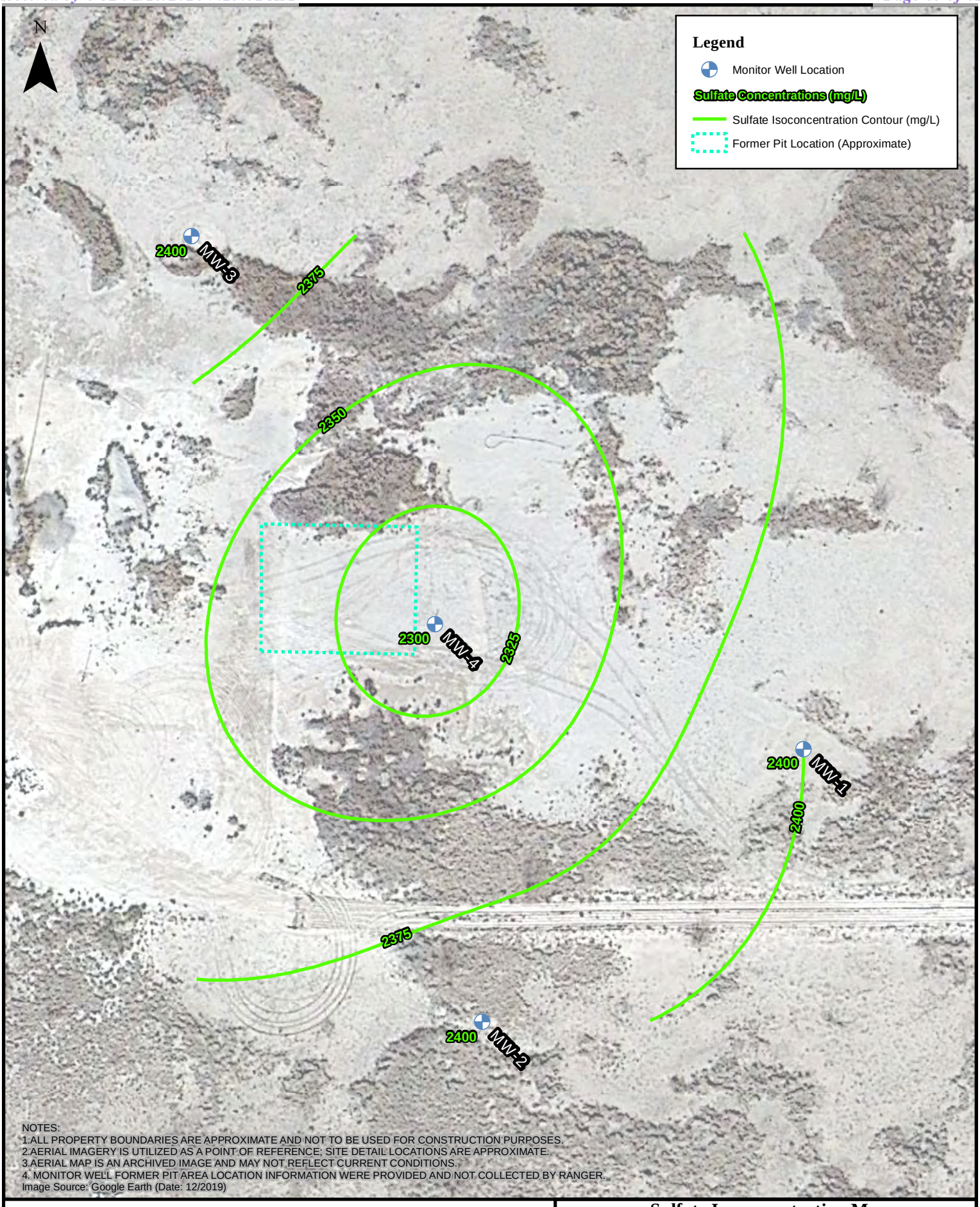

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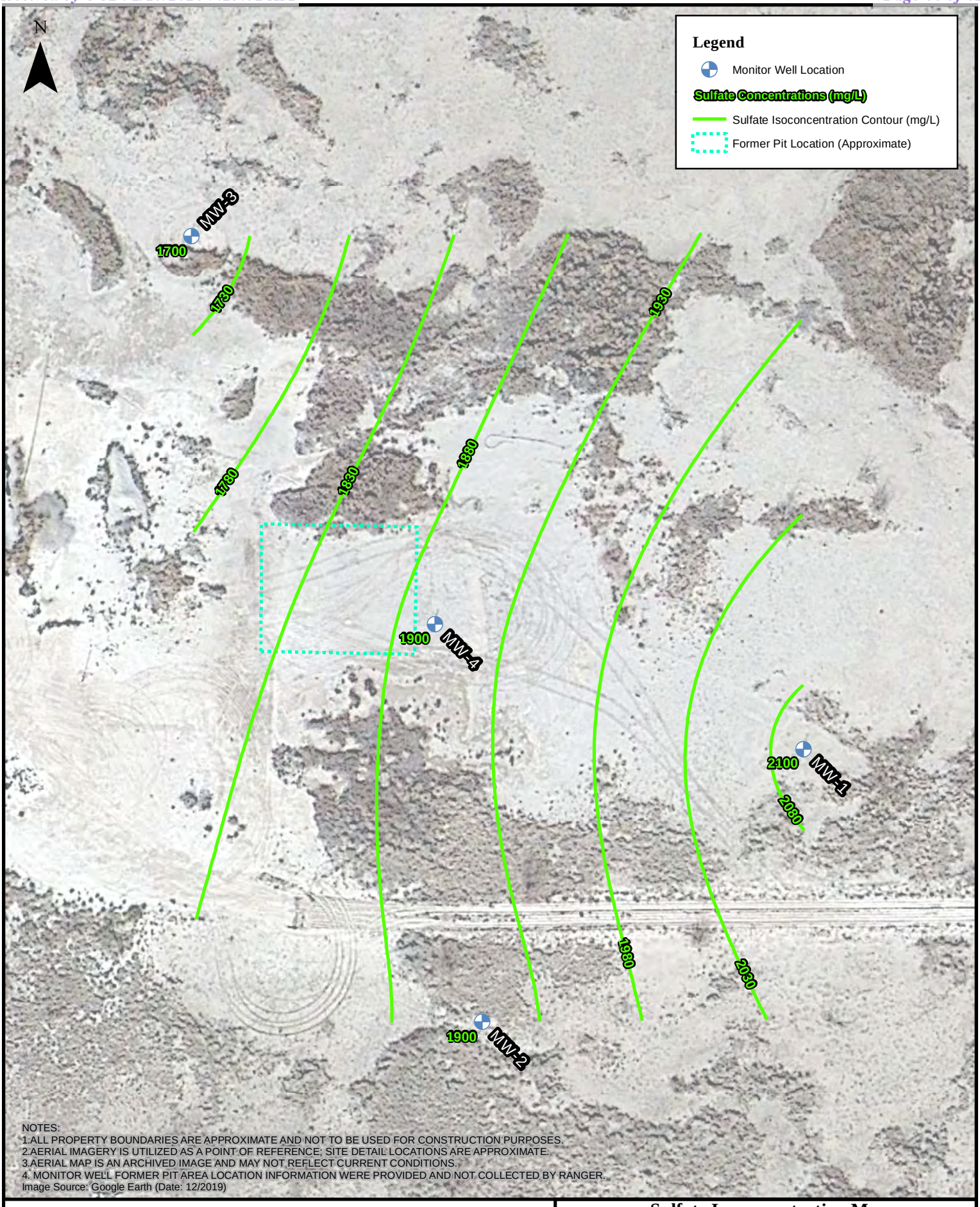
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 03/28/2018)
Williams Pit
EOG Resources, Inc.



NOTES:
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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 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 03/11/2019)
Williams Pit
EOG Resources, Inc.

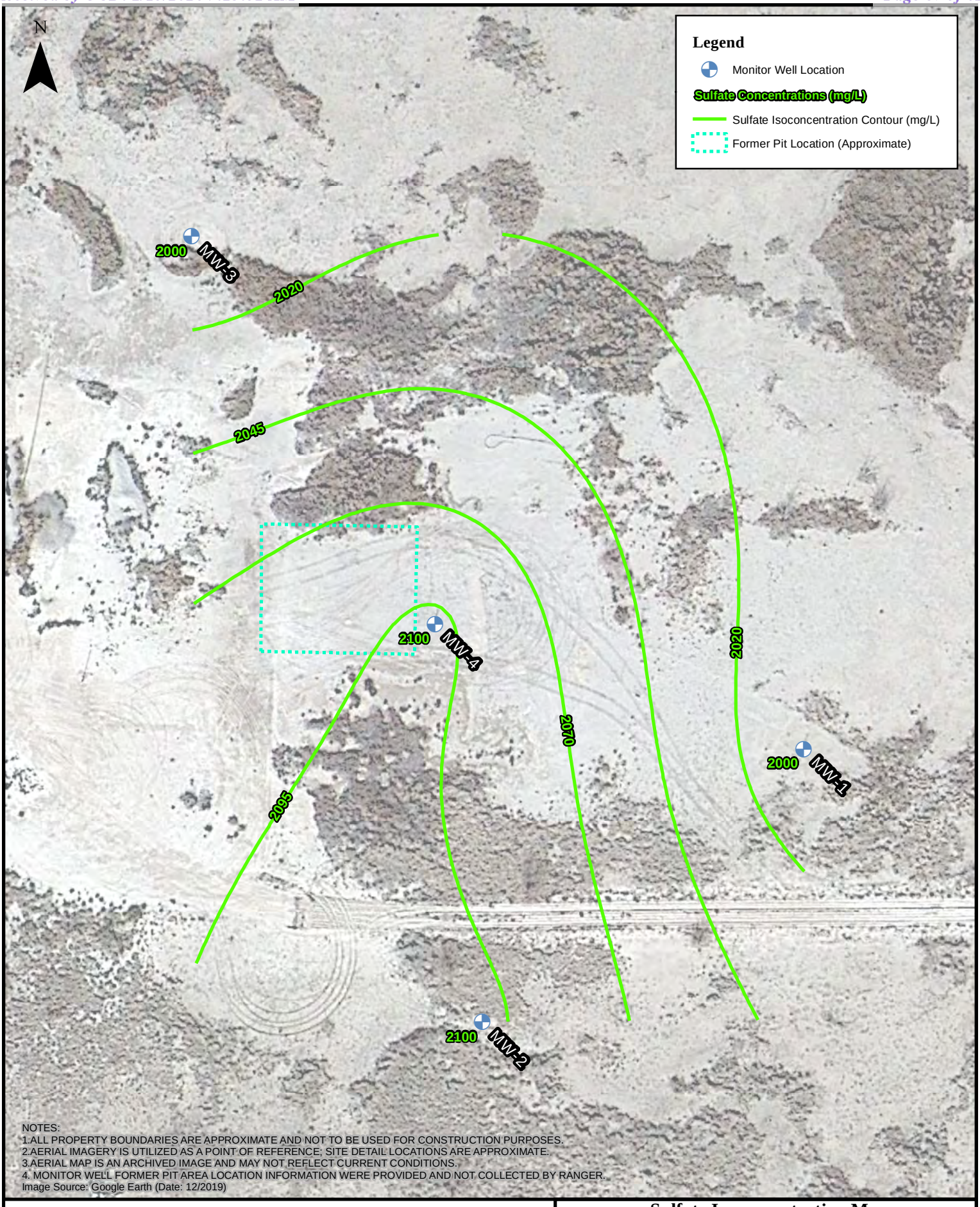

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 10/29/2019)
Williams Pit
EOG Resources, Inc.

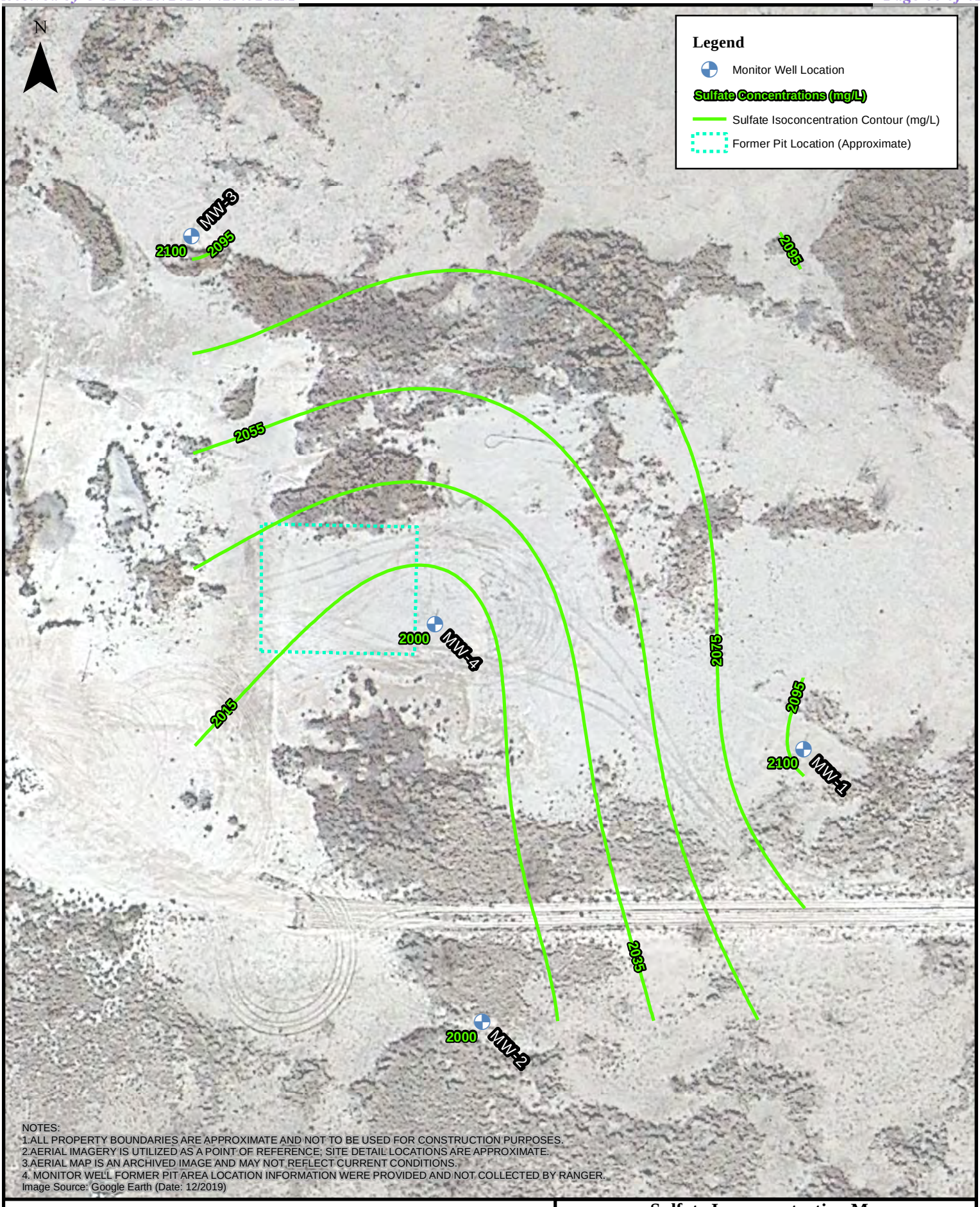

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 09/18/2020)
Williams Pit
EOG Resources, Inc.

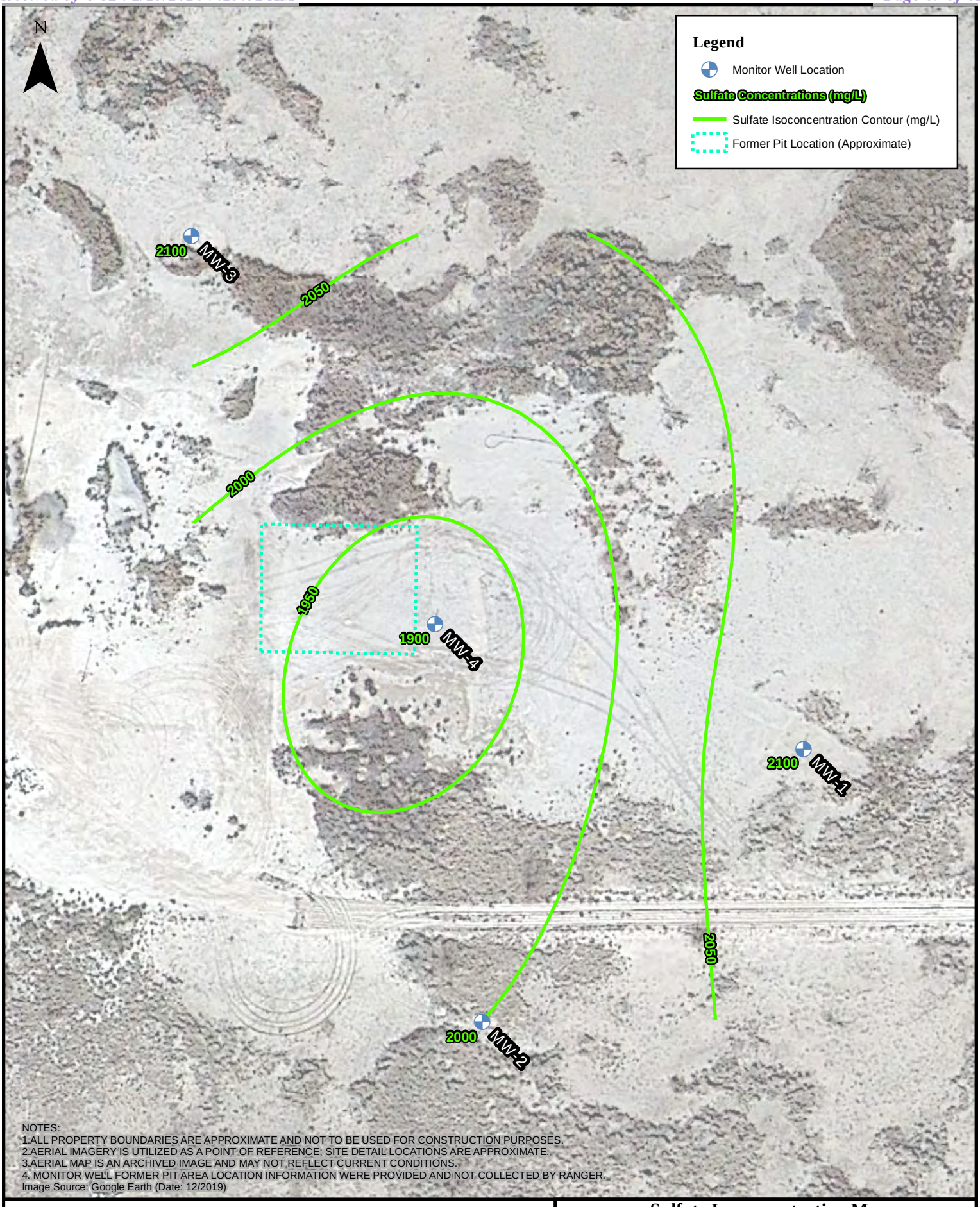

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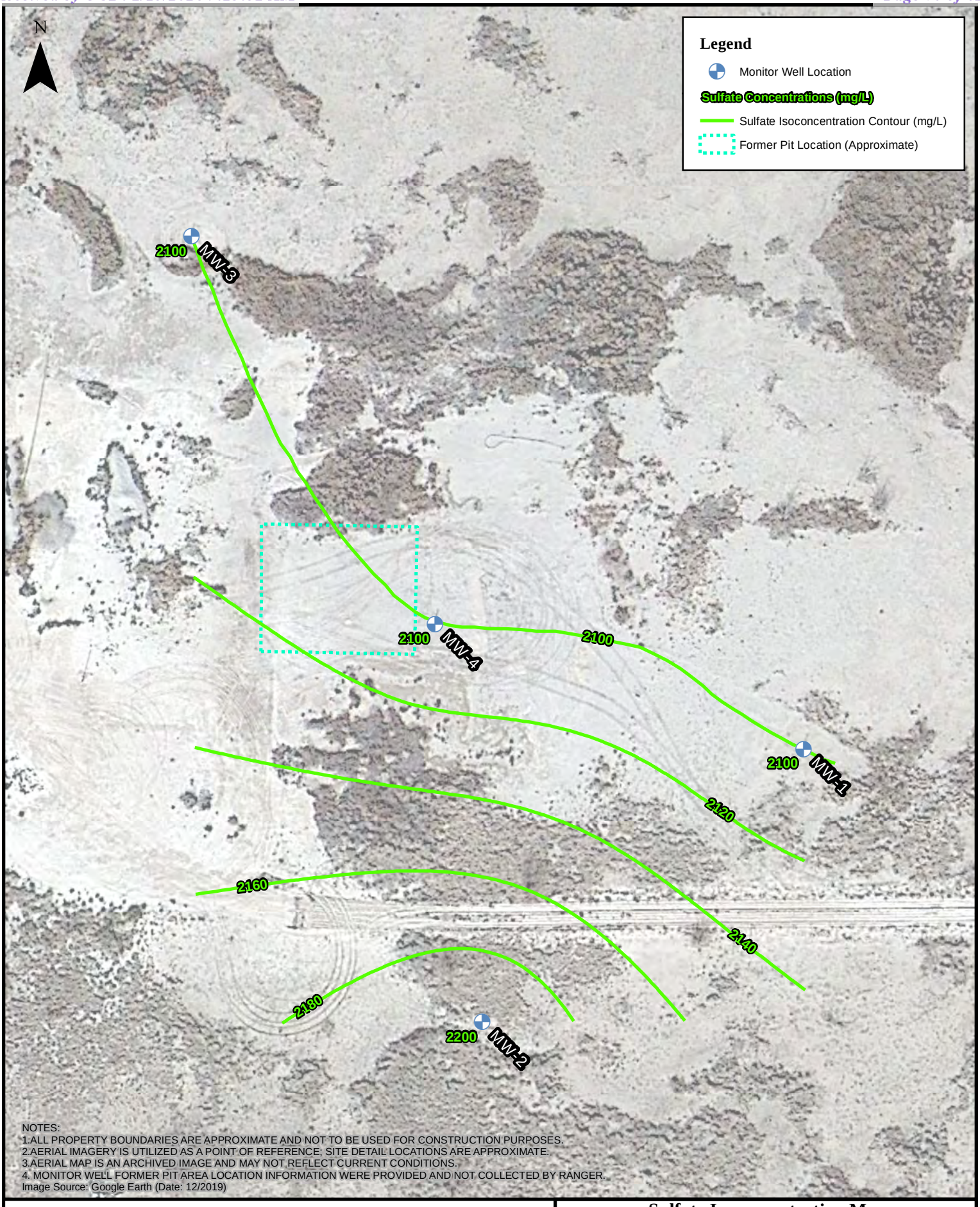
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 03/22/2022)
Williams Pit
EOG Resources, Inc.



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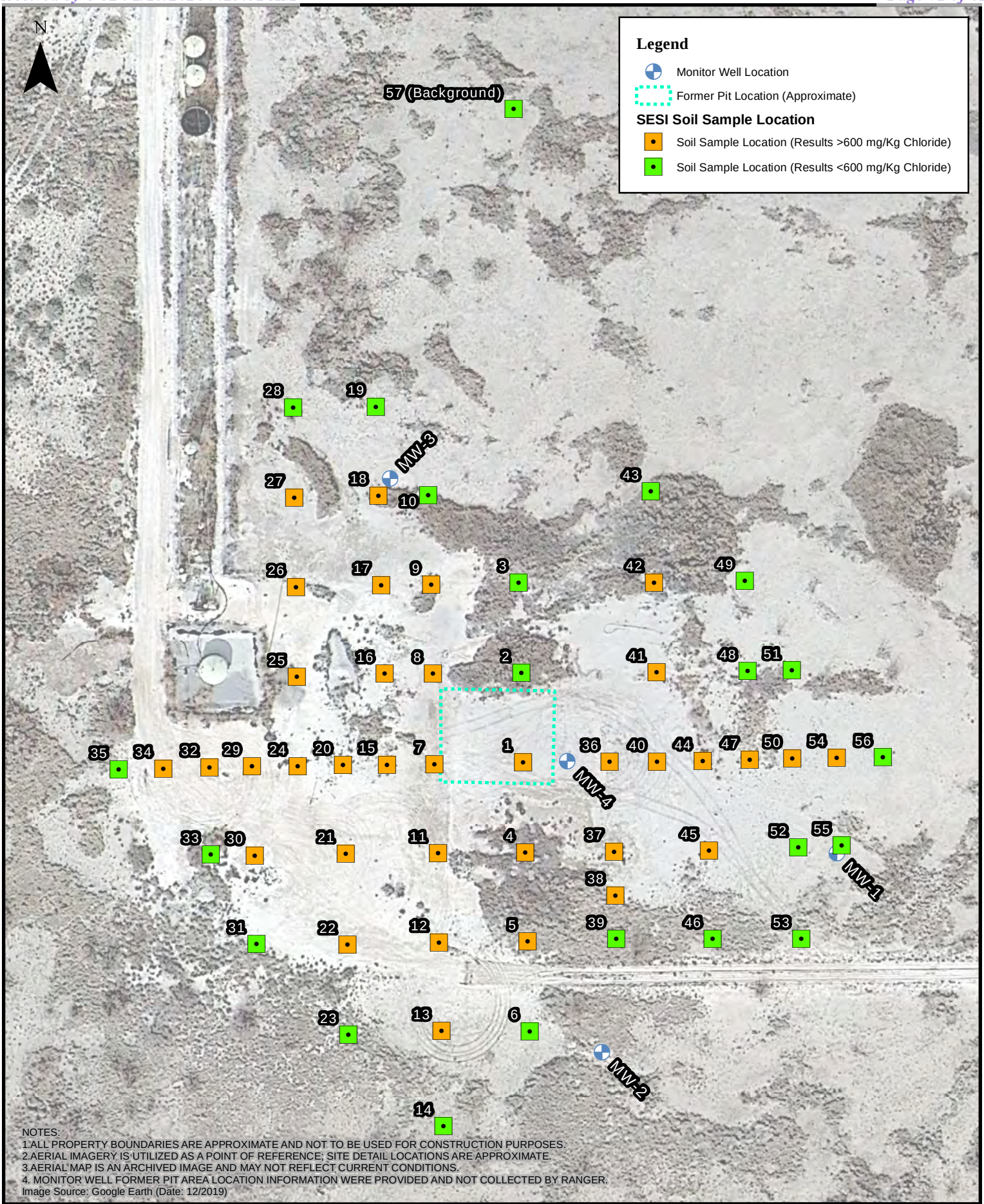
4. MONITOR WELL FORMER PIT AREA LOCATION INFORMATION WERE PROVIDED AND NOT COLLECTED BY RANGER.
Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 12.5 25 50 75 100 Feet

1:600

Sulfate Isoconcentration Map
(Sample Date: 08/03/2022)
Williams Pit
EOG Resources, Inc.



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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 20 40 80 120 160 Feet

1:825

May 2021 Soil Sample Location Map
Williams Pit
EOG Resources, Inc.

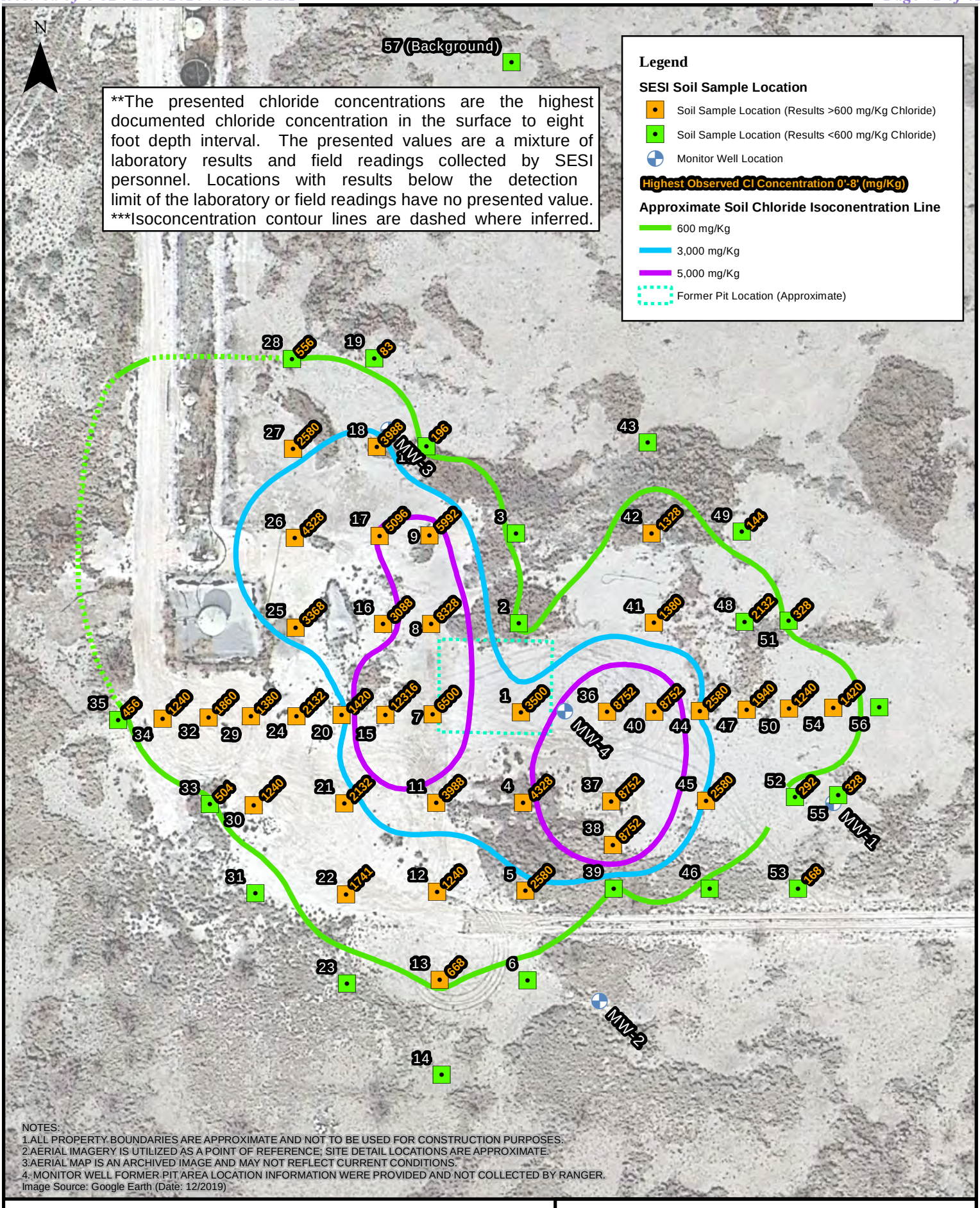

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Image Source: Google Earth (Date: 12/2019)

RANGER ENVIRONMENTAL SERVICES, LLC

0 20 40 80 120 160 Feet

1:825

Soil Chloride Isoconcentration Map
Williams Pit
EOG Resources, Inc.

TABLES

Well Gauging Data
Groundwater EPA Method 300.0: Anions
Groundwater Dissolved Metals (Table 1 of 2)
Groundwater Dissolved Metals (Table 2 of 2)
Groundwater TPH and VOC Data Summary
Groundwater Specific Conductance, pH, Alkalinity, and TDS
Soil TPH, BTEX & Chloride Data Summary

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-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-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'
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'

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	3/11/2019	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-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'

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-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-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

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-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-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
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.

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-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-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
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

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-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
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-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-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

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-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-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
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.

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-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-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	---	---
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	---	---

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	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-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
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-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-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-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

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	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**
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.

SOIL TPH, BTEX & CHLORIDE DATA SUMMARY
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

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

SAMPLE ID	Map Location Position	DATE	Depth (ft)	Laboratory Chloride	Field Chloride Low Range	Field Chloride High Range	TPH TOTAL	TPH GRO C6-C10	TPH DRO >C10-C28	TPH MRO >C28-C40	TPH GRO C6-C12	TPH DRO >C12-C35	BTEX	Benzene	Toluene	Ethylbenzene	Xylenes
Sample #1	---	9/22/1999	---	---	---	---	25,300	<1,000	25,300	---	---	---	0.065	<0.05	<0.05	<0.05	0.065
Sample #1	---	1/11/2000	---	---	---	---	9,080	---	---	---	---	---	---	---	---	---	---
Williams Pit	---	2/9/2000	---	---	---	---	13	---	---	---	---	---	---	---	---	---	---
SB-1	---	10/21/2000	10'-12'	7,385	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-2	---	10/21/2000	10'-12'	10,706	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-3	---	10/21/2000	10'-12'	10,147	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-4	---	10/21/2000	17'-19'	5,406	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-5	---	10/21/2000	10'-12'	3,729	---	---	<20	<10	<10	---	---	---	<0.125	<0.025	<0.025	<0.025	<0.05
SB-5	---	10/21/2000	17'-19'	9,040	---	---	---	---	---	---	---	---	---	---	---	---	---
SB-5	---	10/21/2000	24'-26'	11,108	---	---	---	---	---	---	---	---	---	---	---	---	---
Background	---	10/21/2000	0'-2'	142	---	---	---	---	---	---	---	---	---	---	---	---	---
MW-1 15'	---	8/28/2002	15'	851	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-1 25'	---	8/28/2002	25'	6,760	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-1 30'	---	8/28/2002	30'	7,270	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-2 20'	---	8/28/2002	20'	14,100	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-2 30'	---	8/28/2002	30'	390	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-3 15'	---	9/6/2002	15'	8,680	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-3 25'	---	9/6/2002	25'	11,000	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-3 35'	---	9/6/2002	35'	5,320	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
MW-4 5'	---	9/6/2002	5'	4,250	---	---	11,100	---	---	---	1,380	9,720	65.33	8.11	2.81	20.3	34.11
MW-4 10'	---	9/6/2002	10'	7,440	---	---	5,017	---	---	---	467	4,550	36.62	3.08	1.18	12.4	19.96
MW-4 29'	---	9/6/2002	29'	2,750	---	---	<10.0	---	---	---	<10.0	<10.0	<0.125	<0.025	<0.025	<0.025	<0.05
WT-1, 25 feet west of MW-4																	
WT1-N 4'	1	5/13/2021	4'	2,600	---	3,088	15,750	150	9,300	6,300	---	---	11.23	0.13	< 0.24	3.5	7.6
WT1-N 8'	1	5/13/2021	8'	3,500	---	3,696	14,120	520	8,100	5,500	---	---	68.1	2.2	0.9	24	41
WT-1, N +50'	2	5/13/2021	4'	<60	<120	---	---	---	---	---	---	---	---	---	---	---	---
WT-1, N +100'	3	5/13/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
WT-1, S +50'	4	5/13/2021	4'	---	---	4,328	---	---	---	---	---	---	---	---	---	---	---
WT-1, S +100'	5	5/13/2021	4'	---	---	2,580	---	---	---	---	---	---	---	---	---	---	---
WT-1, S +100'	5	5/14/2021	8'	---	1,740	1,552	---	---	---	---	---	---	---	---	---	---	---
WT-1, S +150'	6	5/13/2021	4'	---	224	---	---	---	---	---	---	---	---	---	---	---	---
WT-2, 75 feet west of MW-4																	
WT-2	7	5/13/2021	4'	---	---	6,500	---	---	---	---	---	---	---	---	---	---	---
WT-2, N +50'	8	5/13/2021	4'	---	---	8,328	---	---	---	---	---	---	---	---	---	---	---
WT-2, N +100'	9	5/13/2021	4'	---	---	5,992	---	---	---	---	---	---	---	---	---	---	---
WT-2, N +100'	9	5/14/2021	8'	---	1,740	---	---	---	---	---	---	---	---	---	---	---	---
WT-2, N +150'	10	5/13/2021	4'	---	196	---	---	---	---	---	---	---	---	---	---	---	---
WT-2, S +50'	11	5/13/2021	4'	---	---	3,988	---	---	---	---	---	---	---	---	---	---	---
WT-2, S +100'	12	5/13/2021	4'	---	1,240	---	---	---	---	---	---	---	---	---	---	---	---
WT-2, S +150'	13	5/13/2021	4'	---	668	---	---	---	---	---	---	---	---	---	---	---	---
WT-2, S +200'	14	5/13/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---

SOIL TPH, BTEX & CHLORIDE DATA SUMMARY
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

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

SAMPLE ID	Map Location Position	DATE	Depth (ft)	Laboratory Chloride	Field Chloride Low Range	Field Chloride High Range	TPH TOTAL	TPH GRO C6-C10	TPH DRO >C10-C28	TPH MRO >C28-C40	TPH GRO C6-C12	TPH DRO >C12-C35	BTEX	Benzene	Toluene	Ethylbenzene	Xylenes
WT-3, 100 feet west of MW-4																	
WT-3	15	5/13/2021	4'	---	---	**3,988**	---	---	---	---	---	---	---	---	---	---	---
WT-3	15	5/13/2021	8'	---	---	**12,316**	---	---	---	---	---	---	---	---	---	---	---
WT-3, N +50'	16	5/14/2021	4'	---	---	**3,088**	---	---	---	---	---	---	---	---	---	---	---
WT-3, N +50'	16	5/14/2021	8'	---	**2,460**	---	---	---	---	---	---	---	---	---	---	---	---
WT-3, N +100'	17	5/14/2021	4'	---	---	**5,096**	---	---	---	---	---	---	---	---	---	---	---
WT-3, N +100'	17	5/14/2021	8'	---	**2,460**	---	---	---	---	---	---	---	---	---	---	---	---
WT-3, N +150'	18	5/14/2021	4'	---	---	**3,988**	---	---	---	---	---	---	---	---	---	---	---
WT-3, N +150'	18	5/14/2021	8'	---	**1,740**	---	---	---	---	---	---	---	---	---	---	---	---
WT-3, N +200'	19	5/14/2021	4'	83	<120	---	---	---	---	---	---	---	---	---	---	---	---
WT-4, 125 feet west of MW-4																	
WT-4	20	5/13/2021	4'	---	**1,420**	---	---	---	---	---	---	---	---	---	---	---	---
WT-4, S +50'	21	5/14/2021	4'	**1,400**	**1,628**	**1,552**	---	---	---	---	---	---	---	---	---	---	---
WT-4, S +50'	21	5/14/2021	8'	---	**2,132**	---	---	---	---	---	---	---	---	---	---	---	---
WT-4, S +100'	22	5/14/2021	4'	---	**1,740**	---	---	---	---	---	---	---	---	---	---	---	---
WT-4, S +100'	22	5/14/2021	8'	---	**1,156**	---	---	---	---	---	---	---	---	---	---	---	---
WT-4, S +150'	23	5/14/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
WT-5, 150 feet west of MW-4																	
WT-5	24	5/13/2021	4'	---	**2,132**	**2,132**	---	---	---	---	---	---	---	---	---	---	---
WT-5, N +50'	25	5/14/2021	4'	---	---	**3,368**	---	---	---	---	---	---	---	---	---	---	---
WT-5, N +50'	25	5/14/2021	8'	---	**612**	---	---	---	---	---	---	---	---	---	---	---	---
WT-5, N +100'	26	5/14/2021	4'	---	---	**4,328**	---	---	---	---	---	---	---	---	---	---	---
WT-5, N +100'	26	5/14/2021	8'	---	**2,288**	---	---	---	---	---	---	---	---	---	---	---	---
WT-5, N +150'	27	5/14/2021	4'	**2,200**	---	**2,580**	---	---	---	---	---	---	---	---	---	---	---
WT-5, N +150'	27	5/14/2021	8'	---	**2,460**	---	---	---	---	---	---	---	---	---	---	---	---
WT-5, N +200'	28	5/14/2021	4'	---	556	---	---	---	---	---	---	---	---	---	---	---	---
WT-6, 175 feet west of MW-4																	
WT-6	29	5/14/2021	4'	---	---	**1,380**	---	---	---	---	---	---	---	---	---	---	---
WT-6, S +50'	30	5/14/2021	4'	---	**1,240**	**1,220**	---	---	---	---	---	---	---	---	---	---	---
WT-6, S +50'	30	5/14/2021	8'	---	**1,076**	---	---	---	---	---	---	---	---	---	---	---	---
WT-6, S +100'	31	5/14/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
WT-7, 200' west of MW-4																	
WT-7	32	5/13/2021	4'	**1,800**	**1,860**	**1,732**	---	---	---	---	---	---	---	---	---	---	---
WT-7, S+50'	33	5/14/2021	4'	---	196	---	---	---	---	---	---	---	---	---	---	---	---
WT-7, S+50'	33	5/14/2021	8'	460	504	---	---	---	---	---	---	---	---	---	---	---	---
WT-8, 225' west of MW-4																	
WT-8	34	5/14/2021	4'	---	**792**	---	---	---	---	---	---	---	---	---	---	---	---
WT-8	34	5/14/2021	8'	---	**1,240**	---	---	---	---	---	---	---	---	---	---	---	---
WT-9, 250' west of MW-4																	
WT-9	35	5/14/2021	4'	---	456	---	---	---	---	---	---	---	---	---	---	---	---

SOIL TPH, BTEX & CHLORIDE DATA SUMMARY
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

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

SAMPLE ID	Map Location Position	DATE	Depth (ft)	Laboratory Chloride	Field Chloride Low Range	Field Chloride High Range	TPH TOTAL	TPH GRO C6-C10	TPH DRO >C10-C28	TPH MRO >C28-C40	TPH GRO C6-C12	TPH DRO >C12-C35	BTEX	Benzene	Toluene	Ethylbenzene	Xylenes
ET-1, 25' east of MW-4																	
ET-1	36	5/17/2021	4'	---	---	**5,992**	---	---	---	---	---	---	---	---	---	---	---
ET-1	36	5/17/2021	8'	---	---	**8,752**	---	---	---	---	---	---	---	---	---	---	---
ET-1, S+50'	37	5/17/2021	4'	---	---	**7,660**	---	---	---	---	---	---	---	---	---	---	---
ET-1, S+50'	37	5/17/2021	8'	---	---	**8,752**	---	---	---	---	---	---	---	---	---	---	---
ET-1, S+75'	38	5/17/2021	4'	**5,800**	---	**5,992**	---	---	---	---	---	---	---	---	---	---	---
ET-1, S+75	38	5/17/2021	8'	---	---	**8,752**	---	---	---	---	---	---	---	---	---	---	---
ET-1, S+100	39	5/17/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
ET-1, S+100	39	5/17/2021	8'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
ET-2, 50' east of MW-4																	
ET-2	40	5/17/2021	4'	---	---	**3,988**	---	---	---	---	---	---	---	---	---	---	---
ET-2	40	5/17/2021	8'	---	---	**8,752**	---	---	---	---	---	---	---	---	---	---	---
ET-2, N+50'	41	5/17/2021	4'	---	---	**1,380**	---	---	---	---	---	---	---	---	---	---	---
ET-2, N+50'	41	5/17/2021	8'	---	**860**	---	---	---	---	---	---	---	---	---	---	---	---
ET-2, N+100'	42	5/17/2021	4'	---	**1,328**	---	---	---	---	---	---	---	---	---	---	---	---
ET-2, N+100'	42	5/17/2021	8'	---	**612**	---	---	---	---	---	---	---	---	---	---	---	---
ET-2, N+150'	43	5/17/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
ET-2, N+150'	43	5/17/2021	8'	< 60	<120	---	---	---	---	---	---	---	---	---	---	---	---
								---									
ET-3, 75' east of MW-4																	
ET-3	44	5/17/2021	4'	---	---	**2,580**	---	---	---	---	---	---	---	---	---	---	---
ET-3	44	5/17/2021	8'	---	**1,992**	---	---	---	---	---	---	---	---	---	---	---	---
ET-3, S+50'	45	5/17/2021	4'	---	---	**2,580**	---	---	---	---	---	---	---	---	---	---	---
ET-3, S+50'	45	5/17/2021	8'	---	**2,288**	---	---	---	---	---	---	---	---	---	---	---	---
ET-3, S+100'	46	5/17/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
ET-3, S+100'	46	5/17/2021	8'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
ET-4, 100' east of MW-4																	
ET-4	47	5/17/2021	4'	---	**1,524**	---	---	---	---	---	---	---	---	---	---	---	---
ET-4	47	5/17/2021	8'	---	**1,940**	---	---	---	---	---	---	---	---	---	---	---	---
ET-4, N+50'	48	5/17/2021	4'	---	---	**2,132**	---	---	---	---	---	---	---	---	---	---	---
ET-4, N+50'	48	5/17/2021	8'	---	256	---	---	---	---	---	---	---	---	---	---	---	---
ET-4, N+100'	49	5/17/2021	4'	---	144	---	---	---	---	---	---	---	---	---	---	---	---
ET-4, N+100'	49	5/17/2021	8'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
ET-5, 125' east of MW-4																	
ET-5	50	5/17/2021	4'	**1,200**	**1,240**	---	---	---	---	---	---	---	---	---	---	---	---
ET-5	50	5/17/2021	8'	---	556	---	---	---	---	---	---	---	---	---	---	---	---
ET-5, N+50'	51	5/17/2021	4'	---	120	---	---	---	---	---	---	---	---	---	---	---	---
ET-5, N+50'	51	5/17/2021	8'	---	328	---	---	---	---	---	---	---	---	---	---	---	---
ET-5, S+50'	52	5/17/2021	4'	---	196	---	---	---	---	---	---	---	---	---	---	---	---
ET-5, S+50'	52	5/17/2021	8'	---	292	---	---	---	---	---	---	---	---	---	---	---	---
ET-5, S+100'	53	5/17/2021	4'	110	168	---	---	---	---	---	---	---	---	---	---	---	---

SOIL TPH, BTEX & CHLORIDE DATA SUMMARY
WILLIAMS PIT
EDDY COUNTY, NEW MEXICO
AP-22

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

SAMPLE ID	Map Location Position	DATE	Depth (ft)	Laboratory Chloride	Field Chloride Low Range	Field Chloride High Range	TPH TOTAL	TPH GRO C6-C10	TPH DRO >C10-C28	TPH MRO >C28-C40	TPH GRO C6-C12	TPH DRO >C12-C35	BTEX	Benzene	Toluene	Ethylbenzene	Xylenes
ET-6, 150' east of MW-4																	
ET-6	54	5/17/2021	4'	---	256	---	---	---	---	---	---	---	---	---	---	---	---
ET-6	54	5/17/2021	8'	---	**1,420**	---	---	---	---	---	---	---	---	---	---	---	---
ET-6, S+50'	55	5/17/2021	4'	---	328	---	---	---	---	---	---	---	---	---	---	---	---
ET-6, S+50'	55	5/17/2021	8'	---	168	---	---	---	---	---	---	---	---	---	---	---	---
ET-7, 175' east of MW-4																	
ET-7	56	5/17/2021	4'	---	<120	---	---	---	---	---	---	---	---	---	---	---	---
Background Sample: 217 ft. from MW-3, 364 ft. from MW-4																	
BG	57	5/13/2021	4'	<60	<120	---	---	---	---	---	---	---	---	---	---	---	---
19.15.29.12 Table 1 Closure Criteria (GW ≤50')				**600**	**600**	**600**	**100**						**50**	**10**			

Notes:

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

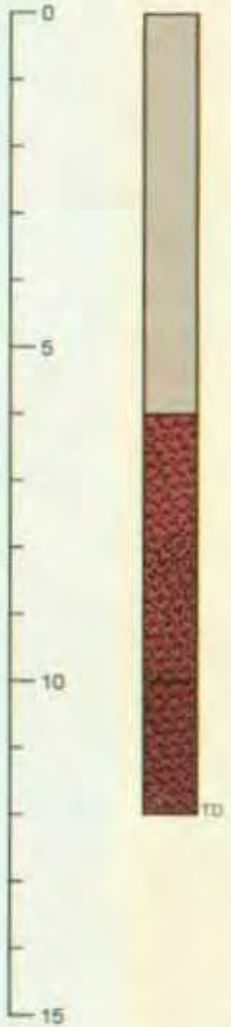
ATTACHMENT 1 – SOIL BORING LOGS

Soil Boring SB-1

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.

Oval Indicates samples selected for laboratory analysis.



Depth (feet)	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
0					Backfill - Mixed, Sandy Loam/Sand.
			None	None	Sand - (SP) - Red-Brown, very fine grained, well sorted, interbedded with caliche nodules.
10		0.0	None	None	Sand - (SP) - Brown-Black, very fine grained, well sorted.
15	TD				

Soil Boring Details

Date Drilled 10 / 21 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

Soil Boring SB-1

Yates Pet Corp. Williams Pit Eddy, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
November 2, 2000	ETGI Project # YPC 2000D	

Soil Boring SB-2

Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
				Backfill - Mixed, Sandy Loam/Sand
	(3.6)	None	None	Sand - (SP) - Brown-Black, very fine grained, well sorted.

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector

(oval) Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled 10 / 21 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

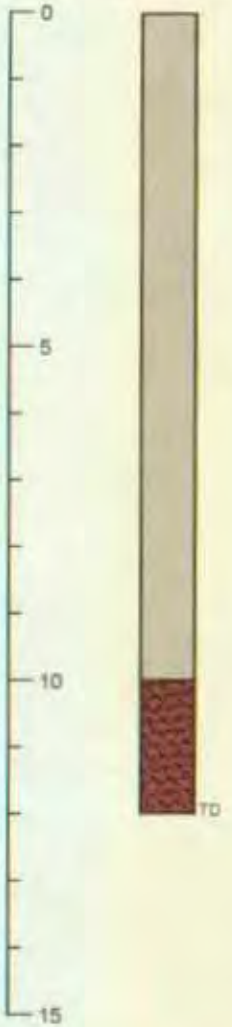
Soil Boring SB-2

Yates Pet Corp. Williams Pit Eddy, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
November 2, 2000	ETGI Project # YPC 2200D	

Soil Boring SB-3



PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
			Backfill - Mixed, Sandy Loam/Sand
6.8	None	None	Sand - (SP) - Brown-Black, very fine grained, well sorted

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.

Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled 10 / 21 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

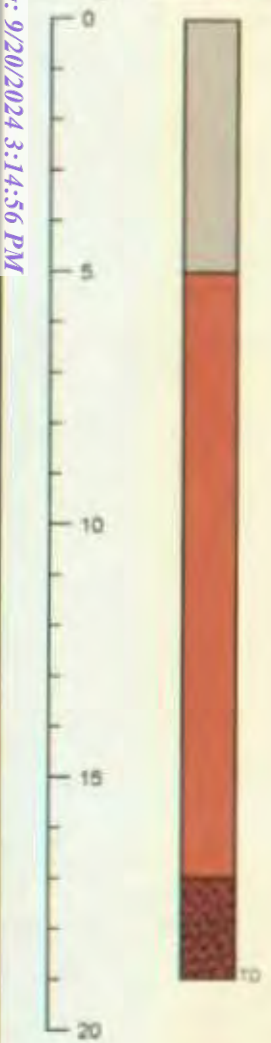
Soil Boring SB-3

Yates Pet Corp. Williams Pit Eddy, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
November 2, 2000	ETGI Project # YPC 2200D	

Soil Boring SB-4



PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
			Backfill - Mixed, Sandy Loam/Sand.
			PSH saturated soil - Mixed, Sandy Loam, Sand.
2.9	Moderate	None	Sand - (SP) - Brown-Black, very fine grained, well sorted.

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.

Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled 10 / 21 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

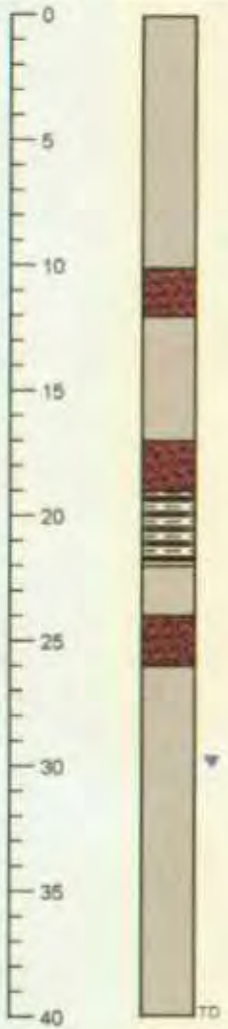
Soil Boring SB-4

Yates Pet Corp. Williams Pit Eddy, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RB	Checked By: KD
November 2, 2000	ETGI Project # YPC 2390D	

Soil Boring SB-5



PID Reading	Petroleum Odor	Petroleum Stain	Soil Description
			Backfill - Mixed, Sandy Loam/Sand.
2.7	None	None	Sand - (SP) - Brown-Black, very fine grained, well sorted.
			Backfill - Mixed, Sandy Loam/Sand.
0.6	None	None	Sand - (SP) - Brown-Black, very fine grained, well sorted.
			Clay layer with Heavy Plasticity.
			Backfill - Mixed, Sandy Loam/Sand.
1.9	None	None	Sand - (SP) - Brown-Black, very fine grained, well sorted.
			Backfill - Mixed, Sandy Loam/Sand.
0.0	None	None	

Legend

PID Head-space reading in ppm obtained with a photo-ionization detector.

Indicates samples selected for laboratory analysis.

Soil Boring Details

Date Drilled 10 / 21 / 00

Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

Soil Boring SB-5

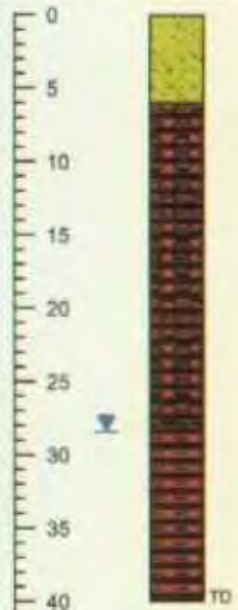
Yates Pet Corp. Williams Pit Eddy, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: RS	Checked By: KD
November 2, 2000	ETGI Project # YPC 2000D	

Soil Boring SB-6

Depth (feet)	Soil Columns	PID Reading	Petroleum Odor	Petroleum Stain
0				
5		5.3	None	None
10		2.5	None	None
15		3.0	None	None
20		3.1	None	None
25		4.8	None	None
30	▼	4.1	None	None
35				
40	TD			
45				
50				
55				
60				
65				
70				



Legend

- Silty Sand - (SC) - Moderate Yellowish-Brown, Very Fine Grained.
- Sandy Clay -(CL)- Moderate Brown to Grayish-Orange, Soft to Medium, Sporatic Caliche Nodules.
- Sandy Clay - (CL) - Moderate Brown, Soft, Moist to Wet.
- PID — Head-space reading in ppm obtained with a photo-ionization detector. All PID readings were analyzed.
- ⬭ Indicates samples selected for laboratory analysis.
- ▼ Indicates the ground water level measured on date.

Soil Boring Details

Date Drilled 08 / 28 / 02

Plugged - Surface to TD with Bentonite and hydrated with deionized water.

Soil Boring Log Details

Soil Boring SB-6

Yates Petroleum. Former Williams Pit Site Eddy County, NM

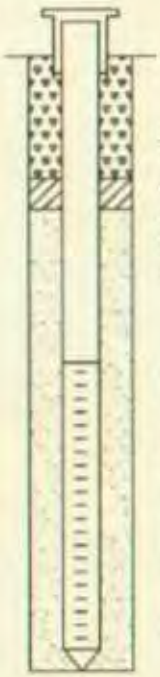
Environmental Technology Group, Inc.

Scale: NTS	Prep By: LGM	Checked By: RE
Oct. 15, 2002	ETGI Project #YA2217	

NE 1/4 of the NW 1/4 of Section 25, Township 18 South, Range 28 East

Monitoring Well MW - 1

Depth (feet)	Soil Columns	PID Reading	Odor	Stain	Notes
0					
5		3.0	None	None	
10		3.4	None	Brown	
15		(3.3)	None	None	
20		3.9	None	None	
25		(4.9)	None	Black Organic	
30		(4.7)	None	Organic	Moist
35					
40	TD				
45					
50					
55					
60					
65					



Monitoring Well Details

Date Drilled	8 - 28 - 02
Thickness of Bentonite Seal	3 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	40 ft
Depth of Exploratory Well	40 ft
Depth to Ground Water	29 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

Legend

Silty Sand - (SM) - Dark Yellowish-Orange, Very Fine Grained Sand, Fractured, Caliche Filling.

Caliche - Very Pale Orange, Soft.

Sandy Clay - (CL) - Grayish-Orange, Soft, to Firm, Intermittant Caliche.

Sandy Clay - (CL) - Light-Brown, Soft, Damp to Moist.

Indicates samples selected for laboratory analysis

Indicates the ground water level measured on date.

PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1. The monitoring well was installed on date using air rotary drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked stick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well Detail

Monitoring Well - 1

Yates Petroleum. Former Williams Pit Site Eddy County, NM

Environmental Technology Group, Inc.

Scale: use scale	Prep By: LGM	Checked By: RE
Oct. 14, 2002	ETGI Project # YA2217	

Monitoring Well MW - 2

Depth (feet)	Soil Columns	PID Reading	Odor	Stain	Notes
0					
5		3.5	None	None	
10		3.1	None	Brown	
15		2.9	None	None	
20		(3.8)	None	Trace Black	
25		2.7	None	None	Damp
30		(6.8)	None	None	Wet
35					
40					
45					
50					
55					
60					
65					

TD

Monitoring Well Details

Date Drilled	8 - 28 - 02
Thickness of Bentonite Seal	3 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	43 ft
Depth of Exploratory Well	43 ft
Depth to Ground Water	29 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

Legend

Silty Sand - (SC) - Moderate Yellowish-Brown, Very Fine Grained, Slightly Fractured, Filled with Clear to White Qtz

Sandy Clay - (CL) - Moderate Green to Grayish Orange, Medium Soft to stiff, Imbedded Caliche

Sandy Clay - (CL) - Moderate Brown, Soft

(oval) Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

PID Head-space reading in ppm obtained with a photo-ionization detector

Completion Notes

1. The monitoring well was installed on date using air rotary drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked stick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well Detail

Monitoring Well - 2

Yates Petroleum. Former Williams Pit Site Eddy County, NM

Environmental Technology Group, Inc.

Scale: NTS	Prep By: LGM	Checked By: RE
Oct. 16, 2002	ETGI Project #YA2217	

NE 1/4 of the NW 1/4 of Section 25, Township 18 South, Range 26 East

Monitoring Well MW - 3

Depth (feet)	Soil Columns	PID Reading	Odor	Stain	Notes
5		0.6	None	None	
10		1.4	None	None	
15		(1.8)	None	None	
20		0.9	None	None	Damp
25		(1.4)	None	None	Wet
				Orange Ferric	
30		2.0	None	None	Wet
35	TD	2.2	None	None	Wet
40					
45					
50					
55					
60					
65					

Monitoring Well Details

Date Drilled	9 - 6 - 02
Thickness of Bentonite Seal	3 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	35 ft
Depth of Exploratory Well	35 ft
Depth to Ground Water	25 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

Legend

Silty Sand - (SM) - Dark Yellowish-Orange, Very Fine Grained, Imbedded Course Qtz Grains, Poorly Sorted, Loose.

Sandy Clay - (CL) - Light-Brown to Moderate Brown, Soft, Imbedded Caliche.

Clay - (CL) - Light Brown to Moderate Brown, Stiff, Imbedded Caliche.

Silty Sand - (SM) - Light Brown, Very Fine Grained, Well Sorted, Moist, Loose.

Sandy Clay - (CL) - Pale Greenish-Yellow, Soft, wet.

Sand - (SW) - Moderate Yellowish Brown, Medium Grained, Well Sorted, Sub-Rounded To Round, Wet.

Clay - (CL) - Dark Yellowish Orange, Soft, Wet.

Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1. The monitoring well was installed on date using hollow stem auger drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked stick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well Detail

Monitoring Well - 3

Yates Petroleum. Former Williams Pit Site Eddy County, NM

ETGI

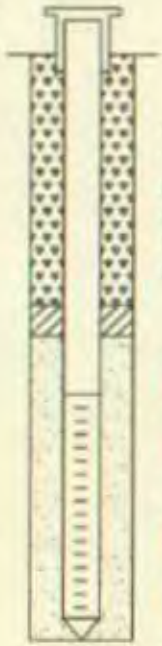
Environmental Technology Group, Inc.

Scale: NTS	Prep By: LGM	Checked By: RE
Oct. 15, 2002	ETGI Project #YA2217	

NE 1/4 of the NW 1/4 of Section 25, Township 18 South, Range 28 East

Monitoring Well MW - 4

Depth (feet)	Soil Columns	PID Reading	Odor	Stain	Notes
0					
5		537	Strong	Heavy	
10		695	Strong	Heavy	
15		9.1	None	None	
20		5.8	None	None	
25		21.7	None	None	
30		11.8	None	Organic	Moist
35	TD	4.6	None	None	Wet
40					
45					
50					
55					
60					
65					



Monitoring Well Details

Date Drilled	9 - 6 - 02
Thickness of Bentonite Seal	3 ft
Length of PVC Well Screen	15 ft
Depth of PVC Well	38 ft
Depth of Exploratory Well	38 ft
Depth to Ground Water	29 ft

Grout Surface Seal

Bentonite Pellet Seal

Sand Pack

Screen

Legend

Silty Sand - (SM) - Dark Olive, Very Fine Grained Fill.

Sandy Clay - (CL) - Grayish Black, Soft, Heavy Stained, Strong Odor.

Sand - (SW) - Greenish Black,Very Fine Grained, Well Sorted, Heavy Stain, and Odor.

Silty Sand - (SM) - Light Brown, Very Fine Grained, Well Sorted.

Sandy Clay - (CL) - Moderate Brown, Moderate Soft to Soft.

Sandy Clay - (CL) - Grayish Orange, Medium Soft, Moist.

Sandy Clay - (CL) - Dark Yellowish Orange, Medium Soft To Stiff, Medium Grained, Sub-Rounded Sand Grains, Quartz Gravel Seam.

Sandy Clay - (CL) - Very Light Gray, Soft, Moist.

Sand - (SW) - Very Light Gray, Fine Grained, Heavy Ferric Or Iron Staining, Well Sorted, Wet.

Sand - (SW) - Dark Yellowish Orange, Fine Grained, Well Sorted, Well Rounded, Wet.

Indicates samples selected for laboratory analysis.

Indicates the ground water level measured on date.

PID Head-space reading in ppm obtained with a photo-ionization detector.

Completion Notes

1. The monitoring well was installed on date using hollow stem auger drilling techniques.
2. The well was constructed with 2" ID, 0.020 inch factory slotted, threaded joint, schedule 40 PVC pipe.
3. The well is protected with a locked stick up steel cover and a compression cap.
4. The lines between material types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
5. The depths indicated are referenced from the ground surface.

Boring Log And Monitoring Well Detail

Monitoring Well - 4

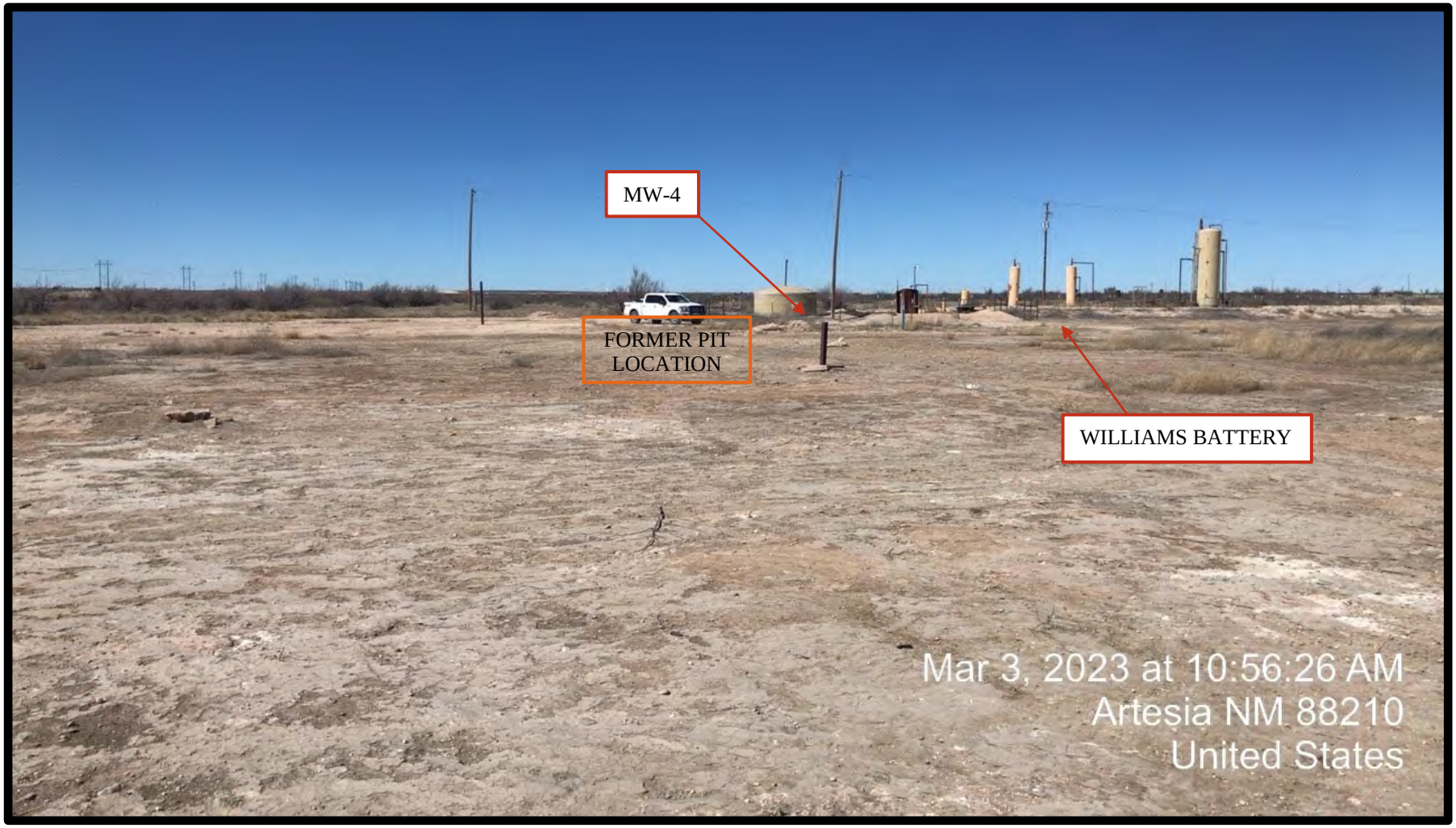
Yates Petroleum. Former Williams Pit Site Eddy County, NM

Environmental Technology Group, Inc.

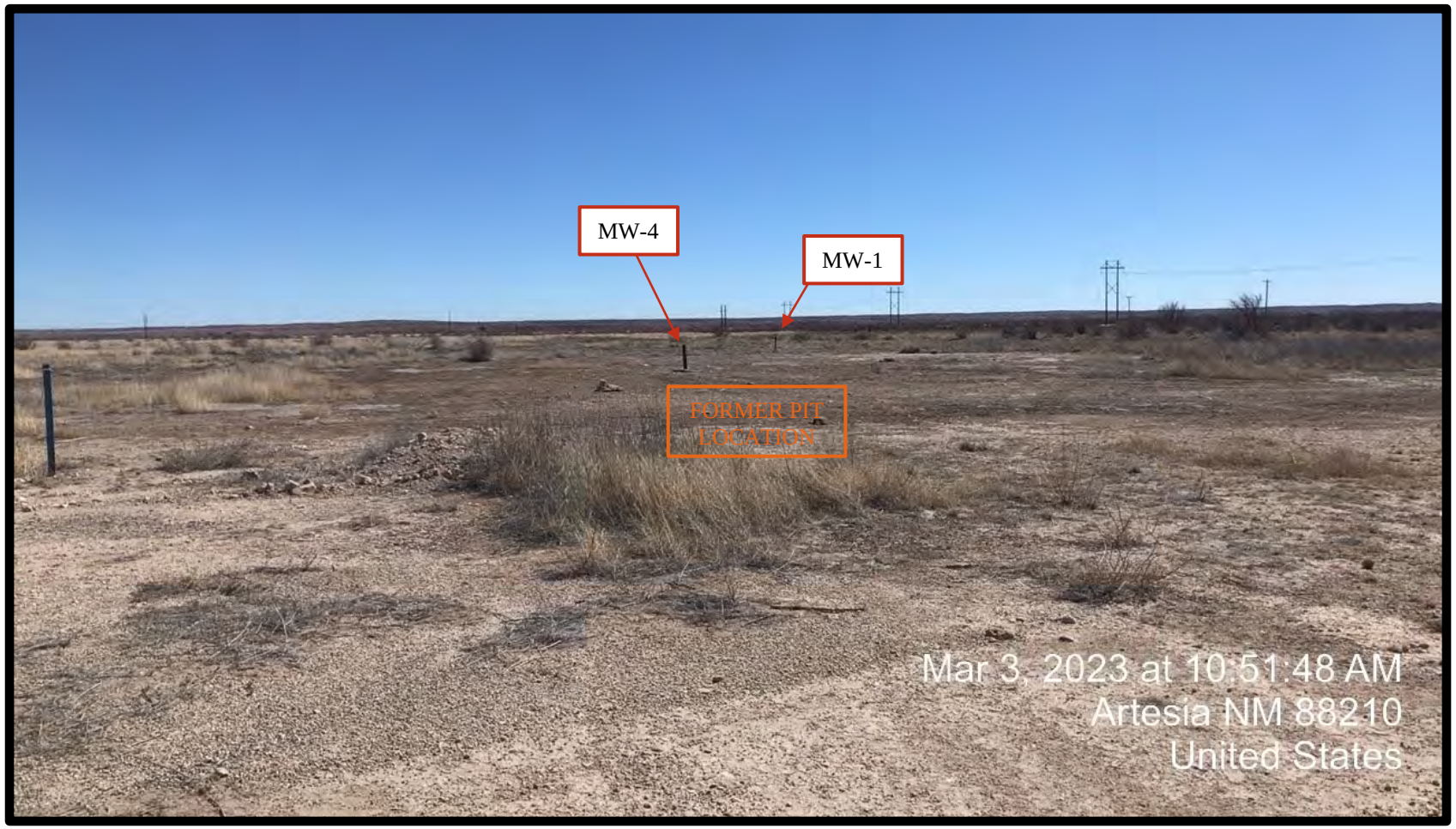
Scale: NTS	Prep By: LGM	Checked By: RE
Oct. 15, 2002	ETGI Project #YA2217	

NE 1/4 of the NW 1/4 of Section 23, Township 18 South, Range 28 East

ATTACHMENT 2 – CURRENT SITE PHOTOGRAPHS



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



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 3 – LABORATORY ANALYTICAL REPORTS (2005 - 2022)

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 12, 2012

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 390-7067
FAX: (575) 393-4388

RE: Yates Williams Pit OrderNo.: 1203719

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 3/20/2012 for the analyses presented in the following report.

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 don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Yates Williams Pit
Collection Date: 3/17/2012 1:10:00 PM
Lab ID: 1203719-001 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	ND	2.0		mg/L	20	3/20/2012 11:05:51 PM
Chloride	3,300	250		mg/L	500	3/22/2012 2:36:14 PM
Bromide	2.2	2.0		mg/L	20	3/20/2012 11:05:51 PM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	3/22/2012 5:17:35 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	3/20/2012 10:53:26 PM
Sulfate	2,200	50		mg/L	100	3/22/2012 2:48:38 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.014	0.0020		mg/L	1	4/1/2012 3:03:17 PM
Cadmium	ND	0.0020		mg/L	1	4/1/2012 3:03:17 PM
Calcium	910	20		mg/L	20	4/3/2012 8:10:29 AM
Chromium	ND	0.0060		mg/L	1	4/4/2012 11:41:04 AM
Copper	ND	0.0060		mg/L	1	4/1/2012 3:03:17 PM
Iron	0.85	0.10	*	mg/L	5	4/1/2012 3:15:33 PM
Lead	ND	0.0050		mg/L	1	4/1/2012 3:03:17 PM
Magnesium	320	20		mg/L	20	4/3/2012 8:10:29 AM
Manganese	1.1	0.010	*	mg/L	5	4/1/2012 3:15:33 PM
Potassium	10	1.0		mg/L	1	4/3/2012 7:47:37 AM
Silver	ND	0.0050		mg/L	1	4/1/2012 3:03:17 PM
Sodium	1,800	20		mg/L	20	4/3/2012 8:10:29 AM
Zinc	0.041	0.010		mg/L	1	4/4/2012 11:41:04 AM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	ND	0.0050		mg/L	5	4/10/2012 7:11:23 PM
Selenium	0.029	0.0050		mg/L	5	4/10/2012 7:11:23 PM
Uranium	0.0089	0.0050		mg/L	5	4/10/2012 7:11:23 PM
EPA METHOD 245.1: MERCURY						Analyst: **JLF**
Mercury	ND	0.00020		mg/L	1	3/22/2012 4:17:00 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	2.0		µg/L	2	3/24/2012 1:28:13 AM
Toluene	ND	2.0		µg/L	2	3/24/2012 1:28:13 AM
Ethylbenzene	ND	2.0		µg/L	2	3/24/2012 1:28:13 AM
Methyl tert-butyl ether (MTBE)	ND	2.0		µg/L	2	3/24/2012 1:28:13 AM
1,2,4-Trimethylbenzene	ND	2.0		µg/L	2	3/24/2012 1:28:13 AM
1,3,5-Trimethylbenzene	ND	2.0		µg/L	2	3/24/2012 1:28:13 AM
Naphthalene	ND	4.0		µg/L	2	3/24/2012 1:28:13 AM
1-Methylnaphthalene	ND	8.0		µg/L	2	3/24/2012 1:28:13 AM
2-Methylnaphthalene	ND	8.0		µg/L	2	3/24/2012 1:28:13 AM
Xylenes, Total	ND	4.0		µg/L	2	3/24/2012 1:28:13 AM
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%REC	2	3/24/2012 1:28:13 AM
Surr: 4-Bromofluorobenzene	87.1	70-130		%REC	2	3/24/2012 1:28:13 AM
Surr: Dibromofluoromethane	80.2	69.8-130		%REC	2	3/24/2012 1:28:13 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Yates Williams Pit
Collection Date: 3/17/2012 1:10:00 PM
Lab ID: 1203719-001 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Surr: Toluene-d8	90.7	70-130		%REC	2	3/24/2012 1:28:13 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JLF**
Conductivity	13,000	0.10		µmhos/cm	10	3/27/2012 9:52:45 AM
SM4500-H+B: PH						Analyst: **JLF**
pH	7.23	1.68	H	pH units	1	3/21/2012 1:55:31 PM
SM2320B: ALKALINITY						Analyst: **JLF**
Bicarbonate (As CaCO3)	230	20		mg/L CaCO3	1	3/21/2012 1:55:31 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/21/2012 1:55:31 PM
Total Alkalinity (as CaCO3)	230	20		mg/L CaCO3	1	3/21/2012 1:55:31 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	8,800	100		mg/L	1	3/23/2012 2:44:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Yates Williams Pit
Collection Date: 3/17/2012 1:35:00 PM
Lab ID: 1203719-002 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	ND	2.0		mg/L	20	3/20/2012 11:30:41 PM
Chloride	950	50		mg/L	100	3/22/2012 3:01:02 PM
Bromide	1.3	0.10		mg/L	1	3/20/2012 11:18:16 PM
Nitrate+Nitrite as N	1.7	1.0		mg/L	5	3/21/2012 1:09:59 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	3/20/2012 11:18:16 PM
Sulfate	2,100	50		mg/L	100	3/22/2012 3:01:02 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.0080	0.0020		mg/L	1	4/1/2012 3:42:35 PM
Cadmium	ND	0.0020		mg/L	1	4/1/2012 3:42:35 PM
Calcium	770	10		mg/L	10	4/3/2012 8:20:22 AM
Chromium	ND	0.0060		mg/L	1	4/4/2012 11:52:17 AM
Copper	ND	0.0060		mg/L	1	4/1/2012 3:42:35 PM
Iron	0.023	0.020		mg/L	1	4/1/2012 3:42:35 PM
Lead	ND	0.0050		mg/L	1	4/5/2012 7:09:44 AM
Magnesium	270	10		mg/L	10	4/3/2012 8:20:22 AM
Manganese	0.0041	0.0020		mg/L	1	4/1/2012 3:42:35 PM
Potassium	2.9	1.0		mg/L	1	4/3/2012 8:17:10 AM
Silver	ND	0.0050		mg/L	1	4/1/2012 3:42:35 PM
Sodium	410	10		mg/L	10	4/3/2012 8:20:22 AM
Zinc	0.017	0.010		mg/L	1	4/4/2012 11:52:17 AM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	ND	0.0050		mg/L	5	4/10/2012 7:15:21 PM
Selenium	0.024	0.0050		mg/L	5	4/10/2012 7:15:21 PM
Uranium	0.0062	0.0050		mg/L	5	4/10/2012 7:15:21 PM
EPA METHOD 245.1: MERCURY						Analyst: **JLF**
Mercury	ND	0.00020		mg/L	1	3/22/2012 4:18:47 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	3/24/2012 1:56:20 AM
Toluene	ND	1.0		µg/L	1	3/24/2012 1:56:20 AM
Ethylbenzene	ND	1.0		µg/L	1	3/24/2012 1:56:20 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/24/2012 1:56:20 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/24/2012 1:56:20 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/24/2012 1:56:20 AM
Naphthalene	ND	2.0		µg/L	1	3/24/2012 1:56:20 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	3/24/2012 1:56:20 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	3/24/2012 1:56:20 AM
Xylenes, Total	ND	2.0		µg/L	1	3/24/2012 1:56:20 AM
Surr: 1,2-Dichloroethane-d4	92.0	70-130		%REC	1	3/24/2012 1:56:20 AM
Surr: 4-Bromofluorobenzene	90.1	70-130		%REC	1	3/24/2012 1:56:20 AM
Surr: Dibromofluoromethane	83.2	69.8-130		%REC	1	3/24/2012 1:56:20 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Yates Williams Pit
Collection Date: 3/17/2012 1:35:00 PM
Lab ID: 1203719-002 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Surr: Toluene-d8	89.1	70-130		%REC	1	3/24/2012 1:56:20 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JLF**
Conductivity	5,700	0.010		µmhos/cm	1	3/21/2012 2:11:33 PM
SM4500-H+B: PH						Analyst: **JLF**
pH	7.28	1.68	H	pH units	1	3/21/2012 2:11:33 PM
SM2320B: ALKALINITY						Analyst: **JLF**
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	3/21/2012 2:11:33 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/21/2012 2:11:33 PM
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	3/21/2012 2:11:33 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	4,820	200		mg/L	1	3/23/2012 2:44:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Yates Williams Pit
Collection Date: 3/17/2012 2:00:00 PM
Lab ID: 1203719-003 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	ND	2.0		mg/L	20	3/20/2012 11:55:30 PM
Chloride	3,600	250		mg/L	500	3/22/2012 3:13:27 PM
Bromide	2.7	2.0		mg/L	20	3/20/2012 11:55:30 PM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	3/22/2012 5:30:00 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	3/20/2012 11:43:06 PM
Sulfate	2,200	50		mg/L	100	3/22/2012 3:25:52 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.014	0.0020		mg/L	1	4/1/2012 3:52:17 PM
Cadmium	ND	0.0020		mg/L	1	4/1/2012 3:52:17 PM
Calcium	820	10		mg/L	10	4/3/2012 8:31:43 AM
Chromium	ND	0.0060		mg/L	1	4/4/2012 12:00:12 PM
Copper	ND	0.0060		mg/L	1	4/1/2012 3:52:17 PM
Iron	0.11	0.020		mg/L	1	4/1/2012 3:52:17 PM
Lead	ND	0.0050		mg/L	1	4/5/2012 7:15:29 AM
Magnesium	360	10		mg/L	10	4/3/2012 8:31:43 AM
Manganese	0.011	0.0020		mg/L	1	4/1/2012 3:52:17 PM
Potassium	18	1.0		mg/L	1	4/3/2012 8:26:50 AM
Silver	ND	0.0050		mg/L	1	4/1/2012 3:52:17 PM
Sodium	1,900	50		mg/L	50	4/3/2012 8:34:48 AM
Zinc	0.015	0.010		mg/L	1	4/4/2012 12:00:12 PM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	ND	0.0050		mg/L	5	4/10/2012 7:19:17 PM
Selenium	0.026	0.0050		mg/L	5	4/10/2012 7:19:17 PM
Uranium	0.0090	0.0050		mg/L	5	4/10/2012 7:19:17 PM
EPA METHOD 245.1: MERCURY						Analyst: **JLF**
Mercury	ND	0.00020		mg/L	1	3/22/2012 4:20:34 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	3/24/2012 2:24:24 AM
Toluene	ND	1.0		µg/L	1	3/24/2012 2:24:24 AM
Ethylbenzene	ND	1.0		µg/L	1	3/24/2012 2:24:24 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/24/2012 2:24:24 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/24/2012 2:24:24 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/24/2012 2:24:24 AM
Naphthalene	ND	2.0		µg/L	1	3/24/2012 2:24:24 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	3/24/2012 2:24:24 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	3/24/2012 2:24:24 AM
Xylenes, Total	ND	2.0		µg/L	1	3/24/2012 2:24:24 AM
Surr: 1,2-Dichloroethane-d4	92.9	70-130		%REC	1	3/24/2012 2:24:24 AM
Surr: 4-Bromofluorobenzene	92.9	70-130		%REC	1	3/24/2012 2:24:24 AM
Surr: Dibromofluoromethane	80.2	69.8-130		%REC	1	3/24/2012 2:24:24 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Yates Williams Pit
Collection Date: 3/17/2012 2:00:00 PM
Lab ID: 1203719-003 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Surr: Toluene-d8	92.3	70-130		%REC	1	3/24/2012 2:24:24 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JLF**
Conductivity	15,000	0.10		µmhos/cm	10	3/21/2012 5:58:30 PM
SM4500-H+B: PH						Analyst: **JLF**
pH	7.27	1.68	H	pH units	1	3/21/2012 2:27:23 PM
SM2320B: ALKALINITY						Analyst: **JLF**
Bicarbonate (As CaCO3)	260	20		mg/L CaCO3	1	3/21/2012 2:27:23 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/21/2012 2:27:23 PM
Total Alkalinity (as CaCO3)	260	20		mg/L CaCO3	1	3/21/2012 2:27:23 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	8,870	100		mg/L	1	3/23/2012 2:44:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Yates Williams Pit
Collection Date: 3/17/2012 2:20:00 PM
Lab ID: 1203719-004 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	ND	2.0		mg/L	20	3/21/2012 12:45:10 AM
Chloride	26,000	1,000		mg/L	2000	3/22/2012 3:50:42 PM
Bromide	8.2	2.0		mg/L	20	3/21/2012 12:45:10 AM
Nitrate+Nitrite as N	ND	100		mg/L	500	3/22/2012 5:42:24 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/21/2012 12:45:10 AM
Sulfate	1,900	50		mg/L	100	3/22/2012 3:38:17 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.047	0.010		mg/L	5	4/1/2012 4:07:09 PM
Cadmium	ND	0.010		mg/L	5	4/1/2012 4:07:09 PM
Calcium	2,700	50		mg/L	50	4/3/2012 9:07:17 AM
Chromium	ND	0.030		mg/L	5	4/4/2012 12:17:57 PM
Copper	ND	0.030		mg/L	5	4/1/2012 4:07:09 PM
Iron	ND	0.10		mg/L	5	4/1/2012 4:07:09 PM
Lead	ND	0.025		mg/L	5	4/5/2012 7:21:12 AM
Magnesium	810	50		mg/L	50	4/3/2012 9:07:17 AM
Manganese	0.015	0.010		mg/L	5	4/1/2012 4:07:09 PM
Potassium	12	5.0		mg/L	5	4/3/2012 9:01:23 AM
Silver	ND	0.025		mg/L	5	4/1/2012 4:07:09 PM
Sodium	9,400	100		mg/L	100	4/4/2012 12:21:07 PM
Zinc	ND	0.050		mg/L	5	4/5/2012 7:21:12 AM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	0.013	0.010	*	mg/L	10	4/10/2012 7:23:13 PM
Selenium	0.040	0.010		mg/L	10	4/10/2012 7:23:13 PM
Uranium	0.010	0.010		mg/L	10	4/10/2012 7:23:13 PM
EPA METHOD 245.1: MERCURY						Analyst: **JLF**
Mercury	ND	0.00020		mg/L	1	3/22/2012 4:22:22 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	3/24/2012 2:52:25 AM
Toluene	ND	1.0		µg/L	1	3/24/2012 2:52:25 AM
Ethylbenzene	ND	1.0		µg/L	1	3/24/2012 2:52:25 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	3/24/2012 2:52:25 AM
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	3/24/2012 2:52:25 AM
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	3/24/2012 2:52:25 AM
Naphthalene	ND	2.0		µg/L	1	3/24/2012 2:52:25 AM
1-Methylnaphthalene	ND	4.0		µg/L	1	3/24/2012 2:52:25 AM
2-Methylnaphthalene	ND	4.0		µg/L	1	3/24/2012 2:52:25 AM
Xylenes, Total	ND	2.0		µg/L	1	3/24/2012 2:52:25 AM
Surr: 1,2-Dichloroethane-d4	91.9	70-130		%REC	1	3/24/2012 2:52:25 AM
Surr: 4-Bromofluorobenzene	87.4	70-130		%REC	1	3/24/2012 2:52:25 AM
Surr: Dibromofluoromethane	75.6	69.8-130		%REC	1	3/24/2012 2:52:25 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Analytical Report
Lab Order **1203719**
Date Reported: **4/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Yates Williams Pit
Collection Date: 3/17/2012 2:20:00 PM
Lab ID: 1203719-004 **Matrix:** AQUEOUS **Received Date:** 3/20/2012 12:45:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Surr: Toluene-d8	92.1	70-130		%REC	1	3/24/2012 2:52:25 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JLF**
Conductivity	69,000	0.50		µmhos/cm	50	3/21/2012 6:02:58 PM
SM4500-H+B: PH						Analyst: **JLF**
pH	7.05	1.68	H	pH units	1	3/21/2012 2:44:33 PM
SM2320B: ALKALINITY						Analyst: **JLF**
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	3/21/2012 2:44:33 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/21/2012 2:44:33 PM
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	3/21/2012 2:44:33 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	39,000	200		mg/L	1	3/23/2012 2:44:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
J	Analyte detected below quantitation limits
R	RPD outside accepted recovery limits
S	Spike Recovery outside accepted recovery limits
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1203719-001		MW-1 1203719-002		MW-4 1203719-003		MW-3 1203719-004					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	1800	78.29	410	17.83	1900	82.64	9400	408.87				
Potassium	10	0.26	2.9	0.07	18	0.46	12	0.31				
Calcium	910	45.41	770	38.42	820	40.92	2700	134.73				
Magnesium	320	26.34	270	22.22	360	29.63	810	66.67				
Total Cations		150.30		78.55		153.65		610.58				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2200	45.80	2100	43.72	2200	45.80	1900	39.56				
Chloride	3300	93.09	950	26.80	3600	101.55	26000	733.43				
Bicarbonate (CaCO3)	230	4.60	200	4.00	260	5.20	210	4.20				
Carbonate (CaCO3)	ND	*	ND	*	ND	*	ND	*				
Phosphate (P)	ND	*	ND	*	ND	*	ND	*				
Nitrite (N)	ND	*	ND	*	ND	*	ND	*				
Nitrate (N)	ND	*	1.7	0.12	ND	*	ND	*				
Fluoride	ND	*	ND	*	ND	*	ND	*				
Bromide	2.2	0.03	1.3	0.02	2.7	0.03	8.2	0.10				
Total Anions		143.52		74.66		152.59		777.29				
Elect. Cond. (µMhos/cm)	13000		5700		15000		69000					
CATION/ANION RATIO		1.05		1.05		1.01		0.79				
% Difference		2		3		0		12				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	8800		4820		8870		39000					
TDS (calculated)	8680		4632		9057		40956					
Ratio meas TDS:calc TDS		1.0		1.0		1.0		1.0				
Ratio Meas. TDS:EC		0.68		0.85		0.59		0.57				
Ratio Calc. TDS:EC		0.67		0.81		0.60		0.59				
Ratio of anion sum:EC		1.1		1.3		1.0		1.1				
Ratio of cation sum:EC		1.2		1.4		1.0		0.9				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R1831**	RunNo: **1831**
Prep Date:	Analysis Date: **4/1/2012**	SeqNo: **51185** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Silver	ND	0.0050								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R1831**	RunNo: **1831**
Prep Date:	Analysis Date: **4/1/2012**	SeqNo: **51186** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.47	0.0020	0.5000	0	94.4	85	115			
Cadmium	0.48	0.0020	0.5000	0	96.2	85	115			
Copper	0.48	0.0060	0.5000	0	96.1	85	115			
Iron	0.48	0.020	0.5000	0	96.3	85	115			
Lead	0.48	0.0050	0.5000	0	95.5	85	115			
Manganese	0.46	0.0020	0.5000	0	92.5	85	115			
Silver	0.098	0.0050	0.1000	0	97.8	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R1869**	RunNo: **1869**
Prep Date:	Analysis Date: **4/3/2012**	SeqNo: **52312** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R1869**	RunNo: **1869**
Prep Date:	Analysis Date: **4/3/2012**	SeqNo: **52313** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	53	1.0	50.00	0	106	85	115			
Magnesium	54	1.0	50.00	0	107	85	115			
Potassium	51	1.0	50.00	0	103	85	115			
Sodium	52	1.0	50.00	0	105	85	115			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R1913**	RunNo: **1913**
Prep Date:	Analysis Date: **4/4/2012**	SeqNo: **53214** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	ND	0.0060								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R1913**	RunNo: **1913**
Prep Date:	Analysis Date: **4/4/2012**	SeqNo: **53215** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chromium	0.50	0.0060	0.5000	0	99.0	85	115			
Sodium	53	1.0	50.00	0	106	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R1923**	RunNo: **1923**
Prep Date:	Analysis Date: **4/5/2012**	SeqNo: **53521** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R1923**	RunNo: **1923**
Prep Date:	Analysis Date: **4/5/2012**	SeqNo: **53522** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.50	0.0050	0.5000	0	99.8	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R1923**	RunNo: **1923**
Prep Date:	Analysis Date: **4/5/2012**	SeqNo: **53523** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R1923**	RunNo: **1923**
Prep Date:	Analysis Date: **4/5/2012**	SeqNo: **53524** Units: **mg/L**

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

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**							
Client ID: **LCSW**	Batch ID: **R1923**	RunNo: **1923**							
Prep Date:	Analysis Date: **4/5/2012**	SeqNo: **53524**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.50	0.0050	0.5000	0	99.9	85	115			
Zinc	0.51	0.010	0.5000	0	102	85	115			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R2039**	RunNo: **2039**
Prep Date:	Analysis Date: **4/10/2012**	SeqNo: **56837** Units: **mg/L**

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

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R2039**	RunNo: **2039**
Prep Date:	Analysis Date: **4/10/2012**	SeqNo: **56840** Units: **mg/L**

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

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R2039**	RunNo: **2039**
Prep Date:	Analysis Date: **4/10/2012**	SeqNo: **56842** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.7	85	115			
Selenium	0.026	0.0010	0.02500	0	103	85	115			
Uranium	0.024	0.0010	0.02500	0	97.7	85	115			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R2039**	RunNo: **2039**
Prep Date:	Analysis Date: **4/10/2012**	SeqNo: **56843** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.5	85	115			
Selenium	0.025	0.0010	0.02500	0	99.2	85	115			
Uranium	0.024	0.0010	0.02500	0	97.2	85	115			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**

12-Apr-12

Client: Safety & Environmental Solutions

Project: Yates Williams Pit

Sample ID: **MB-1198**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **PBW**	Batch ID: **1198**	RunNo: **1614**
Prep Date: **3/22/2012**	Analysis Date: **3/22/2012**	SeqNo: **45503** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCS-1198**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **LCSW**	Batch ID: **1198**	RunNo: **1614**
Prep Date: **3/22/2012**	Analysis Date: **3/22/2012**	SeqNo: **45504** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	80	120			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R1583**	RunNo: **1583**							
Prep Date:	Analysis Date: **3/20/2012**	SeqNo: **44517**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R1583**	RunNo: **1583**							
Prep Date:	Analysis Date: **3/20/2012**	SeqNo: **44518**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	102	90	110			
Bromide	2.4	0.10	2.500	0	96.7	90	110			
Phosphorus, Orthophosphate (As P)	4.9	0.50	5.000	0	97.5	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.8	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R1583**	RunNo: **1583**							
Prep Date:	Analysis Date: **3/21/2012**	SeqNo: **44594**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R1583**	RunNo: **1583**							
Prep Date:	Analysis Date: **3/21/2012**	SeqNo: **44595**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Bromide	2.4	0.10	2.500	0	95.6	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.4	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.7	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R1629**	RunNo: **1629**							
Prep Date:	Analysis Date: **3/22/2012**	SeqNo: **46248**	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:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R1629**	RunNo: **1629**							
Prep Date:	Analysis Date: **3/22/2012**	SeqNo: **46248**	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: **R1629**	RunNo: **1629**							
Prep Date:	Analysis Date: **3/22/2012**	SeqNo: **46249**	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	94.2	90	110			
Sulfate	9.8	0.50	10.00	0	97.6	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.4	90	110			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **5ml-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R1670**	RunNo: **1670**
Prep Date:	Analysis Date: **3/23/2012**	SeqNo: **47247** 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								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.2	70	130			
Surr: 4-Bromofluorobenzene	9.2		10.00		92.4	70	130			
Surr: Dibromofluoromethane	7.6		10.00		75.9	69.8	130			
Surr: Toluene-d8	9.2		10.00		91.9	70	130			

Sample ID: **100ng lcs-c**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R1670**	RunNo: **1670**
Prep Date:	Analysis Date: **3/23/2012**	SeqNo: **47248** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	84.1	126			
Toluene	20	1.0	20.00	0	97.6	80	120			
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.0	70	130			
Surr: 4-Bromofluorobenzene	8.8		10.00		87.6	70	130			
Surr: Dibromofluoromethane	7.6		10.00		75.8	69.8	130			
Surr: Toluene-d8	9.4		10.00		94.0	70	130			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **mb-1**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R1600**	RunNo: **1600**							
Prep Date:	Analysis Date: **3/21/2012**	SeqNo: **45065**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID: **lcs-1**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R1600**	RunNo: **1600**							
Prep Date:	Analysis Date: **3/21/2012**	SeqNo: **45066**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.9	88.1	104			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1203719**
12-Apr-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID: **MB-1196**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **PBW**	Batch ID: **1196**	RunNo: **1641**							
Prep Date: **3/22/2012**	Analysis Date: **3/23/2012**	SeqNo: **46518**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-1196**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **LCSW**	Batch ID: **1196**	RunNo: **1641**							
Prep Date: **3/22/2012**	Analysis Date: **3/23/2012**	SeqNo: **46519**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1,010	20.0	1,000	0	101	80	120			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: Safety Env Solutions Work Order Number: 1203719

Received by/date: LM 03/20/12

Logged By: **Anne Thorne** 3/20/2012 12:45:00 PM Anne Thorne

Completed By: **Anne Thorne** 3/20/2012 Anne Thorne

Reviewed By: 03/20/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? Greyhound AT ~~Courier~~ 03/20/12

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preserved added to bottles? Yes ☑ No ~~☑~~ MS 3/20 NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)
Adjusted? Added 1mL HNO_3 to -0010 for acceptable pH. MG
Checked by: MG

Special Handling (if applicable)

17. 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:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client: Safety & Environmental Solution

Mailing Address: 703 E. Clinton Hobbs NM 88240

Phone #: 575-397-0510

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Yates Williams Pit

Project #: YAT-004-001

Project Manager: Boyer, Dave

Sampler: Sosa, Jerry

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1203719	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX, Naphthalene	WQCC Diss Metals	Cations/Anions, BAL	Lab pH & Total Hg	Air Bubbles (Y or N)
03/17/12	1310	H2O	MW-2	7	HCl, HNO3, H2SO4	-001												X	X	X	X	
3/17/12	1335	H2O	MW-1	7		-002												X	X	X	X	
3/17/12	1400	H2O	MW-4	7		-003												X	X	X	X	
3/17/12	1420	H2O	MW-3	7		-004												X	X	X	X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
3/19/12	1600	Jerry Sosa			
Date:	Time:	Relinquished by:	Received by:	Date	Time
				03/20/12	1245

Remarks:

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 report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 03, 2012

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 390-7067
FAX: (575) 393-4388

RE: Williams Pit OrderNo.: 1206991

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 6/22/2012 for the analyses presented in the following report.

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. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 6/18/2012 12:05:00 PM
Lab ID: 1206991-001 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	0.58	0.50		mg/L	5	6/29/2012 8:00:59 PM
Chloride	3700	250		mg/L	500	7/5/2012 5:23:53 PM
Bromide	3.6	2.0		mg/L	20	6/22/2012 11:08:22 PM
Nitrate+Nitrite as N	ND	2.0		mg/L	10	7/2/2012 5:31:15 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/22/2012 10:57:08 PM
Sulfate	2200	50		mg/L	100	6/29/2012 8:13:24 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.023	0.0020		mg/L	1	7/26/2012 11:51:27 AM
Cadmium	ND	0.0020		mg/L	1	7/26/2012 11:51:27 AM
Calcium	990	10		mg/L	10	7/26/2012 11:54:35 AM
Chromium	0.0071	0.0060		mg/L	1	7/26/2012 11:51:27 AM
Copper	ND	0.0060		mg/L	1	7/26/2012 11:51:27 AM
Iron	0.41	0.020	*	mg/L	1	7/12/2012 10:14:09 PM
Lead	ND	0.0050		mg/L	1	7/26/2012 11:51:27 AM
Magnesium	330	10		mg/L	10	7/26/2012 11:54:35 AM
Manganese	1.3	0.020	*	mg/L	10	7/26/2012 11:54:35 AM
Potassium	9.8	1.0		mg/L	1	7/26/2012 11:51:27 AM
Silver	ND	0.0050		mg/L	1	7/12/2012 10:14:09 PM
Sodium	1800	50		mg/L	50	7/27/2012 6:55:25 AM
Zinc	0.058	0.010		mg/L	1	7/26/2012 11:51:27 AM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	ND	0.0050		mg/L	5	7/24/2012 6:45:10 PM
Selenium	0.028	0.0050		mg/L	5	7/24/2012 6:45:10 PM
Uranium	0.010	0.0050		mg/L	5	7/25/2012 4:03:24 PM
EPA METHOD 245.1: MERCURY						Analyst: **RAG**
Mercury	ND	0.00020		mg/L	1	6/28/2012 2:39:33 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JDJ**
Benzene	ND	1.0		µg/L	1	6/26/2012 7:05:37 AM
Toluene	ND	1.0		µg/L	1	6/26/2012 7:05:37 AM
Ethylbenzene	ND	1.0		µg/L	1	6/26/2012 7:05:37 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/26/2012 7:05:37 AM
Naphthalene	ND	2.0		µg/L	1	6/26/2012 7:05:37 AM
Xylenes, Total	ND	2.0		µg/L	1	6/26/2012 7:05:37 AM
Surr: 1,2-Dichloroethane-d4	92.6	70-130		%REC	1	6/26/2012 7:05:37 AM
Surr: 4-Bromofluorobenzene	105	70-130		%REC	1	6/26/2012 7:05:37 AM
Surr: Dibromofluoromethane	99.1	69.8-130		%REC	1	6/26/2012 7:05:37 AM
Surr: Toluene-d8	101	70-130		%REC	1	6/26/2012 7:05:37 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **DBD**
Conductivity	14000	0.050		µmhos/cm	5	6/28/2012 12:36:56 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 6/18/2012 12:05:00 PM
Lab ID: 1206991-001 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **DBD**
pH	7.01	1.68	H	pH units	1	6/28/2012 9:42:17 AM
SM2320B: ALKALINITY						Analyst: **DBD**
Bicarbonate (As CaCO3)	220	20		mg/L CaCO3	1	6/28/2012 9:42:17 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2012 9:42:17 AM
Total Alkalinity (as CaCO3)	220	20		mg/L CaCO3	1	6/28/2012 9:42:17 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNV**
Total Dissolved Solids	9880	400		mg/L	1	6/26/2012 3:11:00 PM

Qualifiers:	*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL	

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 6/18/2012 12:30:00 PM
Lab ID: 1206991-002 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	0.73	0.50		mg/L	5	6/29/2012 8:38:14 PM
Chloride	1100	50		mg/L	100	7/5/2012 5:35:07 PM
Bromide	1.8	0.10		mg/L	1	6/22/2012 11:19:36 PM
Nitrate+Nitrite as N	1.0	1.0		mg/L	5	6/23/2012 1:45:35 AM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/22/2012 11:19:36 PM
Sulfate	2200	50		mg/L	100	6/29/2012 8:50:39 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.010	0.0020		mg/L	1	7/26/2012 11:57:35 AM
Cadmium	ND	0.0020		mg/L	1	7/26/2012 11:57:35 AM
Calcium	790	10		mg/L	10	7/26/2012 12:00:36 PM
Chromium	ND	0.0060		mg/L	1	7/26/2012 11:57:35 AM
Copper	ND	0.0060		mg/L	1	7/26/2012 11:57:35 AM
Iron	0.031	0.020		mg/L	1	7/12/2012 10:23:44 PM
Lead	ND	0.0050		mg/L	1	7/26/2012 11:57:35 AM
Magnesium	260	5.0		mg/L	5	7/12/2012 10:27:36 PM
Manganese	0.0033	0.0020		mg/L	1	7/12/2012 10:23:44 PM
Potassium	2.9	1.0		mg/L	1	7/26/2012 11:57:35 AM
Silver	ND	0.0050		mg/L	1	7/12/2012 10:23:44 PM
Sodium	460	5.0		mg/L	5	7/12/2012 10:27:36 PM
Zinc	0.012	0.010		mg/L	1	7/26/2012 11:57:35 AM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	ND	0.0050		mg/L	5	7/24/2012 6:47:02 PM
Selenium	0.025	0.0050		mg/L	5	7/24/2012 6:47:02 PM
Uranium	0.0067	0.0050		mg/L	5	7/25/2012 4:05:16 PM
EPA METHOD 245.1: MERCURY						Analyst: **RAG**
Mercury	ND	0.00020		mg/L	1	6/28/2012 2:41:20 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JDJ**
Benzene	ND	1.0		µg/L	1	6/26/2012 7:35:56 AM
Toluene	ND	1.0		µg/L	1	6/26/2012 7:35:56 AM
Ethylbenzene	ND	1.0		µg/L	1	6/26/2012 7:35:56 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/26/2012 7:35:56 AM
Naphthalene	ND	2.0		µg/L	1	6/26/2012 7:35:56 AM
Xylenes, Total	ND	2.0		µg/L	1	6/26/2012 7:35:56 AM
Surr: 1,2-Dichloroethane-d4	94.9	70-130		%REC	1	6/26/2012 7:35:56 AM
Surr: 4-Bromofluorobenzene	106	70-130		%REC	1	6/26/2012 7:35:56 AM
Surr: Dibromofluoromethane	98.7	69.8-130		%REC	1	6/26/2012 7:35:56 AM
Surr: Toluene-d8	103	70-130		%REC	1	6/26/2012 7:35:56 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **DBD**
Conductivity	5800	0.010		µmhos/cm	1	6/28/2012 10:26:09 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 6/18/2012 12:30:00 PM
Lab ID: 1206991-002 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **DBD**
pH	7.09	1.68	H	pH units	1	6/28/2012 10:26:09 AM
SM2320B: ALKALINITY						Analyst: **DBD**
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	6/28/2012 10:26:09 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2012 10:26:09 AM
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	6/28/2012 10:26:09 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNV**
Total Dissolved Solids	5400	400		mg/L	1	6/26/2012 3:11:00 PM

Qualifiers:	*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL	

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 6/18/2012 12:50:00 PM
Lab ID: 1206991-003 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	0.56	0.50		mg/L	5	6/29/2012 9:03:04 PM
Chloride	3300	250		mg/L	500	7/5/2012 5:46:21 PM
Bromide	5.3	2.0		mg/L	20	6/22/2012 11:53:17 PM
Nitrate+Nitrite as N	ND	2.0		mg/L	10	7/2/2012 5:42:29 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	6/22/2012 11:42:04 PM
Sulfate	2200	50		mg/L	100	6/29/2012 9:15:29 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.018	0.0020		mg/L	1	7/26/2012 12:03:18 PM
Cadmium	ND	0.0020		mg/L	1	7/26/2012 12:03:18 PM
Calcium	870	20		mg/L	20	7/26/2012 12:22:38 PM
Chromium	ND	0.0060		mg/L	1	7/26/2012 12:03:18 PM
Copper	ND	0.0060		mg/L	1	7/26/2012 12:03:18 PM
Iron	0.14	0.020		mg/L	1	7/12/2012 10:31:18 PM
Lead	ND	0.0050		mg/L	1	7/26/2012 12:03:18 PM
Magnesium	360	5.0		mg/L	5	7/12/2012 10:48:59 PM
Manganese	0.018	0.0020		mg/L	1	7/12/2012 10:31:18 PM
Potassium	19	1.0		mg/L	1	7/26/2012 12:03:18 PM
Silver	ND	0.0050		mg/L	1	7/12/2012 10:31:18 PM
Sodium	1900	20		mg/L	20	7/27/2012 6:59:07 AM
Zinc	0.015	0.010		mg/L	1	7/26/2012 12:03:18 PM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	ND	0.0050		mg/L	5	7/24/2012 6:48:54 PM
Selenium	0.028	0.0050		mg/L	5	7/24/2012 6:48:54 PM
Uranium	0.010	0.0050		mg/L	5	7/25/2012 4:07:08 PM
EPA METHOD 245.1: MERCURY						Analyst: **RAG**
Mercury	ND	0.00020		mg/L	1	6/28/2012 2:43:06 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JDJ**
Benzene	ND	1.0		µg/L	1	6/26/2012 9:06:49 AM
Toluene	ND	1.0		µg/L	1	6/26/2012 9:06:49 AM
Ethylbenzene	ND	1.0		µg/L	1	6/26/2012 9:06:49 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/26/2012 9:06:49 AM
Naphthalene	ND	2.0		µg/L	1	6/26/2012 9:06:49 AM
Xylenes, Total	ND	2.0		µg/L	1	6/26/2012 9:06:49 AM
Surr: 1,2-Dichloroethane-d4	98.8	70-130		%REC	1	6/26/2012 9:06:49 AM
Surr: 4-Bromofluorobenzene	107	70-130		%REC	1	6/26/2012 9:06:49 AM
Surr: Dibromofluoromethane	103	69.8-130		%REC	1	6/26/2012 9:06:49 AM
Surr: Toluene-d8	104	70-130		%REC	1	6/26/2012 9:06:49 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **DBD**
Conductivity	14000	0.050		µmhos/cm	5	6/28/2012 12:40:54 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 6/18/2012 12:50:00 PM
Lab ID: 1206991-003 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **DBD**
pH	7.14	1.68	H	pH units	1	6/28/2012 10:43:43 AM
SM2320B: ALKALINITY						Analyst: **DBD**
Bicarbonate (As CaCO3)	260	20		mg/L CaCO3	1	6/28/2012 10:43:43 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2012 10:43:43 AM
Total Alkalinity (as CaCO3)	260	20		mg/L CaCO3	1	6/28/2012 10:43:43 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNV**
Total Dissolved Solids	9310	40.0		mg/L	1	6/26/2012 3:11:00 PM

Qualifiers:	*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank	
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit	
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit	
	S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL	

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 6/18/2012 1:15:00 PM
Lab ID: 1206991-004 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **BRM**
Fluoride	ND	2.0		mg/L	20	6/29/2012 9:40:18 PM
Chloride	26000	1000		mg/L	2000	6/29/2012 10:29:58 PM
Bromide	14	2.0		mg/L	20	6/23/2012 12:38:11 AM
Nitrate+Nitrite as N	ND	10		mg/L	50	7/2/2012 5:53:43 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	6/23/2012 12:38:11 AM
Sulfate	1900	50		mg/L	100	6/29/2012 9:52:43 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.056	0.010		mg/L	5	7/26/2012 1:28:22 PM
Cadmium	ND	0.010		mg/L	5	7/26/2012 1:28:22 PM
Calcium	2900	500		mg/L	500	7/26/2012 12:31:39 PM
Chromium	ND	0.030		mg/L	5	7/26/2012 1:28:22 PM
Copper	ND	0.030		mg/L	5	7/27/2012 1:30:26 PM
Iron	ND	0.10		mg/L	5	7/27/2012 7:03:02 AM
Lead	ND	0.025		mg/L	5	7/26/2012 1:28:22 PM
Magnesium	830	20		mg/L	20	7/26/2012 12:28:41 PM
Manganese	0.016	0.010		mg/L	5	7/26/2012 1:28:22 PM
Potassium	11	5.0		mg/L	5	7/26/2012 1:28:22 PM
Silver	ND	0.025		mg/L	5	7/27/2012 7:03:02 AM
Sodium	10000	500		mg/L	500	7/27/2012 7:07:09 AM
Zinc	ND	0.050		mg/L	5	7/27/2012 7:03:02 AM
EPA 200.8: DISSOLVED METALS						Analyst: **SNV**
Arsenic	ND	0.020		mg/L	20	7/24/2012 6:56:28 PM
Selenium	0.036	0.020		mg/L	20	7/24/2012 6:56:28 PM
Uranium	ND	0.020		mg/L	20	7/25/2012 4:09:00 PM
EPA METHOD 245.1: MERCURY						Analyst: **RAG**
Mercury	ND	0.00020		mg/L	1	6/28/2012 2:44:53 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JDJ**
Benzene	ND	1.0		µg/L	1	6/26/2012 9:37:03 AM
Toluene	ND	1.0		µg/L	1	6/26/2012 9:37:03 AM
Ethylbenzene	ND	1.0		µg/L	1	6/26/2012 9:37:03 AM
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	6/26/2012 9:37:03 AM
Naphthalene	ND	2.0		µg/L	1	6/26/2012 9:37:03 AM
Xylenes, Total	ND	2.0		µg/L	1	6/26/2012 9:37:03 AM
Surr: 1,2-Dichloroethane-d4	94.2	70-130		%REC	1	6/26/2012 9:37:03 AM
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	6/26/2012 9:37:03 AM
Surr: Dibromofluoromethane	98.4	69.8-130		%REC	1	6/26/2012 9:37:03 AM
Surr: Toluene-d8	98.8	70-130		%REC	1	6/26/2012 9:37:03 AM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **DBD**
Conductivity	70000	0.50		µmhos/cm	50	6/28/2012 6:27:47 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Analytical Report
Lab Order **1206991**
Date Reported: **8/3/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 6/18/2012 1:15:00 PM
Lab ID: 1206991-004 **Matrix:** AQUEOUS **Received Date:** 6/22/2012 10:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **DBD**
pH	6.87	1.68	H	pH units	1	6/28/2012 10:58:30 AM
SM2320B: ALKALINITY						Analyst: **DBD**
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	6/28/2012 10:58:30 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2012 10:58:30 AM
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	6/28/2012 10:58:30 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNV**
Total Dissolved Solids	35800	20.0		mg/L	1	6/26/2012 3:11:00 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1206991-01		MW-1 1206991-02		MW-4 1206991-03		MW-3 1206991-04					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	1800	78.29	460	20.01	1900	82.64	10000	434.97				
Potassium	9.8	0.25	2.9	0.07	19	0.49	11	0.28				
Calcium	990	49.40	790	39.42	870	43.41	2900	144.71				
Magnesium	330	27.16	260	21.40	360	29.63	830	68.31				
Total Cations		155.11		80.90		156.17		648.28				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2200	45.80	2200	45.80	2200	45.80	1900	39.56				
Chloride	3700	104.37	1100	31.03	3300	93.09	26000	733.43				
Bicarbonate (CaCO3)	220	4.40	200	4.00	260	5.20	210	4.20				
Carbonate (CaCO3)	ND	*	ND	*	ND	*	ND	*				
Phosphate (P)	ND	*	ND	*	ND	*	ND	*				
Nitrite (N)	ND	*	ND	*	ND	*	ND	*				
Nitrate (N)	ND	*	1.0	0.07	ND	*	ND	*				
Fluoride	0.58	0.03	0.73	0.04	0.56	0.03	ND	*				
Bromide	3.6	0.05	1.8	0.02	5.3	0.07	14	0.18				
Total Anions		154.65		80.96		144.19		777.36				
Elect. Cond. (µMhos/cm)	14000		5800		14000		70000					
CATION/ANION RATIO		1.00		1.00		1.08		0.83				
% Difference		0		0		4		9				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	9880		5400		9310		35800					
TDS (calculated)	9166		4940		8811		41781					
Ratio meas TDS:calc TDS		1.1		1.1		1.1		0.9				
Ratio Meas. TDS:EC		0.71		0.93		0.67		0.51				
Ratio Calc. TDS:EC		0.65		0.85		0.63		0.60				
Ratio of anion sum:EC		1.1		1.4		1.0		1.1				
Ratio of cation sum:EC		1.1		1.4		1.1		0.9				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4006**	RunNo: **4006**
Prep Date:	Analysis Date: **7/12/2012**	SeqNo: **114717** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4006**	RunNo: **4006**
Prep Date:	Analysis Date: **7/12/2012**	SeqNo: **114718** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.48	0.020	0.5000	0.002760	95.9	85	115			
Magnesium	51	1.0	50.00	0	101	85	115			
Manganese	0.47	0.0020	0.5000	0	94.1	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	50	1.0	50.00	0.06084	99.2	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4442**	RunNo: **4442**
Prep Date:	Analysis Date: **7/26/2012**	SeqNo: **124089** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Zinc	ND	0.010								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4442**	RunNo: **4442**
Prep Date:	Analysis Date: **7/26/2012**	SeqNo: **124090** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.53	0.0020	0.5000	0	105	85	115			
Cadmium	0.53	0.0020	0.5000	0	105	85	115			
Calcium	52	1.0	50.00	0	103	85	115			
Chromium	0.52	0.0060	0.5000	0.0008200	103	85	115			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4442**	RunNo: **4442**
Prep Date:	Analysis Date: **7/26/2012**	SeqNo: **124090** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.51	0.0060	0.5000	0	102	85	115			
Lead	0.54	0.0050	0.5000	0	108	85	115			
Magnesium	52	1.0	50.00	0	103	85	115			
Manganese	0.51	0.0020	0.5000	0	103	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Zinc	0.52	0.010	0.5000	0	103	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4469**	RunNo: **4469**
Prep Date:	Analysis Date: **7/27/2012**	SeqNo: **125929** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	ND	0.020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4469**	RunNo: **4469**
Prep Date:	Analysis Date: **7/27/2012**	SeqNo: **125930** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.45	0.020	0.5000	0	90.2	85	115			
Silver	0.093	0.0050	0.1000	0	92.6	85	115			
Zinc	0.46	0.010	0.5000	0	91.9	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4469**	RunNo: **4469**
Prep Date:	Analysis Date: **7/27/2012**	SeqNo: **125931** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4469**	RunNo: **4469**
Prep Date:	Analysis Date: **7/27/2012**	SeqNo: **125932** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	52	1.0	50.00	0	103	85	115			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4469**	RunNo: **4469**
Prep Date:	Analysis Date: **7/27/2012**	SeqNo: **125935** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4469**	RunNo: **4469**
Prep Date:	Analysis Date: **7/27/2012**	SeqNo: **125936** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.50	0.0060	0.5000	0	99.3	85	115			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4408**	RunNo: **4408**
Prep Date:	Analysis Date: **7/24/2012**	SeqNo: **122986** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	102	85	115			
Selenium	0.026	0.0010	0.02500	0	105	85	115			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4408**	RunNo: **4408**
Prep Date:	Analysis Date: **7/24/2012**	SeqNo: **122987** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.2	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4408**	RunNo: **4408**
Prep Date:	Analysis Date: **7/24/2012**	SeqNo: **122988** Units: **mg/L**

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

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4408**	RunNo: **4408**
Prep Date:	Analysis Date: **7/24/2012**	SeqNo: **122989** Units: **mg/L**

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

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4441**	RunNo: **4441**
Prep Date:	Analysis Date: **7/25/2012**	SeqNo: **124069** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.026	0.0010	0.02500	0	102	85	115			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4441**	RunNo: **4441**
Prep Date:	Analysis Date: **7/25/2012**	SeqNo: **124070** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.024	0.0010	0.02500	0	97.1	85	115			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R4441**	RunNo: **4441**
Prep Date:	Analysis Date: **7/25/2012**	SeqNo: **124071** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Uranium	0.024	0.0010	0.02500	0	97.3	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4441**	RunNo: **4441**
Prep Date:	Analysis Date: **7/25/2012**	SeqNo: **124072** Units: **mg/L**

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

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4441**	RunNo: **4441**
Prep Date:	Analysis Date: **7/25/2012**	SeqNo: **124073** Units: **mg/L**

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

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R4441**	RunNo: **4441**
Prep Date:	Analysis Date: **7/25/2012**	SeqNo: **124074** Units: **mg/L**

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

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-2618**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **PBW**	Batch ID: **2618**	RunNo: **3748**
Prep Date: **6/28/2012**	Analysis Date: **6/28/2012**	SeqNo: **106037** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCS-2618**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**
Client ID: **LCSW**	Batch ID: **2618**	RunNo: **3748**
Prep Date: **6/28/2012**	Analysis Date: **6/28/2012**	SeqNo: **106038** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	102	80	120			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R3648**	RunNo: **3648**							
Prep Date:	Analysis Date: **6/22/2012**	SeqNo: **102813**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P)	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R3648**	RunNo: **3648**							
Prep Date:	Analysis Date: **6/22/2012**	SeqNo: **102814**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.5	0.10	2.500	0	100	90	110			
Phosphorus, Orthophosphate (As P)	5.1	0.50	5.000	0	102	90	110			
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: **R3812**	RunNo: **3812**							
Prep Date:	Analysis Date: **6/29/2012**	SeqNo: **107840**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R3812**	RunNo: **3812**							
Prep Date:	Analysis Date: **6/29/2012**	SeqNo: **107841**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.47	0.10	0.5000	0	93.6	90	110			
Chloride	4.6	0.50	5.000	0	91.7	90	110			
Sulfate	9.6	0.50	10.00	0	95.6	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R3839**	RunNo: **3839**							
Prep Date:	Analysis Date: **7/2/2012**	SeqNo: **108900**	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:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R3839**	RunNo: **3839**							
Prep Date:	Analysis Date: **7/2/2012**	SeqNo: **108901**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.1	90	110			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R3871**	RunNo: **3871**							
Prep Date:	Analysis Date: **7/5/2012**	SeqNo: **110164**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R3871**	RunNo: **3871**							
Prep Date:	Analysis Date: **7/5/2012**	SeqNo: **110165**	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	94.6	90	110			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **b11**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R3714**	RunNo: **3714**
Prep Date:	Analysis Date: **6/26/2012**	SeqNo: **107053** 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								
Methyl tert-butyl ether (MTBE)	ND	1.0								
Naphthalene	ND	2.0								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	10		10.00		99.9	69.8	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R3714**	RunNo: **3714**
Prep Date:	Analysis Date: **6/26/2012**	SeqNo: **108424** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	100	84.1	126			
Toluene	19	1.0	20.00	0	96.9	80	120			
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.7		10.00		97.1	69.8	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **mb-1** SampType: **MBLK** TestCode: **SM2320B: Alkalinity**
Client ID: **PBW** Batch ID: **R3762** RunNo: **3762**
Prep Date: Analysis Date: **6/28/2012** SeqNo: **106435** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID: **lcs-1** SampType: **LCS** TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW** Batch ID: **R3762** RunNo: **3762**
Prep Date: Analysis Date: **6/28/2012** SeqNo: **106436** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	88.1	104			

Sample ID: **mb-2** SampType: **MBLK** TestCode: **SM2320B: Alkalinity**
Client ID: **PBW** Batch ID: **R3762** RunNo: **3762**
Prep Date: Analysis Date: **6/28/2012** SeqNo: **106454** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID: **lcs-2** SampType: **LCS** TestCode: **SM2320B: Alkalinity**
Client ID: **LCSW** Batch ID: **R3762** RunNo: **3762**
Prep Date: Analysis Date: **6/28/2012** SeqNo: **106455** Units: **mg/L CaCO3**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	88.1	104			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1206991**
03-Aug-12

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-2554**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **2554**	RunNo: **3689**
Prep Date: **6/25/2012**	Analysis Date: **6/26/2012**	SeqNo: **104183** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-2554**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **2554**	RunNo: **3689**
Prep Date: **6/25/2012**	Analysis Date: **6/26/2012**	SeqNo: **104184** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	999	20.0	1000	0	99.9	80	120			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: Safety Env Solutions Work Order Number: 1206991

Received by/date: LM 06/22/12

Logged By: **Anne Thorne** 6/22/2012 10:45:00 AM Anne Thorne

Completed By: **Anne Thorne** 6/22/2012 Anne Thorne

Reviewed By: 06/22/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? GREYHOUND

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 2 12 (<2 or >12 unless noted)
Adjusted?
Checked by: JD

Special Handling (if applicable)

17. 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:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	2.9	Good	Yes			

Chain-of-Custody Record

Client: Safety & Environmental Solutions

Mailing Address: 703 E Clinton Hobbs NM 88240

Phone #: 575-397-0570

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Williams Pit

Project #: YAT-04-003

Project Manager: Boyer, Dave

Sampler: Soz, Jerry

On Ice: ☒ Yes ☐ No

Sample Temperature: 2.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 12d0991	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX, Naphthalene	WQCC Dem Metal	Cation/Anion Bal	Lab pH + Total Hg	Air Bubbles (Y or N)
06/18	1205	H2O	MW-2	7	HCl	-001												X	X	X	X	
06/18	1230	H2O	MW-1	7	HNO3	-002												X	X	X	X	
06/18	1250	H2O	MW-4	7	H2SO4	-003												X	X	X	X	
06/18	1315	H2O	MW-3	7	H2SO4	-004												X	X	X	X	

Date	Time	Relinquished by:	Received by:	Date	Time
06/20	1030	Soz Jerry			
				06/22/12	1045
Date	Time	Relinquished by:	Received by:	Date	Time

Remarks: BTEX, NAPHTHALENE: 8260 SHORT LIST

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 10, 2012

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 390-7067
FAX (575) 393-4388

RE: Yates Williams Pit OrderNo.: 1209592

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 5 sample(s) on 9/14/2012 for the analyses presented in the following report.

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. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Yates Williams Pit
Collection Date: 9/12/2012 1:00:00 PM
Lab ID: 1209592-001 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	9/15/2012 5:49:16 AM
Chloride	3900	250		mg/L	500	9/17/2012 2:12:22 PM
Bromide	ND	2.0		mg/L	20	9/15/2012 5:49:16 AM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	9/17/2012 11:30:48 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	9/15/2012 5:49:16 AM
Sulfate	2200	50		mg/L	100	9/17/2012 1:59:58 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.038	0.0020		mg/L	1	9/17/2012 6:07:55 PM
Cadmium	ND	0.0020		mg/L	1	9/17/2012 6:07:55 PM
Calcium	840	20		mg/L	20	9/17/2012 6:41:07 PM
Chromium	0.10	0.0060	*	mg/L	1	9/17/2012 6:07:55 PM
Copper	ND	0.0060		mg/L	1	10/1/2012 5:18:52 PM
Iron	7.9	0.40	*	mg/L	20	9/17/2012 6:41:07 PM
Magnesium	280	20		mg/L	20	9/17/2012 6:41:07 PM
Manganese	1.4	0.010	*	mg/L	5	9/17/2012 6:17:59 PM
Potassium	11	1.0		mg/L	1	9/17/2012 6:07:55 PM
Silver	ND	0.0050		mg/L	1	9/17/2012 6:07:55 PM
Sodium	1800	20		mg/L	20	9/17/2012 6:41:07 PM
Zinc	0.053	0.010		mg/L	1	9/17/2012 6:07:55 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0051	0.0050		mg/L	5	9/24/2012 3:38:45 PM
Lead	0.0054	0.0050		mg/L	5	9/24/2012 3:38:45 PM
Selenium	0.025	0.0050		mg/L	5	9/24/2012 3:38:45 PM
Uranium	0.0086	0.0050		mg/L	5	9/27/2012 1:18:22 PM
EPA METHOD 245.1: MERCURY						Analyst: **IDC**
Mercury	ND	0.00020		mg/L	1	9/18/2012 1:19:25 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	9/14/2012 9:35:41 PM
Toluene	ND	1.0		µg/L	1	9/14/2012 9:35:41 PM
Ethylbenzene	ND	1.0		µg/L	1	9/14/2012 9:35:41 PM
Naphthalene	ND	2.0		µg/L	1	9/14/2012 9:35:41 PM
Xylenes, Total	ND	2.0		µg/L	1	9/14/2012 9:35:41 PM
Surr: 1,2-Dichloroethane-d4	91.6	70-130		%REC	1	9/14/2012 9:35:41 PM
Surr: 4-Bromofluorobenzene	92.2	70-130		%REC	1	9/14/2012 9:35:41 PM
Surr: Dibromofluoromethane	84.5	70-130		%REC	1	9/14/2012 9:35:41 PM
Surr: Toluene-d8	95.3	70-130		%REC	1	9/14/2012 9:35:41 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	16000	0.10		µmhos/cm	10	9/18/2012 11:53:30 AM
SM4500-H+B: PH						Analyst: **IDC**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Yates Williams Pit
Collection Date: 9/12/2012 1:00:00 PM
Lab ID: 1209592-001 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **IDC**
pH	6.92	1.68	H	pH units	1	9/14/2012 5:48:31 PM
SM2320B: ALKALINITY						Analyst: **IDC**
Bicarbonate (As CaCO3)	280	20		mg/L CaCO3	1	9/14/2012 5:48:31 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	9/14/2012 5:48:31 PM
Total Alkalinity (as CaCO3)	280	20		mg/L CaCO3	1	9/14/2012 5:48:31 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9640	200		mg/L	1	9/17/2012 5:24:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Yates Williams Pit
Collection Date: 9/12/2012 1:25:00 PM
Lab ID: 1209592-002 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	0.21	0.10		mg/L	1	9/15/2012 6:26:31 AM
Chloride	2200	100		mg/L	200	9/17/2012 2:49:36 PM
Bromide	1.8	1.0		mg/L	10	9/17/2012 2:24:47 PM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	9/17/2012 11:43:12 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	9/15/2012 6:38:55 AM
Sulfate	2200	50		mg/L	100	9/17/2012 2:37:11 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.0092	0.0020		mg/L	1	9/17/2012 6:44:39 PM
Cadmium	ND	0.0020		mg/L	1	9/17/2012 6:44:39 PM
Calcium	690	10		mg/L	10	9/17/2012 6:48:30 PM
Chromium	ND	0.0060		mg/L	1	9/17/2012 6:44:39 PM
Copper	ND	0.0060		mg/L	1	10/1/2012 5:25:28 PM
Iron	0.039	0.020		mg/L	1	9/17/2012 6:44:39 PM
Magnesium	250	10		mg/L	10	9/17/2012 6:48:30 PM
Manganese	0.0072	0.0020		mg/L	1	9/17/2012 6:44:39 PM
Potassium	2.7	1.0		mg/L	1	9/17/2012 6:44:39 PM
Silver	ND	0.0050		mg/L	1	9/17/2012 6:44:39 PM
Sodium	520	10		mg/L	10	9/17/2012 6:48:30 PM
Zinc	0.025	0.010		mg/L	1	9/17/2012 6:44:39 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0022	0.0010		mg/L	1	9/24/2012 3:11:11 PM
Lead	ND	0.0010		mg/L	1	9/24/2012 3:11:11 PM
Selenium	0.024	0.0010		mg/L	1	9/24/2012 3:11:11 PM
Uranium	0.0070	0.0010		mg/L	1	9/27/2012 1:22:19 PM
EPA METHOD 245.1: MERCURY						Analyst: **IDC**
Mercury	ND	0.00020		mg/L	1	9/18/2012 1:21:09 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	9/14/2012 10:03:43 PM
Toluene	ND	1.0		µg/L	1	9/14/2012 10:03:43 PM
Ethylbenzene	ND	1.0		µg/L	1	9/14/2012 10:03:43 PM
Naphthalene	ND	2.0		µg/L	1	9/14/2012 10:03:43 PM
Xylenes, Total	ND	2.0		µg/L	1	9/14/2012 10:03:43 PM
Surr: 1,2-Dichloroethane-d4	91.2	70-130		%REC	1	9/14/2012 10:03:43 PM
Surr: 4-Bromofluorobenzene	93.7	70-130		%REC	1	9/14/2012 10:03:43 PM
Surr: Dibromofluoromethane	84.0	70-130		%REC	1	9/14/2012 10:03:43 PM
Surr: Toluene-d8	96.0	70-130		%REC	1	9/14/2012 10:03:43 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **IDC**
Conductivity	8400	0.010		µmhos/cm	1	9/14/2012 6:05:33 PM
SM4500-H+B: PH						Analyst: **IDC**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Yates Williams Pit
Collection Date: 9/12/2012 1:25:00 PM
Lab ID: 1209592-002 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **IDC**
pH	6.98	1.68	H	pH units	1	9/14/2012 6:05:33 PM
SM2320B: ALKALINITY						Analyst: **IDC**
Bicarbonate (As CaCO3)	220	20		mg/L CaCO3	1	9/14/2012 6:05:33 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	9/14/2012 6:05:33 PM
Total Alkalinity (as CaCO3)	220	20		mg/L CaCO3	1	9/14/2012 6:05:33 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	6300	200		mg/L	1	9/17/2012 5:24:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Yates Williams Pit
Collection Date: 9/12/2012 1:50:00 PM
Lab ID: 1209592-003 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	9/15/2012 7:03:45 AM
Chloride	4000	250		mg/L	500	9/17/2012 3:26:49 PM
Bromide	ND	2.0		mg/L	20	9/15/2012 7:03:45 AM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	9/17/2012 11:55:37 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	9/15/2012 7:03:45 AM
Sulfate	2300	50		mg/L	100	9/17/2012 3:39:14 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.016	0.0020		mg/L	1	9/17/2012 6:52:04 PM
Cadmium	ND	0.0020		mg/L	1	9/17/2012 6:52:04 PM
Calcium	760	10		mg/L	10	9/17/2012 6:56:10 PM
Chromium	ND	0.0060		mg/L	1	9/17/2012 6:52:04 PM
Copper	ND	0.0060		mg/L	1	10/1/2012 5:47:53 PM
Iron	0.043	0.020		mg/L	1	9/17/2012 6:52:04 PM
Magnesium	340	10		mg/L	10	9/17/2012 6:56:10 PM
Manganese	0.19	0.0020	*	mg/L	1	9/17/2012 6:52:04 PM
Potassium	18	1.0		mg/L	1	9/17/2012 6:52:04 PM
Silver	ND	0.0050		mg/L	1	9/17/2012 6:52:04 PM
Sodium	1800	50		mg/L	50	9/17/2012 6:59:51 PM
Zinc	ND	0.010		mg/L	1	9/17/2012 6:52:04 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	ND	0.0050		mg/L	5	9/24/2012 3:22:59 PM
Lead	ND	0.0050		mg/L	5	9/24/2012 3:22:59 PM
Selenium	0.026	0.0050		mg/L	5	9/24/2012 3:22:59 PM
Uranium	0.0092	0.0050		mg/L	5	9/27/2012 1:26:15 PM
EPA METHOD 245.1: MERCURY						Analyst: **IDC**
Mercury	ND	0.00020		mg/L	1	9/18/2012 1:26:26 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	1.4	1.0		µg/L	1	9/14/2012 10:31:49 PM
Toluene	ND	1.0		µg/L	1	9/14/2012 10:31:49 PM
Ethylbenzene	ND	1.0		µg/L	1	9/14/2012 10:31:49 PM
Naphthalene	ND	2.0		µg/L	1	9/14/2012 10:31:49 PM
Xylenes, Total	ND	2.0		µg/L	1	9/14/2012 10:31:49 PM
Surr: 1,2-Dichloroethane-d4	88.8	70-130		%REC	1	9/14/2012 10:31:49 PM
Surr: 4-Bromofluorobenzene	91.4	70-130		%REC	1	9/14/2012 10:31:49 PM
Surr: Dibromofluoromethane	81.4	70-130		%REC	1	9/14/2012 10:31:49 PM
Surr: Toluene-d8	96.8	70-130		%REC	1	9/14/2012 10:31:49 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	16000	0.10		µmhos/cm	10	9/18/2012 11:57:41 AM
SM4500-H+B: PH						Analyst: **IDC**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Yates Williams Pit
Collection Date: 9/12/2012 1:50:00 PM
Lab ID: 1209592-003 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **IDC**
pH	7.07	1.68	H	pH units	1	9/14/2012 6:19:52 PM
SM2320B: ALKALINITY						Analyst: **IDC**
Bicarbonate (As CaCO3)	270	20		mg/L CaCO3	1	9/14/2012 6:19:52 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	9/14/2012 6:19:52 PM
Total Alkalinity (as CaCO3)	270	20		mg/L CaCO3	1	9/14/2012 6:19:52 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9430	100		mg/L	1	9/17/2012 5:24:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Yates Williams Pit
Collection Date: 9/12/2012 2:15:00 PM
Lab ID: 1209592-004 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	1.0		mg/L	10	9/15/2012 7:16:10 AM
Chloride	20000	1000		mg/L	2000	9/18/2012 9:15:57 PM
Bromide	ND	10		mg/L	100	9/15/2012 7:28:34 AM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	9/18/2012 12:08:01 AM
Phosphorus, Orthophosphate (As P)	ND	50	H	mg/L	100	9/15/2012 7:28:34 AM
Sulfate	2000	50		mg/L	100	9/15/2012 7:28:34 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.047	0.010		mg/L	5	9/17/2012 7:03:59 PM
Cadmium	ND	0.010		mg/L	5	9/17/2012 7:03:59 PM
Calcium	2500	50		mg/L	50	9/17/2012 7:08:01 PM
Chromium	ND	0.030		mg/L	5	9/17/2012 7:03:59 PM
Copper	ND	0.0060		mg/L	1	10/1/2012 5:55:30 PM
Iron	ND	0.10		mg/L	5	9/17/2012 7:03:59 PM
Magnesium	750	50		mg/L	50	9/17/2012 7:08:01 PM
Manganese	0.013	0.010		mg/L	5	9/17/2012 7:03:59 PM
Potassium	9.3	5.0		mg/L	5	9/17/2012 7:03:59 PM
Silver	ND	0.025		mg/L	5	9/17/2012 7:03:59 PM
Sodium	8400	500		mg/L	500	9/17/2012 7:25:49 PM
Zinc	ND	0.050		mg/L	5	9/17/2012 7:03:59 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0081	0.0050		mg/L	5	9/24/2012 3:42:42 PM
Lead	ND	0.010		mg/L	10	9/27/2012 1:30:11 PM
Selenium	0.037	0.010		mg/L	10	10/4/2012 1:33:27 PM
Uranium	0.011	0.010		mg/L	10	9/27/2012 1:30:11 PM
EPA METHOD 245.1: MERCURY						Analyst: **IDC**
Mercury	ND	0.00020		mg/L	1	9/18/2012 1:28:12 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	9/14/2012 10:59:57 PM
Toluene	ND	1.0		µg/L	1	9/14/2012 10:59:57 PM
Ethylbenzene	ND	1.0		µg/L	1	9/14/2012 10:59:57 PM
Naphthalene	ND	2.0		µg/L	1	9/14/2012 10:59:57 PM
Xylenes, Total	ND	2.0		µg/L	1	9/14/2012 10:59:57 PM
Surr: 1,2-Dichloroethane-d4	90.0	70-130		%REC	1	9/14/2012 10:59:57 PM
Surr: 4-Bromofluorobenzene	89.3	70-130		%REC	1	9/14/2012 10:59:57 PM
Surr: Dibromofluoromethane	83.8	70-130		%REC	1	9/14/2012 10:59:57 PM
Surr: Toluene-d8	98.3	70-130		%REC	1	9/14/2012 10:59:57 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	67000	0.50		µmhos/cm	50	9/18/2012 12:02:00 PM
SM4500-H+B: PH						Analyst: **IDC**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Yates Williams Pit
Collection Date: 9/12/2012 2:15:00 PM
Lab ID: 1209592-004 **Matrix:** AQUEOUS **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **IDC**
pH	6.78	1.68	H	pH units	1	9/14/2012 6:34:38 PM
SM2320B: ALKALINITY						Analyst: **IDC**
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	9/14/2012 6:34:38 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	9/14/2012 6:34:38 PM
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	9/14/2012 6:34:38 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	38700	1000		mg/L	1	9/17/2012 5:24:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1209592**
Date Reported: **10/10/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: TRIP BLANK
Project: Yates Williams Pit
Collection Date:
Lab ID: 1209592-005 **Matrix:** TRIP BLANK **Received Date:** 9/14/2012 9:15:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	9/14/2012 11:28:07 PM
Toluene	ND	1.0		µg/L	1	9/14/2012 11:28:07 PM
Ethylbenzene	ND	1.0		µg/L	1	9/14/2012 11:28:07 PM
Naphthalene	ND	2.0		µg/L	1	9/14/2012 11:28:07 PM
Xylenes, Total	ND	2.0		µg/L	1	9/14/2012 11:28:07 PM
Surr: 1,2-Dichloroethane-d4	87.2	70-130		%REC	1	9/14/2012 11:28:07 PM
Surr: 4-Bromofluorobenzene	89.8	70-130		%REC	1	9/14/2012 11:28:07 PM
Surr: Dibromofluoromethane	83.5	70-130		%REC	1	9/14/2012 11:28:07 PM
Surr: Toluene-d8	97.4	70-130		%REC	1	9/14/2012 11:28:07 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1209592-01		MW-1 1209592-02		MW-4 1209592-03		MW-3 1209592-04					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	1800	78.29	520	22.62	1800	78.29	8400	365.38				
Potassium	11	0.28	2.7	0.07	18	0.46	9.3	0.24				
Calcium	840	41.92	690	34.43	760	37.92	2500	124.75				
Magnesium	280	23.05	250	20.58	340	27.98	750	61.73				
Total Cations		143.54		77.69		144.66		552.09				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2200	45.80	2200	45.80	2300	47.89	2000	41.64				
Chloride	3900	110.01	2200	62.06	4000	112.83	20000	564.17				
Bicarbonate (CaCO3)	280	5.60	220	4.40	270	5.40	210	4.20				
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)					-							
Fluoride			0.21	0.01								
Bromide			1.8	0.02								
Total Anions		161.41		112.29		166.12		610.01				
Elect. Cond. (µMhos/cm)	16000		8400		16000		67000					
CATION/ANION RATIO		0.89		0.69		0.87		0.91				
% Difference		6		18		7		5				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	9640		6300		9430		38700					
TDS (calculated)	9199		5997		9380		33785					
Ratio meas TDS:calc TDS		1.0		1.1		1.0		1.1				
Ratio Meas. TDS:EC		0.60		0.75		0.59		0.58				
Ratio Calc. TDS:EC		0.57		0.71		0.59		0.50				
Ratio of anion sum:EC		1.0		1.3		1.0		0.9				
Ratio of cation sum:EC		0.9		0.9		0.9		0.8				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R5587**	RunNo: **5587**
Prep Date:	Analysis Date: **9/17/2012**	SeqNo: **160071** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R5587**	RunNo: **5587**
Prep Date:	Analysis Date: **9/17/2012**	SeqNo: **160072** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	97.8	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.3	85	115			
Calcium	48	1.0	50.00	0	95.9	85	115			
Chromium	0.48	0.0060	0.5000	0	96.6	85	115			
Iron	0.48	0.020	0.5000	0.002020	95.9	85	115			
Magnesium	49	1.0	50.00	0	98.0	85	115			
Manganese	0.48	0.0020	0.5000	0	96.0	85	115			
Potassium	47	1.0	50.00	0	94.3	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			
Sodium	48	1.0	50.00	0	96.4	85	115			
Zinc	0.47	0.010	0.5000	0	95.0	85	115			

Sample ID **1209592-001CMS**	SampType: **MS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **MW-2**	Batch ID: **R5587**	RunNo: **5587**
Prep Date:	Analysis Date: **9/17/2012**	SeqNo: **160077** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0.03755	93.5	70	130			
Cadmium	0.50	0.0020	0.5000	0	101	70	130			
Chromium	0.57	0.0060	0.5000	0.1003	93.8	70	130			
Potassium	60	1.0	50.00	10.58	98.2	70	130			
Silver	0.10	0.0050	0.1000	0	105	70	130			
Zinc	0.47	0.010	0.5000	0.05281	82.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209592-001CMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MW-2**	Batch ID:	**R5587**		RunNo:	**5587**				
Prep Date:		Analysis Date:	**9/17/2012**		SeqNo:	**160078**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.51	0.0020	0.5000	0.03755	94.2	70	130	0.720	20	
Cadmium	0.51	0.0020	0.5000	0	101	70	130	0.433	20	
Chromium	0.57	0.0060	0.5000	0.1003	93.3	70	130	0.387	20	
Potassium	60	1.0	50.00	10.58	99.4	70	130	1.04	20	
Silver	0.11	0.0050	0.1000	0	106	70	130	1.19	20	
Zinc	0.47	0.010	0.5000	0.05281	83.0	70	130	0.370	20	

Sample ID	**1209592-001CMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MW-2**	Batch ID:	**R5587**		RunNo:	**5587**				
Prep Date:		Analysis Date:	**9/17/2012**		SeqNo:	**160083**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	3.8	0.010	2.500	1.409	95.7	70	130			

Sample ID	**1209592-001CMSD**	SampType:	**MSD**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**MW-2**	Batch ID:	**R5587**		RunNo:	**5587**				
Prep Date:		Analysis Date:	**9/17/2012**		SeqNo:	**160084**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Manganese	3.9	0.010	2.500	1.409	99.1	70	130	2.22	20	

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R5887**		RunNo:	**5887**				
Prep Date:		Analysis Date:	**10/1/2012**		SeqNo:	**169634**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	ND	0.0060								

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R5887**		RunNo:	**5887**				
Prep Date:		Analysis Date:	**10/1/2012**		SeqNo:	**169635**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.48	0.0060	0.5000	0	96.6	85	115			

Sample ID	**1209D13-002AMS**	SampType:	**MS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**R5887**		RunNo:	**5887**				
Prep Date:		Analysis Date:	**10/1/2012**		SeqNo:	**169654**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.48	0.0060	0.5000	0	96.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209D13-002AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**R5887**	RunNo:	**5887**					
Prep Date:		Analysis Date:	**10/1/2012**	SeqNo:	**169655**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Copper	0.49	0.0060	0.5000	0	98.0	70	130	1.34	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**

10-Oct-12

Client: Safety & Environmental Solutions

Project: Yates Williams Pit

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**LCSW**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165676**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.026	0.0010	0.02500	0	102	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**LCSW**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165677**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.025	0.0010	0.02500	0	101	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**PBW**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165680**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**PBW**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165681**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**LCSW**	Batch ID:	**R5818**	RunNo:	**5818**					
Prep Date:		Analysis Date:	**9/27/2012**	SeqNo:	**167315**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.026	0.0010	0.02500	0	102	85	115			
Uranium	0.025	0.0010	0.02500	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**LCSW**	Batch ID:	**R5818**	RunNo:	**5818**					
Prep Date:		Analysis Date:	**9/27/2012**	SeqNo:	**167316**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.025	0.0010	0.02500	0	102	85	115			
Uranium	0.024	0.0010	0.02500	0	96.9	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**PBW**	Batch ID:	**R5818**	RunNo:	**5818**					
Prep Date:		Analysis Date:	**9/27/2012**	SeqNo:	**167319**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**PBW**	Batch ID:	**R5818**	RunNo:	**5818**					
Prep Date:		Analysis Date:	**9/27/2012**	SeqNo:	**167320**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**LCSW**	Batch ID:	**R5990**	RunNo:	**5990**					
Prep Date:		Analysis Date:	**10/4/2012**	SeqNo:	**172578**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.028	0.0010	0.02500	0	111	85	115			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**LCSW**	Batch ID:	**R5990**	RunNo:	**5990**					
Prep Date:		Analysis Date:	**10/4/2012**	SeqNo:	**172579**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.028	0.0010	0.02500	0	112	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**PBW**	Batch ID:	**R5990**	RunNo:	**5990**					
Prep Date:		Analysis Date:	**10/4/2012**	SeqNo:	**172581**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Metals**					
Client ID:	**PBW**	Batch ID:	**R5990**	RunNo:	**5990**					
Prep Date:		Analysis Date:	**10/4/2012**	SeqNo:	**172583**	Units:	**mg/L**			

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209361-002AMS**	SampType:	**MS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165684**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0.0001905	99.7	70	130			
Lead	0.026	0.0010	0.02500	.00008734	104	70	130			
Selenium	0.026	0.0010	0.02500	0.001756	98.9	70	130			

Sample ID	**1209585-006AMS**	SampType:	**MS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165688**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.026	0.0010	0.02500	0.0009760	99.4	70	130			
Lead	0.026	0.0010	0.02500	.00008003	104	70	130			
Selenium	0.036	0.0010	0.02500	0.008229	110	70	130			

Sample ID	**1209682-002AMS**	SampType:	**MS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165699**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.029	0.0010	0.02500	0.002656	104	70	130			
Lead	0.027	0.0010	0.02500	0.0007046	105	70	130			
Selenium	0.030	0.0010	0.02500	0.003591	105	70	130			

Sample ID	**1209933-008AMS**	SampType:	**MS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165706**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0.0003801	97.8	70	130			
Lead	0.032	0.0010	0.02500	0.006527	101	70	130			
Selenium	0.031	0.0010	0.02500	0.005818	101	70	130			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R5764**	RunNo:	**5764**					
Prep Date:		Analysis Date:	**9/24/2012**	SeqNo:	**165709**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.026	0.0010	0.02500	0	102	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**LCS**	SampType: **LCS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID: **R5764**		RunNo: **5764**					
Prep Date:		Analysis Date: **9/24/2012**		SeqNo: **165710**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.025	0.0010	0.02500	0	101	85	115			
Selenium	0.026	0.0010	0.02500	0	106	85	115			

Sample ID	**MB**	SampType: **MBLK**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **R5764**		RunNo: **5764**					
Prep Date:		Analysis Date: **9/24/2012**		SeqNo: **165711**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**MB**	SampType: **MBLK**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID: **R5764**		RunNo: **5764**					
Prep Date:		Analysis Date: **9/24/2012**		SeqNo: **165712**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Lead	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**1209596-001BMS**	SampType: **MS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **R5818**		RunNo: **5818**					
Prep Date:		Analysis Date: **9/27/2012**		SeqNo: **167338**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.026	0.0010	0.02500	.00005721	103	70	130			
Uranium	0.028	0.0010	0.02500	0.001623	106	70	130			

Sample ID	**1209597-002CMS**	SampType: **MS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **R5818**		RunNo: **5818**					
Prep Date:		Analysis Date: **9/27/2012**		SeqNo: **167344**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.13	0.0050	0.1250	0	102	70	130			

Sample ID	**1209B02-006AMS**	SampType: **MS**		TestCode: **EPA 200.8: Dissolved Metals**					
Client ID:	**BatchQC**	Batch ID: **R5818**		RunNo: **5818**					
Prep Date:		Analysis Date: **9/27/2012**		SeqNo: **167354**		Units: **mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209B02-006AMS**	SampType:	**MS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**BatchQC**	Batch ID:	**R5818**		RunNo:	**5818**				
Prep Date:		Analysis Date:	**9/27/2012**		SeqNo:	**167354**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.026	0.0010	0.02500	0.0004874	101	70	130			
Uranium	0.033	0.0010	0.02500	0.01025	89.4	70	130			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R5818**		RunNo:	**5818**				
Prep Date:		Analysis Date:	**9/27/2012**		SeqNo:	**167361**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.026	0.0010	0.02500	0	102	85	115			
Uranium	0.025	0.0010	0.02500	0	100	85	115			

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R5818**		RunNo:	**5818**				
Prep Date:		Analysis Date:	**9/27/2012**		SeqNo:	**167362**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.025	0.0010	0.02500	0	102	85	115			
Uranium	0.024	0.0010	0.02500	0	96.9	85	115			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R5818**		RunNo:	**5818**				
Prep Date:		Analysis Date:	**9/27/2012**		SeqNo:	**167365**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R5818**		RunNo:	**5818**				
Prep Date:		Analysis Date:	**9/27/2012**		SeqNo:	**167367**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R5990**		RunNo:	**5990**				
Prep Date:		Analysis Date:	**10/4/2012**		SeqNo:	**172606**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.028	0.0010	0.02500	0	111	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**

10-Oct-12

Client: Safety & Environmental Solutions

Project: Yates Williams Pit

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R5990**		RunNo:	**5990**				
Prep Date:		Analysis Date:	**10/4/2012**		SeqNo:	**172607**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	0.028	0.0010	0.02500	0	112	85	115			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R5990**		RunNo:	**5990**				
Prep Date:		Analysis Date:	**10/4/2012**		SeqNo:	**172608**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA 200.8: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R5990**		RunNo:	**5990**				
Prep Date:		Analysis Date:	**10/4/2012**		SeqNo:	**172610**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Selenium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**MB-3781**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**3781**	RunNo:	**5593**					
Prep Date:	**9/17/2012**	Analysis Date:	**9/18/2012**	SeqNo:	**161626**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-3781**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**3781**	RunNo:	**5593**					
Prep Date:	**9/17/2012**	Analysis Date:	**9/18/2012**	SeqNo:	**161627**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.3	80	120			

Sample ID	**1209231-001BMS**	SampType:	**MS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**BatchQC**	Batch ID:	**3781**	RunNo:	**5593**					
Prep Date:	**9/17/2012**	Analysis Date:	**9/18/2012**	SeqNo:	**161630**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	98.0	75	125			

Sample ID	**1209231-001BMSD**	SampType:	**MSD**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**BatchQC**	Batch ID:	**3781**	RunNo:	**5593**					
Prep Date:	**9/17/2012**	Analysis Date:	**9/18/2012**	SeqNo:	**161631**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0049	0.00020	0.005000	0	97.9	75	125	0.138	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R5556**	RunNo: **5556**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **158889** 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								
Sulfate	ND	0.50								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R5556**	RunNo: **5556**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **158890** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.51	0.10	0.5000	0	103	90	110			
Bromide	2.4	0.10	2.500	0	96.9	90	110			
Phosphorus, Orthophosphate (As P	5.1	0.50	5.000	0	102	90	110			
Sulfate	9.7	0.50	10.00	0	96.6	90	110			

Sample ID **1209596-001AMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R5556**	RunNo: **5556**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **158913** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.76	0.10	0.5000	0.2946	92.5	76.6	110			
Bromide	2.3	0.10	2.500	0	92.3	83.3	107			

Sample ID **1209596-001AMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R5556**	RunNo: **5556**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **158914** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.75	0.10	0.5000	0.2946	91.9	76.6	110	0.388	20	
Bromide	2.3	0.10	2.500	0	93.0	83.3	107	0.768	20	

Sample ID **1209588-001AMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R5556**	RunNo: **5556**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **158930** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.57	0.10	0.5000	0.08346	97.0	76.6	110			
Bromide	2.3	0.10	2.500	0	92.8	83.3	107			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.6	74.5	115			
Sulfate	45	0.50	10.00	35.00	103	84.6	122			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209588-001AMSD**	SampType:	**MSD**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**BatchQC**	Batch ID:	**R5556**	RunNo:	**5556**					
Prep Date:		Analysis Date:	**9/14/2012**	SeqNo:	**158931**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.57	0.10	0.5000	0.08346	96.8	76.6	110	0.201	20	
Bromide	2.3	0.10	2.500	0	92.6	83.3	107	0.170	20	
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.6	74.5	115	0.0369	20	
Sulfate	45	0.50	10.00	35.00	104	84.6	122	0.0910	20	

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**PBW**	Batch ID:	**R5556**	RunNo:	**5556**					
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**158961**	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								
Sulfate	ND	0.50								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSW**	Batch ID:	**R5556**	RunNo:	**5556**					
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**158962**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	109	90	110			
Bromide	2.4	0.10	2.500	0	97.5	90	110			
Phosphorus, Orthophosphate (As P	5.2	0.50	5.000	0	105	90	110			
Sulfate	9.9	0.50	10.00	0	98.7	90	110			

Sample ID	**1209613-001DMS**	SampType:	**MS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**BatchQC**	Batch ID:	**R5556**	RunNo:	**5556**					
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**158966**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.94	0.10	0.5000	0.4447	98.2	76.6	110			
Bromide	2.8	0.10	2.500	0.4335	93.8	83.3	107			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	98.9	74.5	115			

Sample ID	**1209613-001DMSD**	SampType:	**MSD**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**BatchQC**	Batch ID:	**R5556**	RunNo:	**5556**					
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**158967**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.94	0.10	0.5000	0.4447	98.6	76.6	110	0.184	20	
Bromide	2.8	0.10	2.500	0.4335	94.3	83.3	107	0.416	20	
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	99.1	74.5	115	0.206	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R5586**	RunNo: **5586**
Prep Date:	Analysis Date: **9/17/2012**	SeqNo: **159954** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Bromide	ND	0.10								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R5586**	RunNo: **5586**
Prep Date:	Analysis Date: **9/17/2012**	SeqNo: **159955** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	5.0	0.50	5.000	0	99.2	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Sulfate	9.8	0.50	10.00	0	98.2	90	110			
Nitrate+Nitrite as N	3.6	0.20	3.500	0	102	90	110			

Sample ID **1209630-006BMS**	SampType: **MS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R5586**	RunNo: **5586**
Prep Date:	Analysis Date: **9/17/2012**	SeqNo: **160002** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	3.0	0.10	2.500	0.6559	94.3	83.3	107			
Nitrate+Nitrite as N	7.2	0.20	3.500	3.670	101	88.6	110			

Sample ID **1209630-006BMSD**	SampType: **MSD**	TestCode: **EPA Method 300.0: Anions**
Client ID: **BatchQC**	Batch ID: **R5586**	RunNo: **5586**
Prep Date:	Analysis Date: **9/17/2012**	SeqNo: **160003** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	3.0	0.10	2.500	0.6559	92.3	83.3	107	1.67	20	
Nitrate+Nitrite as N	7.1	0.20	3.500	3.670	99.3	88.6	110	1.00	20	

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R5616**	RunNo: **5616**
Prep Date:	Analysis Date: **9/18/2012**	SeqNo: **160944** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**LCSW**	Batch ID:	**R5616**		RunNo:	**5616**				
Prep Date:		Analysis Date:	**9/18/2012**		SeqNo:	**160945**	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	93.3	90	110			

Sample ID	**1209682-001AMS**	SampType:	**MS**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**BatchQC**	Batch ID:	**R5616**		RunNo:	**5616**				
Prep Date:		Analysis Date:	**9/18/2012**		SeqNo:	**160973**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10	0.50	5.000	5.374	101	87.8	111			

Sample ID	**1209682-001AMSD**	SampType:	**MSD**		TestCode:	**EPA Method 300.0: Anions**				
Client ID:	**BatchQC**	Batch ID:	**R5616**		RunNo:	**5616**				
Prep Date:		Analysis Date:	**9/18/2012**		SeqNo:	**160974**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	10	0.50	5.000	5.374	101	87.8	111	0.241	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R5561**	RunNo: **5561**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **159037** 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								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.5	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.5	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	9.9		10.00		99.1	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R5561**	RunNo: **5561**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **159040** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.8	70	130			
Toluene	18	1.0	20.00	0	89.4	80	120			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.8	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.3	70	130			
Surr: Dibromofluoromethane	9.3		10.00		92.6	70	130			
Surr: Toluene-d8	9.7		10.00		96.5	70	130			

Sample ID **1209569-001ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R5561**	RunNo: **5561**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **159041** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	42	2.0	40.00	0	105	66.8	128			
Toluene	38	2.0	40.00	0	95.9	70	130			
Surr: 1,2-Dichloroethane-d4	18		20.00		88.9	70	130			
Surr: 4-Bromofluorobenzene	19		20.00		94.1	70	130			
Surr: Dibromofluoromethane	16		20.00		82.5	70	130			
Surr: Toluene-d8	19		20.00		96.6	70	130			

Sample ID **1209569-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R5561**	RunNo: **5561**
Prep Date:	Analysis Date: **9/14/2012**	SeqNo: **159042** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	38	2.0	40.00	0	95.6	66.8	128	9.16	16.7	
Toluene	35	2.0	40.00	0	88.5	70	130	8.02	18.7	
Surr: 1,2-Dichloroethane-d4	17		20.00		86.5	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209569-001amsd**	SampType:	**MSD**	TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**BatchQC**	Batch ID:	**R5561**	RunNo:	**5561**				
Prep Date:		Analysis Date:	**9/14/2012**	SeqNo:	**159042**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	19		20.00		94.3	70	130	0	0	
Surr: Dibromofluoromethane	16		20.00		79.2	70	130	0	0	
Surr: Toluene-d8	20		20.00		97.9	70	130	0	0	

Sample ID	**100NG LCS2**	SampType:	**LCS**	TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**LCSW**	Batch ID:	**R5561**	RunNo:	**5561**				
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**159068**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	109	70	130			
Toluene	19	1.0	20.00	0	96.9	80	120			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.6	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		91.1	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.6	70	130			
Surr: Toluene-d8	9.8		10.00		98.5	70	130			

Sample ID	**1209594-001ams**	SampType:	**MS**	TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**BatchQC**	Batch ID:	**R5561**	RunNo:	**5561**				
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**159069**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	42	2.0	40.00	0	106	66.8	128			
Toluene	38	2.0	40.00	0	94.5	70	130			
Surr: 1,2-Dichloroethane-d4	18		20.00		90.2	70	130			
Surr: 4-Bromofluorobenzene	18		20.00		91.1	70	130			
Surr: Dibromofluoromethane	17		20.00		86.2	70	130			
Surr: Toluene-d8	20		20.00		98.9	70	130			

Sample ID	**1209594-001amsd**	SampType:	**MSD**	TestCode:	**EPA Method 8260: Volatiles Short List**				
Client ID:	**BatchQC**	Batch ID:	**R5561**	RunNo:	**5561**				
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**159070**	Units:	**µg/L**		

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	37	2.0	40.00	0	92.1	66.8	128	14.0	16.7	
Toluene	33	2.0	40.00	0	82.3	70	130	13.8	18.7	
Surr: 1,2-Dichloroethane-d4	18		20.00		91.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	18		20.00		90.5	70	130	0	0	
Surr: Dibromofluoromethane	17		20.00		85.0	70	130	0	0	
Surr: Toluene-d8	19		20.00		97.1	70	130	0	0	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**vcb2**	SampType:	**MBLK**	TestCode:	**EPA Method 8260: Volatiles Short List**					
Client ID:	**PBW**	Batch ID:	**R5561**	RunNo:	**5561**					
Prep Date:		Analysis Date:	**9/15/2012**	SeqNo:	**159082**	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								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	8.7		10.00		87.2	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.6	70	130			
Surr: Dibromofluoromethane	8.4		10.00		83.6	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209593-001a dup**	SampType:	**DUP**	TestCode:	**EPA 120.1: Specific Conductance**					
Client ID:	**BatchQC**	Batch ID:	**R5566**	RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**	SeqNo:	**159410**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	540	0.010						0.411	20	

Sample ID	**1209596-003a dup**	SampType:	**DUP**	TestCode:	**EPA 120.1: Specific Conductance**					
Client ID:	**BatchQC**	Batch ID:	**R5566**	RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**	SeqNo:	**159423**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	1800	0.010						0.224	20	

Sample ID	**1209612-001a dup**	SampType:	**dup**	TestCode:	**EPA 120.1: Specific Conductance**					
Client ID:	**BatchQC**	Batch ID:	**R5600**	RunNo:	**5600**					
Prep Date:		Analysis Date:	**9/18/2012**	SeqNo:	**160447**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	470	0.010						1.49	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209596-003a dup**	SampType: **dup**	TestCode: **SM4500-H+B: pH**		
Client ID:	**BatchQC**	Batch ID: **R5566**	RunNo: **5566**		
Prep Date:		Analysis Date: **9/14/2012**	SeqNo: **159563**	Units: **pH units**	

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
pH	8.03	1.68								H

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**

10-Oct-12

Client: Safety & Environmental Solutions

Project: Yates Williams Pit

Sample ID	**mb-1**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R5566**		RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**		SeqNo:	**159298**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20									

Sample ID	**lcs-1**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R5566**		RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**		SeqNo:	**159299**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	81	20	80.00	0	101	88.1	104				

Sample ID	**1209585-007a ms**	SampType:	**MS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**BatchQC**	Batch ID:	**R5566**		RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**		SeqNo:	**159306**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20	80.00	0	0	62.6	110			S	

Sample ID	**1209585-007a msd**	SampType:	**MSD**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**BatchQC**	Batch ID:	**R5566**		RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**		SeqNo:	**159307**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20	80.00	0	0	59.9	111	0	10	S	

Sample ID	**mb-2**	SampType:	**MBLK**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R5566**		RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**		SeqNo:	**159313**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	ND	20									

Sample ID	**lcs-2**	SampType:	**LCS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R5566**		RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**		SeqNo:	**159314**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	82	20	80.00	0	102	88.1	104				

Sample ID	**1209596-003a ms**	SampType:	**MS**		TestCode:	**SM2320B: Alkalinity**					
Client ID:	**BatchQC**	Batch ID:	**R5566**		RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**		SeqNo:	**159326**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Total Alkalinity (as CaCO3)	84	20	80.00	69.72	17.7	62.6	110			S	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**1209596-003a msd**	SampType:	**MSD**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**BatchQC**	Batch ID:	**R5566**	RunNo:	**5566**					
Prep Date:		Analysis Date:	**9/14/2012**	SeqNo:	**159327**	Units:	**mg/L CaCO3**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82	20	80.00	69.72	15.9	59.9	111	1.78	10	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1209592**
10-Oct-12

Client: Safety & Environmental Solutions
Project: Yates Williams Pit

Sample ID	**MB-3764**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**3764**	RunNo:	**5576**					
Prep Date:	**9/14/2012**	Analysis Date:	**9/17/2012**	SeqNo:	**159649**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-3764**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**3764**	RunNo:	**5576**					
Prep Date:	**9/14/2012**	Analysis Date:	**9/17/2012**	SeqNo:	**159650**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Sample ID	**1209516-003AMS**	SampType:	**MS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**BatchQC**	Batch ID:	**3764**	RunNo:	**5576**					
Prep Date:	**9/14/2012**	Analysis Date:	**9/17/2012**	SeqNo:	**159656**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1530	20.0	1000	523.0	100	80	120			

Sample ID	**1209516-003AMSD**	SampType:	**MSD**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**BatchQC**	Batch ID:	**3764**	RunNo:	**5576**					
Prep Date:	**9/14/2012**	Analysis Date:	**9/17/2012**	SeqNo:	**159657**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1530	20.0	1000	523.0	101	80	120	0.262	20	

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: **Safety Env Solutions** Work Order Number: **1209592**

Received by/date: 09/14/12

Logged By: **Ashley Gallegos** 9/14/2012 9:15:00 AM

Completed By: **Ashley Gallegos** 9/14/2012 11:18:03 AM

Reviewed By: 09/14/12

Chain of Custody

		Yes	No	Not Present
1.	Were seals intact?			✔
2.	Is Chain of Custody complete?	✔		
3.	How was the sample delivered?	FedEx		

Log In

		Yes	No	NA
4.	Coolers are present? (see 19. for cooler specific information)	✔		
5.	Was an attempt made to cool the samples?	✔		
6.	Were all samples received at a temperature of >0° C to 6.0°C	✔		
7.	Sample(s) in proper container(s)?	✔		
8.	Sufficient sample volume for indicated test(s)?	✔		
9.	Are samples (except VOA and ONG) properly preserved?	✔		
10.	Was preservative added to bottles?		✔	
11.	VOA vials have zero headspace?	✔		No VOA Vials
12.	Were any sample containers received broken?		✔	
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	✔		
14.	Are matrices correctly identified on Chain of Custody?	✔		
15.	Is it clear what analyses were requested?	✔		
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	✔		

# of preserved bottles checked for pH: 2 12 (<2 or >12 unless noted)

Adjusted?

Checked by:

Special Handling (if applicable)

		Yes	No	NA
17.	Was client notified of all discrepancies with this order?			✔

Person Notified: Date:

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Not Present			

Chain-of-Custody Record

Client: Safety & Environmental Solutions

Mailing Address: 703 E Clinton Hobbs NM

Phone #: 575-397-0570

email or Fax#:

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

Accreditation
☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Gates Williams A8

Project #: YAT-04-001

Project Manager: Boyer, Dave

Sampler: Sosa, Jerry

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

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 Request ID	Container Type and #	Preservative Type	HEAL No. 1209592
09/12	1300	H2O	MW-2	7	HCl	-001
09/12	1325	H2O	MW-1	7	H2SO4	-002
09/12	1350	H2O	MW-4	7	HNO3	-003
09/12	1415	H2O	MW-3	7	"	-004
			TRIP BLANK	VOA 2	HCl	-005

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO3,NO2,PO4,SO4)	8081 Pesticides / 8082 PCB's	8260B (VOA) SX	8270 (Semi-VOA)	BTEX, Naphthalene	VOCs, 8260, metals	Cations/Anions, Cal	Lead, Total Hg	Air Bubbles (Y or N)
											X	X	X	X	
											X	X	X	X	
											X	X	X	X	
											X	X	X	X	
									X	X					

Date	Time	Relinquished by	Received by	Date	Time
9/13/12	0700	Sosa Jerry	DBoyer	9/13/12	0700
9/13/12	1700	DBoyer		09/14/12	0915

Remarks: BTEX, Naphthalene 8260 short list

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 report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

January 07, 2013

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 390-7067
FAX (575) 393-4388

RE: Yate's Williams Pit OrderNo.: 1212422

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 12/11/2012 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued December 31, 2012.

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 don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Yate's Williams Pit
Collection Date: 12/7/2012 9:15:00 AM
Lab ID: 1212422-001 **Matrix:** AQUEOUS **Received Date:** 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	12/11/2012 4:42:35 PM
Chloride	2800	250		mg/L	500	12/12/2012 8:00:41 PM
Bromide	ND	2.0		mg/L	20	12/11/2012 4:42:35 PM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	12/13/2012 11:22:28 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	12/11/2012 4:42:35 PM
Sulfate	2000	50		mg/L	100	12/12/2012 8:13:06 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.013	0.0020		mg/L	1	12/13/2012 6:34:55 PM
Cadmium	ND	0.0020		mg/L	1	12/13/2012 6:34:55 PM
Calcium	900	10		mg/L	10	12/14/2012 6:21:52 PM
Chromium	ND	0.0060		mg/L	1	12/13/2012 6:34:55 PM
Copper	ND	0.0060		mg/L	1	12/13/2012 6:34:55 PM
Iron	0.090	0.020		mg/L	1	12/13/2012 6:34:55 PM
Magnesium	310	5.0		mg/L	5	12/13/2012 6:38:55 PM
Manganese	1.2	0.010	*	mg/L	5	12/13/2012 6:38:55 PM
Potassium	14	1.0		mg/L	1	12/13/2012 6:34:55 PM
Silver	ND	0.0050		mg/L	1	12/14/2012 6:17:48 PM
Sodium	1900	50		mg/L	50	12/26/2012 7:23:46 PM
Zinc	0.11	0.010		mg/L	1	12/13/2012 6:34:55 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0030	0.0010		mg/L	1	12/17/2012 12:21:00 PM
Lead	ND	0.0050		mg/L	5	12/17/2012 1:27:57 PM
Selenium	0.026	0.0050		mg/L	5	12/17/2012 1:27:57 PM
Uranium	0.0099	0.0050		mg/L	5	12/17/2012 1:27:57 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	12/12/2012 3:38:48 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	12/16/2012 5:39:20 PM
Toluene	ND	1.0		µg/L	1	12/16/2012 5:39:20 PM
Ethylbenzene	ND	1.0		µg/L	1	12/16/2012 5:39:20 PM
Naphthalene	ND	2.0		µg/L	1	12/16/2012 5:39:20 PM
Xylenes, Total	ND	2.0		µg/L	1	12/16/2012 5:39:20 PM
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%REC	1	12/16/2012 5:39:20 PM
Surr: 4-Bromofluorobenzene	99.2	70-130		%REC	1	12/16/2012 5:39:20 PM
Surr: Dibromofluoromethane	85.7	70-130		%REC	1	12/16/2012 5:39:20 PM
Surr: Toluene-d8	98.9	70-130		%REC	1	12/16/2012 5:39:20 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	14000	0.025		µmhos/cm	2.5	12/14/2012 6:47:56 PM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Yate's Williams Pit
Collection Date: 12/7/2012 9:15:00 AM
Lab ID: 1212422-001 **Matrix:** AQUEOUS **Received Date:** 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	6.94	1.68	H	pH units	1	12/13/2012 10:35:39 AM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	220	20		mg/L CaCO3	1	12/13/2012 10:35:39 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	12/13/2012 10:35:39 AM
Total Alkalinity (as CaCO3)	220	20		mg/L CaCO3	1	12/13/2012 10:35:39 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JML**
Total Dissolved Solids	8980	100		mg/L	1	12/17/2012 3:09:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Yate's Williams Pit
Collection Date: 12/7/2012 9:45:00 AM
Lab ID: 1212422-002
Matrix: AQUEOUS
Received Date: 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	12/11/2012 5:07:26 PM
Chloride	2000	100		mg/L	200	12/12/2012 8:25:31 PM
Bromide	ND	2.0		mg/L	20	12/11/2012 5:07:26 PM
Nitrate+Nitrite as N	2.5	2.0		mg/L	10	12/13/2012 11:34:53 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	12/11/2012 5:07:26 PM
Sulfate	2100	50		mg/L	100	12/12/2012 8:37:55 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.014	0.0020		mg/L	1	12/13/2012 6:42:44 PM
Cadmium	ND	0.0020		mg/L	1	12/13/2012 6:42:44 PM
Calcium	810	20		mg/L	20	12/26/2012 7:27:32 PM
Chromium	ND	0.0060		mg/L	1	12/13/2012 6:42:44 PM
Copper	ND	0.0060		mg/L	1	12/13/2012 6:42:44 PM
Iron	0.41	0.020	*	mg/L	1	12/13/2012 6:42:44 PM
Magnesium	270	5.0		mg/L	5	12/13/2012 6:46:35 PM
Manganese	0.018	0.0020		mg/L	1	12/13/2012 6:42:44 PM
Potassium	5.1	1.0		mg/L	1	12/13/2012 6:42:44 PM
Silver	ND	0.0050		mg/L	1	12/14/2012 6:29:20 PM
Sodium	930	20		mg/L	20	12/26/2012 7:27:32 PM
Zinc	0.022	0.010		mg/L	1	12/13/2012 6:42:44 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0027	0.0010		mg/L	1	12/17/2012 12:24:56 PM
Lead	0.0011	0.0010		mg/L	1	12/17/2012 12:24:56 PM
Selenium	0.023	0.0050		mg/L	5	12/17/2012 1:31:53 PM
Uranium	0.0070	0.0010		mg/L	1	12/17/2012 12:24:56 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	12/12/2012 3:40:34 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	2.0		µg/L	2	12/16/2012 6:07:09 PM
Toluene	ND	2.0		µg/L	2	12/16/2012 6:07:09 PM
Ethylbenzene	ND	2.0		µg/L	2	12/16/2012 6:07:09 PM
Naphthalene	ND	4.0		µg/L	2	12/16/2012 6:07:09 PM
Xylenes, Total	ND	4.0		µg/L	2	12/16/2012 6:07:09 PM
Surr: 1,2-Dichloroethane-d4	95.3	70-130		%REC	2	12/16/2012 6:07:09 PM
Surr: 4-Bromofluorobenzene	96.6	70-130		%REC	2	12/16/2012 6:07:09 PM
Surr: Dibromofluoromethane	88.7	70-130		%REC	2	12/16/2012 6:07:09 PM
Surr: Toluene-d8	99.4	70-130		%REC	2	12/16/2012 6:07:09 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	8600	0.010		µmhos/cm	1	12/13/2012 10:49:33 AM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Yate's Williams Pit
Collection Date: 12/7/2012 9:45:00 AM
Lab ID: 1212422-002 **Matrix:** AQUEOUS **Received Date:** 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	6.99	1.68	H	pH units	1	12/13/2012 10:49:33 AM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	12/13/2012 10:49:33 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	12/13/2012 10:49:33 AM
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	12/13/2012 10:49:33 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JML**
Total Dissolved Solids	7260	200		mg/L	1	12/17/2012 3:09:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Yate's Williams Pit
Collection Date: 12/7/2012 10:15:00 AM
Lab ID: 1212422-003 **Matrix:** AQUEOUS **Received Date:** 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	12/11/2012 5:57:05 PM
Chloride	3100	250		mg/L	500	12/12/2012 8:50:20 PM
Bromide	ND	2.0		mg/L	20	12/11/2012 5:57:05 PM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	12/13/2012 11:47:17 PM
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	12/11/2012 5:44:40 PM
Sulfate	2100	50		mg/L	100	12/12/2012 9:02:44 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.014	0.0020		mg/L	1	12/13/2012 7:07:30 PM
Cadmium	ND	0.0020		mg/L	1	12/13/2012 7:07:30 PM
Calcium	800	20		mg/L	20	12/18/2012 2:53:35 PM
Chromium	ND	0.0060		mg/L	1	12/13/2012 7:07:30 PM
Copper	ND	0.0060		mg/L	1	12/13/2012 7:07:30 PM
Iron	0.12	0.020		mg/L	1	12/18/2012 2:49:32 PM
Magnesium	370	20		mg/L	20	12/18/2012 2:53:35 PM
Manganese	0.015	0.0020		mg/L	1	12/13/2012 7:07:30 PM
Potassium	30	1.0		mg/L	1	12/18/2012 2:49:32 PM
Silver	ND	0.0050		mg/L	1	12/18/2012 2:49:32 PM
Sodium	1700	20		mg/L	20	12/18/2012 2:53:35 PM
Zinc	ND	0.010		mg/L	1	12/13/2012 7:07:30 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0035	0.0010		mg/L	1	12/17/2012 12:28:52 PM
Lead	ND	0.0050		mg/L	5	12/17/2012 1:35:49 PM
Selenium	0.028	0.0050		mg/L	5	12/17/2012 1:35:49 PM
Uranium	0.0089	0.0050		mg/L	5	12/17/2012 1:35:49 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	12/12/2012 3:45:51 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	2.2	1.0		µg/L	1	12/16/2012 6:35:00 PM
Toluene	ND	1.0		µg/L	1	12/16/2012 6:35:00 PM
Ethylbenzene	ND	1.0		µg/L	1	12/16/2012 6:35:00 PM
Naphthalene	ND	2.0		µg/L	1	12/16/2012 6:35:00 PM
Xylenes, Total	ND	2.0		µg/L	1	12/16/2012 6:35:00 PM
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%REC	1	12/16/2012 6:35:00 PM
Surr: 4-Bromofluorobenzene	98.4	70-130		%REC	1	12/16/2012 6:35:00 PM
Surr: Dibromofluoromethane	87.8	70-130		%REC	1	12/16/2012 6:35:00 PM
Surr: Toluene-d8	100	70-130		%REC	1	12/16/2012 6:35:00 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	13000	0.025		µmhos/cm	2.5	12/14/2012 6:52:21 PM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Yate's Williams Pit
Collection Date: 12/7/2012 10:15:00 AM
Lab ID: 1212422-003 **Matrix:** AQUEOUS **Received Date:** 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	6.94	1.68	H	pH units	1	12/13/2012 11:03:05 AM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	250	20		mg/L CaCO3	1	12/13/2012 11:03:05 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	12/13/2012 11:03:05 AM
Total Alkalinity (as CaCO3)	250	20		mg/L CaCO3	1	12/13/2012 11:03:05 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JML**
Total Dissolved Solids	8410	40.0		mg/L	1	12/17/2012 3:09:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Yate's Williams Pit
Collection Date: 12/7/2012 10:40:00 AM
Lab ID: 1212422-004
Matrix: AQUEOUS
Received Date: 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	12/11/2012 6:21:55 PM
Chloride	17000	500		mg/L	1000	12/12/2012 9:15:09 PM
Bromide	11	5.0		mg/L	50	12/12/2012 9:27:34 PM
Nitrate+Nitrite as N	ND	20		mg/L	100	12/13/2012 11:59:41 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	12/11/2012 6:21:55 PM
Sulfate	1600	25		mg/L	50	12/12/2012 9:27:34 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Barium	0.048	0.0020		mg/L	1	12/13/2012 7:15:20 PM
Cadmium	ND	0.0020		mg/L	1	12/13/2012 7:15:20 PM
Calcium	2200	50		mg/L	50	12/18/2012 3:05:09 PM
Chromium	ND	0.0060		mg/L	1	12/13/2012 7:15:20 PM
Copper	ND	0.0060		mg/L	1	12/13/2012 7:15:20 PM
Iron	0.049	0.020		mg/L	1	12/18/2012 2:57:28 PM
Magnesium	670	10		mg/L	10	12/18/2012 3:01:20 PM
Manganese	0.010	0.0020		mg/L	1	12/13/2012 7:15:20 PM
Potassium	52	1.0		mg/L	1	12/18/2012 2:57:28 PM
Silver	ND	0.025		mg/L	5	12/19/2012 4:17:54 PM
Sodium	8800	200		mg/L	200	12/26/2012 7:31:18 PM
Zinc	ND	0.010		mg/L	1	12/13/2012 7:15:20 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0056	0.0050		mg/L	5	12/17/2012 1:47:40 PM
Lead	ND	0.020		mg/L	20	12/17/2012 2:50:43 PM
Selenium	0.033	0.020		mg/L	20	12/17/2012 2:50:43 PM
Uranium	ND	0.020		mg/L	20	12/17/2012 2:50:43 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	12/12/2012 3:47:37 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	12/16/2012 7:03:13 PM
Toluene	ND	1.0		µg/L	1	12/16/2012 7:03:13 PM
Ethylbenzene	ND	1.0		µg/L	1	12/16/2012 7:03:13 PM
Naphthalene	ND	2.0		µg/L	1	12/16/2012 7:03:13 PM
Xylenes, Total	ND	2.0		µg/L	1	12/16/2012 7:03:13 PM
Surr: 1,2-Dichloroethane-d4	96.6	70-130		%REC	1	12/16/2012 7:03:13 PM
Surr: 4-Bromofluorobenzene	98.1	70-130		%REC	1	12/16/2012 7:03:13 PM
Surr: Dibromofluoromethane	87.5	70-130		%REC	1	12/16/2012 7:03:13 PM
Surr: Toluene-d8	98.1	70-130		%REC	1	12/16/2012 7:03:13 PM
EPA 120.1: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	68000	0.50		µmhos/cm	50	12/18/2012 4:57:29 PM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1212422**
Date Reported: **1/7/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Yate's Williams Pit
Collection Date: 12/7/2012 10:40:00 AM
Lab ID: 1212422-004 **Matrix:** AQUEOUS **Received Date:** 12/11/2012 8:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	6.70	1.68	H	pH units	1	12/13/2012 11:17:36 AM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	200	20		mg/L CaCO3	1	12/13/2012 11:17:36 AM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	12/13/2012 11:17:36 AM
Total Alkalinity (as CaCO3)	200	20		mg/L CaCO3	1	12/13/2012 11:17:36 AM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JML**
Total Dissolved Solids	35300	200		mg/L	1	12/17/2012 3:09:00 PM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1212422-01		MW-1 1212422-02		MW-4 1212422-03		MW-3 1212422-04					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	1900	82.64	930	40.45	1700	73.95	8800	382.78				
Potassium	14	0.36	5.1	0.13	30	0.77	52	1.33				
Calcium	900	44.91	810	40.42	800	39.92	2200	109.78				
Magnesium	310	25.51	270	22.22	370	30.45	670	55.14				
Total Cations		153.43		103.22		145.09		549.03				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2000	41.64	2100	43.72	2100	43.72	1600	33.31				
Chloride	2800	78.98	2000	56.42	3100	87.45	17000	479.55				
Bicarbonate (CaCO3)	220	4.40	200	4.00	250	5.00	200	4.00				
Carbonate (CaCO3)	ND	*	ND	*	ND	*	ND	*				
Phosphate (P)	ND	*	ND	*	ND	*	ND	*				
Nitrite (N)	ND	*	ND	*	ND	*	ND	*				
Nitrate (N)	ND	*	2.5	0.18	ND	*	ND	*				
Fluoride	ND	*	ND	*	ND	*	ND	*				
Bromide	ND	*	ND	*	ND	*	11	0.14				
Total Anions		125.02		104.32		136.17		517.00				
Elect. Cond. (µMhos/cm)	14000		8600		13000		68000					
CATION/ANION RATIO		1.23		0.99		1.07		1.06				
% Difference		10		1		3		3				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	8980		7260		8410		35300					
TDS (calculated)	8056		6246		8250		30453					
Ratio meas TDS:calc TDS		1.1		1.2		1.0		1.2				
Ratio Meas. TDS:EC		0.64		0.84		0.65		0.52				
Ratio Calc. TDS:EC		0.58		0.73		0.63		0.45				
Ratio of anion sum:EC		0.9		1.2		1.0		0.8				
Ratio of cation sum:EC		1.1		1.2		1.1		0.8				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R7491**	RunNo: **7491**
Prep Date:	Analysis Date: **12/13/2012**	SeqNo: **217062** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Zinc	ND	0.010								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R7491**	RunNo: **7491**
Prep Date:	Analysis Date: **12/13/2012**	SeqNo: **217063** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	95.4	85	115			
Cadmium	0.48	0.0020	0.5000	0	95.6	85	115			
Chromium	0.48	0.0060	0.5000	0.001010	95.4	85	115			
Copper	0.46	0.0060	0.5000	0	91.1	85	115			
Iron	0.47	0.020	0.5000	0	93.9	85	115			
Magnesium	49	1.0	50.00	0	97.2	85	115			
Manganese	0.46	0.0020	0.5000	0	92.2	85	115			
Potassium	48	1.0	50.00	0	95.3	85	115			
Zinc	0.48	0.010	0.5000	0	95.3	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R7569**	RunNo: **7569**
Prep Date:	Analysis Date: **12/18/2012**	SeqNo: **219677** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R7569**	RunNo: **7569**
Prep Date:	Analysis Date: **12/18/2012**	SeqNo: **219678** Units: **mg/L**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R7569**		RunNo:	**7569**				
Prep Date:		Analysis Date:	**12/18/2012**		SeqNo:	**219678**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	50	1.0	50.00	0.03548	101	85	115			
Iron	0.48	0.020	0.5000	0.002200	96.5	85	115			
Magnesium	51	1.0	50.00	0	102	85	115			
Potassium	49	1.0	50.00	0	98.5	85	115			
Silver	0.10	0.0050	0.1000	0	99.7	85	115			
Sodium	50	1.0	50.00	0.1105	100	85	115			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R7613**		RunNo:	**7613**				
Prep Date:		Analysis Date:	**12/19/2012**		SeqNo:	**221029**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	ND	0.0050								

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R7613**		RunNo:	**7613**				
Prep Date:		Analysis Date:	**12/19/2012**		SeqNo:	**221030**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.097	0.0050	0.1000	0	97.3	85	115			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R7716**		RunNo:	**7716**				
Prep Date:		Analysis Date:	**12/26/2012**		SeqNo:	**224246**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Sodium	ND	1.0								

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R7716**		RunNo:	**7716**				
Prep Date:		Analysis Date:	**12/26/2012**		SeqNo:	**224248**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	51	1.0	50.00	0	101	85	115			
Sodium	50	1.0	50.00	0.06303	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**

07-Jan-13

Client: Safety & Environmental Solutions

Project: Yate's Williams Pit

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R7543**	RunNo: **7543**
Prep Date:	Analysis Date: **12/17/2012**	SeqNo: **218897** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	101	85	115			
Lead	0.026	0.0010	0.02500	0	102	85	115			
Selenium	0.025	0.0010	0.02500	0	102	85	115			
Uranium	0.026	0.0010	0.02500	0	103	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R7543**	RunNo: **7543**
Prep Date:	Analysis Date: **12/17/2012**	SeqNo: **218898** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.6	85	115			
Lead	0.024	0.0010	0.02500	0	94.6	85	115			
Selenium	0.024	0.0010	0.02500	0	97.8	85	115			
Uranium	0.026	0.0010	0.02500	0	104	85	115			

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **R7543**	RunNo: **7543**
Prep Date:	Analysis Date: **12/17/2012**	SeqNo: **218899** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.8	85	115			
Selenium	0.025	0.0010	0.02500	0	98.7	85	115			
Uranium	0.026	0.0010	0.02500	0	102	85	115			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R7543**	RunNo: **7543**
Prep Date:	Analysis Date: **12/17/2012**	SeqNo: **218900** Units: **mg/L**

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

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R7543**	RunNo: **7543**
Prep Date:	Analysis Date: **12/17/2012**	SeqNo: **218901** Units: **mg/L**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**							
Client ID: **PBW**	Batch ID: **R7543**	RunNo: **7543**							
Prep Date:	Analysis Date: **12/17/2012**	SeqNo: **218901**	Units: **mg/L**						

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

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**							
Client ID: **PBW**	Batch ID: **R7543**	RunNo: **7543**							
Prep Date:	Analysis Date: **12/17/2012**	SeqNo: **218902**	Units: **mg/L**						

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID	**MB-5231**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**5231**	RunNo:	**7452**					
Prep Date:	**12/12/2012**	Analysis Date:	**12/12/2012**	SeqNo:	**215998**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-5231**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**5231**	RunNo:	**7452**					
Prep Date:	**12/12/2012**	Analysis Date:	**12/12/2012**	SeqNo:	**215999**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	93.8	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R7440**	RunNo: **7440**
Prep Date:	Analysis Date: **12/11/2012**	SeqNo: **215651** 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-B**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R7440**	RunNo: **7440**
Prep Date:	Analysis Date: **12/11/2012**	SeqNo: **215655** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.48	0.10	0.5000	0	95.3	90	110			
Bromide	2.3	0.10	2.500	0	92.9	90	110			
Phosphorus, Orthophosphate (As P	4.9	0.50	5.000	0	97.8	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R7473**	RunNo: **7473**
Prep Date:	Analysis Date: **12/12/2012**	SeqNo: **216676** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								
Bromide	ND	0.10								
Sulfate	ND	0.50								

Sample ID **LCS-b**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R7473**	RunNo: **7473**
Prep Date:	Analysis Date: **12/12/2012**	SeqNo: **216684** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.1	90	110			
Bromide	2.3	0.10	2.500	0	92.8	90	110			
Sulfate	9.5	0.50	10.00	0	94.7	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R7503**	RunNo: **7503**
Prep Date:	Analysis Date: **12/13/2012**	SeqNo: **217525** 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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 300.0: Anions**					
Client ID:	**LCSW**	Batch ID:	**R7503**	RunNo:	**7503**					
Prep Date:		Analysis Date:	**12/13/2012**	SeqNo:	**217526**	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	99.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID **b11**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R7525**	RunNo: **7525**
Prep Date:	Analysis Date: **12/16/2012**	SeqNo: **218330** 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								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	8.8		10.00		87.6	70	130			
Surr: Toluene-d8	9.9		10.00		98.6	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R7525**	RunNo: **7525**
Prep Date:	Analysis Date: **12/16/2012**	SeqNo: **218331** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.9	70	130			
Toluene	21	1.0	20.00	0	104	80	120			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.4	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.6	70	130			
Surr: Dibromofluoromethane	8.4		10.00		84.2	70	130			
Surr: Toluene-d8	9.7		10.00		97.5	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID	**mb-1**	SampType:	**MBLK**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R7500**	RunNo:	**7500**					
Prep Date:		Analysis Date:	**12/13/2012**	SeqNo:	**217465**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-1**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R7500**	RunNo:	**7500**					
Prep Date:		Analysis Date:	**12/13/2012**	SeqNo:	**217466**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	81	20	80.00	0	102	88.1	104			

Sample ID	**mb-2**	SampType:	**MBLK**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R7500**	RunNo:	**7500**					
Prep Date:		Analysis Date:	**12/13/2012**	SeqNo:	**217479**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-2**	SampType:	**LCS**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R7500**	RunNo:	**7500**					
Prep Date:		Analysis Date:	**12/13/2012**	SeqNo:	**217480**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	82	20	80.00	0	102	88.1	104			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1212422**
07-Jan-13

Client: Safety & Environmental Solutions
Project: Yate's Williams Pit

Sample ID	**MB-5278**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**5278**	RunNo:	**7538**					
Prep Date:	**12/14/2012**	Analysis Date:	**12/17/2012**	SeqNo:	**218745**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-5278**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**5278**	RunNo:	**7538**					
Prep Date:	**12/14/2012**	Analysis Date:	**12/17/2012**	SeqNo:	**218746**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: Safety Env Solutions Work Order Number: 1212422

Received by/date: LM 12/11/12

Logged By: **Michelle Garcia** 12/11/2012 8:30:00 AM Michelle Garcia

Completed By: **Michelle Garcia** 12/11/2012 9:29:19 AM Michelle Garcia

Reviewed By: 12/11/12

Chain of Custody

1. Were seals intact?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	FedEx		

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ☑	No ☐	NA ☐
5. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
7. Sample(s) in proper container(s)?	Yes ☑	No ☐	
8. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9. Are samples (except VOA and ONG) properly preserved?	~~Yes~~ ☑	~~No~~ ☐	
10. Was preservative added to bottles?	~~Yes~~ ☐	~~No~~ ☑	NA ☐
11. VOA vials have zero headspace?	~~Yes~~ ☑	~~No~~ ☐	No VOA Vials ☐
12. Were any sample containers received broken?	Yes ☐	~~No~~ ☑	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15. Is it clear what analyses were requested?	Yes ☑	No ☐	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

~ 0023 - ADDED 1mL HNO3 FOR ACCEPTABLE pH - 12/11/12

-0024- ALL VOA'S HAVE SOME HEAD SPACE 12/11

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)

Adjusted? YES.

Checked by:

Special Handling (if applicable)

17. 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:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

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

Client: Safety + Environmental Solutions

Mailing Address: 703 E. Clinton Hobbs, NM 88240

Phone #: 575-397-0570

email or Fax#:

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

Accreditation: ☐ NELAP ☐ Other ____

☐ EDD (Type) ____

Turn-Around Time: ☒ Standard ☐ Rush ____

Project Name: Yates Williams Pit

Project #: YAT-04-001

Project Manager: Boyer, Dave

Sampler: Josh Jurey

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.0

HEAL No. 1212422

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX, Naphthalene	WQCC Dis Metals	Cation/Anion Bal	Lab pH + Total Hg	Air Bubbles (Y or N)
12/07/12	0915	H2O	MW-2	7	HCl	-001												X	X	X	X	
12/07/12	0945	H2O	MW-1	7	H2SO4	-002												X	X	X	X	
12/07/12	1015	H2O	MW-4	7	HNO3	-003												X	X	X	X	
12/07/12	1040	H2O	MW-3	7		-004												X	X	X	X	

Date	Time	Relinquished by	Received by	Date	Time
12/10/12	0700	Josh Jurey	D Boyer	12/10/12	0700
12/10/12	1600	D Boyer	[signature]	12/11/12	0830

Remarks:

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 report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

March 29, 2013

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 390-7067
FAX (575) 393-4388

RE: Williams Pit OrderNo.: 1303562

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/14/2013 for the analyses presented in the following report.

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. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 3/12/2013 1:15:00 PM
Lab ID: 1303562-001 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	3/15/2013 8:49:25 PM
Chloride	3500	250		mg/L	500	3/19/2013 3:00:25 AM
Bromide	2.2	2.0		mg/L	20	3/15/2013 8:49:25 PM
Nitrate+Nitrite as N	ND	4.0		mg/L	20	3/19/2013 4:27:18 AM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/15/2013 8:49:25 PM
Sulfate	2200	50		mg/L	100	3/19/2013 2:48:01 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.011	0.0020		mg/L	1	3/15/2013 5:33:09 PM
Cadmium	ND	0.0020		mg/L	1	3/15/2013 5:33:09 PM
Calcium	790	50		mg/L	50	3/21/2013 2:49:16 PM
Chromium	ND	0.0060		mg/L	1	3/21/2013 2:44:15 PM
Copper	ND	0.0060		mg/L	1	3/15/2013 5:33:09 PM
Iron	0.084	0.020		mg/L	1	3/15/2013 5:33:09 PM
Lead	ND	0.0050		mg/L	1	3/15/2013 5:33:09 PM
Magnesium	280	5.0		mg/L	5	3/21/2013 2:46:51 PM
Manganese	1.1	0.010	*	mg/L	5	3/15/2013 5:35:55 PM
Potassium	12	1.0		mg/L	1	3/21/2013 2:44:15 PM
Silver	ND	0.0050		mg/L	1	3/15/2013 5:33:09 PM
Sodium	1800	50		mg/L	50	3/25/2013 4:17:38 PM
Zinc	ND	0.010		mg/L	1	3/21/2013 2:44:15 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	ND	0.0050		mg/L	5	3/18/2013 3:53:19 PM
Selenium	0.019	0.0050		mg/L	5	3/18/2013 3:53:19 PM
Uranium	0.0084	0.0050		mg/L	5	3/18/2013 3:53:19 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	3/22/2013 9:00:57 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	3/19/2013 9:09:35 PM
Toluene	ND	1.0		µg/L	1	3/19/2013 9:09:35 PM
Ethylbenzene	ND	1.0		µg/L	1	3/19/2013 9:09:35 PM
Naphthalene	ND	2.0		µg/L	1	3/19/2013 9:09:35 PM
Xylenes, Total	ND	2.0		µg/L	1	3/19/2013 9:09:35 PM
Surr: 1,2-Dichloroethane-d4	108	70-130		%REC	1	3/19/2013 9:09:35 PM
Surr: 4-Bromofluorobenzene	93.0	69.5-130		%REC	1	3/19/2013 9:09:35 PM
Surr: Dibromofluoromethane	97.5	70-130		%REC	1	3/19/2013 9:09:35 PM
Surr: Toluene-d8	92.7	70-130		%REC	1	3/19/2013 9:09:35 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	14000	0.025		µmhos/cm	2.5	3/15/2013 7:50:02 PM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 3/12/2013 1:15:00 PM
Lab ID: 1303562-001 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	7.28	1.68	H	pH units	1	3/14/2013 9:32:54 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	230	20		mg/L CaCO3	1	3/14/2013 9:32:54 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/14/2013 9:32:54 PM
Total Alkalinity (as CaCO3)	230	20		mg/L CaCO3	1	3/14/2013 9:32:54 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9630	200	*	mg/L	1	3/18/2013 9:14:00 AM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 3/12/2013 1:30:00 PM
Lab ID: 1303562-002 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	0.76	0.10		mg/L	1	3/15/2013 9:01:50 PM
Chloride	1200	50		mg/L	100	3/19/2013 3:12:50 AM
Bromide	ND	2.0		mg/L	20	3/15/2013 9:14:15 PM
Nitrate+Nitrite as N	1.7	1.0		mg/L	5	3/15/2013 10:53:31 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/15/2013 9:14:15 PM
Sulfate	2200	50		mg/L	100	3/19/2013 3:12:50 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.0086	0.0020		mg/L	1	3/15/2013 5:38:37 PM
Cadmium	ND	0.0020		mg/L	1	3/15/2013 5:38:37 PM
Calcium	710	10		mg/L	10	3/21/2013 2:53:56 PM
Chromium	ND	0.0060		mg/L	1	3/21/2013 2:51:28 PM
Copper	ND	0.0060		mg/L	1	3/15/2013 5:38:37 PM
Iron	0.039	0.020		mg/L	1	3/15/2013 5:38:37 PM
Lead	ND	0.0050		mg/L	1	3/15/2013 5:38:37 PM
Magnesium	230	10		mg/L	10	3/21/2013 2:53:56 PM
Manganese	0.0043	0.0020		mg/L	1	3/15/2013 5:38:37 PM
Potassium	3.5	1.0		mg/L	1	3/21/2013 2:51:28 PM
Silver	ND	0.0050		mg/L	1	3/15/2013 5:38:37 PM
Sodium	510	10		mg/L	10	3/25/2013 4:18:58 PM
Zinc	0.018	0.010		mg/L	1	3/21/2013 2:51:28 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	0.0017	0.0010		mg/L	1	3/18/2013 12:03:31 PM
Selenium	0.022	0.0010		mg/L	1	3/18/2013 12:03:31 PM
Uranium	0.0070	0.0010		mg/L	1	3/18/2013 12:03:31 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	3/22/2013 9:02:49 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	3/19/2013 9:41:46 PM
Toluene	ND	1.0		µg/L	1	3/19/2013 9:41:46 PM
Ethylbenzene	ND	1.0		µg/L	1	3/19/2013 9:41:46 PM
Naphthalene	ND	2.0		µg/L	1	3/19/2013 9:41:46 PM
Xylenes, Total	ND	2.0		µg/L	1	3/19/2013 9:41:46 PM
Surr: 1,2-Dichloroethane-d4	100	70-130		%REC	1	3/19/2013 9:41:46 PM
Surr: 4-Bromofluorobenzene	86.2	69.5-130		%REC	1	3/19/2013 9:41:46 PM
Surr: Dibromofluoromethane	86.8	70-130		%REC	1	3/19/2013 9:41:46 PM
Surr: Toluene-d8	90.3	70-130		%REC	1	3/19/2013 9:41:46 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	6400	0.010		µmhos/cm	1	3/14/2013 9:45:48 PM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 3/12/2013 1:30:00 PM
Lab ID: 1303562-002 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	7.34	1.68	H	pH units	1	3/14/2013 9:45:48 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	3/14/2013 9:45:48 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/14/2013 9:45:48 PM
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	3/14/2013 9:45:48 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	5730	200	*	mg/L	1	3/18/2013 9:14:00 AM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 3/12/2013 1:45:00 PM
Lab ID: 1303562-003 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	3/15/2013 10:03:53 PM
Chloride	3100	100		mg/L	200	3/19/2013 3:25:15 AM
Bromide	2.4	2.0		mg/L	20	3/15/2013 10:03:53 PM
Nitrate+Nitrite as N	ND	2.0		mg/L	10	3/19/2013 4:39:43 AM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/15/2013 10:03:53 PM
Sulfate	2200	100		mg/L	200	3/19/2013 3:25:15 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.014	0.0020		mg/L	1	3/15/2013 5:53:35 PM
Cadmium	ND	0.0020		mg/L	1	3/15/2013 5:53:35 PM
Calcium	680	10		mg/L	10	3/21/2013 2:58:43 PM
Chromium	ND	0.0060		mg/L	1	3/21/2013 2:56:07 PM
Copper	ND	0.0060		mg/L	1	3/15/2013 5:53:35 PM
Iron	0.070	0.020		mg/L	1	3/15/2013 5:53:35 PM
Lead	ND	0.0050		mg/L	1	3/15/2013 5:53:35 PM
Magnesium	320	10		mg/L	10	3/21/2013 2:58:43 PM
Manganese	0.025	0.0020		mg/L	1	3/15/2013 5:53:35 PM
Potassium	19	1.0		mg/L	1	3/21/2013 2:56:07 PM
Silver	ND	0.0050		mg/L	1	3/15/2013 5:53:35 PM
Sodium	1500	50		mg/L	50	3/25/2013 4:20:14 PM
Zinc	ND	0.010		mg/L	1	3/21/2013 2:56:07 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	ND	0.0050		mg/L	5	3/18/2013 4:00:54 PM
Selenium	0.022	0.0050		mg/L	5	3/18/2013 4:00:54 PM
Uranium	0.0081	0.0050		mg/L	5	3/18/2013 4:00:54 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	3/22/2013 9:08:22 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	3/20/2013 12:23:09 AM
Toluene	ND	1.0		µg/L	1	3/20/2013 12:23:09 AM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2013 12:23:09 AM
Naphthalene	ND	2.0		µg/L	1	3/20/2013 12:23:09 AM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2013 12:23:09 AM
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%REC	1	3/20/2013 12:23:09 AM
Surr: 4-Bromofluorobenzene	87.7	69.5-130		%REC	1	3/20/2013 12:23:09 AM
Surr: Dibromofluoromethane	86.5	70-130		%REC	1	3/20/2013 12:23:09 AM
Surr: Toluene-d8	85.9	70-130		%REC	1	3/20/2013 12:23:09 AM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	12000	0.025		µmhos/cm	2.5	3/15/2013 7:54:07 PM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 3/12/2013 1:45:00 PM
Lab ID: 1303562-003 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	7.34	1.68	H	pH units	1	3/14/2013 9:57:49 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	250	20		mg/L CaCO3	1	3/14/2013 9:57:49 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/14/2013 9:57:49 PM
Total Alkalinity (as CaCO3)	250	20		mg/L CaCO3	1	3/14/2013 9:57:49 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	8300	100	*	mg/L	1	3/18/2013 9:14:00 AM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 3/12/2013 2:00:00 PM
Lab ID: 1303562-004 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **JRR**
Fluoride	ND	2.0		mg/L	20	3/15/2013 10:28:42 PM
Chloride	19000	1000		mg/L	2000	3/26/2013 10:35:37 PM
Bromide	3.1	2.0		mg/L	20	3/15/2013 10:28:42 PM
Nitrate+Nitrite as N	ND	20		mg/L	100	3/20/2013 11:53:43 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/15/2013 10:28:42 PM
Sulfate	1900	50		mg/L	100	3/19/2013 3:37:39 AM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JLF**
Barium	0.048	0.0020		mg/L	1	3/15/2013 5:59:05 PM
Cadmium	ND	0.0020		mg/L	1	3/15/2013 5:59:05 PM
Calcium	2700	50		mg/L	50	3/21/2013 3:16:42 PM
Chromium	ND	0.0060		mg/L	1	3/21/2013 3:11:44 PM
Copper	ND	0.0060		mg/L	1	3/15/2013 5:59:05 PM
Iron	0.055	0.020		mg/L	1	3/15/2013 5:59:05 PM
Lead	ND	0.0050		mg/L	1	3/15/2013 5:59:05 PM
Magnesium	820	10		mg/L	10	3/21/2013 3:14:16 PM
Manganese	0.0087	0.0020		mg/L	1	3/15/2013 5:59:05 PM
Potassium	19	1.0		mg/L	1	3/21/2013 3:11:44 PM
Silver	0.0089	0.0050		mg/L	1	3/21/2013 3:11:44 PM
Sodium	8000	100		mg/L	100	3/25/2013 4:21:31 PM
Zinc	0.017	0.010		mg/L	1	3/21/2013 3:11:44 PM
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**
Arsenic	ND	0.010		mg/L	10	3/18/2013 4:04:42 PM
Selenium	0.018	0.010		mg/L	10	3/18/2013 4:04:42 PM
Uranium	ND	0.010		mg/L	10	3/18/2013 4:04:42 PM
EPA METHOD 245.1: MERCURY						Analyst: **TMG**
Mercury	ND	0.00020		mg/L	1	3/22/2013 9:10:11 AM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	3/20/2013 12:55:27 AM
Toluene	ND	1.0		µg/L	1	3/20/2013 12:55:27 AM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2013 12:55:27 AM
Naphthalene	ND	2.0		µg/L	1	3/20/2013 12:55:27 AM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2013 12:55:27 AM
Surr: 1,2-Dichloroethane-d4	96.1	70-130		%REC	1	3/20/2013 12:55:27 AM
Surr: 4-Bromofluorobenzene	90.3	69.5-130		%REC	1	3/20/2013 12:55:27 AM
Surr: Dibromofluoromethane	86.3	70-130		%REC	1	3/20/2013 12:55:27 AM
Surr: Toluene-d8	87.4	70-130		%REC	1	3/20/2013 12:55:27 AM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JML**
Conductivity	64000	0.50		µmhos/cm	50	3/15/2013 7:58:11 PM
SM4500-H+B: PH						Analyst: **JML**

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 3/12/2013 2:00:00 PM
Lab ID: 1303562-004 **Matrix:** AQUEOUS **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
SM4500-H+B: PH						Analyst: **JML**
pH	7.15	1.68	H	pH units	1	3/14/2013 10:11:10 PM
SM2320B: ALKALINITY						Analyst: **JML**
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	3/14/2013 10:11:10 PM
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	3/14/2013 10:11:10 PM
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	3/14/2013 10:11:10 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	35400	1000	*	mg/L	1	3/18/2013 9:14:00 AM

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Analytical Report
Lab Order **1303562**
Date Reported: **3/29/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: Trip Blank
Project: Williams Pit
Collection Date:
Lab ID: 1303562-005 **Matrix:** TRIP BLANK **Received Date:** 3/14/2013 9:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**
Benzene	ND	1.0		µg/L	1	3/20/2013 1:27:44 AM
Toluene	ND	1.0		µg/L	1	3/20/2013 1:27:44 AM
Ethylbenzene	ND	1.0		µg/L	1	3/20/2013 1:27:44 AM
Naphthalene	ND	2.0		µg/L	1	3/20/2013 1:27:44 AM
Xylenes, Total	ND	2.0		µg/L	1	3/20/2013 1:27:44 AM
Surr: 1,2-Dichloroethane-d4	96.3	70-130		%REC	1	3/20/2013 1:27:44 AM
Surr: 4-Bromofluorobenzene	89.1	69.5-130		%REC	1	3/20/2013 1:27:44 AM
Surr: Dibromofluoromethane	83.3	70-130		%REC	1	3/20/2013 1:27:44 AM
Surr: Toluene-d8	93.5	70-130		%REC	1	3/20/2013 1:27:44 AM

Qualifiers:				
	*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	P	Sample pH greater than 2	R	RPD outside accepted recovery limits
	RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1303562-01		MW-1 1303562-02		MW-4 1303562-03		MW-3 1303562-04				
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L
Sodium	1800	78.29	510	22.18	1500	65.25	8000	347.98			
Potassium	12	0.31	3.5	0.09	19	0.49	19	0.49			
Calcium	790	39.42	710	35.43	680	33.93	2700	134.73			
Magnesium	280	23.05	230	18.93	320	26.34	820	67.49			
Total Cations		141.07		76.63		126.00		550.68			
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L
Sulfate	2200	45.80	2200	45.80	2200	45.80	1900	39.56			
Chloride	3500	98.73	1200	33.85	3100	87.45	19000	535.97			
Bicarbonate (CaCO3)	230	4.60	210	4.20	250	5.00	210	4.20			
Carbonate (CaCO3)											
Phosphate (P)											
Nitrite (N)											
Nitrate (N)			1.7	0.12	-						
Fluoride			0.76	0.04							
Bromide	2.2	0.03			2.4	0.03	3.1	0.04			
Total Anions		149.16		84.01		138.28		579.76			
Elect. Cond. (µMhos/cm)	14000		6400		12000		64000				
CATION/ANION RATIO		0.95		0.91		0.91		0.95			
% Difference		3		5		5		3			
TOTAL DISSOLVED SOLIDS RATIOS											
TDS (measured)	9630		5730		8300		35400				
TDS (calculated)	8722		4988		7971		32568				
Ratio meas TDS:calc TDS		1.1		1.1		1.0		1.1			
Ratio Meas. TDS:EC		0.69		0.90		0.69		0.55			
Ratio Calc. TDS:EC		0.62		0.78		0.66		0.51			
Ratio of anion sum:EC		1.1		1.3		1.2		0.9			
Ratio of cation sum:EC		1.0		1.2		1.1		0.9			

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**
29-Mar-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R9231**	RunNo:	**9231**					
Prep Date:	**1/24/2013**	Analysis Date:	**3/15/2013**	SeqNo:	**262590**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Manganese	ND	0.0020								
Silver	ND	0.0050								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R9231**	RunNo:	**9231**					
Prep Date:		Analysis Date:	**3/15/2013**	SeqNo:	**262591**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.49	0.0020	0.5000	0	98.7	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.8	85	115			
Copper	0.49	0.0060	0.5000	0	98.0	85	115			
Iron	0.49	0.020	0.5000	0	97.7	85	115			
Lead	0.51	0.0050	0.5000	0	102	85	115			
Manganese	0.50	0.0020	0.5000	0	100	85	115			
Silver	0.10	0.0050	0.1000	0	100	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R9340**	RunNo:	**9340**					
Prep Date:	**2/22/2013**	Analysis Date:	**3/21/2013**	SeqNo:	**266289**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Chromium	ND	0.0060								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R9340**	RunNo:	**9340**					
Prep Date:		Analysis Date:	**3/21/2013**	SeqNo:	**266290**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	97.8	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Magnesium	48	1.0	50.00	0	95.4	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**

29-Mar-13

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R9340**		RunNo:	**9340**				
Prep Date:		Analysis Date:	**3/21/2013**		SeqNo:	**266290**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	47	1.0	50.00	0	93.8	85	115			
Silver	0.10	0.0050	0.1000	0	102	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Sample ID	**MB**	SampType:	**MBLK**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**PBW**	Batch ID:	**R9400**		RunNo:	**9400**				
Prep Date:	**2/22/2013**	Analysis Date:	**3/25/2013**		SeqNo:	**268365**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID	**LCS**	SampType:	**LCS**		TestCode:	**EPA Method 200.7: Dissolved Metals**				
Client ID:	**LCSW**	Batch ID:	**R9400**		RunNo:	**9400**				
Prep Date:		Analysis Date:	**3/25/2013**		SeqNo:	**268366**	Units:	**mg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	99.7	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**
29-Mar-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R9252**	RunNo:	**9252**					
Prep Date:		Analysis Date:	**3/18/2013**	SeqNo:	**263477**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.4	85	115			
Selenium	0.024	0.0010	0.02500	0	94.2	85	115			
Uranium	0.026	0.0010	0.02500	0	103	85	115			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R9252**	RunNo:	**9252**					
Prep Date:		Analysis Date:	**3/18/2013**	SeqNo:	**263478**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.2	85	115			
Selenium	0.024	0.0010	0.02500	0	95.4	85	115			
Uranium	0.025	0.0010	0.02500	0	101	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R9252**	RunNo:	**9252**					
Prep Date:		Analysis Date:	**3/18/2013**	SeqNo:	**263479**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R9252**	RunNo:	**9252**					
Prep Date:		Analysis Date:	**3/18/2013**	SeqNo:	**263480**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								
Uranium	ND	0.0010								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**
29-Mar-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**MB-6598**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**6598**	RunNo:	**9354**					
Prep Date:	**3/21/2013**	Analysis Date:	**3/22/2013**	SeqNo:	**266705**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-6598**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**6598**	RunNo:	**9354**					
Prep Date:	**3/21/2013**	Analysis Date:	**3/22/2013**	SeqNo:	**266706**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0047	0.00020	0.005000	0	95.0	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**
29-Mar-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R9237**	RunNo: **9237**
Prep Date:	Analysis Date: **3/15/2013**	SeqNo: **262772** 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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R9237**	RunNo: **9237**
Prep Date:	Analysis Date: **3/15/2013**	SeqNo: **262773** 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	97.3	90	110			
Bromide	2.3	0.10	2.500	0	93.7	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	95.3	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.6	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R9261**	RunNo: **9261**
Prep Date:	Analysis Date: **3/18/2013**	SeqNo: **263964** 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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R9261**	RunNo: **9261**
Prep Date:	Analysis Date: **3/18/2013**	SeqNo: **263965** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.5	90	110			
Sulfate	9.9	0.50	10.00	0	99.0	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R9317**	RunNo: **9317**
Prep Date:	Analysis Date: **3/20/2013**	SeqNo: **265684** 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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**

29-Mar-13

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID	**LCS**	SampType:	**LCS**			TestCode:	**EPA Method 300.0: Anions**			
Client ID:	**LCSW**	Batch ID:	**R9317**			RunNo:	**9317**			
Prep Date:		Analysis Date:	**3/20/2013**			SeqNo:	**265685**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.2	90	110			

Sample ID	**MB**	SampType:	**MBLK**			TestCode:	**EPA Method 300.0: Anions**			
Client ID:	**PBW**	Batch ID:	**R9317**			RunNo:	**9317**			
Prep Date:		Analysis Date:	**3/21/2013**			SeqNo:	**265751**	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:	**R9317**			RunNo:	**9317**			
Prep Date:		Analysis Date:	**3/21/2013**			SeqNo:	**265768**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.2	90	110			

Sample ID	**MB**	SampType:	**MBLK**			TestCode:	**EPA Method 300.0: Anions**			
Client ID:	**PBW**	Batch ID:	**R9442**			RunNo:	**9442**			
Prep Date:		Analysis Date:	**3/26/2013**			SeqNo:	**269654**	Units:	**mg/L**	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID	**LCS**	SampType:	**LCS**			TestCode:	**EPA Method 300.0: Anions**			
Client ID:	**LCSW**	Batch ID:	**R9442**			RunNo:	**9442**			
Prep Date:		Analysis Date:	**3/26/2013**			SeqNo:	**269655**	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	94.1	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**

29-Mar-13

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R9277**	RunNo: **9277**
Prep Date:	Analysis Date: **3/19/2013**	SeqNo: **264439** 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								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	11		10.00		110	70	130			
Surr: 4-Bromofluorobenzene	8.6		10.00		86.3	69.5	130			
Surr: Dibromofluoromethane	9.2		10.00		92.2	70	130			
Surr: Toluene-d8	9.5		10.00		95.4	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R9277**	RunNo: **9277**
Prep Date:	Analysis Date: **3/19/2013**	SeqNo: **264440** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	21	1.0	20.00	0	105	70	130			
Toluene	20	1.0	20.00	0	99.3	80	120			
Surr: 1,2-Dichloroethane-d4	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	8.9		10.00		88.6	69.5	130			
Surr: Dibromofluoromethane	9.3		10.00		93.2	70	130			
Surr: Toluene-d8	9.8		10.00		97.6	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**
29-Mar-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**mb-1**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R9204**	RunNo:	**9204**					
Prep Date:		Analysis Date:	**3/14/2013**	SeqNo:	**261658**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-1**	SampType:	**lcs**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R9204**	RunNo:	**9204**					
Prep Date:		Analysis Date:	**3/14/2013**	SeqNo:	**261659**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.8	90	110			

Sample ID	**mb-2**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R9204**	RunNo:	**9204**					
Prep Date:		Analysis Date:	**3/14/2013**	SeqNo:	**261682**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-2**	SampType:	**lcs**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R9204**	RunNo:	**9204**					
Prep Date:		Analysis Date:	**3/14/2013**	SeqNo:	**261683**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	98.6	90	110			

Sample ID	**mb-3**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R9204**	RunNo:	**9204**					
Prep Date:		Analysis Date:	**3/14/2013**	SeqNo:	**261702**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-3**	SampType:	**lcs**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R9204**	RunNo:	**9204**					
Prep Date:		Analysis Date:	**3/14/2013**	SeqNo:	**261703**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	99.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1303562**
29-Mar-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**MB-6519**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**6519**	RunNo:	**9232**					
Prep Date:	**3/16/2013**	Analysis Date:	**3/18/2013**	SeqNo:	**262642**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-6519**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**6519**	RunNo:	**9232**					
Prep Date:	**3/16/2013**	Analysis Date:	**3/18/2013**	SeqNo:	**262643**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1040	20.0	1000	17.00	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: Safety Env Solutions Work Order Number: 1303562

Received by/date: LM 03/14/13

Logged By: **Anne Thorne** 3/14/2013 9:30:00 AM Anne Thorne

Completed By: **Anne Thorne** 3/14/2013 Anne Thorne

Reviewed By: MA 03/14/13

Chain of Custody

1. Were seals intact? Yes ☑ No ☐ Not Present ☐
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? FedEx

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)
Adjusted? NO
Checked by:

Special Handling (if applicable)

17. 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:

18. Additional remarks:

19. Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client: Safety + Environmental Solutions

Mailing Address: 203 E. Clinton Hobbs, N.M 88240

Phone #: 575-397-0510

email or Fax#:

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

Accreditation ☐ NELAP ☐ Other ____

☐ EDD (Type) ____

Turn-Around Time: ☒ Standard ☐ Rush ____

Project Name: Williams Pit

Project #: YAT-04-001

Project Manager: Boyer, Dave

Sampler: Sam Jury

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1303562	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX, Naphthalene	WQCC Diss Metals	Cation/Anions Bal	Lab pH + TDS/TDS	Air Bubbles (Y or N)
03/12/13	1315	H2O	MW-2	7	HNO3	-001												X	X	X	X	
03/12/13	1330	H2O	MW-1	7	H2SO4	-002												X	X	X	X	
03/12/13	1345	H2O	MW-4	7	HCL	-003												X	X	X	X	
03/12/13	1400	H2O	MW-3	7		-004												X	X	X	X	
			TRIP BLANK			-005												X				

AB 03/14/13

Date	Time	Relinquished by	Received by	Date	Time
3/13/13	1600	Sam Jury	A Boyer	3/13/13	1600
3/13/13	1700	A Boyer	[signature]	03/14/13	0930

Remarks:

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 17, 2013

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 390-7067
FAX (575) 393-4388

RE: Williams Pit OrderNo.: 1306C09

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 5 sample(s) on 6/28/2013 for the analyses presented in the following report.

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. In order to properly interpret your results it is imperative that you review this report in its entirety. 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. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 6/27/2013 11:45:00 AM
Lab ID: 1306C09-001 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst:	**JRR**
Fluoride	ND	0.50		mg/L	5	7/15/2013 2:56:16 PM	R11962
Chloride	3100	250		mg/L	500	7/2/2013 12:22:04 AM	R11696
Bromide	1.7	0.10		mg/L	1	6/28/2013 12:37:56 PM	R11671
Nitrate+Nitrite as N	ND	4.0		mg/L	20	7/2/2013 3:28:12 AM	R11696
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/28/2013 12:37:56 PM	R11671
Sulfate	2000	50		mg/L	100	7/2/2013 12:09:39 AM	R11696
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ELS**
Barium	0.011	0.0020		mg/L	1	7/3/2013 8:51:24 AM	R11729
Cadmium	ND	0.0020		mg/L	1	7/3/2013 8:51:24 AM	R11729
Calcium	850	10		mg/L	10	7/5/2013 10:57:41 AM	R11756
Chromium	ND	0.0060		mg/L	1	7/3/2013 8:51:24 AM	R11729
Copper	ND	0.0060		mg/L	1	7/3/2013 8:51:24 AM	R11729
Iron	0.033	0.020		mg/L	1	7/3/2013 8:51:24 AM	R11729
Lead	ND	0.0050		mg/L	1	7/3/2013 8:51:24 AM	R11729
Magnesium	280	5.0		mg/L	5	7/3/2013 8:54:16 AM	R11729
Manganese	1.1	0.010	*	mg/L	5	7/3/2013 8:54:16 AM	R11729
Potassium	11	1.0		mg/L	1	7/3/2013 8:51:24 AM	R11729
Silver	ND	0.25		mg/L	50	7/5/2013 11:00:16 AM	R11756
Sodium	1900	50		mg/L	50	7/5/2013 11:00:16 AM	R11756
Zinc	ND	0.010		mg/L	1	7/3/2013 8:51:24 AM	R11729
EPA 200.8: DISSOLVED METALS						Analyst:	**DBD**
Arsenic	0.0056	0.0050		mg/L	5	7/5/2013 2:24:57 PM	R11758
Selenium	0.054	0.0050	*	mg/L	5	7/5/2013 2:24:57 PM	R11758
Uranium	ND	0.010		mg/L	10	7/9/2013 1:21:43 PM	R11817
EPA METHOD 245.1: MERCURY						Analyst:	**IDC**
Mercury	ND	0.00020		mg/L	1	7/2/2013 9:39:47 AM	8189
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst:	**DAM**
Benzene	ND	1.0		µg/L	1	7/2/2013 3:30:56 PM	R11708
Toluene	ND	1.0		µg/L	1	7/2/2013 3:30:56 PM	R11708
Ethylbenzene	ND	1.0		µg/L	1	7/2/2013 3:30:56 PM	R11708
Naphthalene	ND	2.0		µg/L	1	7/2/2013 3:30:56 PM	R11708
Xylenes, Total	ND	2.0		µg/L	1	7/2/2013 3:30:56 PM	R11708
Surr: 1,2-Dichloroethane-d4	90.5	70-130		%REC	1	7/2/2013 3:30:56 PM	R11708
Surr: 4-Bromofluorobenzene	99.9	70-130		%REC	1	7/2/2013 3:30:56 PM	R11708
Surr: Dibromofluoromethane	91.5	70-130		%REC	1	7/2/2013 3:30:56 PM	R11708
Surr: Toluene-d8	92.8	70-130		%REC	1	7/2/2013 3:30:56 PM	R11708
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JML**
Conductivity	15000	0.025		µmhos/cm	2.5	7/1/2013 2:53:05 PM	R11695

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 6/27/2013 11:45:00 AM
Lab ID: 1306C09-001 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM4500-H+B: PH						Analyst: **JML**	
pH	7.12	1.68	H	pH units	1	6/28/2013 3:46:50 PM	R11669
SM2320B: ALKALINITY						Analyst: **JML**	
Bicarbonate (As CaCO3)	230	20		mg/L CaCO3	1	6/28/2013 3:46:50 PM	R11669
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2013 3:46:50 PM	R11669
Total Alkalinity (as CaCO3)	230	20		mg/L CaCO3	1	6/28/2013 3:46:50 PM	R11669
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	8960	100	*	mg/L	1	7/2/2013 5:02:00 PM	8177

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 6/27/2013 12:15:00 PM
Lab ID: 1306C09-002 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	ND	0.50		mg/L	5	7/15/2013 3:08:40 PM	R11962
Chloride	1100	50		mg/L	100	7/2/2013 12:59:18 AM	R11696
Bromide	1.4	0.10		mg/L	1	6/28/2013 1:27:35 PM	R11671
Nitrate+Nitrite as N	2.1	1.0		mg/L	5	7/2/2013 3:40:37 AM	R11696
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/28/2013 1:27:35 PM	R11671
Sulfate	2000	50		mg/L	100	7/2/2013 12:59:18 AM	R11696
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Barium	0.0084	0.0020		mg/L	1	7/3/2013 8:56:55 AM	R11729
Cadmium	ND	0.0020		mg/L	1	7/3/2013 8:56:55 AM	R11729
Calcium	800	10		mg/L	10	7/5/2013 11:02:42 AM	R11756
Chromium	ND	0.0060		mg/L	1	7/3/2013 8:56:55 AM	R11729
Copper	ND	0.0060		mg/L	1	7/3/2013 8:56:55 AM	R11729
Iron	0.027	0.020		mg/L	1	7/3/2013 8:56:55 AM	R11729
Lead	ND	0.0050		mg/L	1	7/3/2013 8:56:55 AM	R11729
Magnesium	250	5.0		mg/L	5	7/3/2013 8:59:26 AM	R11729
Manganese	0.0034	0.0020		mg/L	1	7/3/2013 8:56:55 AM	R11729
Potassium	3.5	1.0		mg/L	1	7/3/2013 8:56:55 AM	R11729
Silver	ND	0.050		mg/L	10	7/5/2013 11:02:42 AM	R11756
Sodium	520	10		mg/L	10	7/5/2013 11:02:42 AM	R11756
Zinc	0.013	0.010		mg/L	1	7/3/2013 8:56:55 AM	R11729
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**	
Arsenic	ND	0.010		mg/L	10	7/9/2013 1:24:22 PM	R11817
Selenium	0.032	0.010		mg/L	10	7/9/2013 1:24:22 PM	R11817
Uranium	ND	0.010		mg/L	10	7/9/2013 1:24:22 PM	R11817
EPA METHOD 245.1: MERCURY						Analyst: **IDC**	
Mercury	ND	0.00020		mg/L	1	7/2/2013 9:41:36 AM	8189
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DAM**	
Benzene	ND	1.0		µg/L	1	7/2/2013 3:59:10 PM	R11708
Toluene	ND	1.0		µg/L	1	7/2/2013 3:59:10 PM	R11708
Ethylbenzene	ND	1.0		µg/L	1	7/2/2013 3:59:10 PM	R11708
Naphthalene	ND	2.0		µg/L	1	7/2/2013 3:59:10 PM	R11708
Xylenes, Total	ND	2.0		µg/L	1	7/2/2013 3:59:10 PM	R11708
Surr: 1,2-Dichloroethane-d4	90.9	70-130		%REC	1	7/2/2013 3:59:10 PM	R11708
Surr: 4-Bromofluorobenzene	102	70-130		%REC	1	7/2/2013 3:59:10 PM	R11708
Surr: Dibromofluoromethane	94.0	70-130		%REC	1	7/2/2013 3:59:10 PM	R11708
Surr: Toluene-d8	93.5	70-130		%REC	1	7/2/2013 3:59:10 PM	R11708
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JML**	
Conductivity	6900	0.010		µmhos/cm	1	6/28/2013 4:00:37 PM	R11669

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 6/27/2013 12:15:00 PM
Lab ID: 1306C09-002 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM4500-H+B: PH						Analyst: **JML**	
pH	7.18	1.68	H	pH units	1	6/28/2013 4:00:37 PM	R11669
SM2320B: ALKALINITY						Analyst: **JML**	
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	6/28/2013 4:00:37 PM	R11669
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2013 4:00:37 PM	R11669
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	6/28/2013 4:00:37 PM	R11669
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	5270	100	*	mg/L	1	7/2/2013 5:02:00 PM	8177

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
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 6/27/2013 12:45:00 PM
Lab ID: 1306C09-003 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	ND	0.50		mg/L	5	7/15/2013 3:21:05 PM	R11962
Chloride	2500	250		mg/L	500	7/2/2013 1:24:07 AM	R11696
Bromide	2.1	0.10		mg/L	1	6/28/2013 1:52:24 PM	R11671
Nitrate+Nitrite as N	ND	4.0		mg/L	20	7/2/2013 3:53:02 AM	R11696
Phosphorus, Orthophosphate (As P)	ND	0.50		mg/L	1	6/28/2013 1:52:24 PM	R11671
Sulfate	2100	50		mg/L	100	7/2/2013 1:11:42 AM	R11696
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Barium	0.014	0.0020		mg/L	1	7/3/2013 9:02:04 AM	R11729
Cadmium	ND	0.0020		mg/L	1	7/3/2013 9:02:04 AM	R11729
Calcium	810	10		mg/L	10	7/5/2013 11:05:09 AM	R11756
Chromium	ND	0.0060		mg/L	1	7/3/2013 9:02:04 AM	R11729
Copper	ND	0.0060		mg/L	1	7/3/2013 9:02:04 AM	R11729
Iron	0.082	0.020		mg/L	1	7/3/2013 9:02:04 AM	R11729
Lead	ND	0.050		mg/L	10	7/5/2013 11:05:09 AM	R11756
Magnesium	360	5.0		mg/L	5	7/3/2013 9:04:52 AM	R11729
Manganese	0.030	0.0020		mg/L	1	7/3/2013 9:02:04 AM	R11729
Potassium	18	1.0		mg/L	1	7/3/2013 9:02:04 AM	R11729
Silver	ND	0.10		mg/L	20	7/5/2013 1:05:29 PM	R11756
Sodium	1500	50		mg/L	50	7/5/2013 1:25:00 PM	R11756
Zinc	ND	0.010		mg/L	1	7/3/2013 9:02:04 AM	R11729
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**	
Arsenic	ND	0.010		mg/L	10	7/9/2013 1:27:02 PM	R11817
Selenium	0.046	0.010		mg/L	10	7/9/2013 1:27:02 PM	R11817
Uranium	ND	0.010		mg/L	10	7/9/2013 1:27:02 PM	R11817
EPA METHOD 245.1: MERCURY						Analyst: **IDC**	
Mercury	ND	0.00020		mg/L	1	7/2/2013 9:47:09 AM	8189
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DAM**	
Benzene	1.4	1.0		µg/L	1	7/2/2013 4:27:28 PM	R11708
Toluene	ND	1.0		µg/L	1	7/2/2013 4:27:28 PM	R11708
Ethylbenzene	ND	1.0		µg/L	1	7/2/2013 4:27:28 PM	R11708
Naphthalene	ND	2.0		µg/L	1	7/2/2013 4:27:28 PM	R11708
Xylenes, Total	ND	2.0		µg/L	1	7/2/2013 4:27:28 PM	R11708
Surr: 1,2-Dichloroethane-d4	89.9	70-130		%REC	1	7/2/2013 4:27:28 PM	R11708
Surr: 4-Bromofluorobenzene	98.2	70-130		%REC	1	7/2/2013 4:27:28 PM	R11708
Surr: Dibromofluoromethane	92.1	70-130		%REC	1	7/2/2013 4:27:28 PM	R11708
Surr: Toluene-d8	96.0	70-130		%REC	1	7/2/2013 4:27:28 PM	R11708
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JML**	
Conductivity	12000	0.025		µmhos/cm	2.5	7/1/2013 2:57:31 PM	R11695

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 6/27/2013 12:45:00 PM
Lab ID: 1306C09-003 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM4500-H+B: PH						Analyst: **JML**	
pH	7.11	1.68	H	pH units	1	6/28/2013 4:13:28 PM	R11669
SM2320B: ALKALINITY						Analyst: **JML**	
Bicarbonate (As CaCO3)	250	20		mg/L CaCO3	1	6/28/2013 4:13:28 PM	R11669
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2013 4:13:28 PM	R11669
Total Alkalinity (as CaCO3)	250	20		mg/L CaCO3	1	6/28/2013 4:13:28 PM	R11669
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	8200	100	*	mg/L	1	7/2/2013 5:02:00 PM	8177

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 6/27/2013 1:10:00 PM
Lab ID: 1306C09-004 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **JRR**	
Fluoride	ND	1.0		mg/L	10	7/15/2013 3:33:29 PM	R11962
Chloride	16000	500		mg/L	1E	7/2/2013 1:48:56 AM	R11696
Bromide	6.3	2.0		mg/L	20	6/28/2013 2:54:29 PM	R11671
Nitrate+Nitrite as N	ND	10		mg/L	50	7/2/2013 5:54:10 PM	R11720
Phosphorus, Orthophosphate (As P)	ND	10		mg/L	20	6/28/2013 2:54:29 PM	R11671
Sulfate	1800	50		mg/L	100	7/2/2013 1:36:31 AM	R11696
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Barium	0.042	0.0020		mg/L	1	7/3/2013 9:07:30 AM	R11729
Cadmium	ND	0.0020		mg/L	1	7/3/2013 9:07:30 AM	R11729
Calcium	2400	50		mg/L	50	7/5/2013 11:20:23 AM	R11756
Chromium	0.0064	0.0060		mg/L	1	7/3/2013 9:07:30 AM	R11729
Copper	ND	0.0060		mg/L	1	7/3/2013 9:07:30 AM	R11729
Iron	0.041	0.020		mg/L	1	7/3/2013 9:07:30 AM	R11729
Lead	ND	0.0050		mg/L	1	7/3/2013 9:07:30 AM	R11729
Magnesium	650	10		mg/L	10	7/5/2013 11:17:36 AM	R11756
Manganese	0.0073	0.0020		mg/L	1	7/3/2013 9:07:30 AM	R11729
Potassium	16	1.0		mg/L	1	7/3/2013 9:07:30 AM	R11729
Silver	ND	0.25	*	mg/L	50	7/5/2013 11:20:23 AM	R11756
Sodium	8900	200		mg/L	200	7/5/2013 1:07:57 PM	R11756
Zinc	ND	0.010		mg/L	1	7/3/2013 9:07:30 AM	R11729
EPA 200.8: DISSOLVED METALS						Analyst: **DBD**	
Arsenic	0.019	0.010	*	mg/L	10	7/9/2013 1:35:04 PM	R11817
Selenium	0.088	0.010	*	mg/L	10	7/9/2013 1:35:04 PM	R11817
Uranium	0.011	0.010		mg/L	10	7/9/2013 1:35:04 PM	R11817
EPA METHOD 245.1: MERCURY						Analyst: **IDC**	
Mercury	ND	0.00020		mg/L	1	7/2/2013 9:48:57 AM	8189
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DAM**	
Benzene	ND	1.0		µg/L	1	7/2/2013 4:55:44 PM	R11708
Toluene	ND	1.0		µg/L	1	7/2/2013 4:55:44 PM	R11708
Ethylbenzene	ND	1.0		µg/L	1	7/2/2013 4:55:44 PM	R11708
Naphthalene	ND	2.0		µg/L	1	7/2/2013 4:55:44 PM	R11708
Xylenes, Total	ND	2.0		µg/L	1	7/2/2013 4:55:44 PM	R11708
Surr: 1,2-Dichloroethane-d4	89.4	70-130		%REC	1	7/2/2013 4:55:44 PM	R11708
Surr: 4-Bromofluorobenzene	93.9	70-130		%REC	1	7/2/2013 4:55:44 PM	R11708
Surr: Dibromofluoromethane	89.1	70-130		%REC	1	7/2/2013 4:55:44 PM	R11708
Surr: Toluene-d8	94.3	70-130		%REC	1	7/2/2013 4:55:44 PM	R11708
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JML**	
Conductivity	65000	0.50		µmhos/cm	50	7/1/2013 3:01:35 PM	R11695

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 6/27/2013 1:10:00 PM
Lab ID: 1306C09-004 **Matrix:** AQUEOUS **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
SM4500-H+B: PH						Analyst: **JML**	
pH	6.96	1.68	H	pH units	1	6/28/2013 4:27:06 PM	R11669
SM2320B: ALKALINITY						Analyst: **JML**	
Bicarbonate (As CaCO3)	210	20		mg/L CaCO3	1	6/28/2013 4:27:06 PM	R11669
Carbonate (As CaCO3)	ND	2.0		mg/L CaCO3	1	6/28/2013 4:27:06 PM	R11669
Total Alkalinity (as CaCO3)	210	20		mg/L CaCO3	1	6/28/2013 4:27:06 PM	R11669
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**	
Total Dissolved Solids	34200	400	*	mg/L	1	7/2/2013 5:02:00 PM	8177

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
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Analytical Report
Lab Order **1306C09**
Date Reported: **7/17/2013**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: Trip Blank
Project: Williams Pit
Collection Date:
Lab ID: 1306C09-005 **Matrix:** TRIP BLANK **Received Date:** 6/28/2013 9:50:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DAM**	
Benzene	ND	1.0		µg/L	1	7/2/2013 5:24:10 PM	R11708
Toluene	ND	1.0		µg/L	1	7/2/2013 5:24:10 PM	R11708
Ethylbenzene	ND	1.0		µg/L	1	7/2/2013 5:24:10 PM	R11708
Naphthalene	ND	2.0		µg/L	1	7/2/2013 5:24:10 PM	R11708
Xylenes, Total	ND	2.0		µg/L	1	7/2/2013 5:24:10 PM	R11708
Surr: 1,2-Dichloroethane-d4	87.8	70-130		%REC	1	7/2/2013 5:24:10 PM	R11708
Surr: 4-Bromofluorobenzene	97.9	70-130		%REC	1	7/2/2013 5:24:10 PM	R11708
Surr: Dibromofluoromethane	88.4	70-130		%REC	1	7/2/2013 5:24:10 PM	R11708
Surr: Toluene-d8	94.5	70-130		%REC	1	7/2/2013 5:24:10 PM	R11708

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
	E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
	J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
	O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1306C09-01		MW-1 1306C09-02		MW-4 1306C09-03		MW-3 1306C09-04					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	1900	82.64	520	22.62	1500	65.25	8900	387.12				
Potassium	11	0.28	3.5	0.09	18	0.46	16	0.41				
Calcium	850	42.42	800	39.92	810	40.42	2400	119.76				
Magnesium	280	23.05	250	20.58	360	29.63	650	53.50				
Total Cations		148.39		83.20		135.75		560.79				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2000	41.64	2000	41.64	2100	43.72	1800	37.48				
Chloride	3100	87.45	1100	31.03	2500	70.52	16000	451.34				
Bicarbonate (CaCO3)	230	4.60	210	4.20	250	5.00	210	4.20				
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)			2.1	0.15	-							
Fluoride												
Bromide	1.7	0.02	1.4	0.02	2.1	0.03	6.3	0.08				
Total Anions		133.71		77.03		119.27		493.09				
Elect. Cond. (µMhos/cm)	15000		6900		12000		65000					
CATION/ANION RATIO		1.11		1.08		1.14		1.14				
% Difference		5		4		6		6				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	8960		5270		8200		34200					
TDS (calculated)	8281		4810		7440		29898					
Ratio meas TDS:calc TDS		1.1		1.1		1.1		1.1				
Ratio Meas. TDS:EC		0.60		0.76		0.68		0.53				
Ratio Calc. TDS:EC		0.55		0.70		0.62		0.46				
Ratio of anion sum:EC		0.9		1.1		1.0		0.8				
Ratio of cation sum:EC		1.0		1.2		1.1		0.9				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R11729**	RunNo:	**11729**					
Prep Date:		Analysis Date:	**7/3/2013**	SeqNo:	**333269**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Zinc	ND	0.010								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R11729**	RunNo:	**11729**					
Prep Date:		Analysis Date:	**7/3/2013**	SeqNo:	**333270**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Chromium	0.53	0.0060	0.5000	0	105	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.53	0.020	0.5000	0	106	85	115			
Lead	0.51	0.0050	0.5000	0	101	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.51	0.0020	0.5000	0	102	85	115			
Potassium	50	1.0	50.00	0	100	85	115			
Zinc	0.50	0.010	0.5000	0	99.7	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R11756**	RunNo:	**11756**					
Prep Date:		Analysis Date:	**7/5/2013**	SeqNo:	**333974**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Lead	ND	0.0050								
Magnesium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA Method 200.7: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R11756**	RunNo:	**11756**					
Prep Date:		Analysis Date:	**7/5/2013**	SeqNo:	**333975**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	52	1.0	50.00	0	103	85	115			
Lead	0.53	0.0050	0.5000	0	105	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Silver	0.11	0.0050	0.1000	0	106	85	115			
Sodium	51	1.0	50.00	0	102	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R11758**	RunNo:	**11758**					
Prep Date:		Analysis Date:	**7/5/2013**	SeqNo:	**334311**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R11758**	RunNo:	**11758**					
Prep Date:		Analysis Date:	**7/5/2013**	SeqNo:	**334312**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	ND	0.0010								
Selenium	ND	0.0010								

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R11758**	RunNo:	**11758**					
Prep Date:		Analysis Date:	**7/5/2013**	SeqNo:	**334315**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.4	85	115			
Selenium	0.024	0.0010	0.02500	0	96.7	85	115			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R11758**	RunNo:	**11758**					
Prep Date:		Analysis Date:	**7/5/2013**	SeqNo:	**334316**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	97.0	85	115			
Selenium	0.025	0.0010	0.02500	0	98.1	85	115			

Sample ID	**LCS**	SampType:	**LCS**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**LCSW**	Batch ID:	**R11817**	RunNo:	**11817**					
Prep Date:		Analysis Date:	**7/9/2013**	SeqNo:	**335887**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	96.8	85	115			
Selenium	0.024	0.0010	0.02500	0	96.5	85	115			
Uranium	0.026	0.0010	0.02500	0	103	85	115			

Sample ID	**MB**	SampType:	**MBLK**	TestCode:	**EPA 200.8: Dissolved Metals**					
Client ID:	**PBW**	Batch ID:	**R11817**	RunNo:	**11817**					
Prep Date:		Analysis Date:	**7/9/2013**	SeqNo:	**335888**	Units:	**mg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **R11817**	RunNo: **11817**
Prep Date:	Analysis Date: **7/9/2013**	SeqNo: **335888** Units: **mg/L**

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**MB-8189**	SampType:	**MBLK**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**PBW**	Batch ID:	**8189**	RunNo:	**11697**					
Prep Date:	**7/1/2013**	Analysis Date:	**7/2/2013**	SeqNo:	**332199**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID	**LCS-8189**	SampType:	**LCS**	TestCode:	**EPA Method 245.1: Mercury**					
Client ID:	**LCSW**	Batch ID:	**8189**	RunNo:	**11697**					
Prep Date:	**7/1/2013**	Analysis Date:	**7/2/2013**	SeqNo:	**332200**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R11671**	RunNo: **11671**							
Prep Date:	Analysis Date: **6/28/2013**	SeqNo: **331053**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
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: **R11671**	RunNo: **11671**							
Prep Date:	Analysis Date: **6/28/2013**	SeqNo: **331054**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Bromide	2.5	0.10	2.500	0	102	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	101	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R11696**	RunNo: **11696**							
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332106**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R11696**	RunNo: **11696**							
Prep Date:	Analysis Date: **7/1/2013**	SeqNo: **332107**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.5	0.50	5.000	0	90.6	90	110			
Sulfate	9.2	0.50	10.00	0	92.2	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	94.1	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R11720**	RunNo: **11720**							
Prep Date:	Analysis Date: **7/2/2013**	SeqNo: **332875**	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: **R11720**	RunNo: **11720**							
Prep Date:	Analysis Date: **7/2/2013**	SeqNo: **332876**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R11720**	RunNo: **11720**							
Prep Date:	Analysis Date: **7/2/2013**	SeqNo: **332876**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	95.4	90	110			

Sample ID **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R11962**	RunNo: **11962**							
Prep Date:	Analysis Date: **7/15/2013**	SeqNo: **339981**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								

Sample ID **LCS-b**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R11962**	RunNo: **11962**							
Prep Date:	Analysis Date: **7/15/2013**	SeqNo: **339983**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.45	0.10	0.5000	0	90.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R11708**	RunNo: **11708**
Prep Date:	Analysis Date: **7/2/2013**	SeqNo: **332598** 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								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	8.8		10.00		88.0	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	9.2		10.00		91.5	70	130			
Surr: Toluene-d8	9.4		10.00		93.8	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R11708**	RunNo: **11708**
Prep Date:	Analysis Date: **7/2/2013**	SeqNo: **332599** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	102	70	130			
Toluene	21	1.0	20.00	0	106	80	120			
Surr: 1,2-Dichloroethane-d4	9.1		10.00		90.9	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	9.2		10.00		92.0	70	130			
Surr: Toluene-d8	9.5		10.00		95.0	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**
17-Jul-13

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID	**mb-1**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R11669**	RunNo:	**11669**					
Prep Date:		Analysis Date:	**6/28/2013**	SeqNo:	**330937**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-1**	SampType:	**lcs**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R11669**	RunNo:	**11669**					
Prep Date:		Analysis Date:	**6/28/2013**	SeqNo:	**330938**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	99.4	90	110			

Sample ID	**mb-2**	SampType:	**mblk**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**PBW**	Batch ID:	**R11669**	RunNo:	**11669**					
Prep Date:		Analysis Date:	**6/28/2013**	SeqNo:	**330957**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	ND	20								

Sample ID	**lcs-2**	SampType:	**lcs**	TestCode:	**SM2320B: Alkalinity**					
Client ID:	**LCSW**	Batch ID:	**R11669**	RunNo:	**11669**					
Prep Date:		Analysis Date:	**6/28/2013**	SeqNo:	**330958**	Units:	**mg/L CaCO3**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79	20	80.00	0	99.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1306C09**

17-Jul-13

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID	**MB-8177**	SampType:	**MBLK**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**PBW**	Batch ID:	**8177**	RunNo:	**11707**					
Prep Date:	**7/1/2013**	Analysis Date:	**7/2/2013**	SeqNo:	**332529**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID	**LCS-8177**	SampType:	**LCS**	TestCode:	**SM2540C MOD: Total Dissolved Solids**					
Client ID:	**LCSW**	Batch ID:	**8177**	RunNo:	**11707**					
Prep Date:	**7/1/2013**	Analysis Date:	**7/2/2013**	SeqNo:	**332530**	Units:	**mg/L**			

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
O	RSD is greater than RSDlimit	P	Sample pH greater than 2 for VOA and TOC only.
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: Safety Env Solutions Work Order Number: 1306C09 RcptNo: 1

Received by/date: MG 06/28/13

Logged By: Michelle Garcia 6/28/2013 9:50:00 AM Michelle Garcia

Completed By: Michelle Garcia 6/28/2013 11:16:44 AM Michelle Garcia

Reviewed By: MG/IO 06/28/13

Chain of Custody

1. Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	UPS		

Log In

4. Was an attempt made to cool the samples?	Yes ☑	No ☐	NA ☐
5. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☑	No ☐	NA ☐
6. Sample(s) in proper container(s)?	Yes ☑	No ☐	
7. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
8. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
9. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
10. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
11. Were any sample containers received broken?	Yes ☐	No ☑	
12. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
13. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
14. Is it clear what analyses were requested?	Yes ☑	No ☐	
15. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)

Adjusted?

Checked by: IO

Special Handling (if applicable)

16. 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:

17. Additional remarks:

18. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.0	Good	Yes			

Chain-of-Custody Record

Client: Safety + Environmental Solutions

Mailing Address: 703 E. Clinton Hobbs, NM 88240

Phone #: 575-397-0510

email or Fax#:

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

Accreditation ☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: Williams Pit

Project #: YAT-04-003

Project Manager: Boyer, Dave

Sampler: Sos Jerry

On Ice: ☑ Yes ☐ No

Sample Temperature: 1.0

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

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1306C09	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX, Naphthalene	WQCC Diss Metals	Cation/Anion Bal	Lab pH + Total Hg	Air Bubbles (Y or N)
06/27	1145	H_2O	MW-2	7	HCl	-001												X	X	X	X	
06/27	1215	H_2O	MW-1	7	HNO_3	-002												X	X	X	X	
06/27	1245	H_2O	MW-4	7	~~HNO_3~~	-003												X	X	X	X	
06/27	1310	H_2O	MW-3	7	H_2SO_4	-004												X	X	X	X	
06/27	1630	H_2O	Trip Blank	2	HCl	-005	X															

Date:	Time:	Relinquished by:	Received by:	Date	Time
06/27/13	1630	Sos Jerry	[signature]	06/28/13	0950
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks:

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

July 23, 2021

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL:
FAX:

RE: Williams Pit OrderNo.: 1803G25

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 3/30/2018 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued April 24, 2018.

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 don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 3/28/2018 10:30:00 AM
Lab ID: 1803G25-001 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**DBK**
Arsenic	0.0069	0.0050		mg/L	5	4/6/2018 1:59:19 PM	B50376
Copper	ND	0.0050		mg/L	5	4/6/2018 1:59:19 PM	B50376
Lead	ND	0.0025		mg/L	5	4/6/2018 1:59:19 PM	B50376
Selenium	0.029	0.0050		mg/L	5	4/6/2018 1:59:19 PM	B50376
Uranium	0.0081	0.0025		mg/L	5	4/6/2018 1:59:19 PM	B50376
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Fluoride	ND	2.0		mg/L	20	4/5/2018 1:56:44 AM	A50335
Chloride	5400	250		mg/L	500	4/7/2018 5:01:29 AM	R50377
Bromide	3.0	2.0		mg/L	20	4/5/2018 1:56:44 AM	A50335
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/5/2018 1:44:20 AM	A50335
Sulfate	2400	250		mg/L	500	4/7/2018 5:01:29 AM	R50377
Nitrate+Nitrite as N	ND	4.0		mg/L	20	4/20/2018 10:30:02 AM	R50755
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	18000	25		µmhos/c	5	4/9/2018 8:31:39 PM	R50434
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	227.8	20.00		mg/L Ca	1	4/2/2018 5:55:45 PM	R50247
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/2/2018 5:55:45 PM	R50247
Total Alkalinity (as CaCO3)	227.8	20.00		mg/L Ca	1	4/2/2018 5:55:45 PM	R50247
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	11500	200	*D	mg/L	1	4/9/2018 11:14:00 AM	37424
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**pmf**
Barium	ND	0.010		mg/L	5	4/2/2018 5:28:20 PM	A50251
Cadmium	ND	0.010		mg/L	5	4/2/2018 5:28:20 PM	A50251
Calcium	950	10		mg/L	10	4/2/2018 5:30:32 PM	A50251
Chromium	ND	0.030		mg/L	5	4/2/2018 5:28:20 PM	A50251
Iron	ND	0.10		mg/L	5	4/2/2018 5:28:20 PM	A50251
Magnesium	380	5.0		mg/L	5	4/2/2018 5:28:20 PM	A50251
Manganese	1.1	0.010	*	mg/L	5	4/2/2018 5:28:20 PM	A50251
Potassium	9.3	1.0		mg/L	1	3/30/2018 3:01:52 PM	A50228
Silver	0.037	0.025		mg/L	5	4/2/2018 5:28:20 PM	A50251
Sodium	2400	50		mg/L	50	4/3/2018 5:17:32 PM	A50282
Zinc	ND	0.050		mg/L	5	4/2/2018 5:28:20 PM	A50251
EPA METHOD 245.1: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/9/2018 4:11:37 PM	37486
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	4/10/2018 11:51:00 AM	SL50445

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 3/28/2018 10:30:00 AM
Lab ID: 1803G25-001 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Toluene	ND	1.0		µg/L	1	4/10/2018 11:51:00 AM	SL50445
Ethylbenzene	ND	1.0		µg/L	1	4/10/2018 11:51:00 AM	SL50445
Naphthalene	ND	2.0		µg/L	1	4/10/2018 11:51:00 AM	SL50445
Xylenes, Total	ND	1.5		µg/L	1	4/10/2018 11:51:00 AM	SL50445
Surr: 1,2-Dichloroethane-d4	96.8	70-130		%Rec	1	4/10/2018 11:51:00 AM	SL50445
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	4/10/2018 11:51:00 AM	SL50445
Surr: Dibromofluoromethane	97.0	70-130		%Rec	1	4/10/2018 11:51:00 AM	SL50445
Surr: Toluene-d8	99.7	70-130		%Rec	1	4/10/2018 11:51:00 AM	SL50445

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 3/28/2018 11:05:00 AM
Lab ID: 1803G25-002 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**DBK**
Arsenic	ND	0.0050		mg/L	5	4/6/2018 2:01:35 PM	B50376
Copper	ND	0.0050		mg/L	5	4/6/2018 2:01:35 PM	B50376
Lead	ND	0.0025		mg/L	5	4/6/2018 2:01:35 PM	B50376
Selenium	0.020	0.0050		mg/L	5	4/6/2018 2:01:35 PM	B50376
Uranium	0.0056	0.0025		mg/L	5	4/6/2018 2:01:35 PM	B50376
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Fluoride	0.13	0.10		mg/L	1	4/5/2018 2:09:09 AM	A50335
Chloride	1000	50		mg/L	100	4/7/2018 5:13:54 AM	R50377
Bromide	1.4	0.10		mg/L	1	4/5/2018 2:09:09 AM	A50335
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	4/5/2018 2:21:33 AM	A50335
Sulfate	2400	50		mg/L	100	4/7/2018 5:13:54 AM	R50377
Nitrate+Nitrite as N	2.6	1.0		mg/L	5	4/5/2018 4:00:49 AM	A50335
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	5700	5.0		µmhos/c	1	4/9/2018 8:35:49 PM	R50434
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	208.0	20.00		mg/L Ca	1	4/2/2018 6:08:30 PM	R50247
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/2/2018 6:08:30 PM	R50247
Total Alkalinity (as CaCO3)	208.0	20.00		mg/L Ca	1	4/2/2018 6:08:30 PM	R50247
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	5060	100	*D	mg/L	1	4/9/2018 11:14:00 AM	37424
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**pmf**
Barium	0.0074	0.0020		mg/L	1	3/30/2018 3:04:11 PM	A50228
Cadmium	ND	0.010		mg/L	5	4/2/2018 5:34:55 PM	A50251
Calcium	760	10		mg/L	10	4/2/2018 5:37:07 PM	A50251
Chromium	ND	0.030		mg/L	5	4/2/2018 5:34:55 PM	A50251
Iron	ND	0.10		mg/L	5	4/2/2018 5:34:55 PM	A50251
Magnesium	290	5.0		mg/L	5	4/2/2018 5:34:55 PM	A50251
Manganese	0.0024	0.0020		mg/L	1	3/30/2018 3:04:11 PM	A50228
Potassium	2.7	1.0		mg/L	1	3/30/2018 3:04:11 PM	A50228
Silver	0.030	0.0050		mg/L	1	3/30/2018 3:04:11 PM	A50228
Sodium	380	5.0		mg/L	5	4/3/2018 5:19:42 PM	A50282
Zinc	ND	0.050		mg/L	5	4/2/2018 5:34:55 PM	A50251
EPA METHOD 245.1: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/9/2018 4:18:18 PM	37486
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	4/10/2018 12:15:00 PM	SL50445

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 3/28/2018 11:05:00 AM
Lab ID: 1803G25-002 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Toluene	ND	1.0		µg/L	1	4/10/2018 12:15:00 PM	SL50445
Ethylbenzene	ND	1.0		µg/L	1	4/10/2018 12:15:00 PM	SL50445
Naphthalene	ND	2.0		µg/L	1	4/10/2018 12:15:00 PM	SL50445
Xylenes, Total	ND	1.5		µg/L	1	4/10/2018 12:15:00 PM	SL50445
Surr: 1,2-Dichloroethane-d4	97.5	70-130		%Rec	1	4/10/2018 12:15:00 PM	SL50445
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	4/10/2018 12:15:00 PM	SL50445
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/10/2018 12:15:00 PM	SL50445
Surr: Toluene-d8	99.0	70-130		%Rec	1	4/10/2018 12:15:00 PM	SL50445

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 3/28/2018 11:45:00 AM
Lab ID: 1803G25-003 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**DBK**
Arsenic	0.0061	0.0050		mg/L	5	4/6/2018 2:03:52 PM	B50376
Copper	ND	0.0050		mg/L	5	4/6/2018 2:03:52 PM	B50376
Lead	ND	0.0025		mg/L	5	4/6/2018 2:03:52 PM	B50376
Selenium	0.034	0.0050		mg/L	5	4/6/2018 2:03:52 PM	B50376
Uranium	0.0083	0.0025		mg/L	5	4/6/2018 2:03:52 PM	B50376
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Fluoride	ND	2.0		mg/L	20	4/5/2018 2:46:23 AM	A50335
Chloride	5100	250		mg/L	500	4/7/2018 5:26:18 AM	R50377
Bromide	3.0	2.0		mg/L	20	4/5/2018 2:46:23 AM	A50335
Phosphorus, Orthophosphate (As P)	ND	0.50	H	mg/L	1	4/5/2018 2:33:58 AM	A50335
Sulfate	2300	250		mg/L	500	4/7/2018 5:26:18 AM	R50377
Nitrate+Nitrite as N	ND	4.0		mg/L	20	4/20/2018 10:42:53 AM	R50755
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	18000	25		µmhos/c	5	4/9/2018 8:40:20 PM	R50434
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	243.8	20.00		mg/L Ca	1	4/2/2018 6:20:23 PM	R50247
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/2/2018 6:20:23 PM	R50247
Total Alkalinity (as CaCO3)	243.8	20.00		mg/L Ca	1	4/2/2018 6:20:23 PM	R50247
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	10600	200	*D	mg/L	1	4/9/2018 11:14:00 AM	37424
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**pmf**
Barium	0.015	0.0020		mg/L	1	3/30/2018 3:06:24 PM	A50228
Cadmium	ND	0.010		mg/L	5	4/2/2018 5:39:18 PM	A50251
Calcium	920	10		mg/L	10	4/2/2018 5:41:30 PM	A50251
Chromium	ND	0.030		mg/L	5	4/2/2018 5:39:18 PM	A50251
Iron	ND	0.10		mg/L	5	4/2/2018 5:39:18 PM	A50251
Magnesium	430	5.0		mg/L	5	4/2/2018 5:39:18 PM	A50251
Manganese	0.014	0.0020		mg/L	1	3/30/2018 3:06:24 PM	A50228
Potassium	18	5.0		mg/L	5	4/2/2018 5:39:18 PM	A50251
Silver	0.040	0.0050		mg/L	1	3/30/2018 3:06:24 PM	A50228
Sodium	2300	50		mg/L	50	4/3/2018 5:21:53 PM	A50282
Zinc	ND	0.050		mg/L	5	4/2/2018 5:39:18 PM	A50251
EPA METHOD 245.1: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/9/2018 4:20:33 PM	37486
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	4/10/2018 12:38:00 PM	SL50445

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 3/28/2018 11:45:00 AM
Lab ID: 1803G25-003 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Toluene	ND	1.0		µg/L	1	4/10/2018 12:38:00 PM	SL50445
Ethylbenzene	ND	1.0		µg/L	1	4/10/2018 12:38:00 PM	SL50445
Naphthalene	ND	2.0		µg/L	1	4/10/2018 12:38:00 PM	SL50445
Xylenes, Total	ND	1.5		µg/L	1	4/10/2018 12:38:00 PM	SL50445
Surr: 1,2-Dichloroethane-d4	97.4	70-130		%Rec	1	4/10/2018 12:38:00 PM	SL50445
Surr: 4-Bromofluorobenzene	97.5	70-130		%Rec	1	4/10/2018 12:38:00 PM	SL50445
Surr: Dibromofluoromethane	99.3	70-130		%Rec	1	4/10/2018 12:38:00 PM	SL50445
Surr: Toluene-d8	100	70-130		%Rec	1	4/10/2018 12:38:00 PM	SL50445

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 3/28/2018 12:20:00 PM
Lab ID: 1803G25-004 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**DBK**
Arsenic	0.012	0.010	*	mg/L	10	4/6/2018 2:06:09 PM	B50376
Copper	ND	0.010		mg/L	10	4/6/2018 2:06:09 PM	B50376
Lead	ND	0.0050		mg/L	10	4/6/2018 2:06:09 PM	B50376
Selenium	0.018	0.010		mg/L	10	4/6/2018 2:06:09 PM	B50376
Uranium	0.0070	0.0050		mg/L	10	4/6/2018 2:06:09 PM	B50376
EPA METHOD 300.0: ANIONS						Analyst:	**CJS**
Fluoride	ND	1.0		mg/L	10	4/5/2018 2:58:48 AM	A50335
Chloride	16000	500		mg/L	1E+	4/7/2018 5:51:07 AM	R50377
Bromide	4.9	1.0		mg/L	10	4/5/2018 2:58:48 AM	A50335
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	4/5/2018 2:58:48 AM	A50335
Sulfate	2400	25		mg/L	50	4/7/2018 5:38:43 AM	R50377
Nitrate+Nitrite as N	ND	10		mg/L	50	4/20/2018 10:55:45 AM	R50755
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	41000	50		µmhos/c	10	4/9/2018 8:44:33 PM	R50434
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	231.7	20.00		mg/L Ca	1	4/2/2018 6:33:37 PM	R50247
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	4/2/2018 6:33:37 PM	R50247
Total Alkalinity (as CaCO3)	231.7	20.00		mg/L Ca	1	4/2/2018 6:33:37 PM	R50247
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	24300	200	*D	mg/L	1	4/9/2018 11:14:00 AM	37424
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**pmf**
Barium	0.030	0.010		mg/L	5	4/2/2018 5:58:57 PM	A50251
Cadmium	ND	0.010		mg/L	5	4/2/2018 5:58:57 PM	A50251
Calcium	1400	100		mg/L	100	4/2/2018 6:03:29 PM	A50251
Chromium	ND	0.030		mg/L	5	4/2/2018 5:58:57 PM	A50251
Iron	ND	0.10		mg/L	5	4/2/2018 5:58:57 PM	A50251
Magnesium	510	10		mg/L	10	4/2/2018 6:01:17 PM	A50251
Manganese	ND	0.010		mg/L	5	4/2/2018 5:58:57 PM	A50251
Potassium	7.5	5.0		mg/L	5	4/2/2018 5:58:57 PM	A50251
Silver	0.062	0.025		mg/L	5	4/2/2018 5:58:57 PM	A50251
Sodium	6100	100		mg/L	100	4/3/2018 5:24:03 PM	A50282
Zinc	ND	0.050		mg/L	5	4/2/2018 5:58:57 PM	A50251
EPA METHOD 245.1: MERCURY						Analyst:	**rde**
Mercury	ND	0.00020		mg/L	1	4/9/2018 4:22:48 PM	37486
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst:	**RAA**
Benzene	ND	1.0		µg/L	1	4/10/2018 1:02:00 PM	SL50445

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **1803G25**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 3/28/2018 12:20:00 PM
Lab ID: 1803G25-004 **Matrix:** AQUEOUS **Received Date:** 3/30/2018 8:55:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Toluene	ND	1.0		µg/L	1	4/10/2018 1:02:00 PM	SL50445
Ethylbenzene	ND	1.0		µg/L	1	4/10/2018 1:02:00 PM	SL50445
Naphthalene	ND	2.0		µg/L	1	4/10/2018 1:02:00 PM	SL50445
Xylenes, Total	ND	1.5		µg/L	1	4/10/2018 1:02:00 PM	SL50445
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	4/10/2018 1:02:00 PM	SL50445
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	4/10/2018 1:02:00 PM	SL50445
Surr: Dibromofluoromethane	102	70-130		%Rec	1	4/10/2018 1:02:00 PM	SL50445
Surr: Toluene-d8	100	70-130		%Rec	1	4/10/2018 1:02:00 PM	SL50445

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	Value above quantitation range
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 range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1803G25-001		MW-1 1803G25-002		MW-4 1803G25-003		MW-3 1803G25-004			
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	2400	104.39	380	16.53	2300	100.04	6100	265.33		
Potassium	9.3	0.24	2.7	0.07	18	0.46	7.5	0.19		
Calcium	950	47.41	760	37.92	920	45.91	1400	69.86		
Magnesium	380	31.28	290	23.87	430	35.39	510	41.98		
Total Cations		183.31		78.39		181.80		377.36		
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2400	49.97	2400	49.97	2300	47.89	2400	49.97		
Chloride	5400	152.33	1000	28.21	5100	143.86	16000	451.34		
Bicarbonate (CaCO3)	227.8	4.55	208.0	4.16	243.8	4.87	231.7	4.63		
Carbonate (CaCO3)										
Phosphate (P)										
Nitrite (N)										
Nitrate (N)			2.6	0.19						
Fluoride			0.13	0.01						
Bromide	3.0	0.04	1.4	0.02	3.0	0.04	4.9	0.06		
Total Anions		206.89		82.54		196.66		506.00		
Elect. Cond. (µMhos/cm)	18000		5700		18000		41000			
CATION/ANION RATIO		0.89		0.95		0.92		0.75		
% Difference		6		3		4		15		
TOTAL DISSOLVED SOLIDS RATIOS										
TDS (measured)	11500		5060		10600		24300			
TDS (calculated)	11679		4971		11217		26561			
Ratio meas TDS:calc TDS		1.0		1.0		0.9		0.9		
Ratio Meas. TDS:EC		0.64		0.89		0.59		0.59		
Ratio Calc. TDS:EC		0.65		0.87		0.62		0.65		
Ratio of anion sum:EC		1.1		1.4		1.1		1.2		
Ratio of cation sum:EC		1.0		1.4		1.0		0.9		

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	MW-2		MW-1		MW-4		MW-3					
HEAL LAB NUMBER	1803G25-001		1803G25-002		1803G25-003		1803G25-004					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	2400	104.39	380	16.53	2300	100.04	6100	265.33				
Potassium	9.3	0.24	2.7	0.07	18	0.46	7.5	0.19				
Calcium	950	47.41	760	37.92	920	45.91	1400	69.86				
Magnesium	380	31.28	290	23.87	430	35.39	510	41.98				
Total Cations		183.31		78.39		181.80		377.36				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2400	49.97	2400	49.97	2300	47.89	2400	49.97				
Chloride	5400	152.33	1000	28.21	5100	143.86	16000	451.34				
Bicarbonate (CaCO3)	227.8	4.55	208.0	4.16	243.8	4.87	231.7	4.63				
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)			2.6	0.19	-							
Fluoride			0.13	0.01								
Bromide	3.0	0.04	1.4	0.02	3.0	0.04	4.9	0.06				
Total Anions		206.89		82.54		196.66		506.00				
Elect. Cond. (µMhos/cm)	18000		5700		18000		41000					
CATION/ANION RATIO		0.89		0.95		0.92		0.75				
% Difference		6		3		4		15				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	11500		5060		10600		24300					
TDS (calculated)	11679		4971		11217		26561					
Ratio meas TDS:calc TDS		1.0		1.0		0.9		0.9				
Ratio Meas. TDS:EC		0.64		0.89		0.59		0.59				
Ratio Calc. TDS:EC		0.65		0.87		0.62		0.65				
Ratio of anion sum:EC		1.1		1.4		1.1		1.2				
Ratio of cation sum:EC		1.0		1.4		1.0		0.9				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A50228**	RunNo: **50228**
Prep Date:	Analysis Date: **3/30/2018**	SeqNo: **1627096** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A50228**	RunNo: **50228**
Prep Date:	Analysis Date: **3/30/2018**	SeqNo: **1627098** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.48	0.0020	0.5000	0	96.8	85	115			
Manganese	0.49	0.0020	0.5000	0	98.4	85	115			
Potassium	47	1.0	50.00	0	94.3	85	115			
Silver	0.092	0.0050	0.1000	0	92.3	85	115			

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A50251**	RunNo: **50251**
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628042** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A50251**	RunNo: **50251**
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628044** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.51	0.0020	0.5000	0	102	85	115			
Calcium	48	1.0	50.00	0	95.8	85	115			
Chromium	0.50	0.0060	0.5000	0	101	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A50251**	RunNo: **50251**
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628044** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	97.3	85	115			
Magnesium	48	1.0	50.00	0	96.5	85	115			
Manganese	0.50	0.0020	0.5000	0	99.6	85	115			
Potassium	47	1.0	50.00	0	94.6	85	115			
Silver	0.096	0.0050	0.1000	0	96.1	85	115			
Zinc	0.50	0.010	0.5000	0	100	85	115			

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A50282**	RunNo: **50282**
Prep Date:	Analysis Date: **4/3/2018**	SeqNo: **1629556** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	ND	1.0								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A50282**	RunNo: **50282**
Prep Date:	Analysis Date: **4/3/2018**	SeqNo: **1629558** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	49	1.0	50.00	0	98.9	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **B50376** RunNo: **50376**
Prep Date: Analysis Date: **4/6/2018** SeqNo: **1632626** Units: **mg/L**

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

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **B50376** RunNo: **50376**
Prep Date: Analysis Date: **4/6/2018** SeqNo: **1632628** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	98.9	85	115			
Copper	0.025	0.0010	0.02500	0	98.8	85	115			
Lead	0.012	0.00050	0.01250	0	99.5	85	115			
Selenium	0.025	0.0010	0.02500	0	98.4	85	115			
Uranium	0.012	0.00050	0.01250	0	97.8	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-37486**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**							
Client ID: **PBW**	Batch ID: **37486**	RunNo: **50428**							
Prep Date: **4/9/2018**	Analysis Date: **4/9/2018**	SeqNo: **1634995**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCS-37486**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**							
Client ID: **LCSW**	Batch ID: **37486**	RunNo: **50428**							
Prep Date: **4/9/2018**	Analysis Date: **4/9/2018**	SeqNo: **1634996**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0051	0.00020	0.005000	0	103	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **A50335**	RunNo: **50335**							
Prep Date:	Analysis Date: **4/4/2018**	SeqNo: **1631159**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A50335**	RunNo: **50335**							
Prep Date:	Analysis Date: **4/4/2018**	SeqNo: **1631160**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Bromide	2.4	0.10	2.500	0	96.6	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	96.9	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.6	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R50377**	RunNo: **50377**							
Prep Date:	Analysis Date: **4/6/2018**	SeqNo: **1633894**	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: **R50377**	RunNo: **50377**							
Prep Date:	Analysis Date: **4/6/2018**	SeqNo: **1633895**	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	93.3	90	110			
Sulfate	9.3	0.50	10.00	0	92.6	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R50755**	RunNo: **50755**							
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646485**	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.
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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R50755**	RunNo: **50755**							
Prep Date:	Analysis Date: **4/20/2018**	SeqNo: **1646486**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.3	0.20	3.500	0	93.5	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL50445** RunNo: **50445**
Prep Date: Analysis Date: **4/10/2018** SeqNo: **1635578** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	93.2	70	130			
Toluene	20	1.0	20.00	0	98.5	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.3	70	130			
Surr: 4-Bromofluorobenzene	9.7		10.00		97.5	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.3	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

Sample ID: **rb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL50445** RunNo: **50445**
Prep Date: Analysis Date: **4/10/2018** SeqNo: **1635579** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	9.7		10.00		96.7	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		99.2	70	130			
Surr: Dibromofluoromethane	9.9		10.00		98.5	70	130			
Surr: Toluene-d8	9.5		10.00		95.2	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **lcs-1 ~20uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R50434**	RunNo: **50434**
Prep Date:	Analysis Date: **4/9/2018**	SeqNo: **1635167** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	23	5.0	19.98	0	115	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R50247**	RunNo: **50247**							
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628467**	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: **R50247**	RunNo: **50247**							
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628468**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.72	20.00	80.00	0	99.7	90	110			

Sample ID: **lcsd-1 alk**	SampType: **LCSD**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSS02**	Batch ID: **R50247**	RunNo: **50247**							
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628469**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.80	20.00	80.00	0	99.7	90	110	0.100	20	

Sample ID: **mb-2 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R50247**	RunNo: **50247**							
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628492**	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 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R50247**	RunNo: **50247**							
Prep Date:	Analysis Date: **4/2/2018**	SeqNo: **1628493**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.88	20.00	80.00	0	99.8	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1803G25**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-37424**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **PBW**	Batch ID: **37424**	RunNo: **50397**							
Prep Date: **4/4/2018**	Analysis Date: **4/9/2018**	SeqNo: **1633633**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-37424**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **LCSW**	Batch ID: **37424**	RunNo: **50397**							
Prep Date: **4/4/2018**	Analysis Date: **4/9/2018**	SeqNo: **1633634**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	103	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: **Safety Env Solutions** Work Order Number: **1803G25** RcptNo: **1**

Received By: **Erin Melendrez** **3/30/2018 8:55:00 AM**

Completed By: **Erin Melendrez** **3/30/2018 10:32:32 AM** 3/30/18

Reviewed By: DDS MW 3/30/18 LB

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. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ 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 ☐

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)
Adjusted? NO
Checked by: MW

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	1.0	Good	Yes			

Chain-of-Custody Record

Client: Safety & Environmental Solution

Mailing Address: 703 E. Clinton Hobbs NM 88240

Phone #: 575-397-0510

email or Fax#:

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

Accreditation: ☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: Williams Pit

Project #: YAT-04-001

Project Manager: Boyer, Dave

Sampler: [signature]

On Ice: ☒ Yes ☐ No

Sample Temperature: 1.1-0.1(CF)=1.0

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1803G25	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX, Naphthalene	WQCC, Dissolved Metals	Cations/Anions, TDS Bal	Lab pH, Total Hg	Air Bubbles (Y or N)
03/28	1030	H2O	MW-2	7		-001												X	X	X	X	
03/28	1105	H2O	MW-1	7		-002												X	X	X	X	
03/28	1145	H2O	MW-4	7		-003												X	X	X	X	
03/28	1220	H2O	MW-3	7		-004												X	X	X	X	

Date	Time	Relinquished by	Received by	Date	Time
03/29	0800	[signature]	[signature] Courier EMH 3/30/18	3/30/18	0855

Remarks:

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

April 15, 2019

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL:
FAX:

RE: Williams Pit OrderNo.: 1903614

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/13/2019 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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 **1903614**
Date Reported: **4/15/2019**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 3/11/2019 12:50:00 PM
Lab ID: 1903614-001 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **pmf**	
Antimony	ND	0.0050		mg/L	5	4/3/2019 2:21:03 PM	B58877
Arsenic	ND	0.0050		mg/L	5	4/3/2019 2:21:03 PM	B58877
Lead	ND	0.0025		mg/L	5	3/29/2019 8:36:48 PM	D58772
Selenium	0.024	0.0050		mg/L	5	4/3/2019 2:21:03 PM	B58877
Thallium	ND	0.0025		mg/L	5	3/29/2019 8:36:48 PM	D58772
Uranium	0.0079	0.0025		mg/L	5	3/29/2019 8:36:48 PM	D58772
EPA METHOD 300.0: ANIONS						Analyst: **smb**	
Fluoride	ND	2.0		mg/L	20	3/14/2019 9:50:22 PM	R58396
Chloride	4600	250		mg/L	500	3/16/2019 12:05:40 PM	R58428
Bromide	2.2	2.0		mg/L	20	3/14/2019 9:50:22 PM	R58396
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/14/2019 9:50:22 PM	R58396
Sulfate	1900	250		mg/L	500	3/16/2019 12:05:40 PM	R58428
Nitrate+Nitrite as N	ND	4.0		mg/L	20	3/16/2019 12:55:18 PM	R58428
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	20000	25		µmhos/c	5	3/19/2019 12:40:29 PM	R58511
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	224.7	20.00		mg/L Ca	1	3/14/2019 2:51:43 PM	R58386
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/14/2019 2:51:43 PM	R58386
Total Alkalinity (as CaCO3)	224.7	20.00		mg/L Ca	1	3/14/2019 2:51:43 PM	R58386
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **CJS**	
Total Dissolved Solids	11200	20.0	*	mg/L	1	3/21/2019 9:33:00 AM	43745
SM4500-H+B / 9040C: PH						Analyst: **JRR**	
pH	7.09		H	pH units	1	3/14/2019 2:51:43 PM	R58386
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Aluminum	ND	0.020		mg/L	1	3/14/2019 5:43:11 PM	C58381
Barium	0.011	0.0020		mg/L	1	3/14/2019 5:43:11 PM	C58381
Cadmium	ND	0.0020		mg/L	1	3/14/2019 5:43:11 PM	C58381
Calcium	890	20		mg/L	20	3/20/2019 5:48:29 PM	B58535
Chromium	ND	0.0060		mg/L	1	3/14/2019 5:43:11 PM	C58381
Copper	ND	0.0060		mg/L	1	3/14/2019 5:43:11 PM	C58381
Iron	0.046	0.020		mg/L	1	3/14/2019 5:43:11 PM	C58381
Magnesium	340	5.0		mg/L	5	3/14/2019 5:45:23 PM	C58381
Manganese	0.88	0.0020	*	mg/L	1	3/14/2019 5:43:11 PM	C58381
Potassium	9.6	1.0		mg/L	1	3/14/2019 5:43:11 PM	C58381
Silver	0.015	0.0050		mg/L	1	3/14/2019 5:43:11 PM	C58381
Sodium	2500	100		mg/L	100	3/20/2019 5:50:45 PM	B58535

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 3/11/2019 12:50:00 PM
Lab ID: 1903614-001 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Zinc	0.019	0.010		mg/L	1	3/14/2019 5:43:11 PM	C58381
EPA METHOD 245.1: MERCURY						Analyst: **pmf**	
Mercury	ND	0.00020		mg/L	1	3/20/2019 12:12:26 PM	43776
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/15/2019 7:21:00 PM	SL58401
Toluene	ND	1.0		µg/L	1	3/15/2019 7:21:00 PM	SL58401
Ethylbenzene	ND	1.0		µg/L	1	3/15/2019 7:21:00 PM	SL58401
Naphthalene	ND	2.0		µg/L	1	3/15/2019 7:21:00 PM	SL58401
1-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 7:21:00 PM	SL58401
2-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 7:21:00 PM	SL58401
Xylenes, Total	ND	1.5		µg/L	1	3/15/2019 7:21:00 PM	SL58401
Surr: 1,2-Dichloroethane-d4	90.5	70-130		%Rec	1	3/15/2019 7:21:00 PM	SL58401
Surr: 4-Bromofluorobenzene	95.3	70-130		%Rec	1	3/15/2019 7:21:00 PM	SL58401
Surr: Dibromofluoromethane	89.7	70-130		%Rec	1	3/15/2019 7:21:00 PM	SL58401
Surr: Toluene-d8	94.1	70-130		%Rec	1	3/15/2019 7:21:00 PM	SL58401

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 3/11/2019 1:15:00 PM
Lab ID: 1903614-002 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**pmf**
Antimony	ND	0.0050		mg/L	5	4/3/2019 5:13:53 PM	B58877
Arsenic	ND	0.0050		mg/L	5	4/3/2019 5:13:53 PM	B58877
Lead	ND	0.0025		mg/L	5	3/29/2019 8:39:26 PM	D58772
Selenium	0.020	0.0050		mg/L	5	4/3/2019 5:13:53 PM	B58877
Thallium	ND	0.0025		mg/L	5	3/29/2019 8:39:26 PM	D58772
Uranium	0.0056	0.0025		mg/L	5	3/29/2019 8:39:26 PM	D58772
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	ND	2.0		mg/L	20	3/14/2019 10:15:11 PM	R58396
Chloride	920	50		mg/L	100	3/16/2019 12:18:04 PM	R58428
Bromide	ND	2.0		mg/L	20	3/14/2019 10:15:11 PM	R58396
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/14/2019 10:15:11 PM	R58396
Sulfate	2100	50		mg/L	100	3/16/2019 12:18:04 PM	R58428
Nitrate+Nitrite as N	2.4	1.0		mg/L	5	3/15/2019 12:19:17 AM	R58396
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	5900	5.0		µmhos/c	1	3/14/2019 3:05:01 PM	R58386
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	202.0	20.00		mg/L Ca	1	3/14/2019 3:05:01 PM	R58386
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/14/2019 3:05:01 PM	R58386
Total Alkalinity (as CaCO3)	202.0	20.00		mg/L Ca	1	3/14/2019 3:05:01 PM	R58386
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**CJS**
Total Dissolved Solids	4620	40.0	*D	mg/L	1	3/21/2019 9:33:00 AM	43745
SM4500-H+B / 9040C: PH						Analyst:	**JRR**
pH	7.14		H	pH units	1	3/14/2019 3:05:01 PM	R58386
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**bcv**
Aluminum	0.030	0.020		mg/L	1	3/14/2019 5:47:37 PM	C58381
Barium	0.0071	0.0020		mg/L	1	3/14/2019 5:47:37 PM	C58381
Cadmium	ND	0.0020		mg/L	1	3/14/2019 5:47:37 PM	C58381
Calcium	680	20		mg/L	20	3/20/2019 5:52:52 PM	B58535
Chromium	ND	0.0060		mg/L	1	3/14/2019 5:47:37 PM	C58381
Copper	ND	0.0060		mg/L	1	3/14/2019 5:47:37 PM	C58381
Iron	0.058	0.020		mg/L	1	3/14/2019 5:47:37 PM	C58381
Magnesium	260	5.0		mg/L	5	3/14/2019 5:49:47 PM	C58381
Manganese	0.0045	0.0020		mg/L	1	3/14/2019 5:47:37 PM	C58381
Potassium	2.7	1.0		mg/L	1	3/14/2019 5:47:37 PM	C58381
Silver	0.012	0.0050		mg/L	1	3/14/2019 5:47:37 PM	C58381
Sodium	360	5.0		mg/L	5	3/14/2019 5:49:47 PM	C58381

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 3/11/2019 1:15:00 PM
Lab ID: 1903614-002 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Zinc	0.018	0.010		mg/L	1	3/14/2019 5:47:37 PM	C58381
EPA METHOD 245.1: MERCURY						Analyst: **pmf**	
Mercury	ND	0.00020		mg/L	1	3/20/2019 12:19:07 PM	43776
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/15/2019 7:45:00 PM	SL58401
Toluene	ND	1.0		µg/L	1	3/15/2019 7:45:00 PM	SL58401
Ethylbenzene	ND	1.0		µg/L	1	3/15/2019 7:45:00 PM	SL58401
Naphthalene	ND	2.0		µg/L	1	3/15/2019 7:45:00 PM	SL58401
1-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 7:45:00 PM	SL58401
2-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 7:45:00 PM	SL58401
Xylenes, Total	ND	1.5		µg/L	1	3/15/2019 7:45:00 PM	SL58401
Surr: 1,2-Dichloroethane-d4	93.0	70-130		%Rec	1	3/15/2019 7:45:00 PM	SL58401
Surr: 4-Bromofluorobenzene	94.9	70-130		%Rec	1	3/15/2019 7:45:00 PM	SL58401
Surr: Dibromofluoromethane	91.4	70-130		%Rec	1	3/15/2019 7:45:00 PM	SL58401
Surr: Toluene-d8	95.3	70-130		%Rec	1	3/15/2019 7:45:00 PM	SL58401

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 3/11/2019 1:45:00 PM
Lab ID: 1903614-003 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**pmf**
Antimony	ND	0.0050		mg/L	5	4/3/2019 5:16:30 PM	B58877
Arsenic	ND	0.0050		mg/L	5	4/3/2019 5:16:30 PM	B58877
Lead	ND	0.0025		mg/L	5	3/29/2019 8:42:03 PM	D58772
Selenium	0.026	0.0050		mg/L	5	4/3/2019 5:16:30 PM	B58877
Thallium	ND	0.0025		mg/L	5	3/29/2019 8:42:03 PM	D58772
Uranium	0.0073	0.0025		mg/L	5	3/29/2019 8:42:03 PM	D58772
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	ND	2.0		mg/L	20	3/14/2019 10:40:01 PM	R58396
Chloride	3600	250		mg/L	500	3/16/2019 12:30:29 PM	R58428
Bromide	ND	2.0		mg/L	20	3/14/2019 10:40:01 PM	R58396
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/14/2019 10:40:01 PM	R58396
Sulfate	1900	250		mg/L	500	3/16/2019 12:30:29 PM	R58428
Nitrate+Nitrite as N	ND	4.0		mg/L	20	3/16/2019 1:07:43 PM	R58428
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	16000	25		µmhos/c	5	3/19/2019 12:43:29 PM	R58511
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	231.9	20.00		mg/L Ca	1	3/14/2019 3:30:45 PM	R58386
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/14/2019 3:30:45 PM	R58386
Total Alkalinity (as CaCO3)	231.9	20.00		mg/L Ca	1	3/14/2019 3:30:45 PM	R58386
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**CJS**
Total Dissolved Solids	9620	20.0	*	mg/L	1	3/21/2019 9:33:00 AM	43745
SM4500-H+B / 9040C: PH						Analyst:	**JRR**
pH	7.12		H	pH units	1	3/14/2019 3:30:45 PM	R58386
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**bcv**
Aluminum	ND	0.020		mg/L	1	3/14/2019 5:52:02 PM	C58381
Barium	0.012	0.0020		mg/L	1	3/14/2019 5:52:02 PM	C58381
Cadmium	ND	0.0020		mg/L	1	3/14/2019 5:52:02 PM	C58381
Calcium	730	20		mg/L	20	3/20/2019 5:55:02 PM	B58535
Chromium	ND	0.0060		mg/L	1	3/14/2019 5:52:02 PM	C58381
Copper	ND	0.0060		mg/L	1	3/14/2019 5:52:02 PM	C58381
Iron	0.032	0.020		mg/L	1	3/14/2019 5:52:02 PM	C58381
Magnesium	320	5.0		mg/L	5	3/14/2019 5:54:15 PM	C58381
Manganese	0.0085	0.0020		mg/L	1	3/14/2019 5:52:02 PM	C58381
Potassium	16	1.0		mg/L	1	3/14/2019 5:52:02 PM	C58381
Silver	0.013	0.0050		mg/L	1	3/14/2019 5:52:02 PM	C58381
Sodium	2000	50		mg/L	50	3/20/2019 5:57:18 PM	B58535

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 3/11/2019 1:45:00 PM
Lab ID: 1903614-003 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Zinc	0.013	0.010		mg/L	1	3/14/2019 5:52:02 PM	C58381
EPA METHOD 245.1: MERCURY						Analyst: **pmf**	
Mercury	ND	0.00020		mg/L	1	3/20/2019 12:21:20 PM	43776
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/15/2019 8:09:00 PM	SL58401
Toluene	ND	1.0		µg/L	1	3/15/2019 8:09:00 PM	SL58401
Ethylbenzene	ND	1.0		µg/L	1	3/15/2019 8:09:00 PM	SL58401
Naphthalene	ND	2.0		µg/L	1	3/15/2019 8:09:00 PM	SL58401
1-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 8:09:00 PM	SL58401
2-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 8:09:00 PM	SL58401
Xylenes, Total	ND	1.5		µg/L	1	3/15/2019 8:09:00 PM	SL58401
Surr: 1,2-Dichloroethane-d4	94.4	70-130		%Rec	1	3/15/2019 8:09:00 PM	SL58401
Surr: 4-Bromofluorobenzene	93.9	70-130		%Rec	1	3/15/2019 8:09:00 PM	SL58401
Surr: Dibromofluoromethane	92.1	70-130		%Rec	1	3/15/2019 8:09:00 PM	SL58401
Surr: Toluene-d8	94.6	70-130		%Rec	1	3/15/2019 8:09:00 PM	SL58401

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 3/11/2019 2:15:00 PM
Lab ID: 1903614-004 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**pmf**
Antimony	ND	0.0050		mg/L	5	4/3/2019 2:34:12 PM	B58877
Arsenic	ND	0.0050		mg/L	5	4/3/2019 2:34:12 PM	B58877
Lead	ND	0.0025		mg/L	5	4/4/2019 7:51:42 PM	A58925
Selenium	0.019	0.0050		mg/L	5	4/3/2019 2:34:12 PM	B58877
Thallium	ND	0.0025		mg/L	5	4/4/2019 7:51:42 PM	A58925
Uranium	0.0072	0.0025		mg/L	5	4/4/2019 7:51:42 PM	A58925
EPA METHOD 300.0: ANIONS						Analyst:	**smb**
Fluoride	ND	2.0		mg/L	20	3/14/2019 11:04:50 PM	R58396
Chloride	12000	500		mg/L	1E+	3/16/2019 12:42:54 PM	R58428
Bromide	3.4	2.0		mg/L	20	3/14/2019 11:04:50 PM	R58396
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/14/2019 11:04:50 PM	R58396
Sulfate	1700	500		mg/L	1E+	3/16/2019 12:42:54 PM	R58428
Nitrate+Nitrite as N	ND	10		mg/L	50	3/16/2019 1:20:08 PM	R58428
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	40000	25		µmhos/c	5	3/19/2019 12:46:29 PM	R58511
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	222.4	20.00		mg/L Ca	1	3/14/2019 3:44:13 PM	R58386
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/14/2019 3:44:13 PM	R58386
Total Alkalinity (as CaCO3)	222.4	20.00		mg/L Ca	1	3/14/2019 3:44:13 PM	R58386
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**CJS**
Total Dissolved Solids	23600	20.0	*	mg/L	1	3/21/2019 9:33:00 AM	43745
SM4500-H+B / 9040C: PH						Analyst:	**JRR**
pH	7.01		H	pH units	1	3/14/2019 3:44:13 PM	R58386
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**bcv**
Aluminum	ND	0.020		mg/L	1	3/14/2019 6:02:57 PM	C58381
Barium	0.028	0.0020		mg/L	1	3/14/2019 6:02:57 PM	C58381
Cadmium	ND	0.0020		mg/L	1	3/14/2019 6:02:57 PM	C58381
Calcium	1500	20		mg/L	20	3/20/2019 5:59:28 PM	B58535
Chromium	ND	0.0060		mg/L	1	3/14/2019 6:02:57 PM	C58381
Copper	ND	0.0060		mg/L	1	3/14/2019 6:02:57 PM	C58381
Iron	0.025	0.020		mg/L	1	3/14/2019 6:02:57 PM	C58381
Magnesium	470	5.0		mg/L	5	3/14/2019 6:05:12 PM	C58381
Manganese	0.0031	0.0020		mg/L	1	3/14/2019 6:02:57 PM	C58381
Potassium	7.0	1.0		mg/L	1	3/14/2019 6:02:57 PM	C58381
Silver	0.024	0.0050		mg/L	1	3/14/2019 6:02:57 PM	C58381
Sodium	6300	100		mg/L	100	3/20/2019 6:01:44 PM	B58535

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

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 3/11/2019 2:15:00 PM
Lab ID: 1903614-004 **Matrix:** AQUEOUS **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Zinc	ND	0.010		mg/L	1	3/14/2019 6:02:57 PM	C58381
EPA METHOD 245.1: MERCURY						Analyst: **pmf**	
Mercury	ND	0.00020		mg/L	1	3/20/2019 12:23:32 PM	43776
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/15/2019 8:33:00 PM	SL58401
Toluene	ND	1.0		µg/L	1	3/15/2019 8:33:00 PM	SL58401
Ethylbenzene	ND	1.0		µg/L	1	3/15/2019 8:33:00 PM	SL58401
Naphthalene	ND	2.0		µg/L	1	3/15/2019 8:33:00 PM	SL58401
1-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 8:33:00 PM	SL58401
2-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 8:33:00 PM	SL58401
Xylenes, Total	ND	1.5		µg/L	1	3/15/2019 8:33:00 PM	SL58401
Surr: 1,2-Dichloroethane-d4	93.9	70-130		%Rec	1	3/15/2019 8:33:00 PM	SL58401
Surr: 4-Bromofluorobenzene	95.7	70-130		%Rec	1	3/15/2019 8:33:00 PM	SL58401
Surr: Dibromofluoromethane	91.7	70-130		%Rec	1	3/15/2019 8:33:00 PM	SL58401
Surr: Toluene-d8	94.6	70-130		%Rec	1	3/15/2019 8:33:00 PM	SL58401

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

Analytical Report
Lab Order **1903614**
Date Reported: **4/15/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions **Client Sample ID:** Trip Blank
Project: Williams Pit **Collection Date:**
Lab ID: 1903614-005 **Matrix:** TRIP BLANK **Received Date:** 3/13/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**	
Benzene	ND	1.0		µg/L	1	3/15/2019 8:57:00 PM	SL58401
Toluene	ND	1.0		µg/L	1	3/15/2019 8:57:00 PM	SL58401
Ethylbenzene	ND	1.0		µg/L	1	3/15/2019 8:57:00 PM	SL58401
Naphthalene	ND	2.0		µg/L	1	3/15/2019 8:57:00 PM	SL58401
1-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 8:57:00 PM	SL58401
2-Methylnaphthalene	ND	4.0		µg/L	1	3/15/2019 8:57:00 PM	SL58401
Xylenes, Total	ND	1.5		µg/L	1	3/15/2019 8:57:00 PM	SL58401
Surr: 1,2-Dichloroethane-d4	92.5	70-130		%Rec	1	3/15/2019 8:57:00 PM	SL58401
Surr: 4-Bromofluorobenzene	93.0	70-130		%Rec	1	3/15/2019 8:57:00 PM	SL58401
Surr: Dibromofluoromethane	90.8	70-130		%Rec	1	3/15/2019 8:57:00 PM	SL58401
Surr: Toluene-d8	94.8	70-130		%Rec	1	3/15/2019 8:57:00 PM	SL58401

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
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

ALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	MW-2		MW-1		MW-4		MW-3					
EAL LAB NUMBER	1903614-001		1903614-002		1903614-003		1903614-004					
ATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
odium	2500	108.74	360	15.66	2000	86.99	6300	274.03				
otassium	9.6	0.25	2.7	0.07	16	0.41	7.0	0.18				
alcium	890	44.41	680	33.93	730	36.43	1500	74.85				
agnesium	340	27.98	260	21.40	320	26.34	470	38.68				
otal Cations		181.38		71.06		150.17		387.74				
NIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
ulfate	1900	39.56	2100	43.72	1900	39.56	1700	35.39				
hloride	4600	129.76	920	25.95	3600	101.55	12000	338.50				
Bicarbonate (CaCO3)	224.7	4.49	202.0	4.04	231.9	4.63	222.4	4.44				
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)			2.4	0.17	-							
Fluoride												
Bromide	2.2	0.03					3.4	0.04				
Total Anions		173.84		73.88		145.74		378.39				
Elect. Cond. (µMhos/cm)	20000		5900		16000		40000					
CATION/ANION RATIO		1.04		0.96		1.03		1.02				
% Difference		2		2		1		1				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	11200		4620		9620		23600					
TDS (calculated)	10377		4455		8705		22114					
Ratio meas TDS:calc TDS		1.1		1.0		1.1		1.1				
Ratio Meas. TDS:EC		0.56		0.78		0.60		0.59				
Ratio Calc. TDS:EC		0.52		0.76		0.54		0.55				
Ratio of anion sum:EC		0.9		1.3		0.9		0.9				
Ratio of cation sum:EC		0.9		1.2		0.9		1.0				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1. Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-C** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **C58381** RunNo: **58381**
Prep Date: Analysis Date: **3/14/2019** SeqNo: **1959731** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
Potassium	ND	1.0								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: **LCS-C** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **C58381** RunNo: **58381**
Prep Date: Analysis Date: **3/14/2019** SeqNo: **1959735** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	108	85	115			
Barium	0.49	0.0020	0.5000	0	98.7	85	115			
Cadmium	0.50	0.0020	0.5000	0	101	85	115			
Chromium	0.50	0.0060	0.5000	0	101	85	115			
Copper	0.50	0.0060	0.5000	0	101	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Magnesium	49	1.0	50.00	0	98.1	85	115			
Manganese	0.49	0.0020	0.5000	0	99.0	85	115			
Potassium	49	1.0	50.00	0	97.2	85	115			
Silver	0.097	0.0050	0.1000	0	97.2	85	115			
Sodium	49	1.0	50.00	0	98.9	85	115			
Zinc	0.51	0.010	0.5000	0	101	85	115			

Sample ID: **LCS-B** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **B58535** RunNo: **58535**
Prep Date: Analysis Date: **3/20/2019** SeqNo: **1965347** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	47	1.0	50.00	0	93.5	85	115			
Sodium	50	1.0	50.00	0	99.1	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-B RR**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B58535**	RunNo: **58535**
Prep Date:	Analysis Date: **3/20/2019**	SeqNo: **1965349** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Sodium	ND	1.0								

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D58772**	RunNo: **58772**
Prep Date:	Analysis Date: **3/29/2019**	SeqNo: **1974761** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **D58772**	RunNo: **58772**
Prep Date:	Analysis Date: **3/29/2019**	SeqNo: **1974763** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0	100	85	115			
Thallium	0.012	0.00050	0.01250	0	99.7	85	115			
Uranium	0.012	0.00050	0.01250	0	98.9	85	115			

Sample ID: **LCSD**	SampType: **LCSD**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSS02**	Batch ID: **D58772**	RunNo: **58772**
Prep Date:	Analysis Date: **3/29/2019**	SeqNo: **1974766** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.013	0.00050	0.01250	0	100	85	115	0.283	20	
Thallium	0.012	0.00050	0.01250	0	99.2	85	115	0.446	20	
Uranium	0.013	0.00050	0.01250	0	101	85	115	2.20	20	

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B58877**	RunNo: **58877**
Prep Date:	Analysis Date: **4/3/2019**	SeqNo: **1979243** Units: **mg/L**

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

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B58877**	RunNo: **58877**
Prep Date:	Analysis Date: **4/3/2019**	SeqNo: **1979245** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.6	85	115			
Arsenic	0.026	0.0010	0.02500	0	102	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A58925**	RunNo: **58925**
Prep Date:	Analysis Date: **4/4/2019**	SeqNo: **1981556** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	ND	0.00050								
Thallium	ND	0.00050								
Uranium	ND	0.00050								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A58925**	RunNo: **58925**
Prep Date:	Analysis Date: **4/4/2019**	SeqNo: **1981558** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Lead	0.012	0.00050	0.01250	0	97.8	85	115			
Thallium	0.012	0.00050	0.01250	0	97.5	85	115			
Uranium	0.013	0.00050	0.01250	0	100	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-43776**	SampType: **MBLK**	TestCode: **EPA Method 245.1: Mercury**							
Client ID: **PBW**	Batch ID: **43776**	RunNo: **58504**							
Prep Date: **3/19/2019**	Analysis Date: **3/20/2019**	SeqNo: **1963772**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	ND	0.00020								

Sample ID: **LCS-43776**	SampType: **LCS**	TestCode: **EPA Method 245.1: Mercury**							
Client ID: **LCSW**	Batch ID: **43776**	RunNo: **58504**							
Prep Date: **3/19/2019**	Analysis Date: **3/20/2019**	SeqNo: **1963773**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Mercury	0.0050	0.00020	0.005000	0	99.2	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R58396**	RunNo: **58396**							
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1959544**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R58396**	RunNo: **58396**							
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1959545**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	108	90	110			
Bromide	2.4	0.10	2.500	0	97.3	90	110			
Phosphorus, Orthophosphate (As P	5.0	0.50	5.000	0	100	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.5	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R58428**	RunNo: **58428**							
Prep Date:	Analysis Date: **3/16/2019**	SeqNo: **1960716**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R58428**	RunNo: **58428**							
Prep Date:	Analysis Date: **3/16/2019**	SeqNo: **1960717**	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	93.3	90	110			
Sulfate	9.3	0.50	10.00	0	93.5	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	96.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL58401** RunNo: **58401**
Prep Date: Analysis Date: **3/15/2019** SeqNo: **1960614** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	89.1	70	130			
Toluene	19	1.0	20.00	0	95.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	9.1		10.00		91.1	70	130			
Surr: Toluene-d8	9.4		10.00		94.4	70	130			

Sample ID: **rb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL58401** RunNo: **58401**
Prep Date: Analysis Date: **3/15/2019** SeqNo: **1960615** 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	9.0		10.00		90.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.6	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.9	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**

15-Apr-19

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **lcs-1 99.0uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R58386**	RunNo: **58386**
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958488** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	5.0	99.00	0	100	80	120			

Sample ID: **lcsd-1 99.0uS eC**	SampType: **LCSD**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSS02**	Batch ID: **R58386**	RunNo: **58386**
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958517** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.00	0	101	80	120	1.01	0	

Sample ID: **lcs-2 99.0uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R58386**	RunNo: **58386**
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958535** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.00	0	104	80	120			

Sample ID: **lcs-1 99.0uS eC**	SampType: **LCS**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R58511**	RunNo: **58511**
Prep Date:	Analysis Date: **3/19/2019**	SeqNo: **1964699** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.00	0	102	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **mb-1 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R58386**	RunNo: **58386**							
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958439**	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: **R58386**	RunNo: **58386**							
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958440**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.28	20.00	80.00	0	96.6	90	110			

Sample ID: **lcsd-1 alk**	SampType: **LCSD**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSS02**	Batch ID: **R58386**	RunNo: **58386**							
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958441**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.20	20.00	80.00	0	96.5	90	110	0.104	20	

Sample ID: **mb-2 alk**	SampType: **MBLK**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R58386**	RunNo: **58386**							
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958463**	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 alk**	SampType: **LCS**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R58386**	RunNo: **58386**							
Prep Date:	Analysis Date: **3/14/2019**	SeqNo: **1958464**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.16	20.00	80.00	0	96.4	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit	PQL	Practical Quanitative Limit
RL	Reporting Detection Limit	S	% Recovery outside of range due to dilution or matrix
W	Sample container temperature is out of limit as specified at testcode		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1903614**
15-Apr-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-43745**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **PBW**	Batch ID: **43745**	RunNo: **58518**							
Prep Date: **3/18/2019**	Analysis Date: **3/21/2019**	SeqNo: **1964122**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-43745**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **LCSW**	Batch ID: **43745**	RunNo: **58518**							
Prep Date: **3/18/2019**	Analysis Date: **3/21/2019**	SeqNo: **1964123**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	80	120			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.
E	Value above quantitation range
ND	Not Detected at the Reporting Limit
RL	Reporting Detection Limit
W	Sample container temperature is out of limit as specified at testcode
B	Analyte detected in the associated Method Blank
H	Holding times for preparation or analysis exceeded
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: **Safety Env Solutions** Work Order Number: **1903614** RcptNo: **1**

Received By: **Desiree Dominguez** **3/13/2019 9:00:00 AM** DD

Completed By: **Yazmine Garduno** **3/13/2019 10:26:49 AM** Yazmine Garduno

Reviewed By: ENH 3/13/19

LB: VVZ 3/13/19

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. VOA vials have zero headspace?	Yes ☑	No ☐	No VOA Vials ☐
10. Were any sample containers received broken?	Yes ☐	No ☑	
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	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 ☐	

# of preserved bottles checked for pH: 12 (<2 or >12 unless noted)

Adjusted? NO

Checked by: VVZ 3/13/19

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	0.1	Good	Yes			

Chain-of-Custody Record

Client: Safety & Environ Solutions

Mailing Address: P.O. Box 1613, Hobbs 88241

Phone #: 575 397-0510

email or Fax#:

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

Accreditation: ☐ NELAP ☐ Other

☐ EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: Williams Pit

Project #: YAT-04-001

Project Manager: Dave Boyer

Sampler: Jerry Sosa

On Ice: ☒ Yes ☐ No

Sample Temperature: 0.1°C

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time (PM)	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1903414	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	BTEX, naphthalene	WQCC Dissolved	Cations/Anions, TDS etc	Lab pH, Total Hg	Air Bubbles (Y or N)
03/11	1250	H2O	MW-2	7	Cool/+	-001												X	X	X	X	
03/11	0115	H2O	MW-1	7	" other	-002												X	X	X	X	
03/11	0145	H2O	MW-4	7	"	-003												X	X	X	X	
03/11	0215	H2O	MW-3	7	"	-004												X	X	X	X	
			Trip Blank	2	Cool/+HCl	-005												X				

Date	Time	Relinquished by	Received by	Date	Time
3/12/19	0800	Jerry Sosa	D.A. Boyer	3/12/19	0800
3/12/19		D.A. Boyer	DB Courier	3/13/19	9:00

Remarks: Provide Cation/Anion Balance

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

November 19, 2019

Dave Boyer

Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL:
FAX

RE: Williams Pit OrderNo.: 1910F07

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 5 sample(s) on 10/30/2019 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 10/29/2019 9:15:00 AM
Lab ID: 1910F07-001 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **ELS**	
Antimony	ND	0.010		mg/L	10	11/7/2019 12:44:07 PM	B64306
Arsenic	ND	0.010		mg/L	10	11/8/2019 10:59:01 AM	A64363
Lead	ND	0.0050		mg/L	10	11/7/2019 12:44:07 PM	B64306
Selenium	0.027	0.010		mg/L	10	11/8/2019 10:59:01 AM	A64363
Thallium	ND	0.0050		mg/L	10	11/7/2019 12:44:07 PM	B64306
Uranium	0.0072	0.0050		mg/L	10	11/8/2019 10:59:01 AM	A64363
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Fluoride	ND	1.0		mg/L	10	10/30/2019 10:31:00 PM	R64108
Chloride	3900	250		mg/L	500	11/1/2019 11:59:57 AM	R64189
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	10/30/2019 10:31:00 PM	R64108
Bromide	2.5	1.0		mg/L	10	10/30/2019 10:31:00 PM	R64108
Nitrogen, Nitrate (As N)	1.9	1.0		mg/L	10	10/30/2019 10:31:00 PM	R64108
Phosphorus, Orthophosphate (As P)	ND	5.0		mg/L	10	10/30/2019 10:31:00 PM	R64108
Sulfate	2100	50		mg/L	100	10/30/2019 10:43:25 PM	R64108
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	18000	25		µmhos/c	5	11/4/2019 4:41:53 PM	R64221
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	224.9	20.00		mg/L Ca	1	11/4/2019 11:38:01 AM	R64221
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	11/4/2019 11:38:01 AM	R64221
Total Alkalinity (as CaCO3)	224.9	20.00		mg/L Ca	1	11/4/2019 11:38:01 AM	R64221
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JMT**	
Total Dissolved Solids	10500	100	*D	mg/L	1	10/31/2019 3:28:00 PM	48488
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Aluminum	0.45	0.020	*	mg/L	1	11/12/2019 7:21:07 PM	A64454
Barium	0.011	0.0020		mg/L	1	11/8/2019 5:35:23 PM	C64376
Cadmium	ND	0.0020		mg/L	1	11/12/2019 7:21:07 PM	A64454
Calcium	910	10		mg/L	10	11/12/2019 7:25:22 PM	A64454
Chromium	ND	0.0060		mg/L	1	11/8/2019 5:35:23 PM	C64376
Copper	ND	0.0060		mg/L	1	11/8/2019 5:35:23 PM	C64376
Iron	0.27	0.020		mg/L	1	11/12/2019 7:21:07 PM	A64454
Magnesium	330	5.0		mg/L	5	11/12/2019 7:23:19 PM	A64454
Manganese	0.82	0.0020	*	mg/L	1	11/8/2019 5:35:23 PM	C64376
Potassium	10	1.0		mg/L	1	11/12/2019 7:21:07 PM	A64454
Silver	0.023	0.0050		mg/L	1	11/8/2019 5:35:23 PM	C64376
Sodium	2100	50		mg/L	50	11/12/2019 7:27:37 PM	A64454
Zinc	0.062	0.010		mg/L	1	11/8/2019 5:35:23 PM	C64376

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 10/29/2019 9:15:00 AM
Lab ID: 1910F07-001 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/1/2019 12:15:00 PM	SL_W64
Toluene	ND	1.0		µg/L	1	11/1/2019 12:15:00 PM	SL_W64
Ethylbenzene	ND	1.0		µg/L	1	11/1/2019 12:15:00 PM	SL_W64
Naphthalene	ND	2.0		µg/L	1	11/1/2019 12:15:00 PM	SL_W64
Xylenes, Total	ND	1.5		µg/L	1	11/1/2019 12:15:00 PM	SL_W64
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	11/1/2019 12:15:00 PM	SL_W64
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	11/1/2019 12:15:00 PM	SL_W64
Surr: Dibromofluoromethane	98.6	70-130		%Rec	1	11/1/2019 12:15:00 PM	SL_W64
Surr: Toluene-d8	96.4	70-130		%Rec	1	11/1/2019 12:15:00 PM	SL_W64

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 10/29/2019 9:55:00 AM
Lab ID: 1910F07-002 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **ELS**	
Antimony	ND	0.0050		mg/L	5	11/6/2019 4:27:22 PM	B64277
Arsenic	ND	0.0050		mg/L	5	11/6/2019 4:27:22 PM	B64277
Lead	ND	0.0025		mg/L	5	11/6/2019 4:27:22 PM	B64277
Selenium	0.020	0.0050		mg/L	5	11/6/2019 4:27:22 PM	B64277
Thallium	ND	0.0025		mg/L	5	11/6/2019 4:27:22 PM	B64277
Uranium	0.0064	0.0025		mg/L	5	11/6/2019 4:27:22 PM	B64277
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Fluoride	ND	1.0		mg/L	10	10/30/2019 11:20:38 PM	R64108
Chloride	910	50		mg/L	100	10/30/2019 11:33:03 PM	R64108
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	10/30/2019 11:20:38 PM	R64108
Bromide	1.4	1.0		mg/L	10	10/30/2019 11:20:38 PM	R64108
Nitrogen, Nitrate (As N)	2.3	1.0		mg/L	10	10/30/2019 11:20:38 PM	R64108
Phosphorus, Orthophosphate (As P)	ND	5.0		mg/L	10	10/30/2019 11:20:38 PM	R64108
Sulfate	2000	50		mg/L	100	10/30/2019 11:33:03 PM	R64108
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	6100	5.0		µmhos/c	1	11/4/2019 11:51:24 AM	R64221
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	204.5	20.00		mg/L Ca	1	11/4/2019 11:51:24 AM	R64221
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	11/4/2019 11:51:24 AM	R64221
Total Alkalinity (as CaCO3)	204.5	20.00		mg/L Ca	1	11/4/2019 11:51:24 AM	R64221
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JMT**	
Total Dissolved Solids	4880	40.0	*D	mg/L	1	10/31/2019 3:28:00 PM	48488
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Aluminum	ND	0.020		mg/L	1	11/12/2019 7:38:25 PM	A64454
Barium	0.0058	0.0020		mg/L	1	11/8/2019 5:39:41 PM	C64376
Cadmium	ND	0.0020		mg/L	1	11/12/2019 7:38:25 PM	A64454
Calcium	750	10		mg/L	10	11/15/2019 10:13:31 AM	A64544
Chromium	ND	0.0060		mg/L	1	11/8/2019 5:39:41 PM	C64376
Copper	ND	0.0060		mg/L	1	11/8/2019 5:39:41 PM	C64376
Iron	ND	0.020		mg/L	1	11/12/2019 7:38:25 PM	A64454
Magnesium	260	5.0		mg/L	5	11/12/2019 7:40:39 PM	A64454
Manganese	0.038	0.0020		mg/L	1	11/8/2019 5:39:41 PM	C64376
Potassium	2.7	1.0		mg/L	1	11/12/2019 7:38:25 PM	A64454
Silver	0.019	0.0050		mg/L	1	11/8/2019 5:39:41 PM	C64376
Sodium	360	5.0		mg/L	5	11/12/2019 7:40:39 PM	A64454
Zinc	0.033	0.010		mg/L	1	11/8/2019 5:39:41 PM	C64376

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 10/29/2019 9:55:00 AM
Lab ID: 1910F07-002 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/1/2019 1:27:00 PM	SL_W64
Toluene	ND	1.0		µg/L	1	11/1/2019 1:27:00 PM	SL_W64
Ethylbenzene	ND	1.0		µg/L	1	11/1/2019 1:27:00 PM	SL_W64
Naphthalene	ND	2.0		µg/L	1	11/1/2019 1:27:00 PM	SL_W64
Xylenes, Total	ND	1.5		µg/L	1	11/1/2019 1:27:00 PM	SL_W64
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	11/1/2019 1:27:00 PM	SL_W64
Surr: 4-Bromofluorobenzene	98.5	70-130		%Rec	1	11/1/2019 1:27:00 PM	SL_W64
Surr: Dibromofluoromethane	101	70-130		%Rec	1	11/1/2019 1:27:00 PM	SL_W64
Surr: Toluene-d8	95.9	70-130		%Rec	1	11/1/2019 1:27:00 PM	SL_W64

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 10/29/2019 10:45:00 AM
Lab ID: 1910F07-003 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **ELS**	
Antimony	ND	0.010		mg/L	10	11/7/2019 12:46:45 PM	B64306
Arsenic	ND	0.010		mg/L	10	11/8/2019 11:01:38 AM	A64363
Lead	ND	0.0050		mg/L	10	11/7/2019 12:46:45 PM	B64306
Selenium	0.022	0.010		mg/L	10	11/8/2019 11:01:38 AM	A64363
Thallium	ND	0.0050		mg/L	10	11/7/2019 12:46:45 PM	B64306
Uranium	0.0070	0.0050		mg/L	10	11/8/2019 11:01:38 AM	A64363
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Fluoride	ND	1.0		mg/L	10	10/30/2019 11:45:27 PM	R64108
Chloride	3200	250		mg/L	500	11/1/2019 12:12:48 PM	R64189
Nitrogen, Nitrite (As N)	ND	1.0		mg/L	10	10/30/2019 11:45:27 PM	R64108
Bromide	2.3	1.0		mg/L	10	10/30/2019 11:45:27 PM	R64108
Nitrogen, Nitrate (As N)	1.9	1.0		mg/L	10	10/30/2019 11:45:27 PM	R64108
Phosphorus, Orthophosphate (As P)	ND	5.0		mg/L	10	10/30/2019 11:45:27 PM	R64108
Sulfate	2100	50		mg/L	100	10/30/2019 11:57:52 PM	R64108
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	16000	25		µmhos/c	5	11/4/2019 4:44:40 PM	R64221
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	230.6	20.00		mg/L Ca	1	11/4/2019 12:03:48 PM	R64221
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	11/4/2019 12:03:48 PM	R64221
Total Alkalinity (as CaCO3)	230.6	20.00		mg/L Ca	1	11/4/2019 12:03:48 PM	R64221
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JMT**	
Total Dissolved Solids	9340	40.0	*D	mg/L	1	10/31/2019 3:28:00 PM	48488
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Aluminum	ND	0.020		mg/L	1	11/12/2019 7:45:08 PM	A64454
Barium	0.013	0.0020		mg/L	1	11/8/2019 5:43:58 PM	C64376
Cadmium	ND	0.0020		mg/L	1	11/12/2019 7:45:08 PM	A64454
Calcium	800	10		mg/L	10	11/12/2019 7:49:24 PM	A64454
Chromium	ND	0.0060		mg/L	1	11/8/2019 5:43:58 PM	C64376
Copper	ND	0.0060		mg/L	1	11/8/2019 5:43:58 PM	C64376
Iron	ND	0.020		mg/L	1	11/12/2019 7:45:08 PM	A64454
Magnesium	340	5.0		mg/L	5	11/12/2019 7:47:20 PM	A64454
Manganese	0.026	0.0020		mg/L	1	11/8/2019 5:43:58 PM	C64376
Potassium	16	1.0		mg/L	1	11/12/2019 7:45:08 PM	A64454
Silver	0.020	0.0050		mg/L	1	11/8/2019 5:43:58 PM	C64376
Sodium	2000	50		mg/L	50	11/12/2019 7:51:38 PM	A64454
Zinc	0.013	0.010		mg/L	1	11/8/2019 5:43:58 PM	C64376

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 10/29/2019 10:45:00 AM
Lab ID: 1910F07-003 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/1/2019 1:51:00 PM	SL_W64
Toluene	ND	1.0		µg/L	1	11/1/2019 1:51:00 PM	SL_W64
Ethylbenzene	ND	1.0		µg/L	1	11/1/2019 1:51:00 PM	SL_W64
Naphthalene	ND	2.0		µg/L	1	11/1/2019 1:51:00 PM	SL_W64
Xylenes, Total	ND	1.5		µg/L	1	11/1/2019 1:51:00 PM	SL_W64
Surr: 1,2-Dichloroethane-d4	103	70-130		%Rec	1	11/1/2019 1:51:00 PM	SL_W64
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	11/1/2019 1:51:00 PM	SL_W64
Surr: Dibromofluoromethane	100	70-130		%Rec	1	11/1/2019 1:51:00 PM	SL_W64
Surr: Toluene-d8	96.3	70-130		%Rec	1	11/1/2019 1:51:00 PM	SL_W64

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 10/29/2019 11:30:00 AM
Lab ID: 1910F07-004 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **ELS**	
Antimony	ND	0.010		mg/L	10	11/7/2019 12:49:23 PM	B64306
Arsenic	ND	0.010		mg/L	10	11/8/2019 11:04:16 AM	A64363
Lead	ND	0.0050		mg/L	10	11/7/2019 12:49:23 PM	B64306
Selenium	0.014	0.010		mg/L	10	11/8/2019 11:04:16 AM	A64363
Thallium	ND	0.0050		mg/L	10	11/7/2019 12:49:23 PM	B64306
Uranium	0.0065	0.0050		mg/L	10	11/8/2019 11:04:16 AM	A64363
EPA METHOD 300.0: ANIONS						Analyst: **CJS**	
Fluoride	ND	1.0		mg/L	10	10/31/2019 12:10:16 AM	R64108
Chloride	11000	500		mg/L	1E+	11/1/2019 1:55:45 PM	R64189
Nitrogen, Nitrite (As N)	ND	10		mg/L	100	10/31/2019 12:22:41 AM	R64108
Bromide	4.0	1.0		mg/L	10	10/31/2019 12:10:16 AM	R64108
Nitrogen, Nitrate (As N)	ND	1.0		mg/L	10	10/31/2019 12:10:16 AM	R64108
Phosphorus, Orthophosphate (As P)	ND	5.0		mg/L	10	10/31/2019 12:10:16 AM	R64108
Sulfate	2000	50		mg/L	100	10/31/2019 12:22:41 AM	R64108
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **JRR**	
Conductivity	38000	25		µmhos/c	5	11/4/2019 4:47:28 PM	R64221
SM2320B: ALKALINITY						Analyst: **JRR**	
Bicarbonate (As CaCO3)	223.9	20.00		mg/L Ca	1	11/4/2019 12:17:14 PM	R64221
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	11/4/2019 12:17:14 PM	R64221
Total Alkalinity (as CaCO3)	223.9	20.00		mg/L Ca	1	11/4/2019 12:17:14 PM	R64221
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **JMT**	
Total Dissolved Solids	25200	2000	*D	mg/L	1	11/4/2019 3:13:00 PM	48529
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **bcv**	
Aluminum	ND	0.10		mg/L	5	11/15/2019 10:15:46 AM	A64544
Barium	0.025	0.010		mg/L	5	11/15/2019 10:15:46 AM	A64544
Cadmium	ND	0.010		mg/L	5	11/15/2019 10:15:46 AM	A64544
Calcium	1500	20		mg/L	20	11/15/2019 10:20:18 AM	A64544
Chromium	ND	0.030		mg/L	5	11/15/2019 10:15:46 AM	A64544
Copper	ND	0.030		mg/L	5	11/15/2019 10:15:46 AM	A64544
Iron	ND	0.10		mg/L	5	11/15/2019 10:15:46 AM	A64544
Magnesium	490	5.0		mg/L	5	11/15/2019 10:15:46 AM	A64544
Manganese	ND	0.010		mg/L	5	11/15/2019 10:15:46 AM	A64544
Potassium	7.5	5.0		mg/L	5	11/15/2019 10:15:46 AM	A64544
Silver	0.032	0.025		mg/L	5	11/15/2019 10:15:46 AM	A64544
Sodium	6300	100		mg/L	100	11/15/2019 10:22:33 AM	A64544
Zinc	ND	0.050		mg/L	5	11/15/2019 10:15:46 AM	A64544

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 10/29/2019 11:30:00 AM
Lab ID: 1910F07-004 **Matrix:** AQUEOUS **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/1/2019 2:15:00 PM	SL_W64
Toluene	ND	1.0		µg/L	1	11/1/2019 2:15:00 PM	SL_W64
Ethylbenzene	ND	1.0		µg/L	1	11/1/2019 2:15:00 PM	SL_W64
Naphthalene	ND	2.0		µg/L	1	11/1/2019 2:15:00 PM	SL_W64
Xylenes, Total	ND	1.5		µg/L	1	11/1/2019 2:15:00 PM	SL_W64
Surr: 1,2-Dichloroethane-d4	107	70-130		%Rec	1	11/1/2019 2:15:00 PM	SL_W64
Surr: 4-Bromofluorobenzene	99.1	70-130		%Rec	1	11/1/2019 2:15:00 PM	SL_W64
Surr: Dibromofluoromethane	100	70-130		%Rec	1	11/1/2019 2:15:00 PM	SL_W64
Surr: Toluene-d8	95.5	70-130		%Rec	1	11/1/2019 2:15:00 PM	SL_W64

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **1910F07**
Date Reported: **11/19/2019**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions **Client Sample ID:** Trip Blank
Project: Williams Pit **Collection Date:**
Lab ID: 1910F07-005 **Matrix:** TRIP BLANK **Received Date:** 10/30/2019 9:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	11/1/2019 2:39:00 PM	SL_W64
Toluene	ND	1.0		µg/L	1	11/1/2019 2:39:00 PM	SL_W64
Ethylbenzene	ND	1.0		µg/L	1	11/1/2019 2:39:00 PM	SL_W64
Naphthalene	ND	2.0		µg/L	1	11/1/2019 2:39:00 PM	SL_W64
Xylenes, Total	ND	1.5		µg/L	1	11/1/2019 2:39:00 PM	SL_W64
Surr: 1,2-Dichloroethane-d4	102	70-130		%Rec	1	11/1/2019 2:39:00 PM	SL_W64
Surr: 4-Bromofluorobenzene	99.5	70-130		%Rec	1	11/1/2019 2:39:00 PM	SL_W64
Surr: Dibromofluoromethane	97.1	70-130		%Rec	1	11/1/2019 2:39:00 PM	SL_W64
Surr: Toluene-d8	96.7	70-130		%Rec	1	11/1/2019 2:39:00 PM	SL_W64

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	Value above quantitation range
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 range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 1910F07-001		MW-1 1910F07-002		MW-4 1910F07-003		MW-3 1910F07-004			
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	2100	91.34	360	15.66	2000	86.99	6300	274.03		
Potassium	10	0.26	2.7	0.07	16	0.41	7.5	0.19		
Calcium	910	45.41	750	37.43	800	39.92	1500	74.85		
Magnesium	330	27.16	260	21.40	340	27.98	490	40.33		
Total Cations		164.17		74.55		155.31		389.40		
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2100	43.72	2000	41.64	2100	43.72	2000	41.64		
Chloride	3900	110.01	910	25.67	3200	90.27	11000	310.30		
Bicarbonate (CaCO3)	224.9	4.49	204.5	4.09	230.6	4.61	223.9	4.47		
Carbonate (CaCO3)										
Phosphate (P)										
Nitrite (N)										
Nitrate (N)	1.9	0.14	2.3	0.16	1.9	0.14				
Fluoride										
Bromide	2.5	0.03	1.4	0.02	2.3	0.03	4.0	0.05		
Total Anions		158.40		71.58		138.76		356.46		
Elect. Cond. (µMhos/cm)	18000		6100		16000		38000			
CATION/ANION RATIO		1.04		1.04		1.12		1.09		
% Difference		2		2		6		4		
TOTAL DISSOLVED SOLIDS RATIOS										
TDS (measured)	10500		4880		9340		25200			
TDS (calculated)	9496		4417		8605		21436			
Ratio meas TDS:calc TDS		1.1		1.1		1.1		1.2		
Ratio Meas. TDS:EC		0.58		0.80		0.58		0.66		
Ratio Calc. TDS:EC		0.53		0.72		0.54		0.56		
Ratio of anion sum:EC		0.9		1.2		0.9		0.9		
Ratio of cation sum:EC		0.9		1.2		1.0		1.0		

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **C64376** RunNo: **64376**
Prep Date: Analysis Date: **11/8/2019** SeqNo: **2203479** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	ND	0.0020								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Manganese	ND	0.0020								
Silver	ND	0.0050								
Zinc	ND	0.010								

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **C64376** RunNo: **64376**
Prep Date: Analysis Date: **11/8/2019** SeqNo: **2203481** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.52	0.0020	0.5000	0	103	85	115			
Chromium	0.51	0.0060	0.5000	0	101	85	115			
Copper	0.44	0.0060	0.5000	0	88.7	85	115			
Manganese	0.49	0.0020	0.5000	0	98.6	85	115			
Silver	0.099	0.0050	0.1000	0	99.1	85	115			
Zinc	0.53	0.010	0.5000	0	105	85	115			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **A64454** RunNo: **64454**
Prep Date: Analysis Date: **11/12/2019** SeqNo: **2206533** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Iron	ND	0.020								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **A64454** RunNo: **64454**
Prep Date: Analysis Date: **11/12/2019** SeqNo: **2206535** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.54	0.020	0.5000	0	108	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.9	85	115			
Calcium	48	1.0	50.00	0	96.9	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **A64454** RunNo: **64454**
Prep Date: Analysis Date: **11/12/2019** SeqNo: **2206535** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Iron	0.49	0.020	0.5000	0	97.5	85	115			
Magnesium	49	1.0	50.00	0	97.4	85	115			
Potassium	48	1.0	50.00	0	95.9	85	115			
Sodium	48	1.0	50.00	0	96.7	85	115			

Sample ID: **MB-A** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **A64544** RunNo: **64544**
Prep Date: Analysis Date: **11/15/2019** SeqNo: **2210119** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Cadmium	ND	0.0020								
Calcium	ND	1.0								
Chromium	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Magnesium	ND	1.0								
Manganese	ND	0.0020								
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: **A64544** RunNo: **64544**
Prep Date: Analysis Date: **11/15/2019** SeqNo: **2210121** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Barium	0.50	0.0020	0.5000	0	100	85	115			
Cadmium	0.51	0.0020	0.5000	0	101	85	115			
Calcium	51	1.0	50.00	0	102	85	115			
Chromium	0.50	0.0060	0.5000	0	99.0	85	115			
Copper	0.50	0.0060	0.5000	0	100	85	115			
Iron	0.50	0.020	0.5000	0	99.6	85	115			
Magnesium	50	1.0	50.00	0	99.4	85	115			
Manganese	0.49	0.0020	0.5000	0	97.7	85	115			
Potassium	50	1.0	50.00	0	99.7	85	115			
Silver	0.10	0.0050	0.1000	0	103	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**							
Client ID: **LCSW**	Batch ID: **A64544**	RunNo: **64544**							
Prep Date:	Analysis Date: **11/15/2019**	SeqNo: **2210121**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Sodium	50	1.0	50.00	0	99.7	85	115			
Zinc	0.49	0.010	0.5000	0	98.3	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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 range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **B64277** RunNo: **64277**
Prep Date: Analysis Date: **11/6/2019** SeqNo: **2199840** Units: **mg/L**

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

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **B64277** RunNo: **64277**
Prep Date: Analysis Date: **11/6/2019** SeqNo: **2199842** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	92.4	85	115			
Arsenic	0.024	0.0010	0.02500	0	96.9	85	115			
Lead	0.012	0.00050	0.01250	0	97.0	85	115			
Selenium	0.023	0.0010	0.02500	0	92.2	85	115			
Thallium	0.012	0.00050	0.01250	0	97.6	85	115			
Uranium	0.012	0.00050	0.01250	0	96.7	85	115			

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **B64306** RunNo: **64306**
Prep Date: Analysis Date: **11/7/2019** SeqNo: **2200820** Units: **mg/L**

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

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **B64306** RunNo: **64306**
Prep Date: Analysis Date: **11/7/2019** SeqNo: **2200822** 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			
Lead	0.012	0.00050	0.01250	0	99.6	85	115			
Thallium	0.012	0.00050	0.01250	0	98.7	85	115			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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 range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A64363**	RunNo: **64363**
Prep Date:	Analysis Date: **11/8/2019**	SeqNo: **2202693** Units: **mg/L**

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

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A64363**	RunNo: **64363**
Prep Date:	Analysis Date: **11/8/2019**	SeqNo: **2202695** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.024	0.0010	0.02500	0	94.2	85	115			
Selenium	0.023	0.0010	0.02500	0	91.8	85	115			
Uranium	0.012	0.00050	0.01250	0	93.7	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW** Batch ID: **R64108** RunNo: **64108**
Prep Date: Analysis Date: **10/30/2019** SeqNo: **2193571** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Nitrogen, Nitrite (As N)	ND	0.10								
Bromide	ND	0.10								
Nitrogen, Nitrate (As N)	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								

Sample ID: **LCS** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW** Batch ID: **R64108** RunNo: **64108**
Prep Date: Analysis Date: **10/30/2019** SeqNo: **2193572** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.54	0.10	0.5000	0	107	90	110			
Chloride	4.8	0.50	5.000	0	96.9	90	110			
Nitrogen, Nitrite (As N)	0.96	0.10	1.000	0	96.1	90	110			
Bromide	2.5	0.10	2.500	0	99.5	90	110			
Nitrogen, Nitrate (As N)	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P	4.8	0.50	5.000	0	96.5	90	110			
Sulfate	9.8	0.50	10.00	0	97.7	90	110			

Sample ID: **MB** SampType: **mblk** TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW** Batch ID: **R64189** RunNo: **64189**
Prep Date: Analysis Date: **11/1/2019** SeqNo: **2196512** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: **LCS** SampType: **lcs** TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW** Batch ID: **R64189** RunNo: **64189**
Prep Date: Analysis Date: **11/1/2019** SeqNo: **2196513** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.9	0.50	5.000	0	97.9	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL_W64154** RunNo: **64154**
Prep Date: Analysis Date: **11/1/2019** SeqNo: **2196634** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	101	70	130			
Toluene	19	1.0	20.00	0	93.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		101	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.3	70	130			
Surr: Toluene-d8	9.6		10.00		95.7	70	130			

Sample ID: **rb1** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL_W64154** RunNo: **64154**
Prep Date: Analysis Date: **11/1/2019** SeqNo: **2196635** 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								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-d4	11		10.00		105	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		100	70	130			
Surr: Dibromofluoromethane	10		10.00		100	70	130			
Surr: Toluene-d8	9.5		10.00		95.2	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **lcs-1 99.8uS eC**	SampType: **lcs**	TestCode: **SM2510B: Specific Conductance**							
Client ID: **LCSW**	Batch ID: **R64221**	RunNo: **64221**							
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2197668**	Units: **µmhos/cm**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	5.0	99.10	0	101	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**
19-Nov-19

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R64221**	RunNo: **64221**							
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2197718**	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: **R64221**	RunNo: **64221**							
Prep Date:	Analysis Date: **11/4/2019**	SeqNo: **2197719**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.80	20.00	80.00	0	98.5	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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 range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1910F07**

19-Nov-19

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **MB-48488** SampType: **MBLK** TestCode: **SM2540C MOD: Total Dissolved Solids**

Client ID: **PBW** Batch ID: **48488** RunNo: **64130**

Prep Date: **10/30/2019** Analysis Date: **10/31/2019** SeqNo: **2194444** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-48488** SampType: **LCS** TestCode: **SM2540C MOD: Total Dissolved Solids**

Client ID: **LCSW** Batch ID: **48488** RunNo: **64130**

Prep Date: **10/30/2019** Analysis Date: **10/31/2019** SeqNo: **2194445** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	80	120			

Sample ID: **MB-48529** SampType: **MBLK** TestCode: **SM2540C MOD: Total Dissolved Solids**

Client ID: **PBW** Batch ID: **48529** RunNo: **64202**

Prep Date: **11/1/2019** Analysis Date: **11/4/2019** SeqNo: **2196839** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-48529** SampType: **LCS** TestCode: **SM2540C MOD: Total Dissolved Solids**

Client ID: **LCSW** Batch ID: **48529** RunNo: **64202**

Prep Date: **11/1/2019** Analysis Date: **11/4/2019** SeqNo: **2196840** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: **Safety Env Solutions** Work Order Number: **1910F07** RcptNo: **1**

Received By: Juan Rojas **10/30/2019 9:00:00 AM**

Completed By: **Erin Melendrez** **10/30/2019 10:39:43 AM**

Reviewed By: ENM 10/30/19

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. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
10. Were any sample containers received broken? Yes ☐ No ☑
11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ 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 ☐

# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)
Adjusted? no
Checked by: YG 10/30/19

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	4.3	Good	Yes			
2	0.7	Good	Yes			

Chain-of-Custody Record

Client: Safety & Environmental Solutions

Mailing Address: 703 E. Clinton Hobbs NM

Phone #: 575-397-0510

email or Fax#:

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

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other ______

☐ EDD (Type) ______

Turn-Around Time: ☑ Standard ☐ Rush ______

Project Name: Williams Pit

Project #: YAT-04-001

Project Manager: Royer, Dave

Sampler: Josh [signature]

On Ice: ☑ Yes ☐ No

\# of Coolers: 2

Cooler Temp (including CF): 4.1+0.2=4.3 (°C) 0.5+0.2=0.7

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 1910F07	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	BTEX Naphthalene	WQCC Dis-Metals	Cations/Anions	TDS Balance	Lab pH
10/29	0915	H2O	MW-2	6	Ice	-001											X	X	X	X	X
10/29	0955	H2O	MW-1	6		-002											X	X	X	X	X
10/29	1045	H2O	MW-4	6		-003											X	X	X	X	X
10/29	1130	H2O	MW-3	6		-004											X	X	X	X	X
			Trip Blank			-005											X				

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
10/29	1500	[signature]	[signature]		10/29/19	1700
10/29/19	1900	[signature]	[signature]	carrier	10/30/19	9:00

Remarks:

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

July 23, 2021

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL:
FAX:

RE: Williams Pit OrderNo.: 2009B69

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/19/2020 for the analyses presented in the following report.

This report is a revised report and it replaces the original report issued October 23, 2020.

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 don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 9/18/2020 10:15:00 AM
Lab ID: 2009B69-001 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.020		mg/L	20	9/30/2020 3:55:15 PM	A72310
Arsenic	ND	0.020		mg/L	20	9/30/2020 3:55:15 PM	A72310
Lead	ND	0.010		mg/L	20	9/30/2020 3:55:15 PM	A72310
Selenium	0.022	0.020		mg/L	20	9/30/2020 3:55:15 PM	A72310
Thallium	ND	0.010		mg/L	20	9/30/2020 3:55:15 PM	A72310
Uranium	ND	0.010		mg/L	20	9/30/2020 3:55:15 PM	A72310
EPA METHOD 300.0: ANIONS						Analyst:	**JRR**
Fluoride	ND	0.50		mg/L	5	10/1/2020 2:24:56 AM	R72315
Chloride	4200	250		mg/L	500	10/2/2020 1:45:54 AM	A72346
Bromide	2.6	0.50		mg/L	5	10/1/2020 2:24:56 AM	R72315
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	10/1/2020 2:24:56 AM	R72315
Sulfate	2000	250		mg/L	500	10/2/2020 1:45:54 AM	A72346
Nitrate+Nitrite as N	ND	4.0		mg/L	20	10/2/2020 3:49:19 AM	A72346
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	18000	50		µmhos/c	5	9/25/2020 8:07:18 AM	R72166
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	224.1	20.00		mg/L Ca	1	9/24/2020 10:11:31 AM	R72131
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/24/2020 10:11:31 AM	R72131
Total Alkalinity (as CaCO3)	224.1	20.00		mg/L Ca	1	9/24/2020 10:11:31 AM	R72131
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	10400	100	*D	mg/L	1	9/24/2020 6:32:00 PM	55385
SM4500-H+B / 9040C: PH						Analyst:	**JRR**
pH	7.13		H	pH units	1	9/24/2020 10:11:31 AM	R72131
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ags**
Aluminum	ND	0.10		mg/L	5	10/7/2020 7:07:56 PM	B72487
Barium	0.015	0.010		mg/L	5	10/7/2020 7:07:56 PM	B72487
Beryllium	ND	0.010		mg/L	5	10/7/2020 7:07:56 PM	B72487
Boron	0.21	0.20		mg/L	5	10/7/2020 7:07:56 PM	B72487
Cadmium	ND	0.010		mg/L	5	10/7/2020 7:07:56 PM	B72487
Calcium	860	50		mg/L	50	10/5/2020 5:36:33 PM	A72400
Chromium	ND	0.030		mg/L	5	10/7/2020 7:07:56 PM	B72487
Cobalt	ND	0.030		mg/L	5	10/7/2020 7:07:56 PM	B72487
Copper	ND	0.030		mg/L	5	10/7/2020 7:07:56 PM	B72487
Iron	ND	0.10		mg/L	5	10/7/2020 7:07:56 PM	B72487
Magnesium	330	5.0		mg/L	5	10/5/2020 5:34:40 PM	A72400
Manganese	0.72	0.010	*	mg/L	5	10/7/2020 7:07:56 PM	B72487

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 9/18/2020 10:15:00 AM
Lab ID: 2009B69-001 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ags**	
Molybdenum	ND	0.040		mg/L	5	10/7/2020 7:07:56 PM	B72487
Nickel	ND	0.050		mg/L	5	10/7/2020 7:07:56 PM	B72487
Potassium	11	1.0		mg/L	1	9/29/2020 7:03:28 PM	B72345
Silver	ND	0.025		mg/L	5	10/7/2020 7:07:56 PM	B72487
Sodium	2400	50		mg/L	50	10/5/2020 5:36:33 PM	A72400
Zinc	ND	0.050		mg/L	5	10/7/2020 7:07:56 PM	B72487
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/24/2020 9:50:51 PM	A72134
Toluene	ND	1.0		µg/L	1	9/24/2020 9:50:51 PM	A72134
Ethylbenzene	ND	1.0		µg/L	1	9/24/2020 9:50:51 PM	A72134
Naphthalene	ND	2.0		µg/L	1	9/24/2020 9:50:51 PM	A72134
1-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2020 9:50:51 PM	A72134
2-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2020 9:50:51 PM	A72134
Xylenes, Total	ND	1.5		µg/L	1	9/24/2020 9:50:51 PM	A72134
Surr: 1,2-Dichloroethane-d4	88.3	70-130		%Rec	1	9/24/2020 9:50:51 PM	A72134
Surr: 4-Bromofluorobenzene	105	70-130		%Rec	1	9/24/2020 9:50:51 PM	A72134
Surr: Dibromofluoromethane	108	70-130		%Rec	1	9/24/2020 9:50:51 PM	A72134
Surr: Toluene-d8	96.3	70-130		%Rec	1	9/24/2020 9:50:51 PM	A72134

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 9/18/2020 10:45:00 AM
Lab ID: 2009B69-002 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.020		mg/L	20	9/30/2020 3:57:51 PM	A72310
Arsenic	ND	0.020		mg/L	20	9/30/2020 3:57:51 PM	A72310
Lead	ND	0.010		mg/L	20	9/30/2020 3:57:51 PM	A72310
Selenium	ND	0.020		mg/L	20	9/30/2020 3:57:51 PM	A72310
Thallium	ND	0.010		mg/L	20	9/30/2020 3:57:51 PM	A72310
Uranium	ND	0.010		mg/L	20	9/30/2020 3:57:51 PM	A72310
EPA METHOD 300.0: ANIONS						Analyst:	**JRR**
Fluoride	0.55	0.50		mg/L	5	10/1/2020 2:49:46 AM	R72315
Chloride	960	50		mg/L	100	10/2/2020 1:58:15 AM	A72346
Bromide	1.4	0.50		mg/L	5	10/1/2020 2:49:46 AM	R72315
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	10/1/2020 2:49:46 AM	R72315
Sulfate	2100	50		mg/L	100	10/2/2020 1:58:15 AM	A72346
Nitrate+Nitrite as N	2.3	1.0		mg/L	5	10/1/2020 5:31:04 AM	R72315
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	6100	10		µmhos/c	1	9/25/2020 8:10:16 AM	R72166
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	202.4	20.00		mg/L Ca	1	9/24/2020 10:37:56 AM	R72131
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/24/2020 10:37:56 AM	R72131
Total Alkalinity (as CaCO3)	202.4	20.00		mg/L Ca	1	9/24/2020 10:37:56 AM	R72131
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	5110	100	*D	mg/L	1	9/24/2020 6:32:00 PM	55385
SM4500-H+B / 9040C: PH						Analyst:	**JRR**
pH	7.23		H	pH units	1	9/24/2020 10:37:56 AM	R72131
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ags**
Aluminum	ND	0.10		mg/L	5	10/7/2020 7:21:10 PM	B72487
Barium	0.011	0.010		mg/L	5	10/7/2020 7:21:10 PM	B72487
Beryllium	ND	0.010		mg/L	5	10/5/2020 5:38:23 PM	A72400
Boron	ND	0.20		mg/L	5	10/7/2020 7:21:10 PM	B72487
Cadmium	ND	0.010		mg/L	5	10/7/2020 7:21:10 PM	B72487
Calcium	820	50		mg/L	50	10/5/2020 5:40:14 PM	A72400
Chromium	ND	0.030		mg/L	5	10/7/2020 7:21:10 PM	B72487
Cobalt	ND	0.030		mg/L	5	10/7/2020 7:21:10 PM	B72487
Copper	ND	0.030		mg/L	5	10/7/2020 7:21:10 PM	B72487
Iron	ND	0.10		mg/L	5	10/7/2020 7:21:10 PM	B72487
Magnesium	280	5.0		mg/L	5	10/5/2020 5:38:23 PM	A72400
Manganese	ND	0.010		mg/L	5	10/7/2020 7:21:10 PM	B72487

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 9/18/2020 10:45:00 AM
Lab ID: 2009B69-002 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ags**	
Molybdenum	ND	0.040		mg/L	5	10/7/2020 7:21:10 PM	B72487
Nickel	ND	0.050		mg/L	5	10/7/2020 7:21:10 PM	B72487
Potassium	ND	5.0		mg/L	5	10/5/2020 5:38:23 PM	A72400
Silver	ND	0.025		mg/L	5	10/7/2020 7:21:10 PM	B72487
Sodium	420	5.0		mg/L	5	10/5/2020 5:38:23 PM	A72400
Zinc	ND	0.050		mg/L	5	10/7/2020 7:21:10 PM	B72487
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/24/2020 10:19:25 PM	A72134
Toluene	ND	1.0		µg/L	1	9/24/2020 10:19:25 PM	A72134
Ethylbenzene	ND	1.0		µg/L	1	9/24/2020 10:19:25 PM	A72134
Naphthalene	ND	2.0		µg/L	1	9/24/2020 10:19:25 PM	A72134
1-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2020 10:19:25 PM	A72134
2-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2020 10:19:25 PM	A72134
Xylenes, Total	ND	1.5		µg/L	1	9/24/2020 10:19:25 PM	A72134
Surr: 1,2-Dichloroethane-d4	93.1	70-130		%Rec	1	9/24/2020 10:19:25 PM	A72134
Surr: 4-Bromofluorobenzene	101	70-130		%Rec	1	9/24/2020 10:19:25 PM	A72134
Surr: Dibromofluoromethane	109	70-130		%Rec	1	9/24/2020 10:19:25 PM	A72134
Surr: Toluene-d8	97.8	70-130		%Rec	1	9/24/2020 10:19:25 PM	A72134

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 9/18/2020 11:30:00 AM
Lab ID: 2009B69-003 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.020		mg/L	20	9/30/2020 4:00:27 PM	A72310
Arsenic	ND	0.020		mg/L	20	9/30/2020 4:00:27 PM	A72310
Lead	ND	0.010		mg/L	20	9/30/2020 4:00:27 PM	A72310
Selenium	ND	0.020		mg/L	20	9/30/2020 4:00:27 PM	A72310
Thallium	ND	0.010		mg/L	20	9/30/2020 4:00:27 PM	A72310
Uranium	ND	0.010		mg/L	20	9/30/2020 4:00:27 PM	A72310
EPA METHOD 300.0: ANIONS						Analyst:	**JRR**
Fluoride	ND	0.50		mg/L	5	10/1/2020 3:14:35 AM	R72315
Chloride	3500	250		mg/L	500	10/2/2020 2:10:36 AM	A72346
Bromide	2.5	0.50		mg/L	5	10/1/2020 3:14:35 AM	R72315
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	10/1/2020 3:14:35 AM	R72315
Sulfate	2000	250		mg/L	500	10/2/2020 2:10:36 AM	A72346
Nitrate+Nitrite as N	ND	4.0		mg/L	20	10/2/2020 4:01:40 AM	A72346
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	15000	50		µmhos/c	5	9/25/2020 8:13:16 AM	R72166
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	225.0	20.00		mg/L Ca	1	9/24/2020 10:49:46 AM	R72131
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/24/2020 10:49:46 AM	R72131
Total Alkalinity (as CaCO3)	225.0	20.00		mg/L Ca	1	9/24/2020 10:49:46 AM	R72131
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	9000	100	*D	mg/L	1	9/24/2020 6:32:00 PM	55385
SM4500-H+B / 9040C: PH						Analyst:	**JRR**
pH	7.20		H	pH units	1	9/24/2020 10:49:46 AM	R72131
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ags**
Aluminum	ND	0.10		mg/L	5	10/7/2020 7:28:45 PM	B72487
Barium	0.017	0.010		mg/L	5	10/7/2020 7:28:45 PM	B72487
Beryllium	ND	0.010		mg/L	5	10/5/2020 5:42:04 PM	A72400
Boron	0.24	0.20		mg/L	5	10/7/2020 7:28:45 PM	B72487
Cadmium	ND	0.010		mg/L	5	10/7/2020 7:28:45 PM	B72487
Calcium	790	50		mg/L	50	10/5/2020 5:43:54 PM	A72400
Chromium	ND	0.030		mg/L	5	10/7/2020 7:28:45 PM	B72487
Cobalt	ND	0.030		mg/L	5	10/7/2020 7:28:45 PM	B72487
Copper	ND	0.030		mg/L	5	10/7/2020 7:28:45 PM	B72487
Iron	ND	0.10		mg/L	5	10/7/2020 7:28:45 PM	B72487
Magnesium	320	5.0		mg/L	5	10/5/2020 5:42:04 PM	A72400
Manganese	0.029	0.010		mg/L	5	10/7/2020 7:28:45 PM	B72487

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 9/18/2020 11:30:00 AM
Lab ID: 2009B69-003 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ags**	
Molybdenum	ND	0.040		mg/L	5	10/7/2020 7:28:45 PM	B72487
Nickel	ND	0.050		mg/L	5	10/7/2020 7:28:45 PM	B72487
Potassium	16	5.0		mg/L	5	10/5/2020 5:42:04 PM	A72400
Silver	ND	0.025		mg/L	5	10/7/2020 7:28:45 PM	B72487
Sodium	2100	50		mg/L	50	10/5/2020 5:43:54 PM	A72400
Zinc	ND	0.050		mg/L	5	10/7/2020 7:28:45 PM	B72487
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/24/2020 10:48:03 PM	A72134
Toluene	ND	1.0		µg/L	1	9/24/2020 10:48:03 PM	A72134
Ethylbenzene	ND	1.0		µg/L	1	9/24/2020 10:48:03 PM	A72134
Naphthalene	ND	2.0		µg/L	1	9/24/2020 10:48:03 PM	A72134
1-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2020 10:48:03 PM	A72134
2-Methylnaphthalene	ND	4.0		µg/L	1	9/24/2020 10:48:03 PM	A72134
Xylenes, Total	ND	1.5		µg/L	1	9/24/2020 10:48:03 PM	A72134
Surr: 1,2-Dichloroethane-d4	90.8	70-130		%Rec	1	9/24/2020 10:48:03 PM	A72134
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	9/24/2020 10:48:03 PM	A72134
Surr: Dibromofluoromethane	110	70-130		%Rec	1	9/24/2020 10:48:03 PM	A72134
Surr: Toluene-d8	93.6	70-130		%Rec	1	9/24/2020 10:48:03 PM	A72134

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 9/18/2020 12:10:00 PM
Lab ID: 2009B69-004 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.020		mg/L	20	9/30/2020 4:03:03 PM	A72310
Arsenic	ND	0.020		mg/L	20	9/30/2020 4:03:03 PM	A72310
Lead	ND	0.010		mg/L	20	9/30/2020 4:03:03 PM	A72310
Selenium	ND	0.020		mg/L	20	9/30/2020 4:03:03 PM	A72310
Thallium	ND	0.010		mg/L	20	9/30/2020 4:03:03 PM	A72310
Uranium	ND	0.010		mg/L	20	9/30/2020 4:03:03 PM	A72310
EPA METHOD 300.0: ANIONS						Analyst:	**JRR**
Fluoride	ND	2.0		mg/L	20	10/1/2020 4:16:37 AM	R72315
Chloride	13000	500		mg/L	1E+	10/2/2020 2:22:56 AM	A72346
Bromide	5.2	2.0		mg/L	20	10/1/2020 4:16:37 AM	R72315
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	10/1/2020 4:16:37 AM	R72315
Sulfate	2100	50		mg/L	100	10/2/2020 2:35:17 AM	A72346
Nitrate+Nitrite as N	ND	10		mg/L	50	10/2/2020 4:14:01 AM	A72346
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**JRR**
Conductivity	42000	50		µmhos/c	5	9/25/2020 8:16:17 AM	R72166
SM2320B: ALKALINITY						Analyst:	**JRR**
Bicarbonate (As CaCO3)	218.2	20.00		mg/L Ca	1	9/24/2020 11:02:44 AM	R72131
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	9/24/2020 11:02:44 AM	R72131
Total Alkalinity (as CaCO3)	218.2	20.00		mg/L Ca	1	9/24/2020 11:02:44 AM	R72131
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**KS**
Total Dissolved Solids	25000	100	*D	mg/L	1	9/24/2020 6:32:00 PM	55385
SM4500-H+B / 9040C: PH						Analyst:	**JRR**
pH	7.12		H	pH units	1	9/24/2020 11:02:44 AM	R72131
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ags**
Aluminum	ND	0.10		mg/L	5	10/7/2020 7:32:28 PM	B72487
Barium	0.032	0.010		mg/L	5	10/7/2020 7:32:28 PM	B72487
Beryllium	ND	0.010		mg/L	5	10/5/2020 5:45:44 PM	A72400
Boron	ND	0.20		mg/L	5	10/7/2020 7:32:28 PM	B72487
Cadmium	ND	0.010		mg/L	5	10/7/2020 7:32:28 PM	B72487
Calcium	1600	50		mg/L	50	10/5/2020 5:47:35 PM	A72400
Chromium	ND	0.030		mg/L	5	10/7/2020 7:32:28 PM	B72487
Cobalt	ND	0.030		mg/L	5	10/7/2020 7:32:28 PM	B72487
Copper	ND	0.030		mg/L	5	10/7/2020 7:32:28 PM	B72487
Iron	ND	0.10		mg/L	5	10/7/2020 7:32:28 PM	B72487
Magnesium	520	50		mg/L	50	10/5/2020 5:47:35 PM	A72400
Manganese	ND	0.010		mg/L	5	10/7/2020 7:32:28 PM	B72487

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2009B69**
Date Reported: **7/23/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 9/18/2020 12:10:00 PM
Lab ID: 2009B69-004 **Matrix:** AQUEOUS **Received Date:** 9/19/2020 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ags**	
Molybdenum	ND	0.040		mg/L	5	10/7/2020 7:32:28 PM	B72487
Nickel	ND	0.050		mg/L	5	10/7/2020 7:32:28 PM	B72487
Potassium	9.9	5.0		mg/L	5	10/5/2020 5:45:44 PM	A72400
Silver	ND	0.025		mg/L	5	10/7/2020 7:32:28 PM	B72487
Sodium	5800	100		mg/L	100	10/7/2020 7:36:12 PM	B72487
Zinc	ND	0.050		mg/L	5	10/7/2020 7:32:28 PM	B72487
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **DJF**	
Benzene	ND	1.0		µg/L	1	9/25/2020 12:18:10 PM	SL72167
Toluene	ND	1.0		µg/L	1	9/25/2020 12:18:10 PM	SL72167
Ethylbenzene	ND	1.0		µg/L	1	9/25/2020 12:18:10 PM	SL72167
Naphthalene	ND	2.0		µg/L	1	9/25/2020 12:18:10 PM	SL72167
1-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2020 12:18:10 PM	SL72167
2-Methylnaphthalene	ND	4.0		µg/L	1	9/25/2020 12:18:10 PM	SL72167
Xylenes, Total	ND	1.5		µg/L	1	9/25/2020 12:18:10 PM	SL72167
Surr: 1,2-Dichloroethane-d4	87.9	70-130		%Rec	1	9/25/2020 12:18:10 PM	SL72167
Surr: 4-Bromofluorobenzene	102	70-130		%Rec	1	9/25/2020 12:18:10 PM	SL72167
Surr: Dibromofluoromethane	105	70-130		%Rec	1	9/25/2020 12:18:10 PM	SL72167
Surr: Toluene-d8	92.8	70-130		%Rec	1	9/25/2020 12:18:10 PM	SL72167

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

Qualifiers:

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D	Sample Diluted Due to Matrix	E	Value above quantitation range
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 range due to dilution or matrix		

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	MW-2		MW-1		MW-4		MW-3					
HEAL LAB NUMBER	2009B69-001		2009B69-002		2009B69-003		2009B69-004					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	2400	104.39	420	18.27	2100	91.34	5800	252.28				
Potassium	11	0.28			16	0.41	9.9	0.25				
Calcium	860	42.91	820	40.92	790	39.42	1600	79.84				
Magnesium	330	27.16	280	23.05	320	26.34	520	42.80				
Total Cations		174.75		82.23		157.51		375.18				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2000	41.64	2100	43.72	2000	41.64	2100	43.72				
Chloride	4200	118.48	960	27.08	3500	98.73	13000	366.71				
Bicarbonate (CaCO3)	224.1	4.48	202.4	4.04	225.0	4.50	218.2	4.36				
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)			2.3	0.16	-							
Fluoride			0.55	0.03								
Bromide	2.6	0.03	1.4	0.02	2.5	0.03	5.2	0.07				
Total Anions		164.63		75.06		144.90		414.86				
Elect. Cond. (µMhos/cm)	18000		6100		15000		42000					
CATION/ANION RATIO		1.06		1.10		1.09		0.90				
% Difference		3		5		4		5				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	10400		5110		9000		25000					
TDS (calculated)	9938		4714		8864		23166					
Ratio meas TDS:calc TDS		1.0		1.1		1.0		1.1				
Ratio Meas. TDS:EC		0.58		0.84		0.60		0.60				
Ratio Calc. TDS:EC		0.55		0.77		0.59		0.55				
Ratio of anion sum:EC		0.9		1.2		1.0		1.0				
Ratio of cation sum:EC		1.0		1.3		1.1		0.9				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B72345**	RunNo: **72345**
Prep Date:	Analysis Date: **9/29/2020**	SeqNo: **2537343** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	ND	1.0								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B72345**	RunNo: **72345**
Prep Date:	Analysis Date: **9/29/2020**	SeqNo: **2537345** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Potassium	48	1.0	50.00	0	95.9	85	115			

Sample ID: **MB-A**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A72400**	RunNo: **72400**
Prep Date:	Analysis Date: **10/5/2020**	SeqNo: **2539624** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	ND	0.0020								
Calcium	ND	1.0								
Magnesium	ND	1.0								
Potassium	ND	1.0								
Sodium	ND	1.0								

Sample ID: **LCS-A**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A72400**	RunNo: **72400**
Prep Date:	Analysis Date: **10/5/2020**	SeqNo: **2539626** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Beryllium	0.49	0.0020	0.5000	0	98.1	85	115			
Calcium	50	1.0	50.00	0	99.6	85	115			
Magnesium	50	1.0	50.00	0	100	85	115			
Potassium	49	1.0	50.00	0	98.6	85	115			
Sodium	50	1.0	50.00	0	99.9	85	115			

Sample ID: **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B72487**	RunNo: **72487**
Prep Date:	Analysis Date: **10/7/2020**	SeqNo: **2543978** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
Beryllium	ND	0.0020								
Boron	ND	0.040								

Qualifiers:

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H	Holding times for preparation or analysis exceeded
ND	Not Detected at the Reporting Limit
PQL	Practical Quanitative Limit
S	% Recovery outside of range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-B** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **B72487** RunNo: **72487**
Prep Date: Analysis Date: **10/7/2020** SeqNo: **2543978** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Cadmium	ND	0.0020								
Chromium	ND	0.0060								
Cobalt	ND	0.0060								
Copper	ND	0.0060								
Iron	ND	0.020								
Manganese	ND	0.0020								
Molybdenum	ND	0.0080								
Nickel	ND	0.010								
Silver	ND	0.0050								
Sodium	ND	1.0								
Zinc	ND	0.010								

Sample ID: **LCS-B** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **B72487** RunNo: **72487**
Prep Date: Analysis Date: **10/7/2020** SeqNo: **2543980** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.48	0.020	0.5000	0	95.8	85	115			
Barium	0.49	0.0020	0.5000	0	98.5	85	115			
Beryllium	0.48	0.0020	0.5000	0	96.8	85	115			
Boron	0.51	0.040	0.5000	0	101	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.3	85	115			
Chromium	0.46	0.0060	0.5000	0	92.5	85	115			
Cobalt	0.47	0.0060	0.5000	0	94.3	85	115			
Copper	0.47	0.0060	0.5000	0	93.1	85	115			
Iron	0.48	0.020	0.5000	0	96.9	85	115			
Manganese	0.48	0.0020	0.5000	0	96.3	85	115			
Molybdenum	0.50	0.0080	0.5000	0	101	85	115			
Nickel	0.46	0.010	0.5000	0	91.4	85	115			
Silver	0.094	0.0050	0.1000	0	94.2	85	115			
Sodium	50	1.0	50.00	0	100	85	115			
Zinc	0.50	0.010	0.5000	0	100	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW** Batch ID: **A72310** RunNo: **72310**
Prep Date: Analysis Date: **9/30/2020** SeqNo: **2535723** Units: **mg/L**

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

Sample ID: **LCS** SampType: **LCS** TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW** Batch ID: **A72310** RunNo: **72310**
Prep Date: Analysis Date: **9/30/2020** SeqNo: **2535725** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.022	0.0010	0.02500	0	88.0	85	115			
Arsenic	0.024	0.0010	0.02500	0	95.7	85	115			
Lead	0.011	0.00050	0.01250	0	91.2	85	115			
Selenium	0.023	0.0010	0.02500	0	91.9	85	115			
Thallium	0.012	0.00050	0.01250	0	92.4	85	115			
Uranium	0.011	0.00050	0.01250	0	88.0	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R72315**	RunNo: **72315**							
Prep Date:	Analysis Date: **9/30/2020**	SeqNo: **2536282**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R72315**	RunNo: **72315**							
Prep Date:	Analysis Date: **9/30/2020**	SeqNo: **2536283**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.6	90	110			
Bromide	2.3	0.10	2.500	0	93.6	90	110			
Phosphorus, Orthophosphate (As P	4.6	0.50	5.000	0	91.3	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	93.7	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **A72346**	RunNo: **72346**							
Prep Date:	Analysis Date: **10/1/2020**	SeqNo: **2537511**	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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **A72346**	RunNo: **72346**							
Prep Date:	Analysis Date: **10/1/2020**	SeqNo: **2537512**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.5	0.50	5.000	0	90.5	90	110			
Sulfate	9.0	0.50	10.00	0	90.3	90	110			
Nitrate+Nitrite as N	3.3	0.20	3.500	0	93.8	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **A72134** RunNo: **72134**
Prep Date: Analysis Date: **9/24/2020** SeqNo: **2528415** 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	8.7		10.00		87.1	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	11		10.00		107	70	130			
Surr: Toluene-d8	9.5		10.00		95.0	70	130			

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **A72134** RunNo: **72134**
Prep Date: Analysis Date: **9/24/2020** SeqNo: **2528416** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.8	70	130			
Toluene	19	1.0	20.00	0	95.7	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.8	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		103	70	130			
Surr: Dibromofluoromethane	11		10.00		106	70	130			
Surr: Toluene-d8	9.5		10.00		95.2	70	130			

Sample ID: **mb** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL72167** RunNo: **72167**
Prep Date: Analysis Date: **9/25/2020** SeqNo: **2529644** 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	9.3		10.00		92.6	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	11		10.00		108	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **100ng lcs** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL72167** RunNo: **72167**
Prep Date: Analysis Date: **9/25/2020** SeqNo: **2529645** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.1	70	130			
Toluene	21	1.0	20.00	0	105	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		89.6	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		105	70	130			
Surr: Dibromofluoromethane	9.8		10.00		98.1	70	130			
Surr: Toluene-d8	9.8		10.00		98.0	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **lcs-1 99.2uS eC**	SampType: **lcs**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R72166**	RunNo: **72166**
Prep Date:	Analysis Date: **9/25/2020**	SeqNo: **2529530** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	98	10	99.20	0	98.8	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R72131**	RunNo: **72131**							
Prep Date:	Analysis Date: **9/24/2020**	SeqNo: **2527980**	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: **R72131**	RunNo: **72131**							
Prep Date:	Analysis Date: **9/24/2020**	SeqNo: **2527981**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	76.44	20.00	80.00	0	95.6	90	110			

Sample ID: **mb-2 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R72131**	RunNo: **72131**							
Prep Date:	Analysis Date: **9/24/2020**	SeqNo: **2528003**	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 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R72131**	RunNo: **72131**							
Prep Date:	Analysis Date: **9/24/2020**	SeqNo: **2528004**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.80	20.00	80.00	0	97.3	90	110			

Sample ID: **mb-3 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R72131**	RunNo: **72131**							
Prep Date:	Analysis Date: **9/24/2020**	SeqNo: **2528026**	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-3 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R72131**	RunNo: **72131**							
Prep Date:	Analysis Date: **9/24/2020**	SeqNo: **2528027**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.52	20.00	80.00	0	96.9	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2009B69**
23-Jul-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-55385**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **PBW**	Batch ID: **55385**	RunNo: **72123**							
Prep Date: **9/23/2020**	Analysis Date: **9/24/2020**	SeqNo: **2527546**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-55385**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **LCSW**	Batch ID: **55385**	RunNo: **72123**							
Prep Date: **9/23/2020**	Analysis Date: **9/24/2020**	SeqNo: **2527547**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1010	20.0	1000	0	101	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Safety & Environmental Solutions** Work Order Number: **2009B69** RcptNo: **1**

Received By: **Emily Mocho** **9/19/2020 7:30:00 AM**

Completed By: **Emily Mocho** **9/19/2020 9:08:57 AM**

Reviewed By: CM 9/19/20

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: 3 (<2 or >12 unless noted)
    Adjusted? NO
12. Are matrices correctly identified on Chain of Custody? Yes ☑ 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: JR 9/19/20

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	0.0	Good	Not Present			

Chain-of-Custody Record

Client: Safety + Environmental Solutions

Mailing Address: 703 E Clinton Hobbs N.M 88240

Phone #: 575-397-0510

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: 5 day
☒ Standard ☐ Rush

Project Name: EOG (YATES) Williams Pit

Project #: YAT-04-001

Project Manager: Boyer, Ande

Sampler: Josh Jump

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.1 - 0.1 = 0.0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2009B69	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	BTEX, MTBE, TMB's	Chloride, Anions	TDS Balance	Lab pH	Sp. Cond.
09/18	1015	H2O	MW-2	6		001											X	X	X	X	X
09/18	1045	H2O	MW-1	6		002											X	X	X	X	X
09/18	1130	H2O	MW-4	6		003											X	X	X	X	X
09/18	1210	H2O	MW-3	6		004											X	X	X	X	X

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
09/18	1530	Josh Jump			9/18/2016	
9/18/20	1900		EM	courier	9/19/20	7:30

Remarks:

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

May 27, 2021

Dave Boyer

Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 397-0510
FAX (575) 393-4388

RE: Williams Pit Site OrderNo.: 2105804

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 2 sample(s) on 5/19/2021 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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

Analytical Report
Lab Order **2105804**
Date Reported: **5/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: WT1-N 4'
Project: Williams Pit Site
Collection Date: 5/13/2021 8:39:00 AM
Lab ID: 2105804-001 **Matrix:** SOIL **Received Date:** 5/19/2021 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	2600	150		mg/Kg	50	5/24/2021 5:18:55 PM	60211
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	9300	950		mg/Kg	100	5/21/2021 1:39:50 PM	60165
Motor Oil Range Organics (MRO)	6300	4800		mg/Kg	100	5/21/2021 1:39:50 PM	60165
Surr: DNOP	0	70-130	S	%Rec	100	5/21/2021 1:39:50 PM	60165
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	150	24		mg/Kg	5	5/21/2021 9:04:38 AM	60139
Surr: BFB	280	70-130	S	%Rec	5	5/21/2021 9:04:38 AM	60139
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	0.13	0.12		mg/Kg	5	5/21/2021 9:04:38 AM	60139
Toluene	ND	0.24		mg/Kg	5	5/21/2021 9:04:38 AM	60139
Ethylbenzene	3.5	0.24		mg/Kg	5	5/21/2021 9:04:38 AM	60139
Xylenes, Total	7.6	0.49		mg/Kg	5	5/21/2021 9:04:38 AM	60139
Surr: 4-Bromofluorobenzene	139	70-130	S	%Rec	5	5/21/2021 9:04:38 AM	60139

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2105804**
Date Reported: **5/27/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: WT1-N 8'
Project: Williams Pit Site
Collection Date: 5/13/2021 8:44:00 AM
Lab ID: 2105804-002 **Matrix:** SOIL **Received Date:** 5/19/2021 7:28:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	3500	150		mg/Kg	50	5/24/2021 5:31:20 PM	60211
EPA METHOD 8015M/D: DIESEL RANGE ORGANICS						Analyst: **mb**	
Diesel Range Organics (DRO)	8100	88		mg/Kg	10	5/21/2021 3:27:17 PM	60165
Motor Oil Range Organics (MRO)	5500	440		mg/Kg	10	5/21/2021 3:27:17 PM	60165
Surr: DNOP	0	70-130	S	%Rec	10	5/21/2021 3:27:17 PM	60165
EPA METHOD 8015D: GASOLINE RANGE						Analyst: **NSB**	
Gasoline Range Organics (GRO)	520	94		mg/Kg	20	5/20/2021 8:00:53 PM	60139
Surr: BFB	188	70-130	S	%Rec	20	5/20/2021 8:00:53 PM	60139
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**	
Benzene	2.2	0.47		mg/Kg	20	5/20/2021 8:00:53 PM	60139
Toluene	0.90	0.47		mg/Kg	20	5/20/2021 8:00:53 PM	60139
Ethylbenzene	24	0.94		mg/Kg	20	5/20/2021 8:00:53 PM	60139
Xylenes, Total	41	1.9		mg/Kg	20	5/20/2021 8:00:53 PM	60139
Surr: 4-Bromofluorobenzene	125	70-130		%Rec	20	5/20/2021 8:00:53 PM	60139

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	Value above quantitation range
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 range due to dilution or matrix		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105804**

27-May-21

Client: Safety & Environmental Solutions

Project: Williams Pit Site

Sample ID: **MB-60211**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **60211**	RunNo: **77619**							
Prep Date: **5/24/2021**	Analysis Date: **5/24/2021**	SeqNo: **2755203**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-60211**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **60211**	RunNo: **77619**							
Prep Date: **5/24/2021**	Analysis Date: **5/24/2021**	SeqNo: **2755204**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	93.7	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105804**

27-May-21

Client: Safety & Environmental Solutions

Project: Williams Pit Site

Sample ID: **MB-60165**	SampType: **MBLK**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **PBS**	Batch ID: **60165**	RunNo: **77563**
Prep Date: **5/20/2021**	Analysis Date: **5/21/2021**	SeqNo: **2753501** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	14		10.00		138	70	130			S

Sample ID: **LCS-60165**	SampType: **LCS**	TestCode: **EPA Method 8015M/D: Diesel Range Organics**
Client ID: **LCSS**	Batch ID: **60165**	RunNo: **77604**
Prep Date: **5/20/2021**	Analysis Date: **5/22/2021**	SeqNo: **2754505** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	59	10	50.00	0	118	68.9	141			
Surr: DNOP	5.9		5.000		118	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105804**

27-May-21

Client: Safety & Environmental Solutions

Project: Williams Pit Site

Sample ID: **mb-60139**	SampType: **MBLK**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **PBS**	Batch ID: **60139**	RunNo: **77537**
Prep Date: **5/19/2021**	Analysis Date: **5/20/2021**	SeqNo: **2752224** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	990		1000		99.2	70	130			

Sample ID: **lcs-60139**	SampType: **LCS**	TestCode: **EPA Method 8015D: Gasoline Range**
Client ID: **LCSS**	Batch ID: **60139**	RunNo: **77537**
Prep Date: **5/19/2021**	Analysis Date: **5/20/2021**	SeqNo: **2752225** Units: **mg/Kg**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	25	5.0	25.00	0	98.6	78.6	131			
Surr: BFB	1100		1000		110	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2105804**

27-May-21

Client: Safety & Environmental Solutions

Project: Williams Pit Site

Sample ID: **mb-60139**	SampType: **MBLK**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **PBS**	Batch ID: **60139**	RunNo: **77537**							
Prep Date: **5/19/2021**	Analysis Date: **5/20/2021**	SeqNo: **2752268**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	1.1		1.000		109	70	130			

Sample ID: **LCS-60139**	SampType: **LCS**	TestCode: **EPA Method 8021B: Volatiles**							
Client ID: **LCSS**	Batch ID: **60139**	RunNo: **77537**							
Prep Date: **5/19/2021**	Analysis Date: **5/20/2021**	SeqNo: **2752269**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	0.93	0.025	1.000	0	92.6	80	120			
Toluene	0.96	0.050	1.000	0	95.7	80	120			
Ethylbenzene	0.95	0.050	1.000	0	95.1	80	120			
Xylenes, Total	2.9	0.10	3.000	0	95.5	80	120			
Surr: 4-Bromofluorobenzene	1.1		1.000		107	70	130			

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Safety & Environmental Solutions** Work Order Number: **2105804** RcptNo: 1

Received By: **Juan Rojas** **5/19/2021 7:28:00 AM**

Completed By: **Cheyenne Cason** **5/19/2021 8:42:44 AM**

Reviewed By: ENM 5/19/21

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 ☑

JO 5/19/21

11. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ 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 ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by:

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	0.0	Good				

Chain-of-Custody Record

Client: Safety & ENV. Solution

Mailing Address: P.O. Box 1613 Wobbs 88241

Phone #: (575) 390-7067

email or Fax#: dyboyer@sesi-NM.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush

Project Name: Williams Pit Site

Project #: YAT-04-001

Project Manager: Dave Boyer SESI Chase_Settle-EOG

Sampler: David Boyer

On Ice: ~~☐ Yes~~ ☐ No

# of Coolers: 1

Cooler Temp(including CF): 0.2-0.2=0 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date (2021)	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2105804	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chlorides
5/13	0839	Soil	WT1-N 4'	1 glass	Cool	001	X	X									X
5/13	0844	Soil	WT1-N 8'	1 glass	Cool	002	X	X									X

Date	Time	Relinquished by	Received by	Via	Date	Time
5/18/21	1415				5/18/21	1450
5/18/21	1900			Courier	5/19/21	7:25

Remarks: Invoice To: Chase_Settle@eogresources.com

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

June 14, 2021

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL:
FAX

RE: Williams Pit OrderNo.: 2106329

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 10 sample(s) on 6/7/2021 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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

Analytical Report
Lab Order: **2106329**
Date Reported: **6/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions **Lab Order:** 2106329
Project: Williams Pit

Lab ID: 2106329-001 **Collection Date:** 5/13/2021 8:53:00 AM
Client Sample ID: WT1, N+50', 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	6/9/2021 7:01:15 PM	60519

Lab ID: 2106329-002 **Collection Date:** 5/13/2021 11:20:00 AM
Client Sample ID: WT7, 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1800	60		mg/Kg	20	6/9/2021 7:13:40 PM	60519

Lab ID: 2106329-003 **Collection Date:** 5/14/2021 8:35:00 AM
Client Sample ID: WT4, S+50', 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1400	59		mg/Kg	20	6/9/2021 7:26:04 PM	60519

Lab ID: 2106329-004 **Collection Date:** 5/14/2021 10:25:00 AM
Client Sample ID: WT7, S+50', 8' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	460	60		mg/Kg	20	6/9/2021 7:38:28 PM	60519

Lab ID: 2106329-005 **Collection Date:** 5/14/2021 1:00:00 PM
Client Sample ID: WT5, N+150', 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	2200	150		mg/Kg	50	6/10/2021 11:22:54 PM	60519

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order: **2106329**
Date Reported: **6/14/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions **Lab Order:** 2106329
Project: Williams Pit

Lab ID: 2106329-006 **Collection Date:** 5/14/2021 2:40:00 PM
Client Sample ID: WT3, N+200', 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	83	61		mg/Kg	20	6/9/2021 8:03:17 PM	60519

Lab ID: 2106329-007 **Collection Date:** 5/17/2021 9:25:00 AM
Client Sample ID: ET5, 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	1200	61		mg/Kg	20	6/9/2021 8:15:41 PM	60519

Lab ID: 2106329-008 **Collection Date:** 5/17/2021 11:10:00 AM
Client Sample ID: ET2, N+150', 8' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60		mg/Kg	20	6/9/2021 8:28:05 PM	60519

Lab ID: 2106329-009 **Collection Date:** 5/17/2021 1:20:00 PM
Client Sample ID: ET1, S+75', 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	5800	300		mg/Kg	100	6/10/2021 11:35:19 PM	60519

Lab ID: 2106329-010 **Collection Date:** 5/17/2021 2:25:00 PM
Client Sample ID: ET5, S+100', 4' **Matrix:** SOIL

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch ID
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	110	60		mg/Kg	20	6/9/2021 9:17:42 PM	60519

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2106329**

14-Jun-21

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **MB-60519**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **60519**	RunNo: **78936**							
Prep Date: **6/9/2021**	Analysis Date: **6/9/2021**	SeqNo: **2770616**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-60519**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **60519**	RunNo: **78936**							
Prep Date: **6/9/2021**	Analysis Date: **6/9/2021**	SeqNo: **2770617**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	14	1.5	15.00	0	95.0	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Safety & Environmental Solutions** Work Order Number: **2106329** RcptNo: 1

Received By: **Andy Freeman** **6/7/2021 11:15:00 AM**

Completed By: **Sean Livingston** **6/7/2021 11:21:28 AM**

Reviewed By: JR 6/7/21

Chain of Custody

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

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)? Not required 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 ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ 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 ☐

# of preserved bottles checked for pH: (<2 or >12 unless noted)

Adjusted?

Checked by: KPG 6/07/21

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	9.6	Good				

Chain-of-Custody Record

Client: Safety & ENV. Solutions
Mailing Address: PO Box 1613
Hobbs 88241
Phone #: 575) 390-7067
email or Fax#: dgboyer@seriNM.com
QA/QC Package:
☑ Standard ☐ Level 4 (Full Validation)
Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush
Project Name: Williams P.T
Project #: YAT-04-001
Project Manager: David Boyer SESI / Chase Settle EOG
Sampler: D Boyer
On Ice: ☑ Yes ☐ No
# of Coolers: —
Cooler Temp (including CF): 9.8-0.2=9.6 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

2021 Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2106329	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chlorides					
5/18	0853	Soil	WT1, N+50', 4'	1 glass	Cool	001											X					
5/13	1120		WT7, 4'			002																
5/14	0835		WT4, S+50', 4'			003																
	1025		WT7, S+50', 8'			004																
	1300		WT5, N+150', 4'			005																
5/14	1440		WT3, N+200', 4'			006																
5/17	0925		ET5, 4'			007																
	1110		ET2, N+150', 8'			008																
	1320		ET1, S+75', 4'			009																
5/17	1425	Soil	ET5, S+100', 4'	1 glass	Cool	010											X					

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
6/7	1115	D Boyer	[signature]		6/7/21	1115
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Invoice To: Chase_Settle@EOGResources.com
cc Report to Chase as well

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

July 08, 2021

Dave Boyer

Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 397-0510
FAX (575) 393-4388

RE: Williams Pit Delineation OrderNo.: 2107005

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 1 sample(s) on 7/1/2021 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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

Analytical Report
Lab Order **2107005**
Date Reported: **7/8/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: Background 4'
Project: Williams Pit Delineation
Collection Date: 5/13/2021 12:25:00 PM
Lab ID: 2107005-001 **Matrix:** SOIL **Received Date:** 7/1/2021 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analyst: **VP**	
Chloride	ND	60	H	mg/Kg	20	7/6/2021 8:35:18 PM	61134

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2107005**

08-Jul-21

Client: Safety & Environmental Solutions

Project: Williams Pit Delineation

Sample ID: **MB-61134**	SampType: **MBLK**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBS**	Batch ID: **61134**	RunNo: **79587**							
Prep Date: **7/6/2021**	Analysis Date: **7/6/2021**	SeqNo: **2799423**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	1.5								

Sample ID: **LCS-61134**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSS**	Batch ID: **61134**	RunNo: **79587**							
Prep Date: **7/6/2021**	Analysis Date: **7/6/2021**	SeqNo: **2799424**	Units: **mg/Kg**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	15	1.5	15.00	0	99.0	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: **Safety & Environmental Solutions** Work Order Number: **2107005** RcptNo: 1

Received By: **Juan Rojas** **7/1/2021 7:30:00 AM**

Completed By: **Cheyenne Cason** **7/1/2021 8:10:34 AM**

Reviewed By: JR 7/1/21

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:
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	(<2 or >12 unless noted) Adjusted?
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: KPG 7/1/21 KPG 7/1/21 7/1/21

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	5.0	Good				

Chain-of-Custody Record

Client: Safety & Env. Solutions

Mailing Address: PO Box 1613
Hobbs 88241

Phone #: (575) 390-3977-0510

email or Fax#: dgboyer@sesi-nm.com

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other
☐ EDD (Type)

Turn-Around Time: 5 day
☒ Standard ☐ Rush

Project Name: Williams Pit Delineation

Project #: YAT-04-001 (EOG)

Project Manager: David Boyer

Sampler: D Boyer
On Ice: ☒ Yes ☐ No
# of Coolers: 1
Cooler Temp(including CF): 4.9+0.1=5.0(°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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

Analysis Request

Date (2021)	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2107005	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Chlorides					
5/13	1225	Soil	Background 4'	1 glass	Cool	001											X					

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
6/30/21	0730	D Boyer	[signature]		6/30/21	0730
6/30/21	1906	[signature]	[signature]	Courier	7/1/21	7:30

Remarks: Invoice to EOG Resources c/o Chase Settle

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

September 13, 2021

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL:
FAX

RE: Williams Pit OrderNo.: 2108D35

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/25/2021 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 8/23/2021 1:00:00 PM
Lab ID: 2108D35-001 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.010		mg/L	10	9/8/2021 11:39:57 AM	A81103
Arsenic	ND	0.010		mg/L	10	9/8/2021 11:39:57 AM	A81103
Lead	ND	0.0050		mg/L	10	9/8/2021 11:39:57 AM	A81103
Selenium	0.019	0.010		mg/L	10	9/8/2021 11:39:57 AM	A81103
Thallium	ND	0.0025		mg/L	10	9/8/2021 11:39:57 AM	A81103
Uranium	0.0070	0.0050		mg/L	10	9/8/2021 11:39:57 AM	A81103
EPA METHOD 300.0: ANIONS						Analyst:	**LRN**
Fluoride	ND	1.0		mg/L	10	8/27/2021 2:37:30 PM	R80884
Chloride	4000	250	*	mg/L	500	8/31/2021 2:05:44 AM	A80904
Bromide	2.7	1.0		mg/L	10	8/27/2021 2:37:30 PM	R80884
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	8/27/2021 2:37:30 PM	R80884
Sulfate	2300	50	*	mg/L	100	8/27/2021 2:49:51 PM	R80884
Nitrate+Nitrite as N	ND	2.0		mg/L	10	8/28/2021 1:44:38 AM	R80884
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**CAS**
Conductivity	21000	100		µmhos/c	10	8/30/2021 3:40:59 PM	R80910
SM2320B: ALKALINITY						Analyst:	**CAS**
Bicarbonate (As CaCO3)	214.7	20.00		mg/L Ca	1	8/27/2021 12:55:11 PM	R80883
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/27/2021 12:55:11 PM	R80883
Total Alkalinity (as CaCO3)	214.7	20.00		mg/L Ca	1	8/27/2021 12:55:11 PM	R80883
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**JMT**
Total Dissolved Solids	10500	100	*D	mg/L	1	8/27/2021 10:36:00 AM	62211
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ELS**
Aluminum	ND	0.10		mg/L	5	8/25/2021 11:53:54 AM	A80784
Barium	0.010	0.010		mg/L	5	8/25/2021 11:53:54 AM	A80784
Beryllium	ND	0.010		mg/L	5	8/25/2021 11:53:54 AM	A80784
Boron	0.21	0.20		mg/L	5	8/25/2021 11:53:54 AM	A80784
Cadmium	ND	0.010		mg/L	5	8/25/2021 11:53:54 AM	A80784
Calcium	770	50		mg/L	50	8/25/2021 12:36:44 PM	A80784
Chromium	ND	0.030		mg/L	5	8/25/2021 11:53:54 AM	A80784
Cobalt	ND	0.030		mg/L	5	8/25/2021 11:53:54 AM	A80784
Copper	ND	0.030		mg/L	5	8/25/2021 11:53:54 AM	A80784
Iron	0.036	0.020		mg/L	1	8/25/2021 11:52:14 AM	A80784
Magnesium	300	5.0		mg/L	5	8/25/2021 11:53:54 AM	A80784
Manganese	0.72	0.010	*	mg/L	5	8/25/2021 11:53:54 AM	A80784
Molybdenum	ND	0.040		mg/L	5	8/25/2021 11:53:54 AM	A80784
Nickel	ND	0.050		mg/L	5	8/25/2021 11:53:54 AM	A80784
Potassium	9.6	1.0		mg/L	1	8/25/2021 11:52:14 AM	A80784

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 8/23/2021 1:00:00 PM
Lab ID: 2108D35-001 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Silver	ND	0.025		mg/L	5	8/25/2021 11:53:54 AM	A80784
Sodium	2100	50		mg/L	50	8/25/2021 12:36:44 PM	A80784
Zinc	ND	0.050		mg/L	5	8/25/2021 11:53:54 AM	A80784
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	8/27/2021 1:53:00 AM	SL80817
Toluene	ND	1.0		µg/L	1	8/27/2021 1:53:00 AM	SL80817
Ethylbenzene	ND	1.0		µg/L	1	8/27/2021 1:53:00 AM	SL80817
Naphthalene	ND	2.0		µg/L	1	8/27/2021 1:53:00 AM	SL80817
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 1:53:00 AM	SL80817
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 1:53:00 AM	SL80817
Xylenes, Total	ND	1.5		µg/L	1	8/27/2021 1:53:00 AM	SL80817
Surr: 1,2-Dichloroethane-d4	82.7	70-130		%Rec	1	8/27/2021 1:53:00 AM	SL80817
Surr: 4-Bromofluorobenzene	99.9	70-130		%Rec	1	8/27/2021 1:53:00 AM	SL80817
Surr: Dibromofluoromethane	81.2	70-130		%Rec	1	8/27/2021 1:53:00 AM	SL80817
Surr: Toluene-d8	99.0	70-130		%Rec	1	8/27/2021 1:53:00 AM	SL80817

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 8/23/2021 1:50:00 PM
Lab ID: 2108D35-002 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.010		mg/L	10	9/8/2021 11:44:42 AM	A81103
Arsenic	ND	0.010		mg/L	10	9/8/2021 11:44:42 AM	A81103
Lead	ND	0.0050		mg/L	10	9/8/2021 11:44:42 AM	A81103
Selenium	0.017	0.010		mg/L	10	9/8/2021 11:44:42 AM	A81103
Thallium	ND	0.0025		mg/L	10	9/8/2021 11:44:42 AM	A81103
Uranium	0.0056	0.0050		mg/L	10	9/8/2021 11:44:42 AM	A81103
EPA METHOD 300.0: ANIONS						Analyst:	**LRN**
Fluoride	ND	1.0		mg/L	10	8/27/2021 3:26:54 PM	R80884
Chloride	980	50	*	mg/L	100	8/27/2021 3:39:15 PM	R80884
Bromide	1.5	1.0		mg/L	10	8/27/2021 3:26:54 PM	R80884
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	8/27/2021 3:26:54 PM	R80884
Sulfate	2300	50	*	mg/L	100	8/27/2021 3:39:15 PM	R80884
Nitrate+Nitrite as N	2.4	2.0		mg/L	10	8/28/2021 1:57:00 AM	R80884
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**CAS**
Conductivity	6100	10		µmhos/c	1	8/30/2021 3:43:59 PM	R80910
SM2320B: ALKALINITY						Analyst:	**CAS**
Bicarbonate (As CaCO3)	200.2	20.00		mg/L Ca	1	8/27/2021 1:07:27 PM	R80883
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/27/2021 1:07:27 PM	R80883
Total Alkalinity (as CaCO3)	200.2	20.00		mg/L Ca	1	8/27/2021 1:07:27 PM	R80883
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**JMT**
Total Dissolved Solids	4970	100	*D	mg/L	1	8/27/2021 10:36:00 AM	62211
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ELS**
Aluminum	ND	0.020		mg/L	1	8/25/2021 11:55:35 AM	A80784
Barium	0.0068	0.0020		mg/L	1	8/25/2021 11:55:35 AM	A80784
Beryllium	ND	0.0020		mg/L	1	8/25/2021 11:55:35 AM	A80784
Boron	0.15	0.040		mg/L	1	8/25/2021 11:55:35 AM	A80784
Cadmium	ND	0.0020		mg/L	1	8/25/2021 11:55:35 AM	A80784
Calcium	690	10		mg/L	10	8/25/2021 12:38:23 PM	A80784
Chromium	ND	0.0060		mg/L	1	8/25/2021 11:55:35 AM	A80784
Cobalt	ND	0.0060		mg/L	1	8/25/2021 11:55:35 AM	A80784
Copper	ND	0.0060		mg/L	1	8/25/2021 11:55:35 AM	A80784
Iron	0.037	0.020		mg/L	1	8/25/2021 11:55:35 AM	A80784
Magnesium	260	5.0		mg/L	5	8/25/2021 11:57:13 AM	A80784
Manganese	0.0056	0.0020		mg/L	1	8/25/2021 11:55:35 AM	A80784
Molybdenum	ND	0.0080		mg/L	1	8/25/2021 11:55:35 AM	A80784
Nickel	ND	0.010		mg/L	1	8/25/2021 11:55:35 AM	A80784
Potassium	2.9	1.0		mg/L	1	8/25/2021 11:55:35 AM	A80784

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 8/23/2021 1:50:00 PM
Lab ID: 2108D35-002 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Silver	ND	0.0050		mg/L	1	8/25/2021 11:55:35 AM	A80784
Sodium	340	5.0		mg/L	5	8/25/2021 11:57:13 AM	A80784
Zinc	0.055	0.010		mg/L	1	8/25/2021 11:55:35 AM	A80784
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	8/27/2021 2:16:00 AM	SL80817
Toluene	ND	1.0		µg/L	1	8/27/2021 2:16:00 AM	SL80817
Ethylbenzene	ND	1.0		µg/L	1	8/27/2021 2:16:00 AM	SL80817
Naphthalene	ND	2.0		µg/L	1	8/27/2021 2:16:00 AM	SL80817
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 2:16:00 AM	SL80817
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 2:16:00 AM	SL80817
Xylenes, Total	ND	1.5		µg/L	1	8/27/2021 2:16:00 AM	SL80817
Surr: 1,2-Dichloroethane-d4	82.0	70-130		%Rec	1	8/27/2021 2:16:00 AM	SL80817
Surr: 4-Bromofluorobenzene	97.7	70-130		%Rec	1	8/27/2021 2:16:00 AM	SL80817
Surr: Dibromofluoromethane	81.5	70-130		%Rec	1	8/27/2021 2:16:00 AM	SL80817
Surr: Toluene-d8	99.0	70-130		%Rec	1	8/27/2021 2:16:00 AM	SL80817

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 8/23/2021 2:30:00 PM
Lab ID: 2108D35-003 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.010		mg/L	10	9/8/2021 11:49:26 AM	B81103
Arsenic	ND	0.010		mg/L	10	9/8/2021 11:49:26 AM	B81103
Lead	ND	0.0050		mg/L	10	9/8/2021 11:49:26 AM	B81103
Selenium	0.021	0.010		mg/L	10	9/8/2021 11:49:26 AM	B81103
Thallium	ND	0.0025		mg/L	10	9/8/2021 11:49:26 AM	B81103
Uranium	0.0071	0.0050		mg/L	10	9/8/2021 11:49:26 AM	B81103
EPA METHOD 300.0: ANIONS						Analyst:	**LRN**
Fluoride	ND	1.0		mg/L	10	8/27/2021 3:51:36 PM	R80884
Chloride	3100	250	*	mg/L	500	8/31/2021 4:55:04 PM	R80943
Bromide	2.6	1.0		mg/L	10	8/27/2021 3:51:36 PM	R80884
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	8/27/2021 3:51:36 PM	R80884
Sulfate	2300	50	*	mg/L	100	8/27/2021 4:03:57 PM	R80884
Nitrate+Nitrite as N	ND	2.0		mg/L	10	8/28/2021 2:09:21 AM	R80884
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**CAS**
Conductivity	17000	100		µmhos/c	10	8/30/2021 3:47:00 PM	R80910
SM2320B: ALKALINITY						Analyst:	**CAS**
Bicarbonate (As CaCO3)	217.9	20.00		mg/L Ca	1	8/27/2021 1:19:02 PM	R80883
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/27/2021 1:19:02 PM	R80883
Total Alkalinity (as CaCO3)	217.9	20.00		mg/L Ca	1	8/27/2021 1:19:02 PM	R80883
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**JMT**
Total Dissolved Solids	9290	40.0	*D	mg/L	1	8/27/2021 10:36:00 AM	62211
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ELS**
Aluminum	ND	0.10		mg/L	5	8/25/2021 12:00:33 PM	A80784
Barium	ND	0.010		mg/L	5	8/25/2021 12:00:33 PM	A80784
Beryllium	ND	0.010		mg/L	5	8/25/2021 12:00:33 PM	A80784
Boron	0.21	0.20		mg/L	5	8/25/2021 12:00:33 PM	A80784
Cadmium	ND	0.010		mg/L	5	8/25/2021 12:00:33 PM	A80784
Calcium	770	20		mg/L	20	8/25/2021 12:40:03 PM	A80784
Chromium	ND	0.030		mg/L	5	8/25/2021 12:00:33 PM	A80784
Cobalt	ND	0.030		mg/L	5	8/25/2021 12:00:33 PM	A80784
Copper	ND	0.030		mg/L	5	8/25/2021 12:00:33 PM	A80784
Iron	ND	0.020		mg/L	1	8/25/2021 11:58:52 AM	A80784
Magnesium	330	5.0		mg/L	5	8/25/2021 12:00:33 PM	A80784
Manganese	0.015	0.010		mg/L	5	8/25/2021 12:00:33 PM	A80784
Molybdenum	ND	0.040		mg/L	5	8/25/2021 12:00:33 PM	A80784
Nickel	ND	0.050		mg/L	5	8/25/2021 12:00:33 PM	A80784
Potassium	17	1.0		mg/L	1	8/25/2021 11:58:52 AM	A80784

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 8/23/2021 2:30:00 PM
Lab ID: 2108D35-003 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Silver	ND	0.025		mg/L	5	8/25/2021 12:00:33 PM	A80784
Sodium	1600	20		mg/L	20	8/25/2021 12:40:03 PM	A80784
Zinc	ND	0.050		mg/L	5	8/25/2021 12:00:33 PM	A80784
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	8/27/2021 2:39:00 AM	SL80817
Toluene	ND	1.0		µg/L	1	8/27/2021 2:39:00 AM	SL80817
Ethylbenzene	ND	1.0		µg/L	1	8/27/2021 2:39:00 AM	SL80817
Naphthalene	ND	2.0		µg/L	1	8/27/2021 2:39:00 AM	SL80817
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 2:39:00 AM	SL80817
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 2:39:00 AM	SL80817
Xylenes, Total	ND	1.5		µg/L	1	8/27/2021 2:39:00 AM	SL80817
Surr: 1,2-Dichloroethane-d4	82.5	70-130		%Rec	1	8/27/2021 2:39:00 AM	SL80817
Surr: 4-Bromofluorobenzene	97.6	70-130		%Rec	1	8/27/2021 2:39:00 AM	SL80817
Surr: Dibromofluoromethane	82.4	70-130		%Rec	1	8/27/2021 2:39:00 AM	SL80817
Surr: Toluene-d8	97.1	70-130		%Rec	1	8/27/2021 2:39:00 AM	SL80817

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 8/23/2021 3:10:00 PM
Lab ID: 2108D35-004 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst:	**bcv**
Antimony	ND	0.010		mg/L	10	9/8/2021 11:54:11 AM	B81103
Arsenic	ND	0.010		mg/L	10	9/8/2021 11:54:11 AM	B81103
Lead	ND	0.0050		mg/L	10	9/8/2021 11:54:11 AM	B81103
Selenium	0.019	0.010		mg/L	10	9/8/2021 11:54:11 AM	B81103
Thallium	ND	0.0025		mg/L	10	9/8/2021 11:54:11 AM	B81103
Uranium	0.0073	0.0050		mg/L	10	9/8/2021 11:54:11 AM	B81103
EPA METHOD 300.0: ANIONS						Analyst:	**LRN**
Fluoride	ND	1.0		mg/L	10	8/27/2021 4:16:19 PM	R80884
Chloride	13000	500	*	mg/L	1E+	8/31/2021 5:07:56 PM	R80943
Bromide	5.3	1.0		mg/L	10	8/27/2021 4:16:19 PM	R80884
Phosphorus, Orthophosphate (As P)	ND	5.0	H	mg/L	10	8/27/2021 4:16:19 PM	R80884
Sulfate	2300	50	*	mg/L	100	8/27/2021 4:28:40 PM	R80884
Nitrate+Nitrite as N	ND	10		mg/L	50	9/3/2021 6:44:34 PM	R81066
SM2510B: SPECIFIC CONDUCTANCE						Analyst:	**CAS**
Conductivity	45000	100		µmhos/c	10	8/30/2021 3:50:00 PM	R80910
SM2320B: ALKALINITY						Analyst:	**CAS**
Bicarbonate (As CaCO3)	215.9	20.00		mg/L Ca	1	8/27/2021 1:31:52 PM	R80883
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/27/2021 1:31:52 PM	R80883
Total Alkalinity (as CaCO3)	215.9	20.00		mg/L Ca	1	8/27/2021 1:31:52 PM	R80883
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst:	**JMT**
Total Dissolved Solids	24300	40.0	*D	mg/L	1	8/27/2021 10:36:00 AM	62211
EPA METHOD 200.7: DISSOLVED METALS						Analyst:	**ELS**
Aluminum	ND	0.10		mg/L	5	8/25/2021 12:03:47 PM	A80784
Barium	0.026	0.010		mg/L	5	8/25/2021 12:03:47 PM	A80784
Beryllium	ND	0.010		mg/L	5	8/25/2021 12:03:47 PM	A80784
Boron	ND	0.20		mg/L	5	8/25/2021 12:03:47 PM	A80784
Cadmium	ND	0.010		mg/L	5	8/25/2021 12:03:47 PM	A80784
Calcium	1500	20		mg/L	20	8/25/2021 12:41:43 PM	A80784
Chromium	ND	0.030		mg/L	5	8/25/2021 12:03:47 PM	A80784
Cobalt	ND	0.030		mg/L	5	8/25/2021 12:03:47 PM	A80784
Copper	ND	0.030		mg/L	5	8/25/2021 12:03:47 PM	A80784
Iron	0.057	0.020		mg/L	1	8/25/2021 12:02:08 PM	A80784
Magnesium	470	5.0		mg/L	5	8/25/2021 12:03:47 PM	A80784
Manganese	ND	0.010		mg/L	5	8/25/2021 12:03:47 PM	A80784
Molybdenum	ND	0.040		mg/L	5	8/25/2021 12:03:47 PM	A80784
Nickel	ND	0.050		mg/L	5	8/25/2021 12:03:47 PM	A80784
Potassium	10	1.0		mg/L	1	8/25/2021 12:02:08 PM	A80784

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	Value above quantitation range
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 range due to dilution or matrix		

Analytical Report
Lab Order **2108D35**
Date Reported: **9/13/2021**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 8/23/2021 3:10:00 PM
Lab ID: 2108D35-004 **Matrix:** AQUEOUS **Received Date:** 8/25/2021 7:10:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**	
Silver	ND	0.025		mg/L	5	8/25/2021 12:03:47 PM	A80784
Sodium	6200	100		mg/L	100	8/25/2021 12:43:21 PM	A80784
Zinc	ND	0.050		mg/L	5	8/25/2021 12:03:47 PM	A80784
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **CCM**	
Benzene	ND	1.0		µg/L	1	8/27/2021 3:03:00 AM	SL80817
Toluene	ND	1.0		µg/L	1	8/27/2021 3:03:00 AM	SL80817
Ethylbenzene	ND	1.0		µg/L	1	8/27/2021 3:03:00 AM	SL80817
Naphthalene	ND	2.0		µg/L	1	8/27/2021 3:03:00 AM	SL80817
1-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 3:03:00 AM	SL80817
2-Methylnaphthalene	ND	4.0		µg/L	1	8/27/2021 3:03:00 AM	SL80817
Xylenes, Total	ND	1.5		µg/L	1	8/27/2021 3:03:00 AM	SL80817
Surr: 1,2-Dichloroethane-d4	83.1	70-130		%Rec	1	8/27/2021 3:03:00 AM	SL80817
Surr: 4-Bromofluorobenzene	98.0	70-130		%Rec	1	8/27/2021 3:03:00 AM	SL80817
Surr: Dibromofluoromethane	79.9	70-130		%Rec	1	8/27/2021 3:03:00 AM	SL80817
Surr: Toluene-d8	96.9	70-130		%Rec	1	8/27/2021 3:03:00 AM	SL80817

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

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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

	MW-2		MW-1		MW-4		MW-3			
HEAL LAB NUMBER	2108D35-001		2108D35-002		2108D35-003		2108D35-004			
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	2100	91.34	340	14.79	1600	69.60	6200	269.68		
Potassium	9.6	0.25	2.9	0.07	17	0.43	10.0	0.26		
Calcium	770	38.42	690	34.43	770	38.42	1500	74.85		
Magnesium	300	24.69	260	21.40	330	27.16	470	38.68		
Total Cations		154.70		70.69		135.61		383.47		
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2300	47.89	2300	47.89	2300	47.89	2300	47.89		
Chloride	4000	112.83	980	27.64	3100	87.45	13000	366.71		
Bicarbonate (CaCO3)	214.7	4.29	200.2	4.00	217.9	4.35	215.9	4.31		
Carbonate (CaCO3)										
Phosphate (P)										
Nitrite (N)										
Nitrate (N)			2.4	0.17	-					
Fluoride										
Bromide	2.7	0.03	1.5	0.02	2.6	0.03	5.30	0.07		
Total Anions		165.05		79.72		139.72		418.98		
Elect. Cond. (µMhos/cm)	21000		6100		17000		45000			
CATION/ANION RATIO		0.94		0.89		0.97		0.92		
% Difference		3		6		1		4		
TOTAL DISSOLVED SOLIDS RATIOS										
TDS (measured)	10500		4970		9290		24300			
TDS (calculated)	9611		4705		8250		23615			
Ratio meas TDS:calc TDS		1.1		1.1		1.1		1.0		
Ratio Meas. TDS:EC		0.50		0.81		0.55		0.54		
Ratio Calc. TDS:EC		0.46		0.77		0.49		0.52		
Ratio of anion sum:EC		0.8		1.3		0.8		0.9		
Ratio of cation sum:EC		0.7		1.2		0.8		0.9		

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB** SampType: **MBLK** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW** Batch ID: **A80784** RunNo: **80784**
Prep Date: Analysis Date: **8/25/2021** SeqNo: **2850386** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
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** SampType: **LCS** TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW** Batch ID: **A80784** RunNo: **80784**
Prep Date: Analysis Date: **8/25/2021** SeqNo: **2850388** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.56	0.020	0.5000	0	112	85	115			
Barium	0.49	0.0020	0.5000	0	98.0	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.3	85	115			
Boron	0.51	0.040	0.5000	0	103	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.5	85	115			
Calcium	47	1.0	50.00	0	93.6	85	115			
Chromium	0.49	0.0060	0.5000	0	97.4	85	115			
Cobalt	0.48	0.0060	0.5000	0	95.9	85	115			
Copper	0.50	0.0060	0.5000	0	99.8	85	115			
Iron	0.49	0.020	0.5000	0	97.3	85	115			
Magnesium	48	1.0	50.00	0	95.2	85	115			
Manganese	0.49	0.0020	0.5000	0	97.5	85	115			
Molybdenum	0.49	0.0080	0.5000	0	98.9	85	115			
Nickel	0.47	0.010	0.5000	0	94.4	85	115			
Potassium	48	1.0	50.00	0	95.9	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**							
Client ID: **LCSW**	Batch ID: **A80784**	RunNo: **80784**							
Prep Date:	Analysis Date: **8/25/2021**	SeqNo: **2850388**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.10	0.0050	0.1000	0	99.5	85	115			
Sodium	48	1.0	50.00	0	96.7	85	115			
Zinc	0.47	0.010	0.5000	0	94.9	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A81103**	RunNo: **81103**
Prep Date:	Analysis Date: **9/8/2021**	SeqNo: **2862863** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
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: **A81103**	RunNo: **81103**
Prep Date:	Analysis Date: **9/8/2021**	SeqNo: **2862865** 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	94.9	85	115			
Arsenic	0.024	0.0010	0.02500	0	97.4	85	115			
Lead	0.012	0.00050	0.01250	0	97.8	85	115			
Selenium	0.023	0.0010	0.02500	0	92.3	85	115			
Thallium	0.012	0.00025	0.01250	0	98.2	85	115			
Uranium	0.012	0.00050	0.01250	0	96.6	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B81103**	RunNo: **81103**
Prep Date:	Analysis Date: **9/8/2021**	SeqNo: **2864979** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
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: **B81103**	RunNo: **81103**
Prep Date:	Analysis Date: **9/8/2021**	SeqNo: **2864981** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	101	85	115			
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Lead	0.013	0.00050	0.01250	0	100	85	115			
Selenium	0.025	0.0010	0.02500	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B81103**	RunNo: **81103**
Prep Date:	Analysis Date: **9/8/2021**	SeqNo: **2864981** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Thallium	0.012	0.00025	0.01250	0	99.1	85	115			
Uranium	0.012	0.00050	0.01250	0	98.0	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R80884**	RunNo: **80884**
Prep Date:	Analysis Date: **8/27/2021**	SeqNo: **2854450** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	ND	0.10								
Chloride	ND	0.50								
Bromide	ND	0.10								
Phosphorus, Orthophosphate (As P	ND	0.50								
Sulfate	ND	0.50								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R80884**	RunNo: **80884**
Prep Date:	Analysis Date: **8/27/2021**	SeqNo: **2854451** 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	98.3	90	110			
Chloride	4.7	0.50	5.000	0	94.5	90	110			
Bromide	2.5	0.10	2.500	0	98.1	90	110			
Phosphorus, Orthophosphate (As P	4.5	0.50	5.000	0	90.2	90	110			
Sulfate	9.6	0.50	10.00	0	96.2	90	110			
Nitrate+Nitrite as N	3.4	0.20	3.500	0	98.3	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **A80904**	RunNo: **80904**
Prep Date:	Analysis Date: **8/30/2021**	SeqNo: **2855528** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	ND	0.50								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **A80904**	RunNo: **80904**
Prep Date:	Analysis Date: **8/30/2021**	SeqNo: **2855529** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.8	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R80943**	RunNo: **80943**
Prep Date:	Analysis Date: **8/31/2021**	SeqNo: **2856985** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **LCSW**	Batch ID: **R80943**	RunNo: **80943**							
Prep Date:	Analysis Date: **8/31/2021**	SeqNo: **2856986**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.8	0.50	5.000	0	95.6	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**							
Client ID: **PBW**	Batch ID: **R81066**	RunNo: **81066**							
Prep Date:	Analysis Date: **9/3/2021**	SeqNo: **2861319**	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: **R81066**	RunNo: **81066**							
Prep Date:	Analysis Date: **9/3/2021**	SeqNo: **2861327**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Nitrate+Nitrite as N	3.4	0.20	3.500	0	97.6	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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 range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **100ng 8260 lcs2** SampType: **LCS** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW** Batch ID: **SL80817** RunNo: **80817**
Prep Date: Analysis Date: **8/26/2021** SeqNo: **2853035** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	94.6	70	130			
Toluene	20	1.0	20.00	0	99.0	70	130			
Surr: 1,2-Dichloroethane-d4	8.2		10.00		82.0	70	130			
Surr: 4-Bromofluorobenzene	9.9		10.00		98.8	70	130			
Surr: Dibromofluoromethane	8.2		10.00		81.9	70	130			
Surr: Toluene-d8	9.7		10.00		97.2	70	130			

Sample ID: **mb2** SampType: **MBLK** TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW** Batch ID: **SL80817** RunNo: **80817**
Prep Date: Analysis Date: **8/26/2021** SeqNo: **2853036** 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	8.0		10.00		80.1	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		98.0	70	130			
Surr: Dibromofluoromethane	8.0		10.00		79.7	70	130			
Surr: Toluene-d8	9.8		10.00		98.3	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	Value above quantitation range
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 range due to dilution or matrix		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **lcs-1 98.7uS eC**	SampType: **lcs**	TestCode: **SM2510B: Specific Conductance**							
Client ID: **LCSW**	Batch ID: **R80910**	RunNo: **80910**							
Prep Date:	Analysis Date: **8/30/2021**	SeqNo: **2855589**	Units: **µmhos/cm**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	98.70	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R80883**	RunNo: **80883**							
Prep Date:	Analysis Date: **8/27/2021**	SeqNo: **2854313**	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: **R80883**	RunNo: **80883**							
Prep Date:	Analysis Date: **8/27/2021**	SeqNo: **2854314**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	79.76	20.00	80.00	0	99.7	90	110			

Sample ID: **mb-2 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R80883**	RunNo: **80883**							
Prep Date:	Analysis Date: **8/27/2021**	SeqNo: **2854337**	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 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R80883**	RunNo: **80883**							
Prep Date:	Analysis Date: **8/27/2021**	SeqNo: **2854338**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	80.08	20.00	80.00	0	100	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2108D35**
13-Sep-21

Client: Safety & Environmental Solutions
Project: Williams Pit

Sample ID: **MB-62211**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **PBW**	Batch ID: **62211**	RunNo: **80862**							
Prep Date: **8/26/2021**	Analysis Date: **8/27/2021**	SeqNo: **2853393**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-62211**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**							
Client ID: **LCSW**	Batch ID: **62211**	RunNo: **80862**							
Prep Date: **8/26/2021**	Analysis Date: **8/27/2021**	SeqNo: **2853394**	Units: **mg/L**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1030	20.0	1000	0	103	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 range due to dilution or matrix
B	Analyte detected in the associated Method Blank
E	Value above quantitation range
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: Safety & Environmental Solutions | Work Order Number: 2108D35 | RcptNo: 1

Received By: Cheyenne Cason 8/25/2021 7:10:00 AM

Completed By: Sean Livingston 8/25/2021 8:46:23 AM

Reviewed By: JR 8/25/21

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 preserved 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 ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ 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 ☐

# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)

Adjusted? NO

Checked by: IHPG 8/25/21

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	5.5	Good				

Chain-of-Custody Record

Client: Safety & Environmental Solutions

Mailing Address: 703. E. Clinton Hobbs N.M 88240

Phone #: 575-397-0510

email or Fax#:

QA/QC Package:

☐ Standard ☐ Level 4 (Full Validation)

Accreditation: ☐ Az Compliance

☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:

☑ Standard ☐ Rush 5 Day

Project Name: COG Williams Pit

Project #: VAT-04-001

Project Manager: Boyer, Dene

Sampler: Josh Young

On Ice: ☑ Yes ☐ No

# of Coolers: 1

Cooler Temp(including CF): 5.6 -0.1 = 5.5 (°C)

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2109035
08/23	1300	H2O	MW-2	6	Ice	001
	1350	H2O	MW-1	6	HNO3	002
	1430	H2O	MW-4	6	H2SO4	003
08/23	1510	H2O	MW-3	6		004

Analysis Request

BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	Naphthalene, BTEX	Dissolved Metals	WQCC, Cations	Anions, TDS	Lab Balance	Sp. Cond.
										X	X	X	X	X	X
										X	X	X	X	X	X
										X	X	X	X	X	X
										X	X	X	X	X	X

Date	Time	Relinquished by:
08/24	1630	Josh Young
8/24/21	1900	CA Cummings

Received by:	Via:	Date	Time
CA Cummings		8/24/21	1630
CA	Courier	8/25/21	0710

Remarks:

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 report.

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

HALL ENVIRONMENTAL ANALYSIS LABORATORY

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April 06, 2022

Dave Boyer

Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL: (575) 397-0510
FAX: (575) 393-4388

RE: EOG Williams Pit OrderNo.: 2203C78

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 3/24/2022 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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 **2203C78**
Date Reported: **4/6/2022**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: EOG Williams Pit
Collection Date: 3/22/2022 10:00:00 AM
Lab ID: 2203C78-001 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Fluoride	ND	0.50		mg/L	5	3/26/2022 6:33:25 PM
Chloride	5100	250	*	mg/L	500	3/29/2022 11:14:50 AM
Bromide	2.8	0.50		mg/L	5	3/26/2022 6:33:25 PM
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	3/26/2022 6:33:25 PM
Sulfate	2000	250	*	mg/L	500	3/29/2022 11:14:50 AM
Nitrate+Nitrite as N	1.7	1.0		mg/L	5	3/26/2022 11:16:28 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Aluminum	ND	0.10		mg/L	5	3/28/2022 2:54:20 PM
Barium	ND	0.010		mg/L	5	3/28/2022 2:54:20 PM
Beryllium	ND	0.010		mg/L	5	3/28/2022 2:54:20 PM
Boron	0.21	0.20		mg/L	5	3/28/2022 2:54:20 PM
Cadmium	ND	0.010		mg/L	5	3/28/2022 2:54:20 PM
Calcium	950	50		mg/L	50	3/29/2022 12:02:02 PM
Chromium	ND	0.030		mg/L	5	3/28/2022 2:54:20 PM
Cobalt	ND	0.030		mg/L	5	3/28/2022 2:54:20 PM
Iron	ND	0.020		mg/L	1	3/28/2022 2:52:40 PM
Magnesium	360	5.0		mg/L	5	3/28/2022 2:54:20 PM
Manganese	0.76	0.010	*	mg/L	5	3/28/2022 2:54:20 PM
Molybdenum	ND	0.040		mg/L	5	3/29/2022 12:00:23 PM
Nickel	ND	0.050		mg/L	5	3/28/2022 2:54:20 PM
Potassium	11	1.0		mg/L	1	3/28/2022 2:52:40 PM
Silver	ND	0.025		mg/L	5	3/28/2022 2:54:20 PM
Sodium	2600	50		mg/L	50	3/29/2022 12:02:02 PM
Zinc	ND	0.050		mg/L	5	3/28/2022 2:54:20 PM
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**
Antimony	ND	0.020		mg/L	20	4/1/2022 1:04:41 PM
Arsenic	ND	0.020		mg/L	20	3/30/2022 4:18:47 PM
Copper	ND	0.020		mg/L	20	3/30/2022 4:18:47 PM
Lead	ND	0.010		mg/L	20	3/30/2022 4:18:47 PM
Selenium	ND	0.020		mg/L	20	3/30/2022 4:18:47 PM
Thallium	ND	0.0050		mg/L	20	3/30/2022 4:18:47 PM
Uranium	ND	0.010		mg/L	20	4/1/2022 1:04:41 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	5.8	1.0		µg/L	1	3/30/2022 6:46:24 PM
Toluene	ND	1.0		µg/L	1	3/30/2022 6:46:24 PM
Ethylbenzene	ND	1.0		µg/L	1	3/30/2022 6:46:24 PM
Naphthalene	ND	2.0		µg/L	1	3/30/2022 6:46:24 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2022 6:46:24 PM

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

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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2203C78**
Date Reported: **4/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: EOG Williams Pit
Collection Date: 3/22/2022 10:00:00 AM
Lab ID: 2203C78-001 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
2-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2022 6:46:24 PM
Xylenes, Total	ND	1.5		µg/L	1	3/30/2022 6:46:24 PM
Surr: 1,2-Dichloroethane-d4	93.4	70-130		%Rec	1	3/30/2022 6:46:24 PM
Surr: 4-Bromofluorobenzene	96.2	70-130		%Rec	1	3/30/2022 6:46:24 PM
Surr: Dibromofluoromethane	93.9	70-130		%Rec	1	3/30/2022 6:46:24 PM
Surr: Toluene-d8	96.3	70-130		%Rec	1	3/30/2022 6:46:24 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MRA**
Conductivity	21000	100		µmhos/c	10	3/31/2022 3:40:50 PM
SM4500-H+B / 9040C: PH						Analyst: **LRN**
pH	7.61		H	pH units	1	3/29/2022 3:50:58 PM
SM2320B: ALKALINITY						Analyst: **LRN**
Bicarbonate (As CaCO3)	207.4	20.00		mg/L Ca	1	3/29/2022 3:50:58 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/29/2022 3:50:58 PM
Total Alkalinity (as CaCO3)	207.4	20.00		mg/L Ca	1	3/29/2022 3:50:58 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	11900	100	*D	mg/L	1	3/31/2022 1:21:00 PM

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2203C78**
Date Reported: **4/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: EOG Williams Pit
Collection Date: 3/22/2022 10:30:00 AM
Lab ID: 2203C78-002 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Fluoride	0.50	0.50		mg/L	5	3/26/2022 6:59:09 PM
Chloride	4400	250	*	mg/L	500	3/29/2022 11:27:14 AM
Bromide	2.3	0.50		mg/L	5	3/26/2022 6:59:09 PM
Phosphorus, Orthophosphate (As P)	ND	2.5	H	mg/L	5	3/26/2022 6:59:09 PM
Sulfate	2100	250	*	mg/L	500	3/29/2022 11:27:14 AM
Nitrate+Nitrite as N	2.3	1.0		mg/L	5	3/26/2022 11:29:20 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Aluminum	ND	0.020		mg/L	1	3/28/2022 3:00:59 PM
Barium	0.014	0.0020		mg/L	1	3/28/2022 3:00:59 PM
Beryllium	ND	0.0020		mg/L	1	3/28/2022 3:00:59 PM
Boron	0.13	0.040		mg/L	1	3/28/2022 3:00:59 PM
Cadmium	ND	0.0020		mg/L	1	3/28/2022 3:00:59 PM
Calcium	1100	50		mg/L	50	3/29/2022 12:05:19 PM
Chromium	ND	0.0060		mg/L	1	3/28/2022 3:00:59 PM
Cobalt	0.0086	0.0060		mg/L	1	3/28/2022 3:00:59 PM
Iron	0.043	0.020		mg/L	1	3/28/2022 3:00:59 PM
Magnesium	380	5.0		mg/L	5	3/28/2022 3:02:41 PM
Manganese	0.0046	0.0020		mg/L	1	3/28/2022 3:00:59 PM
Molybdenum	ND	0.040		mg/L	5	3/29/2022 12:15:24 PM
Nickel	ND	0.010		mg/L	1	3/28/2022 3:00:59 PM
Potassium	5.2	1.0		mg/L	1	3/28/2022 3:00:59 PM
Silver	0.0061	0.0050		mg/L	1	3/28/2022 3:00:59 PM
Sodium	2100	50		mg/L	50	3/29/2022 12:05:19 PM
Zinc	0.012	0.010		mg/L	1	3/28/2022 3:00:59 PM
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**
Antimony	ND	0.020		mg/L	20	4/1/2022 1:07:23 PM
Arsenic	ND	0.020		mg/L	20	3/30/2022 4:21:28 PM
Copper	ND	0.020		mg/L	20	3/30/2022 4:21:28 PM
Lead	ND	0.010		mg/L	20	3/30/2022 4:21:28 PM
Selenium	ND	0.020		mg/L	20	3/30/2022 4:21:28 PM
Thallium	ND	0.0050		mg/L	20	3/30/2022 4:21:28 PM
Uranium	ND	0.010		mg/L	20	4/1/2022 1:07:23 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	1.0		µg/L	1	3/30/2022 7:13:43 PM
Toluene	ND	1.0		µg/L	1	3/30/2022 7:13:43 PM
Ethylbenzene	ND	1.0		µg/L	1	3/30/2022 7:13:43 PM
Naphthalene	ND	2.0		µg/L	1	3/30/2022 7:13:43 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2022 7:13:43 PM

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

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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2203C78**
Date Reported: **4/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: EOG Williams Pit
Collection Date: 3/22/2022 10:30:00 AM
Lab ID: 2203C78-002 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
2-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2022 7:13:43 PM
Xylenes, Total	ND	1.5		µg/L	1	3/30/2022 7:13:43 PM
Surr: 1,2-Dichloroethane-d4	97.2	70-130		%Rec	1	3/30/2022 7:13:43 PM
Surr: 4-Bromofluorobenzene	95.5	70-130		%Rec	1	3/30/2022 7:13:43 PM
Surr: Dibromofluoromethane	97.2	70-130		%Rec	1	3/30/2022 7:13:43 PM
Surr: Toluene-d8	96.4	70-130		%Rec	1	3/30/2022 7:13:43 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MRA**
Conductivity	18000	100		µmhos/c	10	3/31/2022 3:43:44 PM
SM4500-H+B / 9040C: PH						Analyst: **LRN**
pH	7.52		H	pH units	1	3/29/2022 4:02:56 PM
SM2320B: ALKALINITY						Analyst: **LRN**
Bicarbonate (As CaCO3)	188.0	20.00		mg/L Ca	1	3/29/2022 4:02:56 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/29/2022 4:02:56 PM
Total Alkalinity (as CaCO3)	188.0	20.00		mg/L Ca	1	3/29/2022 4:02:56 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	10500	100	*D	mg/L	1	3/31/2022 1:21:00 PM

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2203C78**
Date Reported: **4/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: EOG Williams Pit
Collection Date: 3/22/2022 11:05:00 AM
Lab ID: 2203C78-003 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Fluoride	ND	2.0		mg/L	20	3/26/2022 8:03:28 PM
Chloride	3200	250	*	mg/L	500	3/29/2022 11:39:39 AM
Bromide	2.4	2.0		mg/L	20	3/26/2022 8:03:28 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/26/2022 8:03:28 PM
Sulfate	1900	250	*	mg/L	500	3/29/2022 11:39:39 AM
Nitrate+Nitrite as N	1.7	1.0		mg/L	5	3/26/2022 11:42:12 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Aluminum	ND	0.020		mg/L	1	3/28/2022 3:04:21 PM
Barium	0.014	0.0020		mg/L	1	3/28/2022 3:04:21 PM
Beryllium	ND	0.0020		mg/L	1	3/28/2022 3:04:21 PM
Boron	0.25	0.040		mg/L	1	3/28/2022 3:04:21 PM
Cadmium	ND	0.0020		mg/L	1	3/28/2022 3:04:21 PM
Calcium	790	20		mg/L	20	3/29/2022 12:08:34 PM
Chromium	ND	0.0060		mg/L	1	3/28/2022 3:04:21 PM
Cobalt	0.0062	0.0060		mg/L	1	3/28/2022 3:04:21 PM
Iron	ND	0.020		mg/L	1	3/28/2022 3:04:21 PM
Magnesium	340	5.0		mg/L	5	3/28/2022 3:06:02 PM
Manganese	0.039	0.0020		mg/L	1	3/28/2022 3:04:21 PM
Molybdenum	ND	0.0080		mg/L	1	3/29/2022 12:06:56 PM
Nickel	ND	0.010		mg/L	1	3/28/2022 3:04:21 PM
Potassium	20	1.0		mg/L	1	3/28/2022 3:04:21 PM
Silver	ND	0.0050		mg/L	1	3/28/2022 3:04:21 PM
Sodium	2000	20		mg/L	20	3/29/2022 12:08:34 PM
Zinc	ND	0.010		mg/L	1	3/28/2022 3:04:21 PM
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**
Antimony	ND	0.020		mg/L	20	4/1/2022 1:10:05 PM
Arsenic	ND	0.020		mg/L	20	3/30/2022 4:24:10 PM
Copper	ND	0.020		mg/L	20	3/30/2022 4:24:10 PM
Lead	ND	0.010		mg/L	20	3/30/2022 4:24:10 PM
Selenium	0.025	0.020		mg/L	20	3/30/2022 4:24:10 PM
Thallium	ND	0.0050		mg/L	20	3/30/2022 4:24:10 PM
Uranium	ND	0.010		mg/L	20	4/1/2022 1:10:05 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	1.0		µg/L	1	3/30/2022 7:41:04 PM
Toluene	ND	1.0		µg/L	1	3/30/2022 7:41:04 PM
Ethylbenzene	ND	1.0		µg/L	1	3/30/2022 7:41:04 PM
Naphthalene	ND	2.0		µg/L	1	3/30/2022 7:41:04 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2022 7:41:04 PM

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2203C78**
Date Reported: **4/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: EOG Williams Pit
Collection Date: 3/22/2022 11:05:00 AM
Lab ID: 2203C78-003 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
2-Methylnaphthalene	ND	4.0		µg/L	1	3/30/2022 7:41:04 PM
Xylenes, Total	ND	1.5		µg/L	1	3/30/2022 7:41:04 PM
Surr: 1,2-Dichloroethane-d4	98.4	70-130		%Rec	1	3/30/2022 7:41:04 PM
Surr: 4-Bromofluorobenzene	92.7	70-130		%Rec	1	3/30/2022 7:41:04 PM
Surr: Dibromofluoromethane	98.1	70-130		%Rec	1	3/30/2022 7:41:04 PM
Surr: Toluene-d8	98.0	70-130		%Rec	1	3/30/2022 7:41:04 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MRA**
Conductivity	16000	100		µmhos/c	10	3/31/2022 3:46:37 PM
SM4500-H+B / 9040C: PH						Analyst: **LRN**
pH	7.58		H	pH units	1	3/29/2022 4:14:36 PM
SM2320B: ALKALINITY						Analyst: **LRN**
Bicarbonate (As CaCO3)	216.8	20.00		mg/L Ca	1	3/29/2022 4:14:36 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/29/2022 4:14:36 PM
Total Alkalinity (as CaCO3)	216.8	20.00		mg/L Ca	1	3/29/2022 4:14:36 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	9230	40.0	*D	mg/L	1	3/31/2022 1:21:00 PM

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2203C78**
Date Reported: **4/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: EOG Williams Pit
Collection Date: 3/22/2022 11:35:00 AM
Lab ID: 2203C78-004 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 300.0: ANIONS						Analyst: **LRN**
Fluoride	ND	2.0		mg/L	20	3/26/2022 8:29:11 PM
Chloride	12000	500	*	mg/L	1000	3/29/2022 11:52:03 AM
Bromide	4.7	2.0		mg/L	20	3/26/2022 8:29:11 PM
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	3/26/2022 8:29:11 PM
Sulfate	2100	500	*	mg/L	1000	3/29/2022 11:52:03 AM
Nitrate+Nitrite as N	ND	10		mg/L	50	3/29/2022 1:31:18 PM
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **ELS**
Aluminum	ND	0.10		mg/L	5	3/28/2022 3:09:25 PM
Barium	0.020	0.010		mg/L	5	3/28/2022 3:09:25 PM
Beryllium	ND	0.010		mg/L	5	3/28/2022 3:09:25 PM
Boron	ND	0.20		mg/L	5	3/28/2022 3:09:25 PM
Cadmium	ND	0.010		mg/L	5	3/28/2022 3:09:25 PM
Calcium	1300	20		mg/L	20	3/29/2022 12:18:42 PM
Chromium	ND	0.030		mg/L	5	3/28/2022 3:09:25 PM
Cobalt	ND	0.030		mg/L	5	3/28/2022 3:09:25 PM
Iron	0.095	0.020		mg/L	1	3/28/2022 3:07:41 PM
Magnesium	440	5.0		mg/L	5	3/28/2022 3:09:25 PM
Manganese	0.016	0.010		mg/L	5	3/28/2022 3:09:25 PM
Molybdenum	ND	0.040		mg/L	5	3/29/2022 12:17:03 PM
Nickel	ND	0.050		mg/L	5	3/28/2022 3:09:25 PM
Potassium	9.5	1.0		mg/L	1	3/28/2022 3:07:41 PM
Silver	ND	0.025		mg/L	5	3/28/2022 3:09:25 PM
Sodium	6300	100		mg/L	100	3/29/2022 12:20:22 PM
Zinc	ND	0.050		mg/L	5	3/28/2022 3:09:25 PM
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**
Antimony	ND	0.020		mg/L	20	4/1/2022 1:12:46 PM
Arsenic	ND	0.020		mg/L	20	3/30/2022 4:26:50 PM
Copper	ND	0.020		mg/L	20	3/30/2022 4:26:50 PM
Lead	ND	0.010		mg/L	20	3/30/2022 4:26:50 PM
Selenium	ND	0.020		mg/L	20	3/30/2022 4:26:50 PM
Thallium	ND	0.0050		mg/L	20	3/30/2022 4:26:50 PM
Uranium	ND	0.010		mg/L	20	4/1/2022 1:12:46 PM
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
Benzene	ND	1.0		µg/L	1	3/31/2022 1:26:31 PM
Toluene	ND	1.0		µg/L	1	3/31/2022 1:26:31 PM
Ethylbenzene	ND	1.0		µg/L	1	3/31/2022 1:26:31 PM
Naphthalene	ND	2.0		µg/L	1	3/31/2022 1:26:31 PM
1-Methylnaphthalene	ND	4.0		µg/L	1	3/31/2022 1:26:31 PM

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

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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

Analytical Report
Lab Order **2203C78**
Date Reported: **4/6/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: EOG Williams Pit
Collection Date: 3/22/2022 11:35:00 AM
Lab ID: 2203C78-004 **Matrix:** AQUEOUS **Received Date:** 3/24/2022 7:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **BRM**
2-Methylnaphthalene	ND	4.0		µg/L	1	3/31/2022 1:26:31 PM
Xylenes, Total	ND	1.5		µg/L	1	3/31/2022 1:26:31 PM
Surr: 1,2-Dichloroethane-d4	98.9	70-130		%Rec	1	3/31/2022 1:26:31 PM
Surr: 4-Bromofluorobenzene	96.8	70-130		%Rec	1	3/31/2022 1:26:31 PM
Surr: Dibromofluoromethane	98.4	70-130		%Rec	1	3/31/2022 1:26:31 PM
Surr: Toluene-d8	95.6	70-130		%Rec	1	3/31/2022 1:26:31 PM
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **MRA**
Conductivity	38000	100		µmhos/c	10	3/31/2022 3:49:28 PM
SM4500-H+B / 9040C: PH						Analyst: **LRN**
pH	7.52		H	pH units	1	3/29/2022 6:21:39 PM
SM2320B: ALKALINITY						Analyst: **LRN**
Bicarbonate (As CaCO3)	223.4	20.00		mg/L Ca	1	3/29/2022 6:21:39 PM
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	3/29/2022 6:21:39 PM
Total Alkalinity (as CaCO3)	223.4	20.00		mg/L Ca	1	3/29/2022 6:21:39 PM
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **KS**
Total Dissolved Solids	22300	40.0	*D	mg/L	1	3/31/2022 1:21:00 PM

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

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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 2203C78-001		MW-1 2203C78-002		MW-4 2203C78-003		MW-3 2203C78-004					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	2600	113.09	2100	91.34	2000	86.99	6300	274.03				
Potassium	11	0.28	5.2	0.13	20	0.51	9.5	0.24				
Calcium	950	47.41	1100	54.89	790	39.42	1300	64.87				
Magnesium	360	29.63	380	31.28	340	27.98	440	36.21				
Total Cations		190.41		177.64		154.91		375.36				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2000	41.64	2100	43.72	1900	39.56	2100	43.72				
Chloride	5100	143.86	4400	124.12	3200	90.27	12000	338.50				
Bicarbonate (CaCO3)	207.4	4.14	188.0	3.76	216.8	4.33	223.4	4.46				
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)	2	0.12	2.3	0.16	1.7	0.12						
Fluoride			0.50	0.03								
Bromide	2.8	0.04	2.3	0.03	2.4	0.03	4.7	0.06				
Total Anions		189.81		171.82		134.31		386.75				
Elect. Cond. (µMhos/cm)	21000		18000		16000		38000					
CATION/ANION RATIO		1.00		1.03		1.15		0.97				
% Difference		0		2		7		1				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	11900		10500		9320		22300					
TDS (calculated)	11156		10211		8390		22288					
Ratio meas TDS:calc TDS		1.1		1.0		1.1		1.0				
Ratio Meas. TDS:EC		0.57		0.58		0.58		0.59				
Ratio Calc. TDS:EC		0.53		0.57		0.52		0.59				
Ratio of anion sum:EC		0.9		1.0		0.8		1.0				
Ratio of cation sum:EC		0.9		1.0		1.0		1.0				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not withi n pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2203C78**

28-Jul-22

Client: Safety & Environmental Solutions

Project: EOG Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B86796**	RunNo: **86796**
Prep Date:	Analysis Date: **3/28/2022**	SeqNo: **3064891** Units: **mg/L**

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

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B86796**	RunNo: **86796**
Prep Date:	Analysis Date: **3/28/2022**	SeqNo: **3064895** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Barium	0.50	0.0020	0.5000	0	101	85	115			
Beryllium	0.52	0.0020	0.5000	0	105	85	115			
Boron	0.52	0.040	0.5000	0	105	85	115			
Cadmium	0.49	0.0020	0.5000	0	98.8	85	115			
Chromium	0.49	0.0060	0.5000	0	97.6	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.6	85	115			
Iron	0.51	0.020	0.5000	0	102	85	115			
Magnesium	52	1.0	50.00	0	105	85	115			
Manganese	0.50	0.0020	0.5000	0	99.9	85	115			
Nickel	0.47	0.010	0.5000	0	94.9	85	115			
Potassium	51	1.0	50.00	0	103	85	115			
Silver	0.099	0.0050	0.1000	0	98.6	85	115			
Zinc	0.52	0.010	0.5000	0	104	85	115			

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B86796**	RunNo: **86796**
Prep Date:	Analysis Date: **3/28/2022**	SeqNo: **3064951** 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	101	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2203C78**

28-Jul-22

Client: Safety & Environmental Solutions

Project: EOG Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A86825**	RunNo: **86825**
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3066292** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	ND	1.0								
Molybdenum	ND	0.0080								
Sodium	ND	1.0								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A86825**	RunNo: **86825**
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3066296** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Calcium	49	1.0	50.00	0	97.4	85	115			
Molybdenum	0.50	0.0080	0.5000	0	101	85	115			
Sodium	50	1.0	50.00	0	99.9	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2203C78**

28-Jul-22

Client: Safety & Environmental Solutions

Project: EOG Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B86848**	RunNo: **86848**
Prep Date:	Analysis Date: **3/30/2022**	SeqNo: **3069428** Units: **mg/L**

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

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B86848**	RunNo: **86848**
Prep Date:	Analysis Date: **3/30/2022**	SeqNo: **3069430** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Copper	0.025	0.0010	0.02500	0	98.5	85	115			
Lead	0.012	0.00050	0.01250	0	98.4	85	115			
Selenium	0.025	0.0010	0.02500	0	99.4	85	115			
Thallium	0.012	0.00025	0.01250	0	99.4	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B86946**	RunNo: **86946**
Prep Date:	Analysis Date: **4/1/2022**	SeqNo: **3072048** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Uranium	ND	0.00050								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B86946**	RunNo: **86946**
Prep Date:	Analysis Date: **4/1/2022**	SeqNo: **3072050** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.023	0.0010	0.02500	0	91.2	85	115			
Uranium	0.013	0.00050	0.01250	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2203C78**
28-Jul-22

Client: Safety & Environmental Solutions
Project: EOG Williams Pit

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R86788**	RunNo: **86788**
Prep Date:	Analysis Date: **3/26/2022**	SeqNo: **3064600** 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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R86788**	RunNo: **86788**
Prep Date:	Analysis Date: **3/26/2022**	SeqNo: **3064601** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.50	0.10	0.5000	0	99.7	90	110			
Bromide	2.5	0.10	2.500	0	98.0	90	110			
Phosphorus, Orthophosphate (As P)	4.6	0.50	5.000	0	91.6	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	100	90	110			

Sample ID: **MB**	SampType: **Mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R86833**	RunNo: **86833**
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3066895** 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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R86833**	RunNo: **86833**
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3066896** 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	93.2	90	110			
Sulfate	9.4	0.50	10.00	0	93.6	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.1	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2203C78**
28-Jul-22

Client: Safety & Environmental Solutions
Project: EOG Williams Pit

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B86862**	RunNo: **86862**
Prep Date:	Analysis Date: **3/30/2022**	SeqNo: **3068138** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.7	70	130			
Toluene	20	1.0	20.00	0	98.4	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.3	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	9.0		10.00		89.8	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B86862**	RunNo: **86862**
Prep Date:	Analysis Date: **3/30/2022**	SeqNo: **3068154** 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	9.3		10.00		92.8	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	9.1		10.00		90.9	70	130			
Surr: Toluene-d8	10		10.00		102	70	130			

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **B86897**	RunNo: **86897**
Prep Date:	Analysis Date: **3/31/2022**	SeqNo: **3069973** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	90.0	70	130			
Toluene	20	1.0	20.00	0	98.8	70	130			
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.0	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.5	70	130			
Surr: Dibromofluoromethane	9.4		10.00		93.7	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2203C78**
28-Jul-22

Client: Safety & Environmental Solutions
Project: EOG Williams Pit

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **B86897**	RunNo: **86897**
Prep Date:	Analysis Date: **3/31/2022**	SeqNo: **3069983** 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	9.4		10.00		94.4	70	130			
Surr: 4-Bromofluorobenzene	9.8		10.00		97.7	70	130			
Surr: Dibromofluoromethane	9.6		10.00		96.1	70	130			
Surr: Toluene-d8	9.9		10.00		98.8	70	130			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

QC SUMMARY REPORT
Hall Environmental Analysis Laboratory, Inc.

WO#: **2203C78**
28-Jul-22

Client: Safety & Environmental Solutions
Project: EOG Williams Pit

Sample ID: **lcs-1 100.2uS eC**	SampType: **lcs**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R86894**	RunNo: **86894**
Prep Date:	Analysis Date: **3/31/2022**	SeqNo: **3069794** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	100.2	0	100	85	115			

Sample ID: **lcs-2 100.2uS eC**	SampType: **lcs**	TestCode: **SM2510B: Specific Conductance**
Client ID: **LCSW**	Batch ID: **R86894**	RunNo: **86894**
Prep Date:	Analysis Date: **3/31/2022**	SeqNo: **3069819** Units: **µmhos/cm**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	100	10	100.2	0	101	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2203C78**

28-Jul-22

Client: Safety & Environmental Solutions

Project: EOG Williams Pit

Sample ID: **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R86834**	RunNo: **86834**							
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3066986**	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: **R86834**	RunNo: **86834**							
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3066987**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	73.00	20.00	80.00	0	91.2	90	110			

Sample ID: **mb-2 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R86834**	RunNo: **86834**							
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3067009**	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 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R86834**	RunNo: **86834**							
Prep Date:	Analysis Date: **3/29/2022**	SeqNo: **3067010**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	72.56	20.00	80.00	0	90.7	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2203C78**

28-Jul-22

Client: Safety & Environmental Solutions

Project: EOG Williams Pit

Sample ID: **MB-66464**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **66464**	RunNo: **86882**
Prep Date: **3/29/2022**	Analysis Date: **3/31/2022**	SeqNo: **3069504** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-66464**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **66464**	RunNo: **86882**
Prep Date: **3/29/2022**	Analysis Date: **3/31/2022**	SeqNo: **3069505** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1020	20.0	1000	0	102	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: clients.hallenvironmental.com

Sample Log-In Check List

Client Name: Safety & Environmental Solutions

Work Order Number: 2203C78

RcptNo: 1

Received By: Cheyenne Cason 3/24/2022 7:30:00 AM

Completed By: Sean Livingston 3/24/2022 8:52:03 AM

Reviewed By: KPG 3/24/22

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 ☐
12. Are matrices correctly identified on Chain of Custody? Yes ☑ 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 ☐

# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)

Adjusted? NO

Checked by: TMC 3/24/22

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	3.5	Good				
2	4.4	Good				

Chain-of-Custody Record

Client: Safety & Environmental Solutions

Mailing Address: 703 E. Clinton Hobbs N.M

Phone #: 575-397-0510

email or Fax#:

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

Accreditation: ☐ Az Compliance ☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time: ☒ Standard ☐ Rush

Project Name: EOG Williams Pit

Project #: YAT-04-001

Project Manager: Boyer, Dave

Sampler: Joel Lowry

On Ice: ☒ Yes ☐ No

# of Coolers: 2 3.6-0.1=3.5

Cooler Temp(including CF): 4.5-0.1=4.4 (°C)

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No. 2203C78	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	BTEX Napthalenes	WQCC Dissolved Metals	Cations, Anions	TDS, Lab Balance	KAB9H	SP Cond
03/22	1000	H2O	MW-2	6	Ice	001											X	X	X	X	X	X
	1030	H2O	MW-1	6	HNO3	002											|	|	|	|	|	|
	1105	H2O	MW-4	6	H2SO4	003											|	|	|	|	|	|
03/22	1135	H2O	MW-3	6		004											X	X	X	X	X	X

Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time
03/23	0800	Joel Lowry	Che Crown		3/24/22	0730
Date:	Time:	Relinquished by:	Received by:	Via:	Date	Time

Remarks: Bill EOG Direct
ATTN: Chase Settle

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 report.

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 29, 2022

Dave Boyer
Safety & Environmental Solutions
PO Box 1613
Hobbs, NM 88241
TEL:
FAX:

RE: Williams Pit OrderNo.: 2208427

Dear Dave Boyer:

Hall Environmental Analysis Laboratory received 4 sample(s) on 8/6/2022 for the analyses presented in the following report.

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. In order to properly interpret your results, it is imperative that you review this report in its entirety. 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. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL 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 **2208427**
Date Reported: **8/29/2022**

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 8/3/2022 9:50:00 AM
Lab ID: 2208427-001 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.010		mg/L	10	8/9/2022 5:28:35 PM	D90122
Arsenic	ND	0.010		mg/L	10	8/9/2022 5:28:35 PM	D90122
Lead	ND	0.0050		mg/L	10	8/9/2022 5:28:35 PM	D90122
Selenium	0.021	0.010		mg/L	10	8/9/2022 5:28:35 PM	D90122
Thallium	ND	0.0025		mg/L	10	8/9/2022 5:28:35 PM	D90122
Uranium	0.0077	0.0050		mg/L	10	8/9/2022 5:28:35 PM	D90122
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Fluoride	ND	2.0		mg/L	20	8/9/2022 11:36:33 AM	R90139
Chloride	8200	500	*	mg/L	1E+	8/13/2022 2:21:15 PM	R90268
Bromide	5.3	2.0		mg/L	20	8/9/2022 11:36:33 AM	R90139
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	8/9/2022 11:36:33 AM	R90139
Sulfate	2200	50	*	mg/L	100	8/13/2022 2:08:23 PM	R90268
Nitrate+Nitrite as N	ND	10		mg/L	50	8/13/2022 5:59:52 PM	R90268
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **CAS**	
Conductivity	38000	100		µmhos/c	10	8/11/2022 2:17:59 PM	R90216
SM2320B: ALKALINITY						Analyst: **CAS**	
Bicarbonate (As CaCO3)	208.9	20.00		mg/L Ca	1	8/10/2022 3:49:42 PM	R90176
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/10/2022 3:49:42 PM	R90176
Total Alkalinity (as CaCO3)	208.9	20.00		mg/L Ca	1	8/10/2022 3:49:42 PM	R90176
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	20700	100	*HD	mg/L	1	8/12/2022 8:42:00 AM	69394
SM4500-H+B / 9040C: PH						Analyst: **CAS**	
pH	7.00		H	pH units	1	8/10/2022 3:49:42 PM	R90176
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Aluminum	ND	0.020		mg/L	1	8/22/2022 12:38:18 PM	B90470
Barium	0.016	0.0020		mg/L	1	8/22/2022 12:38:18 PM	B90470
Beryllium	ND	0.0020		mg/L	1	8/22/2022 12:38:18 PM	B90470
Boron	0.18	0.040		mg/L	1	8/22/2022 12:38:18 PM	B90470
Cadmium	ND	0.0020		mg/L	1	8/22/2022 12:38:18 PM	B90470
Calcium	1200	100		mg/L	100	8/22/2022 12:43:03 PM	B90470
Chromium	ND	0.0060		mg/L	1	8/22/2022 12:38:18 PM	B90470
Cobalt	ND	0.0060		mg/L	1	8/22/2022 12:38:18 PM	B90470
Copper	ND	0.0060		mg/L	1	8/22/2022 12:38:18 PM	B90470
Iron	0.034	0.020		mg/L	1	8/22/2022 12:38:18 PM	B90470
Magnesium	400	10		mg/L	10	8/22/2022 12:40:43 PM	B90470
Manganese	0.64	0.0020	*	mg/L	1	8/22/2022 12:38:18 PM	B90470

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208427**
Date Reported: **8/29/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-2
Project: Williams Pit
Collection Date: 8/3/2022 9:50:00 AM
Lab ID: 2208427-001 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Molybdenum	ND	0.0080		mg/L	1	8/22/2022 12:38:18 PM	B90470
Nickel	ND	0.010		mg/L	1	8/22/2022 12:38:18 PM	B90470
Potassium	14	1.0		mg/L	1	8/22/2022 12:38:18 PM	B90470
Silver	0.020	0.0050		mg/L	1	8/22/2022 12:38:18 PM	B90470
Sodium	5400	100		mg/L	100	8/22/2022 12:43:03 PM	B90470
Zinc	0.13	0.010		mg/L	1	8/22/2022 12:38:18 PM	B90470
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	47	1.0		µg/L	1	8/11/2022 12:25:54 AM	S90169
Toluene	ND	1.0		µg/L	1	8/11/2022 12:25:54 AM	S90169
Ethylbenzene	ND	1.0		µg/L	1	8/11/2022 12:25:54 AM	S90169
Naphthalene	ND	2.0		µg/L	1	8/11/2022 12:25:54 AM	S90169
1-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 12:25:54 AM	S90169
2-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 12:25:54 AM	S90169
Xylenes, Total	ND	1.5		µg/L	1	8/11/2022 12:25:54 AM	S90169
Surr: 1,2-Dichloroethane-d4	114	70-130		%Rec	1	8/11/2022 12:25:54 AM	S90169
Surr: 4-Bromofluorobenzene	108	70-130		%Rec	1	8/11/2022 12:25:54 AM	S90169
Surr: Dibromofluoromethane	123	70-130		%Rec	1	8/11/2022 12:25:54 AM	S90169
Surr: Toluene-d8	100	70-130		%Rec	1	8/11/2022 12:25:54 AM	S90169

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208427**
Date Reported: **8/29/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 8/3/2022 10:20:00 AM
Lab ID: 2208427-002 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.010		mg/L	10	8/9/2022 5:31:16 PM	D90122
Arsenic	ND	0.010		mg/L	10	8/9/2022 5:31:16 PM	D90122
Lead	ND	0.0050		mg/L	10	8/9/2022 5:31:16 PM	D90122
Selenium	0.022	0.010		mg/L	10	8/9/2022 5:31:16 PM	D90122
Thallium	ND	0.0025		mg/L	10	8/9/2022 5:31:16 PM	D90122
Uranium	0.0055	0.0050		mg/L	10	8/9/2022 5:31:16 PM	D90122
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Fluoride	ND	2.0		mg/L	20	8/9/2022 12:53:47 PM	R90139
Chloride	5400	500	*	mg/L	1E+	8/13/2022 2:46:58 PM	R90268
Bromide	3.6	2.0		mg/L	20	8/9/2022 12:53:47 PM	R90139
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	8/9/2022 12:53:47 PM	R90139
Sulfate	2100	50	*	mg/L	100	8/13/2022 2:34:07 PM	R90268
Nitrate+Nitrite as N	ND	4.0		mg/L	20	8/13/2022 6:51:19 PM	R90268
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **CAS**	
Conductivity	25000	100		µmhos/c	10	8/11/2022 2:20:53 PM	R90216
SM2320B: ALKALINITY						Analyst: **CAS**	
Bicarbonate (As CaCO3)	184.8	20.00		mg/L Ca	1	8/12/2022 1:27:52 PM	R90262
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/12/2022 1:27:52 PM	R90262
Total Alkalinity (as CaCO3)	184.8	20.00		mg/L Ca	1	8/12/2022 1:27:52 PM	R90262
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	14600	100	*HD	mg/L	1	8/12/2022 8:42:00 AM	69394
SM4500-H+B / 9040C: PH						Analyst: **CAS**	
pH	7.24		H	pH units	1	8/12/2022 1:27:52 PM	R90262
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Aluminum	ND	0.020		mg/L	1	8/22/2022 12:45:16 PM	B90470
Barium	0.016	0.0020		mg/L	1	8/22/2022 12:45:16 PM	B90470
Beryllium	ND	0.0020		mg/L	1	8/22/2022 12:45:16 PM	B90470
Boron	0.10	0.040		mg/L	1	8/22/2022 12:45:16 PM	B90470
Cadmium	ND	0.0020		mg/L	1	8/22/2022 12:45:16 PM	B90470
Calcium	1300	100		mg/L	100	8/22/2022 12:50:04 PM	B90470
Chromium	ND	0.0060		mg/L	1	8/22/2022 12:45:16 PM	B90470
Cobalt	ND	0.0060		mg/L	1	8/22/2022 12:45:16 PM	B90470
Copper	ND	0.0060		mg/L	1	8/22/2022 12:45:16 PM	B90470
Iron	0.059	0.020		mg/L	1	8/22/2022 12:45:16 PM	B90470
Magnesium	420	10		mg/L	10	8/22/2022 12:47:44 PM	B90470
Manganese	0.0066	0.0020		mg/L	1	8/22/2022 12:45:16 PM	B90470

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208427**
Date Reported: **8/29/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-1
Project: Williams Pit
Collection Date: 8/3/2022 10:20:00 AM
Lab ID: 2208427-002 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Molybdenum	ND	0.0080		mg/L	1	8/22/2022 12:45:16 PM	B90470
Nickel	ND	0.010		mg/L	1	8/22/2022 12:45:16 PM	B90470
Potassium	5.2	1.0		mg/L	1	8/22/2022 12:45:16 PM	B90470
Silver	0.021	0.0050		mg/L	1	8/22/2022 12:45:16 PM	B90470
Sodium	3100	100		mg/L	100	8/22/2022 12:50:04 PM	B90470
Zinc	0.022	0.010		mg/L	1	8/22/2022 12:45:16 PM	B90470
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	1.0		µg/L	1	8/11/2022 12:54:31 AM	S90169
Toluene	ND	1.0		µg/L	1	8/11/2022 12:54:31 AM	S90169
Ethylbenzene	ND	1.0		µg/L	1	8/11/2022 12:54:31 AM	S90169
Naphthalene	ND	2.0		µg/L	1	8/11/2022 12:54:31 AM	S90169
1-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 12:54:31 AM	S90169
2-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 12:54:31 AM	S90169
Xylenes, Total	ND	1.5		µg/L	1	8/11/2022 12:54:31 AM	S90169
Surr: 1,2-Dichloroethane-d4	110	70-130		%Rec	1	8/11/2022 12:54:31 AM	S90169
Surr: 4-Bromofluorobenzene	111	70-130		%Rec	1	8/11/2022 12:54:31 AM	S90169
Surr: Dibromofluoromethane	122	70-130		%Rec	1	8/11/2022 12:54:31 AM	S90169
Surr: Toluene-d8	98.4	70-130		%Rec	1	8/11/2022 12:54:31 AM	S90169

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208427**
Date Reported: **8/29/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 8/3/2022 11:00:00 AM
Lab ID: 2208427-003 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.0050		mg/L	5	8/9/2022 5:39:21 PM	D90122
Arsenic	ND	0.0050		mg/L	5	8/9/2022 5:39:21 PM	D90122
Lead	ND	0.0025		mg/L	5	8/9/2022 5:39:21 PM	D90122
Selenium	0.022	0.0050		mg/L	5	8/9/2022 5:39:21 PM	D90122
Thallium	ND	0.0012		mg/L	5	8/9/2022 5:39:21 PM	D90122
Uranium	0.0068	0.0025		mg/L	5	8/10/2022 4:23:34 PM	A90171
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Fluoride	ND	2.0		mg/L	20	8/9/2022 1:19:32 PM	R90139
Chloride	3300	250	*	mg/L	500	8/13/2022 3:12:41 PM	R90268
Bromide	3.8	2.0		mg/L	20	8/9/2022 1:19:32 PM	R90139
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	8/9/2022 1:19:32 PM	R90139
Sulfate	2100	50	*	mg/L	100	8/13/2022 2:59:49 PM	R90268
Nitrate+Nitrite as N	ND	4.0		mg/L	20	8/13/2022 7:04:10 PM	R90268
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **CAS**	
Conductivity	17000	100		µmhos/c	10	8/11/2022 2:23:45 PM	R90216
SM2320B: ALKALINITY						Analyst: **CAS**	
Bicarbonate (As CaCO3)	219.8	20.00		mg/L Ca	1	8/12/2022 1:39:47 PM	R90262
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/12/2022 1:39:47 PM	R90262
Total Alkalinity (as CaCO3)	219.8	20.00		mg/L Ca	1	8/12/2022 1:39:47 PM	R90262
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	9460	100	*HD	mg/L	1	8/12/2022 8:42:00 AM	69394
SM4500-H+B / 9040C: PH						Analyst: **CAS**	
pH	7.28		H	pH units	1	8/12/2022 1:39:47 PM	R90262
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Aluminum	ND	0.020		mg/L	1	8/22/2022 12:52:07 PM	B90470
Barium	0.013	0.0020		mg/L	1	8/22/2022 12:52:07 PM	B90470
Beryllium	ND	0.0020		mg/L	1	8/22/2022 12:52:07 PM	B90470
Boron	0.25	0.040		mg/L	1	8/22/2022 12:52:07 PM	B90470
Cadmium	ND	0.0020		mg/L	1	8/22/2022 12:52:07 PM	B90470
Calcium	790	10		mg/L	10	8/22/2022 12:54:29 PM	B90470
Chromium	ND	0.0060		mg/L	1	8/22/2022 12:52:07 PM	B90470
Cobalt	ND	0.0060		mg/L	1	8/22/2022 12:52:07 PM	B90470
Copper	ND	0.0060		mg/L	1	8/22/2022 12:52:07 PM	B90470
Iron	0.037	0.020		mg/L	1	8/22/2022 12:52:07 PM	B90470
Magnesium	340	10		mg/L	10	8/22/2022 12:54:29 PM	B90470
Manganese	0.20	0.0020	*	mg/L	1	8/22/2022 12:52:07 PM	B90470

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208427**
Date Reported: **8/29/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-4
Project: Williams Pit
Collection Date: 8/3/2022 11:00:00 AM
Lab ID: 2208427-003 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Molybdenum	ND	0.0080		mg/L	1	8/22/2022 12:52:07 PM	B90470
Nickel	ND	0.010		mg/L	1	8/22/2022 12:52:07 PM	B90470
Potassium	18	1.0		mg/L	1	8/22/2022 12:52:07 PM	B90470
Silver	0.014	0.0050		mg/L	1	8/22/2022 12:52:07 PM	B90470
Sodium	2100	100		mg/L	100	8/22/2022 1:07:25 PM	B90470
Zinc	ND	0.010		mg/L	1	8/22/2022 12:52:07 PM	B90470
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	1.0		µg/L	1	8/11/2022 1:23:06 AM	S90169
Toluene	ND	1.0		µg/L	1	8/11/2022 1:23:06 AM	S90169
Ethylbenzene	ND	1.0		µg/L	1	8/11/2022 1:23:06 AM	S90169
Naphthalene	ND	2.0		µg/L	1	8/11/2022 1:23:06 AM	S90169
1-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 1:23:06 AM	S90169
2-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 1:23:06 AM	S90169
Xylenes, Total	ND	1.5		µg/L	1	8/11/2022 1:23:06 AM	S90169
Surr: 1,2-Dichloroethane-d4	111	70-130		%Rec	1	8/11/2022 1:23:06 AM	S90169
Surr: 4-Bromofluorobenzene	104	70-130		%Rec	1	8/11/2022 1:23:06 AM	S90169
Surr: Dibromofluoromethane	119	70-130		%Rec	1	8/11/2022 1:23:06 AM	S90169
Surr: Toluene-d8	98.3	70-130		%Rec	1	8/11/2022 1:23:06 AM	S90169

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208427**
Date Reported: **8/29/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 8/3/2022 11:35:00 AM
Lab ID: 2208427-004 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA 200.8: DISSOLVED METALS						Analyst: **bcv**	
Antimony	ND	0.010		mg/L	10	8/9/2022 5:42:03 PM	D90122
Arsenic	ND	0.010		mg/L	10	8/10/2022 4:26:15 PM	A90171
Lead	ND	0.0050		mg/L	10	8/9/2022 5:42:03 PM	D90122
Selenium	0.016	0.010		mg/L	10	8/10/2022 4:26:15 PM	A90171
Thallium	ND	0.0025		mg/L	10	8/9/2022 5:42:03 PM	D90122
Uranium	0.0063	0.0050		mg/L	10	8/10/2022 4:26:15 PM	A90171
EPA METHOD 300.0: ANIONS						Analyst: **JTT**	
Fluoride	ND	2.0		mg/L	20	8/9/2022 1:45:16 PM	R90139
Chloride	9200	500	*	mg/L	1E+	8/13/2022 3:38:23 PM	R90268
Bromide	5.7	2.0		mg/L	20	8/9/2022 1:45:16 PM	R90139
Phosphorus, Orthophosphate (As P)	ND	10	H	mg/L	20	8/9/2022 1:45:16 PM	R90139
Sulfate	2100	50	*	mg/L	100	8/13/2022 3:25:32 PM	R90268
Nitrate+Nitrite as N	ND	10		mg/L	50	8/13/2022 7:17:02 PM	R90268
SM2510B: SPECIFIC CONDUCTANCE						Analyst: **CAS**	
Conductivity	41000	100		µmhos/c	10	8/11/2022 2:26:37 PM	R90216
SM2320B: ALKALINITY						Analyst: **CAS**	
Bicarbonate (As CaCO3)	224.2	20.00		mg/L Ca	1	8/12/2022 1:52:39 PM	R90262
Carbonate (As CaCO3)	ND	2.000		mg/L Ca	1	8/12/2022 1:52:39 PM	R90262
Total Alkalinity (as CaCO3)	224.2	20.00		mg/L Ca	1	8/12/2022 1:52:39 PM	R90262
SM2540C MOD: TOTAL DISSOLVED SOLIDS						Analyst: **SNS**	
Total Dissolved Solids	22100	200	*D	mg/L	1	8/12/2022 8:42:00 AM	69394
SM4500-H+B / 9040C: PH						Analyst: **CAS**	
pH	7.17		H	pH units	1	8/12/2022 1:52:39 PM	R90262
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Aluminum	ND	0.020		mg/L	1	8/22/2022 1:09:33 PM	B90470
Barium	0.021	0.0020		mg/L	1	8/22/2022 1:09:33 PM	B90470
Beryllium	ND	0.0020		mg/L	1	8/22/2022 1:09:33 PM	B90470
Boron	0.096	0.040		mg/L	1	8/22/2022 1:09:33 PM	B90470
Cadmium	ND	0.0020		mg/L	1	8/22/2022 1:09:33 PM	B90470
Calcium	1300	100		mg/L	100	8/22/2022 1:42:01 PM	B90470
Chromium	ND	0.0060		mg/L	1	8/22/2022 1:09:33 PM	B90470
Cobalt	ND	0.0060		mg/L	1	8/22/2022 1:09:33 PM	B90470
Copper	ND	0.0060		mg/L	1	8/22/2022 1:09:33 PM	B90470
Iron	0.049	0.020		mg/L	1	8/22/2022 1:09:33 PM	B90470
Magnesium	430	10		mg/L	10	8/22/2022 1:11:59 PM	B90470
Manganese	0.0039	0.0020		mg/L	1	8/22/2022 1:09:33 PM	B90470

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	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 range due to dilution or matrix interference		

Analytical Report
Lab Order **2208427**
Date Reported: **8/29/2022**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Safety & Environmental Solutions
Client Sample ID: MW-3
Project: Williams Pit
Collection Date: 8/3/2022 11:35:00 AM
Lab ID: 2208427-004 **Matrix:** AQUEOUS **Received Date:** 8/6/2022 10:30:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 200.7: DISSOLVED METALS						Analyst: **JRR**	
Molybdenum	ND	0.0080		mg/L	1	8/22/2022 1:09:33 PM	B90470
Nickel	ND	0.010		mg/L	1	8/22/2022 1:09:33 PM	B90470
Potassium	6.9	1.0		mg/L	1	8/22/2022 1:09:33 PM	B90470
Silver	0.021	0.0050		mg/L	1	8/22/2022 1:09:33 PM	B90470
Sodium	6200	100		mg/L	100	8/22/2022 1:42:01 PM	B90470
Zinc	0.16	0.010		mg/L	1	8/22/2022 1:09:33 PM	B90470
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **JR**	
Benzene	ND	1.0		µg/L	1	8/11/2022 1:51:41 AM	S90169
Toluene	ND	1.0		µg/L	1	8/11/2022 1:51:41 AM	S90169
Ethylbenzene	ND	1.0		µg/L	1	8/11/2022 1:51:41 AM	S90169
Naphthalene	ND	2.0		µg/L	1	8/11/2022 1:51:41 AM	S90169
1-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 1:51:41 AM	S90169
2-Methylnaphthalene	ND	4.0		µg/L	1	8/11/2022 1:51:41 AM	S90169
Xylenes, Total	ND	1.5		µg/L	1	8/11/2022 1:51:41 AM	S90169
Surr: 1,2-Dichloroethane-d4	109	70-130		%Rec	1	8/11/2022 1:51:41 AM	S90169
Surr: 4-Bromofluorobenzene	109	70-130		%Rec	1	8/11/2022 1:51:41 AM	S90169
Surr: Dibromofluoromethane	122	70-130		%Rec	1	8/11/2022 1:51:41 AM	S90169
Surr: Toluene-d8	99.4	70-130		%Rec	1	8/11/2022 1:51:41 AM	S90169

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	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 range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **MB-B**	SampType: **MBLK**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **PBW**	Batch ID: **B90470**	RunNo: **90470**
Prep Date:	Analysis Date: **8/22/2022**	SeqNo: **3229006** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	ND	0.020								
Barium	ND	0.0020								
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-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B90470**	RunNo: **90470**
Prep Date:	Analysis Date: **8/22/2022**	SeqNo: **3229008** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aluminum	0.55	0.020	0.5000	0	110	85	115			
Barium	0.50	0.0020	0.5000	0	100	85	115			
Beryllium	0.49	0.0020	0.5000	0	98.7	85	115			
Boron	0.50	0.040	0.5000	0	101	85	115			
Cadmium	0.50	0.0020	0.5000	0	99.5	85	115			
Calcium	52	1.0	50.00	0	105	85	115			
Chromium	0.50	0.0060	0.5000	0	100	85	115			
Cobalt	0.48	0.0060	0.5000	0	96.9	85	115			
Copper	0.51	0.0060	0.5000	0	101	85	115			
Iron	0.50	0.020	0.5000	0	99.8	85	115			
Magnesium	52	1.0	50.00	0	104	85	115			
Manganese	0.49	0.0020	0.5000	0	98.6	85	115			
Molybdenum	0.49	0.0080	0.5000	0	97.3	85	115			
Nickel	0.50	0.010	0.5000	0	99.0	85	115			
Potassium	51	1.0	50.00	0	103	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **LCS-B**	SampType: **LCS**	TestCode: **EPA Method 200.7: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **B90470**	RunNo: **90470**
Prep Date:	Analysis Date: **8/22/2022**	SeqNo: **3229008** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Silver	0.11	0.0050	0.1000	0	106	85	115			
Sodium	52	1.0	50.00	0	103	85	115			
Zinc	0.49	0.010	0.5000	0	98.0	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **D90122**	RunNo: **90122**
Prep Date:	Analysis Date: **8/9/2022**	SeqNo: **3213434** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	ND	0.0010								
Arsenic	ND	0.0010								
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: **D90122**	RunNo: **90122**
Prep Date:	Analysis Date: **8/9/2022**	SeqNo: **3213436** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Antimony	0.025	0.0010	0.02500	0	98.7	85	115			
Arsenic	0.024	0.0010	0.02500	0	94.3	85	115			
Lead	0.012	0.00050	0.01250	0	94.3	85	115			
Selenium	0.025	0.0010	0.02500	0	99.1	85	115			
Thallium	0.012	0.00025	0.01250	0	94.0	85	115			
Uranium	0.011	0.00050	0.01250	0	91.7	85	115			

Sample ID: **MB**	SampType: **MBLK**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **PBW**	Batch ID: **A90171**	RunNo: **90171**
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3215045** Units: **mg/L**

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

Sample ID: **LCS**	SampType: **LCS**	TestCode: **EPA 200.8: Dissolved Metals**
Client ID: **LCSW**	Batch ID: **A90171**	RunNo: **90171**
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3215047** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Arsenic	0.025	0.0010	0.02500	0	100	85	115			
Selenium	0.025	0.0010	0.02500	0	101	85	115			
Uranium	0.012	0.00050	0.01250	0	95.6	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R90139**	RunNo: **90139**
Prep Date:	Analysis Date: **8/9/2022**	SeqNo: **3213737** 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: **R90139**	RunNo: **90139**
Prep Date:	Analysis Date: **8/9/2022**	SeqNo: **3213738** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.52	0.10	0.5000	0	104	90	110			
Bromide	2.5	0.10	2.500	0	101	90	110			
Phosphorus, Orthophosphate (As P)	4.8	0.50	5.000	0	96.1	90	110			

Sample ID: **MB**	SampType: **mblk**	TestCode: **EPA Method 300.0: Anions**
Client ID: **PBW**	Batch ID: **R90268**	RunNo: **90268**
Prep Date:	Analysis Date: **8/13/2022**	SeqNo: **3219692** 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								
Nitrate+Nitrite as N	ND	0.20								

Sample ID: **LCS**	SampType: **lcs**	TestCode: **EPA Method 300.0: Anions**
Client ID: **LCSW**	Batch ID: **R90268**	RunNo: **90268**
Prep Date:	Analysis Date: **8/13/2022**	SeqNo: **3219693** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloride	4.6	0.50	5.000	0	92.6	90	110			
Sulfate	10	0.50	10.00	0	99.8	90	110			
Nitrate+Nitrite as N	3.5	0.20	3.500	0	99.6	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **S90169**	RunNo: **90169**
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3215026** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	18	1.0	20.00	0	91.4	70	130			
Toluene	18	1.0	20.00	0	91.6	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		101	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	11		10.00		114	70	130			
Surr: Toluene-d8	10		10.00		103	70	130			

Sample ID: **mb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **S90169**	RunNo: **90169**
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3215035** 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	11		10.00		106	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130			
Surr: Dibromofluoromethane	12		10.00		119	70	130			
Surr: Toluene-d8	10		10.00		104	70	130			

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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID:	**lcs-1 98.9uS eC**	SampType:	**lcs**	TestCode:	**SM2510B: Specific Conductance**					
Client ID:	**LCSW**	Batch ID:	**R90216**	RunNo:	**90216**					
Prep Date:		Analysis Date:	**8/11/2022**	SeqNo:	**3217427**	Units:	**µmhos/cm**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Conductivity	99	10	98.90	0	99.7	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R90176**	RunNo: **90176**							
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3215580**	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: **R90176**	RunNo: **90176**							
Prep Date:	Analysis Date: **8/10/2022**	SeqNo: **3215581**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	76.48	20.00	80.00	0	95.6	90	110			

Sample ID: **mb-1 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R90262**	RunNo: **90262**							
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219467**	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: **R90262**	RunNo: **90262**							
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219468**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.40	20.00	80.00	0	98.0	90	110			

Sample ID: **mb-2 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R90262**	RunNo: **90262**							
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219490**	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 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R90262**	RunNo: **90262**							
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219491**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	78.36	20.00	80.00	0	98.0	90	110			

Qualifiers:

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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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	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#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **mb-3 alk**	SampType: **mblk**	TestCode: **SM2320B: Alkalinity**							
Client ID: **PBW**	Batch ID: **R90262**	RunNo: **90262**							
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219513**	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-3 alk**	SampType: **lcs**	TestCode: **SM2320B: Alkalinity**							
Client ID: **LCSW**	Batch ID: **R90262**	RunNo: **90262**							
Prep Date:	Analysis Date: **8/12/2022**	SeqNo: **3219514**	Units: **mg/L CaCO3**						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Alkalinity (as CaCO3)	77.56	20.00	80.00	0	97.0	90	110			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
D	Sample Diluted Due to Matrix	E	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 range due to dilution or matrix interference		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **2208427**

29-Aug-22

Client: Safety & Environmental Solutions

Project: Williams Pit

Sample ID: **MB-69394**	SampType: **MBLK**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **PBW**	Batch ID: **69394**	RunNo: **90210**
Prep Date: **8/10/2022**	Analysis Date: **8/12/2022**	SeqNo: **3217071** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	ND	20.0								

Sample ID: **LCS-69394**	SampType: **LCS**	TestCode: **SM2540C MOD: Total Dissolved Solids**
Client ID: **LCSW**	Batch ID: **69394**	RunNo: **90210**
Prep Date: **8/10/2022**	Analysis Date: **8/12/2022**	SeqNo: **3217072** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Total Dissolved Solids	1000	20.0	1000	0	100	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 range due to dilution or matrix interference
B	Analyte detected in the associated Method Blank
E	Estimated value
J	Analyte detected below quantitation limits
P	Sample pH Not In Range
RL	Reporting Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

CATION/ANION BALANCE SHEET FOR WATER ANALYSES

HEAL LAB NUMBER	MW-2 2208427-001		MW-1 2208427-002		MW-4 2208427-003		MW-3 2208427-004					
CATIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sodium	5400	234.88	3100	134.84	2100	91.34	6200	269.68				
Potassium	14	0.36	5.2	0.13	18	0.46	6.9	0.18				
Calcium	1200	59.88	1300	64.87	790	39.42	1300	64.87				
Magnesium	400	32.92	420	34.57	340	27.98	430	35.39				
Total Cations		328.04		234.41		159.21		370.12				
ANIONS	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L	mg/L	meq/L
Sulfate	2200	45.80	2100	43.72	2100	43.72	2100	43.72				
Chloride	8200	231.31	5400	152.33	3300	93.09	9200	259.52				
Bicarbonate (CaCO3)	208.90	4.17	184.8	3.69	219.8	4.39	224.2	4.48				
Carbonate (CaCO3)												
Phosphate (P)												
Nitrite (N)												
Nitrate (N)					-							
Fluoride												
Bromide	5.3	0.07	3.6	0.05	3.8	0.05	5.7	0.07				
Total Anions		281.36		199.79		141.25		307.79				
Elect. Cond. (µMhos/cm)	38000		25000		17000		41000					
CATION/ANION RATIO		1.17		1.17		1.13		1.20				
% Difference		8		8		6		9				
TOTAL DISSOLVED SOLIDS RATIOS												
TDS (measured)	20700		14600		9460		22100					
TDS (calculated)	17545		12440		8784		19377					
Ratio meas TDS:calc TDS		1.2		1.2		1.1		1.1				
Ratio Meas. TDS:EC		0.54		0.58		0.56		0.54				
Ratio Calc. TDS:EC		0.46		0.50		0.52		0.47				
Ratio of anion sum:EC		0.7		0.8		0.8		0.8				
Ratio of cation sum:EC		0.9		0.9		0.9		0.9				

* Analyte not detected (below method detection limit).

** Values below 0.55 can be obtained in waters containing appreciable concentrations of free acid or alkalinity, or not within pH 6 to 9. Values much higher than 0.7 are possible in highly saline waters.

GENERALLY ACCEPTED RANGES

Cation/Anion balance: 0-3 meq/L- 0.2 meq/L, 3-10 meq/L- 2%, >10 meq/L - 5%

Ratio measured TDS:calculated TDS -- 1.0-1.2. Ratio Calculated TDS:EC -- 0.55-0.7. Ratio Measured TDS:EC--0.55-0.7. Ratio of anion sum:EC -- 0.9-1.1.

Ratio of cation sum:EC -- 0.9-1.1

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
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: Safety & Environmental Solutions | Work Order Number: 2208427 | RcptNo: 1

Received By: Tracy Casarrubias 8/6/2022 10:30:00 AM

Completed By: Tracy Casarrubias 8/6/2022 3:03:52 PM

Reviewed By: SCL 8/8/22

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 ☐	
12. Are matrices correctly identified on Chain of Custody?	Yes ☑	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 ☐	

# of preserved bottles checked for pH: 8 (<2 or >12 unless noted)

Adjusted? NO

Checked by: KRA 8.08.22

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	1.1	Good	Yes			
2	1.0	Good	Yes			

Chain-of-Custody Record

Client: Safety & Environmental

Mailing Address: 703 E Clinton
Hobbs NM 88240

Phone #: 575-397-0510

email or Fax#:

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

Accreditation: ☐ Az Compliance
☐ NELAC ☐ Other

☐ EDD (Type)

Turn-Around Time:
☑ Standard ☐ Rush

Project Name: Williams #1

Project #: YAT-04-001

Project Manager: Boyer, Dave

Sampler: Sean Jung

On Ice: ☑ Yes ☐ No

# of Coolers: 2

Cooler Temp (including CF): 0.9 +0.2 = 1.1 (°C)
0.8 +0.2 1.0°C

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

Analysis Request

Date	Time	Matrix	Sample Name	Container Type and #	Preservative Type	HEAL No.	BTEX / MTBE / TMB's (8021)	TPH:8015D(GRO / DRO / MRO)	8081 Pesticides/8082 PCB's	EDB (Method 504.1)	PAHs by 8310 or 8270SIMS	RCRA 8 Metals	Cl, F, Br, NO_3, NO_2, PO_4, SO_4	8260 (VOA)	8270 (Semi-VOA)	Total Coliform (Present/Absent)	BTEX, Naphthalenes	WQCC, Dissolved Metals	Cations + Anions	TDS, Lab pH	Lab. pH	Sp. Cond
08/03	0950	H2O	MW-2	6	Ice	001											X	X	X	X	X	X
"	1020	H2O	MW-1	6	HNO3	002											"	"	"	"	"	"
"	1100	H2O	MW-4	6	H2SO4	003											"	"	"	"	"	"
08/03	1135	H2O	MW-3	6		004											X	X	X	X	X	X

Remarks: Bill EOG Direct
ATN: Chase Settle

Date	Time	Relinquished by:	Received by:	Via:	Date	Time
08/05	0800	Sean Jung	[illegible] Boyer	Hand	08/05	0800
8/5/22	1900	[illegible]	[illegible]	bam	8/6/22	10:30

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 report.

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 314667

CONDITIONS

Operator: EOG RESOURCES INC 5509 Champions Drive Midland, TX 79706	OGRID: 7377
	Action Number: 314667
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Site Chronology and Status Update for the Williams Pit has been received and accepted as part of the record. App ID: 314667	9/20/2024