

**REVIEWED**

**By Mike Buchanan at 3:50 pm, Jul 15, 2024**



## **2023 ANNUAL GROUNDWATER MONITORING REPORT**

Lordsburg Compressor Station  
Hidalgo County, New Mexico

Review of the 2023 Annual Groundwater Monitoring Report for Lordsburg Compressor Station: Content Satisfactory

1. Continue to conduct groundwater monitoring events on a quarterly basis for dissolved chromium, using EPA method 200.8
2. Submit the next annual groundwater report to OCD by April 1, 2025.

NMOCD Incident No.  
nAPP2217233972

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### Abbreviations

Bgs	below ground surface
EPNG	El Paso Natural Gas Company, LLC
Gpm	Gallons per minute
mg/L	milligrams per liter
NFA	No Further Action
NMOCD	New Mexico Oil Conservation Division
NMWQCC	New Mexico Water Quality Control Commission
USEPA	United States Environmental Protection Agency



## 2023 ANNUAL GROUNDWATER MONITORING REPORT

## 1.0 INTRODUCTION

This 2023 Annual Groundwater Monitoring Report has been prepared on behalf El Paso Natural Gas Company (EPNG), a subsidiary of Kinder Morgan, Inc., by Stantec Consulting Services Inc. (Stantec). This report summarizes quarterly groundwater sampling activities completed at the Lordsburg Compressor Station, located in Hidalgo County, New Mexico (Site; Figure 1), in 2023. Quarterly groundwater sampling activities were completed on behalf of EPNG by Stantec. During each sampling event, groundwater samples were collected from the Site water supply well EPWW1 (New Mexico well record #69807) and analyzed for dissolved chromium.

## 2.0 Site BACKGROUND

### 2.1 Site History

The Lordsburg Compressor Station began operation in 1952. Water supply wells EPWW1 and EPWW2 were constructed in 1951. Chromate (a corrosion inhibitor) was reportedly used at the Site until the mid-1970's, and chromate-bearing solutions were discharged to unlined ponds on the east side of the Site. The ponds were closed in 1993. EPNG conducted a screening investigation for chromium in soil and groundwater at the Site in 2006 (Figure 2). Production well EPWW1 was subsequently sampled; production well EPWW2 had collapsed and was not available for sampling (LFR, Inc., 2007). In 2009 EPNG sampled groundwater from six private wells west of the site, and one stock well located approximately one mile east-southeast of the site (URS, 2010). Based on the sampling results, a report of a release was submitted to the NMOCD on January 15, 2010 (EPNG, 2010).

Following the 2009 investigation, EPNG began annual groundwater sampling of well EPWW1, and the off-site stock well and a stock tank located on private property approximately one mile east-southeast from the Site. The stock well was last sampled in 2013, as the windmill that powered the well pump was found to be inoperable after that time. During the period from 2009 to 2013, concentrations of dissolved chromium ranged from less than the laboratory reporting limit of 0.005 milligrams per liter (mg/L) to 0.062 mg/L in samples collected from the stock well. Quarterly groundwater sampling of EPWW1 was initiated in 2019 (AECOM, 2022). Historical dissolved chromium results of groundwater sampled from production well EPWW1 and the stock well are summarized on Table 1.

A review of regional hydrogeology and potential natural sources of chromium in groundwater is provided in Attachment A.

### 2.2 Lordsburg Compressor Station Wells

The Lordsburg Compressor Station water supply well EPWW1 serves as the non-potable water supply well for the compressor station and is equipped with an electric submersible pump that pumps at a rate of approximately 50 gallons per minute. The intake depth of the submersible pump is not known. Pumped water is discharged to the station water



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storage tank located west of EPWW1 and is used for site operations. Records indicate the well screen interval for EPWW1 is from 195 to 440 feet below ground surface and starts approximately 100 feet below the estimated groundwater level. Production well EPWW2 is not in use.

Historical logs for EPWW1 and EPWW2 indicate water-bearing units, consisting of sand and gravel, were encountered beginning at depths of 220 feet and 200 feet below ground surface. Overlying soils consist of clay, sand and gravel. Initial water levels in EPWW1 and EPWW2 from unknown dates were noted to be 115 and 82 feet bgs, respectively.

### 3.0 SAMPLING ACTIVITIES

#### 3.1 FIELD ACTIVITIES

Stantec provided field work notifications of quarterly sampling events via e-mail to the NMOCD as summarized in Appendix B. Quarterly groundwater sampling activities were performed on March 29, June 13, September 6, and December 12, 2023.

Prior to groundwater sampling, Stantec inspected EPWW1 and visited with facility personnel to confirm EPWW1 was not in operation and adequate storage of purged groundwater was available. Stantec also gauged EPWW1 with an electronic water level meter through a 1.5-inch sample port prior to purging during the March, June, and December 2023 sampling events. Following set-up of the sampling equipment, Stantec completed stabilization monitoring every three to five minutes upon initiation of purging EPWW-1, pursuant to United States Environmental Protection Agency (USEPA) protocols. Purged water was pumped into the storage tank on-site for facility use. Field parameters of temperature, specific conductance, pH, and oxidation reduction potential were monitored via calibrated flow cell during pumping until stabilization was observed over three readings. Upon stabilization, a groundwater sample was collected after passing the sample through a 0.45-micron filter.

Groundwater samples were placed into laboratory-supplied sample containers, packed on ice in an insulated cooler, and transported under standard chain-of-custody protocols to Eurofins Environment Testing Southwest, LLC, in Phoenix, Arizona (Eurofins). A field duplicate sample was also collected with each primary sample from EPWW1. The primary and field duplicate samples were analyzed for dissolved chromium using USEPA Method 200.8. Sample results are summarized in Table 1. The laboratory reports are attached as Appendix C. Groundwater sample sheets or notes completed during sampling activities are included as Appendix D.

#### 3.2 QUALITY ASSURANCE/QUALITY CONTROL RESULTS

Data validation activities and results are documented in the Quality Control Summary Report provided in Appendix E. Based on a review of the data, no data was excluded.



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## 4.0 RESULTS AND DISCUSSION

### 4.1 Gauging Data

When gauged during the groundwater sampling events, the depth to groundwater from the top of the access pipe ranged from 92.31 feet (March 2023) to 93.84 feet (June 2023). The water level data collected at the Site is summarized on Table 1.

### 4.2 Groundwater Sample Results

New Mexico has established a standard for maximum allowable concentration of dissolved chromium in groundwater of 0.05 mg/L (New Mexico Administrative Code 20.6.2.3103). It has been reported a site-specific action level for dissolved chromium of 0.055 mg/L has been established for the Lordsburg Station by New Mexico regulators, although documentation of the site-specific standard is not available.

Dissolved chromium concentrations in quarterly groundwater samples collected from EPWW-1 in 2023 ranged from 0.041 mg/L to 0.052 mg/L in the primary samples and 0.042 mg/L to 0.054 mg/L in the duplicate samples. The concentration of dissolved chromium detected in the sample from EPWW-1 during the March 2023 sampling event exceeded the NMWQCC standard for chromium of 0.050 mg/L. The remaining samples collected in 2024 were less than the NMWQCC standard for chromium.

## 5.0 RECOMMENDATIONS

Pursuant to New Mexico Oil Conservation Division requirements, sites with groundwater impacts are required to have eight calendar quarters of groundwater sample results below applicable NMWQCC standards to be considered for regulatory closure. Continued quarterly sampling and groundwater monitoring of EPWW1 is planned for 2024. Primary and duplicate samples from EPWW1 will be submitted for analysis of dissolved chromium using USEPA Method 200.8.

As summarized in Appendix A, regional groundwater flow across the site is from east to west.

The activities conducted in 2024 and analytical results will be summarized in a 2024 Annual Report, to be submitted by July 1, 2025.



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**REFERENCES**

AECOM Technical Services Inc., 2021. *2021 Quarterly Groundwater Sampling Results, Lordsburg Compressor Station, Lordsburg, New Mexico*. Prepared for El Paso Natural Gas Company (EPNG). February 2.

El Paso Natural Gas Company, 2010. *Release Notification For El Paso Natural Gas (EPNG) Lordsburg Compressor Station, Lordsburg, New Mexico*. Submitted to Mr. Glen von Gotten, New Mexico Oil Conservation Division. January 15.

LFR, Inc., 2007. *Initial Site Screening Report, Lordsburg Compressor Station, Township-23-S, Range-17-W, Southeast 4 Section 8*. Prepared for El Paso Pipeline Group Attorney. February 23.

URS Corporation, 2010. *12/2009 and 2/2010 Sampling Events, Lordsburg Compressor Station, Lordsburg, New Mexico*. Prepared for El Paso Natural Gas Company. March 16.



TABLES

TABLE 1 – DISSOLVED CHROMIUM RESULTS



**Table 1.**  
**Summary of Dissolved Chromium Results**  
**for Groundwater Samples**  
**Lordsburg Compressor Station**  
**El Paso Natural Gas Company**

Groundwater Samples					Depth to	Primary Sample	Field Duplicate
Description	Well ID	Sample ID	Lab ID	Sample Date	Water	Dissolved <sup>1</sup> Chromium mg/L	
Windmill	70331	L6543-STA-02-70331-120209	09120087-01	12/2/2009	NG	<b>0.0549</b>	NC
Windmill	70331	L6543-STA-02-70331-021010	10020401-02	2/10/2010	NG	0.0202	0.0205
Windmill	70331	04114NM-04-70331-030211	11030077-02	3/2/2011	NG	0.006	0.0078
Windmill	70331	04114NM-05-70331-030112	TC-2033-2	3/1/2012	NG	<b>0.0612</b>	<b>0.0605</b>
Windmill	70331	04114NM-06-70331-031313	TC26940-2	3/13/2013	NG	<b>0.062</b>	<b>0.0612</b>
Windmill	70331Pond	L6543-STA-02-70331-POND-021010	10020401-04	2/10/2010	NG	0.005	NC
EPNG Well	EPWW1	L6543-STA-02-EPWW1-120309	09120150-03	12/3/2009	NG	0.0500	0.0489
EPNG Well	EPWW1	L6543-STA-02-EPWW1-021010	10020401-01	2/10/2010	NG	0.0459	NC
EPNG Well	EPWW1	04114NM-04-EPWW1-030211	11030077-01	3/2/2011	NG	<b>0.0503</b>	NC
EPNG Well	EPWW1	04114NM-05-EPWW1-030112	TC-2033-1	3/1/2012	NG	0.0481	NC
EPNG Well	EPWW1	04114NM-06-EPWW1-031313	TC26940-1	3/13/2013	NG	<b>0.0554</b>	NC
EPNG Well	EPWW1	04114NM-07-EPWW1-04 14	TC-45930-1	4/1/2014	91.40	<b>0.0545</b>	<b>0.0548</b>
EPNG Well	EPWW1	04114NM-08-EPWW1-040915	TC-65279-1	4/9/2015	92.44	<b>0.0525</b>	<b>0.0521</b>
EPNG Well	EPWW1	EPWW-1	550-64294-2	6/2/2016	NG	0.050	<b>0.051</b>
EPNG Well	EPWW1	EPWW-1	550-84722-2	6/20/2017	NG	0.050	0.049
EPNG Well	EPWW1	EPWW-1	550-101393-5	4/17/2018	NG	0.048	0.049
EPNG Well	EPWW1	EPWW-1-022119	550-118406-1	2/21/2019	NG	<b>0.053</b>	NC
EPNG Well	EPWW1	EPWW-1-05-14-2019	550-122908-1	5/14/2019	NG	<b>0.052</b>	NC
EPNG Well	EPWW1	EPWW-1-081319	550-127927-1	8/13/2019	NG	<b>0.053</b>	NC
EPNG Well	EPWW1	EPWW-1-110719	550-133016-1	11/7/2019	NG	<b>0.052</b>	NC
EPNG Well	EPWW1	EPWW-1-021920	550-138265-1	2/19/2020	NG	0.05	NC
EPNG Well	EPWW1	EPWW-1-06192020	550-143737-1	6/19/2020	NG	0.045	NC
EPNG Well	EPWW1	EPWW-1-08192020	550-147678-1	8/19/2020	NG	<b>0.056</b>	NC
EPNG Well	EPWW1	EPWW-1	550-154995-1	12/11/2020	NG	<b>0.053</b>	NC
EPNG Well	EPWW1	EPWW1-03-23-21	550-160580-1	3/23/2021	NG	<b>0.055</b>	NC
EPNG Well	EPWW1	EPWW1-060421	550-165277-1	6/4/2021	NG	<b>0.056</b>	NC
EPNG Well	EPWW1	EPWW1-08-25-21	550-169691-1	8/25/2021	NG	<b>0.054</b>	NC
EPNG Well	EPWW1	EPWW1	550-175978-1	12/15/2021	NG	<b>0.055</b>	NC
EPNG Well	EPWW1	EPWW1	550-181650-1	3/24/2022	NG	0.048	NC
EPNG Well	EPWW1	EPWW1-06-07-2022	550-185425-1	6/7/2022	NG	0.045	NC
EPNG Well	EPWW1	WW#1	550-191112-1	9/27/2022	NG	0.040	0.039
EPNG Well	EPWW1	WW#1	550-194904-1	12/13/2022	92.16	0.040	0.040
EPNG Well	EPWW1	WW#1	550-199844-1	3/29/2023	92.31	<b>0.052</b>	<b>0.054</b>
EPNG Well	EPWW1	WW#1	550-203451-1	6/13/2023	93.84	0.047	0.045
EPNG Well	EPWW1	WW#1	550-207354-1	9/6/2023	NG	0.042	0.042
EPNG Well	EPWW1	WW#1	550-211659-1	12/12/2023	92.67	0.041	0.042

Notes:

<sup>1</sup> Sample filtered using 0.045 micro filter

NG = Not Gauged

NC = Not Collected

mg/L - milligrams per liter

**BOLD** = exceeds the applicable New Mexico Water Quality Control Commission standard of 0.050 mg/L dissolved chromium

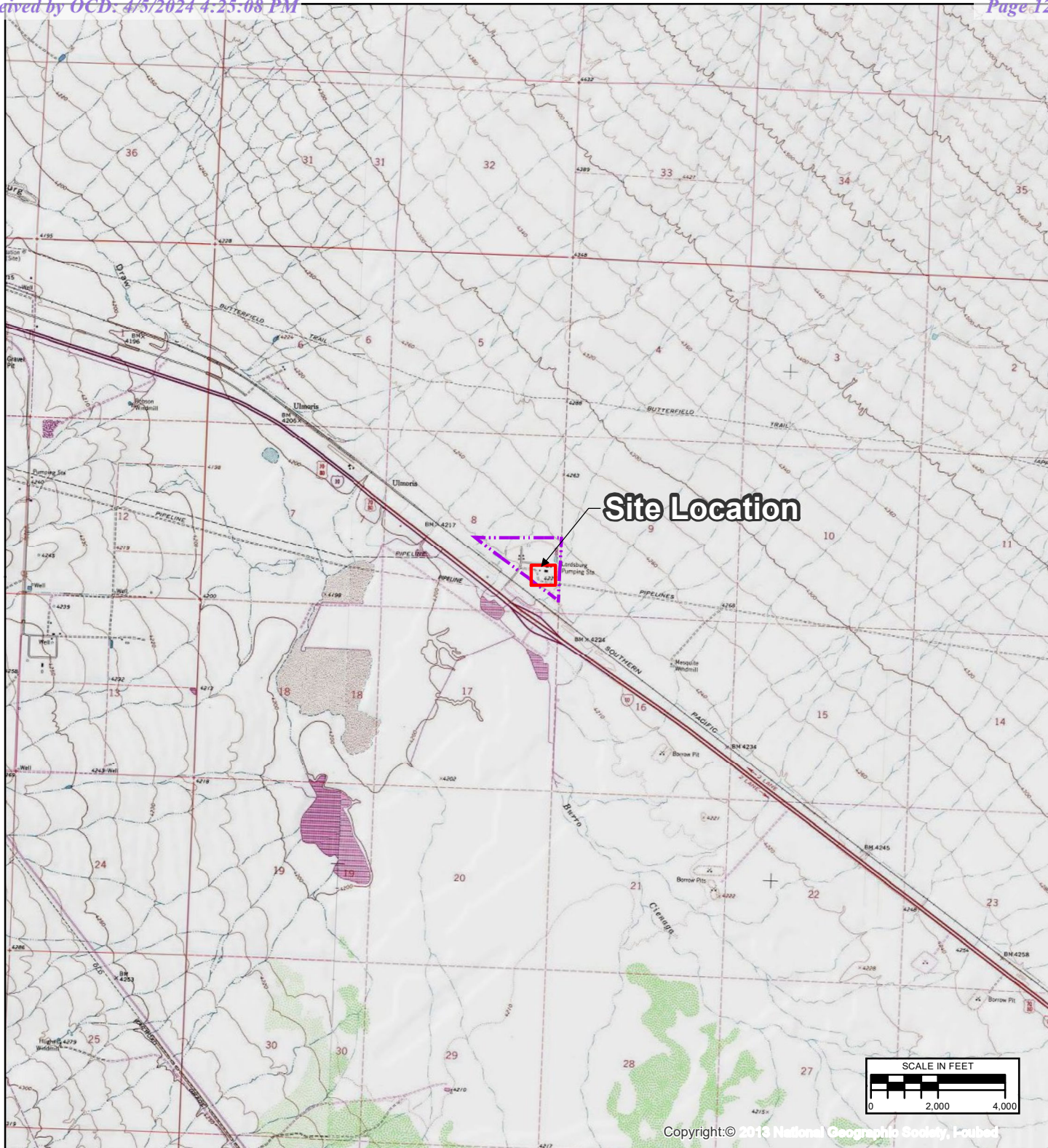


## **FIGURES**

FIGURE 1: SITE LOCATION

FIGURE 2: SITE PLAN






### LEGEND:

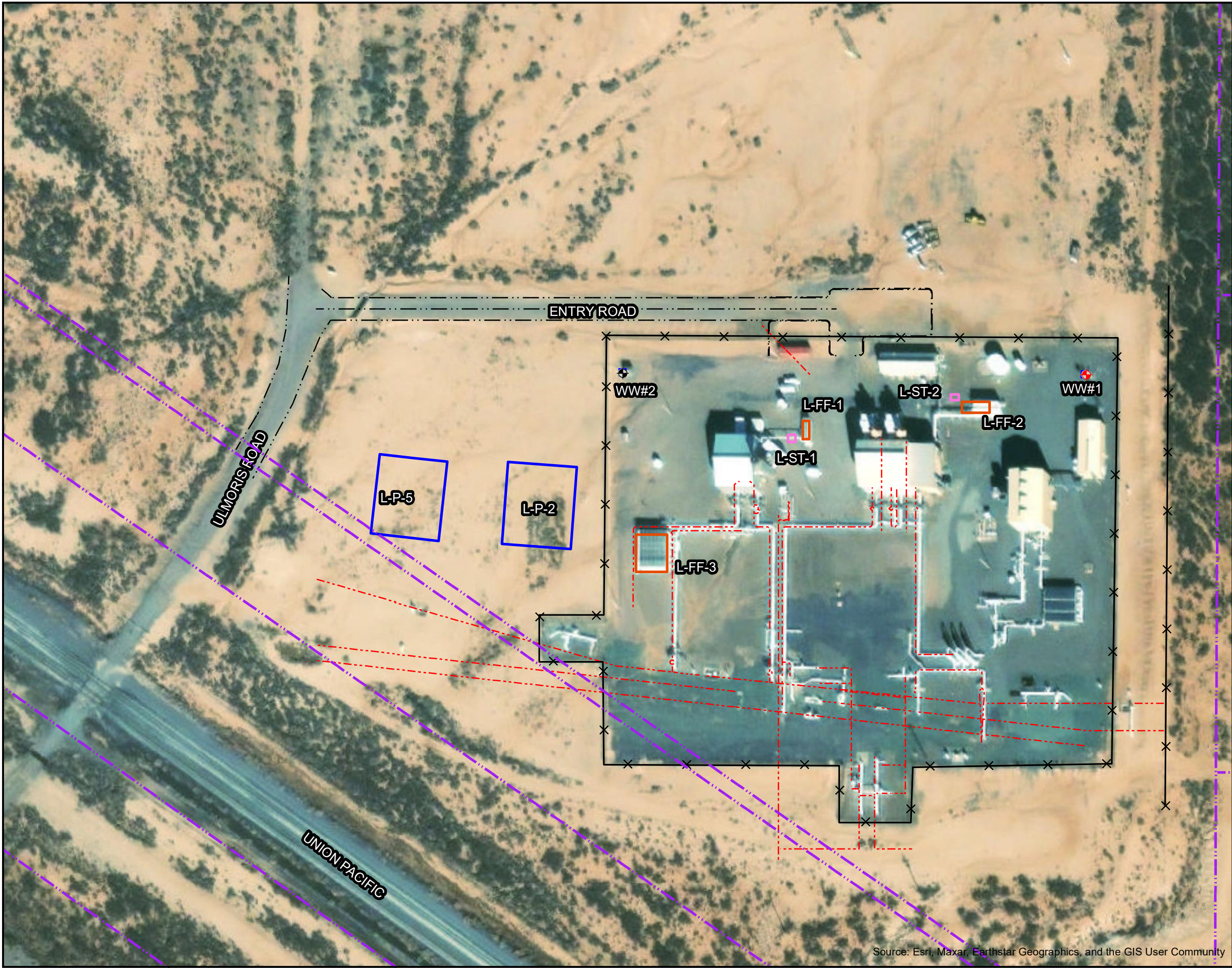
--- SITE PROPERTY BOUNDARY  
(As depicted on acrevalue.com)

REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
	2023-02-21	SAH	SAH	SRV

TITLE		 Stantec
SITE LOCATION		
PROJECT	LORDSBURG STATION LORDSBURG VALLEY BASIN HIDALGO COUNTY, NEW MEXICO	FIGURE 1



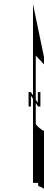
\\cd1001-c200\CTX-CIFSS\IWD\Redirect\shansen\Desktop\GIS-NEW\MXDs\LORDSBURG STATION\2023 MAPS\LORDSBURG\_STATION\_SITEMAP\_2023.mxd



Source: Esri, Maxar, Earthstar Geographics, and the GIS User Community

## LEGEND:

- PRODUCTION WELL
- INOPERABLE/DAMAGED PRODUCTION WELL
- SURGE TANK (INVESTIGATED IN 2006)
- FIN-FAN (INVESTIGATED 2006)
- FORMER UNLINED POND (INVESTIGATED IN 2006)
- PROPERTY BOUNDARY (As depicted on acrevalue.com)
- FENCE
- LOCATION OF PIPELINE
- ENTRY ROAD



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	2023-02-21	SAH	SAH	SV

TITLE:

**SITE PLAN**

PROJECT: **LORDSBURG STATION  
LORDSBURG VALLEY BASIN  
HIDALGO COUNTY, NEW MEXICO**



Figure No.:

**2**



## **APPENDICES**

APPENDIX A – CONCEPTUAL SITE MODEL

APPENDIX B – NMOCD NOTIFICATION OF SITE ACTIVITIES

APPENDIX C – LABORATORY ANALYTICAL REPORTS - GROUNDWATER

APPENDIX D – DATA COLLECTION SHEETS - GROUNDWATER

APPENDIX E – DATA VALIDATION REPORT



# APPENDIX A

Conceptual Site Model



## Appendix A

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### Conceptual Site Model Lordsburg Compressor Station, Lordsburg, New Mexico

#### INTRODUCTION

Building on existing and historical information in the project file and provided by EPNG, Stantec has prepared a Conceptual Site Model (CSM) for the Lordsburg Compressor Station (Site). As part of the development of the CSM, Stantec reviewed available hydrogeological information and groundwater use for the basin-fill aquifer within the Lordsburg Basin. Publicly available literature was also researched regarding both geologic and hydrologic data, as well as the occurrence and potential sources of chromium in groundwater as it may apply to groundwater encountered at the Site.

#### CONCEPTUAL SITE MODEL

##### GEOLOGIC SETTING

The Site is located approximately 8 miles east of Lordsburg, New Mexico near the base of the southwest slope of the Burro and Langford Mountains and approximately 25 miles west of the Continental Divide where it crosses US Highway 10 near China Draw, New Mexico. Due to the arid to semiarid climate, the New Mexico Office of the State Engineer (NMOSE) has defined drainage basins to enable management of regional groundwater resources. The site is located within the Lordsburg Valley Critical Management Area (CMA) which is within the Lordsburg Basin. The boundaries of the Lordsburg Basin are structurally controlled by the Continental Divide to the northeast, east, and south. The Lordsburg Basin has been identified as opening toward the north in the direction of the Gila River Basin (CLUI, 2023; Johnson and Rappuhn, 2002).

The Lordsburg Basin is underlain by a northwest-trending structural depression associated with a northeast tilting half-graben block bounded to the northeast by the Burro uplift frontal fault zone. Based on available literature, the Lordsburg Basin area includes lithological units ranging from Quaternary to Precambrian in age and include igneous, metamorphic, and sedimentary materials. The oldest identified units include Precambrian igneous assemblages associated with the Burro Mountains to the northwest. Sedimentary sequences within the area extend from the nonconformity at the Cambrian/Ordovician boundary through to the Quaternary age unconsolidated materials (Johnson and Rappuhn, 2002; Lawton, et al, 2000).

Due to tectonic activity within the region, multiple mineral deposits, gold, silver, lead-zinc, and copper, have been actively mapped and mined since the late 1800s. As identified by McLemore and Elston (2000), two mineral districts, the Muir and Lordsburg Districts, are located to the south and southwest of the site, respectively. The collapse of the Muir caldera within the Pyramid Mountains resulted in hydrothermal mineralization and argillic alteration via hot springs and shallow veins conveying hydrothermal fluids. Mineralization within the Lordsburg District, also located within the Pyramid Mountains, followed pre-existing fault zones associated with the Cretaceous-Tertiary Laramide orogeny (McLemore and Elston, 2000).

##### REGIONAL HYDROGEOLOGIC SETTING

The climate of southwest New Mexico is arid to semiarid receiving limited rainfall, averaging less than 25.4 cm in the basins and 76.2 cm in the mountain areas annually. Much of the precipitation in the lower basins is lost to evaporation and most stream systems are ephemeral except for the Mimbres and Gila Rivers and Animas Creek. The major aquifers in the area are found within



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intermontane basins composed of permeable alluvial materials. The alluvial materials include lacustrine, eolian and colluvial sediments as well as eroded materials from volcanic deposits (Kennedy, Hawley, and Johnson, 2000).

Intermontane basins are recharged via precipitation on the bedrock highlands and losing intra-basin streams. Johnson and Rappuhn identified recharge to the Lordsburg Basin as originating from along the flanks of the Big Burro and South Burro Mountains, the Pyramid Mountains, as well as from segments of the Cedar Mountain Range. Based on a groundwater flow map prepared for Grant County, located in the adjacent county north and east of the Site, groundwater flow is directed toward the southwest off the flanks of the nearby mountains (Trauger, 1972).

As the Site is situated along the northeast edge of the Lordsburg Valley and thus the Lordsburg Basin, groundwater flow beneath the site also is influenced by the northwest trending depression noted above and thus the overall discharge to the Gila River (Trauger, 1927; Johnson and Rappuhn, 2002). A review of available information for water wells located within five miles of the site, Figure 1A, identified the saturated units encountered and targeted for water rights usage, irrigation, commercial, and livestock. Based on depth to water information contained in the New Mexico Office of the State Engineer Records and estimated elevations of each water well groundwater flow in the vicinity of the Site also appears to occur from east to west (Figure 1A).

## LOCAL HYDROGEOLOGIC SETTING

Saturated units were encountered beneath the Site during the installation of two production wells, Water Well 1 (EPWW1) and Water Well 2 (EPWW2) in November and December 1951. Based on the log for well EPWW1, encountered soils included clay, gravelly clay, sand and gravel encountered to depths up to 440 feet below ground surface (bgs). Field-apparent water bearing units were encountered beginning at 220 feet bgs. Perforated well casing was installed from 215 feet bgs to 440 feet bgs. The static water level at EPWW1 was measured at 86 feet (4,150 feet asl) and the pump was set at 320 feet within EPWW1. Pump testing of EPWW1 showed the saturated units screened were not as productive as required for plant use or as productive as other regional wells exhibiting a capacity of only about 56 gallons per minute (gpm).

EPWW1 was extended to a depth of 440 feet bgs, where additional gravel units were encountered. A static water level of 76 feet was recorded prior to the initiation of the post well extension pumping test with the pump set at 310 feet. By extending the depth of EPWW1, water production was increased to a sustainable level of at least 100 gpm but not greater than 150 gpm (Druley, 1952).

EPWW2 was installed approximately 600 feet west of EPWW1 and was set at a depth of 461 feet bgs. EPWW2 was constructed with the screened interval extending from approximately 183 feet (4,050 feet asl) to the terminus of 461 feet bgs. This interval captured the upper "water sand" and clay interbedded zone, as well as extending through the sand and gravel units into a lower clay unit. A static water level of 82 feet bgs was recorded at EPWW2 prior to initiation of a pump test. Pumping tests conducted at EPWW2 resulted in sustainable rates of 150 to 200 gpm which were more comparable to other regional wells (Druley, 1952).

## REGIONAL GROUNDWATER USE

As part of the management of water resources, the State of New Mexico retains ownership of "all water within the state" as declared in Chapter 72-12-1 of the New Mexico Statutes. Additionally, water rights are specific to a POD, place of use, and purpose of use. Persons seeking to use public waters, which includes groundwater, must submit a permit application to the NMOSE. The permit application describes the water source, proposed beneficial purpose, anticipated consumptive use, and other pertinent location specific details. As part of the application and permit process, pump test documentation is often provided to NMOSE. Permits are required for domestic and



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non-domestic purposes. Applications maintained by NMOSE are available for review online via the [New Mexico Office of the State Engineer::Water Rights Reporting System](#) (NMWRRS, 2023).

A map showing NMWRRS POD locations within 1 mile of the site, specifically EPWW1, is presented as Figure 1A. Twenty POD locations were identified by the NMWRRS search function, 12 locations with well construction information and 8 without well construction information of which two of the POD locations are site wells EPWW1 and EPWW2. Of these 20 POD locations, 14 entries are listed as having a "closed" status, Table 1. The remaining include: two irrigation wells (LV 00400 and LV 00396S), one livestock well (LV 00681), and one cathodic protection location (LV 00805). The cathodic protection location, LV 00805, is identified as on the site and included a boring log documenting the lithology to 500 feet bgs, but the NMWRRS database has a status of canceled and no saturated units listed.

### **Livestock Well**

Livestock well LV 00681-POD1 is plotted by the NMWRRS database southeast of the site, along the northern side of US Highway 10. Historically, this location was sampled as part of the site groundwater assessment. Livestock well LV 00681-POD1 is also referred to as the Windmill Well and the Mesquite Well. Available files for LV 00681-POD1 document a construction depth of 200 feet bgs. No pump or meter information, lithology, or construction diagrams were available for review. When operating, LV 00681-POD1 was reported to have discharged to 2 feet tall, 20 feet wide, steel tank (NMWRRS, 2017). Documented visits completed as part of the Site investigation since 2009 indicated the well has not been actively withdrawing water.

### **Irrigation Wells**

As presented by the NMWRRS database, Figure 6, irrigation wells LV 00400 and collocated LV 00396 and LV 00396 S are plotted generally southwest of the Site. Irrigation wells LV 00400 and LV 00396 S are associated with a combined database file under water rights (WR) file LV 00396. The NMWRRS database indicates irrigation well LV 00400 was constructed to a depth of 1,125 feet bgs, and intersects saturated zones from 400 to 430 feet bgs and 635 to 680 feet bgs.

A search of POD locations equipped with meters within 1-mile radius of the site resulted in the identification of both site wells, EPWW1 and EPWW2, and LV 00400. The last reported meter usage for LV 00400 was in 2016 as part of a New Mexico Department of Transportation (NMDOT) project associated with US Highway I-10.

The irrigation well associated with both WR and POD LV 00396 is located to the west of the site, near US Interstate Highway 10. Installation of LV 00396 was completed in 1962 and, as noted above, is linked to multiple other POD designations within the NMWRRS database. LV 00396 was drilled to approximately 1,016 feet bgs and intersected two saturated zone from 940 to 950 feet bgs and 970 to 980 feet bgs. Depth to water at LV 00396 is reported as 68 feet (4,142 feet asl).

Table 2 identified six POD entries tied to WR LV 00396, of which four are closed. The online available LV 00396 WR file includes lithology and pumping test information, as well as documentation of association with current PODs LV 00396 S, LV 00400, and LV 00400 S. Based on a lack of meter reporting, it is unknown if LV 00396 and LV 00396 S are active. File documents for irrigation well LV 00396 reported an estimated yield of 1,750 gpm when operating.

Groundwater production from wells installed within the Lordsburg Valley basin are reported to vary from as low as 10 gpm (LV 0734) to 1,750 gpm (LV 00396). Comparison of individual well locations is difficult due to the variability of construction, both casing diameter and total depth, intersected lithology, and pumping method. However, a review of water bearing units encountered in individual wells indicate deeper interlayered sand and gravel units were the most productive.



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## CHROMIUM OCCURANCE IN GROUNDWATER

The metallic element chromium, when found in groundwater, commonly occurs in two oxidation states, trivalent (Cr III) and hexavalent (Cr VI). The species have separate sources, Cr III, can be found in fruits, vegetables, meats, and other dietary essentials, while Cr VI is derived from mineral sources either through erosion or use in industrial processes. Based on the calculated risk from exposure, United States Environmental Protection Agency (EPA) set a maximum contaminant level (MCL) in drinking water of 0.1 milligrams per liter (mg/L) applicable to the analysis of total (non-speciated) chromium (EPA, 2023). The New Mexico Water Quality Control Commission (NMWQCC) has established 0.05 mg/L as the New Mexico Human Health Standard (NMHHS) for non-speciated chromium in 20.6.2.3103 of the New Mexico Administrative Code (NMAC) (NMCPR, 2023).

The oxidation state present within a media, groundwater or soil, is dependent on pH and redox conditions. Cr III is found within acidic and moderately oxidizing to reducing conditions, while Cr VI is predominately found in alkaline and strongly oxidizing environments. Geologic environments enriched with ultramafic rocks can provide a source for chromium in either oxidative state within groundwater dependent on the geochemical conditions. Additionally, mafic source minerals have also been identified within erosional clay minerals (Perraki et. al, 2021; Hall, 2014).

Chromium within groundwater basins in historically tectonically active areas have been studied by Robertson (1975) and Groover et. al (2023). Each study strove to understand the source material and geochemistry related to naturally occurring or geogenic chromium detected in the associated aquifer. Sampling conducted of the basin materials indicated erosion and weathering of surrounding igneous and metamorphic geologic units provided clay minerals enriched in mafic materials. Geochemical analysis of the groundwater samples indicated oxidizing conditions and pH levels of 9 standard units (SU) or greater (Robertson, 1975; Groover et al, 2023).

The New Mexico Environment Department (NMED) in the 2022 Risk Assessment Guidance for Site Investigations and Remediation (Volume 1), Section 5.2, acknowledges the presence of Cr III in soil and groundwater associated with the weathering of minerals. The document also details the affect geochemical conditions have on the predominate oxidation state, Cr III or Cr VI, found in site media (soil or groundwater). Based on the NMED document, Cr VI is found to be more mobile in groundwater that has a neutral to basic pH (greater than 7 SU), but will adsorb to minerals such as iron and aluminum oxides in acidic groundwater (NMED, 2022).

## REGIONAL GEOCHEMICAL CONDITIONS

As noted above, the Lordsburg Valley basin is an alluvial basin surrounded by metamorphic and igneous source rocks which have eroded and weathered to create an aquifer consisting of interlayered clay, sand, and cemented gravel materials. As the source materials for the basin are rocks that can be rich in mafic materials, there is the potential for chromium of geogenic origin to be present in basin groundwater if the geochemistry is favorable, including oxidizing conditions and elevated pH values of 9 SU or greater (Grover et. al., 2023; Roberston, 1975).

Of the water well data for the Lordsburg Valley basin reviewed via the NMWRRS database, one location LV 00396, located approximately 0.75 miles west of the Site, included detailed pump test and geochemical information. Documentation of the May 1965 pump test completed at well LV 00396 indicated pumping at a rate of 970 gpm produced water with a temperature of 112 degrees Fahrenheit. In May 1965 correspondence between Francis West, New Mexico geohydrologist, and L.T. Putnam, District III Supervisor, a known hot water sources on the west side of the Pyramid Mountains along a fault zone was identified and based on the temperature of the water produced, it was suggested the LV 00396 well location was likely close to the fault zone (West, 1965).



Date

An area approximately 20 miles southwest of the Site was identified as a geothermal anomaly after the installation of four agricultural wells in 1948 to approximately 100 feet bgs encountered water with a reported temperature of 101.5 degrees Celsius. Research into this area as resulted in it being designated as the Lightning Dock Known Geothermal Resource Area (KGRA). Geothermal energy from this area was initially used commercially in 1977 by a greenhouse company and then was harnessed for a 4 megawatt (MW) power plant in December 2013 (Crowell, 2014).

Early exploration of the area dating back to 1918, identified areas of historical volcanic activity associated with the geothermal resources without identifying the geothermal potential. In 1956 the area was the point of interest for work by the New Mexico Institute of Mining and Technology and three additional wells were installed also producing significant amounts of boil water. Temperature assessments identified the thermal anomaly extended into the shallow subsurface causing temperatures of 12 degrees Celsius at depths of only 3 feet bgs (Crowell, 2014).

By 1977, 31 observation holes had been installed to investigate the area and a geochemical evaluation of the groundwater was completed by 1984. Fluid temperatures encountered were reported as high as 169 degrees Celsius. The results indicated that groundwater recharge into the unconfined aquifers within the valley area of Hidalgo County were based on winter precipitation in the surrounding mountains while the geothermal fluids were chemically different indicating an older and deeper water source. The heat source mechanism for this area is still undetermined and has been proposed as 1) a basaltic magma body at depth; 2) the intersection of the Animas Fault with the Muir Cauldron; 3) an uplifted horst block providing structural control (Crowell, 2014).

## SUMMARY

The site is located within the Lordsburg Valley basin and the Lordsburg Valley CMA where groundwater use is managed by the State of New Mexico. The basin is structurally controlled by the extensive tectonic history which has included uplift, faulting, and Tertiary volcanism. Active geothermal resources are located to the southwest of the site in the Animas basin and based upon well development records for LV 00396, an irrigation well located within approximately 1 mile of the site, fault zones within the area may allow communication with the geothermal fluids.

The basin hydrogeologic units are composed of weathered and eroded materials from the surrounding bedrock highlands associated with portions of the Big Burro, South Burro, Pyramid and Cedar Mountain Ranges. Regional groundwater flow direction near the site is toward the southwest from the flanks of the mountain ranges into the basin and then exiting the basin toward the northwest to the Gila River based on a northwest trending depression within the faulted basin bedrock. Groundwater elevation data from water wells near the Site also support a predominate east to west groundwater flow direction. Groundwater geochemical information from both Site associated wells and other regional wells indicates the saturated zones within the basin exhibit or have exhibited pH values of approximately 9 SU or greater and exhibit oxidating conditions, i.e. positive or near positive ORP data.

As acknowledged by NMED, studies on chromium in groundwater indicate clay soils derived from mafic materials provide a potential source of geogenic (naturally occurring) chromium concentrations. Groundwater in contact with the mafic sourced clay soils have the potential to leach chromium.

Site groundwater samples have been collected since 1969 for the analysis of multiple constituents and geochemical parameters. Historic samples from EPWW1 and EPWW2 are reported to have exhibited varying concentrations of chromium. A 2009 sampling of six surrounding local production wells identified four locations with detectable concentrations of chromium. Of the four locations where chromium was detected, the groundwater sample from the Windmill Well did exhibit a detection exceeding the NMHHS (0.05 mg/L).



Date

Based on general groundwater flow direction, the Windmill Well is located up-gradient of the Site, and therefore the Windmill well would not expect to be impacted from a release at the Site. A review of water well records near the site do not indicate significant current or historical water usage east of the Site or the Windmill well that would draw groundwater from the Site eastward. Additionally, the bottom of the Windmill Well may only minimally overlap with the upper water-bearing portions of units accessed by the Site water wells. As the deeper water-bearing accessed by the Site water wells are more productive than the shallower water bearing units encountered, it is unlikely the water quality observed at the Windmill well is comparable to the water quality documented from the Site water wells. It is therefore concluded the source of elevated chromium detected in samples collected from the Windmill well location are associated with naturally-occurring sources.

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Date

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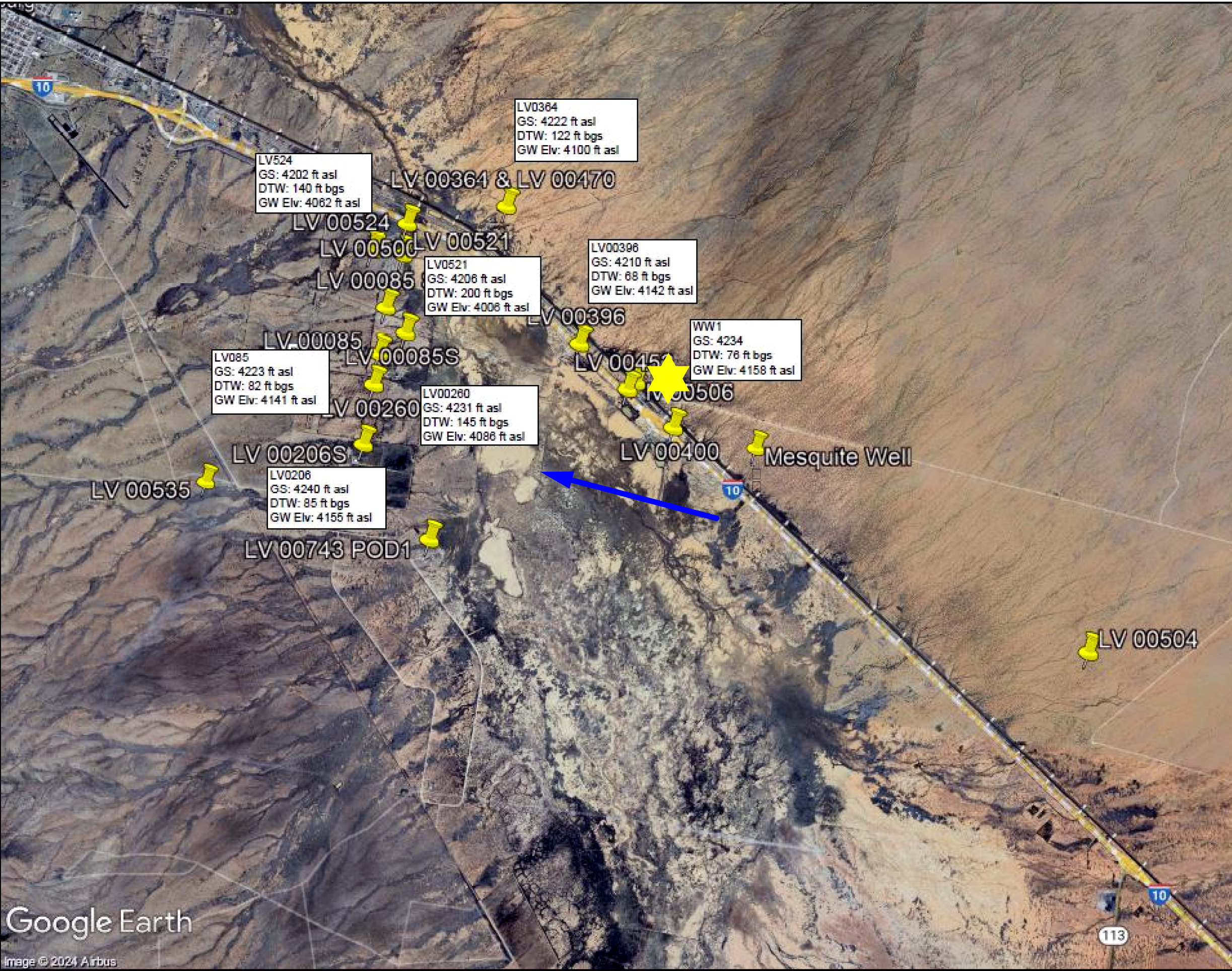
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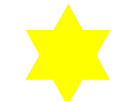

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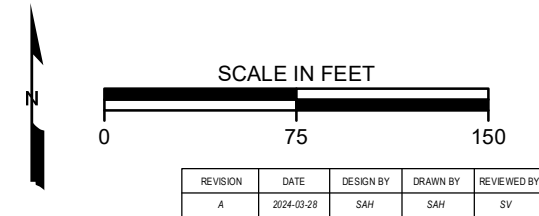
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LEGEND:

-  SITE LOCATION
-  DIRECTION OF APPARENT GROUNDWATER FLOW

NOTES:  
WELL LOCATION, CONSTRUCTION, AND WATER ELEVATION  
DATA COMPILED FROM THE NEW MEXICO OFFICE OF THE  
STATE ENGINEER DATABASE  
[HTTP://NMWRRS.OSE.STATE.NM.US/](http://nmwrrs.ose.state.nm.us/).



REVISION	DATE	DESIGN BY	DRAWN BY	REVIEWED BY
A	2024-03-28	SAH	SAH	SV

TITLE:  
**LORDSBURG STATION  
REGIONAL GROUNDWATER FLOW DIRECTION**

PROJECT: **LORDSBURG STATION  
LORDSBURG VALLEY BASIN  
HIDALGO COUNTY, NEW MEXICO**

 Stantec

Figure No.:  
**A1**



# APPENDIX B

NMOCD Notification of Site Activities



**From:** [Varsa, Steve](#)  
**To:** [Billings, Bradford, EMNRD](#)  
**Cc:** [Stavinoha, Doug](#)  
**Subject:** Lordsburg Station - notice of upcoming groundwater sampling (nAPP2217233972)  
**Date:** Monday, March 20, 2023 11:08:10 AM

---

Mr. Billings –

On behalf of El Paso Natural Gas Company (EPNG), Stantec is providing notice of groundwater sampling activities planned to occur at the subject location on March 29, 2023. Please contact Doug Stavinoha, project manager with EPNG, at 713-420-5150, or me, if you need further information.

Thank you,  
Steve

**Stephen Varsa, P.G., R.G.**  
Principal Hydrogeologist  
Stantec Environmental Services  
11311 Aurora Avenue  
Des Moines, Iowa 50322  
Direct: (515) 251-1020  
Cell: (515) 710-7523  
Office: (515) 253-0830  
[steve.varsa@stantec.com](mailto:steve.varsa@stantec.com)

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**From:** [Varsa, Steve](#)  
**To:** [nelson.valez@state.nm.us](mailto:nelson.valez@state.nm.us)  
**Cc:** [Bratcher, Mike, EMNRD](#); [Stavinoha, Doug](#)  
**Subject:** Lordsburg Station - notice of upcoming groundwater sampling (nAPP2217233972)  
**Date:** Thursday, June 1, 2023 11:07:17 PM

---

Hi Nelson –

On behalf of El Paso Natural Gas Company (EPNG), Stantec is providing notice of groundwater sampling activities planned to occur at the subject location on June 13, 2023. Please contact Doug Stavinoha, project manager with EPNG, at 713-420-5150, or me, if you need further information.

Thank you,  
Steve

**Stephen Varsa, P.G., R.G.**  
Principal Hydrogeologist  
Stantec Environmental Services  
11311 Aurora Avenue  
Des Moines, Iowa 50322  
Direct: (515) 251-1020  
Cell: (515) 710-7523  
Office: (515) 253-0830  
[steve.varsa@stantec.com](mailto:steve.varsa@stantec.com)

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**From:** [Varsa, Steve](#)  
**To:** [nelson.valez@state.nm.us](mailto:nelson.valez@state.nm.us)  
**Cc:** [Bratcher, Mike, EMNRD](#); [Stavinoha, Doug](#)  
**Subject:** Lordsburg Station - notice of upcoming groundwater sampling (nAPP2217233972)  
**Date:** Wednesday, August 30, 2023 9:12:30 PM

---

Hi Nelson –

On behalf of El Paso Natural Gas Company (EPNG), Stantec is providing notice of groundwater sampling activities planned to occur at the subject location on September 6, 2023. Please contact Doug Stavinoha, project manager with EPNG, at 713-420-5150, or me, if you need further information.

Thank you,  
Steve

**Stephen Varsa, P.G., R.G.**  
Principal Hydrogeologist  
Stantec Environmental Services  
11311 Aurora Avenue  
Des Moines, Iowa 50322  
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[steve.varsa@stantec.com](mailto:steve.varsa@stantec.com)

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# APPENDIX C

Laboratory Analytical Reports - Groundwater





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Steve Varsa  
Stantec Consulting Services Inc  
11311 Aurora Avenue  
Des Moines, Iowa 50322-7904

Generated 4/30/2023 3:38:04 AM

## JOB DESCRIPTION

Lordsbug Station  
SDG NUMBER Lordsburg, NM

## JOB NUMBER

550-199844-1

Eurofins Phoenix  
4625 East Cotton Center Boulevard  
Suite #189  
Phoenix AZ 85040



# Eurofins Phoenix

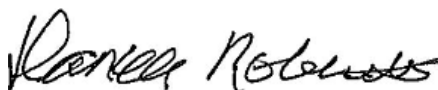
## Job Notes

This report is issued solely for the use of the person or company to whom it is addressed. Any use, copying or disclosure other than by the intended recipient is unauthorized. If you have received this report in error, please notify the sender and destroy this report immediately. This report shall not be reproduced except in full, without prior express written approval by the laboratory.

The data in the report relate to the field sample(s) as received by the laboratory and associated QC. All results have been reviewed and have been found to be compliant with laboratory and accreditation requirements, with the exception of the noted deviation(s). For questions, please contact the Project Manager.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

## Authorization



Generated  
4/30/2023 3:38:04 AM

Authorized for release by  
Danielle Roberts, Senior Project Manager  
[Danielle.Roberts@et.eurofinsus.com](mailto:Danielle.Roberts@et.eurofinsus.com)  
(657)210-6355



Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Laboratory Job ID: 550-199844-1  
SDG: Lordsburg, NM

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Definitions/Glossary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
M2	Matrix spike recovery was low, the associated blank spike recovery was acceptable.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



Case Narrative

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Job ID: 550-199844-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative  
550-199844-1

Comments

No additional comments.

Receipt

The samples were received on 3/29/2023 2:11 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Sample Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-199844-1	WW #1	Water	03/29/23 10:00	03/29/23 14:11
550-199844-2	DUP-1	Water	03/29/23 00:00	03/29/23 14:11

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Detection Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Client Sample ID: WW #1

Lab Sample ID: 550-199844-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.052		0.0040	0.0017	mg/L	4		200.8 LL	Dissolved

Client Sample ID: DUP-1

Lab Sample ID: 550-199844-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.054		0.0040	0.0017	mg/L	4		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix



Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Client Sample ID: WW #1  
Date Collected: 03/29/23 10:00  
Date Received: 03/29/23 14:11

Lab Sample ID: 550-199844-1  
Matrix: Water

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.052		0.0040	0.0017	mg/L		04/04/23 05:06	04/28/23 15:36	4

Client Sample ID: DUP-1  
Date Collected: 03/29/23 00:00  
Date Received: 03/29/23 14:11

Lab Sample ID: 550-199844-2  
Matrix: Water

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.054		0.0040	0.0017	mg/L		04/04/23 05:06	04/28/23 15:38	4



## QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

## Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-297575/1-A

Matrix: Water

Analysis Batch: 298541

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 297575

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	E8	0.0010	0.00043	mg/L		04/04/23 05:06	04/18/23 16:39	1

Lab Sample ID: MB 550-297575/1-A

Matrix: Water

Analysis Batch: 299295

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 297575

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	E8	0.0010	0.00043	mg/L		04/04/23 05:06	04/28/23 14:02	1

Lab Sample ID: LCS 550-297575/2-A

Matrix: Water

Analysis Batch: 298541

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 297575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	0.100	0.0878		mg/L		88	85 - 115

Lab Sample ID: LCS 550-297575/2-A

Matrix: Water

Analysis Batch: 299295

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 297575

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	0.100	0.101		mg/L		101	85 - 115

Lab Sample ID: LCSD 550-297575/3-A

Matrix: Water

Analysis Batch: 299295

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 297575

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	0.100	0.101		mg/L		101	85 - 115	1	20

Lab Sample ID: 550-199851-C-1-A MS

Matrix: Water

Analysis Batch: 298541

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 297575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	0.0023	L4	0.100	0.0903		mg/L		88	70 - 130

Lab Sample ID: 550-199851-C-1-A MS ^4

Matrix: Water

Analysis Batch: 299295

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 297575

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	0.0030	E4 M2	0.100	ND	E8 M2	mg/L		0	70 - 130

Lab Sample ID: 550-199851-C-1-B MSD

Matrix: Water

Analysis Batch: 298541

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 297575

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	0.0023	L4	0.100	0.0910		mg/L		89	70 - 130	1	20

Eurofins Phoenix



QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: 550-199851-C-1-B MSD ^4						Client Sample ID: Matrix Spike Duplicate						
Matrix: Water						Prep Type: Total/NA						
Analysis Batch: 299295						Prep Batch: 297575						
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit	
Chromium	0.0030	E4 M2	0.100	0.0997		mg/L		97	70 - 130	NC	20	



## QC Association Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

## Metals

## Prep Batch: 297575

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-199844-1	WW #1	Dissolved	Water	200.8	
550-199844-2	DUP-1	Dissolved	Water	200.8	
MB 550-297575/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-297575/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-297575/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-199851-C-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-199851-C-1-A MS ^4	Matrix Spike	Total/NA	Water	200.8	
550-199851-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	
550-199851-C-1-B MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.8	

## Analysis Batch: 298541

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 550-297575/1-A	Method Blank	Total/NA	Water	200.8 LL	297575
LCS 550-297575/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	297575
550-199851-C-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	297575
550-199851-C-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	297575

## Analysis Batch: 299295

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-199844-1	WW #1	Dissolved	Water	200.8 LL	297575
550-199844-2	DUP-1	Dissolved	Water	200.8 LL	297575
MB 550-297575/1-A	Method Blank	Total/NA	Water	200.8 LL	297575
LCS 550-297575/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	297575
LCSD 550-297575/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	297575
550-199851-C-1-A MS ^4	Matrix Spike	Total/NA	Water	200.8 LL	297575
550-199851-C-1-B MSD ^4	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	297575



Lab Chronicle

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Client Sample ID: WW #1  
Date Collected: 03/29/23 10:00  
Date Received: 03/29/23 14:11

Lab Sample ID: 550-199844-1  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			297575	SGO	EET PHX	04/04/23 05:06
Dissolved	Analysis	200.8 LL		4	299295	DSJ	EET PHX	04/28/23 15:36

Client Sample ID: DUP-1  
Date Collected: 03/29/23 00:00  
Date Received: 03/29/23 14:11

Lab Sample ID: 550-199844-2  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			297575	SGO	EET PHX	04/04/23 05:06
Dissolved	Analysis	200.8 LL		4	299295	DSJ	EET PHX	04/28/23 15:38

Laboratory References:  
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Laboratory: Eurofins Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-23

- 1
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Method Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsbug Station

Job ID: 550-199844-1  
SDG: Lordsburg, NM

Method	Method Description	Protocol	Laboratory
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

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**Eurofins Phoenix**  
4625 East Cotton Center Boulevard  
Suite 189  
Phoenix, AZ 85040-4807  
phone 602.437.3340

## Chain of Custody Record



## Environment Testing America

199844

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☒ Other:

Eurofins Environment Testing America

[illegible]



## Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 550-199844-1

SDG Number: Lordsburg, NM

**Login Number: 199844****List Number: 1****Creator: Gravlin, Andrea****List Source: Eurofins Phoenix**

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Steve Varsa  
Stantec Consulting Services Inc  
11311 Aurora Avenue  
Des Moines, Iowa 50322-7904

Generated 7/8/2023 3:30:15 AM

## JOB DESCRIPTION

Lordsburg Station

## JOB NUMBER

550-203451-1

Eurofins Phoenix  
4625 East Cotton Center Boulevard  
Suite #189  
Phoenix AZ 85040




# Eurofins Phoenix

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

## Authorization



Generated  
7/8/2023 3:30:15 AM

Authorized for release by  
Danielle Roberts, Senior Project Manager  
[Danielle.Roberts@et.eurofinsus.com](mailto:Danielle.Roberts@et.eurofinsus.com)  
(657)210-6355



Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Laboratory Job ID: 550-203451-1

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Definitions/Glossary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

Qualifiers

Metals

Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.
H6	The filtration was not done within the required 15 minutes of sampling, the sample was filtered in the laboratory.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



Case Narrative

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

Job ID: 550-203451-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative  
550-203451-1

Comments

No additional comments.

Receipt

The samples were received on 6/13/2023 2:00 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

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Sample Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-203451-1	WW #1	Water	06/13/23 10:05	06/13/23 14:00
550-203451-2	DUP-1	Water	06/13/23 00:00	06/13/23 14:00

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Detection Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

Client Sample ID: WW #1

Lab Sample ID: 550-203451-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.047		0.0010	0.00043	mg/L	1		200.8 LL	Dissolved

Client Sample ID: DUP-1

Lab Sample ID: 550-203451-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.045		0.0010	0.00043	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix



Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

**Client Sample ID: WW #1**  
**Date Collected: 06/13/23 10:05**  
**Date Received: 06/13/23 14:00**

**Lab Sample ID: 550-203451-1**  
**Matrix: Water**

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.047		0.0010	0.00043	mg/L		07/05/23 04:00	07/06/23 21:31	1

**Client Sample ID: DUP-1**  
**Date Collected: 06/13/23 00:00**  
**Date Received: 06/13/23 14:00**

**Lab Sample ID: 550-203451-2**  
**Matrix: Water**

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.045		0.0010	0.00043	mg/L		07/05/23 04:00	07/06/23 21:33	1



QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-303139/1-A Matrix: Water Analysis Batch: 303596										Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 303139			
Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac				
Chromium	ND	E8	0.0010	0.00043	mg/L		07/05/23 04:00	07/06/23 21:09	1				

Lab Sample ID: LCS 550-303139/2-A Matrix: Water Analysis Batch: 303596										Client Sample ID: Lab Control Sample Prep Type: Total/NA Prep Batch: 303139			
Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits				
Chromium			0.100	0.100		mg/L		100	85 - 115				

Lab Sample ID: LCSD 550-303139/3-A Matrix: Water Analysis Batch: 303596										Client Sample ID: Lab Control Sample Dup Prep Type: Total/NA Prep Batch: 303139			
Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit		
Chromium			0.100	0.104		mg/L		104	85 - 115	4	20		

Lab Sample ID: 550-203853-B-1-C MS Matrix: Water Analysis Batch: 303596										Client Sample ID: Matrix Spike Prep Type: Dissolved Prep Batch: 303139			
Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits				
Chromium	ND	E8 H6	0.100	0.0982	H6	mg/L		98	70 - 130				

Lab Sample ID: 550-203853-B-1-D MSD Matrix: Water Analysis Batch: 303596										Client Sample ID: Matrix Spike Duplicate Prep Type: Dissolved Prep Batch: 303139			
Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	Limit		
Chromium	ND	E8 H6	0.100	0.0931	H6	mg/L		93	70 - 130	5	20		



## QC Association Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

## Metals

## Prep Batch: 303139

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203451-1	WW #1	Dissolved	Water	200.8	
550-203451-2	DUP-1	Dissolved	Water	200.8	
MB 550-303139/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-303139/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-303139/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-203853-B-1-C MS	Matrix Spike	Dissolved	Water	200.8	
550-203853-B-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8	

## Analysis Batch: 303596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-203451-1	WW #1	Dissolved	Water	200.8 LL	303139
550-203451-2	DUP-1	Dissolved	Water	200.8 LL	303139
MB 550-303139/1-A	Method Blank	Total/NA	Water	200.8 LL	303139
LCS 550-303139/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	303139
LCSD 550-303139/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	303139
550-203853-B-1-C MS	Matrix Spike	Dissolved	Water	200.8 LL	303139
550-203853-B-1-D MSD	Matrix Spike Duplicate	Dissolved	Water	200.8 LL	303139



Lab Chronicle

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

**Client Sample ID: WW #1**  
**Date Collected: 06/13/23 10:05**  
**Date Received: 06/13/23 14:00**

**Lab Sample ID: 550-203451-1**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			303139	SGO	EET PHX	07/05/23 04:00
Dissolved	Analysis	200.8 LL		1	303596	DSJ	EET PHX	07/06/23 21:31

**Client Sample ID: DUP-1**  
**Date Collected: 06/13/23 00:00**  
**Date Received: 06/13/23 14:00**

**Lab Sample ID: 550-203451-2**  
**Matrix: Water**

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			303139	SGO	EET PHX	07/05/23 04:00
Dissolved	Analysis	200.8 LL		1	303596	DSJ	EET PHX	07/06/23 21:33

**Laboratory References:**  
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

Laboratory: Eurofins Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

- 1
- 2
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Method Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-203451-1

Method	Method Description	Protocol	Laboratory
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

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## Eurofins Phoenix

4625 East Cotton Center Boulevard  
Suite 189  
Phoenix, AZ 85040-4807  
phone 602.437.3340

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

20345

Eurofins Environment Testing America

[illegible]



ARF Version 8 2-14-2023



## Analytical Request Form (ARF)

## Project Information

KM Entity Name: El Paso Natural Gas Company

Laboratory Name: Eurofins Environmental Testing Southwest, LLC

Lab Location: Phoenix, AZ

Is This A KM Program Laboratory?

YES ☒ XNo ☐

Project / AOC Name (Match ENFOS AOC): Lordsburg Station

Consultant: Stantec Consulting Services, Inc.

ARF Initiator Name: Steve Varsa

Date: 6/1/2023

Scope of Sampling: GW monitoring

Remediation Department Project: ☒ XNon-Remediation Department Project: ☐

## Remediation Department Sampling Projects - To Be Invoiced In Enfos

**Work Directive Must be in Place and Information Below Provided By the Kinder Morgan Project Manager PRIOR TO COMPLETION of this ARF**

Laboratory's Work Directive #: 1057302

Lab Cost Cluster: 06 Monitoring

Lab Subtask: Lab I (1.4, 2.3, 7.3, 8.4)

## Non-Program Laboratories

## Non-Remediation Dept. Sampling

Email invoice to KM Project Manager ☐Invoice in Ariba ☐Invoice Consultant ☐Sample Event Description and  
Contaminants of Concern

Groundwater samples will be collected for the analysis of dissolved chromium by EPA Method 200.8

Site Address / Location: 32.3156281, -108.6124791

City: Lordsburg

State: NM

Country: USA

Regulatory Agency: NMOCD

Project Type (RCRA, CERCLA, TRRP, etc.):

Anticipated Start Date: 6/13/2023

Anticipated Completion Date: 6/14/2023

Frequency of Sampling: Once

Sampling Plan Attached? (Y/N): N

Are there Additional Requests/ Special Instructions on Page 2? (Y / N) ☒ Y

Title(s)/Date(s) of attached sampling information:

NA

## Project Management Contacts

## KM Contact

KM Project Manager: Doug Stavinoha

☒ Copy on ARF Distribution

KM Office Location: Houston, TX 77002

Address: 1001 Louisiana Street, Suite 1000

Phone: (713) 420-5150

E-mail: [doug\\_stavinoha@kindermorgan.com](mailto:doug_stavinoha@kindermorgan.com)

## Consultant Contact

Consultant Company Name: Stantec Consulting Services, Inc.

☒ Copy on ARF Distribution

Consultant Project Manager: Steve Varsa

Consultant PM Office Location: Des Moines, IA 50322

Address: 11311 Aurora Avenue

Phone: (515) 710-7523

E-mail: [steve.varsa@stantec.com](mailto:steve.varsa@stantec.com)

## Laboratory Contact

Laboratory Name / Location: Eurofins Environmental Testing Southwest, LLC

☒ Copy on ARF Distribution

Laboratory Project Manager: Carlene McCutcheon

Lab PM Office Location: Phoenix, AZ 85040

Address: 4625 East Cotton Ctr Blvd, Suite 189

Phone: (602) 659-7612

E-mail: [carlene.mccutcheon@et.eurofins.com](mailto:carlene.mccutcheon@et.eurofins.com)

## Additional Parties to Receive ARF:

Name / Affiliation: Chuck Graves / Stantec

E-mail: [chuck.graves@stantec.com](mailto:chuck.graves@stantec.com)

Name / Affiliation:

E-mail:

Name / Affiliation:

E-mail:

Name / Affiliation:

E-mail:



**Data Deliverables**

Data Package Deliverables supplied to:	Steve Varsa, Stantec		
Required Data Deliverables Format(s):	PDF <input checked="" type="checkbox"/>	Hard Copy <input type="checkbox"/>	Other - Specify <input type="text"/>
	Excel <input checked="" type="checkbox"/>	Equis <input type="checkbox"/>	
Size Limitation of deliverable for e-mail:	20 MB	Unlimited <input type="checkbox"/>	
Forward the Electronic Data Deliverables to:			
Company	Contact Name	E-Mail Address	
Stantec Consulting Services, Inc.	Steve Varsa	steve.varsa@stantec.com	
Stantec Consulting Services, Inc.	Scott Hansen	scott.hansen@stantec.com	
Special Instructions for data package or electronic deliverable?:	Enter special instructions below - 4 text lines available:		

**Laboratory Cost Sheets**

Does the Kinder Morgan Project Manager want the Lab Cost Sheet completed by the laboratory?	Yes <input type="checkbox"/>
	No <input checked="" type="checkbox"/>
<b>COST SHEETS CAN ONLY BE RETURNED DIRECTLY TO THE KM PROJECT MANAGER - CANNOT BE SENT TO CONSULTANTS</b>	
LABORATORY CONTRACT CONFIDENTIALITY REQUIREMENTS PROHIBIT DISTRIBUTION OF COSTS BY LAB OUTSIDE KINDER MORGAN	

**Record of ARF Initiation and Revisions**

ARF Initiator:	Name: Steve Varsa	Date: 6/1/2023
Laboratory Acceptance:	Name: _____	Date: _____
Revision 1:	Name: _____	Date: _____
	Types of Changes: _____	
	_____	
Revision 2:	Name: _____	Date: _____
	Types of Changes: _____	
	_____	
Revision 3:	Name: _____	Date: _____
	Types of Changes: _____	
	_____	
Revision 4:	Name: _____	Date: _____
	Types of Changes: _____	
	_____	

**LAB USE ONLY**

Laboratory Internal Project Number: \_\_\_\_\_



## Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 550-203451-1

Login Number: 203451

List Number: 1

Creator: Maycock, Lisa

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





Environment Testing

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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Steve Varsa  
Stantec Consulting Services Inc  
11311 Aurora Avenue  
Des Moines, Iowa 50322-7904

Generated 9/13/2023 8:34:26 AM

## JOB DESCRIPTION

Lordsburg Station  
SDG NUMBER Lordsburg Station

## JOB NUMBER

550-207364-1

Eurofins Phoenix  
4625 East Cotton Center Boulevard  
Suite #189  
Phoenix AZ 85040



# Eurofins Phoenix

## Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

## Authorization



Generated  
9/13/2023 8:34:26 AM

Authorized for release by  
Amanda Seawright, Project Manager I  
[amanda.seawright@et.eurofinsus.com](mailto:amanda.seawright@et.eurofinsus.com)  
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Linda Eshelman, Project Manager II  
[linda.eshelman@et.eurofinsus.com](mailto:linda.eshelman@et.eurofinsus.com)  
(602)659-7681



Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Laboratory Job ID: 550-207364-1  
SDG: Lordsburg Station

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Definitions/Glossary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Qualifiers

Metals	
Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



Case Narrative

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Job ID: 550-207364-1

Laboratory: Eurofins Phoenix

Narrative

Job Narrative  
550-207364-1

Receipt

The samples were received on 9/6/2023 3:02 PM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 3.1°C

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

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Sample Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-207364-1	WW #1	Water	09/06/23 10:40	09/06/23 15:02
550-207364-2	Duplicate	Water	09/06/23 10:40	09/06/23 15:02

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Detection Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Client Sample ID: WW #1

Lab Sample ID: 550-207364-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.042		0.0010	0.00043	mg/L	1		200.8 LL	Dissolved

Client Sample ID: Duplicate

Lab Sample ID: 550-207364-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.042		0.0010	0.00043	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix



Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Client Sample ID: WW #1  
Date Collected: 09/06/23 10:40  
Date Received: 09/06/23 15:02

Lab Sample ID: 550-207364-1  
Matrix: Water

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.042		0.0010	0.00043	mg/L		09/07/23 04:59	09/11/23 17:38	1

Client Sample ID: Duplicate  
Date Collected: 09/06/23 10:40  
Date Received: 09/06/23 15:02

Lab Sample ID: 550-207364-2  
Matrix: Water

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.042		0.0010	0.00043	mg/L		09/07/23 04:59	09/11/23 17:46	1



## QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

## Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-307091/1-A

Matrix: Water

Analysis Batch: 307349

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 307091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	E8	0.0010	0.00043	mg/L		09/07/23 04:59	09/11/23 17:03	1

Lab Sample ID: LCS 550-307091/2-A

Matrix: Water

Analysis Batch: 307349

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 307091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	0.100	0.106		mg/L		106	85 - 115

Lab Sample ID: LCSD 550-307091/3-A

Matrix: Water

Analysis Batch: 307349

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 307091

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	0.100	0.104		mg/L		104	85 - 115	2	20

Lab Sample ID: 550-207273-E-1-A MS

Matrix: Water

Analysis Batch: 307349

Client Sample ID: Matrix Spike

Prep Type: Total/NA

Prep Batch: 307091

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	ND	E8	0.100	0.105		mg/L		105	70 - 130

Lab Sample ID: 550-207273-E-1-B MSD

Matrix: Water

Analysis Batch: 307349

Client Sample ID: Matrix Spike Duplicate

Prep Type: Total/NA

Prep Batch: 307091

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	ND	E8	0.100	0.104		mg/L		104	70 - 130	1	20



QC Association Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Metals

Prep Batch: 307091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-207364-1	WW #1	Dissolved	Water	200.8	
550-207364-2	Duplicate	Dissolved	Water	200.8	
MB 550-307091/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-307091/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-307091/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-207273-E-1-A MS	Matrix Spike	Total/NA	Water	200.8	
550-207273-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8	

Analysis Batch: 307349

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-207364-1	WW #1	Dissolved	Water	200.8 LL	307091
550-207364-2	Duplicate	Dissolved	Water	200.8 LL	307091
MB 550-307091/1-A	Method Blank	Total/NA	Water	200.8 LL	307091
LCS 550-307091/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	307091
LCSD 550-307091/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	307091
550-207273-E-1-A MS	Matrix Spike	Total/NA	Water	200.8 LL	307091
550-207273-E-1-B MSD	Matrix Spike Duplicate	Total/NA	Water	200.8 LL	307091



Lab Chronicle

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Client Sample ID: WW #1  
Date Collected: 09/06/23 10:40  
Date Received: 09/06/23 15:02

Lab Sample ID: 550-207364-1  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			307091	SGO	EET PHX	09/07/23 04:59
Dissolved	Analysis	200.8 LL		1	307349	DSJ	EET PHX	09/11/23 17:38

Client Sample ID: Duplicate  
Date Collected: 09/06/23 10:40  
Date Received: 09/06/23 15:02

Lab Sample ID: 550-207364-2  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			307091	SGO	EET PHX	09/07/23 04:59
Dissolved	Analysis	200.8 LL		1	307349	DSJ	EET PHX	09/11/23 17:46

Laboratory References:  
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Laboratory: Eurofins Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

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Method Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-207364-1  
SDG: Lordsburg Station

Method	Method Description	Protocol	Laboratory
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

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## Eurofins Phoenix

4625 East Cotton Center Boulevard  
Suite 189  
Phoenix, AZ 85040-4807  
phone 602.437.3340

## Chain of Custody Record



## Environment Testing America

**Eurofins Environment Testing America**

Regulatory Program: ☐ DW ☐ NPDES ☐ RCRA ☐ Other:

207364

[illegible]



## Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 550-207364-1  
SDG Number: Lordsburg Station**Login Number: 207364****List Number: 1****Creator: Maycock, Lisa****List Source: Eurofins Phoenix**

Question	Answer	Comment
Radioactivity wasn't checked or is <=/ background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





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# ANALYTICAL REPORT

## PREPARED FOR

Attn: Steve Varsa  
Stantec Consulting Services Inc  
11311 Aurora Avenue  
Des Moines, Iowa 50322-7904

Generated 12/29/2023 10:39:55 AM

## JOB DESCRIPTION

Lordsburg Station

## JOB NUMBER

550-211659-1

Eurofins Phoenix  
4625 East Cotton Center Boulevard  
Suite #189  
Phoenix AZ 85040



# Eurofins Phoenix

## Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Southwest, LLC Project Manager.

## Authorization



Generated  
12/29/2023 10:39:55 AM

Authorized for release by  
Linda Eshelman, Project Manager II  
[linda.eshelman@et.eurofinsus.com](mailto:linda.eshelman@et.eurofinsus.com)  
(602)659-7681



Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Laboratory Job ID: 550-211659-1

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Definitions/Glossary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Qualifiers

Metals	
Qualifier	Qualifier Description
E8	Analyte reported to MDL per project specification. Target analyte was not detected in the sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count



Case Narrative

Client: Stantec Consulting Services Inc  
Project: Lordsburg Station

Job ID: 550-211659-1

Job ID: 550-211659-1

Eurofins Phoenix

Job Narrative  
550-211659-1

Receipt

The samples were received on 12/12/2023 3:58 PM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6° C.

Metals

No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Eurofins Phoenix



Sample Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
550-211659-1	WW#1	Water	12/12/23 09:50	12/12/23 15:58
550-211659-2	Dup-1	Water	12/12/23 00:00	12/12/23 15:58

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Detection Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Client Sample ID: WW#1

Lab Sample ID: 550-211659-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.041		0.0010	0.00043	mg/L	1		200.8 LL	Dissolved

Client Sample ID: Dup-1

Lab Sample ID: 550-211659-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	0.042		0.0010	0.00043	mg/L	1		200.8 LL	Dissolved

This Detection Summary does not include radiochemical test results.

Eurofins Phoenix



Client Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Client Sample ID: WW#1  
Date Collected: 12/12/23 09:50  
Date Received: 12/12/23 15:58

Lab Sample ID: 550-211659-1  
Matrix: Water

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.041		0.0010	0.00043	mg/L		12/13/23 05:34	12/28/23 16:27	1

Client Sample ID: Dup-1  
Date Collected: 12/12/23 00:00  
Date Received: 12/12/23 15:58

Lab Sample ID: 550-211659-2  
Matrix: Water

Method: EPA 200.8 LL - Metals (ICP/MS) - Dissolved									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	0.042		0.0010	0.00043	mg/L		12/13/23 05:34	12/28/23 16:29	1



## QC Sample Results

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

## Method: 200.8 LL - Metals (ICP/MS)

Lab Sample ID: MB 550-312638/1-A

Matrix: Water

Analysis Batch: 313360

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 312638

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chromium	ND	E8	0.0010	0.00043	mg/L		12/13/23 05:34	12/28/23 16:15	1

Lab Sample ID: LCS 550-312638/2-A

Matrix: Water

Analysis Batch: 313360

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 312638

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	0.100	0.0947		mg/L		95	85 - 115

Lab Sample ID: LCSD 550-312638/3-A

Matrix: Water

Analysis Batch: 313360

Client Sample ID: Lab Control Sample Dup

Prep Type: Total/NA

Prep Batch: 312638

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	0.100	0.0970		mg/L		97	85 - 115	2	20

Lab Sample ID: 550-211659-1 MS

Matrix: Water

Analysis Batch: 313360

Client Sample ID: WW#1

Prep Type: Dissolved

Prep Batch: 312638

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec Limits
Chromium	0.041		0.100	0.138		mg/L		97	70 - 130

Lab Sample ID: 550-211659-1 MSD

Matrix: Water

Analysis Batch: 313360

Client Sample ID: WW#1

Prep Type: Dissolved

Prep Batch: 312638

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Chromium	0.041		0.100	0.135		mg/L		94	70 - 130	2	20

Eurofins Phoenix



QC Association Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Metals

Prep Batch: 312638

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-211659-1	WW#1	Dissolved	Water	200.8	
550-211659-2	Dup-1	Dissolved	Water	200.8	
MB 550-312638/1-A	Method Blank	Total/NA	Water	200.8	
LCS 550-312638/2-A	Lab Control Sample	Total/NA	Water	200.8	
LCSD 550-312638/3-A	Lab Control Sample Dup	Total/NA	Water	200.8	
550-211659-1 MS	WW#1	Dissolved	Water	200.8	
550-211659-1 MSD	WW#1	Dissolved	Water	200.8	

Analysis Batch: 313360

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
550-211659-1	WW#1	Dissolved	Water	200.8 LL	312638
550-211659-2	Dup-1	Dissolved	Water	200.8 LL	312638
MB 550-312638/1-A	Method Blank	Total/NA	Water	200.8 LL	312638
LCS 550-312638/2-A	Lab Control Sample	Total/NA	Water	200.8 LL	312638
LCSD 550-312638/3-A	Lab Control Sample Dup	Total/NA	Water	200.8 LL	312638
550-211659-1 MS	WW#1	Dissolved	Water	200.8 LL	312638
550-211659-1 MSD	WW#1	Dissolved	Water	200.8 LL	312638



Lab Chronicle

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Client Sample ID: WW#1  
Date Collected: 12/12/23 09:50  
Date Received: 12/12/23 15:58

Lab Sample ID: 550-211659-1  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			312638	SGO	EET PHX	12/13/23 05:34
Dissolved	Analysis	200.8 LL		1	313360	DSJ	EET PHX	12/28/23 16:27

Client Sample ID: Dup-1  
Date Collected: 12/12/23 00:00  
Date Received: 12/12/23 15:58

Lab Sample ID: 550-211659-2  
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Dissolved	Prep	200.8			312638	SGO	EET PHX	12/13/23 05:34
Dissolved	Analysis	200.8 LL		1	313360	DSJ	EET PHX	12/28/23 16:29

Laboratory References:  
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340



Accreditation/Certification Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Laboratory: Eurofins Phoenix

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Arizona	State	AZ0728	06-10-24

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14



Method Summary

Client: Stantec Consulting Services Inc  
Project/Site: Lordsburg Station

Job ID: 550-211659-1

Method	Method Description	Protocol	Laboratory
200.8 LL	Metals (ICP/MS)	EPA	EET PHX
200.8	Preparation, Total Metals	EPA	EET PHX

Protocol References:  
EPA = US Environmental Protection Agency

Laboratory References:  
EET PHX = Eurofins Phoenix, 4625 East Cotton Center Boulevard, Suite #189, Phoenix, AZ 85040, TEL (602)437-3340

1
2
3
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13
14







Login Sample Receipt Checklist

Client: Stantec Consulting Services Inc

Job Number: 550-211659-1

Login Number: 211659  
List Number: 1  
Creator: Gravlin, Andrea

List Source: Eurofins Phoenix

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



# APPENDIX D

Data Collection Sheets - Groundwater





Date: 3/29/2023

## One System Volume

c. Field Testing Equipment Used YSI 550 Multiparameter Meter (S/N = 0136 )

Released to Imaging: 7/15/2024 4:17:22 PM





Date: 9/6/2023

**Weather Conditions:** Clear/Sunny

Well Diameter	14-inch inner diameter
Three Well Volumes	gallons
One System Volume	

a. Purge Method	Dedicated in-well submersible pump
b. Purge Requirements	Parameter Stabilization (<10% change/interval over three consecutive readings)
c. Field Testing Equipment Used	YSI 550 Multiparameter Meter (S/N = )

MTN Time  
↓

Time Sampled: 1040

Field Filtered? ☒ Y / N

Chuck graves  
(Print Name)





# GROUNDWATER SAMPLE COLLECTION RECORD

Well No. WW#1Job No.: 193709470Client: El Paso Natural Gas CompanyLocation: Lordsburg Station, Hidalgo County, NMDate: 12/12/23Weather Conditions: Cloudy, Breezy, cold**1. WATER LEVEL DATA: (from TOC)**

a. Total Well Length (h) 440 feet Well Diameter 14-inch inner diameter  
 b. Depth to Water 92.67 feet Three Well Volumes gallons  
 c. Length of Water Column ~350 feet One System Volume gallons

**2. WELL PURGING DATA:**

a. Purge Method Dedicated in-well submersible pump  
 b. Purge Requirements Parameter Stabilization (<10% change/interval over three consecutive readings)  
 c. Field Testing Equipment Used YSI 550 Multiparameter Meter (S/N = )

Time	DTW (ft)	Totalizer Reading (gal)	Temp. (°C) ( $\pm 10\%$ )	pH (s.u.) ( $\pm 10\%$ )	Spec. Cond. ( $\mu\text{S}/\text{cm}$ ) ( $\pm 10\%$ )	ORP (mV) ( $\pm 10\%$ )	DO (mg/L) (N/A)	Turbidity (NTU) (N/A)	Color (visual)
0915	92.67	1935740	6.80	7.44	470	25.7	5.21	—	Clear
0920	101.26	" " 884	20.13	9.01	478	29.9	3.85	—	↓
0925	118.77	1935948	22.29	9.29	481	38.1	4.97	—	↓
0930	125.51	1936100	22.37	9.31	481	40.7	5.08	—	↓
0935	126.65	1936200	22.56	9.27	480	41.4	4.68	—	↓
0940	129.24	1936304	22.50	9.26	479	41.2	4.45	—	↓
0945	130.93	1936400	22.53	9.25	479	41.5	4.46	—	↓
0950	132.10	1936500	22.57	9.24	479	41.1	4.40	—	↓

**3. SAMPLE COLLECTION: Method**In-well submersible pump.Container Type: 250-mL vial (1)Preservation: NO3Analysis Req.: Chromium -dissolved (EPA 300.8)Container Type:                     Preservation:                     Analysis Req.:                     Sample ID #: WW#1Time Sampled: 09:50**4. COMMENTS:** Windmill southeast of site was not turning.

QA/QC Sample Collected = 1 Duplicate (Dup-1), Time: 01:00

Field Filtered? ☒ Y / N

Sampler (Signature)

Chuck Graves  
 (Print Name)



# APPENDIX E

Data Validation Report



## APPENDIX D

### DATA VALIDATION REPORT

2023 Annual Groundwater Monitoring Report  
Lordsburg Compressor Station, Hidalgo County, New Mexico

February 1, 2024

Prepared for:  
El Paso Natural Gas Company, LLC

### INTRODUCTION

This data validation report summarizes the quality assurance (QA) and quality control (QC) (QA/QC) results for the samples collected and data generated during 2023 Groundwater Monitoring Events conducted at the Lordsburg Compressor Station (site) on March 29, June 13, September 6, and December 12, 2023. Groundwater samples and associated field QA/QC samples were collected by Stantec Consulting Services Inc. (Stantec) and analyzed by Eurofins Environment Testing located in Phoenix, Arizona (Eurofins Phoenix) for dissolved chromium by inductively coupled plasma/mass spectrometry (ICP/MS) method EPA 200.8 LL.

### DATA EVALUATION

Data quality was evaluated relative to the following data quality indicators and associated QC control limits: precision, accuracy, representativeness, comparability, completeness, sensitivity, and traceability. Data were evaluated and qualified in general accordance with applicable portions of the United States Environmental Protection Agency (USEPA) Contract Laboratory Program (CLP) National Functional Guidelines for Inorganic Superfund Data Review. Data verification and validation activities were based on Stage 2B completeness and compliance checks of sample-related and instrument-related QC results identified in USEPA Guidance for Labeling Externally Validated Laboratory Analytical Data for Superfund Use. Compliance-check QC results were compared to control limits also presented in the laboratory analytical reports.

The following samples and analyses were evaluated during the data validation.

- Sample Delivery Group (SDG) 550-199844-1:
  - WW#1
  - DUP-1, field duplicate sample of WW#1
- SDG 550-203451-1:
  - WW#1
  - DUP-1, field duplicate sample of WW#1
- SDG 550-207364-1:
  - WW#1
  - Duplicate, field duplicate sample of WW#1
- SDG 550-211659-1:
  - WW#1
  - Dup-1, field duplicate sample of WW#1

### DATA VALIDATION RESULTS

QC parameter results were within control limits specified in the method and laboratory analytical reports, except for results noted in the following method summaries. Based on the results of this data quality review, the data are considered usable as reported for the purpose of the monitoring activities.



**Data Validation Report**

Page 2 of 2

2023 Annual Groundwater Monitoring Report  
 Lordsburg Compressor Station, Hidalgo County, New Mexico

**Metals by ICP/MS Method EPA 200.8 LL**

QC Parameter	Acceptable	Acceptable with Qualification	Not Acceptable
<b>Traceability</b>			
Sample Documented in Field Logbook/Form	X		
Sample Documented on Chain-of-Custody Form	X		
Sample Documented in Analytical Report	X		
<b>Comparability</b>			
Use of Standard Field Procedures	X		
Use of Standard Analytical Methods	X		
Use of Standard Units of Measure	X		
<b>Representativeness</b>			
Sample Hold Time	X		
Sample Preservation	X		
<b>Completeness</b>			
Analyte List	X		
<b>Sensitivity</b>			
Quantitation Limits	X		
<b>Accuracy</b>			
Method Blank	X		
Laboratory Control Sample/Duplicate Recovery Results	X		
<b>Precision</b>			
Laboratory Control Sample/Duplicate RPD	X		
Matrix Spike/Matrix Spike Duplicate RPD	X		
Field Duplicate Results	X		

**Validation Notes:**

For precision measurements, precision is expressed as the relative percent difference (RPD) of the values and is calculated as follows:

$$RPD = \frac{Primary - Duplicate}{\frac{1}{2}(Primary + Duplicate)} \times 100$$

Sensitivity is evaluated by comparing the analyte quantitation limit (reporting level [RL] and/or method detection level [MDL]) or reported value of each reported analyte concentration not analyzed at a dilution to the regulatory target level for the analyte.

Each metals sample was found to be acceptable as reported in regard to the data quality indicators of traceability, comparability, representativeness, completeness, sensitivity, accuracy, and precision.



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

CONDITIONS  
  
Action 330702

CONDITIONS

Operator: El Paso Natural Gas Company, L.L.C 1001 Louisiana Street Houston, TX 77002	OGRID:
	7046
	Action Number: 330702
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
michael.buchanan	Review of the 2023 Annual Groundwater Monitoring Report for Lordsburg Compressor Station: Content Satisfactory 1. Continue to conduct groundwater monitoring events on a quarterly basis for dissolved chromium, using EPA method 200.8 2. Submit the next annual groundwater report to OCD by April 1, 2025.	7/15/2024