

ENTERPRISE PRODUCTS PARTNERS L.P. ENTERPRISE PRODUCTS HOLDINGS LLC (General Partner) ENTERPRISE PRODUCTS OPERATING LLC

May 25, 2023

OCD E-Permitting System Submittal

Oil Conservation Division New Mexico OMNRD 1220 S. St. Francis Drive Santa Fe, NM 87505

RE: Response to Notice of an Administratively Incomplete Discharge Permit Application for the Chaco Gas Plant Enterprise Field Services, LLC Chaco Gas Plant

Dear Ms. Wells,

Enterprise Field Services, LLC (Enterprise) is submitting this revised ground water discharge permit application for the Chaco Gas Plant (Facility) in response to a Notice of an Administratively Incomplete letter (NOD) received on May 2, 2023. This revised application is submitted within 30 days of receipt of the NOD and includes the requested additional information and modification.

If you have any questions regarding this application, please do not hesitate to contact me at 713-381-5766 or by email at <u>jli@eprod.com</u>, or Pranav Kulkarni at 713-381-5830.

Sincerely,

Jing Li Staff Environmental Engineer /bjm

Pranav Kulkarni, Ph.D. Manager, Environmental

State of New Mexico Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham Governor

Sarah Cottrell Propst Cabinet Secretary

Todd E. Leahy, JD, PhD Deputy Cabinet Secretary **Dylan Fuge**, Division Director (Acting) **Oil Conservation Division**



BY ELECTRONIC MAIL ONLY

May 2, 2023

Jing Li Enterprise Field Services, LLC 1100 Louisiana Street Houston, TX 77002 jli@eprod.com

RE: Enterprise Field Services, LLC - Notice of an Administratively Incomplete Discharge Permit Application for Chaco Gas Plant

Dear Ms. Li:

The New Mexico Energy, Minerals and Natural Resource Department's Oil Conservation Division (OCD) has reviewed the Discharge Permit Application resubmitted to the OCD on April 3, 2023, for Enterprise Field Services, LLC's (Enterprise) Chaco Gas Plant.

As per 20.6.2.3108.A NMAC, OCD is required to notify Enterprise within 30 days of receipt of the discharge permit application of any deficiencies that make the application deemed administratively incomplete. OCD is requesting the below additional information, modifications, and/or clarification for administrative completeness of the submitted discharge permit application:

1. Confirm location as N36.48349, W-108.12088 in all places within application.

Confirmed location latitude and longitude are the same in Section 2.0 Facility Description and Section 9.2 Proposed Public Notice

2. Table 1, as originally submitted, included filters, transformers, and other chemicals which were removed in the resubmission. All materials stored at the plant, both liquid and solid, should be accounted for in this table.

Table 1 has been revised to reflect the inclusion of filters, transformers and other chemicals not included on the Chemical/Storage Inventory List found in Appendix G.

3. Include the volume of Tank 46 in Table D-1. According to the application, Tank 46 is completely buried. Describe leak detection measures in place.

Added the following sentence to Section 5.1 Buried Storage Tanks. "Tank 46 is a completely buried double walled tank equipped with interstitial space monitoring and level detection equipment" and included the volume of Tank 46 in Table D-1.

4. According to Enterprise both the contact water ponds and stormwater pond are unlined. Provide samples from each pond, including information as to whether the sample was "grab" or "time-composite," sample collection and preservation techniques, laboratory used for the analysis, etc. Sources for sampling and analytical techniques to be used are listed in WQCC 20.6.2.3107(B) NMAC.

The most recent grab samples were collected on 9/21/2015 and 9/25/2015. The non-contact water pond samples were analyzed for volatiles by EPA Method 8260D, for Anions by EPA Method 300.0, for EBD by EPA Method 8011/504.1, for PCB's by EPA Method 8082, for PAH's by EPA Method 8310, for Mercury by EPA Method 7470, and for Dissolved Metals by EPA Method 6010B. The grab sample preservation method consisted of utilizing HgCL2, HCL in laboratory-prepared glassware and packed on ice in coolers to reduce and maintain a temperature of approximately $4^{\circ}C \pm 2^{\circ}C$. The sample coolers were secured with custody seals and relinquished to Hall Environmental Analysis Laboratory, Inc. Sampling laboratory analytical results as well as the executed chain-of-custody can be found in Appendix H.

5. In 4.1, the application states: "All condensate, produced water, slop tanks, and rainwater is collected in sumps and then is stored in BGSTs or fixed roof ASTs then trucked by an Enterprise approved third-party vendor to an approved offsite disposal facility." Include description of all wastes described in this section (4.3.2), including the frequency of their disposal (e.g., monthly, annually). List all BGSTs onsite and include NMOCD permit registration numbers.

The wastes described and disposed of in Section 4.3.2 Maintenance Materials are disposed of on an as needed basis. Tank 46 is the only BGST located at the Chaco Gas Plant. Included in Appendix I is the Below Grade Tank (BGT) Registration Information. 6. In Section 3.4, Enterprise states that the monitoring wells "are monitoring for potential contamination from the North and South Contact Water Ponds." Explain possible sources of pond contamination and briefly describe efforts to remediate the impacts. Include any remediation plans or reports submitted to other agencies.

Editing Section 3.4 to include language from the Closure Plan and added description for the 5 additional monitoring wells associated with the releases in 2022 along with the lab results.

7. In Section 5.3 Enterprise states: "Hydrostatic testing is performed every 5 years with a test pressure of 3 psi for a period of one hour." Verify the date of the most recent hydrostatic test results performed and include these results with the application.

Hydrostatic tests were performed every five years per the old discharge plan. Since the old discharge plans were discontinued in 2012, the testing was ceased. The most recent hydrostatic test was performed in 2007 and the results are provided in Appendix D.

8. Sign and date the Certification Statement at the end of the application.

Section 13 Certification has been signed and dated.

A "complete" amended discharge permit application is due to OCD no later than June 1, 2023 (i.e., 30 days from email receipt); please submit the revised discharge permit application through the existing E-permitting application page and email an updated discharge permit application to <u>Shelly.Wells@emnrd.nm.gov</u>. If you have any questions regarding this letter, contact me at (505) 469-7520 or via email.

Respectfully,

Shelly Wells

Shelly Wells Environmental Specialist-Advanced

Oil Conservation Division * 1220 South St. Francis Drive * Santa Fe, New Mexico 87505 Phone: (505) 476-3441 * http://www.emnrd.nm.gov/ocd







SUPPLEMENT TO THE DISCHARGE PERMIT APPLICATION REVISION 2

Property: Chaco Gas Plant 859 County Road 7100 Bloomfield, New Mexico 87413

May 23, 2023

Prepared for:

ENTERPRISE FIELD SERVICES, LLC

1100 Louisiana Street Houston, Texas 77002

Ensolum, LLC | Environmental, Engineering & Hydrogeologic Consultants 10333 Harwin Drive, Suite 470 | Houston, TX 77036 | ensolum.com

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1.0 INTRODUCTION

This document provides supplemental information to a discharge permit application for the Chaco Gas Plant (Facility) operated by Enterprise Field Services, LLC (Enterprise) in response to a notice from the New Mexico Oil Conservation Division (NMOCD) stating Enterprise's natural gas plants are subject to the permitting requirements of Title 20, Chapter 6, Part 2 of the New Mexico Administrative Code (NMAC). There are no intentional discharges to groundwater at the Facility. Instead, this discharge permit application describes the measures that prevent potential discharges to groundwater of any water contaminant listed in 20.6.2.3103 NMAC or any toxic pollutant. Existing regulatory and operational programs are discussed in the context of site-specific environmental and operational conditions to verify that inadvertent releases of liquids stored and used at the Facility are minimized and contained, waste is managed appropriately, and groundwater resources are protected.

This supplement to the discharge permit relies heavily on the following existing documents.

- Enterprise Products Operating LLL Spill Prevention, Control and Countermeasures Plan for the Chaco Gas Plant.
- Material Safety Data Sheets for any non-oil-based chemicals stored at the Facility.
- Closure Plan South Lined Contact Water Pond

2.0 FACILITY DESCRIPTION

The Facility is located at 859 County Road 7100, Bloomfield, New Mexico, approximately 22 miles southeast of Farmington, New Mexico, being described as the Southwest ¼ of Section 16, Township 26 North, Range 12 West, NMPM, San Juan County, State of New Mexico (N36.48349, W-108.12088).

The Chaco Gas Plant is a natural gas compression station and cryogenic natural gas liquids extraction plant. The gas enters the plant via underground pipelines and is compressed to approximately 900 pounds per square inch, then processed through an expander plant operating at cryogenic temperatures to remove condensable liquid hydrocarbons (propane and heavier). The condensed liquids are transferred to the Mid-America Pipeline Company liquids pipeline and the liquid free natural gas is discharged into the El Paso Natural Gas Company and Trans-Western Pipeline company transportation pipelines.

2.1 Property, Operator, and Facility Ownership and Contacts

The following list outlines key entities associated with the Facility, OGRID 241602

Facility Name:

Chaco Gas Plant 859 County Road 7100 Bloomfield, New Mexico 87413

Landowner:

Enterprise Field Services, LLC 1100 Louisiana Street Houston, Texas 77002

Facility Owner and Operator: Enterprise Field Services, LLC 1100 Louisiana Street Houston, Texas 77002 Enterprise Field Services, LLC Supplement to the Discharge Permit Application_Rev2 Chaco Gas Plant

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Key Facility Contact:

Rodney M. Sartor Sr. Director Environmental P.O. Box 4324/ENV Houston, Texas 77210 (713) 381-6595 environmental@eprod.com

2.2 Facility Diagrams

Facility maps and diagrams are described below and referenced as attachments.

- A topographic map depicting topography and the location of the Facility relative to nearby environmental receptors (waterways and water wells) is included in **Figure 1**.
- A Site Layout depicting an aerial image of the Facility is included in **Figure 2**.
- A diagram depicting detailed components of the Facility, including locations, and contents of storage containers and process flow-through vessels; storage areas; and connection pipelines are included in **Figure 3**.

2.3 Fencing

The Facility includes an outer chain-link perimeter fence. The location of the Facility boundaries is depicted in **Figure 2 and 3**.

2.4 Tanks

The Facility utilizes aboveground storage tanks (ASTs), below ground storage tanks (BGSTs), totes, and sumps for storage. The locations of these tanks are included in the Facility Diagram in **Figure 3**. Details about tank content, size, and construction are included in **Table 1**. Chemicals, such as biocide and corrosion inhibitor, are stored in small totes and 5-gallon buckets temporarily for maintenance on equipment.

2.5 Process Vessels

This Facility utilizes oil-filled manufacturing equipment (i.e., flow-through process vessels) for continuous recovery and/or intermediate storage of liquids entrained in natural gas.

2.6 Secondary Containment

Containment walls constructed of concrete, rigid steel and earthen material are used as secondary containment for large liquid storage tanks. For drums and totes, portable containment constructed of plastic/HDPE is used for secondary containment. Bulk storage container installations are constructed so that a means of secondary containment is provided for the entire capacity of the largest container and sufficient freeboard to contain precipitation. Secondary containment areas are sufficiently impervious to contain oil and other liquid discharges.

2.7 Loading Areas

The majority of the liquids arrive and exit the Facility through pipelines. Trucks may occasionally receive wastewater from tanks or sumps, and these activities occur at tank loadouts. Spill control equipment, including dedicated catch pans, spill pans, sorbent materials, and/or spill control boom, are present to provide spill control truck loading. To prevent premature vehicular departure, the Facility has warning signs in the loading areas. The Facility also requires that truck drivers chock their wheels before loading. Drains and outlets on tank trucks and cars are checked for

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leakage before loading/unloading or departure and, if necessary, are tightened, adjusted, or replaced.

2.8 Storage Areas

The Facility utilizes indoor storage areas, outdoor storage areas, and roll-off boxes to store materials and equipment within the Facility. A storage yard includes equipment that has not been in service, including valves, piping, fittings, gaskets, and bolts/tools. Any liquids in storage areas are stored in plastic or stainless-steel totes/containers and fitted on individual containment structures.

2.9 Pits, Ponds, and Impoundments

There are no pits, ponds, or surface impoundments for liquids storage or waste accumulation at this Facility. Storm water is generally allowed to percolate into unpaved areas of the Facility or is diverted to the onsite stormwater pond located in the northwest corner of the Facility or is diverted to a bermed area in the southwest corner of the Facility as shown on **Figure 3** and discussed in **Section 4.3 Stormwater Management**.

2.10 Disposal Facilities

There is no on-site disposal at the Facility.

3.0 SITE CHARACTERISTICS

The following sections describe the hydrologic/geologic characteristics in the Facility's vicinity.

3.1 General Description of Topography, Elevations, and Vegetation Types

The Facility is located within a portion of the San Juan Surface Water Basin and the Farmington Declared Groundwater Basin¹. This area of the San Juan Basin is located near the center of a large, elevated plateau south of Farmington, New Mexico. The plateau consists of broad open valleys, mesas, buttes, and hogbacks. The topography is relatively flat away from major valleys and canyons. The surficial soils are locally stabilized with sparse native vegetation primarily consisting of desert scrub (Sage and Chamisa). The vegetation on these soils ranges from open grass stands, grasses, shrubs, desert succulent mixtures, and some piñon-juniper woodlands in the higher elevations². The Facility is approximately 6,020 ft above mean sea level (amsl).

3.2 Soil Type

Based on the available site-specific and regional subsurface information, the Facility is underlain by the Doak-Uffens complex on 0 to 3 percent (%) slopes, and Sheppard-Mayqueen-Shiprock complex on 0 to 8 % slopes. These surficial soils are classified as excessively drained, moderately permeable soils formed by sandy eolian deposits derived from sedimentary rock and mixed alluvium. Further classification of these soils indicates that the capacity of the most limiting layer to transmit water is high (6.00 to 20.00 inches per hour), and runoff potential is very low. Soil consists of physically weathered parent rock. Aeolian and to a lesser degree fluvial depositional systems are responsible for the material transport in this area ³.

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¹New Mexico Office of the State Engineer (NMOSE) – online query December 2022

²BGT Registration Packet for Chaco Plant Tank #46, Prepared by Souder, Miller, and Associates (SMA), September 2016. Prepared for Enterprise Products Operating, LLC.

³Natural Resources Conservation Services. Web Soil Survey. National Cooperative Soil Survey. San Juan County, New Mexico. Online query accessed December, 2022. <u>https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm</u>

3.3 Surface Water Features

Figure 1 is a topographic map depicting water bodies, streams, watercourses, and potential groundwater discharges within a 1-mile radius of the Facility boundary. There are no natural surface bodies of water or groundwater discharge sites within 0.25 miles of the Facility, and where drainages exist in interdunal areas, they are ephemeral, discontinuous, dry washes. Man-made surface water features are depicted in **Figure 1** and are named.

The facility is located within the Upper San Juan watershed, USGS Hydrologic Unit Code (HUC) #14080101. The nearest receiving water to the facility is the West Fork Gallegos Wash, located approximately 0.8 miles west in West Fork Gallegos Canyon. The unnamed wash flows approximately 6.5 miles north to the wash in the main fork of Gallegos Canyon and ultimately discharges to the San Juan River, located 16.8 miles north of the facility. Surface drainage from the Facility flows west-northwest. **Figure 1** applies the following databases for surface water features: National Wetlands Inventory, National Hydrography Dataset, and United States Geological Survey. Surface water bodies are identified within the datasets and depicted within 0.25 miles of the Facility, and just over 0.75 miles from the Facility. These appear as surface depressions, and visual inspection has identified no wetland features such as wetland vegetation or standing water. It appears they are topographic depressions that receive surface runoff and temporarily store precipitation for short periods until evaporation occurs. They are mostly dry except during large storm events.

3.4 Water Wells

There are 10 monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8b, MW-9 and MW-10 installed at the Facility. Monitoring well MW-1 is located at the northern boundary of the Facility, near the former non-contact water ponds and the former lined-contact water ponds. Monitoring well MW-2 is located at the western boundary of the Facility, near the former non-contact water ponds. Monitoring well MW-3 is located on the northwest portion of the Facility, adjacent to the former non-contact water ponds #3 and #4. Monitoring well MW-4 is located at the southern boundary of the northwest portion of the Facility, near the former non-contact water ponds and the former non-contact water ponds. Monitoring well MW-4 is located at the southern boundary of the northwest portion of the Facility, near the former non-contact water ponds and the former lined-contact water ponds. Monitoring wells MW-5, MW-6 and MW-7 are located on the southwest portion of the Facility, in the vicinity of the former solid waste pit and storm water retention pond. Monitoring wells MW-8b, MW-9 and MW-10 are located in the vicinity of the former industrial ponds# 1 and #2, the former flare pit and the former lined contact water ponds (see **Appendix I**).

There are 4 monitoring wells (EW-1 through EW-4) associated with Chaco Plan 3 Phase Separator release on July 22, 2022 (NMOCD Incident No. NRM2021235744). The most recent lab analytical results are located in **Appendix E**.

There is one monitoring well (MW-4) associated with the Chaco Plant Produced Water Release on January 26, 2022 (NMOCD Incident # NAPP2202747264). The most recent lab analytical results are located in **Appendix E**.

Using information from the New Mexico Water Rights Database from the New Mexico Office of the State Engineer (NMOSE), no water wells exist within and/or within a 1-mile radius outside of the Facility boundary. **Figure 1** depicts a 1-mile buffer radius of the Facility boundary. The closest Point of Diversion (POD) recorded with NMOSE is File Number SJ01058. SJ01058 is in Section 3, approximately 2.6 miles northeast of the Facility. The depth to the first water-bearing strata was recorded on the boring log at 240 ft below ground surface (bgs), and the static water level is recorded at 220 ft bgs.⁴

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⁴ NMOSE Online Map query accessed December 2022. <u>https://ose.maps.arcgis.com/home/index.html</u>

According to Stone et. al. 1983⁵, one groundwater well (26.12.16.3; EPNG Comp Plant) was in general proximity to the Facility. The water well information listed the principal water bearing unit as Tertiary-Cretaceous Ojo Alamo Sandstone (TKoa). The water well information indicated that the well had a total depth of 133 ft. No water quality information was provided; however, notes indicated that the water well was abandoned because of salt and was reported as livestock use.

3.5 Shallowest Aquifer

In this area of the San Juan Basin, groundwater occurs in Cretaceous and Tertiary sandstones and Quaternary alluvial deposits. The Paleocene Nacimiento Formation occurs at the surface as a broad belt at the western and southern edges of the central San Juan Basin and dips below beneath Eocene San Jose Formation in the center of the basin. Based on reported soil boring activities and using the New Mexico Oil and Gas Association (NMOGA) differential method for "surface drainage influenced groundwater" in general proximity to the Facility, groundwater is estimated to be 20 to 65 ft below ground surface (ft bgs)⁶.

3.6 Geological Characteristics

The Facility is constructed on the Nacimiento Formation. The lower portions of the Nacimiento Formation are composed of interbedded black carbonaceous mudstones and sandstones. Shales and conglomerates are often interbedded within the mudstone and sandstones. The Nacimiento Formation is generally slope forming, even in the sandstone units. The thickness of the Nacimiento Formation ranges from 418 to 2,232 ft. Overlying the Nacimiento Formation is the San Jose Formation and the Ojo Alamo underlays the Nacimiento. The Nacimiento Formation consists of eroded sandstones, shales, and conglomerates, and the San Jose Formation is composed mostly of medium-grained mixed clastic rocks⁷.

3.7 Site Flooding Potential

The annual precipitation of the region in San Juan County is 8 to 10 inches. The most likely flood events occur from heavy storms during the summer months of June through September, resulting from prolonged heavy rainfall over dry areas and are characterized by peak flows of moderate duration. These summer rain showers and thunderstorms account for more than half of the annual precipitation⁸. Most of this rainfall collects and runs through dry arroyos, none near the Facility. Based on Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL), the nearest mapped floodplain is associated with the nearest receiving water to the Facility, which is the West Fork Gallegos Wash, located approximately 0.8 miles west in West Fork Gallegos Canyon. The unnamed wash flows approximately 6.5 miles north to the wash in the main fork of Gallegos Canyon and ultimately discharges to the San Juan River, located 16.8 miles north of the Facility. Surface drainage from the Facility flows west-northwest. The surface water features depicted on FEMA NFHL are topographic depressions that receive surface runoff and temporarily store precipitation for short periods until evaporation occurs. They are mostly dry except during large storm events.

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⁵ Stone et. al., 1983, Hydrology and Water Resources of the San Juan Basin, New Mexico, Socorro, New Mexico Bureau of Mines and Mineral Resources, Hydrologic Report 6

⁶ BGT Registration Packet for Chaco Plant Tank #46, Prepared by Souder, Miller, and Associates (SMA), September 2016. Prepared for Enterprise Products Operating, LLC. 7 Stone et. al 1983

⁶ Flood Insurance Study San Juan County New Mexico and Incorporated areas. Prepared by Federal Emergency Management Agency (FEMA) Flood Insurance Study Number 35045CV000A. Effective August 5, 2010. Online query accessed December, 2022. https://msc.fema.gov/portal/advanceSearch

Groundwater in this region is sourced from the Ojo Alamo and Nacimiento Formations. The groundwater quality for the San Juan Basin is classified as slightly saline water (from 1,000 parts per million (ppm) to 3,000 ppm) with the median value of total dissolved solids (TDS) content of 1,125 ppm. It contains greater than 800 mg/l sulfate and 400 mg/l of chloride. ⁹ Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1,000 ft deep.

4.0 POTENTIAL DISCHARGES

There are no intentional discharges at the Facility; however, the NMOCD has determined that inadvertent discharges of liquids or improper disposal of waste solids stored at the Facility have the potential to impact groundwater. The information provided below discusses Facility operations and the use or storage of any materials, as requested by NMOCD. Similar procedures for storage and handling are applied to chemicals that are not oil-based. The immediate manned response from Chaco Gas plant to any release based on 24-hour staffing in addition to reporting and remediation required in 19.15.29 NMAC further decreases the likelihood of an accidental discharge impacting groundwater.

The ASTs, volume of containers, and associated containments, and the predicted direction of a release should containment fail, are included in the SPCC plan. Other materials used or stored onsite that are not oil-based are included in **Table 1**. The information provided below discusses Facility operations and use or storage of any materials, as requested by NMOCD to further mitigate unintentional discharges to groundwater. The contents of ASTs, volume of containers and associated containments, as well as predicted direction of a release should containment fail are included in the attached SPCC Plan. Similarly, details of process and oil-filled operational equipment are included in the SPCC Plan.

Miscellaneous chemicals that are not always on-site but are included in the Safety Data Sheet (SDS) inventory because they are sometimes used for the maintenance of equipment. These materials are maintained temporarily at minimal volumes and stored in a shed or closet when present. The SDS for these materials can be provided at the request of the NMOCD.

4.1 Onsite Disposal

This Facility does not have an on-site disposal system. There are no injection wells on-site. All condensate, produced water, slop tanks, and rainwater is collected in sumps and then is stored in BGSTs or fixed roof ASTs then trucked by an Enterprise approved third-party vendor to an approved offsite disposal facility.

4.1.1 Sanitary Sewage

Sanitary sewage is a separate system and does not commingle with any process waste generated by gas processing at the Facility. The sewage is disposed of through septic tanks within the Facility, which are emptied on an as-needed basis.

4.2 Off-site Disposal

Liquid and solid waste are collected at the Facility, properly characterized, and transported offsite for disposal. Enterprise has established methods of disposal for recovered materials in

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⁹ Land, Lewis, 2016, Overview of Fresh and Brackish Water Quality in New Mexico, New Mexico Bureau of Geology Mineral Resources, Open-file Report, v. 0583, pp. 55. <u>https://geoinfo.nmt.edu/publications/openfile/details.cfml?Volume=583</u>

accordance with applicable legal requirements. The Enterprise Sr. Environmental Scientist coordinates the disposal of any transported materials.

4.2.1 Waste Streams

Liquids from the Cryogenic Plant open drain system are commingled with the effluents from the Cryogenic Plant closed drain system. The liquids from the Cryogenic Plant open drain system flow by gravity through buried 2"-3" carbon steel lines into an atmospheric pressure, below-grade, 20-bbl, double-walled, carbon steel tank. The liquids are then pumped from this tank into the Cryogenic Plant closed drain system. This system then flows to a knock-out (KO) drum. Liquids from the KO drum flow by level control into the Chaco Plant lube oil drain system.

All commingled effluent streams from the Chaco Plant lube oil drain system flow through a belowgrade, double-walled heavy oil/water separator, and then the commingled effluent streams from the Chaco Plant process area drain system flow through a below-grade, double-walled light oil/water separator. The separated oil is then piped to an AST, from where it is transferred via tanker truck by an Enterprise approved third-party vendor for offsite disposal or recycling under documented manifests.

The separated water from both classifiers is piped to a third below-grade, double-walled tank and then to an aboveground skimmer tank. The oil fraction from the skimmer tank is piped to the slop oil tank, and the contact water is piped to an AGT for off-site disposal by an Enterprise approved third-party vendor under documented manifests.

4.3 Stormwater Management

Stormwater surface flow is depicted on the Facility Diagram and is generally directed through the Facility to avoid contact with equipment and storage containers/tanks. Storm water is generally allowed to percolate into unpaved areas of the Facility or is diverted to the surface water runoff ponds located in the northwest corner and southwest corner of the Facility as shown on **Figure 3**.

The stormwater ponds were constructed in the 1950's. The stormwater ponds utilize earthen berms and are unlined. The stormwater pond is used for stormwater runoff during high rainfall events. Stormwater surface runoff flows through concrete drainage culverts within the facility to the ponds.

Storm water controls at this facility include concrete secondary containment for bulk storage of stored chemicals. Storm water is pumped out of berms and taken to a non-exempt water tank located onsite then transferred to an Enterprise approved third party vendor for disposal offsite. The drainage system used to convey the storm water to the ponding area is hydro tested to a minimum of three pounds per square inch and documented.

The Facility has implemented procedures for drainage from undiked areas, including visual inspections. If a situation requires discharge of accumulated rainwater to the ground surface, qualified Facility personnel will visually evaluate the water quality to ensure the release of uncontaminated stormwater only. Facility personnel will record the date, area(s) inspected, and results of the evaluation(s). The evaluated accumulated stormwater must be clear and free of color; odor; floating, settled, suspended solids; foam; and oil sheen to be authorized for any discharge. Currently, no stormwater is discharged, and it is all stored in the non-exempt water tank before it is transferred to an Enterprise approved third-party vendor for offsite disposal.



Oils and sludge can accumulate in the bottom of compressor skids, containments, or tanks. Tanks may be periodically taken out of service for integrity inspections and/or service changes. This material is collected as E&P waste with a vacuum truck and disposed of offsite by an Enterprise approved third-party vendor at a nearby disposal facility.

4.3.2 Maintenance Materials

During equipment maintenance, used oils filters, used process filters, rags and absorbent pads are collected and stored in containers with general secondary containment. Periodically, this material is shipped off-site for recycling. Various quantities of lubricants, oils, and unused chemicals for operations are stored outside on pallets. The following wastes were disposed of in 2022 on an as needed basis:

- <u>Contaminated Soil:</u> Disposal of approximately 500 cubic yards of hydrocarbon contaminated soil from the Chaco Plant Produced Water Line Release that was trucked to the Envirotech Landfarm; USEPA ID Number NMR000006676.
- <u>Mole Sieve Disposal</u>: Approximately 43.41 tons were trucked to the Waste Management San Juan Regional Landfill; USEPA ID Number NMR000024836.
- <u>Desiccant Beads (Activated Alumina)</u>: Approximately 2,120 pounds were trucked to the Green Leaf Env./formerly WCA; NPDES ID: COR050005; Title V Air Permit Number: V-SUIT-0047-2019.00
- <u>Charcoal Filter Media</u>: Approximately 5 Cubic Yards were trucked to the Green Leaf Env./formerly WCA; NPDES ID: COR050005; Title V Air Permit Number: V-SUIT-0047-2019.00
- <u>Non-Exempt-Non-Hazardous Wastewater</u>: Approximately 3,052 Barrels were trucked to the Agua Moss facility; NMOCD Identification Number: UICI-5

4.3.3 Petroleum Hydrocarbon Impacted Soil

Nonhazardous soils that may be impacted with petroleum products are promptly removed and disposed in accordance with local, state or federal disposal requirements. Secondary containment systems are provided to prevent releases.

4.3.4 Miscellaneous Solid Waste

Non-hazardous solid waste is segregated on-site and contained in roll-off boxes that are inventoried and labeled pending removal from the facility according to waste stream. These include, but are not limited to waste from the office, E&P waste from operations, process filters, and scrap metal. All are segregated, handled, transported, and disposed of in accordance with local, state, and federal disposal regulations.

4.3.5 Ponds, Lagoons, Catchments

There are stormwater ponds located in the northwest and southwest corners of the Facility that are normally dry.

4.3.6 Groundwater Contamination

There is known groundwater contamination associated with the Facility. There are 10 groundwater monitoring wells within the property boundary. Wells 2,3,4,5,6, 7 are sampled on an annual basis, Wells 1 and 8 are sampled semi-annually and Wells 9 and 10 are sampled quarterly.

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These are monitoring for contamination from the North and South Contact Water Ponds from condensate and produced water releases.

4.3.7 Commingled Waste Streams

There are no further commingled waste streams at the Facility other than the ones listed above in **Section 4.2.1**.

5.0 COLLECTION AND STORAGE SYSTEMS

ASTs, BGSTs, and sumps are used throughout the Facility to hold and store condensate, process water, and stormwater, which is then trucked off-site for disposal. The condensate storage tanks are equipped with high-level alarms, and the sumps have visual gauges. Pumps, valves, and piping systems are used throughout the Facility to transfer various liquids among tankage and process vessels.

Lube oil and casing oil are stored in aboveground fixed containers. The Facility also receives, stores, and uses various additives and chemicals stored in small volumes in totes and other containers. Oil-filled operational equipment and storage containers are used to manage the process flow. The condition of secondary containment and containment pad/liners is inspected and maintained as needed.

The Facility stores over 15,000 barrels (642,000 gallons) including oil, wastewater, condensates, propane, glycol, amine, lube oil, synthetic oil, hot oil surge, NG condensate, propane, and transformer oil in the tanks (Table 1 and SPCC Plan). According to the SPCC Plan, the tanks are constructed to satisfy the 110% of the largest container within the contained areas. The condition of secondary containment and containment pad/liners is inspected and maintained as described in the SPCC Plan.

Enterprise implements secure and control access to oil handling, valves and control locking, pipeline loading/unloading connection security, and lightning to detect spills along with mechanical integrity plan for equipment, including tanks. The plan specifies inspection activities designed to assure the integrity of equipment and verify the equipment is fit for service.

5.1 Buried Storage Tanks

The Facility does have buried storage tanks installed at the site that are used to store commingled waste streams as described above in **Section 4.2.1**. Tank 46 is a 1,000 gallon completely buried double walled tank that is equipped with interstitial space monitoring and leak detection equipment. The tank registration information is located in Appendix J

5.2 Sumps

Sumps are utilized to collect stormwater. These sumps are evacuated via vacuum trucks and transferred to the onsite non-exempt water tank before transferred on an as needed basis to an Enterprise approved third-party vendor for offsite disposal.

5.3 Buried Piping

The Facility does have buried piping, see **Appendix D** for the most recent test results. Enterprise employs the following best management practices for buried piping installation and maintenance:

• New or replaced buried piping is cathodically protected and is installed with a protective wrapping or coating.



Chaco Gas Plant

- If a section of buried line is exposed, it is inspected for signs of deterioration and corrective actions are taken as indicated by the magnitude of the damage.
- Integrity and leak testing of buried piping is performed at the time of installation, modification, construction, relocation, and/or replacement.
- Hydrostatic testing was performed every five years until 2007 with a test pressure of 3 psi for a period of one hour.

5.4 Effluent Treatment Facilities

This facility does not have an effluent treatment system.

5.5 Aboveground Valves and Piping

This facility has aboveground piping installed or replaced that is regularly examined during normal facility walk-throughs for general condition and necessary for corrective action. Facility walk-throughs are generally conducted daily for flange joints, expansion joints, piping supports, metal surfaces, catch pans, and valve locks and/or seals.

6.0 INSPECTION, MAINTENANCE, AND REPORTING

Enterprise personnel and contractors routinely conduct inspection, maintenance, and repair of tanks, equipment, instrumentation, valves, piping, and other items necessary for the continued safe operation of the Facility. These activities involve recordkeeping and reporting. SPCC regulated inspections are performed monthly and annually. Any malfunctions, improper operations of equipment, evidence of leaks, stains, or discolored soils, etc. are logged and communicated to the Plant Supervisor.

Enterprise personnel conducts weekly audio, visual and olfactory (AVO) inspections, monthly Optical Gas Imaging inspections and hydrostatic testing of non-pressurized pipe (drain lines) is typically performed every 5 years.

Aboveground piping was designed and installed according to 40 CFR 112.8(d). Facility personnel conduct weekly visual surveillance of pipe sagging, corrosion, abrasion, expansion joints, valve locking mechanisms, catch pans, pipeline supports, and metal surfaces. Problems with containment systems and potential signs of leaks, puddles, corrosion of the liner, holes in the berm, buildup of precipitation or deterioration to the structure are reported to the Plant Supervisor for scheduled immediate repairs.

Oil-filled equipment is designed and constructed according to good engineering practices and industry standards. The compatibility of the oil and container's construction material has been evaluated prior to use. Preventive maintenance based on regular scheduled weekly visual inspections, tests, or evidence of the oil spills and/or problems that may occur can be quickly identified and resolved. Drums, totes, or any additional portable containers on-site, are typically elevated on separate containment pallets without direct contact to the ground which poses a minimal risk of corrosion and allows for all sides of the containers to be inspected. Drums, totes, or portable tanks are inspected routinely (non-documented) and handled as needed basis.

The waste stream profiles are recorded and documented for regulatory compliance. Annual waste management trainings are conducted by Enterprise's personnel that includes a review of operation and maintenance of equipment to prevent discharges; applicable pollution control laws, rules and regulations; general Facility operations; persons accountable for discharge prevention. Moreover, a review of Enterprise's policies and procedures related to spill prevention, cleanup, disposal, reporting, inspections, and routine handling of products will be covered during the training.



7.0 PROPOSED MODIFICATIONS

No modifications of the existing collection, treatment, and/or disposal systems are proposed at this time. However, in the case of Facility expansion or process modifications, the Facility will notify NMOCD in writing for modification of this discharge permit. An application and a description of the requested modifications will be included in the written notice.

8.0 SPILL/LEAK PREVENTION AND REPORTING PROCEDURES (CONTINGENCY PLAN FOR RELEASES

The Enterprise Chaco Gas Plant has implemented an Emergency Response Plan as well as an SPCC plan for the Facility. The Emergency Response Plan and SPCC plan describe processes necessary to respond to discharges of oil. A general response will include ensuring all personnel are notified, isolating the source, establishing an appropriate perimeter and control points, assessing the hazard, then implementing appropriate control measures. These actions vary based on size and source and are described in the attached plans. In the event of a sizeable release, Enterprise will work closely with NMOCD to develop a plan for remediation according to 19.15.29 NMAC. For de minimis (less than 5 barrels) releases, the response will generally involve stopping the release (if applicable), use of absorbent materials, collection and containerization of the spill and any contaminated media, and notification of additional response personnel if needed. Chemicals stored on site that are not oil-based are minimal in volume and unlikely to result in a discharge to groundwater based on the extent, underlying lithology, and short-term identification and response associated with a manned facility.

8.1 Notifications Procedures

Notification of discharges in accordance with local, state, and federal requirements will be directed by the Response Coordinator in accordance with Enterprise's Emergency Response Plan. It will be the responsibility of the Plant Supervisor to act as the initial Response Coordinator. The Supervisor will provide information regarding the characteristics of the materials and equipment involved and provide access to Enterprise resources as requested by responding agencies. The Response Coordinator will determine if emergency contractors are needed and contact them for assistance. In addition, the Response Coordinator will perform a site inspection to verify any spill at the facility of a reportable quantity or if any quantity has reached a waterway and will report such spills to the appropriate governmental agency. For all releases, regardless of volume. Enterprise will comply with 19.15.29. For further information regarding Spill Response and Reporting for the Chaco Gas Plant, please refer to the SPCC Plan located in **Appendix C**.

9.0 PUBLIC NOTICE

Enterprise will provide written notice of the Discharge Permit Application by the following methods per Subsection B of 20.6.2.3108 NMAC.

- One sign measuring at least 2 feet by 3 feet will be displayed at the main entrance to the Facility. The sign will display the public notice in English and Spanish languages and be displayed for 30 days.
- One additional notice will be posted at the Farmington, New Mexico Post Office. The sign will display the public notice in English and Spanish languages and be displayed for 30 days.
- Written notice will be given by mail or electronic mail in English and Spanish to owners of all properties within a 1/3-mile distance from the property boundary of the Site.
- A summary of the notice will be given in English and Spanish languages in a display ad at least 3 inches by 4 inches in a newspaper of general circulation (not in a classified or legal



advertisement section) in the Farmington Daily Times, a newspaper of general circulation in northwestern New Mexico.

9.1 Schedule

Enterprise will issue a public notice within 30 days after the NMOCD determines the Discharge Permit application is administratively complete. This includes public notice to the newspapers and mailings to the appropriate surface owners identified for distribution. The newspaper publication will run for one business day.

Within 15 days of completion of the public notice requirements, Enterprise will submit proof of notice to the NMOCD that includes an affidavit of mailings and a list of property owners, proof of publication in a newspaper, and an affidavit of posting.

9.2 Proposed Public Notice

The proposed public notice is presented below and includes the items specified in Subsection F of 20.6.2.3108.

NOTICE OF PUBLICATION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations (20.6.2.3106 of the New Mexico Administrative Code), the following discharge permit application has been submitted to the Director of the New Mexico Oil Conservation Division ("NMOCD"), 1220 S. Saint Francis Drive, Santa Fe, New Mexico 87505, Telephone (505) 476-3441:

> NMOCD Discharge Permit Number GW-XXX Enterprise Field Services, LLC Chaco Gas Plant 859 County Road 7100 Bloomfield, New Mexico 87413 N36.48349, W-108.12088 Section 16, SW1/4/, Township 26N, Range 12W Mr. Thomas J. Long, (505) 599-2286, tjlong@eprod.com

Enterprise announces the submittal of an application for potential unintended discharges at the Chaco Gas Plant located approximately 17 miles southwest of Bloomfield, New Mexico. The Facility is a compression facility through which natural gas and condensate from nearby oil and gas production facilities are transported by pipeline for treatment and processing. The design throughput for Chaco Gas Plant are 650 MMscf/day of natural gas and 65,000 BPD of liquids. Once gathered at the Facility, the gas is compressed through cryogenic processing, dehydrated to remove the water content, and processed to remove and recover natural gas liquids. The discharge permit includes a description of materials stored and used at the Facility and any waste generated for off-site disposal. Groundwater at the facility is estimated to be less than 500 ft, but deeper than 20 ft and contains total dissolved concentrations (TDS) of approximately 1,100 milligrams per liter (mg/l). The discharge permit addresses how liquids and solid waste will be handled, stored, and disposed of, including procedures to prevent an unintended discharge. Response actions and abatement requirements for spills and leaks are addressed.



The NMOCD has determined the application is administratively complete and is in the process of preparing a draft permit. The NMOCD shall post a notice on its website and distribute notice of the submittal of the renewal application to affected local, state, federal, tribal, or pueblo government agency, political subdivisions, ditch associations, and land grants as identified by the department and persons on a general and facility-specific list maintained by the department who have requested notice of discharge permit applications. Interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices. The NMOCD will also accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices. Prior to ruling on any proposed permit, the Director shall allow at least 30 days after the draft permit is posted, during which time interested persons may submit comments.

Persons interested in obtaining further information, submitting comments, or requesting to be on a facility-specific mailing list for future notices may contact the Oil Conservation Division contact listed below:

Ms. Shelly Wells New Mexico Oil Conservation Division Energy Minerals and Natural Resources Division 1220 South St. Francis Drive Santa Fe, NM 87505 (505) 469-7520, Shelly.Wells@emnrd.nm.gov

10.0 FACILITY CLOSURE/POST CLOSURE PLAN

Since this discharge permit is for unintended discharges, a closure and post-closure plan must include the entire Facility. The following general procedures will apply to prevent impacts on groundwater upon cessation of Facility operations:

- Enterprise will remove all fluids from ASTs and BGSTs. The liquids and sludges will be contained and disposed of off-site as described above in **Section 4.2**.
- Liquids that are not oil-based will be segregated. Any unused chemicals will be identified and profiled, then handled and disposed of using a third-party waste handler licensed and certified to handle hazardous and non-hazardous waste.
- All ASTs, storage vessels, process equipment, and piping will be dismantled and removed from the Facility. BGSTs and sumps will be excavated. Disposal of scrap material and equipment will be through recycling or offsite disposal based on appropriate waste profiling.
- Below-ground piping will be cut at least 3 ft bgs, capped on both ends, and buried in place.
- Any solid waste, such as building materials, concrete, containment metal, liner, and miscellaneous metal or lumber will be recycled or disposed of off-site as solid waste.
- Any releases that were deferred under 19.15.29 NMAC will be addressed under the requirements of Part 29.
- Once all equipment has been removed, Enterprise will collect soil samples from each plant process area. Sample locations will be based on operations and designed to identify any residual impacted soil prior to reclamation.
 - Soil samples will be collected from the ground surface and field screened for volatile organic compounds (VOCs) utilizing a calibrated photoionization detector (PID) and chloride using Hach[®] chloride QuanTab[®] test strips. If field screening indicates the samples exceed 100 milligrams/kilogram total petroleum hydrocarbons (TPH) or 600 mg/kg chloride, a hand auger will be used to advance

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a borehole in that location. Samples will be collected every foot until field screening indicates residual impacts are absent. If the boreholes are advanced deeper than 4 feet, field screening results will be compared to 2,500 mg/kg TPH and 20,000 mg/kg chloride.

- All soil samples will be placed directly into pre-cleaned glass jars, labeled with the location, date, time, sampler name, method of analysis, and immediately placed on ice. The soil samples were transported at or below 4 degrees Celsius (°C) under strict chain-of-custody procedures to a certified laboratory for analysis of the following chemicals of concern (COCs): BTEX following the United States Environmental Protection Agency (EPA) Method 8021B; TPH-GRO, TPH-DRO, and TPH-motor oil range organics (MRO) following EPA Method 8015M/D; and chloride following EPA Method 300.0.
- Laboratory analytical results will be compared to the requirements of 19.15.29 NMAC and reported, addressed, and closed according to those regulations.

11.0 FINANCIAL ASSURANCE

The estimated costs for closure/post-closure activities are located in **Appendix F.** Once NMOCD approves this plan, Enterprise will submit financial assurance to the NMOCD in the amount of the facility's estimated closure and post-closure costs within 30 days of NMOCD's approval. The financial assurance will be provided on NMOCD-prescribed forms or forms otherwise acceptable to the NMOCD, payable to the NMOCD.

12.0 GROUND WATER DISCHARGE PERMIT APPLICATION AND PERMIT FEES

Pursuant to 20.6.2.3114 NMAC, a filing fee of \$100.00 is being submitted with this application. The appropriate permit fee for a compressor station will be submitted within 30 days of receipt of the approved Discharge Permit.

13.0 CERTIFICATION

I hereby certify that the information submitted with this application is true, accurate, and complete to the best of my knowledge and belief.

Printed Name: F	Rodney M. Sartor	
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Signature: _____

Title:__Senior Director

Enterprise Field Services, LLC 1100 Louisiana Street Houston, Texas 77002



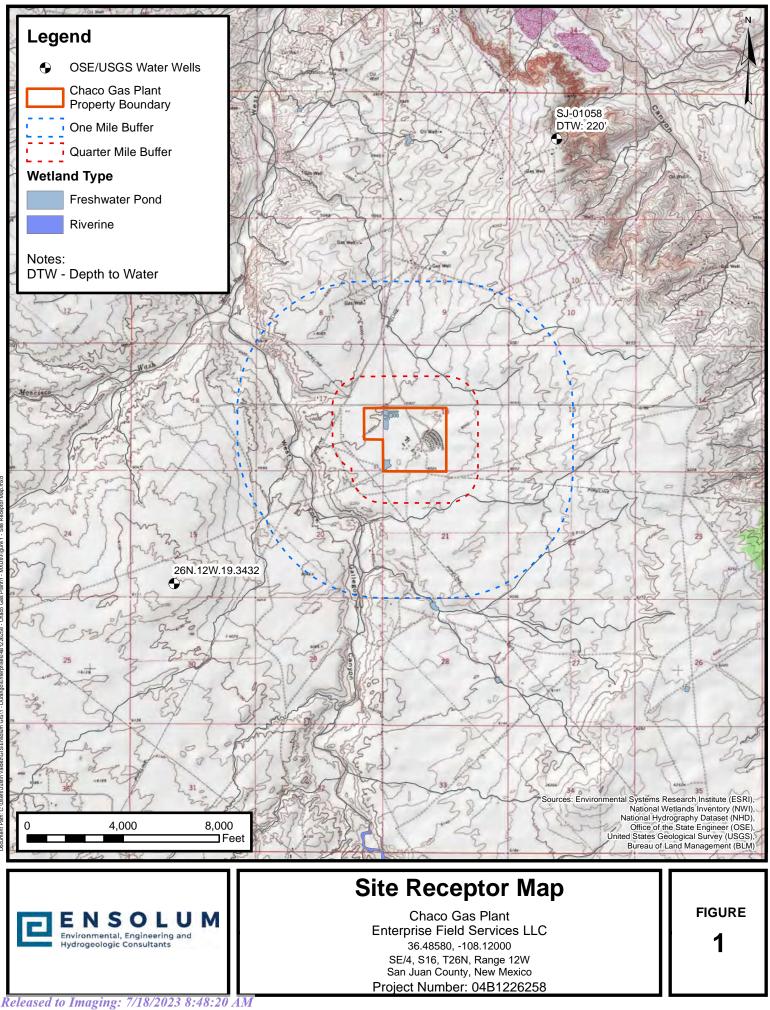


APPENDIX A

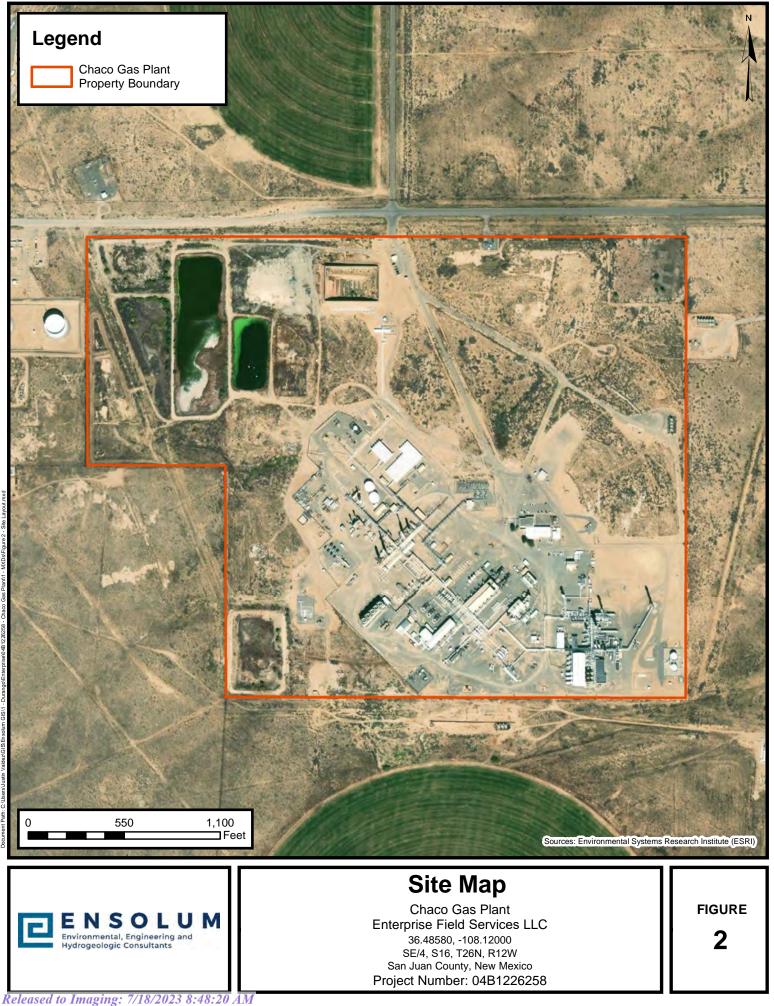
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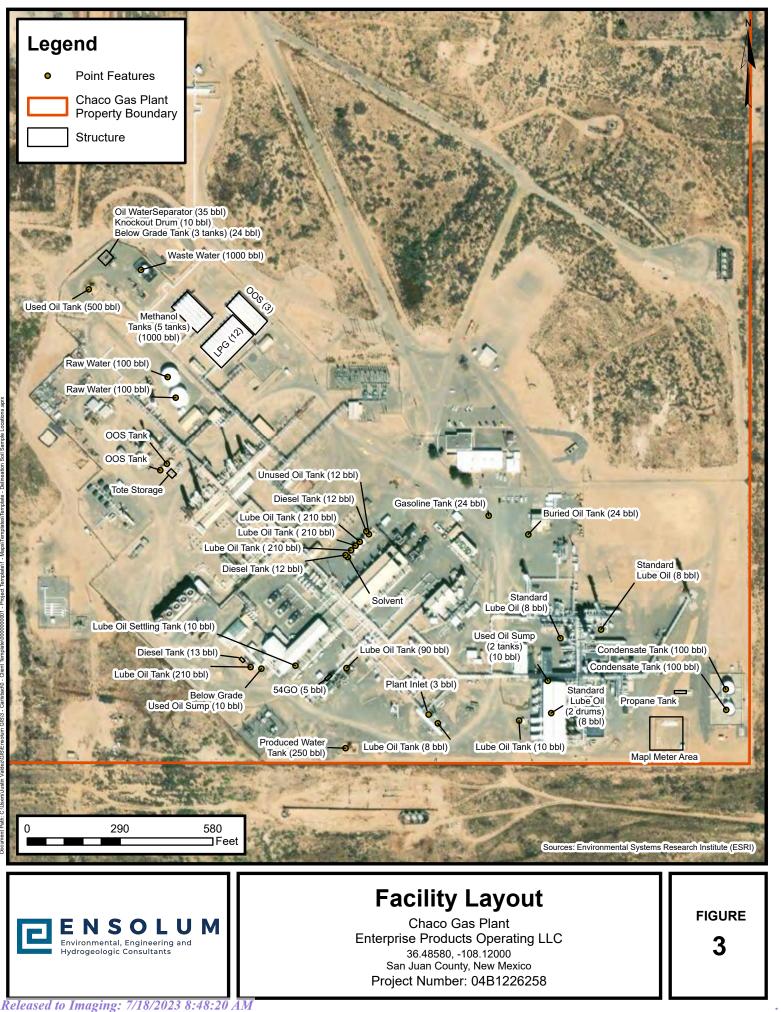
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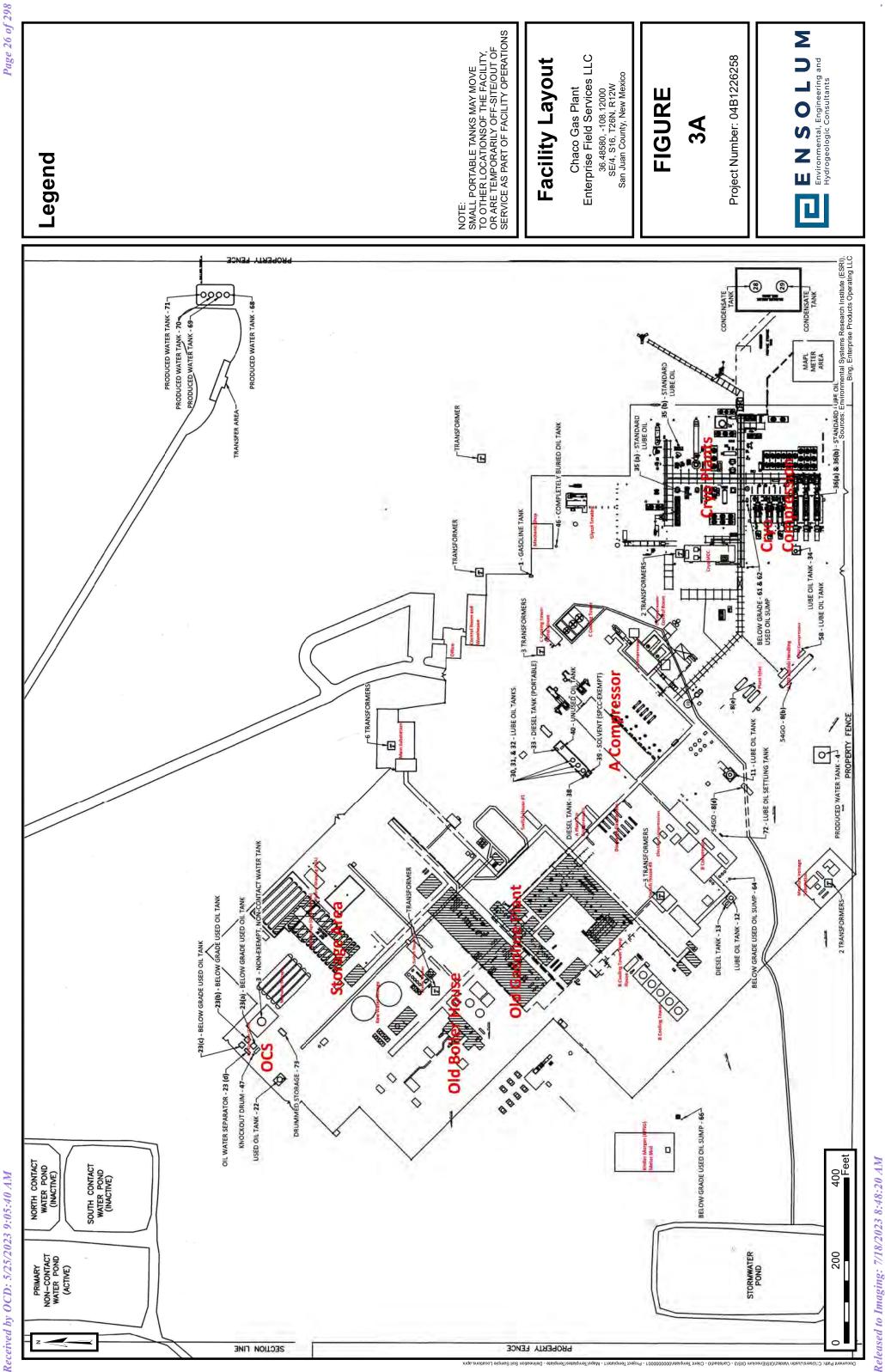
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APPENDIX B

Tables

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	TANKS/TO	ES NOT INCLUDED Ent	TABLE 1 DED IN THE SPCC REGULATEI Chaco Gas Plant Enterprise Field Services, LLC San Juan County, New Mexico	TABLE 1 TANKS/TOTES NOT INCLUDED IN THE SPCC REGULATED FACILITY COMPONENTS Chaco Gas Plant Enterprise Field Services, LLC San Juan County, New Mexico	TS
Chemical/Material Name	Quantity	Maximum Capacity (gallons)	Predicted Direction of Flow	Primary Containment Material	Storage/Containment
Methanol (Univar, liquid)	-	2,900	West-Northwest	Steel	Portable fiberglass containment
Methanol (Univar, liquid)	-	500	West-Northwest	Steel	Concrete unlined containment berm
Methanol (Univar, liquid)	2	125	West-Northwest	Polyethylene	Portable polyethylene containment
Triethylene Glycol (Coastal Chemical, liquid))	-	3,800	West-Northwest	Steel	Concrete unlined containment berm
Acid-H2SO4 (Univar, liquid)	2	1,000	West-Northwest	Polyethylene Tank	Concrete unlined containment berm
Corrossion Inhibitor (GE Betz, liquid)	٢	500	West-Northwest	Polyethylene Tank	Portable fiberglass containment
Corrossion Inhibitor (GE Betz, liquid)	٢	200	West-Northwest	Polyethylene Tank	Concrete unlined containment berm
Sodium Hypochlorite - Bleach (GE Betz, liquid)	٢	200	West-Northwest	Polyethylene Tank	Portable polyethylene containment
Sodium Hypochlorite - Bleach (GE Betz, liquid)	٢	800	West-Northwest	Polyethylene Tank	Portable fiberglass containment
Used Oil Sumps (subgrade)	٢	1,000	West-Northwest	Steel	Double-wall tank
Lube Oil	2	350	West-Northwest	Steel	Concrete unlined containment berm
Bromine	٢	500	West-Northwest	Polyethylene Tank	Stainless steel portable containment
Bromine	٢	500	West-Northwest	Polyethylene Tank	Aluminum portable containment
Amine (Ineos Oxide, liquid)	1	20,000	West-Northwest	Steel	Concrete unlined containment berm
Oil/Water Separator	٢	1,000	West-Northwest	Steel	Concrete unlined containment berm
	V	liscellaneous Tank	s/Totes (greater than	Miscellaneous Tanks/Totes (greater than or equal to 55 gallons)	
Defoamer 530 (Coastal Chemicals	1	55	N/A	Plastic Drum	Inside Cryo Building
Synthetic Oil GT 32 (Royal Purple)	1	320	N/A	Plastic Tote	Inside Cryo Building
Lube Oil	1	55	N/A	Metal Drum	Inside Building
Klaraid PC 1192P (GE Betz)	1	300	N/A	Plastic Tote	Inside Building
Sodium Hypochlorite - Bleach (GE Betz, liquid)	4	55	N/A	Plastic Drum	Inside Building
Carbon Filter	1	<55	N/A	Storage Shed	Inside Building
Amine-Carbon Fitter	1	<55	N/A	Storage Shed	Inside Building
Rich Solids Filter	1	<55	N/A	Storage Shed	Inside Building

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APPENDIX C

Spill Prevention, Control and Countermeasure Plan



SPILL PREVENTION, CONTROL, AND COUNTERMEASURES PLAN

FOR

CHACO GAS PLANT

Facility Operator:

ENTERPRISE PRODUCTS OPERATING LLC

P.O. Box 4324

Houston, TX 77210-4324

SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PLAN

Enterprise Products Operating LLC Chaco Gas Plant

Section 16, T26N, R12W San Juan County, New Mexico

September 2020



Prepared on behalf of: Enterprise Products Operating LLC P.O. Box 4324 Houston, Texas 77210-4324 Prepared by: Souder, Miller & Associates 401 W. Broadway Farmington, New Mexico 87401

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Spill Prevention, Control, and Countermeasure (SPCC) Plan

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Enterprise Products Operating LLC

Chaco Gas Plant

Spill Prevention, Control, and Countermeasure (SPCC) Plan

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Enterprise Products Operating LLC

Chaco Gas Plant

Spill Prevention, Control, and Countermeasure (SPCC) Plan

Cross-Reference with SPCC Rule

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* Only relevant rule provisions are indicated. For a complete list of SPCC requirements, refer to the full text of 40 CFR part 112.

Enterprise Products Operating LLC Chaco Gas Plant Spill Prevention, Control, and Countermeasure (SPCC) Plan

Introduction

The purpose of this Spill Prevention Control and Countermeasure (SPCC) Plan is to describe measures implemented by Enterprise Products Operating, LLC (Enterprise), to prevent oil discharges from occurring, and to prepare Enterprise to respond in a safe, effective and timely manner to mitigate the impacts of a discharge of oil from the Chaco Gas Plant facility. This SPCC Plan has been prepared and implemented in pursuant to U.S. Environmental Protection Agency (USEPA) regulations as set forth in Title 40, Code of Federal Regulations Part 112 (40 CFR 112).

In addition to fulfilling requirements of 40 CFR Part 112, this SPCC Plan is used as a reference for oil storage information, as a tool to communicate practices on preventing and responding to discharges with facility employees and contractors, as a guide on facility inspections and as a resource during emergency response.

Management Approval 40 CFR 112.7

Enterprise Products Operating, LLC is committed to maintaining the highest standards for preventing discharges of oil to navigable waters and the environment through the implementation of this SPCC Plan. This SPCC Plan has the full approval of Enterprise Products Operating, LLC management. Enterprise Products Operating, LLC's management has committed the necessary resources to implement the measures described in this Plan.

Authorized Company Representative: Rodney M. Sartor

Signature: _____

Title: Senior Director

Date:_____

Professional Engineer Certification 40 CFR 112.3(d)

The undersigned Registered Professional Engineer (P.E.) is familiar with the requirements of Part 112 of Title 40 of the *Code of Federal Regulations* (40 CFR part 112) and has visited and examined the facility, or has supervised examination of the facility by appropriately qualified personnel. The undersigned Registered Professional Engineer attests that this Spill Prevention, Control, and Countermeasure Plan has been prepared in accordance with good engineering practice, including consideration of applicable industry standards and the requirements of 40 CFR Part 112; that procedures for required inspections and testing have been established; and that this Plan is adequate for the facility.

This certification in no way relieves the owner or operator of the facility of his/her duty to prepare and fully implement this SPCC Plan in accordance with the requirements of 40 CFR Part 112.

Signature:

Name: Douglas W. Mize, Sr., P.E.

Title: Principal Engineer

Company: Miller Engineers, Inc. d/b/a Souder, Miller & Associates

PE Licensing State and Registration #: New Mexico 13678

25,2020

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SPCC Amendment by Regional Administrator 40 CFR 112.4

The SPCC Plan will be amended as directed by State agency or EPA through either an on-site visit or by certified mail. Requirements of appeal are detailed in 40 CFR 112.4(e) and (f).

SPCC Amendment by Owners/Operators 40 CFR 112.5

In accordance with 40 CFR 112.5(a), Enterprise Products Operating, LLC periodically reviews and evaluates this SPCC Plan for any change in the facility design, construction, operation, or maintenance that materially affects the facility's potential for an oil discharge, including, but not limited to:

- commissioning of containers;
- reconstruction, replacement, or installation of piping systems;
- construction or demolition that might alter secondary containment structures; or
- changes of product or service, revisions to standard operation, modification of testing/inspection procedures, and use of new or modified industry standards or maintenance procedures

Amendments to the Plan made to address changes of this nature are referred to as technical amendments, and must be certified by a PE. Following such a change, Enterprise must make the needed revisions to the SPCC Plan as soon as possible, but no later than six months after the change occurs. The Plan must be implemented as soon as possible following any technical amendment, but *no later than six months* from the date of the amendment.

Non-technical amendments can be done (and must be documented in this section) by the facility owner and/or operator. Non-technical amendments include the following:

- change in the name or contact information (i.e., telephone numbers) of individuals responsible for the implementation of this Plan; or
- change in the name or contact information of spill response or cleanup contractors.

In accordance with 40 CFR 112.5(b), Enterprise Products Operating, LLC reviews this SPCC Plan at least once every five years. This Plan is dated September 25, 2020. The next plan review is therefore scheduled to take place on or prior to September 25, 2025.

Table 0-1: Record of Plan Revi	iew and Changes
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Date	Authorized Individual	Review Type	PE Certification	Summary of Changes
April 2008		Initial Plan	Yes	N/A
July 2015	Graham Bacon	Plan Recertification	Yes	5 Year Recertification of SPCC Plan
October 2017	Runell Seale	Plan Amendments	Yes	SPCC Plan Technical Amendments
August 2020	Ivan Zirbes	Plan Recertification	Yes	5 Year Recertification of SPCC Plan
January 2023	Rodney M. Sartor	Plan Recertification	No	Administrative Amendment

Table 0-2: Record of Changes Since July 2015 Recertification & October 2017 Plan Amendments:

Change	Description
Total oil storage capacity	Updated from 15,254 bbls to 15,294 bbls.
Inlet gas delivery volume rate	Updated from 700 MMSCFD to 600 MMSCFD (fluctuates daily).
Management Approval / Facility Representative	Changed from Ivan Zirbes to Rodney M. Sartor.
Facility Contacts / Designated Persons Accountable	Changed from Mike Seitzinger to Erric Lucero, Tom Long, and Brain Stone.
Off-site drainage	Corrected facility drainage (Figures 1 and 3).
Tanks 4, 8(b), 10, 35(a), 35(b), 36(a), 58, 72, 73	Updated containment dimensions.
Tanks 4, 10, 12 &13, 30-33 & 40, 34,	Recalculated available containment volume after subtracting concrete pads.
Tanks 23(d), 35(a), 35(b), 36(a), 58	Updated containment type.
Tanks 8(a), 8(f), 36(c), 63	Removed
Tank 40	New tank
Tanks 23(a), 23(c), 35(a), 35(b)	Labelled correctly on Figure 2.
Tank 36(a)	New location – now located on east side of Cryogenic Plant Building.

Location of SPCC Plan 40 CFR 112.3(e)

In accordance with 40 CFR 112.3(e), a complete copy of this SPCC plan will be kept on site as the facility is attended more than four hours per day. An additional copy is also located at the Enterprise area office at 614 Reilly Avenue, Farmington, New Mexico.

Yes

Enterprise Products Operating LLC	
Chaco Gas Plant	

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Certification of Substantial Harm Determination

40 CFR 112.20(e), 40 CFR 112.20(f)(1)

Facility Name: Chaco Gas Plant Facility Location: N36.48349, W108.12088, San Juan County, New Mexico

1. Does the facility transfer oil over water to or from vessels and does the facility have a total oil storage capacity greater than or equal to 42,000 gallons? No 🖂

2. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and does the facility lack secondary containment that is sufficiently large to contain the capacity of the largest aboveground oil storage tank plus sufficient freeboard to allow for precipitation within any aboveground storage tank area?

Yes			
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3. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the facility could cause injury to fish and wildlife and sensitive environments?

Yes

No 🖂

No 🕅

4. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and is the facility located at a distance (as calculated using the appropriate formula in 40 CFR part 112 Appendix C, Attachment C-III or a comparable formula) such that a discharge from the facility would shut down a public drinking water intake?

No	\times	
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5. Does the facility have a total oil storage capacity greater than or equal to 1 million gallons and has the facility experienced a reportable oil spill in an amount greater than or equal to 10,000 gallons within the last 5 years?

Yes		
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Yes

No	\boxtimes
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Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals responsible for obtaining this information, I believe that the submitted information is true, accurate, and complete.

Authorized Company Representative:

Rodney M. Sartor

Signature:
Title:
Date:

Senior Director

Compliance with Applicable Requirements 40 CFR 112.7(a)(2)

In order to meet the requirements of 40 CFR 112, the SPCC Plan developed for the Chaco Gas Plant complies with 112.7(a) by including a regulatory cross reference table at the beginning of the SPCC Plan and also addressing any non-conformance issues within the applicable portion of the plan. The following are allowable exceptions to SPCC compliance requirements:

Part 112.8(c)(8) Fail safe engineering of each oil storage container: The tanks in the facility
are designed to provide proper process capacity to ensure tanks will not overflow. Oil storage
equipment is routinely monitored during normal business hours by facility personnel, and in
the event of a release from any oil storage equipment, the release will be investigated for the
risk of reoccurrence, and a solution will be implemented.

This facility complies with all requirements of 40 C.F.R Part 112, Oil Pollution Prevention. There are no deviations, nonconformances, alternate methods, or environmental protection equivalencies identified for this facility.

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PART I - GENERAL FACILITY INFORMATION

40 CFR 112.7(a)(3)

1.1 Company Information

Name of Facility:	Chaco Gas Plant
Туре	Onshore Natural Gas Processing and Compression Plant
Date of Initial Operation	1956 (original construction)
Location	Lat. 36.48349, Lon108.12088 SW1/4, Section 16, Township 26N, Range 12W San Juan County, New Mexico
Name and Address of Owner	Enterprise Products Operating, LLC P.O. Box 4324 Houston, Texas 77210-4324

Enterprise Products Operating, LLC (Enterprise) Chaco Gas Plant is defined as an "onshore" natural gas processing and compression plant. Natural gas from across the San Juan Basin is gathered and delivered to Chaco Gas Plant where it is processed. The facility is designed to process a total of 600 MMSCFD (million standard cubic feet per day) of inlet gas delivered at 865 PSIG (pounds per square inch gauge) and 90°F. The processing facility consists of inlet filtration, inlet dehydration, natural gas liquids (NGL) extraction, partial product de-ethanization, product treating, product pumping, and residue gas recompression. This facility currently has an aggregate oil storage capacity of approximately 15,294 barrels (642,337 gallons), including tanks and drummed storage, compressors, transformers, turbines and oil-filled manufacturing equipment (flow through process vessels). Oil storage equipment at the facility is further detailed on **Table D-1** per SPCC regulation.

1.2 Contact Information

The designated person accountable for overall oil spill prevention and response at the facility is the Plant Superintendent, Mike Seitzinger. 24-hour contact information is provided in Table 1-1.

TITLE	NAME	TELEPHONE NUMBER
Plant Superintendent	Erric Lucero	(505) 599-2014 (office) (505) 330-2834 (mobile)
SPCC Plan Manager	Tom Long	(505) 599-2286 (office) (505) 215-4727 (mobile)
Field Environmental Manager	Brian Stone	(970) 563-3020 (office) (970) 210-2170 (mobile)

Table 1-1: Facility Contact List

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1.3 Facility Layout Diagram

A Facility Vicinity Map (Figure 1) and a general SPCC Site Layout (Figure 2) are included in Appendix A. The Vicinity Map shows the site topography and the location of the facility relative to waterways, roads, and inhabited areas. The Site Layout shows the above-ground storage tanks (ASTs) and the general facility layout. The Site Layout also shows the location and contents of all oil storage containers greater than 55 gallons in capacity. Due to the number of ASTs, size of the facility, and complexity of piping, secondary containment and process flows are not included in the Site Layout. Secondary containment details can be found in **Table D-1** and detailed process flow diagrams can be found with Enterprise's internal drafting department.

1.4 Facility Location

The facility is located on State Land approximately 17 miles southeast of Farmington, NM, San Juan County, within Section 16, Township 26 North, and Range 12 West. The facility is owned and operated by Enterprise Products Operating, LLC.

1.5 Facility Operations and Storage [40 CFR 112.7(a)(3)(i)]

1.5.1 Facility Operations, Production Equipment

The facility is a natural gas compression and processing plant originally constructed in 1956, which includes inlet compression, residue compression, cryogenic processing, liquid treating, dehydration, and condensate with stabilization, storage, and shipping. Products on location include raw natural gas, natural gas liquids (NGL), pipeline quality natural gas, and stabilized condensate.

This facility currently has an aggregate oil storage capacity of approximately **15,294 barrels**, including tanks, transformers, scrubbers, separator, turbines, completely buried tanks, drummed storage and the compressor crankcases. A summary of the oil storage tanks and equipment present at the facility is included in **Table D-1**, and a general facility diagram which illustrates the locations of the oil storage equipment is presented as **Figure 2**. As part of routine facility operations, some of the small polymer tanks, such as Tanks 8(b), 8(d), and 8(e), may move location within the facility, or may be temporarily out of service. Refer to Section 4.2 (11) within this Plan for proper storage of these containers.

The facility is staffed 24 hours a day, 7 days a week.

1.6 Proximity to Navigable Waters

The facility falls within the Upper San Juan watershed, USGS Hydrologic Unit Code (HUC) #14080101. The nearest receiving water to the facility is the West Fork Gallegos Wash, located approximately 0.8 miles west in West Fork Gallegos Canyon. The unnamed wash flows approximately 6.5 miles north to the wash in the main fork of Gallegos Canyon and ultimately discharges to the San Juan River, located 16.8 miles north of the facility. Surface drainage from the

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facility is shown in Figure 3.

1.7 Spill History [112.4(a)]

According to Enterprise management, no discharges as described in 112.1(b), where discharges have entered into or upon the navigable waters of the U.S. or adjoining shorelines, have occurred at the facility within the past 5 years.

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PART II. SPILL RESPONSE AND REPORTING

40 CFR 112.7

2.1 Spill Response Procedures [112.7(a)(3)(iv)-(v)]

2.1.1 Cleanup of Small Spills/Leaks

- Use drip pans or buckets to capture as much of the spilled material as possible before it contacts the ground;
- Use shovel or backhoe to create small soil berm around spill area to prevent the material from spreading;
- o Shovel spill-saturated soils into buckets or barrels; or
- Use absorbent granules or pads to soak up all free liquids followed by collecting all remaining saturated or stained soil with a shovel and placing it into buckets or drums.

Additional spill prevention and response procedures are as follows:

2.1.2 Spill Response Procedures

- Maintain sufficient supplies of absorbent materials, shovels, buckets, drums, etc. necessary to immediately respond to spills;
- Report any releases to the facility manager and to the appropriate persons who are trained to respond, such as any member of the Pollution Prevention Team; Report any spills or leaks of a reportable quantity to the USEPA, NMOCD, and applicable State Land agencies;
- Contain and repair leaks as soon as practicable;
- Use absorbent materials or drip pans to capture liquids;
- Sweep used absorbent and dispose of properly; DO NOT USE WATER TO WASH AWAY A SPILL OR LEAK!
- Store all drummed and covered containers of collected spilled materials either within secondary containment or within storage areas inside a building; and
- Check integrity of seals and fittings on tanks, process equipment and secondary containment systems.

2.1.3 Emergency Spill Response Procedures

- Spill control and cleanup outside diked or other contained areas will take precedent over other operations at the facility without jeopardizing human health, life or safety;
- In the event of an oil release or threatened release, regardless of the amount, the incident shall be reported immediately to the supervisor;
- The material safety data sheet (MSDS/SDS) shall be reviewed for each product of concern before entering any area affected by a release or threatened release. Personnel protective equipment and accidental release measures will be strictly followed;

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- Dependent on the severity of the release or the nature of the release or threatened release, the affected area shall be evacuated, and all personnel accounted for;
- Any employee injured by exposure to the product released shall be transported to a medical facility immediately. If emergency medical assistance or ambulance is needed, contact by dialing 911. Copies of the appropriate MSDS shall be given to the emergency medical team and shall accompany the exposed person to the hospital;
- o If safely possible and conditions allow, the source of the release shall be secured;
- If the spill occurs in secondary containment, the individual who discovers the spill must notify their immediate supervisor, who will in turn make the determination if additional environmental personnel or contractors need to be contacted to respond;
- If the spill occurs outside of secondary containment, the individual who discovers the spill must notify their immediate supervisor, who will in turn make the determination if additional environmental personnel or contractors need to be contacted to respond. Additionally, temporary berms and/or dams will be constructed as needed around a release to prevent a release from spreading and from entering stormwater conveyance systems;
- Contaminated soils, liquids, PPE and absorbent material will be disposed of in accordance with appropriate NMOCD standards.

2.1.4 Oil Spill Equipment

Facility personnel have access to shovels or tools to temporarily contain spills onsite. Shovels can be used to create temporary berms or pooling areas. Loose soils can be used to contain small quantities of free liquids. Shut-off valves can be used to control the flow of liquids, and secondary containment is used to contain any releases. Employees may also have access to sorbents, weirs, booms, or other barriers.

2.2 Emergency Contacts [112.7(a)(3)(vi)]

911		
911 or (505) 334-6107		
(505) 827-9300		
(505) 334-1180		
(800) 203-1347		
(505) 334-6178, Ext. 9		
(800) 887-6063		
(800) 424-8802		

SPCC RESPONSE ACTION LIST EMERGENCY TELEPHONE NUMBERS

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2.3 Discharge Discovery and Reporting [112.7(a)(4)]

All discharges must be reported to the Field Superintendent, Office Manager, or next available environmental representative, as per company spill reporting guidelines. Discharges would typically be discovered during hours of operation or during the inspections conducted at the facility in accordance with procedures set forth in Section 3 of this SPCC Plan and on the checklist of Appendix B.

Several organizations may need to be contacted in the event of an oil discharge. The Managing Member is responsible for ensuring that all required discharge notifications have been made.

2.3.1 Verbal Notification Requirements (Local, State, and Federal [40 CFR part 110.6])

For any discharge that reaches navigable waters, or threatens to reach navigable waters, *immediate* (i.e., as soon as you have knowledge of the discharge) verbal notification must be made to the National Response Center Hotline (800-424-8802).

Additionally, Enterprise must provide immediate verbal notification (within 24-hours) to the New Mexico Oil Conservation Division (OCD) of a *Major Release*. Information required to be provided in this verbal notification is listed on OCD Form C-141, located in Appendix C of this Plan. OCD defines "major release" as an:

- Unauthorized discharge of **oil** (condensate, crude, salt water, etc.) greater than 25 barrels.
- Any volume of oil that:
 - o results in a fire;
 - will reach a water course;
 - o may, with reasonable probability, endanger public health; or
 - o results in substantial damage to property of the environment.
- Unauthorized discharge of **natural gas** greater than 500 mcf.
- Any volume of oil or gas:
 - Which may, with reasonable probability, be detrimental to water or cause an exceedance of the standards in NMAC 20.6.2 (ground and surface water protection).
 - The OCD's Environmental Bureau Chief must also receive immediate verbal notification if the above discharge occurs.

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Table 2-1. Summarized Verbai Reporting Requirements		
Contained Spill Greater than	Any Volume of Oil that	Any Volume of Oil that Enters
25 Barrels to Land	Threatens Water	Water
New Mexico Oil Conservation	National Response Center (1-800-424-8802) and per 19.15.29.7(A)	National Response Center (1-800-424-8802)
Division District Office (505) 334-6178 (Aztec)	NMAC, NMOCD should be notified regarding any volume of oil that threatens water.	New Mexico Oil Conservation Division District Office (505) 334-6178 (Aztec)

Table 2-1: Summarized Verbal Reporting Requirements

2.3.2 Written Notification Requirements (State and Federal) [112.4]

A written notification will be made to EPA for any single discharge of oil to a navigable water or adjoining shoreline waterway of more than 1,000 gallons, or for two discharges of 1 bbl (42 gallons) of oil to a waterway in any 12-month period. This written notification must be made within 60 days of the qualifying discharge, and a copy will also be sent to the NMOCD, which is the state agency in charge of oil pollution control activities. This reporting requirement is separate and in addition to reporting under 40 CFR part 110 discussed above.

NMOCD also requires written notification, within 15 days, of any major release required to be reported verbally as described in Section 2.3.1.

NMOCD additionally requires written notification on Form C-141 (Appendix C) within 15 days of a "Minor Release." A "minor release" is defined as a:

- Discharge of oil greater than 5 but less than 25 barrels;
- Discharge of gas greater than 50 but less than 500 mcf.

This written notification shall verify the prior verbal notification (if a major release) and provide any appropriate additions of corrections to the information contained in the prior verbal notification.

PART III. SPILL PREVENTION, CONTROL, AND COUNTERMEASURE PROVISIONS

40 CFR 112.7

3.1 Potential Discharge Volume and Direction of Flow [112.7(b)]

Potential spill predictions have been developed for the facility and include the source, type of failure, volume, rate, direction of flow and type of containment and are summarized in **Table D-1.** Spill containment calculations for applicable equipment and tank(s) are included in the tabbed section of this plan.

3.2 Containment and Diversionary Structures [112.7(c) and 112.7(a)(3)(iii)]

Active secondary containment measures as those which require deployment or other specific actions by an operator. These measures may be deployed either before an activity involving the handling of oil starts, or in reaction to a discharge, as long as the active measure is designed to prevent an oil discharge from reaching navigable waters or adjoining shorelines. **Passive** measures are permanent installations and do not require deployment or action by the owner or operator.

At this facility, Enterprise utilizes both active and passive secondary containment measures. Active measures include spill response procedures, available rapid response contractors, and spill cleanup materials on-site. In addition, during tank loading/unloading events, truck operators remain with their vehicle to provide continuous visual inspection and to prevent overfill or accidental release. Oil-filled operational equipment (as defined in 112.7(k)) on location (natural gas compressors and turbines) are either located in a building with a drainage system to a concrete basement or are elevated on concrete skids (sufficiently impervious to oil) for quick visibility of releases. Personnel and sorbent materials are readily available to contain a release. The oil-filled manufacturing equipment (flow through process scrubbers) are monitored to detect discharges and/or failures; immediate response is made if necessary. Additionally, manufacturing equipment contain drip pans and/or metal curbing to prevent oil from discharging. The facility is manned 24 hours a day, seven days a week and active containment is used for all operational and manufacturing equipment on location. Passive secondary containment at this facility includes concrete containment, polymer, steel-walled containment and an earthen berm for the bulk storage tanks. The 110% storage tank capacity rule of thumb is utilized throughout the facility and is referenced in Chapter 4 of the EPA SPCC Guidance for Regional Inspectors 2013 document. Detailed information concerning the passive secondary containment at this facility is included in Table D-1.

Aboveground piping is another area that has a potential for discharges. As a precautionary measure, aboveground piping is routinely inspected for signs of deterioration and leaks by facility personnel and is also periodically tested for structural integrity. Engineering controls include locating piping well away from areas routinely accessed by vehicles and heavy equipment; installing catwalks to

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prevent human contact (walking on pipe); strategically placing automated and manual block valves throughout piping runs; and insulating and heat-tracing aboveground piping containing produced water, which may contain oil. Institutional controls include limiting vehicle operations within the facility, strict speed limit enforcement, and vehicle operation training of personnel and subcontractors. The facility is configured to minimize the likelihood of a discharge reaching navigable waters.

3.2.1 Practicability of Secondary Containment [112.7(d)]

Enterprise has determined that passive secondary containment (concrete, rigid steel, polymer) and active containment (use of sorbent, weirs, booms and other barriers) in the event of an inadvertent release of oil, are practicable at this facility to prevent a discharge as described in § 112.1(b) of the SPCC regulations.

Using good engineering practices, Enterprise believes that the containment areas are designed to be sufficiently impervious to potentially spilled material.

Enterprise management has committed to the appropriate use of materials, manpower and equipment to expeditiously control and remove any quantity of oil discharged that may be harmful.

3.3 Inspections, Tests, and Records [112.7(e)]

A formal monthly visual inspection will be completed on the facility's equipment and tanks, and the procedure is detailed in Enterprise's internal quality plan inspection documentation. During the inspection, equipment and tanks will be inspected for leaks or signs of deterioration, and these inspections will be documented on a SPCC Inspection Form.

The monthly inspection is aimed at identifying signs of deterioration and maintenance needs, including the foundation and support of each container. Any leak from tank seams, gaskets, rivets, valves, and bolts is promptly corrected. The monthly visual inspection procedure is detailed in Enterprise's internal quality plan inspection documentation. Completed forms will be maintained under separate cover by Enterprise and can be obtained at the Chaco Gas Plant or at the Area Office in Farmington, New Mexico. All records will be maintained for a minimum of three years. A sample copy of a SPCC Inspection Form is included within Appendix B.

3.3.1 Daily Examinations

The facility is staffed 24 hours a day, 7 days a week by field operations personnel. The daily visual examinations consist of a walk-through of the facility, including tank areas, oil-filled flow through vessels, and transformers. Field operations personnel check the equipment for leaks and proper operation. They examine all aboveground valves and flowline piping. Personnel inspect pumps to verify proper function and check for damage and leakage. They look for accumulation of liquids within the secondary containment and verify the condition and position of valves. The storage tanks

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are remotely gauged/monitored on a continual basis. All malfunctions, improper operation of equipment, evidence of leakage, stained or discolored soil, etc. are logged and communicated to the Managing Member; otherwise, daily inspections are not documented. Table 3-1 summarizes the scope of daily inspections performed by field personnel.

Facility Area	Item	Observations
Storage Tanks	Leaks	Tank liquid level monitored Drip marks, leaks from weld seams, base of tank Puddles containing spilled or leak material Corrosion, especially at base (pitting, flaking) Cracks in metal Excessive soil or vegetation buildup against base
Foundation	Foundation problems	Cracks Puddles containing spilled or leaked material Settling Gaps at base
Flowlines	Flowline problems	Evidence of leaks, especially at connections/collars Corrosion (pitting, flaking) Settling Evidence of stored material seepage from valves or seals
Pumps	Leaks	Leaks at seals, flow lines, valves, hoses Puddles containing spilled or leaked material Corrosion

3.3.2 Monthly Inspections

Table 3-2 summarizes the scope of monthly inspections performed by field personnel. The monthly inspections cover all processing equipment and flow lines. Storage tanks are inspected for signs of deterioration, leaks, or accumulation of oil inside the containment area, or other signs that maintenance or repairs are needed. The secondary containment area is checked for general conditions, evidence of oil, or signs of leakage. The monthly inspection also involves visually inspecting all aboveground valves and pipelines and noting the general condition of items such as transfer hoses, flange joints, expansion joints, valve glands and bodies, catch pans, pipeline supports, bleeder and gauge valves, locking of valves, and metal surfaces.

The checklist provided in Appendix B is an example of what is used during monthly inspections. These inspections are performed in accordance with procedures such as API, engineering specifications, or maintenance schedules developed by the equipment manufacturers. Inspection reports are electronically or physically signed by the Supervisor and filed. Inspection records are maintained for three years.

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Facility Area	Equipment	Inspection Item
Tank Battery	Storage tanks	Leakage, gaskets, hatches Tank liquid level checked Tank welds in good condition Vacuum vents Overflow lines Piping, valves, and bull plugs Corrosion, paint condition Pressure / level safety devices Emergency shut-down system(s) Pressure relief valves
	Containment Area	Berm Liner Presence of contaminated/stained areas Equipment protectors and signs Engine drip pans and sumps General housekeeping
Flow lines	On storage tanks	Valves (condition of, whether locked or sealed) Evidence of leaks and/or damage, especially at connections/collars Corrosion (pitting, flaking) Pipe supports
	Road and Field Ditches	Evidence/puddles of crude oil and/or produced water
Other	Chemicals, Fuels and Lube Oils	Storage conditions
Response staging areas	General Facility Area	Road passable by field vehicle Facility clear of vegetation

Table 3-2: Scope of Monthly Inspections

3.4 Personnel, Training, and Discharge Prevention Procedures [112.7(f)]

Facility personnel will be properly instructed in the operation and maintenance of equipment to prevent oil discharges and will be properly instructed in pollution control laws and regulations. Additionally, prior to working at this facility, non-company personnel (contractors) will be required to meet with company personnel and will receive spill prevention training. All training records will be maintained by Enterprise for a minimum of three years and kept under separate cover from this SPCC Plan.

Oil delivery (lube oil) and oil loading (used oil and produced water) are services sub-contracted by Enterprise. These subcontracted service providers each maintain separate oil handling and spill response procedures and training requirements that have been reviewed and approved by Enterprise.

Routine briefings for personnel, which address spill prevention and precautionary measures, will be conducted at least annually during the facility's SPCC review. This review will be completed in

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accordance with Enterprise's SPCC Annual Review and Re-Certification Procedure. Additionally, new personnel are trained on SPCC measures and procedures at the time of hiring, and all sub-contractors receive an annual training. All briefing and training records will be maintained for a minimum of three years and are kept under separate cover from this SPCC Plan.

3.4.1 Contractor Instructions

In order to avoid a misunderstanding on joint and respective duties and responsibilities to perform work in a safe manner, contractor personnel also receive instructions on the procedures outlined in this SPCC Plan. It is recommended that the Owner discuss with all sub-contractors the requirements of this SPCC Plan before any work is completed on-site.

3.5 Site Security [112.7(g)]

The following security measures for the facility are in place:

- (1) Secure and control access to oil handling: The facility operates 24-hours a day, seven days a week and has two gates leading into and out of the facility, but only one gate (north gate) is used for normal access. Both gates remain locked. Everyone must sign in prior to entering the facility. Additionally, the facility is fully fenced with an 8-foot chain-linked fence topped with barbed wire.
- (2) Flow valves locked: Process flow valves are typically open if in use. Sales valves and drain valves, while not in use, are closed but not locked. As part of routine operations, employees inspect valves to insure they stay closed when not in use. Regardless of purpose, valves are typically not physically locked unless required by Enterprise "Lock-Out/Tag-Out Safety Procedures".
- (3) **Starter control locked**: All starter controls are located within a secured and fenced area within the plant accessible by authorized personnel only. Additionally, starter controls are controlled by computer authorized coding for security.
- (4) **Pipeline loading/unloading connections securely capped**: Loading/unloading connections will be equipped with valves and will be closed and securely plugged/capped when not in use. As part of routine operations, employees will inspect valves to insure they stay closed and capped when not in use.
- (5) **Lighting adequate to detect spills**: The facility is equipped with adequate lighting to assist in the discovery of a discharge or release. Lighting also helps prevent discharges that occur through acts of vandalism.

3.6 Transfer Activities [112.7(h)]

Per 40 CFR § 112.2 and 40 CFR § 112.7 (h)(1) regulation definition of a loading rack, there are no tank car or truck loading racks at the facility. However, lube oil is delivered to the facility, and used oil, condensate, and produced water are removed from the facility by transport trucks, which pump directly to or pump directly from the tanks. Chaco Gas Plant has eight tanker transfer areas.

Before unloading, plant personnel thoroughly inspect shipping papers and manifests to verify that the storage capacity of the receiving storage tank is adequate. If a release from a transport truck were to occur, plant personnel will be present and appropriate spill response will be initiated immediately by the plant personnel.

A visible warning sign has been installed in the designated truck loading/unloading areas and instructs the drivers to fully disconnect and inspect valves prior to departure. Truck drivers follow additional procedures as they are responsible for the safe unloading of all oil products at the plant.

Enterprise requires that all outlets of any liquid transport truck are to be examined by the transport driver prior to departure from the facility. If damaged, repairs are to be made to the leakage point prior to departure. Adherence to this requirement is also addressed by separate training provided by the subcontracted truck operators, which is reviewed and approved by Enterprise.

3.7 Field Constructed ASTs [112.7(i)]

There are two field constructed ASTs (Tanks 28 and 29) at the facility. Action was taken in April 2014 to repair and maintain the structural integrity of Tank 29. Appropriate documentation was made on all repair activities.

3.8 Conformance with Applicable State and Local Requirements [112.7(j)]

This SPCC Plan was written to conform with 40 CFR Part 112 requirements. The facility thereby conforms with general requirements for oil pollution facilities in New Mexico. All discharge notifications are made in compliance with local, state, and federal requirements.

Chaco Gas Plant is located on State Land in San Juan County, New Mexico. Although ASTs are generally regulated by the New Mexico Environment Department, tanks associated with oil and gas production and operations are specifically excluded from the definition of an AST as specified within 20 NMAC 5.1.7(a)(2)(f). Oil and gas activities are regulated by the NMOCD within 19 NMAC 15 Parts 1 through 39; however, NMOCD defers to 40 CFR 112 for requirements associated with spill prevention control and countermeasures for bulk storage of oil.

3.9 Qualified Oil-Filled Operational Equipment [112.7(k)]

Per the applicable SPCC regulation definition of "oil-filled operational equipment", 12 natural gas compressors, 6 turbines, and 19 transformers are operated at this facility. Each compressor has a crankcase containing approximately 3 bbls of lubricating oil. Spent/used compressor oil released during a catastrophic failure of the equipment would be collected within a sufficiently impervious drip pan system, and the malfunction would be immediately reported, repaired and appropriately cleaned up/mitigated by Enterprise personnel or contractors. Each transformer's oil capacity can vary between 3.5 bbls and 110 bbls of oil. The transformers are informally inspected for leaks and

failures as a part of daily operations at the facility. Additionally, the transformers have annual oil analyses conducted to maintain the reliability of the equipment. The total oil capacity for the 6 turbines at the facility is approximately 60 bbls.

According to Enterprise management, none of the oil-filled equipment (12 compressors, 6 turbines and 19 transformers) have had a reportable discharge as specified in 112.1(b), either as single discharge event of more than 1,000 gallons of oil or as two discharges each exceeding 42 gallons, within the past 3 years.

Additionally, Enterprise has an Emergency Response Plan in place which meets the provisions of 40 CFR 109- Criteria for state, local, and regional oil removal contingency plans. The details are provided within the Enterprise 2014 Emergency Response Plan found on site, at the regional office and on the Corporate portal at:

Departments > Emergency Response & Procedures > Policies & Plans > Emergency Response Plans > Gas Proc and Ops (GPPO) > San Juan- Northern Rockies Operation > San Juan Operations > San Juan Plants.

Additionally, the Senior Directo has signed off on a written commitment of manpower, equipment and materials to respond to any oil discharges. The signed written commitment is included within Appendix C.

PART IV: Discharge Prevention – SPCC Requirements for Onshore Facilities (Excluding Production Facilities) 40 CFR 112.8

4.1 Facility Drainage [40 CFR 112.8(b)(1) – (5)]

(1) **Facility Drainage**: There are no storm water drainage valves at this facility. Any storm water accumulation within secondary containment structures will likely be allowed to evaporate. Any storm water manually removed from any secondary containment structure will be done so by subcontracted vacuum pump truck. All storm water removed from secondary containment structures will be disposed of per NMOCD requirements and at a permitted disposal facility (injection well or evaporation pond).

The process for drainage from secondary containment is outlined in Enterprise's PRO-ENV-9 Procedure. Any storm water (oil free) drainage event will be documented on a Record of Drainage From Secondary Containment and NPDES Outfalls form (Appendix C).

Facility drainage systems will be regularly inspected for accumulation of oil or observation of sheen due to oil that may have resulted from a discharge. Any accumulation will be promptly reported to the Facility Manager and removed.

In the event that oil is present on the water within the any secondary containment, water and oil will be pumped from the containment and disposed of according to the NMOCD guidelines.

- (2) Valves used on diked area storage: There are no storm water drainage valves at this facility.
- (3) Facility drainage from undiked areas: Facility grading, ditches, and berms will be designed and maintained to retain any oil discharge within the facility. The facility is not located in an area subject to periodic flooding.
- (4) **Final discharge of drainage**: Facility grading, ditches, and berms will be designed and maintained to retain any oil discharge within the facility. The facility is not located in an area subject to periodic flooding.
- (5) **Facility drainage systems and equipment**: There is no treatment of drainage water at the facility.
- 4.2 Bulk Storage Containers [40 CFR 112.8(c)(1) (11)]
 - (1) Tank compatibility with its contents: All oil storage equipment is compatible with contents

stored and meet applicable UL-142 standards; NFPA-30, 2-3, 3.3 standards; and STI construction standards.

- (2) **Diked area construction and containment volume for storage tanks**: Passive secondary containment includes concrete containment, polymer, steel-walled containment and an earthen berm for the bulk storage tanks. Passive secondary containment systems are designed to contain at least 110% of tank capacity. Containment calculations for oil storage tanks are included in Appendix D.
- (3) Diked area, inspection, and drainage of rainwater: Any storm water accumulation within secondary containment structures will likely be allowed to evaporate. However, if evaporation is not reasonable due safety concerns, the drainage inspection and documentation described below will be employed. There are no storm water drainage valves at this facility. Any storm water manually removed from any secondary containment structure will be done so by subcontracted vacuum pump truck. All storm water removed from secondary containment structures will be disposed of per NMOCD requirements and at a permitted disposal facility (injection well or evaporation pond). The process for drainage from secondary containment is outlined in Enterprises PRO-ENV-9 Procedure. Any storm water (oil free) drainage event will be documented on a Secondary Containment Drainage Form; a copy of this form is included within the tabbed sections of this plan. All completed forms will be maintained with this plan. In the event that oil is present on the water within the any secondary containment, water and oil will be pumped from the containment and disposed of according to the NMOCD Guidelines.
- (4) **Corrosion protection of buried metallic storage tanks**: There is one completely buried metallic storage tanks at the facility (Tank 46 on Figure 2). Corrosion protection for buried piping, buried tank, and tank bases is provided by the facility's impressed current cathodic protection system.
- (5) **Corrosion protection of partially buried metallic tanks**: Seven partially buried metallic storage tanks (Tanks 23(a), 23(b), 23(c), 61, 62, 64, and 66) are present at the facility. All tanks are double walled and double bottomed with overfill protection to detect a leak and to prevent a release. Corrosion protection is provided by the facility's impressed current cathodic protection system.
- (6) Aboveground tank periodic integrity testing: A formal monthly visual inspection will be completed on facility bulk storage ASTs. Tanks will be inspected for leaks or signs of deterioration, and these inspections will be documented on the SPCC Inspection Form. Non-destructive testing is periodically completed on oil storage tanks and process vessels. The process for this testing is outlined in the Enterprise PRO-ENV-10 Procedure. Testing records are maintained under separate cover at the Enterprise Area field office.
- (7) Control of leakage through internal heating coils: One tank (Tank 34) equipped with internal

Spill Prevention, Control, and Countermeasure (SPCC) Plan

heating coils at the facility. Due to the nature of the tank it would be evident if the coils were defective, and immediate action would be taken.

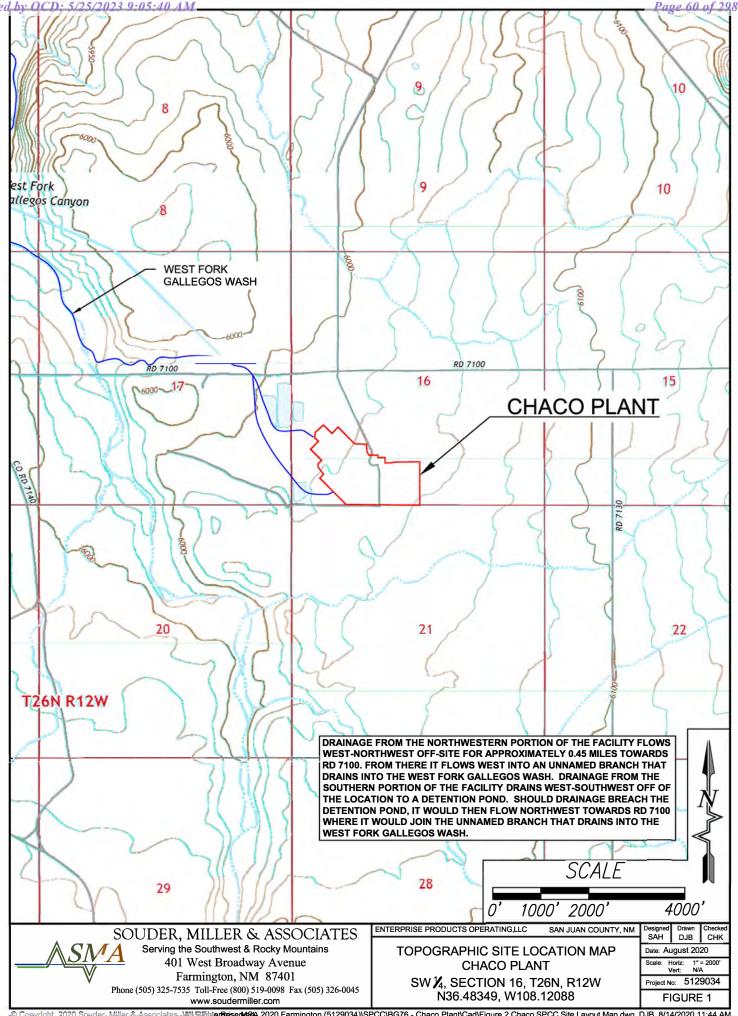
- (8) **Tank installation fail-safe engineered**: One tank (T25) is equipped with high liquid level alarms, high liquid level pump cutoff devices, direct audible or code signals, fast response systems, or other overfill prevention systems. For the tanks not equipped with fail-safe engineered devices, the facility utilizes direct vision gauges, and personnel oversee the filling of tanks and monitoring of gauges.
- (9) **Observation of disposal facilities for effluent discharge**: There are no discharges of treated effluent at this facility.
- (10) Visible oil leak corrections from tank seams and gaskets: The facility's oil storage equipment is routinely monitored by personnel throughout the day. In the event of a release, the release will be investigated for the risk of reoccurrence, and a solution will be implemented.
- (11) **Appropriate position of mobile or portable oil storage tanks**: Mobile oil tote tanks are on location and are used for routine maintenance of onsite equipment. These mobile tanks should be stored within secondary containment sufficient for a minimum of 110% containment, including during oil transfer operations. When not in use, they should be stored empty, in a secure location, and in a position to easily spot visible signs of a leak or release.

4.3 Facility Transfer Operations, Pumping, and Facility Process [40 CFR 112.8(d)(1) – (5)]

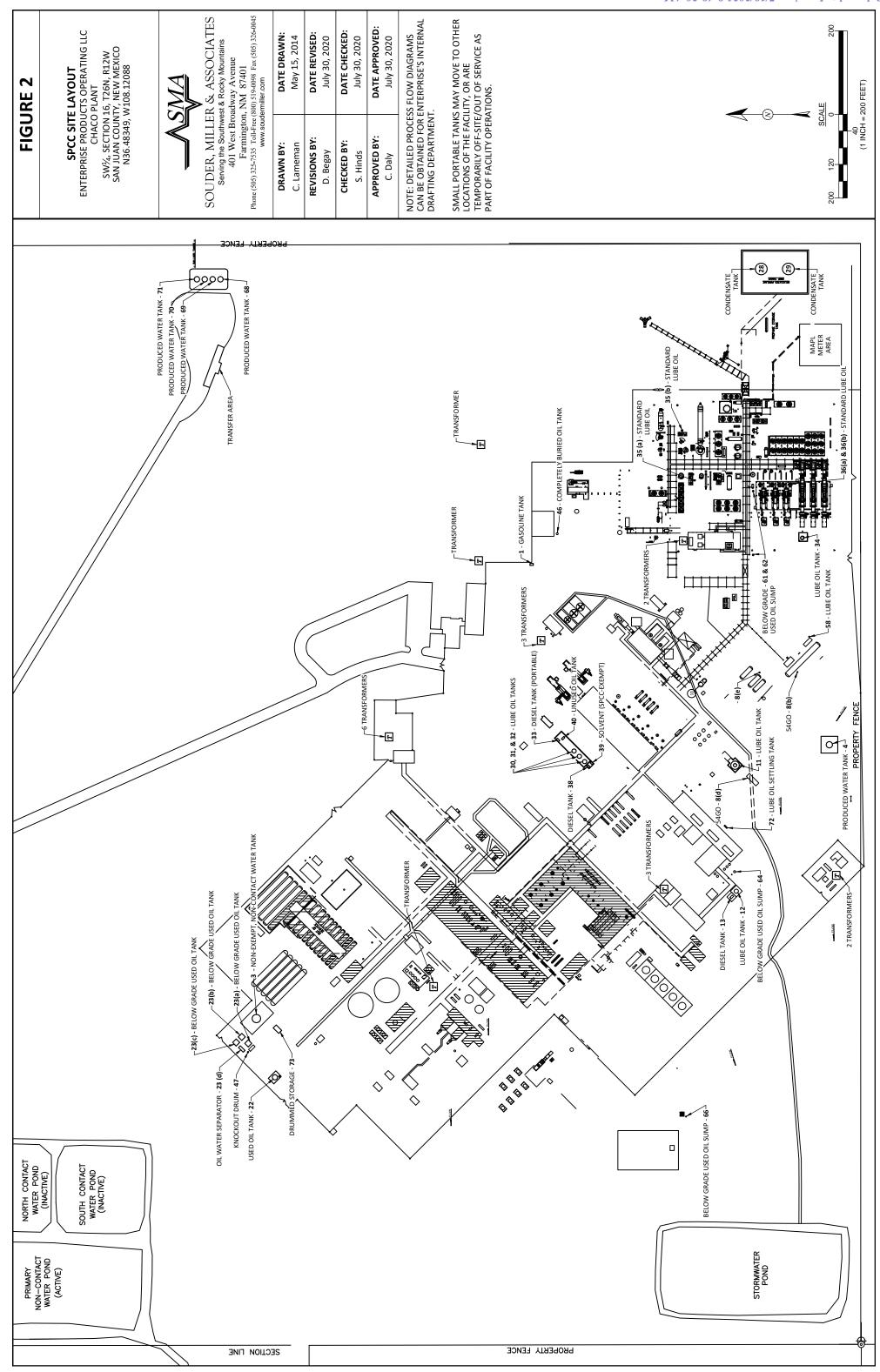
- (1) **Buried piping installation protection and examination:** Corrosion protection for buried piping is provided by the facility's impressed current cathodic protection system. If buried piping is exposed for any reason, it will be inspected for deterioration. If corrosion damage is found, additional examination and corrective action will be taken.
- (2) Not-in-service and standby service terminal connections: Oil-filled piping, including transfer areas, will be/are capped or blank-flanged when not in service.
- (3) **Pipe supports design**: All piping within the facility will be/are sufficiently supported.
- (4) **Aboveground valve and pipeline examination**: Enterprise's Mechanical Maintenance Department manages inspections and maintenance on the facilities aboveground piping and valves. Integrity and leak testing of buried piping will be/are conducted at the time of installation, modification, construction, relocation, or replacement.
- (5) **Vehicular traffic**: The fence and locked access gate limit vehicular traffic to the facility. Drive areas within facility are routed away from above ground piping.

APPENDIX A: Facility Diagrams

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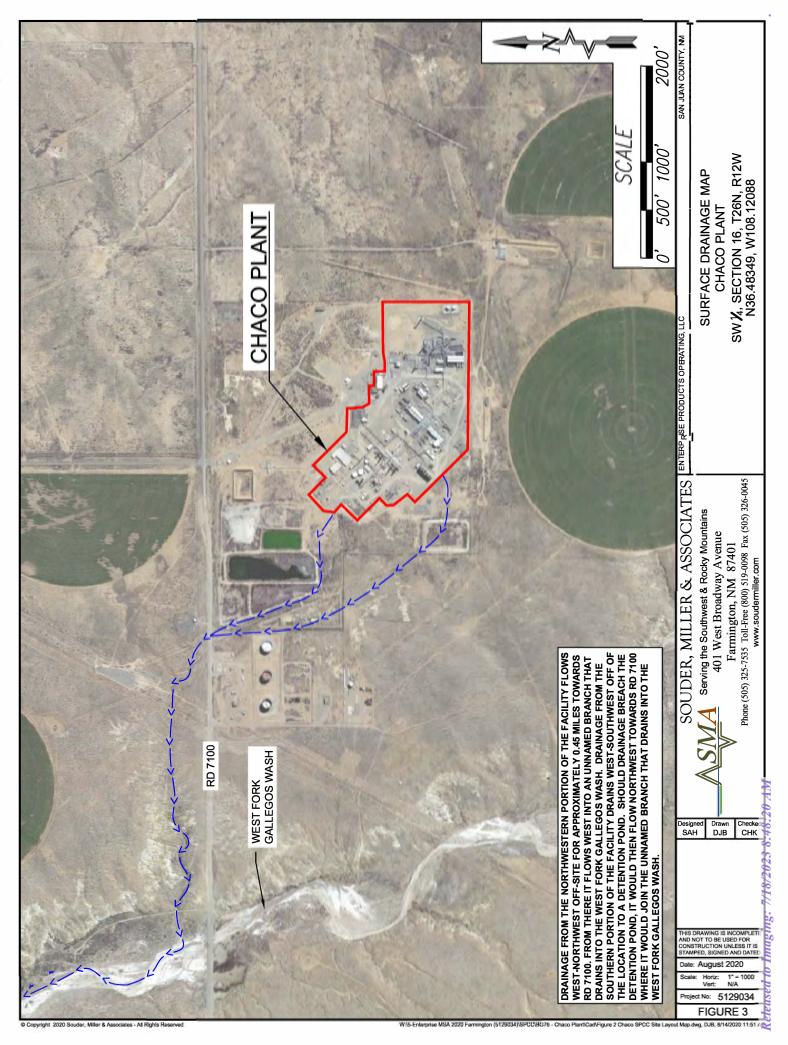


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APPENDIX B: Monthly Inspection Checklist (example)

Further description and comments, if needed, should be provided on a separate sheet of paper and attached to this sheet. Any item answered "YES" needs to be promptly reported, repaired, or replaced, as it may result in non-compliance with regulatory requirements. Records are maintained with the SPCC Plan at the main office.

Date: _____

Signature: _____

	Yes	No	Description & Comments (Note tank/equipment ID)
Storage tanks and Separation Equipment			
Tank surfaces show signs of leakage			
Tanks show signs of damage, rust, or deterioration			
Bolts, rivets or seams are damaged			
Aboveground tank supports are deteriorated or buckled			
Aboveground tank foundations have eroded or settled			
Gaskets are leaking			
Level gauges or alarms are inoperative			
Vents are obstructed			
Thief hatch and vent valve does not seal air tight			
Containment berm shows discoloration or stains			
Berm is breached or eroded or has vegetation			
Berm drainage valves are open/broken			
Tank area clear of trash and vegetation			
Equipment protectors, labels, or signs are missing			
Piping/Flowlines and Related Equipment			
Valve seals or gaskets are leaking.			
Pipelines or supports are damaged or deteriorated.			
Buried pipelines are exposed.			
Transfer equipment (if applicable)			
Loading/unloading lines are damaged or deteriorated.			
Connections are not capped or blank-flanged			
Secondary containment is damaged or stained			
Response Kit Inventory			
Discharge response material is missing or damaged or needs replacement			

Additional Remarks (attach sheet as needed):

APPENDIX C:

NMOCD Release Notification Form C-141, Written Commitment of Manpower, Equipment and Materials, Record of Drainage From Secondary Containment Areas and NPDES Outfalls District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505 State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505 Form C-141

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Revised August 24, 2018 Submit to appropriate OCD District office

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Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

Responsible Party

Responsible Party	OGRID
Contact Name	Contact Telephone
Contact email	Incident # (assigned by OCD)
Contact mailing address	

Location of Release Source

Latitude	
Launuuc	

(NAD 83 in decimal degrees to 5 decimal places)

Site Name	Site Type
Date Release Discovered	API# (if applicable)

Unit Letter	Section	Township	Range	County

Surface Owner: State Federal Tribal Private (Name: _

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

Volume Released (bbls)	Volume Recovered (bbls)
Volume Released (bbls)	Volume Recovered (bbls)
Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Volume Released (bbls)	Volume Recovered (bbls)
Volume Released (Mcf)	Volume Recovered (Mcf)
Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
	-
	Volume Released (bbls) Is the concentration of dissolved chloride in the produced water >10,000 mg/l? Volume Released (bbls) Volume Released (Mcf)

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Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Was this a major release as defined by 19.15.29.7(A) NMAC?	If YES, for what reason(s) does the responsible party consider this a major release?
🗌 Yes 🗌 No	
If YES was immediate n	otice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)?

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

The source of the release has been stopped.

The impacted area has been secured to protect human health and the environment.

Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.

All free liquids and recoverable materials have been removed and managed appropriately.

If all the actions described above have not been undertaken, explain why:

Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Printed Name:	Title:
Signature:	Date:
email:	Telephone:
OCD Only	
Received by:	Date:

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Page 3

Facility ID Application ID

Incident ID

District RP

Site Assessment/Characterization

Oil Conservation Division

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?			
Did this release impact groundwater or surface water?	🗌 Yes 🗌 No		
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	🗌 Yes 🗌 No		
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	🗌 Yes 🗌 No		
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	🗌 Yes 🗌 No		
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	🗌 Yes 🗌 No		
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	🗌 Yes 🗌 No		
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	🗌 Yes 🗌 No		
Are the lateral extents of the release within 300 feet of a wetland?	🗌 Yes 🗌 No		
Are the lateral extents of the release overlying a subsurface mine?	🗌 Yes 🗌 No		
Are the lateral extents of the release overlying an unstable area such as karst geology?	🗌 Yes 🗌 No		
Are the lateral extents of the release within a 100-year floodplain?	🗌 Yes 🗌 No		
Did the release impact areas not on an exploration, development, production, or storage site?	🗌 Yes 🗌 No		

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: Each of the following items must be included in the report.

Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
Field data
Data table of soil contaminant concentration data
Depth to water determination
Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
Boring or excavation logs
Photographs including date and GIS information
Topographic/Aerial maps

Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

Received by OCD: 5/25/20.	23 9:05:40 AM State of New Mexico		Page 68 of 298	
Form C-141			Incident ID	
Page 4	Oil Conservation Division		District RP	
			Facility ID	
			Application ID	
regulations all operators are public health or the environm failed to adequately investig addition, OCD acceptance of and/or regulations. Printed Name: Signature:	rmation given above is true and complete to the required to report and/or file certain release not nent. The acceptance of a C-141 report by the 0 ate and remediate contamination that pose a thru f a C-141 report does not relieve the operator of	ifications and perform cc OCD does not relieve the eat to groundwater, surfa responsibility for compl _ Title: Date:	prrective actions for rele e operator of liability sh- ce water, human health liance with any other fe	eases which may endanger ould their operations have or the environment. In deral, state, or local laws
email:		Telephone:		
OCD Only				
Received by:		Date:		

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Oil Conservation Division

<u>Remediation Plan Checklist</u>: Each of the following items must be included in the plan.

Incident ID	
District RP	
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Remediation Plan

Detailed description of proposed remediation technique Scaled sitemap with GPS coordinates showing delineation points Estimated volume of material to be remediated Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required) Deferral Requests Only: Each of the following items must be confirmed as part of any request for deferral of remediation. Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction. Extents of contamination must be fully delineated. Contamination does not cause an imminent risk to human health, the environment, or groundwater. I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. Printed Name: Title: Signature: Date: Telephone: _____ email: OCD Only Received by: Date: Approved Approved with Attached Conditions of Approval Denied Deferral Approved Signature: Date:

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Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report. A scaled site and sampling diagram as described in 19.15.29.11 NMAC Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection) Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling) Description of remediation activities I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete. Printed Name: _____ Title: _____ Signature: Date: Telephone: email: **OCD Only** Received by: Date:

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by:	_ Date:
Printed Name:	Title:

Written Commitment of Manpower, Equipment and Materials

In addition to implementing the preventative measures described in the SPCC Plan, Enterprise will also specifically:

In the even to of a discharge:

- Make available all necessary trained field personnel to perform response actions;
- If necessary, obtain assistance from as many additional contractors as needed; and
- Collaborate fully with local, state, and federal authorities on response and cleanup operations.

Maintain all on-site oil spill control equipment as described in the SPCC Plan.

Maintain all communications equipment including: hand-held radios, cell phones, telephones, fax, computers, etc. in operating conditions at all times.

Ensure that staging areas to be used in the event of a discharge to nearest receiving water are accessible by field vehicles.

Review the adequacy of on-site and third party response capacity with pre-established response/cleanup contractors on a routine basis and update response/cleanup contractor list as necessary.

Maintain formal agreements/contracts with response and cleanup contractors who will provide assistance in responding to an oil discharge and/or completing cleanup.

Management Approval

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Form Number:

ENVIRONMENTAL PROCEDURES

7	Enterprise			ENVIRONMENTAL PROCEDURES			EF-012	
7	Products			ENVIRONMENTAL FORMS		Revision Date:	7/26/10	
	RECC	RECORD OF DRAINAGE FROM		SECONDARY CONTAINMENT AREAS AND NPDES OUTFALL(S)	NPDES OUTF	syll(S)		
FACILITY:					NO DISCHARG	NO DISCHARGE DURING MONTH		
REPORT L	REPORT LOG FOR MONTH/YEAR OF:							
DATE	CONTAINMENT AREA INSPECTED (See reverse side of sheet):	OIL OR SHEEN PRESENT: YES/NO	ESTIMATED FLOW FROM POND* (GAL / MIN)	COMMENTS: (See Note Below)	VALVE OPENED AT:	TIME DRAINAGE COMPLETED (Valve Closed)	INSPECTOR'S SIGNATURE	
								,
								-

Reviewed (Area or Facility Manager):_

NOTE: "Comments" should describe results of the inspection and the method used to remove oil, if present. SEE PAGE 2 FOR INSPECTION PROCEDURE.

Document No.(s): PRO-ENV-9; PRO-WW-3

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	Form Number: EF-012	Revision Date: 7/26/10	FALL(S)
	ENVIRONMENTAL PROCEDURES	ENVIRONMENTAL FORMS	VAGE FROM SECONDARY CONTAINMENT AREAS AND NPDES OUTFALL(S)
Acceived by UCD: 3/23/2022 9:03:40 AM	4 Enternrise	T Products	RECORD OF DRAINAGE

* Flow must be reported for all NPDES outfalls.

INSPECTION PROCEDURE:

as those which "cause a film or sheen upon or discoloration of the surface of the water or adjoining shore lines or causes a sludge or emulsion to be deposited beneath The method of inspection is visual appearance. If present, the oil or oily sheen must be removed before the water is drained. The EPA has defined harmful discharges drainage/discharge is conducted. Under the "Comments" column, describe how the oil or oily sheen, if any, was removed (including the volume), managed on-site, the surface of the water or upon adjoining shore lines." Enterprise Products Operations staff must complete all columns of each day an inspection or disposal method.

ALL CONTAINMENT AREAS APPLICABLE TO THIS FACILITY MUST BE INSPECTED. PLEASE WRITE THE NUMBER ASSIGNED TO THE APPLICABLE CONTAINMENT AREA OR OUTFALL IN THE COLUMN LABELED "CONTAINMENT AREA" ON PAGE 1 OF THIS SHEET.

- Storage Tank Secondary Containment Transmix Tank Secondary Containment
- - Additive Tank Secondary Containment
 - Sump Tank Secondary Containment
 - Drum Storage Areas
- Pig Receiving/Launching Areas Aboveground Oil/Water Separator Containment Meter/Prover Area
- NPDES outfalls - vi vi 4 ri vi vi vi vi

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CONTAINMENT AREAS APPLICABLE TO FACILITY					

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APPENDIX D: Table D-1, Secondary Containment Calculations

Chaco Gas Plant

San Juan County, New Mexico

Section 16, Township 26 North, Range 12 West

Equipment/ Tank ID	Source	Equipment/Tank Location	Failure/Cause	Product Stored	Capacity (bbl)	Potential Spill Rate (bbl/hr)	Direction of Spill Flow	Secondary Containment Type	Secondary Containment Volume (%)
			ABOVEGROUND AND BELOW GRAD	BELOW GRADE	E TANKS (BULK STORAGE)	(STORAGE)			
1	Gasoline Tank	South of Plant Office	Leak/Rupture/Overfill/ Valve Failure	Gasoline	24	24/hr	West and Northwest	Concrete	229%
3 (8116)	Non-Exempt Non- Contact Water Tank	Northwest of Bullet Tanks	Leak/Rupture/Overfill/ Valve Failure	Non-Contact Water (Skid Drain Water)	1,000	1,000/hr	West and Northwest	Rigid Steel with Lined Earthen Base	194%
4	Produced Water Tank	West of VRU Vessel (For Bisti Coal Seam)	Leak/Rupture/Overfill/ Valve Failure	Produced Water	250	250/hr	West and Northwest	Earthen Berm, with Liner	136%
8 (b)	54GO Corrosion Inhibitor (Diesel Carrier)	In VRU Vessel Area	Leak/Rupture/Overfill/ Valve Failure	Corrosion Inhibitor (Diesel)	4 (165 gal)	4/hr	West and Northwest	Polymer	256%
8 (d)	54GO Corrosion Inhibitor (Diesel Carrier)	In VRU Vessel Area	Leak/Rupture/Overfill/ Valve Failure	Corrosion Inhibitor (Diesel)	5 (225 gal)	5/hr	West and Northwest	Polymer	256%
8 (e)	Diesel tank	In VRU Vessel Area	Leak/Rupture/Overfill/ Valve Failure	Diesel	3 (120 gal)	5/hr	West and Northwest	Polymer	367%
6	Ambitrol Tank (SPCC Exempt)	South of GE Turbines		SPCC Ex	Exempt			Concrato	20071
10	Lube Oil Tank	South of GE Turbines	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	210	210/hr	West and Northwest		0 1 1
11	Lube Oil Tank	East of "B" Plant Building (Bisti 8 Unit)	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	06	90/hr	West and Northwest	Polymer, with Liner and Earthen Base	152%

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Chaco Gas Plant

San Juan County, New Mexico

			Section 16, Township 26 N	inship 26 North	orth, Range 12 West	West			
Equipment/ Tank ID	Source	Equipment/Tank Location	Failure/Cause	Product Stored	Capacity (bbl)	Potential Spill Rate (bbl/hr)	Direction of Spill Flow	Secondary Containment Type	Secondary Containment Volume (%)
12	Lube Oil Tank	Southwest of the Control Room ("B" Compressor)	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	210	208/hr	West and Northwest		/00.9 F
13	Diesel Tank	SW of the Control Room (Compressor Standby)	Leak/Rupture/Overfill/ Valve Failure	Diesel	24	24/hr	West and Northwest	כסווק פופ	0/ 60T
22 (9213)	Used Oil Tank	NW of bullet tanks	Leak/Rupture/Overfill/ Valve Failure	Used Oil	500	500/hr	West and Northwest	Concrete	143%
23 (a)	Below Grade Used Oil Tank	NW of bullet tanks	Leak/Rupture/Overfill/ Valve Failure	Used Oil	24	24/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	1
23 (b)	Below Grade Used Oil Tank	NW of bullet tanks	Leak/Rupture/Overfill/ Valve Failure	Used Oil	24	24/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	I
23 (c)	Below Grade Used Oil Tank	NW of bullet tanks	Leak/Rupture/Overfill/ Valve Failure	Used Oil	24	24/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	ł
23 (d)	Oil and Water Separator	NW of bullet tanks	Leak/Rupture/Overfill/ Valve Failure	Oil and Water	35 (1,450 gal)	35/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	I
28	Condensate Tank	East of Cryogenic Plant	Leak/Rupture/Overfill/ Valve Failure	Condensate	4,000	4,000/hr	West and Northwest	Concrete	1 5 0%
29	Condensate Tank	East of Cryogenic Plant	Leak/Rupture/Overfill/ Valve Failure	Condensate	4,000	4,000/hr	West and Northwest		

Chaco Gas Plant

San Juan County, New Mexico

			Section 16, Township 26 North, Range 12 West	/nship 26 North	յ, Range 12	West			
Equipment/ Tank ID	Source	Equipment/Tank Location	Failure/Cause	Product Stored	Capacity (bbl)	Potential Spill Rate (bbl/hr)	Direction of Spill Flow	Secondary Containment Type	Secondary Containment Volume (%)
30	Lube Oil Tank	North of "A" Plant Building (A Comp - South)	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	210	210/hr	West and Northwest		
31	Lube Oil Tank	North of "A" Plant Building (A Comp - Middle)	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	210	210/hr	West and Northwest		
32	Lube Oil Tank	North of "A" Plant Building (A Comp - North)	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	210	210/hr	West and Northwest	Concrete	546%
33	Diesel Tank (Portable)	North of "A" Plant Building (A Comp - North)	Leak/Rupture/Overfill/ Valve Failure	Diesel	12 (500 gal)	12/hr	West and Northwest		
40	Unused Oil Tank	North of "A" Plant Building (A Comp - North)	Leak/Rupture/Overfill/ Valve Failure	Unused Oil	12 (500 gal)	12/hr	West and Northwest		
34	Lube Oil Tank	West of Cryogenic Plant (Cryo Comp)	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	100	100/hr	West and Northwest	Concrete	138%
35 (a)	Standard Lube Oil (Royal Purple)	North of Hot Oil Surge Tank	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	8 (320 gal)	8/hr	West and Northwest	Concrete	192%
35 (b)	Standard Lube Oil (Royal Northeast of Hot Oil Purple) Surge Tank	Northeast of Hot Oil Surge Tank	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	8 (320 gal)	8/hr	West and Northwest	Concrete	192%
36 (a)	Standard Lube Oil (Royal Purple)	Inside Cryogenic Plant Bldg.	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	8 (320 gal)	8/hr	West and Northwest	Polymer	129%
36 (b)	Standard Lube Oil (Royal Purple)	Inside Cryogenic Plant Bldg.	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	8 (320 gal)	8/hr	West and Northwest	Polymer	129%

Chaco Gas Plant

San Juan County, New Mexico Section 16, Township 26 North, Range 12 West

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Equipment/ Tank ID	Source	Equipment/Tank Location	Failure/Cause	Product Stored	Capacity (bbl)	Potential Spill Rate (bbl/hr)	Direction of Spill Flow	Secondary Containment Type	Secondary Containment Volume (%)
38	Diesel Tank	NW of A Plant Bldg	Leak/Rupture/Overfill/ Valve Failure	Diesel	12 (500 gal)	12/hr	West and Northwest		/801. V
39	Solvent (Oil Based)	NW of A Plant Bldg	Leak/Rupture/Overfill/ Valve Failure	Corrosion Inhibitor (SPCC exempt)	12 (500 gal)	12/hr	West and Northwest	COllidete	4/9/6
58	Lube Oil Tank	East of VRU Vessel	Leak/Rupture/Overfill/ Valve Failure	Lube Oil	8 (320 gal)	8/hr	West and Northwest	Concrete	310%
61	Below Grade Used Oil Sump	North of Recompressor Bldg. (Cryo)	Leak/Rupture/Overfill/ Valve Failure	Used Oil	10 (400 gal)	10/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	1
62	Below Grade Used Oil Sump	SW Corner of MCC Bldg.	Leak/Rupture/Overfill/ Valve Failure	Used Oil	10 (400 gal)	10/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	
79	Below Grade Used Oil Sump	Southwest of "B" Plant Building	Leak/Rupture/Overfill/ Valve Failure	Used Oil	10 (400 gal)	10/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	
99	Below Grade Used Oil Sump	Adj to Residue Coalescer	Leak/Rupture/Overfill/ Valve Failure	Used Oil	10 (400 gal)	10/hr	West and Northwest	Double Walled/Double Bottomed and Active Containment	

Chaco Gas Plant

San Juan County, New Mexico

Containment Volume Secondary 572% 161%150% (%) ł ł ł **Concrete with Rigid Steel Secondary Containment** with Lined Earthen Base Catchment, Drains to Active Containment Active Containment Active Containment Rigid Steel, Concrete Tanks 23 Type Direction of Northwest Northwest Northwest Northwest Northwest West and West and West and Northwest West and Northwest Northwest Northwest West and Spill Flow West and West and West and West and Spill Rate (bbl/hr) Potential 454/hr 454/hr 530/hr 454/hr 454/hr 10/hr 36/hr 60/hr 24/hr Section 16, Township 26 North, Range 12 West **OIL-FILLED OPERATIONAL EQUIPMENT** Capacity (bbl) 454 454 454 454 530 10 60 24 Total Bulk Storage Volume (bbls) = 13,130 36 Total Oil-Filled Operational Equipment (bbls) = 626 **Product Stored** Produced Produced Produced Produced Lube Oil Lube Oil Water Lube Oil Water Water Water ΪŌ Ö Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Valve Failure Failure/Cause Valve Failure Valve Failure 900 ft Northeast of 900 ft Northeast of 900 ft Northeast of 900 ft Northeast of NW of bullet tanks East of "A" Plant East of "B" Plant Throughout the Throughout the Equipment/Tank Plant Office Plant Office Plant Office Plant Office Building Building Location Facility Facility **Produced Water Tank** Produced Water Tank Produced Water Tank Produced Water Tank Transformers/Voltage Lube Oil Settling Tank **Drummed Storage** 12 Compressors Regulators 6 **Turbines** Source Equipment/ Tank ID 89 2 72 73 69 71

Chaco Gas Plant

San Juan County, New Mexico Section 16, Township 26 North, Range 12 West

Containment Volume Secondary (%) ł ł ł ł ł Secondary Containment Active Containment Active Containment **Active Containment** Active Containment Active Containment None - UST Type Direction of Northwest Northwest Northwest Northwest Northwest West and West and West and West and West and Spill Flow Double Walled **OIL-FILLED MANUFACTURING EQUIPMENT & FLOW-THROUGH PROCESS VESSELS** Completely Buried Undergournd Stoage Tank - Not regulatged by SPCC Rule Northwest West and Spill Rate (bbl/hr) Potential 1,088/hr 420/hr 10/hr 10/hr 10/hr Capacity (bbl) 1,088 420 10 10 10 24 Total Oil-Filled Manufacturing Equipment and Flow-Through Process Vessels (bbls) = 1,538**Product Stored** Condensate Ξ Ξ Ξ ΙÖ ē Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Leak/Rupture/Overfill/ Valve Failure Valve Failure Valve Failure Valve Failure Valve Failure Failure/Cause Corrosion Southeast of Tank North of Tank 66 North of Tank 66 Just North of the Southern Fence Equipment/Tank **Cryogenic Plant** North of Fired Northeast of Location Heaters Line #1 Residue Gas Coalascer North of Fired Heaters **VRU Bullet Condensate TW Fuel Gas Scrubber** Classification System) 1 Hot Oil Surge Tank 1 Skimmer (Oil Vessel Source Equipment/ Tank ID 46 47 \sim

Note that some of the small poly tanks (e.g. Tank 8(d)), are moved to other areas of the facility or are temporarily off-site/out of service as part of routine facility operations.

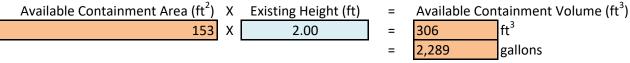
Total Facility Oil Volume (bbls) = 15,294

Table updated 03/02/2023

Site Location:	Chaco Gas Plant	
Date:	07/20/20	
Tank ID:	1	
Product Stored:	Gasoline	
<u>1. Calculate Largest Tank Volume</u>		
TANK ID:		1
1	Tank Volume (gallons)	1,000
TANK SHAPE:	Tank Volume (bbl)	24
Cylindrical		
TANK ORIENTATION:		
Vertical		
	-	
2. Calculate Secondary Containmer	nt Area	
MATERIAL:	Inside Length (ft)	17
Concrete	Inside Width (ft)	9
LINER:	Diameter (ft)	
No	AutoCad / Other Area (ft ²)	
CONTAINMENT SHAPE:	Area (ft ²)	153
Rectangular		
2 Calculate Tank Ecotorint(c) De	Not Include Largest Tank Within	Containment
<u>3. Calculate Tank Footprint(s) - Do</u>	Not menuae Largest Tank Within	<u>r containment</u>
NA: Not Applicable		

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

yes	
no	
no	
no	

EXISTING CONTAINMENT = 229%

Site Location:	Chaco Gas Plant	
Date:	07/20/20	
Tank ID:	3	
Product Stored:	Non-Contact Water	
<u>1. Calculate Largest Tank Volume</u>		
TANK ID:	_	3
3	Tank Volume (gallons)	42,000
TANK SHAPE:	Tank Volume (bbl)	1,000
Cylindrical		
TANK ORIENTATION:	-	
Vertical]	
	-	
2. Calculate Secondary Containmen	t Area	
MATERIAI :	Inside Length (ft)	39.5

MATERIAL:	Inside Length (ft)	39.5
Steel Sides w/ Earthen Base	Inside Width (ft)	72.5
LINER:	Diameter (ft)	
Yes	AutoCad / Other Area (ft ²)	
CONTAINMENT SHAPE:	Area (ft ²)	2,864
Rectangular		

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume

Available Containment Area (ft ²)	х	Existing Height (ft)	=
2,864	х	3.80	=

=	Available Con	tainment Volume (ft ³)
=	10,882	ft ³
=	81,399	gallons

6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment?

Less than 150% but more than 133% containment? Less than 133% but more than 110% containment?

ontainment?

Less than 110% containment? EXISTING CONTAINMENT = 194%

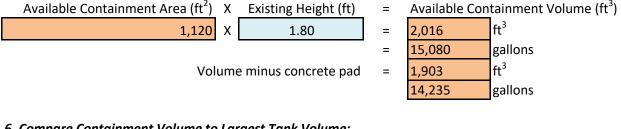
yes	
no	
no	
no	

Site Location:	Chaco Gas Plant	
Date:	07/20/20	
Tank ID:	4	
Product Stored:	Produced Water	
<u>1. Calculate Largest Tank Volume</u>		
TANK ID:	1	4
4	Tank Volume (gallons)	10,500
TANK SHAPE:	Tank Volume (bbl)	250
Cylindrical		
TANK ORIENTATION:		
Vertical		
2. Calculate Secondary Containmen		
MATERIAL:	Inside Length (ft)	40
Earthen Berm	Inside Width (ft)	28
LINER:	Diameter (ft)	
Yes	AutoCad / Other Area (ft ²)	
CONTAINMENT SHAPE:	Area (ft ²)	1,120
Rectangular		
NOTES:	_	
Tank sitting on concrete pad:	Volume of Pad (ft ³)	113
13'11" L x 13'11" W x 7" H		

3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment **NA: Not Applicable**

4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank) NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment?

Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

EXISTING CONTAINMENT = 136%

no	
yes	
no	
no	

Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	8 (b)		
Product Stored:	Corrosion Inhibitor (Diesel)		
<u>1. Calculate Largest Tank Volume</u>			
TANK ID:		8 (b)	
8 (b)	Tank Volume (gallons)	165	
TANK SHAPE:	Tank Volume (bbl)	4	
Cylindrical			
TANK ORIENTATION:			
Horizontal			
2. Calculate Secondary Containmen	<u>nt Area</u>		
MATERIAL:	Inside Length (ft)		
Polymer	Inside Width (ft)		
LINER:	Diameter (ft)	6	
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	28	
Circular			

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

yes	
no	
no	
no	

EXISTING CONTAINMENT = 256%

Site Location:	Chaco Gas Plant	
Date:	09/02/20	
Tank ID:	8 (d)	
Product Stored:	54GO (Corrosion Inhibitor-Diese	el)
<u>1. Calculate Largest Tank Volume</u>		
TANK ID:		8 (d)
8 (d)	Tank Volume (gallons)	225
TANK SHAPE:	Tank Volume (bbl)	5
Cylindrical		
TANK ORIENTATION:	-	
Horizontal		
2. Calculate Secondary Containmer	nt Area	
MATERIAL:	Inside Length (ft)	
Polymer	Inside Width (ft)	
LINER:	Diameter (ft)	7
No	AutoCad / Other Area (ft ²)	
CONTAINMENT SHAPE:	Area (ft ²)	38
Circular		

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

yes	
no	
no	
no	

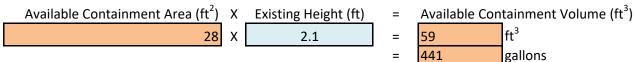
EXISTING CONTAINMENT = 256%

Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	8 (e)		
Product Stored:	Diesel		
1. Calculate Largest Tank Volume			
TANK ID:		8 (e)	
8 (e)	Tank Volume (gallons)	120	
TANK SHAPE:	Tank Volume (bbl)	3	
Cylindrical			
TANK ORIENTATION:	-		
Horizontal			
2. Calculate Secondary Containmer	nt Area		
MATERIAL:	Inside Length (ft)		
Polymer	Inside Width (ft)		
LINER:	Diameter (ft)	6	
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	28	
Circular			

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

yes	
no	
no	
no	

EXISTING CONTAINMENT = 367%

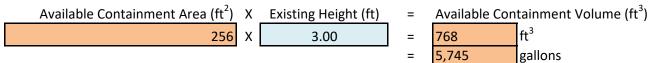
Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	9 & 10		
Product Stored:	Ambitrol (SPCC Exempt), Lube	Oil	
<u>1. Calculate Largest Tank Volume</u> TANK ID:		10	
10	Tank Volume (gallons)	8,820	
TANK SHAPE:	Tank Volume (bbl)	250	
Cylindrical			
TANK ORIENTATION:			
Vertical			
2. Calculate Secondary Containmen	t Area		
MATERIAL:	Inside Length (ft)	27	
Concrete	Inside Width (ft)	30	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
	Area (ft ²)	212	
CONTAINMENT SHAPE:	Area (ft.)	810	
Rectangular	J		
NOTES:	1		
Tanks sitting on concrete pad:	Volume of Pad (ft ³)	77	
Area = 66 ft ² , Height = 14 in.]		
2. Calculate Taul Sectoriat De No	a to alcode to over a transfer to the ball of the		
<u>3. Calculate Tank Footprint - Do Na</u>			
	Tank ID	9	
	Include Tank Footprint?	Yes	
	Tank Diameter/Length (ft)	8	
	Tank Area Footprint (ft ²)	50	
4. Subtract Tank Footprint(s) from (
Berm Area (ft ²)	- Tank Footprint (ft ²) =	Available Containment Area (ft ²)	
810	- 50 =	760 ft ²	
5. Calculate Available Secondary Co	ontainment Volume		
Available Containment Area (ft ²)	X Existing Height (ft) =	Available Containment Volume (ft ³)	
760	X 2.42 =	1,839 ft ³	
	=	13,752 gallons	
Vo	lume minus concrete pad =	1,762 ft ³	
		13,176 gallons	
6. Compare Containment Volume to	o Largest Tank Volume:		
More than 150% containment?	no		
Less than 150% but more than 133%			
Less than 133% but more than 110%	1		
Less than 110% containment?	no		
EXISTING CONTAINMENT			

Chaco Gas Plant		
07/20/20		
11		
Lube Oil		
	11	
Tank Volume (gallons)	3,780	
Tank Volume (bbl)	90	
<u>Area</u>		
Inside Length (ft)	16	
Inside Width (ft)	16	
Diameter (ft)		
AutoCad / Other Area (ft ²)		
Area (ft ²)	256	
]		
	07/20/20 11 Lube Oil Tank Volume (gallons) Tank Volume (bbl) Mrea Inside Length (ft) Inside Width (ft) Diameter (ft) AutoCad / Other Area (ft ²)	07/20/20 11 Lube Oil Tank Volume (gallons) Tank Volume (bbl) 90 Area Inside Length (ft) Inside Width (ft) Diameter (ft) AutoCad / Other Area (ft ²)

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment?

Less than 110% containment?

EXISTING CONTAINMENT = 152%

yes	
no	
no	
no	

SPCC Secondary Containr					
Site Location:	Chaco Gas Plant				
Date:	07/20/20				
Tank ID:	12 & 13				
Product Stored:	Lube Oil and Diesel				
<u>1. Calculate Tank Volume</u>					
TANK ID:		12			
12	Tank Volume (gallons)	8,812			
TANK SHAPE:	Tank Volume (bbl)	210			
Cylindrical					
TANK ORIENTATION:	-				
Vertical	1				
	_				
2. Calculate Secondary Containn	pent Area				
MATERIAL:	Inside Length (ft)				
Concrete	Inside Width (ft)				
LINER:	Diameter (ft)				
No	AutoCad / Other Area (ft^2)	904			
SHAPE:	Area (ft ²)	904			
Calculated in AutoCad					
NOTES:	1				
Tank sitting on concrete pad:	Volume of Pad (ft ³)	269			
Diameter = 11.7', Height = above	'	ed using height of			
containment height	containment (2.5 ft).				
2 Calculate Tank Footprint - Do	Not Include Largest Tank Within	Containment			
<u>5. culturate rank rootprint - po</u>	Tank ID	13			
AC: above containment	Include Tank Footprint?	No: AC			
	Tank Diameter/Length (ft)	5			
	Tank Area Footprint (ft ²)	0			
	Tank Area Pootprint (it)	0			
4. Subtract Tank Footprint(s) fro	m Containment Area (Do Not Inclu	ude Laraest Tank)			
Berm Area (ft ²)	2	Available Containment Area (ft ²)			
904		904 ft ²			
304		504 It			
5. Calculate Available Secondary	, Containment Volume				
Available Containment Area (ft ²)		Available Containment Volume (ft ³)			
904		2,260 ft ³			
904	- ^ 2.30 =	16,905 gallons			
	Volume minus concrete pad =				
		14,894 gallons			
6 Compare Contrinment Volume	a to Largast Tank Valuma				
6. Compare Containment Volum More than 150% containment?					
Less than 150% but more than 13	yes	-			
Less than 133% but more than 12		-			
Less than 110% containment?		-			
Less than 110% containment?	no	_			

EXISTING CONTAINMENT = 169%

Site Location:	Chaco Gas Plant				
Date:	07/20/20				
Tank ID:	22				
Product Stored:	Used Oil				
<u>1. Calculate Largest Tank Volume</u>					
TANK ID:		22			
22	Tank Volume (gallons)	21,000			
TANK SHAPE:	Tank Volume (bbl)	500			
Cylindrical					
TANK ORIENTATION:					
Vertical					
2. Calculate Secondary Containmer	<u>nt Area</u>				
MATERIAL:	Inside Length (ft)	41.1			
Concrete	Inside Width (ft)	39			
LINER:	Diameter (ft)				
No	AutoCad / Other Area (ft ²)				
CONTAINMENT SHAPE:	Area (ft ²)	1,602			
Rectangular					

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

EXISTING CONTAINMENT = 143%

	-
no	
yes	
no	
no	

SPCC Secondary Containin	ien	t calculations				
Site Location:	Cha	co Gas Plant				
Date:	07/20/20					
Tank ID:	28 8	28 & 29				
Product Stored:	Con	Idensate				
<u>1. Calculate Tank Volume</u>						
TANK ID:			28 & 29			
28 & 29		Total Tank Volume of				
	I	Manifolded Tanks	336,000			
TANK SHAPE:		(gallons)				
Cylindrical		Tank Volume (bbl)	8,000			
TANK ORIENTATION:						
Vertical						
2. Calculate Secondary Containm	ent	Area				
MATERIAL:		Inside Length (ft)	160			
Concrete		Inside Width (ft)	105			
LINER:		Diameter (ft)				
No		AutoCad / Other Area (ft ²)				
SHAPE:		Area (ft ²)	16,800			
Rectangular						
3. Calculate Tank Footprint - Do	Not	Include Largest Tank Within	<u>Containment</u>			
		Tank ID	NA			
Tanks Manifolded		Include Tank Footprint?	No			
		Tank Diameter/Length (ft)	0			
		Tank Area Footprint (ft ²)	0			
			(
<u>4. Subtract Tank Footprint(s) from</u>	<u>n cc</u>	2				
Berm Area (ft ²)	-	Tank Footprint (ft^2) =	Available Containment Area (ft ²)			
16,800	-	0 =	16,800 ft ²			
5. Calculate Available Secondary	Cor	ntainment Volume				
Available Containment Area (ft ²)			Available Containment Volume (ft ³)			
16,800	Х	4.25 =				
		=	534,072 gallons			
6. Compare Containment Volume	e to	Laraest Tank Volume				
More than 150% containment?		yes				
Less than 150% but more than 13	3%		1			
Less than 133% but more than 11			1			
Less than 110% containment?		no				

EXISTING CONTAINMENT = 159%

Site Location:	Chaco Gas Plant
Date:	07/20/20
Tank ID:	30, 31, 32, 33 & 40
Product Stored:	Lube Oil, Diesel, Unused Oil

1. Calculate Tank Volume

TANK ID:	
30	
TANK SHAPE:	
Cylindrical	
TANK ORIENTATION:	
Vertical	

Tank Volume (gallons) Tank Volume (bbl)

30	
8,812	
210	
210	

2. Calculate Secondary Containment Area

MATERIAL:	Inside Length (ft)	105
Concrete	Inside Width (ft)	25
LINER:	Diameter (ft)	
No	AutoCad / Other Area (ft ²)	
SHAPE:	Area (ft ²)	2,625
Rectangular		
NOTES:		
Tanks 30, 31, & 32 sitting on	Volume of all 3 Pads (ft ³)	342
concrete pads: Diameter = 13', Height = above containment height	Note: Volume of pads calculat	ted using height of

containment (2.58 ft).

3. Calculate Tank Footprint - Do Not Include Largest Tank Within Containment

Tank IDs	31	32	33	40
Include Tank Footprint?	No: Above	No: Above	No: Above	No: Above
	Containment	Containment	Containment	Containment
Tank Diameter Footprint (ft)	NA	NA	NA	NA
Tank Area Footprint (ft ²)	0	0	0	0
Total Footprint Area (ft ²)	0			

4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)

Berm Area (ft ²)	-	Tank Footprint (ft ²)	=	Available Containment Area (ft ²)
2,625	-	0	=	2,625 ft ²

5. Calculate Available Secondary Containment Volume

Available Containment Area (ft ²)	х	Existing Height (ft)	=
2,625	х	2.58	=
			=
V	olum	ne minus concrete pads	=

lume minus concrete pads	=

Available Containme	ent Volume (ft ³)
6,773	ft ³
50,658	gallons
6,430	ft ³
48,097	gallons

6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment?

Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

EXISTING CONTAINMENT = 546%

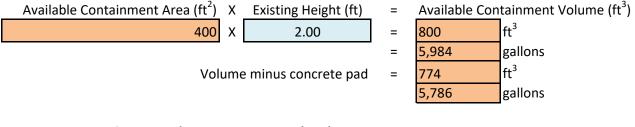
yes	
no	
no	
no	

Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	34		
Product Stored:	Lube Oil		
<u>1. Calculate Largest Tank Volume</u>			
TANK ID:	_	34	
34	Tank Volume (gallons)	4,200	
TANK SHAPE:	Tank Volume (bbl)	100	
Cylindrical			
TANK ORIENTATION:			
Vertical			
2. Calculate Secondary Containmer	nt Area		
MATERIAL:	Inside Length (ft)	20	
Concrete	Inside Width (ft)	20	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	400	
Rectangular			
NOTES:	-		
Tank sitting on concrete pad:	Volume of Pad (ft ³)	26	
Diameter = 8.2 ft, Height = 0.5 ft			
	-		

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment?
Less than 150% but more than 133% containment?
Less than 133% but more than 110% containment?
Less than 110% containment?

EXISTING CONTAINMENT = 138%

no	
yes	
no	
no	

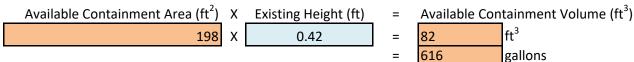
Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	35 (a)		
Product Stored:	Standard Lube Oil (Royal Purple)		
<u>1. Calculate Largest Tank Volume</u> TANK ID:		35 (a)	
35 (a)	Tank Volume (gallons)	320	
TANK SHAPE:	Tank Volume (bbl)	8	
Cylindrical			1
TANK ORIENTATION:			
Vertical			
2. Calculate Secondary Containmer			1
MATERIAL:	Inside Length (ft)	21.2	
Concrete	Inside Width (ft)	9.3	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	198	

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume

Rectangular



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

yes	
no	
no	
no	

EXISTING CONTAINMENT = 192%

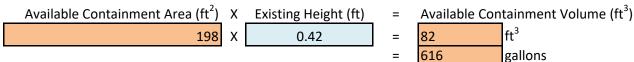
Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	35 (b)		
Product Stored:	Standard Lube Oil (Royal Purple)		
<u>1. Calculate Largest Tank Volume</u> TANK ID:		35 (b)	
35 (b)	Tank Volume (gallons)	320	
TANK SHAPE:	Tank Volume (bbl)	8	
Cylindrical			I.
TANK ORIENTATION:			
Vertical			
2. Calculate Secondary Containmer	nt Area		
MATERIAL:	Inside Length (ft)	21.2	
Concrete	Inside Width (ft)	9.3	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	198	

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume

Rectangular



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

yes	
no	
no	
no	

EXISTING CONTAINMENT = 192%

Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	36 (a)		
Product Stored:	Standard Lube Oil (Royal Purple)		
<u>1. Calculate Largest Tank Volume</u> TANK ID:		36 (a)	
36 (a)	Tank Volume (gallons)	320	
TANK SHAPE:	Tank Volume (bbl)	8	
Cylindrical			
TANK ORIENTATION:			
Vertical			
2. Calculate Secondary Containmer	nt Area		
MATERIAL:	Inside Length (ft)	5.25	
Polymer	Inside Width (ft)	5.25	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	28	

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume

Rectangular



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

EXISTING CONTAINMENT =	129%
------------------------	------

no
no
yes
no

Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	36 (b)		
Product Stored:	Standard Lube Oil (Royal Purple		
1. Calculate Largest Tank Volume			
TANK ID:		36 (b)	
36 (b)	Tank Volume (gallons)	320	
TANK SHAPE:	Tank Volume (bbl)	8	
Cylindrical			
TANK ORIENTATION:	-		
Vertical			
2. Calculate Secondary Containmen	<u>nt Area</u>		
MATERIAL:	Inside Length (ft)	5.25	
Polymer	Inside Width (ft)	5.25	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	28	
Rectangular			

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

EXISTING CONTAINMENT	=	129%

no	
no	
yes	
no	

SPCC Secondary Containn	nen	t Calculations		
Site Location:	Cha	aco Gas Plant		
Date:	07/	20/20		
Tank ID:	38	& 39		
Product Stored:	Die	sel and Solvent (SPCC-Exem	npt)	
<u>1. Calculate Tank Volume</u>				
TANK ID:				38
38	1	Tank Volume (gallons)		500
TANK SHAPE:	1	Tank Volume (bbl)		12
Cylindrical				
TANK ORIENTATION:	1			
Vertical				
	•			
2. Calculate Secondary Containn	nont	Area		
<u>2: culculate Secondary containin</u> MATERIAL:	<u>10111</u>	Inside Length (ft)		16
Concrete	1	Inside Width (ft)		10
LINER:	1	Diameter (ft)		
No	1	AutoCad / Other Area (ft ²)		
SHAPE:]	Area (ft ²)		160
Rectangular	1			100
Rectangular				
<u> 3. Calculate Tank Footprint - Do</u>	Not	Include Largest Tank With	in (Containment
<u> </u>		Tank ID		39
AC: above containment		Include Tank Footprint?		No: AC
		Tank Diameter/Length (ft)		5
		Tank Area Footprint (ft ²)		0
4. Subtract Tank Footprint(s) fro	m C	ontainment Area (Do Not Ir	ncl	ude Largest Tank)
Berm Area (ft ²)	-	Tank Footprint (ft ²) =	=	Available Containment Area (ft ²)
160	1	0 =	=	160 ft ²
100	1			
5. Calculate Available Secondary	, Coi	ntainment Volume		
Available Containment Area (ft ²)			=	Available Containment Volume (ft ³
160	1			320 ft ³
160] ^		=	2,394 gallons
		-	-	z, z

yes

no

no

no

6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment?

Less than 133% but more than 110% containment? Less than 110% containment?

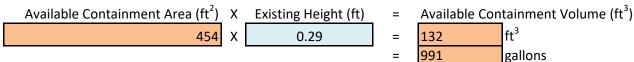
EXISTING CONTAINMENT = 479%

Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	58		
Product Stored:	Lube Oil		
1. Calculate Largest Tank Volume			
TANK ID:		58	
58	Tank Volume (gallons)	320	
TANK SHAPE:	Tank Volume (bbl)	8	
Cylindrical			
TANK ORIENTATION:			
Vertical			
2. Calculate Secondary Containmer	nt Area		
MATERIAL:	Inside Length (ft)	19.8	
Concrete	Inside Width (ft)	23	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	454	
Rectangular			

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



6. Compare Containment Volume to Largest Tank Volume:

More than 150% containment? Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

yes	
no	
no	
no	

EXISTING CONTAINMENT = 310%

SPCC Secondary Containment Calculations

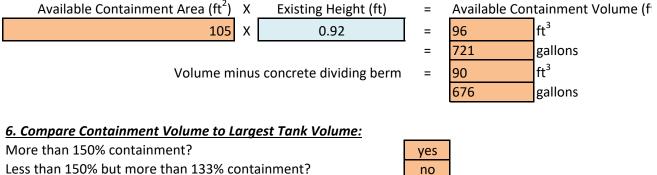
Site Location:	Chaco Gas Plant			
Date:	07/20/20			
Tank ID:	68, 69, 70 & 71			
Product Stored:	Produced Water			
1 Calculate Tank Volume				
<u>1. Calculate Tank Volume</u> TANK ID:		68		
68	Tank Volume (gallons)	19,068		
TANK SHAPE:	Tank Volume (bbl)	454		
Cylindrical		404	l	
TANK ORIENTATION:	1			
Vertical	1			
Vertical	1			
2. Calculate Secondary Containmen			1	
MATERIAL:	Inside Length (ft)	92		
Steel sides w/ earthen base	Inside Width (ft)	47		
LINER:	Diameter (ft)			
Yes	AutoCad / Other Area (ft ²)			
SHAPE:	Area (ft ²)	4,324		
Rectangular				
<u> 3. Calculate Tank Footprint - Do No</u>				
	Tank IDs	69	70	71
	Include Tank Footprint?	Yes	Yes	Yes
	Tank Diameter/Length (ft)	12	12	12
	Tank Area Footprint (ft ²)	113	113	113
	Total Footprint Area (ft ²)		339	
4. Subtract Tank Footprint(s) from (Containment Area (Do Not Include	e Largest Tank)		
Berm Area (ft ²)	- Tank Footprint (ft ²) =	Available Contai	nment Area (ft ²)	
4,324	- 339 =	3,985	ft ²	
5. Calculate Available Secondary Co	ontainment Volume			
Available Containment Area (ft ²)	X Existing Height (ft) =	Available Contai	nment Volume (ft	³)
3,985	X 3.66 =	14,584	ft ³	
	=	109,089	gallons	
<u>6. Compare Containment Volume to</u>	<u>o Largest Tank Volume:</u>			
More than 150% containment?	yes			
Less than 150% but more than 133%	6 containment? no			
Less than 133% but more than 110%	6 containment? no			
Less than 110% containment?	no			
EXISTING CONTAINMENT	= 572%	_		

Site Location:	Chaco Gas Plant	
Date:	07/20/20	
Tank ID:	72	
Product Stored:	Lube Oil	
<u>1. Calculate Largest Tank Volume</u>		
TANK ID:		72
72	Tank Volume (gallons)	420
TANK SHAPE:	Tank Volume (bbl)	10
Cylindrical		
TANK ORIENTATION:		
Horizontal		
2. Calculate Secondary Containment		
MATERIAL:	Inside Length (ft)	13
Concrete	Inside Width (ft)	8.1
LINER:	Diameter (ft)	
No	AutoCad / Other Area (ft ²)	
CONTAINMENT SHAPE:	Area (ft ²)	105
Rectangular		
NOTES:	_	
Containment has dividing berm:	Volume of dividing berm (ft ³) =	6
13' long x 6" wide x 11" high		·
	-	

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



no

no

Less than 150% but more than 133% containment? Less than 133% but more than 110% containment? Less than 110% containment?

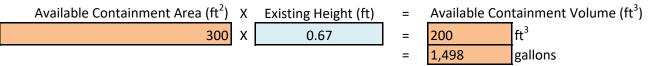
EXISTING CONTAINMENT = 161%

Site Location:	Chaco Gas Plant		
Date:	07/20/20		
Tank ID:	73		
Product Stored:	Lube Oil Drums (number of cont	ainers may vary)	
<u>1. Calculate Largest Tank Volume</u>			
TANK ID:		73	
73	Tank Volume (gallons)	1,000	
TANK SHAPE:	Tank Volume (bbl)	24	
Varies			
TANK ORIENTATION:	_		
Varies			
2. Calculate Secondary Containment	<u>Area</u>		
MATERIAL:	Inside Length (ft)	17.4	
Concrete w/ rigid steel catchment;			
drains to Tanks 23	Inside Width (ft)	17.3	
LINER:	Diameter (ft)		
No	AutoCad / Other Area (ft ²)		
CONTAINMENT SHAPE:	Area (ft ²)	300	
Rectangular			

<u>3. Calculate Tank Footprint(s) - Do Not Include Largest Tank Within Containment</u> NA: Not Applicable

<u>4. Subtract Tank Footprint(s) from Containment Area (Do Not Include Largest Tank)</u> NA

5. Calculate Available Secondary Containment Volume



no

yes

no

no

6. Compare Containment Volume to Largest Tank Volume:





APPENDIX D

Buried Piping Test Documentation

Released to Imaging: 7/18/2023 8:48:20 AM



22 January 2001 AMEC Project No. 0-517-000153

El Paso Field Services Chaco Plant P.O. Box 579 Bloomfield, New Mexico 87413

Attention: Mike Hansen

RE: DRAIN LINE TESTING EL PASO FIELD SERVICES CHACO PLANT BLOOMFIELD, NEW MEXICO

AMEC Earth & Environmental, Inc. (formerly AGRA) is pleased to provide you with results of hydrostatic testing for the below ground, non-pressurized, process and wastewater drain system at the Chaco Plant located near Bloomfield, New Mexico. Only below ground, non-pressurized process and wastewater lines were tested as proposed to New Mexico Oil Conservation Division (OCD) by El Paso Field Services, owner of the site.

Notice to proceed on this project was granted by Mr. Michael D. Hansen on 11 November 2000. AMEC mobilized to the site on 28 November and began line testing on 29 November 2000. The work was completed on 9 January 2001. AMEC's on-site crew consisted of George Friend (Project Manager), Arnold Gilmore (Site Supervisor), and a 3 man field crew. Each of these individuals were 40 hour OSHA and H₂S trained.

The underground pipelines carrying process or wastewater were isolated. Each isolated system was filled with clean water and air was removed. A water-filled riser was of sufficient height to provide a minimum of 3 pounds per square inch above normal operating pressure (all risers were at least 6-feet in height). A system was considered sound when the height of the water column held steady for a period of 30 minutes.

In keeping with El Paso Field Services policy, along with AMEC's own internal Health and Safety policies, all on-site employees participated in a plant safety orientation and viewing a safety video, and attended daily safety meetings. Records pertaining to the video and safety orientation are on file at the Chaco Plant. Copies of the daily safety meeting attendees and topics discussed are attached.



El Paso Field Services Drain Line Testing Chaco Plant Bloomfield, New Mexico AMEC Project No. 0-517-000153 22 January 2001

All drain lines tested recorded no leaks, with the exception of the line from Port # 3, Lines LO6-1, GH4-1, LO6-2, D2-2, D4-1 and D2-1 to the Drip Tank Storage. The source of the leak on the line from Port # 3, Lines LO6-1, GH4-1, LO6-2, D2-2, D4-1 and D2-1 to the Drip Tank Storage could not be determined, and was reported to on-site personnel. Results of each drain line tested are summarized in the attached table.

We appreciate the opportunity to perform theses services at the Chaco Plant for El Paso Field Services. Should you have any questions, please feel free to contact our office.

Respectfully submitted,

AMEC Earth & Environmental, Inc.

Bob Walnut

Bob Wilcox, C.P.G. Senior Project Manager

Attachments: Summary of Line Testing Daily Safety Meetings

BW:rrg

Copies: Addressee (3)

AMEC Earth & Environmental, Inc. 8519 Jefferson, N.E. Albuquerque, New Mexico 87113 Telephone: 505/821-1801 Fax: 505/821-7371 www.amec.com Reviewed by:

Fred Schelby, P.E. / Manager of Engineering

SUMMARY OF RESULTS HYDROSTATIC DRAIN LINE TESTING EL PASO FIELD SERVICES - CHACO PLANT 29 NOVEMBER 2000 THROUGH 9 JANUARY 2001

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Drain Line From	Drain Line To	Line Size/Length/Type	Test Date/Time	Line Results/Comments
Port # 3 Lines LO6-1, GH4-1, LO6-2, D2-2, D4-1 & D2-1	Drip tank storage	 4 inch/75 feet/steel 6 inch/763 feet/steel 2 inch/125 feet/steel 4 inch/1532 feet/PVC 	12-7-00	Unable to complete test due to leak(s) (See Note 1)
B-Plant Jacket water holding tanks	Port # 4 West of B- Plant	2 & 4 inch/11 feet/steel	12-1-00 1130 - 1205 hours	No leaks detected
Concrete containment pit GH4-2	Port # 3	4-inch/19 feet/steel	12-1-00 1130 - 1205 hours	No leaks detected
LO 6-1 Port # 2	Port # 1	6-inch/200 feet/steel	12-05-00 0830 - 0905 hours	No leaks detected
Drip storage tanks	Waste water pond	4-inch/825 feet/steel	12-7-00 1100 - 1130 hours	No leaks detected
Port # 3 Lines # L06-1, RG2-1, AC4-2, AC4-1, T2-3, T2-2, T2- 1, & electric compressors C300, C200 & C100	Port # 2	6-inch/395 feet/steel 4-inch/1576 feet/steel 2-inch/284 feet/steel	12-12-00 0730 - 0805 hours	No leaks detected.
Port # 1 lines # LO 6-1 & AT4-1	OC 5 Oil sump	2-inch/55 feet/steel 4-inch/158 feet/steel 6-inch/880 feet/steel	12-20-00 0840 - 0915 hours	No leaks detected.

ameco

SUMMARY OF RESULTS HYDROSTATIC DRAIN LINE TESTING EL PASO FIELD SERVICES - CHACO PLANT 29 NOVEMBER 2000 THROUGH 9 JANUARY 2001

Released to Imaging: 7/18/2023 8:48:20 AM

Drain Line From	Drain Line To	Line Size/Length/Type	Test Date/Time	Line Results/Comments
Port # BH1 L.O. East of Boiler Building Line # BH4-3, BH-4-4	South of Boiler House to end of line clean out	2-inch/80 feet/steel 4-inch/180 feet/steel	1-03-01 1350 - 1425 hours	No leaks detected
Port BH-4-1#1 Line # BH\$-2 from Fire Water Building	Port BH4-1#2	2-inch/50 feet/steel 4-inch/240feet/steel	1-05-01 1015 - 1045 hours	No leaks detected
8-inch Blind Flanges Line # PA8-1, AS4-1, BSH-1, BH4-1, FHB6-1	Port #2 and OCS Oil Sump	2-inch/340 feet/steel 4-inch/710 feet/steel 6-inch/100 feet/steel 8-inch/855 feet steel	1-07-01 1330 - 1400 hours	No leaks detected
Inside of West End of B Compressor Plant	B-Plant Sump West End of Building	2-inch/20 feet/steel	1-07-01 1610 - 1640 hours	No leaks detected
B-Plant Basement Floor Drains	B-Plant Pump Sump	2-inch/150 feet/steel 6-6inch/200 feet/steel	1-09-01 1310 - 1340 hours	No leaks detected

NOTE: All line lengths are approximations.

ameco



CHACO PLANT

Date: 1-31-01

To: David Bays

From: Mike Hansen

The Open drain section from Port#3 to the Drip Tanks mentioned in the I

Drain Line Testing Report Has a small leak. As soon as the weather permits the line will be retested by dividing it into sections to determine where the leak is and to complete a good test. Any soil that has been contaminated will be remediated at that time. Since this section of the drain system was not used often and is no longer in use it is felt the contamination will not be significant.

Mike Hansen

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Testing Company: Enviro	otech, Inc.					
Client: Enterprise Field S	Services LLC					
Facility Name/Location: (Chaco Pla	an7				
Description of Test:	Low pressu to determin	re hydrostatic lir e the presence o	ne test on contact di of leaks.	ain system		
Description of System:	teel Pipe					
Test Requirements:Hydrostatic pressure test on contact drainage systems in accordance to the State of New Mexico, Minerals, Natural Resources Department - Oil Conversation Division Discharge Plan Requirements. Hydrostatic pressure test performed on contact drain system at 3 pounds per square inch for a period of one hour.						
Test Medium: Water		ure: 7'WC				
Test Date: 6/28/07		Test	Completed:			
Test Notes: GH4-1, L D2-2, D4-1, D2-1	06-1, L, , L0.4-2,	06-2, Contr	ol Room, Bisti ⁺	ta comp.		
······································						
Review and Approvals:						
2.		When Man				
Signed by (Operations)	Date	Test Completed	by (signed)	Date 25/0		
		Jeffrey Mile	<u>د</u>			
Name Printed by (Operations)		Contractor Repr	esentative (printed)			

Hydrostatic Line T	esting Form
Testing Company: Envir	otech, Inc.
Client: Enterprise Field	Services LLC
Facility Name/Location: (Chaco flant
Description of Test:	Low pressure hydrostatic line test on contact drain system to determine the presence of leaks.
Description of System:	Steel Pile
Test Requirements:	Hydrostatic pressure test on contact drainage systems in accordance to the State of New Mexico, Minerals, Natural Resources Department - Oil Conversation Division Discharge Plan Requirements. Hydrostatic pressure test performed on contact drain system at 3 pounds per square inch for a period of one hour.
Test Medium: Water	Test Pressure: ィ' いく
Test Date: 6/19/07	Test Start: 10:00 Test Completed: 11:00
,	4-1, RC2-1, Port#3, C3000, C200, C1000, 4-1, T2-3, T2-2, T2-1, C Plant
Review and Approvals:	
	When mill
Signed by (Operations)	Date Test Completed by (signed) Date(s//q/o
Name Printed by (Operations)	Jeffrey Miles Contractor Representative (printed)

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2000

Testing Company: Envir	otech, Inc.		
Client: Enterprise Field S	Services LLC		· ·
Facility Name/Location:	Chaco fla	mt	
Description of Test:	to determi	ure hydrostatic line test on contact on the presence of leaks.	drain system
Description of System:	Steel Pipe	2	
Test Requirements:	accordanc Resources Discharge Hydrostatio	c pressure test on contact drainage e to the State of New Mexico, Mine Department - Oil Conversation Div Plan Requirements. c pressure test performed on contac s per square inch for a period of on	rals, Natural ision ct drain system
Test Medium: Water		sure: 7' WC	
Test Date: 6/14/07	Test Start	: 2:00 Test Completed: 4:00	0
Test Notes: Port #1 Lo	a, Lo6=	L, Port #2	
	····		
Review and Approvals:		· · · · · · · · · · · · · · · · · · ·	
		at the set of the set	
Signed by (Operations)	Date	Test Completed by (signed)	Date//14/0
·		Jeffrey Milles	
Name Printed by (Operations)	· · ·	Contractor Representative (printed)	i L

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Hydrostatic Line 1	festing	Form				
Testing Company: Envi	rotech, Inc	•				
Client: Enterprise Field	Services L	LC				
Facility Name/Location:	Chaco f	lant				
Description of Test:		ssure hydrostatic line test on contact drain system mine the presence of leaks.				
Description of System:	Steel Pip	e				
Test Requirements:	Hydrostatic pressure test on contact drainage systems in accordance to the State of New Mexico, Minerals, Natural Resources Department - Oil Conversation Division Discharge Plan Requirements. Hydrostatic pressure test performed on contact drain system at 3 pounds per square inch for a period of one hour.					
Test Medium: Water	Test Pro	essure: 7' WC				
Test Date: 6/12/07	Test Sta	art: 위/S Test Completed: <i>S</i> //S				
Test Notes: Lufe oil du Shipping Pump Housey S	тр, Steam РЧ-2, А1Ч	Rack, oil Filter Drain, 106-1, AS4-1 -1, WO4-1,				
Review and Approvals:						
Signed by (Operations)	Date	Test Completed by (signed) Date (2)0				
Name Printed by (Operations)		Contractor Representative (printed)				

Hydrostatic Line Testing Form

Testing Company: Enviro	otech, Inc.
Client: Enterprise Field S	Services LLC
Facility Name/Location:	CHACO Plant
Description of Test:	Low pressure hydrostatic line test on contact drain system to determine the presence of leaks.
Description of System:	Steel Pipe
Test Requirements:	Hydrostatic pressure test on contact drainage systems in accordance to the State of New Mexico, Minerals, Natural Resources Department - Oil Conversation Division Discharge Plan Requirements. Hydrostatic pressure test performed on contact drain syste at 3 pounds per square inch for a period of one hour.
Test Medium: Water	
Test Date: 6/7/07	Test Start: 4:05 Test Completed: 5:05
Test Notes: Lines 7	ested
PAS-1 From C	D.G.S TO STORAGE AreA.
ASH-1 FHG-	1, BHA-1(TO PORT.)
Review and Approvals:	
	Marthal .
Signed by (Operations)	Date Test completed by (signed) Date 70
•	Jeffici Miles
Name Printed by (Operations)	Contractor Representative (printed)
n an	

Received	by	OCD:	5/25	/2023	9:05:40 AM

Page 114 of 298

VIROTECH INC.	FAX COVER SHEET
CAL SOLUTIONS FOR A BETTER TOMO	
TO. DOW Arnald	TITLE.
COMPANY. Catespris	e e
FAN EGQ 2-zd	PHONE
RE AN Esting of	forms
DATE 6.22.07	
PAGES:6	(INCLUDING COVER PAGE)
PROJECT:	
CC:	
COMMENTS:	
	,
1.	
ROM THE DESK OF.	Miles (at

Envirotech, Inc.

5796 US Highway 64, Farmington, NM 87401

Phone: (505) 632-0615 / Fax: (505) 632-1865

this information is intended for the individual above and is confidential. if you have received this facsimile in erros, please call the number listed above.



APPENDIX E Groundwater Monitoring Wells Lab Results

Released to Imaging: 7/18/2023 8:48:20 AM

ENSOLUM

TABLE 1

		Ē			_		0	0	0	0	0	0
	sec-gnt λlpeuzene^{1,2}	(hg/L)	NE		2.4	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	n-Propylbenzene ^{1,2}	(hg/L)	NE		2.2	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	lsobropylbenzene¹ ^{,2}	(hg/L)	NE		5.9	SN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Dibromochloromethane [†]	(hg/L)	NE		<1.0	SN	<1.0	<1.0	<1.0	<1.0	<1.0	2.4
	4-Chlorotoluene ^{1,2}	(hg/L)	NE		<1.0	SN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	2-Chlorotoluene ^{1,2}	(µg/L)	NE		4.4	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	^{S, †} ənəznədlyhiəmiıT-Z, E, f	(µg/L)	NE		<1.0	SN	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
POUNDS	^{S.r} ənəznədlyritəmirT- A ,S,r	(hg/L)	NE		5.9	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
NALYTICAL SUMMARY - DETECTED VOLATILE ORGANIC COMPOUNDS	¹ 9nəznədorolıt)	(hg/L)	NE		4.6	NS	5.0	2.6	<1.0	<1.0	<1.0	<1.0
TICAL SUMMARY - DETECTED VOLATILE ORG	Bromoform	(hg/L)	NE	oring Wells	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	2.0
ECTED VOL	Bromodichloromethane ²	(hg/L)	NE	Samples Collected from the Monitoring Wel	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	5.7
AARY - DET	Triochloroethene (TCE)	(hg/L)	5	ollected fro	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	1.2
ICAL SUMN	Tetrachloroethene (PCE)	(hg/L)	5	Samples C	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	2.6
	Carbon Tetrachloride	(hg/L)	5	Water	<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	2.4
GROUNDWATER A	Chloroform	(hg/L)	100		<1.0	NS	<1.0	<1.0	<1.0	<1.0	18	120
GR	ənəlsritiqsN	(hg/L)	30		<2.0	NS	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
	səuəlyX	(hg/L)	620		1.7	NS	<1.5	<1.5	<1.5	<1.5	<1.5	<1.5
	eneznedi∖rt∃	(hg/L)	200		18	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	eneuloT	(hg/L)	1,000		<1.0	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	əuəzuəg	(µg/L)	5		11	NS	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
	Sample Date		Vater Quality nmmission h Standards		9.12.22	2.7.23 ^A	9.12.22	2.7.23	9.12.22	2.7.23	9.12.22	2.7.23
	Sample I.D.		New Mexico Water Quality Control Commmission Human Health Standards		E-101-4	L VV - I	C-M-3	L * * - 2	E /// 3		EW/-A	

Notes:

Concentrations in bold and yellow exceed the applicable WQCC HHS

¹ = Constituent is not identified as "toxic pollutant" under 20.62 New Mexico Administrative Code (NMAC).

 2 = Constituent is not identified as a priority pollutant under the Federal Clean Water Act (CWA).

 $^{\rm A}$ - Monitoring well EW-1 was not sampled due to ice covering the well head.

ug/L = microgram per liter

NE = Not Established

NS = Not Sampled

<1.0 = The numeral (in this case "1.0") identifies the laboratory reporting limit (RL) or practical quantitation limit (PQL).</p>



September 19, 2022

Kyle Summers ENSOLUM 606 S. Rio Grande Suite A Aztec, NM 87410 TEL: (903) 821-5603 FAX: Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

RE: Chaco Plant 3 Phase Separator

OrderNo.: 2209559

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 4 sample(s) on 9/13/2022 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Date Reported:	9/19/2022

Hall Env	ironmental Analysis	Laboratory, Inc	•			Lab Order 2209559 Date Reported: 9/19/20	22
	NSOLUM haco Plant 3 Phase Separator 209559-001	Matrix: AQUEOUS			e: 9/1	N-4 12/2022 1:00:00 PM 13/2022 7:50:00 AM	
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA METHO	DD 8260B: VOLATILES					Analyst	CCM
Benzene		ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Toluene		ND	1.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
Ethylbenzen	ne	ND	1.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
	outyl ether (MTBE)	ND	1.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
1,2,4-Trimet	• • •	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,3,5-Trimet	•	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
	pethane (EDC)	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
	pethane (EDB)	ND	1.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
Naphthalene		ND	2.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
1-Methylnap		ND	4.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
2-Methylnap		ND	4.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
Acetone	Jimaene	ND	4.0 10	μg/L	1	9/14/2022 6:01:00 PM	R91021
Bromobenze	222	ND	1.0		1	9/14/2022 6:01:00 PM	R91021
Bromodichlo		ND	1.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
Bromoform	Jonethalle	ND	1.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
Bromometha	222	ND	3.0	μg/L	1	9/14/2022 6:01:00 PM	R91021
2-Butanone		ND	3.0 10	μg/L		9/14/2022 6:01:00 PM	R91021
				μg/L	1		
Carbon disu		ND	10	μg/L	1	9/14/2022 6:01:00 PM	R91021
Carbon Tetr		ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Chlorobenze		ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Chloroethan	1e	ND	2.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Chloroform		18	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Chlorometha		ND	3.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
2-Chlorotolu		ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
4-Chlorotolu		ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
cis-1,2-DCE		ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
-	loropropene	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
	o-3-chloropropane	ND	2.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Dibromochlo	oromethane	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Dibromomet	thane	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,2-Dichloro	benzene	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,3-Dichloro	benzene	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,4-Dichloro	benzene	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
Dichlorodiflu	uoromethane	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,1-Dichloro	pethane	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,1-Dichloro	pethene	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,2-Dichloro	propane	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
1,3-Dichloro	propane	ND	1.0	µg/L	1	9/14/2022 6:01:00 PM	R91021
2,2-Dichloro	propane	ND	2.0	µg/L	1	9/14/2022 6:01:00 PM	R91021

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

Qualifiers:

* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of range due to dilution or matrix interference S

В Analyte detected in the associated Method Blank

Е Estimated value

J Analyte detected below quantitation limits Р

Sample pH Not In Range RL Reporting Limit

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Released to Imaging: 7/18/2023 8:48:20 AM

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order 2209559

Date Reported:	9/19/2022

CLIENT:	ENSOLUM		Cl	lient Sa	ample II	D:EV	V-4			
Project:	Chaco Plant 3 Phase Separator	Collection Date: 9/12/2022 1:00:00 PM								
Lab ID:	2209559-001	Matrix: AQUEOUS	5	Recei	ved Dat	e: 9/1	3/2022 7:50:00 AM			
Analyses	3	Result	RL	Qual	Units	DF	Date Analyzed	Batch		
EPA ME	THOD 8260B: VOLATILES						Analyst	CCM		
1,1-Dich	loropropene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
Hexachl	orobutadiene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
2-Hexan	ione	ND	10		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
Isopropy	lbenzene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
4-Isopro	pyltoluene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
4-Methy	I-2-pentanone	ND	10		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
Methyle	ne Chloride	ND	3.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
n-Butylb	enzene	ND	3.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
n-Propyl	benzene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
sec-Buty	lbenzene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
Styrene		ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
tert-Buty	lbenzene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
1,1,1,2-	Tetrachloroethane	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
1,1,2,2-	Tetrachloroethane	ND	2.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
Tetrachl	oroethene (PCE)	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
trans-1,2	2-DCE	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
trans-1,3	3-Dichloropropene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
1,2,3-Tri	chlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
1,2,4-Tri	chlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
1,1,1-Tri	chloroethane	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
1,1,2-Tri	chloroethane	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
Trichloro	pethene (TCE)	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
Trichloro	ofluoromethane	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ²		
1,2,3-Tri	chloropropane	ND	2.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
Vinyl ch	loride	ND	1.0		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
Xylenes	, Total	ND	1.5		µg/L	1	9/14/2022 6:01:00 PM	R9102 ⁻		
Surr:	1,2-Dichloroethane-d4	106	70-130		%Rec	1	9/14/2022 6:01:00 PM	R9102 ⁻		
Surr:	4-Bromofluorobenzene	88.6	70-130		%Rec	1	9/14/2022 6:01:00 PM	R9102		
Surr:	Dibromofluoromethane	101	70-130		%Rec	1	9/14/2022 6:01:00 PM	R9102		
Surr:	Toluene-d8	89.1	70-130		%Rec	1	9/14/2022 6:01:00 PM	R9102 ²		

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

* Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 2 of 11

Qualifiers:

. . .

-•

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Analytical Report Lab Order 2209559

Data Damantada	0/10/2022

CLIENT	: ENSOLUM		С	ient Sø	mple I	D: EV	N-2	
Project:	Chaco Plant 3 Phase Separator				-		2/2022 1:40:00 PM	
	-							
Lab ID:	2209559-002	Matrix: AQUEOUS		Kecer	ved Dat	:e: 9/1	13/2022 7:50:00 AM	
Analyse	S	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA ME	THOD 8260B: VOLATILES						Analyst	: ССМ
Benzen	e	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Toluene	9	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Ethylbe	nzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Methyl t	tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,2,4-Tr	rimethylbenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,3,5-Tr	rimethylbenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,2-Dich	nloroethane (EDC)	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,2-Dibr	romoethane (EDB)	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Naphtha	alene	ND	2.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1-Methy	/Inaphthalene	ND	4.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
2-Methy	/Inaphthalene	ND	4.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Acetone	e	ND	10		µg/L	1	9/14/2022 6:24:00 PM	R9102
Bromob	penzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Bromod	lichloromethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Bromofe	orm	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Bromon	nethane	ND	3.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
2-Butan	ione	ND	10		µg/L	1	9/14/2022 6:24:00 PM	R9102
Carbon	disulfide	ND	10		µg/L	1	9/14/2022 6:24:00 PM	R9102
Carbon	Tetrachloride	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Chlorob	enzene	5.0	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Chloroe	thane	ND	2.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Chlorofo	orm	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Chloron	nethane	ND	3.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
2-Chlore	otoluene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
4-Chlore	otoluene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
cis-1,2-l	DCE	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
cis-1,3-l	Dichloropropene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,2-Dibr	romo-3-chloropropane	ND	2.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Dibromo	ochloromethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Dibromo	omethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,2-Dicł	nlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,3-Dich	nlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,4-Dich	nlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
Dichloro	odifluoromethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,1-Dich	nloroethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,1-Dicł	nloroethene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,2-Dich	nloropropane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
1,3-Dicł	nloropropane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102
2,2-Dicł	hloropropane	ND	2.0		µg/L	1	9/14/2022 6:24:00 PM	R9102

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

Qualifiers:

* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference В Analyte detected in the associated Method Blank

Е Estimated value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 3 of 11

Analytical Report Lab Order 2209559

Date Reported: 9/19/2022

		~•				Date Reported: 9/19/202	22
CLIENT:ENSOLUMProject:Chaco Plant 3 Phase SeparatorLab ID:2209559-002	Matrix: AQUEOUS	V-2 2/2022 1:40:00 PM 3/2022 7:50:00 AM					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analyst	: ССМ
1,1-Dichloropropene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
Hexachlorobutadiene	ND	1.0		μg/L	1	9/14/2022 6:24:00 PM	R91021
2-Hexanone	ND	10		µg/L	1	9/14/2022 6:24:00 PM	R91021
Isopropylbenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
4-Isopropyltoluene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
4-Methyl-2-pentanone	ND	10		µg/L	1	9/14/2022 6:24:00 PM	R91021
Methylene Chloride	ND	3.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
n-Butylbenzene	ND	3.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
n-Propylbenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
sec-Butylbenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
Styrene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
tert-Butylbenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102 ²
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102 ²
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/14/2022 6:24:00 PM	R9102 ²
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102 ²
trans-1,2-DCE	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R9102 ²
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
1,1,1-Trichloroethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
1,1,2-Trichloroethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
Trichlorofluoromethane	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
Vinyl chloride	ND	1.0		µg/L	1	9/14/2022 6:24:00 PM	R91021
Xylenes, Total	ND	1.5		µg/L	1	9/14/2022 6:24:00 PM	R91021
Surr: 1,2-Dichloroethane-d4	107 7	0-130		%Rec	1	9/14/2022 6:24:00 PM	R91021
Surr: 4-Bromofluorobenzene	89.5 7	0-130		%Rec	1	9/14/2022 6:24:00 PM	R91021
Surr: Dibromofluoromethane	105 7	0-130		%Rec	1	9/14/2022 6:24:00 PM	R91021

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

89.2

70-130

* Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits

%Rec

1

9/14/2022 6:24:00 PM

- Р Sample pH Not In Range Reporting Limit
- RL

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R91021

Qualifiers:

Surr: Toluene-d8

Date Reported	9/19/2022

CI IENT	: ENSOLUM		CI	iont Sa	mnla T	D • EV	V 3		
Project:	Chaco Plant 3 Phase Separator	Client Sample ID: EW-3 Collection Date: 9/12/2022 2:20:00 PM							
•	-		•						
Lab ID:	2209559-003	Matrix: AQUEOUS		Receiv	ed Dat	e: 9/1	.3/2022 7:50:00 AM		
Analyses	8	Result	RL	Qual	Units	DF	Date Analyzed	Batch	
EPA ME	THOD 8260B: VOLATILES						Analyst	ССМ	
Benzen	e	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102 ⁻	
Toluene		ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Ethylber	nzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Methyl t	ert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
1,2,4-Tr	imethylbenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
1,3,5-Tr	imethylbenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
1,2-Dich	loroethane (EDC)	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
1,2-Dibr	omoethane (EDB)	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Naphtha	alene	ND	2.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
1-Methy	Inaphthalene	ND	4.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
2-Methy	Inaphthalene	ND	4.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Acetone	•	ND	10		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Bromob	enzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Bromod	ichloromethane	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Bromofo	orm	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Bromor	nethane	ND	3.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
2-Butan	one	ND	10		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Carbon	disulfide	ND	10		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Carbon	Tetrachloride	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
Chlorob	enzene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
Chloroe	thane	ND	2.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
Chlorofo	orm	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
Chlorom	nethane	ND	3.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
2-Chloro	otoluene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
4-Chloro	otoluene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
cis-1,2-I	DCE	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
cis-1,3-I	Dichloropropene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
	omo-3-chloropropane	ND	2.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
	ochloromethane	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
	omethane	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
1,2-Dich	llorobenzene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
,	llorobenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
-	llorobenzene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
-	odifluoromethane	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
	loroethane	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
,	loroethene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
	lloropropane	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102	
	lloropropane	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	
	lloropropane	ND	2.0		μg/L	1	9/14/2022 6:47:00 PM	R9102	

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

Qualifiers:

- * Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference В Analyte detected in the associated Method Blank

Е Estimated value

J Analyte detected below quantitation limits Р Sample pH Not In Range

RL Reporting Limit

Page 5 of 11

Date Reported:	9/19/2022
Date Reported.	JI1JI4044

Hall Environmental Analysis Laboratory, Inc.						Date Reported: 9/19/2022			
CLIENT: ENSOLUM		Cl	ient Sa	ample I	D: EV	V-3			
Project: Chaco Plant 3 Phase Separator	Collection Date: 9/12/2022 2:20:00 PM								
Lab ID: 2209559-003	Matrix: AQUEOUS					3/2022 7:50:00 AM			
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch		
EPA METHOD 8260B: VOLATILES						Analyst	ссм		
1,1-Dichloropropene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
Hexachlorobutadiene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
2-Hexanone	ND	10		µg/L	1	9/14/2022 6:47:00 PM	R9102		
Isopropylbenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
4-Isopropyltoluene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
4-Methyl-2-pentanone	ND	10		µg/L	1	9/14/2022 6:47:00 PM	R9102		
Methylene Chloride	ND	3.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
n-Butylbenzene	ND	3.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
n-Propylbenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
sec-Butylbenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
Styrene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102		
tert-Butylbenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
trans-1,2-DCE	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102		
1,1,1-Trichloroethane	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102		
1,1,2-Trichloroethane	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102		
Trichloroethene (TCE)	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
Trichlorofluoromethane	ND	1.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
1,2,3-Trichloropropane	ND	2.0		µg/L	1	9/14/2022 6:47:00 PM	R9102		
Vinyl chloride	ND	1.0		μg/L	1	9/14/2022 6:47:00 PM	R9102		
Xylenes, Total	ND	1.5		μg/L	1	9/14/2022 6:47:00 PM	R9102		
Surr: 1,2-Dichloroethane-d4	106 7	0-130		%Rec	1	9/14/2022 6:47:00 PM	R9102		
Surr: 4-Bromofluorobenzene	90.5 7	0-130		%Rec	1	9/14/2022 6:47:00 PM	R9102		
Surr: Dibromofluoromethane	103 7	0-130		%Rec	1	9/14/2022 6:47:00 PM	R9102		
Surr: Toluene-d8	89.3 7	0-130		%Rec	1	9/14/2022 6:47:00 PM	R9102		

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

* Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- В Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 6 of 11

Qualifiers:

Analytical Report Lab Order 2209559

Data Dana stad.	0/10/2022

Hall Environmental Analysis Laboratory, Inc.						Lab Order 2209559 Date Reported: 9/19/2022			
CLIENT: ENSOLUMProject:Chaco Plant 3 Phase SeparatorLab ID:2209559-004	Client Sample ID: EW-1 Collection Date: 9/12/2022 3:00:00 PM Matrix: AQUEOUS Received Date: 9/13/2022 7:50:00 AM								
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch		
EPA METHOD 8260B: VOLATILES						Analyst	CCM		
Benzene	11	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Toluene	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Ethylbenzene	18	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
1,2,4-Trimethylbenzene	5.9	1.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
1,3,5-Trimethylbenzene	ND	1.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
1,2-Dichloroethane (EDC)	ND	1.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
1,2-Dibromoethane (EDB)	ND	1.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
Naphthalene	ND	2.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
1-Methylnaphthalene	ND	4.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
2-Methylnaphthalene	ND	4.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
Acetone	ND	10		μg/L	1	9/14/2022 7:10:00 PM	R91021		
Bromobenzene	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Bromodichloromethane	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Bromoform	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Bromomethane	ND	3.0		μg/L	1	9/14/2022 7:10:00 PM	R91021		
2-Butanone	ND	10		μg/L	1	9/14/2022 7:10:00 PM	R91021		
Carbon disulfide	ND	10		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Carbon Tetrachloride	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Chlorobenzene	4.6	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Chloroethane	ND	2.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Chloroform	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Chloromethane	ND	3.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
2-Chlorotoluene	4.4	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
4-Chlorotoluene	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
cis-1,2-DCE	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Dibromochloromethane	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
Dibromomethane	ND	1.0		µg/∟ µg/L	1	9/14/2022 7:10:00 PM	R91021		
1,2-Dichlorobenzene	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
1,3-Dichlorobenzene	ND	1.0				9/14/2022 7:10:00 PM	R91021		
1,4-Dichlorobenzene	ND	1.0		μg/L μg/L	1 1	9/14/2022 7:10:00 PM	R91021		
Dichlorodifluoromethane	ND	1.0		µg/∟ µg/L	1	9/14/2022 7:10:00 PM	R91021		
1.1-Dichloroethane	ND	1.0		µg/∟ µg/L	1	9/14/2022 7:10:00 PM	R91021		
1,1-Dichloroethene	ND	1.0			1	9/14/2022 7:10:00 PM	R91021		
1,2-Dichloropropane	ND	1.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		
1,2-Dichloropropane	ND	1.0		µg/L		9/14/2022 7:10:00 PM 9/14/2022 7:10:00 PM	R91021 R91021		
				µg/L	1				
2,2-Dichloropropane	ND	2.0		µg/L	1	9/14/2022 7:10:00 PM	R91021		

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

Qualifiers:

* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of range due to dilution or matrix interference В Analyte detected in the associated Method Blank

Е Estimated value

J Analyte detected below quantitation limits

Р Sample pH Not In Range RL

Reporting Limit

Page 7 of 11

Analytical Report

Lab Order 2209559

Date Reported: 9/19/2022

CLIENT	ENSOLUM		С	ient Samnle T	D: FV	W-1						
Project:	Chaco Plant 3 Phase Separator	Client Sample ID: EW-1 Collection Date: 9/12/2022 3:00:00 PM										
•	-											
Lab ID:	2209559-004	Matrix: AQUEOUS		Received Dat	t e: 9/1	13/2022 7:50:00 AM						
Analyses		Result	RL	Qual Units	DF	Date Analyzed	Batch					
EPA ME	THOD 8260B: VOLATILES					Analyst	CCM					
1,1-Dich	loropropene	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Hexachl	orobutadiene	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
2-Hexan	one	ND	10	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Isopropy	lbenzene	5.9	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
4-Isopro	pyltoluene	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
4-Methy	I-2-pentanone	ND	10	μg/L	1	9/14/2022 7:10:00 PM	R9102					
Methyle	ne Chloride	ND	3.0	μg/L	1	9/14/2022 7:10:00 PM	R9102					
n-Butylb	enzene	ND	3.0	μg/L	1	9/14/2022 7:10:00 PM	R9102					
n-Propyl	benzene	2.2	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
sec-Buty	lbenzene	2.4	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Styrene		ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
tert-Buty	lbenzene	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
1,1,1,2-1	Fetrachloroethane	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
1,1,2,2-	Fetrachloroethane	ND	2.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Tetrachl	oroethene (PCE)	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
trans-1,2	2-DCE	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
trans-1,3	3-Dichloropropene	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
1,2,3-Tri	chlorobenzene	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
1,2,4-Tri	chlorobenzene	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
1,1,1-Tri	chloroethane	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
1,1,2-Tri	chloroethane	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Trichloro	pethene (TCE)	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Trichloro	ofluoromethane	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
1,2,3-Tri	chloropropane	ND	2.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Vinyl chl	oride	ND	1.0	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Xylenes,	Total	1.7	1.5	µg/L	1	9/14/2022 7:10:00 PM	R9102					
Surr:	1,2-Dichloroethane-d4	101 7	70-130	%Rec	1	9/14/2022 7:10:00 PM	R9102					
Surr:	4-Bromofluorobenzene	92.4 7	70-130	%Rec	1	9/14/2022 7:10:00 PM	R9102					
Surr:	Dibromofluoromethane	98.0 7	70-130	%Rec	1	9/14/2022 7:10:00 PM	R9102					

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

91.9

70-130

* Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- В Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits

%Rec

1

- Р Sample pH Not In Range
- RL Reporting Limit

Page 8 of 11

R91021

9/14/2022 7:10:00 PM

Qualifiers:

Surr: Toluene-d8

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	2209559

19-Sep-22

Client:	ENSOLUM	
D • •		a

Project:	Chaco	Plant 3	Phase	Separator

Sample ID: 100ng Ics	SampType: LCS TestCode: EPA Method 8260B: VOLATILES									
Client ID: LCSW	Batch	n ID: R9	1021	RunNo: 91021						
Prep Date: Analysis Date: 9/14/2022			14/2022	S	SeqNo: 3	255741	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.8	70	130			
Toluene	19	1.0	20.00	0	95.4	70	130			
Chlorobenzene	19	1.0	20.00	0	97.0	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	92.6	70	130			
Trichloroethene (TCE)	19	1.0	20.00	0	93.3	70	130			
Surr: 1,2-Dichloroethane-d4	10		10.00		103	70	130			
Surr: 4-Bromofluorobenzene	9.1		10.00		90.9	70	130			
Surr: Dibromofluoromethane	9.9		10.00		99.4	70	130			
Surr: Toluene-d8	9.0		10.00		90.1	70	130			
Sample ID: mb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batch	n ID: R9	1021	F	RunNo: 9	1021				
Prep Date:	Analysis D	0ate: 9/	14/2022	5	SeqNo: 3	255742	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloroform Chloromethane	ND ND	1.0 3.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank

E Estimated value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 9 of 11

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc

UNI	WO#:	2209559
lysis Laboratory, Inc.		19-Sep-22

Client:ENSOProject:Chaco	LUM Plant 3 Phas	e Separa	ator							
Sample ID: mb	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Batcl	h ID: R9	1021	I	RunNo: 9	1021				
Prep Date:	Analysis D	Date: 9/	14/2022		SeqNo: 3		Units: µg/L			
								0/ 000		Qual
Analyte 4-Chlorotoluene	Result ND	PQL 1.0	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloropropane	ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene Hexachlorobutadiene	ND ND	1.0 1.0								
2-Hexanone	ND	1.0								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND	1.0								
Styrene	ND	1.0								
tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethane	ND	1.0								
1,1,2,2-Tetrachloroethane	ND	2.0								
Tetrachloroethene (PCE)	ND	1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropene	ND	1.0								
1,2,3-Trichlorobenzene	ND	1.0								
1,2,4-Trichlorobenzene 1,1,1-Trichloroethane	ND ND	1.0 1.0								
1,1,2-Trichloroethane	ND	1.0 1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								
.,_,,		2.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix interference
- B Analyte detected in the associated Method Blank
- E Estimated value
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Limit

Page 10 of 11

ENSOLUM

Client:

	WO#:	2209559
Hall Environmental Analysis Laboratory, Inc.		19-Sep-22

Project: Cl	haco Plant 3 Phase	e Separ	ator									
Sample ID: mb	SampT	SampType: MBLK			TestCode: EPA Method 8260B: VOLATILES							
Client ID: PBW	PBW Batch ID: R91021			RunNo: 91021								
Prep Date: Analysis Date: 9/14/2			14/2022	S	255742	Units: µg/L						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual		
Vinyl chloride	ND	1.0										
Xylenes, Total	ND	1.5										
Surr: 1,2-Dichloroethane-c	14 10		10.00		104	70	130					
Surr: 4-Bromofluorobenze	ne 9.1		10.00		91.2	70	130					
Surr: Dibromofluorometha	ne 10		10.00		102	70	130					
Surr: Toluene-d8	8.8		10.00		88.2	70	130					

Qualifiers:

- Value exceeds Maximum Contaminant Level. *
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- % Recovery outside of range due to dilution or matrix interference S
- в Analyte detected in the associated Method Blank
- Е Estimated value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

Page 11 of 11

ANALYSIS LABORATORY	Hall Environmenta Al. TEL: 505-345-397 Website: www.k	490 buquero 5 FAX:	01 Hawkins que, NM 871 505-345-41	NE 109 107	Sample Log-In Check List			
Client Name: ENSOLUM	Work Order Numbe	r: 220	9559			RcptNo: 1		
Received By: Juan Rojas	9/13/2022 7:50:00 AM	Λ		Hear	ag g			
Completed By: Sean Livingston	9/13/2022 9:02:51 AM			<	/	in the		
	13.22)r	-L.	not		
Chain of Custody								
1. Is Chain of Custody complete?		Yes	\checkmark	No		Not Present		
2. How was the sample delivered?		Cou	rier					
Log In 3. Was an attempt made to cool the s	amples?	Ves		No				
		105						
4. Were all samples received at a tem	perature of >0° C to 6.0°C	Yes		No				
5. Sample(s) in proper container(s)?		Yes		No				
6. Sufficient sample volume for indical	ed test(s)?	Yes		No				
7. Are samples (except VOA and ONG	b) properly preserved?	Yes	\checkmark	No				
8. Was preservative added to bottles?		Yes		No	✓	NA 🗌		
9. Received at least 1 vial with headsp	ace <1/4" for AQ VOA?	Yes	~	No				
10. Were any sample containers receiv	ed broken?	Yes		No	~	# of preserved bottles checked		
11. Does paperwork match bottle labels (Note discrepancies on chain of cus		Yes		No		for pH: (<2 or >12 unless noted)		
2. Are matrices correctly identified on		Yes		No		Adjusted?		
3. Is it clear what analyses were reque	sted?	Yes		No				
4. Were all holding times able to be m (If no, notify customer for authorizat		Yes		No		Cheeked by: Jn 9/13/2		
Special Handling (if applicable	<u>)</u>							
15. Was client notified of all discrepand	eies with this order?	Yes		No		NA 🗹		
Person Notified: By Whom: Regarding: Client Instructions:	Date: Date: Via:	_] eM	ail 🗌 Ph	one 🗌] Fax	In Person		
16. Additional remarks:								
17. <u>Cooler Information</u> Cooler No Temp ^o C Condi 1 0.2 Good	tion Seal Intact Seal No	Seal D	ate S	Signed	Ву			

Page 1 of 1

Received by OCD: 5/25/2023 9:	05:40 AM			Page 130 of 29
HALL ENVIR ANALYSIS L/ www.hallenvironmenta www.hallenvironmenta 01 Hawkins NE - Albuquerque el. 505-345-3975 Fax 505-3 Analysis Requ	TPH:8015D(GRO / DRO / MRO) 8081 Pesticides/8082 PCB's EDB (Method 504.1) PPHs by 8310 or 8270SIMS CI, F, Br, NO ₃ , NO ₂ , PO ₄ , SO ₄ 8260 (VOA) آکرہ[/ 8270 (Semi-VOA) 8270 (Semi-VOA) 70tal Coliform (Present/Absent)	× ×		Time: Relinquished by: Received by: Via; Date Time Remarks: PM - Tum Long CEP20 113 Model M
Separator	2209 559 BTEX/ MTBE/ TMB's (8021)	100	500 FUC	Date Time Rel (1/121 + 1/12) Date Time (-2/22 + 1/52) his serves as notice of this poss
Turn-Around Time: Standard <u>Rush</u> Project Name: Challo Plant 3 Phase Separator Project #: See rutes	er: KSUN 2 Yes 1 Yes 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Hyclz Hyclz	Hqc15 1Fbgc12	Via: A M
	Project Manag Sampler: 121 On Ice: 121 Market Coolers: Cooler Templin Container	(3) YUMLVUA	(3) YOMLVUA	Received by: Received by:
De la la	Tevel 4 (Full Validation)	EW-4 EW-3	Ew-1 Ew-1	d by: d by: f JOUL
Chain-of-Custo Ensolum, Llu Address: 60005. Eio 2 dec, NIM 2744	Az Con	33		Relinquished by Relinquished by
Client: Chain Client: Ens Mailing Addres	email or Fax#: YSUUMMAS QA/QC Package: Standard Lte Accreditation: DAz Complia Accreditation: DAz Complia Date DI (Type) Date Time Matrix Sarr	1/12/22 1300 9/12/22 1340	7/12/22 1 420	Date: Time: 9/10/20 1737 Date: Time: 1/12/22 1833

Released to Imaging: 7/18/2023 8:48:20 AM



February 13, 2023

Kyle Summers ENSOLUM 606 S. Rio Grande Suite A Aztec, NM 87410 TEL: (903) 821-5603 FAX Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

OrderNo.: 2302356

RE: Chaco Plant 3 Phase Separator

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 3 sample(s) on 2/8/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Date Reported:	2/13/2023

Hall Er	vironmental Analysis	Lab Order 2302356 Date Reported: 2/13/2023								
CLIENT: Project: Lab ID:	ENSOLUM Chaco Plant 3 Phase Separator 2302356-001	Client Sample ID: EW-4Collection Date: 2/7/2023 11:05:00 AMMatrix: AQUEOUSReceived Date: 2/8/2023 7:50:00 AM								
Analyses		Result	RL	Qual	Units	DF	Date Analyzed	Batch		
EPA MET	HOD 8260B: VOLATILES						Analyst:	JR		
Benzene		ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R94517		
Toluene		ND	1.0		μg/L	1	2/9/2023 11:51:11 AM	R94517		
Ethylben	zene	ND	1.0		μg/L	1	2/9/2023 11:51:11 AM	R94517		
-	ert-butyl ether (MTBE)	ND	1.0		μg/L	1	2/9/2023 11:51:11 AM	R94517		
-	methylbenzene	ND	1.0		μg/L	1	2/9/2023 11:51:11 AM	R94517		
	nethylbenzene	ND	1.0		μg/L	1	2/9/2023 11:51:11 AM	R94517		
	oroethane (EDC)	ND	1.0		μg/L	1	2/9/2023 11:51:11 AM	R94517		
	omoethane (EDB)	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Naphthal	. ,	ND	2.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
	naphthalene	ND	4.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
•	naphthalene	ND	4.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Acetone		ND	10		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Bromobe	enzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
	chloromethane	5.7	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Bromofor		2.0	1.0		μg/L	1	2/9/2023 11:51:11 AM	R9451		
Bromom		ND	3.0		μg/L	1	2/9/2023 11:51:11 AM	R9451		
2-Butano		ND	10		μg/L	1	2/9/2023 11:51:11 AM	R9451		
Carbon c		ND	10		µg/L	1	2/9/2023 11:51:11 AM	R9451		
	Tetrachloride	2.4	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Chlorobe		ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Chloroet		ND	2.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Chlorofo		120	10		µg/L	10	2/10/2023 11:36:08 AM	R94558		
Chlorome		ND	3.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
2-Chlorot		ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
4-Chlorot		ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
cis-1,2-D		ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
	vichloropropene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
,	omo-3-chloropropane	ND	2.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
	chloromethane	2.4	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
Dibromo		ND	1.0		µg/∟ µg/L	1	2/9/2023 11:51:11 AM	R9451		
	orobenzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451		
-	orobenzene	ND	1.0		µg/∟ µg/L	1	2/9/2023 11:51:11 AM	R9451		
	orobenzene	ND	1.0		µg/∟ µg/L	1	2/9/2023 11:51:11 AM	R9451		
,	difluoromethane	ND	1.0		μg/L μg/L	1	2/9/2023 11:51:11 AM	R9451		
	oroethane	ND	1.0		μg/L μg/L	1	2/9/2023 11:51:11 AM	R9451		
-	oroethene	ND	1.0		µg/∟ µg/L	1	2/9/2023 11:51:11 AM	R9451		
-	oropropane	ND	1.0		µg/∟ µg/L	1	2/9/2023 11:51:11 AM	R9451		
		ND					2/9/2023 11:51:11 AM			
1,3-DICIII	oropropane oropropane	ND	1.0 2.0		µg/L	1	2/9/2023 11:51:11 AM	R94517 R94517		

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

Qualifiers:

* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated. S

Analyte detected in the associated Method Blank В

Е Above Quantitation Range/Estimated Value J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit

Page 1 of 10

Date Reported:	2/13/2023

Hall Environmental Analysis		Lab Order 2302356 Date Reported: 2/13/202	23							
CLIENT: ENSOLUM Project: Chaco Plant 3 Phase Separator	Client Sample ID: EW-4 Collection Date: 2/7/2023 11:05:00 AM									
Lab ID: 2302356-001	Matrix: AQUEOUS		Received Date: 2/8/2023 7:50:00 AM							
Analyses	Result	RL	RL Qual U		DF	Date Analyzed	Batch			
EPA METHOD 8260B: VOLATILES						Analyst	: JR			
1,1-Dichloropropene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Hexachlorobutadiene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
2-Hexanone	ND	10		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Isopropylbenzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
4-Isopropyltoluene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
4-Methyl-2-pentanone	ND	10		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Methylene Chloride	ND	3.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
n-Butylbenzene	ND	3.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
n-Propylbenzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
sec-Butylbenzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Styrene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
tert-Butylbenzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Tetrachloroethene (PCE)	2.6	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
trans-1,2-DCE	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Trichloroethene (TCE)	1.2	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Trichlorofluoromethane	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Vinyl chloride	ND	1.0		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Xylenes, Total	ND	1.5		µg/L	1	2/9/2023 11:51:11 AM	R9451			
Surr: 1,2-Dichloroethane-d4	105 7	70-130		%Rec	1	2/9/2023 11:51:11 AM	R9451			
Surr: 4-Bromofluorobenzene	103 7	70-130		%Rec	1	2/9/2023 11:51:11 AM	R9451			
Surr: Dibromofluoromethane	107 7	70-130		%Rec	1	2/9/2023 11:51:11 AM	R9451			
Surr: Toluene-d8	97.2 7	70-130		%Rec	1	2/9/2023 11:51:11 AM	R9451			

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

* Value exceeds Maximum Contaminant Level.

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated. S

- В Analyte detected in the associated Method Blank
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits Р Sample pH Not In Range

RL Reporting Limit

Page 2 of 10

Qualifiers:

D Sample Diluted Due to Matrix

Hall Environmental Analysis	Lab Order 2302356 Date Reported: 2/13/2023						
CLIENT:ENSOLUMProject:Chaco Plant 3 Phase SeparatorLab ID:2302356-002	Matrix: AQUEOUS	N-2 7/2023 11:50:00 AM 8/2023 7:50:00 AM					
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES						Analys	t: JR
Benzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Toluene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Ethylbenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Methyl tert-butyl ether (MTBE)	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,2,4-Trimethylbenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,3,5-Trimethylbenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,2-Dichloroethane (EDC)	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,2-Dibromoethane (EDB)	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Naphthalene	ND	2.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1-Methylnaphthalene	ND	4.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
2-Methylnaphthalene	ND	4.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Acetone	ND	10		µg/L	1	2/9/2023 1:12:28 PM	R94517
Bromobenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Bromodichloromethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Bromoform	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Bromomethane	ND	3.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
2-Butanone	ND	10		µg/L	1	2/9/2023 1:12:28 PM	R94517
Carbon disulfide	ND	10		µg/L	1	2/9/2023 1:12:28 PM	R94517
Carbon Tetrachloride	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Chlorobenzene	2.6	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Chloroethane	ND	2.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Chloroform	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Chloromethane	ND	3.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
2-Chlorotoluene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
4-Chlorotoluene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
cis-1,2-DCE	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
cis-1,3-Dichloropropene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,2-Dibromo-3-chloropropane	ND	2.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Dibromochloromethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Dibromomethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,2-Dichlorobenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,3-Dichlorobenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,4-Dichlorobenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
Dichlorodifluoromethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,1-Dichloroethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,1-Dichloroethene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,2-Dichloropropane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
1,3-Dichloropropane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517
2,2-Dichloropropane	ND	2.0		µg/L	1	2/9/2023 1:12:28 PM	R94517

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

Qualifiers:

* Value exceeds Maximum Contaminant Level.D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated ValueJ Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

Page 3 of 10

Date Reported:	2/13/2023

Hall Environmental Analysi			Lab Order 2302356 Date Reported: 2/13/20	023						
CLIENT: ENSOLUM Project: Chaco Plant 3 Phase Separator Lab ID: 2302356-002	Client Sample ID: EW-2 Collection Date: 2/7/2023 11:50:00 AM Matrix: AQUEOUS Received Date: 2/8/2023 7:50:00 AM									
Analyses	Result	RL	RL Qual Units			DF Date Analyzed				
EPA METHOD 8260B: VOLATILES						Analys	t: JR			
1,1-Dichloropropene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Hexachlorobutadiene	ND	1.0		μg/L	1	2/9/2023 1:12:28 PM	R94517			
2-Hexanone	ND	10		μg/L	1	2/9/2023 1:12:28 PM	R94517			
Isopropylbenzene	ND	1.0		μg/L	1	2/9/2023 1:12:28 PM	R94517			
4-Isopropyltoluene	ND	1.0		μg/L	1	2/9/2023 1:12:28 PM	R94517			
4-Methyl-2-pentanone	ND	10		μg/L	1	2/9/2023 1:12:28 PM	R94517			
Methylene Chloride	ND	3.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
n-Butylbenzene	ND	3.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
n-Propylbenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
sec-Butylbenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Styrene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
tert-Butylbenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
1,1,1,2-Tetrachloroethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
1,1,2,2-Tetrachloroethane	ND	2.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Tetrachloroethene (PCE)	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
trans-1,2-DCE	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
trans-1,3-Dichloropropene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
1,2,4-Trichlorobenzene	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
1,1,1-Trichloroethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
1,1,2-Trichloroethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Trichloroethene (TCE)	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Trichlorofluoromethane	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
1,2,3-Trichloropropane	ND	2.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Vinyl chloride	ND	1.0		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Xylenes, Total	ND	1.5		µg/L	1	2/9/2023 1:12:28 PM	R94517			
Surr: 1,2-Dichloroethane-d4	103 7	0-130		%Rec	1	2/9/2023 1:12:28 PM	R94517			
Surr: 4-Bromofluorobenzene	101 7	0-130		%Rec	1	2/9/2023 1:12:28 PM	R94517			
Surr: Dibromofluoromethane	107 7	0-130		%Rec	1	2/9/2023 1:12:28 PM	R94517			
Surr: Toluene-d8	93.4 7	0-130		%Rec	1	2/9/2023 1:12:28 PM	R94517			

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

* Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded Not Detected at the Reporting Limit
- ND PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

- Analyte detected in the associated Method Blank в
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits Sample pH Not In Range
- Р RL Reporting Limit

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Qualifiers:

Date Reported:	2/13/2023

Hall E	nvironmental Analysis		Lab Order 2302356 Date Reported: 2/13/2023				
CLIENT: Project: Lab ID:	ENSOLUM Chaco Plant 3 Phase Separator 2302356-003	Matrix: AQUEOUS	W-3 7/2023 12:30:00 PM 8/2023 7:50:00 AM				
Analyses	5	Result	RL	Qual Units	DF	Date Analyzed	Batch
EPA ME	THOD 8260B: VOLATILES					Analys	t: JR
Benzene	e	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Toluene		ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Ethylber	nzene	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
	ert-butyl ether (MTBE)	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
1,2,4-Tri	imethylbenzene	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
1,3,5-Tri	imethylbenzene	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
1,2-Dich	loroethane (EDC)	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
1,2-Dibr	omoethane (EDB)	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Naphtha	alene	ND	2.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
1-Methy	Inaphthalene	ND	4.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
2-Methy	Inaphthalene	ND	4.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Acetone		ND	10	µg/L	1	2/9/2023 1:39:36 PM	R94517
Bromob	enzene	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Bromod	ichloromethane	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Bromofo	orm	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Bromom	nethane	ND	3.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
2-Butan	one	ND	10	µg/L	1	2/9/2023 1:39:36 PM	R94517
Carbon	disulfide	ND	10	µg/L	1	2/9/2023 1:39:36 PM	R94517
Carbon	Tetrachloride	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Chlorob	enzene	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
Chloroet	thane	ND	2.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
Chlorofo	orm	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
Chlorom	nethane	ND	3.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
2-Chloro	otoluene	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
4-Chloro	otoluene	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
cis-1,2-[DCE	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
cis-1,3-[Dichloropropene	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
1,2-Dibr	omo-3-chloropropane	ND	2.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
	ochloromethane	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
Dibromo	omethane	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
1,2-Dich	llorobenzene	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
1,3-Dich	llorobenzene	ND	1.0	µg/L	1	2/9/2023 1:39:36 PM	R94517
	llorobenzene	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
-	odifluoromethane	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
	loroethane	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
1,1-Dich	loroethene	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
	lloropropane	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
-	lloropropane	ND	1.0	μg/L	1	2/9/2023 1:39:36 PM	R94517
	lloropropane	ND	2.0	μg/L	1	2/9/2023 1:39:36 PM	R94517

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

Qualifiers:

* Value exceeds Maximum Contaminant Level. D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated. S

Analyte detected in the associated Method Blank В

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits Р

Sample pH Not In Range RL Reporting Limit

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Date Reported:	2/13/2023

Hall Environmental Analysis		Lab Order 2302356 Date Reported: 2/13/20	23							
CLIENT: ENSOLUM Project: Chaco Plant 3 Phase Separator Lab ID: 2302356-003	Client Sample ID: EW-3 Collection Date: 2/7/2023 12:30:00 PM Matrix: AQUEOUS Received Date: 2/8/2023 7:50:00 AM									
Analyses	Matrix: AQUEOUS					DF Date Analyzed				
EPA METHOD 8260B: VOLATILES						Analys	t: JR			
1,1-Dichloropropene	ND	1.0		µg/L	1	2/9/2023 1:39:36 PM	R94517			
Hexachlorobutadiene	ND	1.0		µg/L	1	2/9/2023 1:39:36 PM	R94517			
2-Hexanone	ND	10		µg/L	1	2/9/2023 1:39:36 PM	R94517			
Isopropylbenzene	ND	1.0		µg/L	1	2/9/2023 1:39:36 PM	R94517			
4-Isopropyltoluene	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
4-Methyl-2-pentanone	ND	10		μg/L	1	2/9/2023 1:39:36 PM	R94517			
Methylene Chloride	ND	3.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
n-Butylbenzene	ND	3.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
n-Propylbenzene	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
sec-Butylbenzene	ND	1.0		µg/L	1	2/9/2023 1:39:36 PM	R94517			
Styrene	ND	1.0		µg/L	1	2/9/2023 1:39:36 PM	R94517			
tert-Butylbenzene	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
1,1,1,2-Tetrachloroethane	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
1,1,2,2-Tetrachloroethane	ND	2.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
Tetrachloroethene (PCE)	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
trans-1,2-DCE	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
trans-1,3-Dichloropropene	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
1,2,3-Trichlorobenzene	ND	1.0		µg/L	1	2/9/2023 1:39:36 PM	R94517			
1,2,4-Trichlorobenzene	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
1,1,1-Trichloroethane	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
1,1,2-Trichloroethane	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
Trichloroethene (TCE)	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
Trichlorofluoromethane	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
1,2,3-Trichloropropane	ND	2.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
Vinyl chloride	ND	1.0		μg/L	1	2/9/2023 1:39:36 PM	R94517			
Xylenes, Total	ND	1.5		μg/L	1	2/9/2023 1:39:36 PM	R94517			
Surr: 1,2-Dichloroethane-d4	105	70-130		%Rec	1	2/9/2023 1:39:36 PM	R94517			
Surr: 4-Bromofluorobenzene	98.4	70-130		%Rec	1	2/9/2023 1:39:36 PM	R94517			
Surr: Dibromofluoromethane	104	70-130		%Rec	1	2/9/2023 1:39:36 PM	R94517			
Surr: Toluene-d8	95.9	70-130		%Rec	1	2/9/2023 1:39:36 PM	R94517			

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

* Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated. S

- в Analyte detected in the associated Method Blank
- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits Р Sample pH Not In Range
- RL Reporting Limit

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Qualifiers:

ENSOLUM

Client:

Project:

Sample ID: 100ng Ics

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Chaco Plant 3 Phase Separator

SampType: LCS

	2011101) = = · = •	-							
Client ID: LCSW	Batch	n ID: R9	4517	F	RunNo: 9 4	4517				
Prep Date:	Analysis D	Date: 2/	9/2023	S	SeqNo: 34	415898	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0	115	70	130			
Toluene	24	1.0	20.00	0	118	70	130			
Chlorobenzene	23	1.0	20.00	0	117	70	130			
1,1-Dichloroethene	22	1.0	20.00	0	110	70	130			
Trichloroethene (TCE)	23	1.0	20.00	0	114	70	130			
Surr: 1,2-Dichloroethane-d4	8.9		10.00		89.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		108	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.8		10.00		98.1	70	130			
Sample ID: 2302356-001ams	SampT	уре: М	<u> </u>	Tes	tCode: EF	PA Method	8260B: VOL	ATILES		
Client ID: EW-4	Batch	n ID: R9	4517	F	RunNo: 9 4	4517				
Prep Date:	Analysis D	Date: 2/	9/2023	5	SeqNo: 34	415922	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	23	1.0	20.00	0.7834	114	70	130			
Toluene	23	1.0	20.00	0	116	70	130			
Chlorobenzene	24	1.0	20.00	0.7776	115	70	130			
1,1-Dichloroethene	23	1.0	20.00	0.4574	111	70	130			
Trichloroethene (TCE)	24	1.0	20.00	1.229	116	70	130			
Surr: 1,2-Dichloroethane-d4	9.0		10.00		90.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		106	70	130			
Surr: Dibromofluoromethane	10		10.00		104	70	130			
Surr: Toluene-d8	9.5		10.00		95.3	70	130			
Sample ID: 2302356-001amsd	l SampT	уре: М	SD	Tes	tCode: EF	PA Method	8260B: VOL	ATILES		
Client ID: EW-4	Batch	n ID: R9	4517	F	RunNo: 9 4	4517				
Prep Date:	Analysis D	Date: 2/	9/2023	S	SeqNo: 34	415924	Units: µg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	24	1.0	20.00	0.7834	114	70	130	0.181	20	
Toluene	22	1.0	20.00	0	111	70	130	4.43	20	
Chlorobenzene	23	1.0	20.00	0.7776	109	70	130	4.52	20	
1,1-Dichloroethene	21	1.0	20.00	0.4574	104	70	130	6.76	20	
Trichloroethene (TCE)	24	1.0	20.00	1.229	114	70	130	1.69	20	
Surr: 1,2-Dichloroethane-d4	9.5		10.00		94.5	70	130	0	0	
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		110	70	130	0	0	
O Tal	~ ~		40.00		04 7	70	100	0	•	

TestCode: EPA Method 8260B: VOLATILES

Qualifiers:

Surr: Toluene-d8

- Value exceeds Maximum Contaminant Level. *
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- Not Detected at the Reporting Limit ND
- PQL Practical Quanitative Limit
- % Recovery outside of standard limits. If undiluted results may be estimated. S

9.2

Analyte detected in the associated Method Blank в

91.7

70

130

0

- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

10.00

RL Reporting Limit Page 7 of 10

0

WO#: 2302356

13-Feb-23

OC SUMMARY REPORT F

	WO#:	2302356
Hall Environmental Analysis Laboratory, Inc.		13-Feb-23

	ENSOLUM Chaco Plant 3	Phase Sep	arator							
Sample ID: mb	S	ampType: I	//BLK	Tes	tCode: E	EPA Method	8260B: VOL	ATILES		
Client ID: PBW		Batch ID: I	R94517	F	RunNo:	94517				
Prep Date:	Analy	vsis Date:	2/9/2023	S	SeqNo:	3415946	Units: µg/L			
Analyte	Res	sult PQI	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene		ND 1					0			
Toluene	I	ND 1	0							
Ethylbenzene	I	ND 1	0							
Methyl tert-butyl ether (M	TBE) I	ND 1	0							
1,2,4-Trimethylbenzene	I	ND 1	0							
1,3,5-Trimethylbenzene	I	ND 1	0							
1,2-Dichloroethane (EDC) I	ND 1	0							
1,2-Dibromoethane (EDB	i) I	ND 1	0							
Naphthalene	I	ND 2.	0							
1-Methylnaphthalene	I	ND 4	0							
2-Methylnaphthalene	I	ND 4	0							
Acetone	I	ND 1	0							
Bromobenzene	I	ND 1	0							
Bromodichloromethane	I	ND 1	0							
Bromoform	I	ND 1	0							
Bromomethane	I	ND 3	0							
2-Butanone	I	ND 1	0							
Carbon disulfide	I	ND 1	0							
Carbon Tetrachloride	I	ND 1.	0							
Chlorobenzene	I	ND 1.	0							
Chloroethane	I	ND 2.	0							
Chloroform	I	ND 1.	0							
Chloromethane	I	ND 3	0							
2-Chlorotoluene	I	ND 1.	0							
4-Chlorotoluene	I	ND 1	0							
cis-1,2-DCE	I	ND 1	0							
cis-1,3-Dichloropropene	I	ND 1	0							
1,2-Dibromo-3-chloroprop	bane I	ND 2.	0							
Dibromochloromethane	I	ND 1.	0							
Dibromomethane	I	ND 1	0							
1,2-Dichlorobenzene	I	ND 1.	0							
1,3-Dichlorobenzene	I	ND 1.	0							
1,4-Dichlorobenzene	I	ND 1	0							
Dichlorodifluoromethane	I	ND 1	0							
1,1-Dichloroethane	I	ND 1	0							
1,1-Dichloroethene	I	ND 1	0							
1,2-Dichloropropane	I	ND 1	0							
1,3-Dichloropropane	I	ND 1	0							
2,2-Dichloropropane	I	ND 2.	0							

Qualifiers:

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

Page 8 of 10

ENSOLUM

Client:

OC SUMMARY REPORT F

	WO#:	2302356
Hall Environmental Analysis Laboratory, Inc.		13-Feb-23

Hexachlorobutadiene ND 1.0 2-Hexanone ND 1.0 44sopropytoluene ND 3.0 n-Butytbenzene ND 1.0 seaButybenzene ND 1.0 seaButybenzene ND 1.0 strene ND 1.	Project: C	haco Plant 3 Pha	ise Separ	ator							
Prop Date: Analysis Date: 29/2023 Seq.N: 3415946 Units: rg/L Analyte Result PQL SPK value SPK Ref Val %REC LowLimit MRPD. RPDLimit Qual 1,1-Dichtompropene ND 1.0 KRET	Sample ID: mb	Samp	оТуре: М	BLK	Tes	tCode: El	PA Method	8260B: VOLA	ATILES		
Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual 1,1-Dichlorsprogene ND 1.0 -<	Client ID: PBW	Bat	ch ID: R9	94517	F	RunNo: 94	4517				
11-Dichloropropene ND 1.0 Headhorbutadiene ND 3.0 Propybenzene ND 1.0 secButybenzene ND 1.0 Syrene ND 1.0 Syrene ND 1.0 T1.12-Ertechtoroethane ND 1.0 Tatrachloroethane ND 1.0 Tatrachloroethane ND 1.0 1.1.2-Ertechtoroethane ND 1.0 1.2.3-Trichlorobonzane ND 1.0 1.1.2-Trichlorobonzane ND 1.0 1.1.2-Trichloropopane ND 1.0 Trichlorothanzane ND	Prep Date:	Analysis	Date: 2/	/9/2023	5	SeqNo: 34	415946	Units: µg/L			
Hexachlorobutadiene ND 1.0 2-Hexanone ND 1.0 44sopropytoluene ND 3.0 n-Butytbenzene ND 1.0 seaButybenzene ND 1.0 seaButybenzene ND 1.0 strene ND 1.	Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
244exanone ND 10 Isoprozylicenzene ND 1.0 444etply62-pentanone ND 3.0 n-Bulytlenzene ND 3.0 n-Bulytlenzene ND 1.0 sec.Bulytlenzene ND 1.0 stret-Bulytlenzene ND 1.0 1,1,2.7.tretantoroethane ND 1.0 1,1,2.7.tretantoroethane ND 1.0 1,1.1.7.tritotoroethane ND 1.0 1,1.1.7.tritotoroethane ND 1.0 1,1.1.7.tritotoroethane ND 1.0 Stret-Tioboroethane N	1,1-Dichloropropene	ND	1.0								
Isopropulsenzene ND 1.0 44-sopropulsence ND 1.0 44-sopropulsence ND 3.0 n-Butylenone ND 3.0 n-Butylenzene ND 1.0 Metryleno Chloride ND 3.0 n-Butylenzene ND 1.0 sec-Butylenzene ND 1.0 sec-Butylenzene ND 1.0 sec-Butylenzene ND 1.0 starte-Storethane ND 1.0 1,1,2.7 Erstachlorethane ND 1.0 1,2.3 Trichlorethane ND 1.0 1,2.3 Trichlorethane ND 1.0 1,1.2.7 Erstachlorethane ND 1.0 1,2.3 Trichlorethane ND 1.0 1,2.3 Trichlorethane4 ND 1.0 1,2.3 Trichlorethane4 ND 1.0 1,2.3 Trichlorethan	Hexachlorobutadiene	ND	1.0								
44-lagropyloluene ND 1.0 44-Metryk-2-pentanone ND 3.0 n-Butylbenzene ND 3.0 n-Butylbenzene ND 1.0 sec-Butylbenzene ND 1.0 sec-Butylbenzene ND 1.0 sec-Butylbenzene ND 1.0 sec-Butylbenzene ND 1.0 1,1,12-Tetrachoroethane ND 2.0 tart-Butylbenzene ND 1.0 1,1,12-Tetrachoroethane ND 2.0 tarans-1,3-Dichloropthane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,1,1-Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,1,1-Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,2	2-Hexanone	ND	10								
44.4ethyl-2-pentanone ND 10 Methylenc Chordre ND 3.0 n-Burybenzene ND 3.0 n-Burybenzene ND 1.0 sex-Burybenzene ND 1.0 sex-Burybenzene ND 1.0 sex-Burybenzene ND 1.0 Styrene ND 1.0 11,12.7 Ertachloroethane ND 2.0 11,12.7 Ertachloroethane ND 1.0 Tetrachloroethane ND 1.0 11,12.7 Ertachloroethane ND 1.0 11,12.7 Ertachloroethane ND 1.0 11,12.7 Ertachloroethane ND 1.0 12.3 Trichlorobenzene ND 1.0 11,1.4 Trichlorobenzene ND 1.0 11,1.2 Trichloroethane ND 1.0 12.3 Trichloroethane-4 ND 1.0 12.	Isopropylbenzene	ND	1.0								
Methylene Chloride ND 3.0 n-Butylkenzene ND 3.0 n-Propylkenzene ND 1.0 seeButylkenzene ND 1.0 Styrene ND 1.0 tert-Butylkenzene ND 1.0 Styrene ND 1.0 1,1,2.2-Tetrachloroethane ND 2.0 Tetrachloroethane ND 1.0 1,1,2.2-Tetrachloroethane ND 1.0 1,1,2.2-Tetrachloroethane ND 1.0 1,1,2.2-Tetrachloroethane ND 1.0 1,1,2.2-Tetrachloroethane ND 1.0 1,2.3-Trichlorobenzene ND 1.0 1,2.4-Trichlorobenzene ND 1.0 1,1.2-Trichlorobenzene ND 1.0 1,1.2-Trichloropethane ND 1.0 1,1.2-Trichloropethane ND 1.0 1,2.3-Trichloroporpane ND 1.0 1,2.3-Trichloroporpane ND 1.0 Sur: 4-Bronofluoromethane ND 1.0	4-Isopropyltoluene	ND	1.0								
ND 3.0 n-Propyberzene ND 1.0 sec-Bulybenzene ND 1.0 sec-Bulybenzene ND 1.0 sec-Bulybenzene ND 1.0 sec-Bulybenzene ND 1.0 1,1,2-Tethachloroethane ND 1.0 1,1,2-Tethachloroethane ND 1.0 1,1,2-Tethachloroethane ND 1.0 1,1,2-Tethachloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,2,4-Trichloroethane ND 1.0 1,2,4-Trichloroethane ND 1.0 1,1,2-Tichloroethane ND 1.0 1,1,2-Tichloroethane ND 1.0 1,1,2-Tichloroethane ND 1.0 Trichloroftane ND 1.0 1,1,2-Tichloroethane ND 1.0 Trichloroftane ND 1.0 1,1,2-Tichloroethane-4 ND 1.0 Sur: 12-Dichloroethane-44 10 10.00 108 70	4-Methyl-2-pentanone	ND	10								
n-Propybenzene ND 1.0 see-Butylbenzene ND 1.0 Styrene ND 1.0 ster-Butylbenzene ND 1.0 1,1,2.7 tetrachloroethane ND 2.0 Tetrachloroethane ND 1.0 Tetrachloroethane ND 1.0 Tetrachloroethane ND 1.0 Tatrachloroethane ND 1.0 Tatrachloroethane ND 1.0 1,1,2.7 tetrachloroethane ND 1.0 1,2,3.7 inchloroethane ND 1.0 1,1,1.1 rinchloroethane ND 1.0 1,1,2.7 inchloroethane ND 1.0 1,1,2.7 inchloroethane ND 1.0 1,1,2.7 inchloroethane ND 1.0 1,1.2.7 inchloroethane ND 1.0 1,1.2.3 Tinchloroethane ND 1.0 1,2.3.7 inchloroethane ND 1.0 1,2.3.7 inchloroethane ND 1.0 Sur: 4.Bromofluoromethane ND 1.0 Sur: 1.2.Dichloroethane.4 10 10.00 108	Methylene Chloride	ND	3.0								
sec-Butylbenzene ND 1.0 Styrene ND 1.0 tert-Butylbenzene ND 1.0 tert-Butylbenzene ND 2.0 1,1,2Tetrachloroethane ND 2.0 Tetrachloroethane (PCE) ND 1.0 trans-1,2.DCE ND 1.0 trans-1,2.DCb/bloropropene ND 1.0 1,2.3-Trichlorobenzene ND 1.0 1,2.3-Trichlorobenzene ND 1.0 1,1.2-Trichlorobenzene ND 1.0 1,2.3-Trichlorobenzene ND 1.0 Styrels.Total ND 1.0	n-Butylbenzene	ND	3.0								
Styrene ND 1.0 tert-Butylbenzene ND 1.0 1,1,12-Tetrachloroethane ND 2.0 Tetrachloroethane ND 1.0 1,1,2.2-Tetrachloroethane ND 2.0 trans-1,2-DCE ND 1.0 trans-1,3-Dichloropropene ND 1.0 1,2.3-Trichlorobenzene ND 1.0 1,1.2-Trichlorobenzene ND 1.0 1,1.2-Trichlorobenzene ND 1.0 1,1.2-Trichloropthane ND 1.0 1,2.3-Trichloropthane ND 1.0 1,2.3-Trichloropthane-d4 10 10.00 108 70 130 Surr: 12-Dichloropthane-d4 10 10.00 108<	n-Propylbenzene	ND	1.0								
Art-Butylbenzene ND 1.0 1,1,12-Tetrachloroethane ND 1.0 1,1,12-Tetrachloroethane ND 2.0 Tetrachloroethane (PCE) ND 1.0 Tarsh-12-DCE ND 1.0 transh-12-DCE ND 1.0 1,2,3-Trichlorobenzene ND 1.0 1,2,3-Trichlorobenzene ND 1.0 1,1,1-Trichloroethane ND 1.0 1,1,1-Trichloroethane ND 1.0 1,1,1-Trichloroethane ND 1.0 Trichloropthane ND 1.0 Trichloropthane ND 1.0 Trichloropthane ND 1.0 1,1,2-Trichloropthane ND 1.0 1,2,3-Trichloropthane ND 1.0 1,1,2-Trichloropthane ND 1.0 1,2,3-Trichloropthane ND 1.0 <td< td=""><td>sec-Butylbenzene</td><td>ND</td><td>1.0</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	sec-Butylbenzene	ND	1.0								
ND 1.0 1,1,2-Tetrachloroethane ND 2.0 Tetrachloroethane (PCE) ND 1.0 trans-1,2-DCE ND 1.0 trans-1,2-DCE ND 1.0 1,2,3-Trichlorobenzene ND 1.0 1,2,3-Trichlorobenzene ND 1.0 1,1,2-Trichlorobenzene ND 1.0 1,2,3-Trichloroptnane ND 1.0 1,2,3-Trichloroptnane ND 1.0 1,2,3-Trichloroptnane ND 1.0 Surr: 12-Dichlorobenzene 11 10.00 108 70 130 Sur: 2-Dichlorobenzene 11 10.00 108 70 130 130 Sur: 12-Dichlorobenzene 11 10.00 198 70 130 130	Styrene	ND	1.0								
1,1,2,2-Tetrachloroethane ND 2.0 Tetrachloroethane (PCE) ND 1.0 trans-1,2-DCE ND 1.0 trans-1,2-DCE ND 1.0 trans-1,2-DCE ND 1.0 1,2,3-Trichlorobenzene ND 1.0 1,2,4-Trichlorobenzene ND 1.0 1,2,4-Trichlorobenzene ND 1.0 1,1,1-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,2,3-Trichlorophane ND 1.0 1,2,3-Trichlorophane ND 1.0 1,2,3-Trichlorophane ND 1.0 Surr: 12-Dichloroethane-d4 10 1.0 Surr: 12-Dichloroethane-d4 10 10.0 108 70 130 Surr: Toluene-d8 10 10.00 108 70 130 10 Surr: Toluene-d8 10	tert-Butylbenzene	ND	1.0								
Tetachloroethene (PCE) ND 1.0 trans-1,2-DCE ND 1.0 trans-1,3-Dichloropropene ND 1.0 1,2,3-Trichlorobenzene ND 1.0 1,2,4-Trichlorobenzene ND 1.0 1,1,1-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 Trichlorofuluromethane ND 1.0 1,2,3-Trichloropapane ND 1.0 Xylenes, Total ND 1.0 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: Toluene-d8 10 10.00 108 70 130 Interve<	1,1,1,2-Tetrachloroethane	ND	1.0								
trans-1.2-DCE ND 1.0 trans-1.3-Dichloropropene ND 1.0 1.2,3-Trichlorobenzene ND 1.0 1.2,3-Trichlorobenzene ND 1.0 1.1,1-Trichlorobenzene ND 1.0 1,1,1-Trichlorobenzene ND 1.0 1,1,2-Trichlorobenzene ND 1.0 1,1,2-Trichlorobenzene ND 1.0 1,1,2-Trichlorobenzene ND 1.0 Trichlorobenzene ND 1.0 1,2,3-Trichloropethane ND 1.0 Trichlorobenzene ND 1.0 1,2,3-Trichloropopane ND 1.0 1,2,3-Trichloropopane ND 1.0 1,2,3-Trichloropopane ND 1.0 Surr: 1,2-Dichlorobenzene ND 1.0 Surr: 1,2-Dichlorobenzene 11 10.00 108 70 130 Surr: 1,2-Dichlorobenzene 11 10.00 108 70 130 Surr: 1,2-Dichlorobenzene 11 10.00 99.9 70 130 Surr: 1,2-Dichlorobenzene Batch ID: <	1,1,2,2-Tetrachloroethane	ND	2.0								
trans-1.2-DCE ND 1.0 trans-1.3-Dichloropropene ND 1.0 1.2,3-Trichlorobenzene ND 1.0 1.2,4-Trichlorobenzene ND 1.0 1.1,1-Trichlorobenzene ND 1.0 1.1,2-Trichlorobenzene ND 1.0 Trichlorobenzene ND 1.0 1.2,3-Trichloropopane ND 1.0 1.2,3-Trichloropopane ND 1.0 1.2,3-Trichloropopane ND 1.0 Surr: 12-Dichlorobenzene 11 10.00 100 70 130 Surr: 12-Dichlorobenzene 11 10.00 108 70 130 130 Surr: 2-Dibronofluorobenzene 11 10.00 108 70 130 130 130 130 130 130 130 130 130 13	Tetrachloroethene (PCE)	ND	1.0								
trans-1,3-Dichloropropene ND 1.0 1,2,3-Trichlorobenzene ND 1.0 1,2,4-Trichlorobenzene ND 1.0 1,2,4-Trichlorobenzene ND 1.0 1,1,1-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 Trichloroethane ND 1.0 Trichloroethane ND 1.0 Trichloroethane ND 1.0 Trichloroethane ND 1.0 1,2,3-Trichloroethane ND 1.0 1,2,3-Trichloroethane-4 ND 1.0 1,2,3-Trichloroethane-44 ND 1.0 Surr: 1,2-Dichloroethane-34 10 10.00 100 70 130 Surr: 1,2-Dichloroethane-34 10 10.00 108 70 130 Surr: 1,2-Dichloroethane 11 10.00 108 70 130 Surr: 1,2-Dichloroethane 10 10.00 99.9 70 130 Sample ID: 100ng Ics SampType: LCS TestCode: EPA Method 8260B: VOLATILES		ND	1.0								
1,2,3-Trichlorobenzene ND 1.0 1,2,4-Trichlorobenzene ND 1.0 1,1,1-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 1,1,2-Trichloroethane ND 1.0 Trichloroethane ND 1.0 1,2,3-Trichloropopane ND 2.0 Vinyl chloride ND 1.0 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane 11 10.00 108 70 130 Surr: 1,2-Dichloroethane 10 10.00 99.9 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Sample ID: 100ng Ics Sampt Same SeqNo: 341784 Units: %Rec Client ID: </td <td></td> <td>ND</td> <td>1.0</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>		ND	1.0								
N.1,1Trichloroethane N.D 1.0 1,1,2Trichloroethane N.D 1.0 Trichloroethane (TCE) N.D 1.0 Trichloroethane N.D 1.0 Trichloroethane N.D 1.0 Trichloroethane N.D 1.0 Trichloroethane N.D 1.0 1,2,3-Trichloroppane N.D 2.0 Vinyl chloride N.D 1.0 Xylenes, Total N.D 1.5 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: Toluene-d8 10 10.00 198 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Sample ID: 100ng Ics SampType: LCS TestCode: EPA Method 8260B: VOLATILES Volatiles Client ID: LCSW Batch ID: R94558 RunNo: 94558 Volatiles Volatiles Prep Date: Analysis Date: 2/10/2023 SeqNo: 3417844 Units: %Rec Volatiles <	1,2,3-Trichlorobenzene	ND									
N.1,1Trichloroethane N.D 1.0 1,1,2Trichloroethane N.D 1.0 Trichloroethane (TCE) N.D 1.0 Trichloroethane N.D 1.0 Trichloroethane N.D 1.0 Trichloroethane N.D 1.0 Trichloroethane N.D 1.0 1,2,3-Trichloroppane N.D 2.0 Vinyl chloride N.D 1.0 Xylenes, Total N.D 1.5 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: Toluene-d8 10 10.00 198 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Sample ID: 100ng Ics SampType: LCS TestCode: EPA Method 8260B: VOLATILES Volatiles Client ID: LCSW Batch ID: R94558 RunNo: 94558 Volatiles Volatiles Prep Date: Analysis Date: 2/10/2023 SeqNo: 3417844 Units: %Rec Volatiles <	1,2,4-Trichlorobenzene	ND	1.0								
N.1, 2-Trichloroethane N.D 1.0 Trichloroethane (TCE) N.D 1.0 Trichlorofluoromethane N.D 1.0 Trichlorofluoromethane N.D 1.0 1,2,3-Trichloropropane N.D 2.0 Vinyl chloride N.D 1.0 Xylenes, Total N.D 1.5 Surr: 1,2-Dichloroethane-d4 10 10.00 100 70 130 Surr: 2,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane 11 10.00 108 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Surr: Toluene-d8 10 10.00 SeqNo: 341784 Units: %Rec Prep Date:	1,1,1-Trichloroethane	ND									
Trichloroethene (TCE) ND 1.0 Trichlorofluoromethane ND 1.0 Trichlorofluoromethane ND 2.0 Vinyl chloride ND 1.0 Xylenes, Total ND 1.5 Surr: 1,2-Dichloroethane-d4 10 10.00 100 70 130 Surr: 2,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane 11 10.00 108 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Surr: Toluene-d8 10 10.00 94558 VLATILES Client ID: LCSW Batch ID: R94558 Units: %Rec Prep Date: Analysis Date: 2/10/2023		ND									
Trichlorofluoromethane ND 1.0 1,2,3-Trichloropropane ND 2.0 Vinyl chloride ND 1.0 Xylenes, Total ND 1.5 Surr: 1,2-Dichloroethane-d4 10 10.00 100 70 130 Surr: 4-Bromofluorobenzene 11 10.00 108 70 130 Surr: Toluene-d8 10 10.00 108 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Sample ID: 100ng Ics SampType: LCS TestCode: EPA Method S260B: VOLATILES Volatiles Client ID: LCSW Batch ID: R94558 RunNo: 94558 Volatiles Volatiles Prep Date: Analysis Date: 2/10/2023 SeqNo: 3417844 Units: %Rec MIDL init: %RPD RPDLimit Qual Surr: 1,2-Dichloroethane-d4 9.0 10.00 89.6 70 130		ND									
1,2,3-Trichloropropane ND 2.0 Vinyl chloride ND 1.0 Xylenes, Total ND 1.5 Surr: 1,2-Dichloroethane-d4 10 10.00 100 70 130 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 1,2-Dichloroethane-d4 10 10.00 108 70 130 Surr: 200 11 10.00 108 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Sample ID: 100ng Ics SampType: LCS TestCode: EPA Method 8260B: VOLATILES Volatiles Client ID: LCSW Batch ID: R94558 RunNo: 94558 Volatiles Prep Date: Analysis Date: 2/10/2023 SeqNo: 3417844 Units: %Rec Analyte Result PQL SPK xalue SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Surr: 1,2-Dichloroethane-d4 9.0 10.00 89.6 70 130 130	Trichlorofluoromethane	ND									
ND 1.0 Xylenes, Total ND 1.5 Surr: 1,2-Dichloroethane-d4 10 10.00 100 70 130 Surr: 4-Bromofluorobenzene 11 10.00 108 70 130 Surr: Dibromofluoromethane 11 10.00 108 70 130 Surr: Toluene-d8 10 10.00 99.9 70 130 Sample ID: 100ng Ics SampType: LCS TestCode: EPA Method 8260B: VOLATILES VOLATILES Client ID: LCSW Batch ID: R94558 RunNo: 94558 VIII: %Rec Prep Date: Analysis Date: 2/10/2023 SeqNo: 3417844 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Surr: 1,2-Dichloroethane-d4 9.0 10.00 89.6 70 130 100	1,2,3-Trichloropropane	ND									
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								-			
	Surr: 4-Bromofluorobenze			10.00		103	70	130			

Qualifiers:

- Value exceeds Maximum Contaminant Level. *
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit

Surr: Dibromofluoromethane

% Recovery outside of standard limits. If undiluted results may be estimated. S

9.7

В Analyte detected in the associated Method Blank

96.8

70

130

- Е Above Quantitation Range/Estimated Value
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Limit

ENSOLUM

Client:

OC SUMMARY REPORT F

Page	141	of 298

QC SUMMART REFORT	WO#:	2302356
Hall Environmental Analysis Laboratory, Inc.		13-Feb-23

Project:	Chaco Plant 3 Phas	e Separa	ator							
Sample ID: 100ng Io	s Samp	Гуре: LC	S	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batc	h ID: R9	4558	F	RunNo: 9	4558				
Prep Date:	Analysis [Date: 2/	10/2023	S	SeqNo: 3	417844	Units: %Rec	;		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Toluene-d8	9.4		10.00		93.9	70	130			
Sample ID: mb	Samp	SampType: MBLK TestCode: EPA Method 8260B: VOLATILES								
Client ID: PBW	Batc	h ID: R9	4558	F	RunNo: 9	4558				
Prep Date:	Analysis [Date: 2/	10/2023	SeqNo: 3417860		Units: µg/L				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Chloroform	ND	1.0								
Surr: 1,2-Dichloroethane	e-d4 9.9		10.00		98.6	70	130			
Surr: 4-Bromofluoroben:	zene 10		10.00		99.7	70	130			
0							100			
Surr: Dibromofluoromet	nane 9.8		10.00		97.9	70	130			

Qualifiers:

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

Page 10 of 10

	ANAL	CONMENT YSIS RATORY	AL		all Environmen 2 EL: 505-345-39 Website: www	490 Albuquerq 975 FAX:	1 Haw ue, NI 505-3	vkins NE M 87109 45-4107	San	nple Log-In (Check List
Clie	ent Name:	ENSOLUM	I	Worl	k Order Numb	ber: 2302	2356			RcptN	o: 1
Rec	eived By:	Sean Livi	ngston	2/8/20	23 7:50:00 AI	vi		<	S-L	yot	
Cor	npleted By:	Sean Livi	ngston	2/8/202	23 10:03:22 A	M		<	5 /	zot	
Rev	viewed By:	TMC	-	2/8/23				~)C.	Jon	
<u>Cha</u>	ain of Cus	tody									
1 . I	s Chain of C	ustody comp	lete?			Yes	\checkmark	I	No 🗌	Not Present	
2. ŀ	low was the	sample deliv	vered?			<u>Cou</u>	rier				
12.2	g In Vas an atterr	npt made to	cool the sam	ples?		Yes	\checkmark	1	No 🗌	NA 🗌	
4. v	Vere all samp	ples received	l at a temper	ature of >0° C	to 6.0°C	Yes		١	No 🗌	NA 🗌	
5. s	ample(s) in	proper conta	iner(s)?			Yes		٦	10 🗌		
6. s	ufficient sam	ple volume f	for indicated	test(s)?		Yes		N	lo 🗌		
7. A	re samples (except VOA	and ONG) p	roperly preserv	ved?	Yes	\checkmark	N	lo 🗌		
8. W	las preserva	tive added to	bottles?			Yes		N	lo 🗹	NA 🗌	
9. R	eceived at le	east 1 vial wit	th headspace	e <1/4" for AQ	VOA?	Yes		N	lo 🗌		
10. V	Vere any san	nple contain	ers received	broken?		Yes		١	lo 🗹	# of preserved	
		ork match bo ancies on ch	ttle labels? ain of custoo	v)		Yes		N	lo 🗌	bottles checked for pH:	or >12 unless noted)
	=			ain of Custody?	,	Yes		N	lo 🗌	Adjusted?	
13. Is	it clear what	t analyses w	ere requeste	d?		Yes	\checkmark	N	lo 🗌		1. 2/01
		-	e to be met? authorization			Yes		N	lo 🗆	Checked by:	JN218123
Spec	ial Handl	ing (if ap	olicable)								
				with this order	?	Yes		٢	No 🗌	NA 🗹	
	Person	Notified:]		Date:						
	By Who	om:	1		Via:	🗌 eMa	ail 🗌	Phone	🗌 Fax	In Person	
	Regardi Client Ir	ing: nstructions:	 								
16.7	Additional re	· · · _	*								
	Cooler Infor										
	Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Da	ate	Signe	d By		
	1 2	0.7	Good	Yes	YOGI						
	14	0.2	Good	Yes	YOGI			l			

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Resolved by:     Bala     Image:     Image	I-ol-ousload ivecold		
Multiplication     Multiplication       Director Suite A     Claudio Padie       Director Suite A     Claudio Padie       Project Manager:     Project Manager:       Amalysis     Regenerule       Multiplication     Sampler:       Project Manager:     Container       Propertie     Project Manager:       Project Manager:     Container       Project Manager:     Project Manager:       Propertie     Project Manager:       Propertie     Project Manager:       Propertie     Propertie       Propertie     Propertie       Propertie     Proter <t< td=""><td>shum, LLC</td><td></td><td>ANALYSIS LABORATORY</td></t<>	shum, LLC		ANALYSIS LABORATORY
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Project Manager:     Zsummer       Project Manager:     Zsumpler:       Project Manager:     Sampler:       Project Manager:     Project Manager:       Project Manager:     Project Manager: <tr< td=""><td></td><td></td><td>Analysis Request</td></tr<>			Analysis Request
Interview     Inter	KSUMMERS & WSULUM KON	Project Manager: 25 Lunning	[⊅] OS € ѕ (ОЪ
Recompliance         Sample:         Part Compliance         Sample:         Part Compliance         Sample:         Part Compliance         Sample:         Part Compliance         Sample:         Part Sample: </td <td></td> <td></td> <td>bO⁺` BOSIW3 bCB₁</td>			bO⁺` BOSIW3 bCB₁
On Los:         Sample         On Los:         Sample Name           # of Cooler:         # of Cooler:         2.30.12.0.7         7.01.2.0.7         7.01.2.0.7           Watrix         Sample Name         Container         Preservative         3.30.1.2.0.7         7.01.2.0.7         7.01.2.0.7           Watrix         Sample Name         Container         Preservative         7.2.0.1.2.1.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0.7         7.01.2.0	□ Az Compliance	r PDelc	1 DBG 105' 11) 105' 11) 105' 105' 105' 105' 105' 105' 105' 105'
Matrix     Sample Name     Forestrative     A collect Tempowerses:     O collect Temp		WYes DAto	(AO)
Matrix         Sample Name         Cooler Temponente cPi:         0.3-0.1-7.0.7         0.0         0.3-0.1-7.0.7         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0         0.0 <th< td=""><td></td><td>2 0.6-20.1=0.7"</td><td>(C (C (C (C (C (C (C (C (C (C) (C (C) (C (C) (C)</td></th<>		2 0.6-20.1=0.7"	(C (C (C (C (C (C (C (C (C (C) (C (C) (C (C) (C)
Matrix     Sample Name     Type and #     Type       VV     EWU-U     Type and #     Type       VV     EWU-U     33 Yunuuu     Hacl       V     EWU-S     33 Yunuu     Hacl       Y     EWU-S     33 Yunuu     Hacl       Y     EWU-S     33 Yunuu     Yunuu       Yunuu     EWU-Yunuu     Yunuu </td <td></td> <td>0.3-0.1=0.2</td> <td>9155 estid Meth Br, 1 AOA AOA</td>		0.3-0.1=0.2	9155 estid Meth Br, 1 AOA AOA
W EW-Y 3YGMUNA Haclo Cor X X X X X X X X X X X X X X X X X X X		Preservative HEAL Type 23o2	TPH:80 8081 F PAHs I RCRA CI, F, CI, F, CI, F,
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If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

# **ENSOLUM**

	n-Propylbenzene ^{1,2}	(hg/L)	R		<2.0
	lsobropylbenzene ^{1,2}	(hg/L)	R		<2.0
SON	2, ¹ ,9nonsîu8-2	(hg/L)	NE		28
NIC COMPOU	^{s,†} ənołəɔA	(hg/L)	NE		33
(01/26/22) ∟ATILE ORGA	۲,3,5۔ Trimethylbenzen ^{1,2}	(Jug/L)	NE	itoring Well	<1.0
TABLE 1A naco Plant Produced Water Spill (01/26/22) /TICAL SUMMARY - DETECTED VOLATILE ORGANIC COMPOUNDS	۲,2,4۔ Trimethylbenzene ^{1,2}	(hg/L)	NE	er Samples Collected from the Monitoring Well	<1.0
TABLE 1A ant Produced Wate SUMMARY - DETEC1	səuəlyX	(µg/L)	620	oles Collected	35
Chaco Pla ANALYTICAL \$	eneznedithj∃	(hg/L)	700	Water Samp	<2.0
CP GROUNDWATER ANAL)	əuən∣o⊺	(hg/L)	1,000		190
GRC	əuəzuəg	(hg/L)	ى		190
	Sample I.D. Sample Date		New Mexico Water Quality Control Commmission Human Health Standards		2.7.23
	Sample I.D.		New Mexico Control Co Human Heal		MW-4

Notes:

Concentrations in **bold** and yellow exceed the applicable WQCC HHS

¹ = Constituent is not identified as "toxic pollutant" under 20.6.2 New Mexico Administrative Code (NMAC).

 2  = Constituent is not identified as a priority pollutant under the Federal Clean Water Act (CWA).

µg/L = microgram per liter

NA = Not Analyzed

NE = Not Established

<1.0 = The numeral (in this case "1.0") identifies the laboratory reporting limit (RL) or practical quantitation limit (PQL).

ΓΟΜ				tinilsallA IstoT	(mg/L Ca)
ENSOLU				Conductivity	(hS/cm)
▣				Total Dissolved Solids	(mg/L)
				Hq	
			RTIES	muiboS	(mg/L)
			ICAL PROPE	muizsstoq	(mg/L)
	rable 1B	Chaco Plant Produced Water Spill (01/26/22) AI XTICAI SIMMARY - INDRGANICS PHYSICAI AND CHEMICAI PROPERTIES	. AND CHEM	muisəngeM	(mg/L)
			S, PHYSICAL	muiolsD	(mg/L)
			INORGANIC:	Phosphorus	(mg/L)
			_	Nitrite	(mg/L)
			<b>GROUNDWATER ANALYTICAL SI</b>	Nitrate	(mg/L)
			<b>IDWATER A</b>	Sulfate	(mg/L)
			GROUI	Chloride	(mg/L)
				Fluoride	(mg/L)
				Sample Date	

Sample I.D.

Notes:

Concentrations in **bold** and yellow exceed the applicable WQCC HHS or DWSS

NA

ΝA

4,740

ΝA

ΝA

ΑN

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2.7.23

MW-4

Water Sample Collected from the Monitoring Well

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600

250

1.6

New Mexico Water Quality Control

Commmission

Human Health Standards and Domestic Water Supply Standards

mg/L = milligram per liter

 $\mu$ S/cm = microsiemens per centimeter

NA = Not Analyzed

NE = Not Established

<1.0 = The numeral (in this case "1.0") identifies the laboratory reporting limit (RL) or practical quantitation limit (PQL).



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

February 14, 2023

Kyle Summers ENSOLUM 606 S. Rio Grande Suite A Aztec, NM 87410 TEL: (903) 821-5603 FAX:

RE: Chaco Plant Produced Water Release 2022

OrderNo.: 2302349

Dear Kyle Summers:

Hall Environmental Analysis Laboratory received 1 sample(s) on 2/8/2023 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

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

Sincerely,

ander

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

**CLIENT: ENSOLUM** 

2302349-001

**Project:** Lab ID: **Analytical Report** 

Chaco Plant Produced Water Release 20

Lab Order 2302349

Date Reported: 2/14/2023

**Client Sample ID: MW-4** Collection Date: 2/7/2023 2:15:00 PM Matrix: AQUEOUS

Received Date: 2/8/2023 7:50:00 AM

		-	0 11100		Date Analyzed	Batch
					Analyst	DML
4740	40.0	*D	mg/L	1	2/13/2023 3:55:00 PM	73125
					Analyst	CCM
190	2.0		ua/L	2	2/8/2023 11:27:00 PM	R94478
190	2.0			2		R94478
ND	2.0			2		R94478
ND	2.0			2	2/8/2023 11:27:00 PM	R9447
ND	2.0			2	2/8/2023 11:27:00 PM	R9447
ND				2		R9447
ND				2		R9447
						R9447
	-					R9447
						R9447
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	190 190 ND ND ND	190       2.0         190       2.0         ND       8.0         33       20         ND       2.0         ND       2.0 <t< td=""><td>190       2.0         190       2.0         ND       4.0         ND       8.0         33       20         ND       2.0         <t< td=""><td>190         2.0         µg/L           190         2.0         µg/L           ND         8.0         µg/L           ND         8.0         µg/L           ND         8.0         µg/L           ND         2.0         µg/L</td><td>190         2.0         μg/L         2           190         2.0         μg/L         2           ND         4.0         μg/L         2           ND         8.0         μg/L         2           ND         8.0         μg/L         2           ND         8.0         μg/L         2           ND         2.0         μg/L         2</td><td>Analyst           190         2.0         µg/L         2         2/8/2023 11:27:00 PM           190         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0</td></t<></td></t<>	190       2.0         190       2.0         ND       4.0         ND       8.0         33       20         ND       2.0         ND       2.0 <t< td=""><td>190         2.0         µg/L           190         2.0         µg/L           ND         8.0         µg/L           ND         8.0         µg/L           ND         8.0         µg/L           ND         2.0         µg/L</td><td>190         2.0         μg/L         2           190         2.0         μg/L         2           ND         4.0         μg/L         2           ND         8.0         μg/L         2           ND         8.0         μg/L         2           ND         8.0         μg/L         2           ND         2.0         μg/L         2</td><td>Analyst           190         2.0         µg/L         2         2/8/2023 11:27:00 PM           190         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0</td></t<>	190         2.0         µg/L           190         2.0         µg/L           ND         8.0         µg/L           ND         8.0         µg/L           ND         8.0         µg/L           ND         2.0         µg/L	190         2.0         μg/L         2           190         2.0         μg/L         2           ND         4.0         μg/L         2           ND         8.0         μg/L         2           ND         8.0         μg/L         2           ND         8.0         μg/L         2           ND         2.0         μg/L         2	Analyst           190         2.0         µg/L         2         2/8/2023 11:27:00 PM           190         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         8.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0         µg/L         2         2/8/2023 11:27:00 PM           ND         2.0

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

**Qualifiers:** 

В Analyte detected in the associated Method Blank

Е Above Quantitation Range/Estimated Value

J Р

RL

ND Not Detected at the Reporting Limit

Sample Diluted Due to Matrix

Value exceeds Maximum Contaminant Level.

Holding times for preparation or analysis exceeded

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated. S

Analyte detected below quantitation limits

Sample pH Not In Range

Reporting Limit

Page 1 of 6

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Hall Environmental Analysis Laboratory, Inc.

Batch

**Analytical Report** Lab Order 2302349

Date Reported: 2/14/2023

	THOD 8260B: VOLATILES	3		Analy		
Analyses		Result	RL Qual Units	DF Date Analyzed		
Lab ID:	2302349-001	Matrix: AQUEOUS	<b>Received Dat</b>	e: 2/8/2023 7:50:00 AM		
Project:	Chaco Plant Produced Wa	ater Release 20	Collection Dat	e: 2/7/2023 2:15:00 PM		
CLIENT:	ENSOLUM	Client Sample ID: MW-4				

EPA METHOD 8260B: VOLATILES					Analys	t: CCM
1,3-Dichloropropane	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
2,2-Dichloropropane	ND	4.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,1-Dichloropropene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Hexachlorobutadiene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
2-Hexanone	ND	20	µg/L	2	2/8/2023 11:27:00 PM	R94478
Isopropylbenzene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
4-Isopropyltoluene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
4-Methyl-2-pentanone	ND	20	µg/L	2	2/8/2023 11:27:00 PM	R94478
Methylene Chloride	ND	6.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
n-Butylbenzene	ND	6.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
n-Propylbenzene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
sec-Butylbenzene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Styrene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
tert-Butylbenzene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,1,1,2-Tetrachloroethane	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,1,2,2-Tetrachloroethane	ND	4.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Tetrachloroethene (PCE)	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
trans-1,2-DCE	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
trans-1,3-Dichloropropene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,2,3-Trichlorobenzene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,2,4-Trichlorobenzene	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,1,1-Trichloroethane	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,1,2-Trichloroethane	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Trichloroethene (TCE)	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Trichlorofluoromethane	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
1,2,3-Trichloropropane	ND	4.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Vinyl chloride	ND	2.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Xylenes, Total	35	3.0	µg/L	2	2/8/2023 11:27:00 PM	R94478
Surr: 1,2-Dichloroethane-d4	118	70-130	%Rec	2	2/8/2023 11:27:00 PM	R94478
Surr: 4-Bromofluorobenzene	104	70-130	%Rec	2	2/8/2023 11:27:00 PM	R94478
Surr: Dibromofluoromethane	116	70-130	%Rec	2	2/8/2023 11:27:00 PM	R94478
Surr: Toluene-d8	97.1	70-130	%Rec	2	2/8/2023 11:27:00 PM	R94478

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

**Qualifiers:** 

Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated. s

В Analyte detected in the associated Method Blank

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

RL Reporting Limit Page 2 of 6

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Released to Imaging: 7/18/2023 8:48:20 AM

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ENSOLUM

## QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

WO#:	2302349
	14-Feb-23

## Client:

Project: Chaco Plant Produced Water Release 2022

Sample ID: 100ng Ics	SampT	ype: LC	s	TestCode: EPA Method 8260B: VOLATILES						
Client ID: LCSW Batch ID: R94478			RunNo: 94478							
Prep Date:	Analysis D	ate: 2/8	8/2023	S	SeqNo: 34	413974	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	25	1.0	20.00	0	127	70	130			
Toluene	22	1.0	20.00	0	111	70	130			
Chlorobenzene	22	1.0	20.00	0	111	70	130			
1,1-Dichloroethene	23	1.0	20.00	0	117	70	130			
Trichloroethene (TCE)	24	1.0	20.00	0	119	70	130			
Surr: 1,2-Dichloroethane-d4	11		10.00		112	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		102	70	130			
Surr: Dibromofluoromethane	11		10.00		110	70	130			
Surr: Toluene-d8	9.8		10.00		97.9	70	130			
Sample ID: mb	SampT	уре: <b>МЕ</b>	BLK	Tes	tCode: El	PA Method	8260B: VOLA	TILES		
Client ID: PBW	Batch	n ID: <b>R9</b> 4	4478	F	RunNo: <b>9</b> 4	4478				
Prep Date:	Analysis D	ate: 2/8	8/2023	S	SeqNo: 34	414238	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND	10								
Carbon Tetrachloride	ND	1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
		-								
Chloromethane	ND	3.0								

#### Qualifiers:

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

H Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

S % Recovery outside of standard limits. If undiluted results may be estimated.

B Analyte detected in the associated Method Blank

E Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

P Sample pH Not In Range

RL Reporting Limit

# **OC SUMMARY REPORT**

QC SUMMART REFORT	WO#:	2302349
Hall Environmental Analysis Laboratory, Inc.		14-Feb-23

Client: Project:	ENSOLUM Chaco Plant Produ	iced Wate	er Release	2022						
Sample ID: mb	Samp	Туре: МВ	LK	TestCode: EPA Method 8260B: VOLATILES						
Client ID: PBW	Bate	ch ID: R94	4478	F	RunNo: <b>9</b>	4478				
Prep Date:	Analysis	Date: 2/8	3/2023	5	SeqNo: 3	414238	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
4-Chlorotoluene	ND	1.0					0			
cis-1,2-DCE	ND	1.0								
cis-1,3-Dichloropropene	ND	1.0								
1,2-Dibromo-3-chloroprop	oane ND	2.0								
Dibromochloromethane	ND	1.0								
Dibromomethane	ND	1.0								
1,2-Dichlorobenzene	ND	1.0								
1,3-Dichlorobenzene	ND	1.0								
1,4-Dichlorobenzene	ND	1.0								
Dichlorodifluoromethane	ND	1.0								
1,1-Dichloroethane	ND	1.0								
1,1-Dichloroethene	ND	1.0								
1,2-Dichloropropane	ND	1.0								
1,3-Dichloropropane	ND	1.0								
2,2-Dichloropropane	ND	2.0								
1,1-Dichloropropene	ND	1.0								
Hexachlorobutadiene	ND	1.0								
2-Hexanone	ND	10								
Isopropylbenzene	ND	1.0								
4-Isopropyltoluene	ND	1.0								
4-Methyl-2-pentanone	ND	10								
Methylene Chloride	ND	3.0								
n-Butylbenzene	ND	3.0								
n-Propylbenzene	ND	1.0								
sec-Butylbenzene	ND ND	1.0 1.0								
Styrene tert-Butylbenzene	ND	1.0								
1,1,1,2-Tetrachloroethan		1.0								
		2.0								
1,1,2,2-Tetrachloroethan Tetrachloroethene (PCE)	ND	2.0 1.0								
trans-1,2-DCE	ND	1.0								
trans-1,3-Dichloropropen		1.0								
1,2,3-Trichlorobenzene	ND ND	1.0								
1,2,4-Trichlorobenzene	ND	1.0								
1,1,1-Trichloroethane	ND	1.0								
1,1,2-Trichloroethane	ND	1.0								
Trichloroethene (TCE)	ND	1.0								
Trichlorofluoromethane	ND	1.0								
1,2,3-Trichloropropane	ND	2.0								

#### **Qualifiers:**

* Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

Н Holding times for preparation or analysis exceeded

ND Not Detected at the Reporting Limit

PQL Practical Quanitative Limit

% Recovery outside of standard limits. If undiluted results may be estimated. S

В Analyte detected in the associated Method Blank

Е Above Quantitation Range/Estimated Value

J Analyte detected below quantitation limits

Р Sample pH Not In Range

Reporting Limit RL

RPDLimit

Qual

QU SUMMART REPORT	WO#:	2302349
Hall Environmental Analysis Laboratory, Inc.		14-Feb-23

Client: Project:	ENSOLUM Chaco Plant Produced Water Release 20	022
Sample ID: mb	SampType: MBLK	TestCode: EPA Method 8260B: VOLATILES
Client ID: PBW	Batch ID: <b>R94478</b>	RunNo: <b>94478</b>
Prep Date:	Analysis Date: 2/8/2023	SeqNo: <b>3414238</b> Units: μg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit HighLimit %RPD

-					-	
Vinyl chloride	ND	1.0				
Xylenes, Total	ND	1.5				
Surr: 1,2-Dichloroethane-d4	12	10.0	0 117	70	130	
Surr: 4-Bromofluorobenzene	10	10.0	0 102	70	130	
Surr: Dibromofluoromethane	12	10.0	0 117	70	130	
Surr: Toluene-d8	9.7	10.0	96.8	70	130	

**Qualifiers:** 

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

Page 5 of 6

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Hall Environmental Analysis Laboratory, Inc.14-Feb-23		WO#:	2302349
	Hall Environmental Analysis Laboratory, Inc.		14-Feb-23

	DLUM D Plant Produced Water Release 2	022	
Sample ID: MB-73125	SampType: MBLK	TestCode: SM2540C MO	D: Total Dissolved Solids
Client ID: PBW	Batch ID: 73125	RunNo: 94572	
Prep Date: 2/10/2023	Analysis Date: 2/13/2023	SeqNo: 3418672	Units: <b>mg/L</b>
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	ND 20.0		
Sample ID: LCS-73125	SampType: LCS	TestCode: SM2540C MO	D: Total Dissolved Solids
Client ID: LCSW	Batch ID: 73125	RunNo: 94572	
Prep Date: 2/10/2023	Analysis Date: 2/13/2023	SeqNo: 3418673	Units: mg/L
Analyte	Result PQL SPK value	SPK Ref Val %REC LowLimit	HighLimit %RPD RPDLimit Qual
Total Dissolved Solids	1060 20.0 1000	0 106 80	120

**Qualifiers:** 

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

Page 6 of 6

Released to Imaging: 7/18/2023 8:48:20 AM

RL

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

## Sample Log-In Check List

Released to Imaging: 7/18/2023 8:48:20 AM

Client Name:	ENSOLUM		Work	Order Num	ber: 23023	49			RcptNo	1
Received By:	Sean Living	ston	2/8/202	3 7:50:00 A	м		S-	_L	not	
Completed By:	Sean Living	ston	2/8/202	3 9:31:29 A	M		<	/	not	
Reviewed By:	n2/8/	123							Jer	
Chain of Cus	<u>tody</u>									
1. Is Chain of Cu	ustody complet	e?			Yes	$\checkmark$	No		Not Present	
2. How was the	sample deliver	ed?			<u>Courie</u>	<u>er</u>				
<u>Log In</u>										
3. Was an attem	pt made to coc	ol the samp	oles?		Yes		No			
4. Were all samp	oles received at	a tempera	ature of >0° C	to 6.0°C	Yes	2	No		NA 🗌	
5. Sample(s) in p	proper containe	er(s)?			Yes	2	No			
6. Sufficient sam	ple volume for	indicated to	est(s)?		Yes		No			
7. Are samples (	except VOA an	d ONG) pr	operly preserve	ed?	Yes		No			
8. Was preserval	tive added to be	ottles?			Yes [		No		na 🗆	
9. Received at le	ast 1 vial with h	neadspace	<1/4" for AQ V	'OA?	Yes		No			
10. Were any san	nple containers	received b	oroken?		Yes [	]	No			
									# of preserved bottles checked	
11. Does paperwo					Yes		No		for pH:	>12 unless noted)
(Note discrepa 12. Are matrices d	ancies on chain	-			Yes	7	No		Adjusted?	>12 unless noted)
13. Is it clear what					Yes		No	_		
14. Were all holdin					Yes		No		Checked by:	A z-8-23
	ustomer for aut		)		103 8				6	1.000
Special Handl	ing (if appli	cable)								
15. Was client no	tified of all disc	repancies	with this order?	>	Yes		No		NA 🗹	
Person	Notified:			Date	-			_		
By Who	m: <b>Г</b>			Via:	🗌 eMai		Phone	Fax	In Person	
Regardi	ing: <b>Г</b>									
Client Ir	nstructions:								an a	
16. Additional rer	marks:				-					-
17. <u>Cooler Infor</u>	mation									
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Dat	e	Signed E	3y	Concernent of the second of th	
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	ANALYSIS LABORATORY	www.hallenvironmental.com	2 4901 Hawki	Tel. 505-345-3975 Fax 505-345-4107	Analysis Request	*OS ; ; (OE	[†] Oc SWIS	2 F	0 / D 5/808 5/808 04.1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	-AC 103 103 103 103 100 100 100 100 100 100	MT 15D 9115C 9115C 9115C 17, 1 9115C 9115C	TEX / TEX / TEX E TD (S THS D THS D TE, E TD (S TD	□ 10 85 85 85 85 80 80 10							n Long (- SFIISY		If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.
Turn-Around Time:	🗡 Standard 🛛 Rush	Project Name:	Chaco Plant Produced Water Reliance	Project #:	See 112	Project Manager: KSUMMAS			Sampler: RD echilled	9rs: Z 0	(Including CF): 0. 3-0.	Container Preservative HEAL No.	Type and # Type 2302345	VIZITIONS VIZITIONS						Received by: Via: Date Time	Pate 1	reperved by the set of	contracted to other accredited laboratories. This serves as notice of
Chain-of-Custody Record	Client: Enselum, LLC		Mailing Address: 100 6 5, 2, 0 6 and 5 wite A	- 22	Phone #:	KSUMMERCERSIUMICON	ige:		Accreditation:	vpe)			Date Time Matrix Sample Name	ATAZ HIS W NW -4						Date: Time: Relinquished by:	- 571	BIAND & COMPANY AND A	If necessary. samples submitted to Hall Environmental may be subt



APPENDIX F

Estimated Cost of Closure

Released to Imaging: 7/18/2023 8:48:20 AM

COST-TO-CLOSURE (CTC) ESTIMATE CHACO GAS PLANT OPERATIONAL CLOSURE BLOOMFIELD, SAN JUAN COUNTY, NEW MEXICO

Date Prepared:03/28/23Previous Estimate dated:Original

Form Revised 03-2023 from ENV Remediation Group Template

This Cost to Closure (CTC) estimate is to accrue for probable and estimable expenditures related to:

sul the En	sure of the gas plant as required in the discharge permit application prepared in response to a notice from the New Mexico Oil Conservation Division (NMOCD) stating Enterprise's natural gas plants are oject to the permitting requirements of Title 20, Chapter 6, Part 2 of the New Mexico Administrative Code (NMAC). There are no immediate or pending plans for the closure of the gas plant and, erefore, expenditures have been categorically tasked reasonably as listed in Section 10 of Enterprise's permit application package prepared in March 2023. Prior to the start of any closure activities, terprise will need to re-evaluate all costs, contracts, subcontractors and gas plant inventory to appropriately estimate expenditures in an internal addendum to this document. This documnent has been epared for internal use only and estimates non-Enterprise effort as understood by Ensolum.
СН	ANGES to Scope (from previously accrued estimate):
Or	ginal Estimate
Th	is cost estimate includes costs for (DESCRIPTION of proposed activities): (try to match DESCRIPTION line numbers below to the TASK line numbers on page 2 - below) Pre-Closure Planning - including administration/project management costs associated with closure strategy development, pre-bid conference calls, bid-walk, gas plant inventory and assessment
2	Pre-Job Planning - following award to all contractors, site walk/pre-job meeting, job plan, health and safety planning, One Call notifications
3	Site decommissioning: Remove all fluids from aboveground storage tanks (ASTs), below ground storage tanks (BGSTs) and sumps.
4	Site decommissioning: Off-site dispoal or recycling of liquids/sludges
5	Site decommissioning: Waste profiling - any unused chemicals will be identified and profiled, then handled and disposed of or recycled using a third-party waste handler licensed and certified to handle hazardous and non-hazardous waste
6	Site decommissioning: Dismantle ASTs, storage vessels, process equiment, and piping and removed from the facility
7	Site decommissioning: Excavate BGSTs and sumps
8	Site decommissioning: Dispose scrap material and equipment off-site through recycling or based on appropriate waste profiling
9	Site decommissioning: Dispose of solid waste material off-site (buidling materials, concrete, containment metal, line and miscellaneous metal or lumber
10	Collect soil samples from each plant process area to identify any residual impacted soil prior to reclamation
11	Regrade, restore and contour site
12	Provide closure documentation to NMOCD for review
Th	e attached CTC estimate is based on the following ASSUMPTIONS: (try to match ASSUMPTION line numbers below to the TASK line numbers on page 2 - below)
1	There are no releases, residual contamination, or impacts to soil, groundwater or surface water at the facility
2	All tankage, piping, instrumentation, and process equipment will be in a condition consistent with recent operations and standard shut-down procedures.
3	Costs for investigation, monitoring or supplemental corrective action related to historic releases are not included herein.
4	Costs do not include asset retirement obligations, legal filing or transfer of deed costs
5	Costs do not include land access agreement fees, lease/right of way agreements, foreiture fees, or similar
6	Costs do not include electrical feed equipment and disconnects
7	Costs do not include daily decommissioning oversight by Ensolum
8	The decomissioning subcontractor will direct bill to Enterprise but be managed and overseen by Ensolum
9	NORM, asbestos containing material, or other hazardous materials are not present at the site to managed for transportation/disposal off-site
10	Cost assumes there will be no equipment sales and all equipment and tankage will be scrapped.
11	Ensolum costs and subcontractor costs include a 10% and 25% contingeny, respectively, due to the open nature bid of this CTC in 2023
	(insert/delete rows above as needed)

Page 1/2 (Tab: CTC Estimate (Rev ENV Template))

Doc. name: Chaco Cost to Closure Estimate_rev1 Address: \\Ensolum_SharePoint\Projects_Enterprise\04B\258. Chaco Plant Discharge Permit\Cost to Closure Estimate\ *Released to Imaging: 7/18/2023 8:48:20 AM*

	COST-TO-CLOSURE (CTC) ESTIMATE	03/28/23	CHACO GAS PLANT OPP	ERATIONAL CLOSURE					Page 2
Th	is cost estimate includes: <u>TASK:</u>	Ensolum: (MSA)	<u>Demo Sub:</u> (MSA)	Misc Subs: (MSA)	Misc Subs: (MSA)	Misc Subs (no MSA)	<u>LAB:</u> (no MSA)	<u>SubTOT:</u>	<u>Year(s):</u> (1-4+)
1	Pre-closure planning	\$3,000	\$1,500					\$4,500	1
2	Pre-job planning	\$4,000	\$2,000					\$6,000	1
3	Site decommissioning (ranged average with assumptions)	\$11,000	\$12,000,000					\$12,011,000	1
4	Soil sample collection	\$9,000					\$6,000	\$15,000	1
	Site closure and regulatory/stakeholder correspondence	\$17,000						\$17,000	1
7								\$0	
	(insert/delete rows above as needed)								
	SubTotals>>>	\$44,000	\$12,003,500	\$0			\$6,000	\$12,053,500	
	Contractors w/ MSA (direct-bill to Enterprise):	Ensolum, Demo sub	contractors (TexMex, E	nvirotech. Lighthous		d to date for ab	ove SOW >>>	\$0	
	SUB = Subcontracted to Consultant (has no MSA with Entern LAB = laboratory (Subcontracted to Consultant)			,	,				
	\$12,053,500 SUBTOTAL COM	ITRACTED (from	above) - amount alre	eady invoiced for a	bove SOW				
	+ Other Expendit		NA						
	+ Annual Land/Le	ase Payments	*see attached tab	"Landowners " f	or line-item esti	mates	Unknown agreem	ents	
	\$240,000 + COR Expenses (No. of field days	requiring a COR=	120		1
	\$12,293,500 TOTAL CONTRA	-							
	<u>\$1,844,025</u> + 15% Enterprise					(di		h year estimated) >>> r of specific tasks) >>>	1
	<u>\$0</u> + <u>5% Task Cost Tr</u> \$14,137,525 TOTAL PROJEC		>\$500K, e.g. excavati	ion)			toniy for the yea	i oj specijic tusks) >>>	
	\$0 - AFE Budget rer			*Totals as of:	NA		The "Budget Remain	ing" needs to be >>>	0
		nce, use a <u>positive</u> nu	ımber)				located (in full) startin out resulting in a nega		Ŭ
	\$0 + Work in Progre		inpaid & unprocessed in	voices not included i	n Remaining AFE Bu				1
	\$14,137,525 TOTAL ESTIMAT	ED COST							



APPENDIX G

Chemical/Storage Inventory List

Released to Imaging: 7/18/2023 8:48:20 AM

		Safetv Policies Manual		Form Number:	
Enterprise				IH-202	
Products		Safety Forms		Revision Date: 07/17/2013	
Anr	Annual Hazardous Chemical Inventory	mical Inventory			
Location:	Chaco Plant Facility			1/18/2023	
Area/Region:	San Juan Plants				
Conducted By:	Operations				
Product or Chemical Name	Manufacturer / Vendor	Storage Location	Type of Storage Container	Current Inventory	Max Inventory
Gasoline	Western Refining	North of Maintenance Shop	Metal Tank (Tank #1)	260	1,000
Methanol	Univar	Between 200 & 400 Trains	Metal Tank (Tank #5)	1,876	2,814
Triethylene Glycol (TEG)	Coastal Chemical	North of Cryo	Metal Tank (Tank #6)	2,331	3,780
NG Condensate	Enterprise Products	West Side of Cryo	Vessel (Bullet #7) V-100	27,411	91,370
Coastal Guard 50	Coastal Chemical	C Plant	Metal Tank (Tank #9)	1,763	2,730
DTE 732 Turbine Oil	Mobil	C Plant	Metal Tank (Tank #10)	3,626	8,820
Pegasus 805 Lube Oil	Mobil	Bisti 8	Metal Tank (Tank #11)	2,362	3,780
Pegasus 701 Lube Oil	Mobil	West of B Plant	Metal Tank (Tank #12)	1,747	8,734
Diesel	Western Refining	West of B Plant	Metal Tank (Tank #13)	250	1,000
Acid-H2SO4	Univar	B Cooling Tower	Polly Tank (Tank #14)	614	1,000
Corrosion Inhibitor	GE Betz	B Cooling Tower	Polly Tank (Tank #15)	88	500

Product or			Tvna of		:
Chemical Name	Manufacturer / Vendor	Storage Location	Storage Container	Current Inventory	Max Inventory
Sodium Hypochlorite (Bleach)	GE Betz	B Cooling Tower	Polly Tank (Tank #16)	470	800
Used Oil	Mobil, Royal Purple, Shell	ocs	Metal Tank (Tank #22)	13,344	21,000
NG Condensate	Enterprise Products	East Side of Cryo	Metal Tank (Tank # 28)	35,700	168,000
NG Condensate	Enterprise Products	East Side of Cryo	Metal Tank (Tank #29)	12,216	168,000
Pegasus 701 Lube Oil	Mobil	A Comp. (South Tank)	Metal Tank (Tank #30)	2,058	8,820
Pegasus 701 Lube Oil	Mobil	A Comp.(Middle Tank)	Metal Tank (Tank #31)	2,058	8,820
Pegasus 805 Lube Oil	Mobil	A Comp. (North Tank)	Metal Tank (Tank #32)	2,205	8,820
Pegasus 805 Lube Oil	Mobil	Cryo Compressor	Metal Tank (Tank #34)	1,342	4,200
NGL 150 Lube Oil	Royal Purple	Inside Cryo Compressor Bldg	Polly Tank (Tank #36A)	60	320
NGL 150 Lube Oil	Royal Purple	Inside Cryo Compressor Bldg	Polly Tank (Tank #36B)	320	320
Diesel	Amoco	A Compressor	Metal Tank (Tank # 38)	0	500
Solvent	Safety Kleen	A Compressor	Metal Tank (Tank #39)	0	500
Coastal Guard 50	Coastal Chemical	A Compressor	Metal Tank (Tank #40)	112	300
Diesel	Western Refining	A Compressor	Metal Tank (Tank #33)	250	500
Sodium Hypochlorite (Bleach)	GE Betz	C Cooling Tower	Polly Tank (Tank #41)	349	500
Microbial control Agent Biocide (Spectrus OX1201)	GE Betz	C Cooling Tower	Polly Tank (Tank #42)	250	500
Corrosion Inhibitor	GE Betz	C Cooling Tower	Polly Tank (Tank #43)	149	500
Acid-H2SO4 - 93% Concentration	Univar	C Cooling Tower	Polly Tank (Tank #44)	242	1,000
Gas/Spec CS-1 Solvent (Amine)	Ineos Oxide	South of 400 Surge Tank	Metal Tank (Tank #45)	3,222	20,000

Developed or			Tuno of		
Chemical Name	Manufacturer / Vendor	Storage Location	Storade Container	Current Inventory	Max Inventory
Microbial control Agent Biocide (Spectrus OX1201)	GE Betz	B Cooling Tower	Polly Tank (Tank #48)	250	500
Methanol	Univar	Storage/Shipping Area	Vessel (Bullets)	228,125	455,000
NG Condensate (Out of Service)	Enterprise Products	Storage/Shipping Area	Vessel (Bullets) 14 & 15	0	0
NGL (Y- Grade)	Enterprise Products	200 Train Surge Tank	Vessel - V-8137	0	13,692
NGL (Y- Grade)	Enterprise Products	400 Train Surge Tank	Vessel - V-8108	14,137	31,416
Propane	Enterprise Products	Propane storage tank	Vessel - V-8151	5,285	12,013
Chemtherm	Coastal Chemical	Hot oil surge tank	Vessel - V8114	7,673	18,270
Spectrus BD 1550	GE Betz	C tower pump house	Plastic cans	0	25
Foamtrol AF 1440	GE Betz	C tower pump house	Plastic cans	2	40
Hypersperse MDC 714	GE Betz	C tower pump house	Plastic cans	0	25
Spectrus NX 1100	GE Betz	C tower pump house	Tote	0	350
Spectrus NX 108	GE Betz	C tower pump house	Plastic cans	0	25
Hypersperse MDC 150	GE Betz	RO Building	Plastic barrel	35	55
Spectrus NX 108	GE Betz	RO Building	Plastic barrel	25	30
KLEEN MCT515	GE Betz	RO Building	Metal can	0	30
Defoamer 530	Coastal Chemical	Cryo Comp. building	Plastic barrel	100	100
Synthetic Oil GT 32	Royal Purple	Cryo Comp. building	320 gallon tote	135	320
Sodium Chloride	Morton	B Compressor building	Plastic bags	57 bags	32
Screw Comp. Lube Oil	Atlas Copco	Stand-by air comp. bld.	Plastic cans	0	25

Product or			Type of		Ň
Chemical Name	Manufacturer / Vendor	Storage Location	Storage Container	Current Inventory	Inventory
Lube Oil	Shell	Stand-by air comp. bld.	Metal drum	27	55
Spectrus BD 1500	GE Betz	B Tower Pump house	Plastic barrel	0	25
Foamtrol AF 1440	GE Betz	B Tower Pump house.	Metal drum	2	25
Spectrus NX 1100	GE Betz	B Tower Pump house	Tote	1	350
Klaraid PC 1192P	GE Betz	Water treater	300 gallon tote	240	300
Sodium Hypochlorite (Bleach)	Univar	Water Treater	55 gallon plastic barrels	50	330
Purple X Soap	Royal Purple	B Compressor/Cryo engine room	55 gallon plastic barrels	35	220
Magnaglow	Magnaflux	Warehouse	Spray Can	12	12
Omniprime	Tape Coat	Warehouse	Metal Can	1	4
Roskote Mastic	Royston	Warehouse	Metal can	1	3
Paint Stripper	Loctite	Warehouse	Spray can	19	6
Solvent Cleaner 108	Dysol	Warehouse	Spray can	0	6
WD-40	WD-40	Warehouse	Spray can	ø	10
ICE OFF	CRC	Warehouse	Spray can	12	9
Aerokroil	KANO Labs	Warehouse	Spray can	7	12
PB Blaster	B'laster/B	Warehouse	Spray can	7	9
Hi TACK	Loctite	Warehouse	Spray can	IJ	5
Belt Dressing	crc	Warehouse	Spray can	18	4
Paint	Krylon	Warehouse	Spray can	2	60

Product or	acharol / accuracy	Contract Contract	Type of		Max
Chemical Name	Manuracturer / vendor	storage Location	Storage Container	current inventory	Inventory
Battery Terminal Protect	crc	Warehouse	Spray can	1	10
Lithium Lube	Sprayon	Warehouse	Spray can	10	5
S00740 Zink Compound	CRC	Warehouse	Spray can	11	4
Urethane Seal Coat	CRC	Warehouse	Spray can	9	5
C-NF Cleaner	DYNA FLUX	Warehouse	Spray can	2	6
D-NF Developer	DYNA FLUX	Warehouse	Spray can	2	6
P-HF Penetrant	DYNA FLUX	Warehouse	Spray can	4	6
Contact Cleaner	CRC	Warehouse	Spray can	1	20
Cable Clean	CRC	Warehouse	Spray can	1	12
Electrical Coating	Scotchkote 3M	Warehouse	Metal can	0	4
PVC Primer	IPS Corp	Warehouse	Metal can	4	4
PVC Cement	IPS Corp	Warehouse	Metal can	0	4
Brakleen	CRC	Warehouse	Spray can	93	36
Sodium Hypochlorite (Bleach)	Clorox	Warehouse	Plastic bottle	2	4
Cleaner	Pine-Sol	Warehouse	Plastic bottle	2	4
Cleaner	409	Warehouse	Plastic bottle	0	4
Chisel Gasket Remover	Loctite	Shop	Spray can	ο	9
Super 77 Adhesive	ЗМ	Shop	Spray can	4	4
Hi Tack Gasket Sealant	Loctite	Shop	Spray can	Ŋ	11

Product or	Manufacturer / Vendor	Storade Location	Type of	Current Inventory	Max
Chemical Name			Storage Container		Inventory
Ant & Roach Killer	Black Flag	Shop	Spray can	2	4
Starting Fluid	Valvoline	Shop	Spray can	4	12
WLD Lube	Jet Lube	Shop	Spray can	0	6
Spray Lube	Sprayon	Shop	Spray can	7	10
Solvent cleaner 104	Dysol	Shop	Spray can	0	6
Never Seez	Bostik	Shop	Metal can	0	4
C5 – A Lube	Loctite	Shop	Metal can	0	4
Paint	Krylon	Shop	Spray can	4	30
WD-40	WD-40	Shop	Spray can	∞	6
Electric Part Cleaner	CAT	Shop	Spray can	1	6
Power Steering Fluid	NAPA	Shop	Plastic bottle	4	10
	NAPA	Shop	Plastic bottle	0	6
Motor Oil	Valvoline	Shop	Plastic bottle	10	10
Diesel Supplement	Power Services	Shop	Plastic bottle	0	10
Oil	Various	Shop	Plastic bottle	9	10
Hydraulic oil	Conoco	Shop	Metal can	0	10
Grease	Lubriplate	Shop	Plastic tube	∞	10
3100 Cleaner	B&B	Shop	Metal can	0	4
Ероху	Sherwin Williams	Warehouse	Metal can	0	Ļ

Product or			Type of		Max
Chemical Name	manuracturer / vendor	Storage Location	Storage Container	Current Inventory Inventory	Inventory
Epoxy Hardener	Sherwin Williams	Warehouse	Metal can	0	1
Paint	Sherwin Williams	Warehouse	Metal can	23	4
Grease	Shell & Royal Purple	Warehouse	Metal can	0	9
Hydraulic Fluid	Kubota	Warehouse	Metal can	8	9
Heavy Oil	Mobil	Warehouse	Metal can	4	9
Operations Supervisor (printed): Erric Lucero	Signature:		Erric Lucero	Date:1/19/2023	

File Name: Annual Hazardous Chemical Inventory_IH202.doc - 07/17/13 - Rev 2

Form No: IH202

Luke Woolsey

Distribution: Area Location, Safety/PSM Coord.

Page 1 of File Retention Years: Current



APPENDIX H Non-Contact Pond Lab Results

Released to Imaging: 7/18/2023 8:48:20 AM



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

October 28, 2015

Thomas Long Enterprise Field Services 614 Reilly Ave. Farmington, NM 87401 TEL: (505) 599-2141 FAX

RE: Chaco Plant Non-Contact Water Pond

OrderNo.: 1509D04

Dear Thomas Long:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/26/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andis

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

CLIENT: Enterprise Field Services

Project: Chaco Plant Non-Contact Water Pond

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order 1509D04

Date Reported: 10/28/2015

Client Sample ID: Non-Contact Water Pond Collection Date: 9/25/2015 8:50:00 AM

Lab ID: 1509D04-001	Matrix:	AQUEOU	S	Received	Date: 9/2	26/2015 8:30:00 AM	
Analyses	Result	RL	Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 300.0: ANIONS						Analys	t: LGT
Fluoride	1.4	0.10		mg/L	1	10/1/2015 11:50:01 AM	1 R29255
Chloride	120	10		mg/L	20	10/1/2015 12:02:26 PM	1 R29255
Nitrogen, Nitrite (As N)	ND	0.10	Н	mg/L	1	10/1/2015 11:50:01 AM	1 R29258
Bromide	57	2.0		mg/L	20	10/1/2015 12:02:26 PN	1 R2925
Nitrogen, Nitrate (As N)	0.40	0.10	Н	mg/L	1	10/1/2015 11:50:01 AM	1 R2925
Phosphorus, Orthophosphate (As P)	ND	10	Н	mg/L	20	10/1/2015 12:02:26 PM	1 R2925
Sulfate	780	10	*	mg/L	20	10/1/2015 12:02:26 PN	1 R2925
EPA METHOD 7470: MERCURY						Analys	t: JLF
Mercury	ND	0.00020	1	mg/L	1	10/6/2015 3:30:24 PM	21684
EPA METHOD 6010B: DISSOLVED N	IETALS					Analys	t: MED
Arsenic	ND	0.020		mg/L	1	10/16/2015 1:09:27 PM	1 A29600
Barium	0.22	0.020		mg/L	1	10/16/2015 1:09:27 PM	1 A2960
Cadmium	ND	0.0020		mg/L	1	10/16/2015 1:09:27 PM	1 A2960
Calcium	180	5.0		mg/L	5	10/16/2015 2:26:06 PM	1 A2960
Chromium	ND	0.0060		mg/L	1	10/16/2015 1:09:27 PM	1 A2960
Iron	0.059	0.020		mg/L	1	10/16/2015 1:09:27 PN	1 A29600
Lead	ND	0.0050		mg/L	1	10/16/2015 1:09:27 PN	1 A29600
Magnesium	37	1.0		mg/L	1	10/16/2015 1:09:27 PM	1 A2960
Manganese	0.029	0.0020		mg/L	1	10/16/2015 1:09:27 PM	1 A2960
Potassium	16	1.0		mg/L	1	10/16/2015 1:09:27 PM	1 A2960
Selenium	ND	0.050		mg/L	1	10/19/2015 12:21:19 P	M A2963
Silver	ND	0.0050		mg/L	1	10/16/2015 1:09:27 PM	1 A2960
Sodium	250	10		mg/L	10	10/16/2015 2:24:17 PM	1 A29600
EPA METHOD 8011/504.1: EDB						Analys	t: KJH
1,2-Dibromoethane	ND	0.010	1	µg/L	1	10/4/2015 7:50:28 PM	21634
EPA METHOD 8082: PCB'S						Analys	t: SCC
Aroclor 1016	ND	1.0		µg/L	1	10/5/2015 11:55:08 AN	1 21525
Aroclor 1221	ND	1.0		µg/L	1	10/5/2015 11:55:08 AM	1 21525
Aroclor 1232	ND	1.0		µg/L	1	10/5/2015 11:55:08 AM	1 21525
Aroclor 1242	ND	1.0		µg/L	1	10/5/2015 11:55:08 AM	1 21525
Aroclor 1248	ND	1.0		µg/L	1	10/5/2015 11:55:08 AN	1 21525
Aroclor 1254	ND	1.0		µg/L	1	10/5/2015 11:55:08 AN	1 21525
Aroclor 1260	ND	1.0		µg/L	1	10/5/2015 11:55:08 AN	1 21525
Surr: Decachlorobiphenyl	63.6	17.7-151		%REC	1	10/5/2015 11:55:08 AN	1 21525
Surr: Tetrachloro-m-xylene	55.2	20.6-151		%REC	1	10/5/2015 11:55:08 AM	1 21525
EPA METHOD 8310: PAHS						Analys	t: SCC
Naphthalene	ND	2.0		µg/L	1	10/5/2015 11:48:30 AM	1 21581

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

D Sample Diluted Due to Matrix

- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit

R RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 9
- P Sample pH Not In Range
- RL Reporting Detection Limit

Hall Environmental Analysis Laboratory, Inc.

Analytical Report Lab Order 1509D04

Date Reported: 10/28/2015

-			
CLIENT:	Enterprise Field Services		Client Sample ID: Non-Contact Water Pond
Project:	Chaco Plant Non-Contact Water	Pond	Collection Date: 9/25/2015 8:50:00 AM
Lab ID:	1509D04-001	Matrix: AQUEOUS	Received Date: 9/26/2015 8:30:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8310: PAHS					Analys	t: SCC
1-Methylnaphthalene	ND	2.0	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
2-Methylnaphthalene	ND	2.0	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Acenaphthylene	ND	2.5	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Acenaphthene	ND	2.0	µg/L	1	10/5/2015 11:48:30 AM	1 21581
Fluorene	ND	0.80	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Phenanthrene	ND	0.60	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Anthracene	ND	0.60	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Fluoranthene	ND	0.30	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Pyrene	ND	0.30	µg/L	1	10/5/2015 11:48:30 AM	1 21581
Benz(a)anthracene	ND	0.070	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Chrysene	ND	0.20	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Benzo(b)fluoranthene	ND	0.10	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Benzo(k)fluoranthene	ND	0.070	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Benzo(a)pyrene	ND	0.070	µg/L	1	10/5/2015 11:48:30 AM	1 21581
Dibenz(a,h)anthracene	ND	0.12	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Benzo(g,h,i)perylene	ND	0.12	µg/L	1	10/5/2015 11:48:30 AM	/ 21581
Indeno(1,2,3-cd)pyrene	ND	0.25	µg/L	1	10/5/2015 11:48:30 AM	1 21581
Surr: Benzo(e)pyrene	63.8	37.2-136	%REC	1	10/5/2015 11:48:30 AM	1 21581

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

Qualifiers:	
-------------	--

- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 9 J
- Р Sample pH Not In Range
- RL Reporting Detection Limit

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

	interprise Field Thaco Plant Nor		Water Pond							
Sample ID MB	Sar	mpType: M	BLK	Tes	tCode: El	PA Method	300.0: Anion	S		
Client ID: PBW	В	atch ID: R	29255	F	RunNo: 2	9255				
Prep Date:	Analys	is Date: 1	0/1/2015	5	SeqNo: 8	88926	Units: mg/L			
Analyte	Resu	lt PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	N	D 0.10								
Chloride	N	D 0.50								
Nitrogen, Nitrite (As N)	N	D 0.10								
Bromide	N	D 0.10								
Nitrogen, Nitrate (As N)	N	D 0.10								
Phosphorus, Orthophospha	te (As P NI	D 0.50								
Sulfate	N	D 0.50								
Sample ID LCS	Sar	mpType: L	cs	TestCode: EPA Method 300.0: Anions						
Client ID: LCSW	В	atch ID: R	29255	F	9255					
Prep Date:	Analys	is Date: 1	0/1/2015	S	SeqNo: 8	88927	Units: mg/L			
Analyte	Resu	lt PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Fluoride	0.5	0 0.10	0.5000	0	100	90	110			
Chloride	4.	7 0.50	5.000	0	94.8	90	110			
Nitrogen, Nitrite (As N)	0.9	5 0.10	1.000	0	94.7	90	110			
Bromide	2.	4 0.10	2.500	0	97.8	90	110			
Nitrogen, Nitrate (As N)	2.	5 0.10	2.500	0	99.8	90	110			
Phosphorus, Orthophospha	te (As P 4.	8 0.50	5.000	0	96.6	90	110			

Qualifiers:

- Value exceeds Maximum Contaminant Level. *
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RPD outside accepted recovery limits R
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL

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WO#:

Reporting Detection Limit

Client: Project:		rprise Field Ser co Plant Non-C		Water Pond							
Sample ID	MB-21634	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8011/504.1: E	DB		
Client ID:	PBW	Batch	n ID: 21	634	R	RunNo: 2 9	9276				
Prep Date:	10/2/2015	Analysis D	Date: 10	0/4/2015	S	SeqNo: 8	89749	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoeth	nane	ND	0.010								
Sample ID	LCS-21634	SampT	ype: LC	S	Tes	tCode: El	PA Method	8011/504.1: E	DB		
Client ID:	LCSW	Batch	n ID: 21	634	R	RunNo: 2	9276				
Prep Date:	10/2/2015	Analysis D	Date: 10	0/4/2015	S	SeqNo: 8	89754	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
1,2-Dibromoeth	nane	0.12	0.010	0.1000	0	115	70	130			

Qualifiers:

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- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

-	ise Field Ser Plant Non-Co		Water Pond							
Sample ID MB-21525	SampTy	/pe: ME	BLK	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: PBW	Batch	ID: 21	525	R	unNo: 2	9247				
Prep Date: 9/28/2015	Analysis Da	ate: 10)/2/2015	S	eqNo: 8	88703	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	ND	1.0								
Aroclor 1221	ND	1.0								
Aroclor 1232	ND	1.0								
Aroclor 1242	ND	1.0								
Aroclor 1248	ND	1.0								
Aroclor 1254	ND	1.0								
Aroclor 1260	ND	1.0								
Surr: Decachlorobiphenyl	3.1		2.500		124	17.7	151			
Surr: Tetrachloro-m-xylene	2.8		2.500		112	20.6	151			
Sample ID LCS-21525	SampTy	/pe: LC	S	Tes	tCode: El	PA Method	8082: PCB's			
Client ID: LCSW	Batch	ID: 21	525	R	unNo: 2	9247				
Prep Date: 9/28/2015	Analysis Da	ate: 10)/2/2015	S	eqNo: 8	88704	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Aroclor 1016	2.9	1.0	5.000	0	58.5	9.01	142			
Aroclor 1260	4.2	1.0	5.000	0	83.7	25.6	164			
Surr: Decachlorobiphenyl	2.2		2.500		88.4	17.7	151			
Surr: Tetrachloro-m-xylene	2.0		2.500		78.0	20.6	151			

Qualifiers:

Value exceeds Maximum Contaminant Level. *

Sample Diluted Due to Matrix D

- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range

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WO#:

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

-	ise Field Se Plant Non-C		Water Pond							
Sample ID MB-21581	Samp	Гуре: МЕ	BLK	Test	tCode: E	PA Method	8310: PAHs			
Client ID: PBW	Batc	h ID: 21	581	R	RunNo: 2	9283				
Prep Date: 9/30/2015	Analysis E	Date: 10	0/5/2015	S	SeqNo: 8	90022	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	2.0								
2-Methylnaphthalene	ND	2.0								
Acenaphthylene	ND	2.5								
Acenaphthene	ND	2.0								
Fluorene	ND	0.80								
Phenanthrene	ND	0.60								
Anthracene	ND	0.60								
Fluoranthene	ND	0.30								
Pyrene	ND	0.30								
Benz(a)anthracene	ND	0.070								
Chrysene	ND	0.20								
Benzo(b)fluoranthene	ND	0.10								
Benzo(k)fluoranthene	ND	0.070								
Benzo(a)pyrene	ND	0.070								
Dibenz(a,h)anthracene	ND	0.12								
Benzo(g,h,i)perylene	ND	0.12								
Indeno(1,2,3-cd)pyrene	ND	0.25								
Surr: Benzo(e)pyrene	12		20.00		59.5	37.2	136			
Sample ID LCS-21581	Samp	Гуре: LC	s	Test	tCode: E	PA Method	8310: PAHs			
Client ID: LCSW	Batc	h ID: 21	581	R	RunNo: 2	9283				
Prep Date: 9/30/2015	Analysis E	Date: 10	0/5/2015	S	SeqNo: 8	90023	Units: µg/L			
Analyte	Result	PQL		SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Naphthalene	58	2.0	80.00	0	73.1	57.8	83.9			
1-Methylnaphthalene	61	2.0	80.20	0	75.7	43.5	88.5			
2-Methylnaphthalene	59	2.0	80.00	0	74.3	34.2	94.5			
Acenaphthylene	69	2.5	80.20	0	85.9	58.5	93.6			
Acenaphthene	61	2.0	80.00	0	76.8	45.5	90.9			
Fluorene	5.8	0.80	8.020	0	72.2	46.6	90.3			
Phenanthrene	2.9	0.60	4.020	0	73.1	47.2	102			
Anthracene	2.8	0.60	4.020	0	70.1	45.4	99.1			
Fluoranthene	6.3	0.30	8.020	0	78.9	45.3	101			
Pyrene	6.6	0.30	8.020	0	81.7	51.9	104			
Benz(a)anthracene	0.62	0.070	0.8020	0	77.3	46.9	104			
Chrysene	3.2	0.20	4.020	0	78.4	53.6	95.1			
Benzo(b)fluoranthene Benzo(k)fluoranthene	0.76	0.10	1.002	0	75.8	54.3 47.4	97.9			
	0.41	0.070	0.5000		82.0		109			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

Released to Imaging: 7/18/2023 8:48:20 AM

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WO#:

Client:

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Enterprise Field Services

Project:	Chaco	Plant Non-C	ontact V	Water Pond							
Sample ID	LCS-21581	Samp	Гуре: LC	S	Tes	tCode: E	PA Method	8310: PAHs			
Client ID:	LCSW	Batc	h ID: 21	581	F	RunNo: 2	9283				
Prep Date:	9/30/2015	Analysis [Date: 10)/5/2015	S	SeqNo: 8	90023	Units: µg/L			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzo(a)pyrene	<u>)</u>	0.40	0.070	0.5020	0	79.7	56.3	98.6			
Dibenz(a,h)anth	nracene	0.73	0.12	1.002	0	72.9	57.5	95.7			
Benzo(g,h,i)per	ylene	0.78	0.12	1.000	0	78.0	55.9	98.6			
Indeno(1,2,3-cd	l)pyrene	1.5	0.25	2.004	0	75.8	52.8	95.3			
Surr: Benzo(e)pyrene	12		20.00		58.5	37.2	136			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

WO#: 1509D04 28-Oct-15

Client: Project:		rprise Field Services co Plant Non-Contact Water Pone	d					
Sample ID	MB-21684 SampType: MBLK TestCode: EPA Method 7470: Mercury							
Client ID:	PBW	Batch ID: 21684	R	unNo: 29353				
Prep Date:	10/6/2015	Analysis Date: 10/6/2015	S	eqNo: 892607	Units: mg/L			
Analyte		Result PQL SPK value	e SPK Ref Val	%REC LowLir	nit HighLimit	%RPD	RPDLimit	Qual
Mercury		ND 0.00020						
Sample ID	Sample ID LCS-21684 SampType: LCS TestCode: EPA Method 7470: Mercury							
Client ID:	LCSW	Batch ID: 21684 RunNo: 29353						
Prep Date:	10/6/2015	Analysis Date: 10/6/2015	S	eqNo: 892608	Units: mg/L			
Analyte		Result PQL SPK value	e SPK Ref Val	%REC LowLir	nit HighLimit	%RPD	RPDLimit	Qual
Mercury		0.0051 0.00020 0.005000) 0	102	80 120			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

1509D04

28-Oct-15

WO#:

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QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Client: Project:	Enterprise Field Services Chaco Plant Non-Contact Water Pond
Sample ID MB	SampType: MBLK TestCode: EPA Method 6010B: Dissolved Metals
Client ID: PBW	Batch ID: A29600 RunNo: 29600
Prep Date:	Analysis Date: 10/16/2015 SeqNo: 901066 Units: mg/L
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Arsenic	ND 0.020
Barium	ND 0.020
Cadmium	ND 0.0020
Calcium	ND 1.0
Chromium	ND 0.0060
Iron	ND 0.020
Lead	ND 0.0050
Magnesium	ND 1.0
Manganese	ND 0.0020
Potassium	ND 1.0
Silver	ND 0.0050
Sodium	ND 1.0
Sample ID MB	SampType: MBLK TestCode: EPA Method 6010B: Dissolved Metals
Client ID: PBW	Batch ID: A29635 RunNo: 29635
Prep Date:	Analysis Date: 10/19/2015 SeqNo: 902429 Units: mg/L
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Selenium	ND 0.050
Sample ID LCS	SampType: LCS TestCode: EPA Method 6010B: Dissolved Metals
Client ID: LCSW	V Batch ID: A29635 RunNo: 29635
Prep Date:	Analysis Date: 10/19/2015 SeqNo: 902430 Units: mg/L
Analyte	Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual
Selenium	0.53 0.050 0.5000 0 106 80 120

Qualifiers:

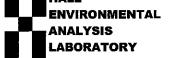
- * Value exceeds Maximum Contaminant Level.
- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank В
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Detection Limit RL

WO#: 1509D04 28-Oct-15

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Received	b <u>v QCD: 5/25/2023 9:05:40 AM</u>	
		Hall Environme



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

Sample Log-In Check List

Client Name:	Enterprise	Work Order Numbe	r: 1509D04		RcptNo: 1	
Received by/da	ate: Cm 09/2	24/15				
Logged By:	Anne Thorne	9/26/2015 8:30:00 AM	1	are Am	-	
Completed By:	Anne Thorne	9/28/2015		Arne Hrm Arne Hrm	-	
Reviewed By:	An	09/30/15				
Chain of Cu	stody					
1. Custody se	eals intact on sample bottle	es?	Yes 🗋	No 🗌	Not Present 🗹	
2. Is Chain of	f Custody complete?		Yes 🗹	No 🗌	Not Present	
3. How was t	he sample delivered?		<u>Courier</u>			
<u>Log In</u>						
4. Was an at	itempt made to cool the sa	mples?	Yes 🗹	No 🗔		
5. Were all sa	amples received at a temp	erature of >0° C to 6.0°C	Yes 🗹	No 🗆	NA 🗍	
6. Sample(s)	in proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient s	sample volume for indicate	d test(s)?	Yes 🔽	No 🗌		
8. Are sample	es (except VOA and ONG)	properly preserved?	Yes 🗹	No 🗌		
9. Was prese	ervative added to bottles?		Yes 🗌	No 🗹	NA 🗌	
10.VOA vials	have zero headspace?		Yes 🗆	No 🗌	No VOA Vials 🗹	
11. Were any	sample containers receive	d broken?	Yes	No 🗹	# of preserved ,	
			_	_	bottles checked	
• •	erwork match bottle labels repancies on chain of cust		Yes 🗹	No 🗌	for pH: / (<2) or >	12 unless noted)
	es correctly identified on C		Yes 🗹	No 🗆	Adjusted?	1/0
14, is it clear w	what analyses were reques	ted?	Yes 🔽	No 🗌		0.
	olding times able to be me fy customer for authorization		Yes 🗹	No 🗌	Checked by:	<i>I</i> q
Special Han	ndling (if applicable)					
16. Was client	notified of all discrepancie	es with this order?	Yes 🗌	No 🗆	NA 🗹	
Pers	on Notified:	Date		1		
By V	Vhom:	Via:	eMail 🔲	Phone 🗌 Fax	In Person	
Rega	arding:					
Clier	nt Instructions:					

17. Additional remarks:

18. Cooler Information

Cooler	No Temp °C	Condition		Seal No	Seal Date	Signed By
1	1.3	Good	Yes			

Page 1 of 1

Received by OCD: 5/25/2023 9:05:40 AM	Page 178-of 298
Air Bubbles (Y or N)	
En 6808 -	2
Z R S Avion 5 M I & voito)	
FI DISSERVED B ROLE & DISSERVED	
2 801 EOB 8 ZE	So H and Witcal F
	HN03 HN03
HALL ENVIRONMENTAL HALL ENVIRONMENTAL ANALYSIS LABORATOR Www.hallenvironmental Www.hallenvironmental Www.hallenvironmental Www.hallenvironmental Www.hallenvironmental Www.hallenvironmental Www.hallenvironmental Www.hallenvironmental BARAYSIS LABORATOR BARAYSIS Fax 505-345-4107 Analysis Request BS270 (Semi-VOA) BS270 (Semi-VOA) BS270 (Semi-VOA) Cotion 5 Molects 8082 PCB's BS270 (Semi-VOA) BS270 (Semi-VOA)	
	A disselved cata will be clearly
	A data will be dean
EDB (Method 504.1)	
EDB (Method 504.1)	Did Did
EDB (Method 504.1) EDB (Method 504.1) EDB (Method 504.1) EDB (Method 504.1)	Did Did
TPH 8015B (GRO / DRO / MRO) 44 TPH 8015B (GRO / DRO / MRO) 55 TPH 8015B (GRO / DRO / MRO) 55 TPH 8015B (GRO / DRO / MRO) 55 TPH (Method 504.1) 55 T	Time Remarks: Plant Any sub-contracted data will be dearly notated on the analytical report
	Sessibility. A
BTEX + MTBE + TMB's (8021)	
Pour Pour Servin MET Onlog IS MALNO. HEALNO. SUGDOU	
HEAL NO. HEAL	
Pand Sephy Mo No Mo HEAL	
Plant Er Bud Sejhume. Jeng HEAL No ISOG DOU	Date Date
e: I Rush I Acco I	S
Time: Time: Chaco tact W Monucs TJJ Preservative Type	Philed labo
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Released to Imaging: 7/18/2023 8:48:20 AM	



September 24, 2015

Thomas Long Enterprise Field Services 614 Reilly Ave. Farmington, NM 87401 TEL: (505) 599-2141 FAX

RE: Chaco Plant Non-Contact Water Pond

OrderNo.: 1509967

Hall Environmental Analysis Laboratory

TEL: 505-345-3975 FAX: 505-345-4107

Website: www.hallenvironmental.com

4901 Hawkins NE

Albuquerque, NM 87109

Dear Thomas Long:

Hall Environmental Analysis Laboratory received 1 sample(s) on 9/22/2015 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

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

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andis

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Project:

Lab ID:

CLIENT: Enterprise Field Services

1509967-001

Analytical Report Lab Order 1509967

Date Reported: 9/24/2015

Hall Environmental Analysis Laboratory, I	Inc.

Chaco Plant Non-Contact Water Pond

Client Sample ID: Non-Contact Water Pond Collection Date: 9/21/2015 2:16:00 PM Received Date: 9/22/2015 7:00:00 AM

Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
Benzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Toluene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Ethylbenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Methyl tert-butyl ether (MTBE)	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2,4-Trimethylbenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,3,5-Trimethylbenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2-Dichloroethane (EDC)	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2-Dibromoethane (EDB)	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Naphthalene	ND	2.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1-Methylnaphthalene	ND	4.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
2-Methylnaphthalene	ND	4.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Acetone	ND	10	µg/L	1	9/23/2015 3:14:42 PM	R29068
Bromobenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Bromodichloromethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Bromoform	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Bromomethane	ND	3.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
2-Butanone	ND	10	µg/L	1	9/23/2015 3:14:42 PM	R29068
Carbon disulfide	ND	10	µg/L	1	9/23/2015 3:14:42 PM	R29068
Carbon Tetrachloride	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Chlorobenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Chloroethane	ND	2.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Chloroform	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Chloromethane	ND	3.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
2-Chlorotoluene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
4-Chlorotoluene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
cis-1,2-DCE	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
cis-1,3-Dichloropropene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2-Dibromo-3-chloropropane	ND	2.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Dibromochloromethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Dibromomethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2-Dichlorobenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,3-Dichlorobenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,4-Dichlorobenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Dichlorodifluoromethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,1-Dichloroethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,1-Dichloroethene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2-Dichloropropane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,3-Dichloropropane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
2,2-Dichloropropane	ND	2.0	µg/L	1	9/23/2015 3:14:42 PM	R29068

Matrix: AQUEOUS

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

Qualifiers: * Value exceeds Maximum Contaminant Level.

- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits Page 1 of 5
- P Sample pH Not In Range
- RL Reporting Detection Limit

Project:

CLIENT: Enterprise Field Services

Hall Environmental Analysis Laboratory, Inc.

Chaco Plant Non-Contact Water Pond

Analytical Report Lab Order 1509967

Date Reported: 9/24/2015

Client Sample ID: Non-Contact Water Pond Collection Date: 9/21/2015 2:16:00 PM Received Date: 9/22/2015 7:00:00 AM

Lab ID: 1509967-001	Matrix: A	AQUEOUS	Received	Date: 9/2	22/2015 7:00:00 AM	
Analyses	Result	RL Qu	al Units	DF	Date Analyzed	Batch
EPA METHOD 8260B: VOLATILES					Analyst	BCN
1,1-Dichloropropene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Hexachlorobutadiene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
2-Hexanone	ND	10	µg/L	1	9/23/2015 3:14:42 PM	R29068
Isopropylbenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
4-Isopropyltoluene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
4-Methyl-2-pentanone	ND	10	µg/L	1	9/23/2015 3:14:42 PM	R29068
Methylene Chloride	ND	3.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
n-Butylbenzene	ND	3.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
n-Propylbenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
sec-Butylbenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Styrene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
tert-Butylbenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,1,1,2-Tetrachloroethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,1,2,2-Tetrachloroethane	ND	2.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Tetrachloroethene (PCE)	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
trans-1,2-DCE	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
trans-1,3-Dichloropropene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2,3-Trichlorobenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2,4-Trichlorobenzene	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,1,1-Trichloroethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,1,2-Trichloroethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Trichloroethene (TCE)	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Trichlorofluoromethane	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
1,2,3-Trichloropropane	ND	2.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Vinyl chloride	ND	1.0	µg/L	1	9/23/2015 3:14:42 PM	R29068
Xylenes, Total	ND	1.5	µg/L	1	9/23/2015 3:14:42 PM	R29068
Surr: 1,2-Dichloroethane-d4	92.4	70-130	%REC	1	9/23/2015 3:14:42 PM	R29068
Surr: 4-Bromofluorobenzene	93.4	70-130	%REC	1	9/23/2015 3:14:42 PM	R29068
Surr: Dibromofluoromethane	96.3	70-130	%REC	1	9/23/2015 3:14:42 PM	R29068
Surr: Toluene-d8	99.0	70-130	%REC	1	9/23/2015 3:14:42 PM	R29068

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

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	А
	D	Sample Diluted Due to Matrix	Е	V
	Н	Holding times for preparation or analysis exceeded	J	Α
	ND	Not Detected at the Reporting Limit	Р	S

R RPD outside accepted recovery limits

- S % Recovery outside of range due to dilution or matrix
- Analyte detected in the associated Method Blank
- Value above quantitation range
- Analyte detected below quantitation limits Page 2 of 5
- Sample pH Not In Range
- RL Reporting Detection Limit

Client:

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

Enterprise Field Services

Sample ID 100ng LCS	SampTy	ype: LC	S	Tes	Code: El	PA Method	8260B: VOL	ATILES		
Client ID: LCSW	Batch	ID: R2	9068	R	unNo: 2	9068				
Prep Date:	Analysis Da	ate: 9/	23/2015		eqNo: 8		Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	96.9	70	130			
Toluene	21	1.0	20.00	0	103	70	130			
Chlorobenzene	20	1.0	20.00	0	100	70	130			
1,1-Dichloroethene	19	1.0	20.00	0	93.8	70	130			
Trichloroethene (TCE)	18	1.0	20.00	0	92.2	70	130			
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.1	70	130			
Surr: 4-Bromofluorobenzene	9.6		10.00		95.8	70	130			
Surr: Dibromofluoromethane	9.4		10.00		94.4	70	130			
Surr: Toluene-d8	10		10.00		101	70	130			
Sample ID rb1	SampTy	ype: ME	BLK	Tes	Code: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW		ID: R2		R	unNo: 2	9068				
Prep Date:	Analysis Da	ate: 9/	23/2015	S	eqNo: 8	82252	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Methyl tert-butyl ether (MTBE)	ND	1.0								
1,2,4-Trimethylbenzene	ND	1.0								
1,3,5-Trimethylbenzene	ND	1.0								
1,2-Dichloroethane (EDC)	ND	1.0								
1,2-Dibromoethane (EDB)	ND	1.0								
Naphthalene	ND	2.0								
1-Methylnaphthalene	ND	4.0								
2-Methylnaphthalene	ND	4.0								
Acetone	ND	10								
Bromobenzene	ND	1.0								
Bromodichloromethane	ND	1.0								
Bromoform	ND	1.0								
Bromomethane	ND	3.0								
2-Butanone	ND	10								
Carbon disulfide	ND									
	ND	10								
Carbon Tetrachloride		1.0								
Chlorobenzene	ND	1.0								
Chloroethane	ND	2.0								
Chloroform	ND	1.0								
Chloromethane	ND	3.0								
2-Chlorotoluene	ND	1.0								

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

WO#: **1509967**

QC SUMMARY REPORT Hall Environmental Analysis Laboratory, Inc.

	prise Field Serv Plant Non-Cor		Vater Pond						
Sample ID rb1	SampTyp	pe: MB	LK	Tes	tCode:	EPA Method	8260B: VOL	ATILES	
Client ID: PBW	Batch I	D: R2	9068	F	RunNo:	29068			
Prep Date:	Analysis Dat					882252	Units: µg/L		
	-								
Analyte		PQL	SPK value	SPK Ref Val	%RE	C LowLimit	HighLimit	%RPD	RPDLimit
4-Chlorotoluene	ND	1.0							
cis-1,2-DCE	ND	1.0							
cis-1,3-Dichloropropene	ND	1.0							
1,2-Dibromo-3-chloropropane	ND	2.0							
Dibromochloromethane	ND	1.0							
Dibromomethane	ND	1.0							
1,2-Dichlorobenzene	ND	1.0							
1,3-Dichlorobenzene	ND	1.0							
1,4-Dichlorobenzene	ND	1.0							
Dichlorodifluoromethane	ND	1.0							
1,1-Dichloroethane	ND	1.0							
1,1-Dichloroethene	ND	1.0							
1,2-Dichloropropane	ND	1.0							
1,3-Dichloropropane	ND	1.0							
2,2-Dichloropropane	ND	2.0							
1,1-Dichloropropene	ND	1.0							
Hexachlorobutadiene	ND	1.0							
2-Hexanone	ND	10							
Isopropylbenzene	ND	1.0							
4-Isopropyltoluene	ND	1.0							
4-Methyl-2-pentanone	ND	10							
Methylene Chloride	ND	3.0							
n-Butylbenzene	ND	3.0							
n-Propylbenzene	ND	1.0							
sec-Butylbenzene	ND	1.0							
Styrene	ND	1.0							
tert-Butylbenzene	ND	1.0							
1,1,1,2-Tetrachloroethane	ND	1.0							
1,1,2,2-Tetrachloroethane	ND	2.0							
Tetrachloroethene (PCE)	ND	1.0							
trans-1,2-DCE	ND	1.0							
trans-1,3-Dichloropropene	ND	1.0							
1,2,3-Trichlorobenzene	ND	1.0							
1,2,4-Trichlorobenzene	ND	1.0							
1,1,1-Trichloroethane	ND	1.0							
1,1,2-Trichloroethane	ND	1.0							

Qualifiers:

Trichloroethene (TCE)

Trichlorofluoromethane

1,2,3-Trichloropropane

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded

ND

ND

ND

1.0

1.0

2.0

- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit

1509967

24-Sep-15

Qual

Page 4 of 5

WO#:

	WO#:	1509967
Hall Environmental Analysis Laboratory, Inc.		24-Sep-15

	nterprise Field Se haco Plant Non-O		Water Pond							
Sample ID rb1	Samp	Type: ME	BLK	Tes	tCode: El	PA Method	8260B: VOL	ATILES		
Client ID: PBW	Bato	h ID: R2	9068	R	RunNo: 2	9068				
Prep Date:	Analysis	Date: 9/	23/2015	S	SeqNo: 8	82252	Units: µg/L			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Vinyl chloride	ND	1.0								
Xylenes, Total	ND	1.5								
Surr: 1,2-Dichloroethane-	d4 9.7		10.00		97.0	70	130			
Surr: 4-Bromofluorobenze	ene 9.3		10.00		93.1	70	130			
Surr: Dibromofluorometha	ine 9.6		10.00		96.1	70	130			
Surr: Toluene-d8	9.7		10.00		96.8	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- R RPD outside accepted recovery limits
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank

Page 5 of 5

- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- Reporting Detection Limit RL

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Albu TEL: 505-345-3975 Website: www.ha	4901 Hawkin iquerque, NM 8 FAX: 505-345-	s NE 7109 Sam	ole Log-In Cl	heck List
Client Name: Enterprise V	Vork Order Number	1509967		ReptNo	t
Received by/date: LM DC	1/22/15				
Logged By: Celina Sessa 9/2	2/2015 7:00:00 AM		alim S	men	
Completed By: Celina Sessa 9/2:	2/2015 8:35:42 AM		alin S	ma	
Reviewed By: ACL C	9 22 15	_			
Chain of Custody	1 1				
1. Custody seals intact on sample bottles?		Yes 🗌	No 🗆	Not Present 🖌	
2. Is Chain of Custody complete?		Yes 🗹	No	Not Present	
3. How was the sample delivered?		Coutier			
Log In					
4 Was an attempt made to cool the samples?		Yes 🖌	No	NA	
5. Were all samples received at a temperature of	>0° C to 6.0°C	Yes 🗹	No 🗆	NA	
6. Sample(s) in proper container(s)?		Yes 🗹	No 🗌		
7. Sufficient sample volume for indicated test(s)?		Yes 🔽	No 🗌		
8. Are samples (except VOA and ONG) properly pr	reserved?	Yes 🗹	No 🗆		
9. Was preservative added to bottles?		Yes	No 🗹	NA 🗌	
10. VOA vials have zero headspace?		Yes	No. 🗌	No VOA Vials 🗹	
11. Were any sample containers received broken?		Yes	No 🗹	# of preserved bottles checked	
12. Does paperwork match bottle labels?		Yes V	No	for pH:	r >12 unless noted)
(Note discrepancies on chain of custody) 13. Are matrices correctly identified on Chain of Cus	lods?	Yes 🗹	No	Adjusted?	1 × 12 dilless holesy
14, is it clear what analyses were requested?	stociyi	Yes V	No		
15. Were all holding times able to be met?		Yes V	No	Checked by	
(If no, notify customer for authorization.) Special Handling (If applicable) 16. Was client notified of all discrepancies with this		Yes 🗍	No 🗔	NA 🗹	
		103 121	00	an st	
Person Notified:	Date	-	Divers CT For	The Barrier	
By Wnom: Regarding:	Via	eMail	Phone E Fax	In Person	
Client Instructions:					
17, Additional remarks:					
18. Cooler Information					
Cooler No Temp °C Condition Seal I 1 3.8 Good Yes	ntact Seal No	Seal Date	Signed By		
1. Gar. 19222 (32					

.

ceived by OCD:	5/25/2023		N 30 ,	Y) səld	idu8 iiA		<u> </u>
	4901 Hawkins NE - Albuquerque, NM 87109 Tel. 505-345-3975 Fax 505-345-4107 Analysis Request	BTEX + MTBE + TMB's (8021) BTEX + MTBE + TPH (Gas only) TPH 8015B (GRO / DRO / MRO) TPH (Method 504.1) BOB (Method 504.1) Anions (F,CI NO ₃ , NO ₂ , PO ₄ , SO ₄) RCRA 8 Metals Anions (F,CI NO ₃ , NO ₂ , PO ₄ , SO ₄) 8081 Pesticides / 8082 PCB's 8260B (VOA) 82500 (VOA)			н ХЭТВ ТРН 80 РАН's (ВССА 8 8081 Ре 8081 Ре 8081 Ре	-	Kemarks:
Nert Pay		ho		+0505=3.8	HEAL NO. 1509967		Playlis 1745 Date Time
SERUS	r l	gen Jeres L		NO.	Preservative Type	Hada	mplath
Project Name:	Project #	ana)	Sampler: 1. On Ice:	Temp	Container Type and #	BUDAS	Received by
Kecord	NM Szael 8 -218	C Cord . Cary			Sample Request ID	Non-Contact Water Royl 3 1/045	Toma Lang
Tain-of-Cus	SO	Eleng	D Other		Matrix	いたい	Reinquished by
Chain-of-Cu lient: Enterprise	9. seanny filling : 7/18/20	238:48:50 Package: Standard	Delagation NELAP	EDD (Type)	Date Time	SI-KI416	Tate: Time: Talk 1840



APPENDIX I Closure Plan for South Lined Contact Water Pond

Released to Imaging: 7/18/2023 8:48:20 AM

CLOSURE PLAN SOUTH LINED CONTACT WATER POND OCD Discharge Plan (GW-071)

Property:

CHACO GAS PLANT 895 County Road 7100 Section 16, Township 26N, Range 12W San Juan County, New Mexico

> September 14, 2010 SWG Project No. 0410001B

> > Prepared for:

Enterprise Field Services, L.L.C. PO Box 4324 Houston, Texas 77210 Attn: Mr. David R. Smith, P.G.

Prepared by:

- Kyle recommence

Kyle Summers, C.P.G. Senior Geologist/ Manager, Four Corners Office

B. Chris Mitchell, P.G. Principal Geoscientist





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CLOSURE PLAN for SOUTH LINED CONTACT WATER POND OCD Discharge Permit (GW-071)

CHACO GAS PLANT 895 County Road 7100 Section 16, Township 26N, Range 12W San Juan County, New Mexico

SWG Project No. 0410001B

1.0 EXECUTIVE SUMMARY

The Enterprise Field Services, L.L.C. (Enterprise) Chaco Gas Plant consists of approximately 190-acres of land developed with a cryogenic gas plant, amine treatment unit and natural gas compression facilities, referred to hereinafter as the "Site" or "subject Site". The Site is located at 895 County Road (CR) 7100 in Section 16, Township 26N, Range 12W in San Juan County, New Mexico, approximately 17.5 miles south of Farmington.

This closure plan for the South Lined Contact Water Pond (South Pond) is submitted in accordance with the New Mexico Energy, Minerals and Natural Resource Department, Oil Conservation Division (OCD) Groundwater Discharge Plan (GW-071) inspection on June 11, 2009. In addition to other findings at the facility, the inspection requested the development and submittal of a plan for closure of the South Lined Discharge Pond. Enterprise responded in correspondence dated September 1, 2009 that a closure plan would be submitted to the OCD, and closure of the pond would be scheduled during 2010.

Two (2) lined contact water evaporation ponds, referred to hereinafter as the "North Pond" and "South Pond", were constructed at the Site in 1994 for the disposal of petroleum contact water generated during natural gas processing operations at the Site. The North Pond and South Pond failed integrity testing performed in 1995. Enterprise successfully repaired the South Pond liner, but the North Pond liner failed testing again in 1997. A new liner was installed in the North Pond in 1998 and again failed the subsequent integrity testing. The lined contact water ponds were subsequently removed from service in 1999, and petroleum contact water has since been transported off-site for disposal. The North Pond was physically reclaimed during early 2000.

Ten (10) soil borings/monitoring wells have been previously installed at the Site. The lithologies encountered during the advancement of soil borings which were historically completed at the Site included a brown sand with silt and clay from the surface to a depth of approximately 25 feet below ground surface (bgs). Groundwater was encountered at depths ranging from 4 to 25 feet bgs during the installation of the monitoring wells.

To further evaluate the presence of contaminants in groundwater and the geochemistry of the initial groundwater-bearing unit at the Site, at least one (1) additional groundwater monitoring event will be completed at the Site. During the proposed groundwater monitoring event, a groundwater sample will be collected and analyzed from each monitoring well utilizing low-flow sampling techniques. The utilization of low-flow minimal drawdown techniques enables the isolation of the



screened interval in the well such that the groundwater recovered is drawn directly from the formation with little mixing of casing water or disturbance to the sampling zone. The groundwater samples will be collected from each monitoring well once produced groundwater is consistent in color, clarity, pH, dissolved oxygen (DO), oxidation/reduction potential (ORP), temperature and conductivity.

The groundwater samples collected from the monitoring wells will be analyzed for select cations/anions (calcium, magnesium, chloride, sulfates, fluoride, nitrates, potassium and sodium), phosphates and total dissolved solids (TDS). In addition, the groundwater samples collected from monitoring wells MW-8b, MW-9 and MW-10 will be analyzed for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) and benzene, toluene, ethylbenzene and xylenes (BTEX), to further evaluate the presence and/or magnitude of petroleum hydrocarbon constituents as a result of the historic use of the unlined flare pit, industrial ponds #1 and #2 and contact water ponds.

The proposed closure activities include the removal of the lined contact water South Pond located on the northwest portion of the Site in accordance with the OCD request in the OCD *Discharge Permit Renewal* correspondence dated July 14, 2009. The South Pond was constructed utilizing native silty sand soils for containment berms overlain with three (3) liners (top liner – 30 mil impermeable high-density polyethylene; intermediate liner – Fibertex Grade 600 Geotextile liner; and bottom liner - 20 mil impermeable high-density polyethylene). A leak detection system was installed underlying the lined contact water pond between the intermediate and bottom liners.

During South Pond closure activities, each of the three (3) liners associated with the pond will be removed, characterized and disposed off-site in accordance with applicable local, state and federal regulations.

Subsequent to the removal of the liners from the South Pond, five (5) soil borings will be advanced on-site utilizing a direct push Geoprobe[®] drilling rig. One (1) soil boring will be advanced in the vicinity of each pond wall, and one (1) soil boring will be advanced in the central portion of the former pond. The soil borings will be advanced to a maximum depth of approximately 15 feet bgs, five feet below the initial water table, or auger refusal, whichever is more shallow. One (1) soil sample will be collected from each confirmation soil boring from 1.) the zone exhibiting the highest concentration of petroleum hydrocarbons based on visual, olfactory or photoionization detector (PID) evidence, 2.) from a change in lithology, or 3.) from the bottom of the boring. The soil samples collected from the confirmation soil borings will be analyzed for TPH GRO/DRO and BTEX.

Directly upon completion of liner removal activities and receipt of confirmation sample analyses, the earthen berms will be razed, and the area returned to natural grade. The reclaimed South Pond area will be compacted utilizing the on-Site equipment.

Specific details concerning this plan are further explained in the following sections and should be read to fully comprehend the extent of the proposed scope of work.



2.0 INTRODUCTION

2.1 Site Description & Background

The Enterprise Chaco Gas Plant consists of approximately 190-acres of land developed with a cryogenic¹ gas plant, amine treatment unit and natural gas compression facilities. The Site is located at 895 County Road (CR) 7100 in Section 16, Township 26N, Range 12W in San Juan County, New Mexico, approximately 17.5 miles south of Farmington.

The North Pond and South Pond were constructed at the Site in 1994 for the disposal of petroleum contact water generated during natural gas processing operations at the Site. The North Pond and South Pond failed integrity testing performed in 1995. Enterprise successfully repaired the South Pond liner, but the North Pond liner failed testing again in 1997. A new liner was installed in the North Pond in 1998 and again failed the subsequent integrity testing. The lined contact water ponds were subsequently removed from service in 1999, and petroleum contact water has since been transported off-site for disposal. The North Pond was physically reclaimed during early 2000.

A topographic map is included as Figure 1, aerial photographs of the Site and vicinity are included as Figures 2 and 3, and a Site Plan is included as Figure 4 of Appendix A.

2.2 Chronology of Events

Below is a list of significant milestones or events associated with the Site.

- May 4, 1987 El Paso Natural Gas Company (EPNG) submitted a letter to the New Mexico Energy, Minerals and Natural Resource Department, Oil Conservation Division (OCD) providing registration documentation of the nine (9) "unlined" surface impoundments or ponds located at the Chaco Plant. The industrial ponds accepted comingled petroleum contact water and non-contact water generated from gas processing activities.
- May 14, 1987 The OCD issued a letter approving the "pit" registrations provided only produced fluids generated from the fields listed in the registration forms are disposed in the ponds. In addition, the letter stipulates the waste streams must be identified in the "discharge plan application" when a plan is requested.
- March 1, 1991 The OCD formally notifies EPNG that a discharge plan is required for the Chaco Gas Plant in accordance with Water Quality Control Commission (WQCC) regulations.
- November 15, 1991 EPNG submits a Discharge Plan for the Chaco Gas Plant.

¹ Cryogenic processes include dropping the temperature of the natural gas stream to around -120 degrees Fahrenheit to extract NGLs from natural gas.



- March 16, 1992 EPNG received approval from the OCD to operate a soil remediation site (SRS) at the Chaco Plant to remediate petroleum hydrocarbon impacted soils.
- May 18, 1992 The OCD approved the EPNG Groundwater Discharge Plan for the Chaco Gas Plant.
- May 13, 1993 EPNG submitted a letter to the OCD requesting EPNG be permitted to continue the use of the unlined ponds for non-contact water based on the quality of the waste water discharged, depth to groundwater and Site geology.
- August 2, 1993 The OCD issued a letter requesting additional analysis of cooling tower effluent to the unlined ponds for cadmium. In addition, the OCD requested a groundwater monitoring program be developed in association with any unlined ponds.
- November 1993 Subsequent to the construction of two (2) lined evaporation/disposal ponds, petroleum contact water would be segregated from the non-contact water and routed to the lined ponds. Four (4) monitoring wells (MW-1 through MW-4) were installed in the vicinity of the unlined ponds as part of a Groundwater Discharge Plan modification as requested by the OCD.
- August 1, 1994 EPNG submitted a modification to Groundwater Discharge Plan GW-071. The modification enabled the continued use of industrial ponds #3 through #6 and #8 as non-contact water ponds. At the request of the OCD, EPNG installed three (3) additional monitoring wells (MW-5 through MW-7) to further evaluate 1.) the direction of groundwater flow, 2.) poor groundwater quality in the vicinity of MW-4 and 3.) general groundwater quality characteristics.
- August 16, 1994 EPNG submitted a notification letter to the OCD indicating the intention to construct two (2) lined evaporation/disposal ponds to contain petroleum contact water at the Chaco Gas Plant.
- November 22, 1994 In a letter regarding "Sold Waste Pit Closures" the OCD approved the closure plan submitted by EPNG for the solid waste pit located on the southwestern portion of the Chaco Gas Plant provided the soil samples collected from the pit were analyzed for hazardous waste characteristics.
- August 10, 1995 The OCD approved the EPNG "Angel Peak and Chaco Plant *Solid Waste Pit Closure Sampling*" dated June 5, 1995 and the EPNG "*Solid Waste Pit Closures at EPNG's Angel Peak and Chaco Facilities*" dated June 5, 1995 based on EPNG's waste characterization sampling.
- October 10, 1995 EPNG submitted an "Annual Report of Monitoring well Analyses & Request Approval of Work Plan for Chaco Industrial Ponds and Flare Pit" to the OCD. EPNG proposed a closure plan for industrial ponds #1 and #2 and the earthen flare pit. The proposed closure plan included the advancement of seven (7) soil borings, including



one (1) boring within each of the ponds (industrial pond #1 and #2) and the earthen flare pit. Soil samples would be collected from industrial pond #1 and #2 and the earthen flare pit from 3 to 5 feet bgs. In addition, soil samples would be collected from each boring at total depth. One (1) monitoring well (MW-8) would be installed to the north of the earthen flare pit, near the property boundary, to ensure contaminants were not migrating off-site. The soil and groundwater samples would be analyzed for TPH GRO/DRO, BTEX, polynuclear aromatic hydrocarbons (PAH), RCRA metals and/or cations/anions.

- October 13, 1995 The OCD approved the EPNG "Annual Report of Monitoring well Analyses & Request Approval of Work Plan for Chaco Industrial Ponds and Flare Pit".
- October 19, 1995 EPNG submitted a "*Request Major Modification of Discharge Plan GW-071 – Chaco Processing Plan*" to the OCD. The modification was requested to facilitate the addition of a Cryogenic processing unit to the plant, which greatly increases the production of petroleum contact water.
- November 16, 1995 EPNG submitted a "*Request for Closure of Chaco Industrial Ponds and Flare Pit*". During the completion of closure activities, seven (7) soil borings, including one (1) boring within each of the ponds (industrial pond #1 and #2) and the earthen flare pit were advanced at the Site. Groundwater was not encountered during the installation of monitoring well MW-8; so, the boring was abandoned and an additional monitoring well (MW-8b) was installed to the south, toward the former earthen flare pit. The soil sample collected from soil boring B-5, located within the central portion of industrial pond #1, exhibited a benzene concentration of 2.4 mg/Kg, a toluene concentration of 1.0 mg/Kg, an ethylbenzene concentration of 0.7 mg/Kg, a xylenes concentration of 4.5 mg/Kg and a TPH concentration of 38,400 mg/Kg. The groundwater sample collected from monitoring well MW-8b exhibited a benzene concentration of 29.5 μg/L.
- November 17, 1995 The OCD approved the EPNG "*Request for Closure of Chaco Industrial Ponds and Flare Pit*" pending receipt of a report documenting remediation and closure activities; delineation of groundwater contamination between MW-1 and MW-8b; and, semiannual sampling of groundwater from monitoring wells MW-1 and MW-8b for BTEX and PAH analysis.
- November 17, 1995 EPNG notified the OCD that the "Ballard Pond" and the two (2) lined contact water evaporation/disposal ponds located at the Chaco Gas Plant had failed an integrity test. Eight (8) leaks were identified within the liner seams of the "Ballard Pond", nineteen (19) leaks in the north contact water pond (North Pond) and fifteen (15) in the south contact water pond (South Pond).



January 16, 1997 – El Paso Field Services (EPFS) submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams. According to the EPFS letter, "the analysis for monitoring wells MW-2 through MW-7 did not indicate any abnormally high reading for any analyte. We have been unable to collect a sample from monitoring well MW-1. That well as yet never collected any liquids.

> The June 24 sample of the 20 inch waste water discharge line did show a chromium level slightly above the New Mexico Water Quality standards. The chromium level in the sample was 0.132 mg/L."

- May 15, 1997 EPNG submitted a letter work plan to the OCD detailing the results of liner repairs associated with the North Pond and South Pond at the Chaco Plant. The South Pond did not exhibit indications of leaks or integrity failures subsequent to repair. The North Pond repairs did not pass leak testing subsequent to repair; therefore, EPNG proposed to install two (2) monitoring wells (MW-9 and MW-10), remove the North Pond from service with use only in case of emergency and monitor groundwater from monitoring wells MW-9 and MW-10 for TDS, pH and BTEX for one year (four (4) quarters), then annually for two (2) additional years.
- June 13, 1997 The OCD approved EPNG's letter work plan dated May 15, 1997 with regard to the proposed installation of two (2) monitoring wells (MW-9 and MW-10), the removal of the North Pond from service with use only in case of emergency and the monitoring of groundwater from monitoring wells MW-9 and MW-10 for TDS, pH and BTEX for one year (four (4) quarters), then annually for two (2) additional years.
- August 22, 1997 Two (2) soil borings/monitoring wells (MW-9 and MW-10) were installed adjacent to the North Pond by Philip Services Corporation (PSC) on behalf of EPNG.
- February 6, 1998 EPFS submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams. According to the EPFS letter, "the analysis for monitoring wells MW-2 through MW-7 did not indicate any abnormally high reading for any analyte.

The organic analyses for well 10 indicates high levels of several hydrocarbons. Since there is no hydrocarbon waste disposed on in the lined contact waste water ponds, the source of contamination in well 10 is most likely the old flare pit which was closed in 1994."

February 8, 1999 – EPNG submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams. According to the EPFS letter, "the analysis for monitoring wells MW-2 through MW-7 did not indicate any abnormally high reading for any analyte. Monitoring well MW-10, adjacent to the old flare pit which was closed in 1995, exceeds several water quality standards for organics."



- September 9, 1999 EPNG submitted a minor modification request with regard to Groundwater Discharge Plan GW-071 to the OCD. "Rather than make any further attempts to repair the liner, EPFS has decided to discontinue use of the contact water ponds."
- March 22, 2000 PSC, on behalf of EPFS, prepared a letter report documenting the removal of the plastic liner and closure of the South Chaco Pit. Subsequent to the removal of approximately 430 gallons of sludge from the bottom of the pit, each of the three (3) liners were removed. Soil samples were collected from each wall and the floor of the pit. In addition, soils in the central portion of the pit were excavated to an approximate depth of 12 feet bgs. A soil sample was collected from the bottom of the excavation. The pit was then backfilled and graded to conform to the surrounding topography.

The PSC letter report appears to be associated with the North Pond rather than the South Pond, which is still present at the facility.

February 2, 2000 – EPFS submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams. According to the EPFS letter, "the analysis for monitoring wells MW-2 through MW-7 did not indicate any abnormally high reading for any analyte. Monitoring well MW-10, adjacent to the old flare pit which was closed in 1995, exceeds several water quality standards for organics.

Monitoring wells MW-1, MW-8b and MW-9 have not exceeded any state limits for organics during 1997, 1998 or 1999. Due to a change in plant operations during 1999, contact wastewater is no longer discharge to on-site ponds. This waste stream is now disposed of off-site in a class 1 underground injection well. The water quality of the non-contact wastewater discharge is such that it would not degrade any waters of the state if the wastewater did percolate to groundwater. Therefore, EPFS requests authorization to cease monitoring the non-contact wastewater and monitoring well MW-1 through MW-9. Due to high levels of BTEX, EPFS will continue to sample monitoring well MW-10 on a quarterly basis."

- January 31, 2001 EPFS submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams. According to the EPFS letter, "the analysis for monitoring wells MW-2 through MW-4, MW-6 and MW-7 did not indicate any abnormally high reading for any analyte. Monitoring well MW-5 tested higher for sulfate than in past sampling. Monitoring well MW-10, adjacent to the old flare pit which was closed in 1995, exceeds several water quality standards for organics."
- January 16, 2002 EPFS submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams. According to the EPFS letter, "the analysis for monitoring wells MW-2, MW-4, MW-6 and MW-7 did not indicate any abnormally high



reading for any analyte. Monitoring well MW-3 was dry and could not be sampled. Monitoring well MW-10, adjacent to the old flare pit which was closed in 1995, exceeds several water quality standards for organics."

- March 14, 2003 EPFS submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams. According to the EPFS letter, "The analysis for monitoring well MW-2 showed an elevated level of chlorides. Monitoring wells MW-2, MW-4, MW-6 and MW-7 all had high readings for sulfates. Monitoring well MW-3 was dry and could not be sampled. Monitoring well MW-10, adjacent to the old flare pit which was closed in 1995, exceeds several water quality standards for organics."
- March 28, 2005 ENTERPRISE submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams.
- April 5, 2006 ENTERPRISE submitted an annual letter report regarding the sampling of groundwater monitoring wells and waste water streams.
- July 14, 2009 The OCD approves the Enterprise Groundwater Discharge Plan GW-071 renewal, subject to the conditions noted in their June 11, 2009 site inspection. In addition to other findings, this inspection noted the presence of the inactive contact water pond (South Pond), and requested a closure of the pond.
- September 1, 2009 Enterprise submits a response to the July 14, 2009 OCD correspondence requesting closure actions at the South Pond. The Enterprise response states that a closure plan for the pond will be developed and submitted to the OCD for approval, and that closure of the pond will be scheduled during 2010.

2.3 Proposed Scope of Work

The objective of the proposed closure activities is to further evaluate the quality of groundwater on-Site in the vicinity of the non-contact water ponds and the lined contact water ponds located on the northwest portion of the Site.

In addition, Southwest Geoscience's (SWG's) objective includes the removal of the South Pond located on the northwest portion of the Site in accordance with the OCD request in the OCD *Discharge Permit Renewal* correspondence dated July 14, 2009. A copy of the OCD *Discharge Permit Renewal* correspondence dated July 14, 2009 is included in Appendix E.

2.4 Standard of Care & Limitations

The findings and recommendations contained in this report represent SWG's professional opinions based upon information derived from on-Site activities and other services performed under this scope of work, and were arrived at in accordance with currently acceptable professional standards. The findings were based, in part, upon analytical results provided by an independent laboratory. Evaluations of the geologic/hydrogeologic conditions at the Site for the purpose of



this plan are made from a limited number of available data points (i.e. soil borings and ground water samples) and Site-wide subsurface conditions may vary from those observed at these data points. SWG makes no warranties, express or implied, as to the services performed hereunder. Additionally, SWG does not warrant the work of third parties supplying information used in the report (e.g. laboratories, regulatory agencies, or other third parties).

This report is based upon a specific scope of work requested by Enterprise. The agreement between SWG and Enterprise outlines the scope of work, and only those tasks specifically authorized by that agreement or outlined in this report were performed. This report has been prepared for the intended use of Enterprise and their subsidiaries, and any authorization for use or reliance by any other party (except a governmental entity having jurisdiction over the Site) is prohibited without the express written authorization of Enterprise and SWG.

3.0 SITE CHARACTERIZATION

3.1 Geology & Hydrogeology

The Geologic Map of New Mexico (2003), published by the New Mexico Bureau of Geology and Mineral Resources, indicates the Site is located over soils formed from the Nacimiento Formation. The Nacimiento Formation in the area of the Site is composed of shale, siltstone, and sandstone, deposited in floodplain, fluvial and lacustrine settings, and made up of sediment shed from the San Juan uplift to the north and the Brazos-Sangre de Cristo uplift to the east.

Subsurface lithology was documented during installation of the existing groundwater monitoring network at the Site. Between September 1993 and June 1994, seven (7) monitoring wells were installed at the Site by Burlington Environmental, Inc. Three (3) additional monitoring wells were installed between October 1995 and July 1997 by PSC. The lithologies encountered during the advancement of soil borings MW-1 through MW-10 included a brown sand with silt and clay from the surface to a depth of approximately 25 feet bgs. Interbedded grey, yellow and grayish-green silty clay lenses were identified in select borings.

Groundwater was encountered during the installation of the monitoring wells at the Site at depths ranging from 4 to 25 feet bgs. The groundwater depth associated with the initial shallow, unconfined groundwater-bearing unit (Nacimiento Formation) varies depending upon seasonal variations in precipitation and the depth to the initial confining unit. Recharge areas for shallow unconfined units are typically local and can be influenced by surface development of impervious cover (buildings, parking lots, roads). The groundwater flow direction in these unconfined aquifer units is highly variable but is generally toward the nearest down-gradient water body (lakes, creeks, rivers) and can be approximated by observing the surface topography.

The major aquifer underlying the Site vicinity is listed as the Colorado Plateaus Aquifer, which is made up of four smaller aquifers, the Uinta-Animas, the Mesa Verde, the Dakota-Glen, and the Coconino-De Chelly. The general composition of the aquifers are moderately to well-consolidated sedimentary rocks of an age ranging from Permian to Tertiary. Each aquifer is separated from the others by an



impermeable confining unit. Two of the confining units are completely impermeable and cover the entire area of the aquifers. The other two confining units are less extensive and are thinner. These units allow water to flow between the principal aquifers. There are countless streams, rivers, and lakes that overlay the Colorado Plateaus Aquifers. The surface water bodies in this region provide a place for the aquifers to discharge. Some of the high altitude rivers and lakes may also provide recharge.

3.2 Surface Water Hydrology

Stormwater from the Site surface flows to a stormwater retention pond located on the southwestern portion of the Site (non-contact water pond #8). The Site vicinity topographically slopes to the west, towards the West Fork of Gallegos Canyon, which flows north to the San Juan River.

3.3 Land Use & Classification

Land use was determined by comparison of existing land use of the Site to the definitions for residential and non-residential (commercial/industrial) land use published in the applicable regulatory guidance. The Site is currently utilized as a gas plant; therefore, commercial/industrial land use is deemed appropriate for the Site.

4.0 GROUNDWATER MONITORING

4.1 Monitoring Wells

Ten (10) monitoring wells (MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7, MW-8b, MW-9 and MW-10) were previously installed at the Site. Monitoring well MW-1 is located at the northern boundary of the Site, hydrogeologically cross- to downgradient of select non-contact water ponds and the former lined-contact water Monitoring well MW-2 is located at the western boundary of the Site, ponds. hydrogeologically down-gradient of select non-contact water ponds and the former lined-contact water ponds. Monitoring well MW-3 is located on the northwest portion of the Site, adjacent to non-contact water ponds #3 and #4, hydrogeologically downgradient of the former lined-contact water ponds. Monitoring well MW-4 is located at the southern boundary of the northwest portion of the Site, hydrogeologically crossgradient of the non-contact water ponds and the former lined-contact water ponds. Monitoring wells MW-5, MW-6 and MW-7 are located on the southwest portion of the Site, in the vicinity of the former solid waste pit and storm water retention pond. Monitoring wells MW-8b, MW-9 and MW-10 are located in the vicinity of the former industrial ponds #1 and #2, the former flare pit and the lined contact water ponds.

Figure 3 is a Site Plan that indicates the approximate location of the monitoring wells in relation to pertinent structures and land features (Appendix A).

The lithologies encountered during the advancement of soil borings MW-1 through MW-10 included a brown sand with silt and clay from the surface to a depth of approximately 25 feet bgs. Interbedded grey, yellow and grayish-green silty clay lenses were identified in select borings.



Subsequent to advancement, soil borings MW-1 through MW-7, MW-8b, MW-9 and MW-10 were converted to permanent monitoring wells. Monitoring well construction details are presented on the soil boring/monitoring well logs included in Appendix B.

4.2 Groundwater Sampling Program

During the proposed groundwater monitoring event, a groundwater sample will be collected and analyzed from each monitoring well. Prior to sample collection, each monitoring well will be micro-purged utilizing low-flow sampling techniques. Low-flow refers to the velocity with which groundwater enters the pump intake and that is imparted to the formation pore water in the immediate vicinity of the well screen. It does not necessarily refer to the flow rate of water discharged at the surface which can be affected by flow regulators or restrictions. Water level drawdown provides the best indication of the stress imparted by a given flow-rate for a given hydrological situation. The objective will be to pump in a manner that minimizes stress (drawdown) to the system, to the extent practical, taking into account established site sampling objectives. Flow rates on the order of 0.1 to 0.5 L/min will be maintained during sampling activities, using dedicated sampling equipment.

The utilization of low-flow minimal drawdown techniques enables the isolation of the screened interval groundwater from the overlying stagnant casing water. The pump intake is placed within the screened interval such that the groundwater recovered is drawn in directly from the formation with little mixing of casing water or disturbance to the sampling zone.

The groundwater samples will be collected from each monitoring well once produced groundwater was consistent in color, clarity, pH, DO, ORP, temperature and conductivity.

4.3 Groundwater Flow Direction

The monitoring wells located at the Site have been surveyed for top-of-casing (TOC) elevations. Each groundwater monitoring well was gauged utilizing an interface probe capable of detecting the presence of water and phase-separated hydrocarbons (PSH) on August 20, 2009 by LodeStar Services, Inc. A groundwater gradient map constructed based on the relative groundwater elevations recorded from this gauging event is included as Figure 5 (Appendix A).

Based on the groundwater elevations associated with each of the monitoring wells, groundwater generally flows to the west-northwest at an average hydraulic gradient of 0.015 ft/ft.

Prior to the collection of groundwater samples during the proposed groundwater monitoring event, the fluid levels in each of the monitoring wells will be gauged utilizing an interface probe capable of detecting PSH. The relative groundwater elevations on the Site will be utilized to construct a groundwater gradient map. The groundwater gradient map will depict the groundwater elevations at each monitoring well, the date of data collection, the calculated direction of groundwater flow and any limiting conditions regarding the evaluation of groundwater flow at the site.



5.0 LABORATORY ANALYTICAL PROGRAM

5.1 Laboratory Analytical Methods

The groundwater samples collected from the monitoring wells during the proposed groundwater sampling event will be analyzed for select cations/anions (calcium, magnesium, chloride, sulfates, fluoride, nitrates, potassium and sodium) utilizing EPA method SW-846# 6010B/6020A or EPA method SW-846# 9056, phosphates utilizing SM 4500 PB.5/E and total dissolved solids (TDS) utilizing SM 2540C. In addition, the groundwater samples collected from monitoring wells MW-8b, MW-9 and MW-10 will be analyzed for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) utilizing EPA method SW-846#8015M and benzene, toluene, ethylbenzene and xylenes (BTEX) utilizing EPA method SW-846 #8021B.

A summary of the analysis, sample type, sample frequency and EPA-approved methods are presented on the following page:

Analysis	Sample Type	No. of Samples	Method
Calcium	Groundwater	10	SW-846# 6010B/6020A
Magnesium	Groundwater	10	SW-846# 6010B/6020A
Chloride	Groundwater	10	SW-846# 9056A
Sulfates	Groundwater	10	SW-846# 9056A
Fluoride	Groundwater	10	SW-846# 9056A
Nitrates	Groundwater	10	SW-846# 9056A
Phosphates	Groundwater	10	SM 4500 PB.5/E
Potassium	Groundwater	10	SW-846# 6010B/6020A
Sodium	Groundwater	10	SW-846# 6010B/6020A
Total Dissolved Solids	Groundwater	10	SM 2540C
TPH GRO/DRO	Groundwater	3	SW-846# 8015M
BTEX	Groundwater	3	SW-846# 8021B

5.2 Quality Assurance/Quality Control (QA/QC)

Sampling equipment will be cleaned using an Alconox[®] wash and potable water rinse prior to the beginning of the project and before the collection of each sample.



Groundwater samples will be collected and placed in laboratory prepared glassware, sealed with custody tape and placed on ice in a cooler, which will be secured with a custody seal. The sample coolers and completed chain-of-custody forms will be relinquished to Hall Environmental analytical laboratory in Albuquerque, NM on a normal turnaround basis.

6.0 SOUTH POND CLOSURE

The proposed closure activities include the removal of the South Pond located on the northwest portion of the Site in accordance with the OCD request in the OCD *Discharge Permit Renewal* correspondence dated July 14, 2009. The lined contact water pond to be removed, referred to as the "south lined contact water pond" (South Pond), was installed at the Site in 1995, along with the north contact water pond (North Pond), formerly located immediately north of the South Pond.

The South Pond was constructed utilizing native silty sand soils for containment berms overlain with three (3) liners (top liner – 30 mil impermeable high-density polyethylene; intermediate liner – Fibertex Grade 600 Geotextile liner; and bottom liner - 20 mil impermeable high-density polyethylene). A leak detection system was installed underlying the lined contact water pond between the intermediate and bottom liners. A copy of the construction plans and "as-builts" for the South Pond are included in Appendix E.

6.1 Liner Removal

During the completion of the South Pond closure activities, each of the three (3) liners associated with the pond will be removed, characterized and disposed off-site in accordance with applicable local, state and federal regulations.

6.2 Confirmation Sampling

Subsequent to the removal of the liners from the South Pond, five (5) soil borings will be advanced on-site utilizing a direct push Geoprobe[®] drilling rig under the supervision of a State of New Mexico licensed monitoring well driller. One (1) soil boring will be advanced in the vicinity of each pond wall, and one (1) soil boring will be advanced in the central portion of the South Pond. The soil borings will be advanced to a maximum depth of approximately 15 feet bgs, five feet below the initial water table, or auger refusal, whichever is more shallow.

Sampling and drilling equipment will be cleaned using an Alconox[®] wash and potable water rinse prior to commencement of the project and between the advancement of each soil boring.

Soil samples will be collected continuously using core barrels or split spoon samplers to document lithology, color, relative moisture content and visual or olfactory evidence of impairment. In addition, the samples will be scanned with a PID for the presence of petroleum hydrocarbons.

SWG's confirmation soil sampling program will consist of the following:

• Collection of one (1) soil sample from each confirmation soil boring from 1.)



the zone exhibiting the highest concentration of VOC's based on visual, olfactory or PID evidence, 2.) from a change in lithology, or 3.) from the bottom of the boring.

The soil samples will be collected in laboratory prepared glassware and placed in an iced cooler which will be secured with a custody seal. The samples will be transported to a selected analytical laboratory along with a completed chain-ofcustody form.

The soil samples collected from the confirmation soil borings will be analyzed for TPH GRO/DRO utilizing EPA method SW-846 #8015M and BTEX utilizing EPA method SW-846#8021B. A summary of the analysis, sample type, and EPA-approved methods are presented below:

Analysis	Sample Type	Number of Samples	Method
TPH GRO/DRO	Soil	5	SW-846 #8015M
BTEX	Soil	5	SW-846 #8021B

6.3 Site Restoration

Directly upon completion of liner removal activities and receipt of confirmation sample analyses, the earthen berms will be razed, and the area returned to natural grade. The lined contact water pond area will be compacted utilizing the on-Site equipment.

6.4 Future Use of Site

The Site is expected to be utilized for industrial use as a natural gas processing plant and compression facility.

7.0 CLOSURE REPORT

Upon completion of the South Pond removal activities, a final closure report will be prepared for submittal to the OCD that will include documentation of field activities, a site plan detailing pertinent site features, photographic documentation, laboratory analytical results, an evaluation of closure results and recommendations concerning further action, if necessary.

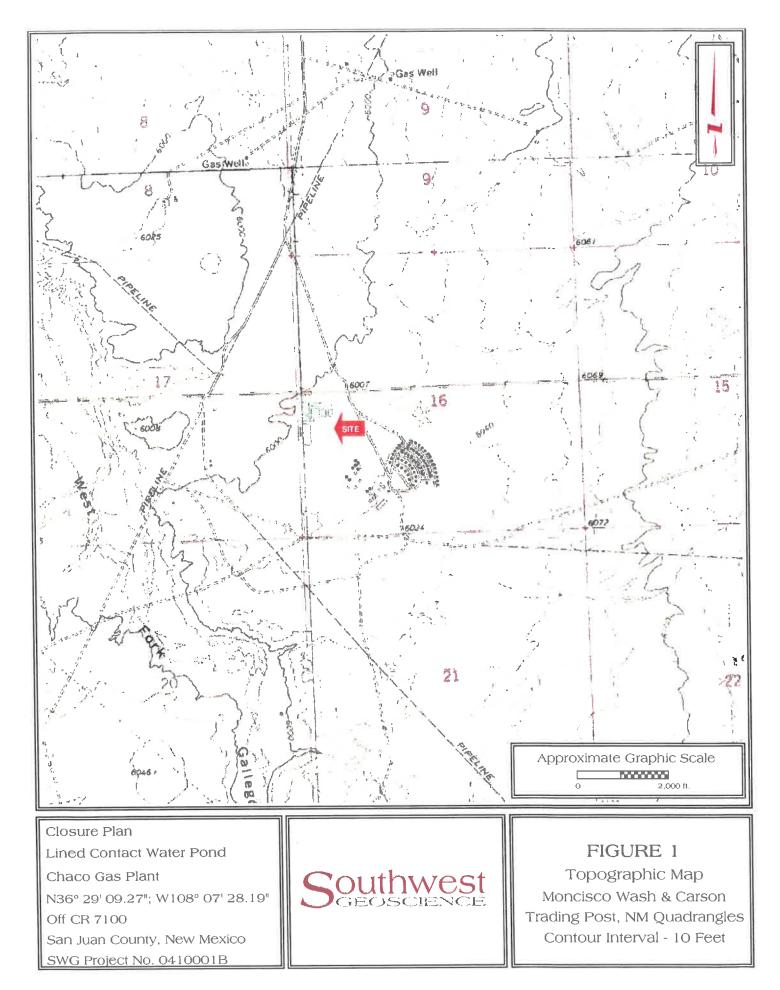
8.0 SCHEDULE

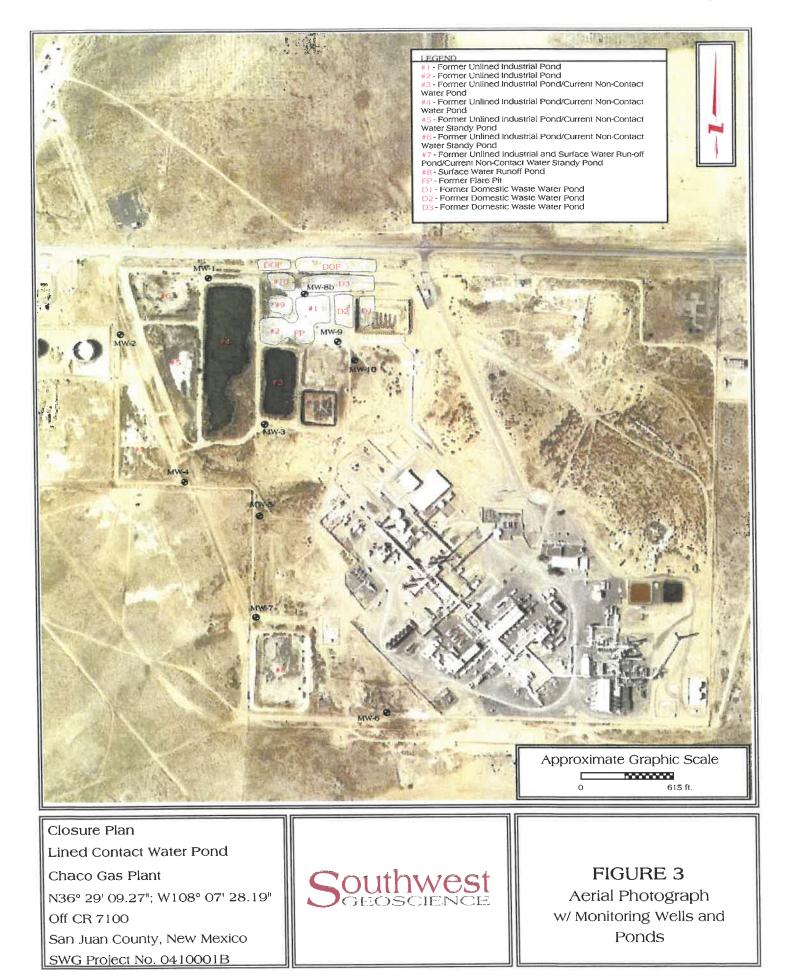
Following OCD approval, it is estimated that closure of the South Pond will require approximately four (4) weeks; however, time estimations regarding the completion of proposed activities depend upon several factors, many of which cannot be predetermined.

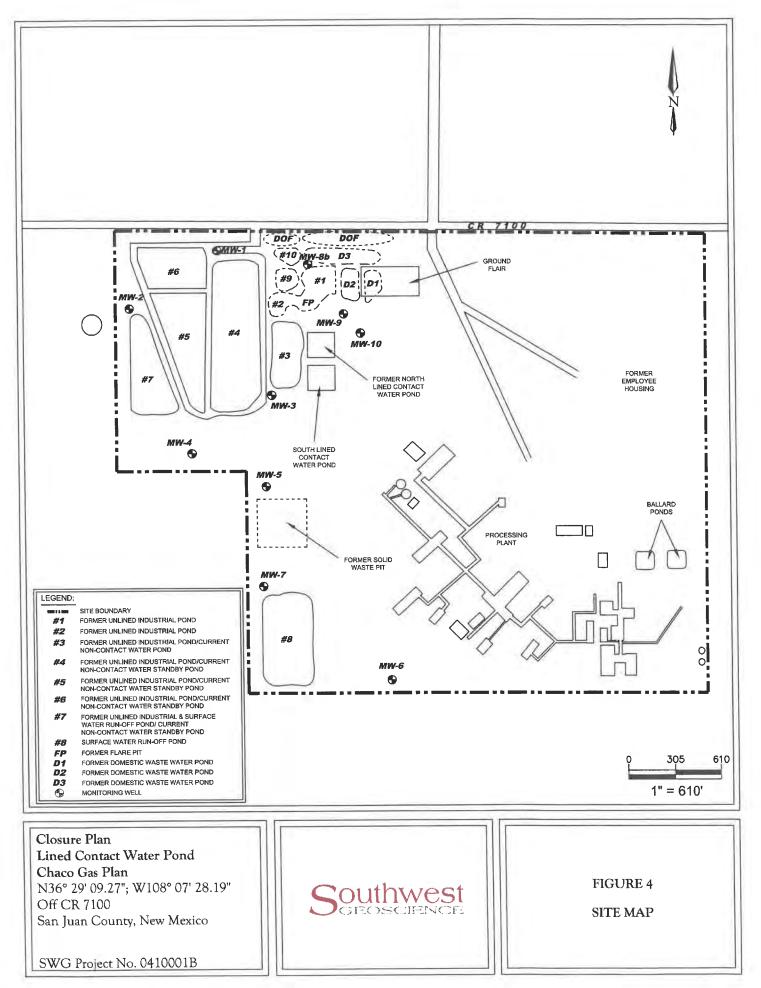


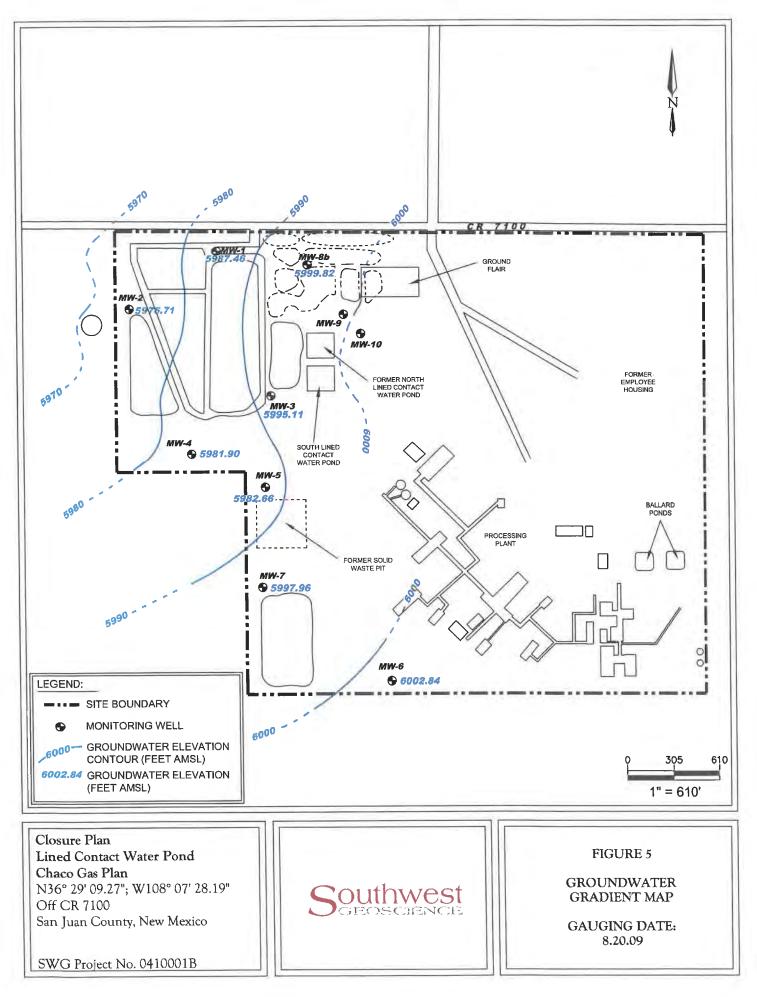
APPENDIX A

Figures











APPENDIX B

Soil Boring/Monitoring Well Logs

RECORD OF SUBSURFACE EXPLORATION

Burlington Environmental Inc. 4000 Monroe Road Farmington, New Mexico \$7401 (505) 326-2262 FAX (505) 326-2366

Elevation

Borehole Location	MW - 1
GWL Depth	15'
Logged By	Scott Pope
Drilled By	Rodgers Inc.
Date/Time Started	9-29-93 / 0830
Date/Time Complete	d 9-29-93 / 1000

diam.	_
	-

Borehole #	MW-1	
Well #	MW-1	
Page 1	of 1	

Project Name	EPNG - Ch	aco Plant	
Project Number	10942	Phase	2001/77
Project Location	Sen Juan C	ounty, NM	
Well Logged By	-	Scott Pope	

Personnel On-Sile	Scott Pope	-
Contractors On-Site	Rodgers Inc.	-
Client Personnel On-Site	Gerry Garibay	-
		-

Drilling Method Air Monitoring Method HNU, CGI

HSA 6 1/4" ID

Depth Foot)	Sample Number	Sample Internal	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Synabol	Depth Lithology Change (feet)		NonitroM Mai: ND Hilb	-	Drilling Conditiona & Blow Counts
0	1	5	SS 24	Brown SAND with Silt, fine-grained Sand, moist, loose.			0	o	0	
10	2	10	SS 24	Brown SAND with Silt, fine-medium grained, trace Clay, moist, loose.	SM		o	0	0	- Noted wet cuttings at 10'.
15	3	15	SS 24	Brown SAND, medium-coarse grained, trace Clay, trace Sit, moist, medium dense.		13.0	0	0	o	- Water estimated at 15'.
_ 20	4	20	\$\$ 9	Brown SAND, medcoarse Sand, trace Silt, sporadic cementation. Noted coal fragments, moist, very dense, possibly cemented.	sw		0	0	o	- Sample refusal at 9". - Noted saturated cuttings a 20.5". Noted clay in cuttings.
25		25	SS 6	Brown cemented SAND, medcoarse grained Sand, trace fine Gravel, some œdstains, moist, very dense. TOB - 23.8'			0	0	D	- Sample refusal et 6°.
35										

Geologist Signature

T. P.

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RECORD OF SUBSURFAC.

LORATION

Burlington Environmental Isc. 4000 Monroe Road Fermington, New Mexico 67401 (505) 325-2262 FAX (505) 326-2366

Elevation

Borehole Location	MW - 2
GWL Depth	15'
Logged By	Scott Pope
Drilled By	Rodgers Inc.
Date/Time Started	9-30-93/1415
Date/Time Comple	ted 9-30-93 / 1545

	Borshole # Weil #	MW -	-
Project Name	Page _ 1	of 1	
Project Number	10942	Phase	2001 / 77
Project Location	San Juan County	, NM	-

Well Logged By	Scott Pope	
Personnel On-Site	Scott Pope	
Contractors On-Site	Rodgers Inc.	
Client Personnel On-Site	Kris Sinclair	2.2

Drilling Method Air Monitoring Method HNU, CGI

HSA 6 1/4" ID

Sample Number	Sample Interval	Sample Type & Recovery (Inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Changs (bost)			-	Drilling Conditions & Blow Counts
1	5	\$\$ 24	Brown-Gray CLAY with Silt and fine Sand, evaporate filling of voids, roots, Organic Matter, codstaining, moist, very stiff.	a		0	0	0	- Tight drilling.
2	10	SS 18	L1. Brown Silty SAND, fine-medium grained, trace Clay, oxistaining, moist, dense.	SM	8.0	o	0	0	- Sample refusal at 18°. Tight delling continues.
3	15	SS 6	Brown-L1 Brown SAND, coarse grained, trace Silt, trace coarse gravel, moist, very dense, cemented fragments.		13.0	0	0	0	- Tight drilling cominues. - Sample Refusal at 6°.
4	20	SS 6	Same as above. Saturated.	sw		0	0	0	- Sampie Refusal at 6'.
5	25	SS 6	Same as above. Sample was moist at bottom. TOB - 25'			0	0	0	- Sample Refusal at 6". Seemed to be getting of of adurated zone. Will est well at 25'.
ents:					1	!		5	
	Number 1 2 3 4 5	Number Interval 1 5 2 10 3 15 4 20 5 25	Sample Number Sample interval Type & Pacovery (inches) 1 5 \$\$\$ 1 5 \$\$\$ 2 10 \$\$\$ 3 15 6 3 15 6 5 25 \$\$\$ 6 \$\$ \$\$ 5 25 \$\$ 6 \$\$ \$\$	Sample Sample Type & Sample Description Number Interval Recovery (notes) (notes) (notes) 1 5 2 10 2 10 18 SS 2 10 19 SS 2 10 10 18 2 10 10 18 2 10 10 18 15 6 15 6 15 6 15 6 15 6 15 8 15 8 15 15 16 18 17 18 18 15 19 18 10 18 10 18 11 18 12 10 13 15 15 15 16 18 17 18 18 19 19 10 10 18 10 18 11 19 12 10 13 15 </td <td>Bample Bample Type & Interval Sample Description (burden) USCS Number Image: Strength of the str</td> <td>Bample Bample Type & Bample Sample Description USCS USCS Change grade Number Intervel Recovery Recovery Classification System: USCS Symbol Change grade 1 5 24 eveporate filling of volds, roots, Organic CL 8.0 2 10 18 Eroem-Gray CLAY with Silt and fine Sand, eveporate filling of volds, roots, Organic CL 2 10 18 Eroem-Gray CLAY with Silt and fine Sand, eveporate filling of volds, roots, Organic 8.0 2 10 18 Eroem-Listown SAND, coarse grained, trace Clay, oxistaining, moist, dense. SM 3 15 6 Brown-Listown SAND, coarse grained, very dense, comented fragments. SW 4 20 6 Same as above. SW 5 25 6 Sample was moist at bottom. TOB - 25'</td> <td>Bample Type & Internet Sample Description (Decimal period) USCS USCS Undergy Symbol All Change 1 5 24 2 0 SS Brown-Gray CLAY with Silt and fine Sand, evaporate filing of voids, roots, Organic Matter, coistaining, moist, very stiff. CL 0 2 10 18 LB Brown-Gray CLAY with Silt and fine Sand, evaporate filing of voids, roots, Organic Matter, coistaining, moist, very stiff. SM 6.0 0 2 10 18 Ercem Silty SAND, fine-medium grained, trace Clay, oddstaining, moist, dense. SM 13.0 0 3 15 6 Brown-LL Brown SAND, coarse grained, trace Clay, oddstaining, moist, dense. SW 0 4 20 6 Same as above. Same as above. SW 0 5 25 6 Sample was moist at bottorm. 0 TOB - 25' Image of the set of</td> <td>Bangle Number Type & Type & Cassification System: USCS USCS UBroding At Model Uate: NE Period Number Increase Increase SS Brown-Gray CLAY with Silt and fine Sand, evaporate filling of voids, roots, Organic CL 0 0 1 5 24 evaporate filling of voids, roots, Organic SM 8.0 0 0 2 10 18 trace Clay, outstaining, moist, very stiff. 8.0 0 0 3 15 6 Brown-Li Brown SAND, coarse grained, trace Silty trace coarse gravel, moist, very dense, cemented fragments. SW 0 0 4 20 6 Sample was moist at bottom. TOB - 25' 0 0</td> <td>Bample Sample Description (heading) USCS Symbol Linkology (heading) At Monthering (heading) Number Intervent (heading) Classification Bystem:: USCS USCS Symbol Linkology (heading) At Monthering (heading) 1 5 24 F F 1 5 24 evaporate filling of voids, roots, Organic Matter, colstaining, molet, very stiff. CL 0 0 0 2 10 18 Frace Clay, oxistaining, molet, dense. SM 8.0 0 0 0 3 15 6 Brown-Li Brown SAND, coarse grained, trace Silt, trace coarse gravel, molst, very dense, cemented fragments. SW 0 0 0 4 20 6 Sample was molet at bottom. TOB - 25' SW 0 0 0</td>	Bample Bample Type & Interval Sample Description (burden) USCS Number Image: Strength of the str	Bample Bample Type & Bample Sample Description USCS USCS Change grade Number Intervel Recovery Recovery Classification System: USCS Symbol Change grade 1 5 24 eveporate filling of volds, roots, Organic CL 8.0 2 10 18 Eroem-Gray CLAY with Silt and fine Sand, eveporate filling of volds, roots, Organic CL 2 10 18 Eroem-Gray CLAY with Silt and fine Sand, eveporate filling of volds, roots, Organic 8.0 2 10 18 Eroem-Listown SAND, coarse grained, trace Clay, oxistaining, moist, dense. SM 3 15 6 Brown-Listown SAND, coarse grained, very dense, comented fragments. SW 4 20 6 Same as above. SW 5 25 6 Sample was moist at bottom. TOB - 25'	Bample Type & Internet Sample Description (Decimal period) USCS USCS Undergy Symbol All Change 1 5 24 2 0 SS Brown-Gray CLAY with Silt and fine Sand, evaporate filing of voids, roots, Organic Matter, coistaining, moist, very stiff. CL 0 2 10 18 LB Brown-Gray CLAY with Silt and fine Sand, evaporate filing of voids, roots, Organic Matter, coistaining, moist, very stiff. SM 6.0 0 2 10 18 Ercem Silty SAND, fine-medium grained, trace Clay, oddstaining, moist, dense. SM 13.0 0 3 15 6 Brown-LL Brown SAND, coarse grained, trace Clay, oddstaining, moist, dense. SW 0 4 20 6 Same as above. Same as above. SW 0 5 25 6 Sample was moist at bottorm. 0 TOB - 25' Image of the set of	Bangle Number Type & Type & Cassification System: USCS USCS UBroding At Model Uate: NE Period Number Increase Increase SS Brown-Gray CLAY with Silt and fine Sand, evaporate filling of voids, roots, Organic CL 0 0 1 5 24 evaporate filling of voids, roots, Organic SM 8.0 0 0 2 10 18 trace Clay, outstaining, moist, very stiff. 8.0 0 0 3 15 6 Brown-Li Brown SAND, coarse grained, trace Silty trace coarse gravel, moist, very dense, cemented fragments. SW 0 0 4 20 6 Sample was moist at bottom. TOB - 25' 0 0	Bample Sample Description (heading) USCS Symbol Linkology (heading) At Monthering (heading) Number Intervent (heading) Classification Bystem:: USCS USCS Symbol Linkology (heading) At Monthering (heading) 1 5 24 F F 1 5 24 evaporate filling of voids, roots, Organic Matter, colstaining, molet, very stiff. CL 0 0 0 2 10 18 Frace Clay, oxistaining, molet, dense. SM 8.0 0 0 0 3 15 6 Brown-Li Brown SAND, coarse grained, trace Silt, trace coarse gravel, molst, very dense, cemented fragments. SW 0 0 0 4 20 6 Sample was molet at bottom. TOB - 25' SW 0 0 0

10/06/93 /MW2LOG.WK1

RECORD OF SUBSURFACE

Barlington Environmental Inc. 4000 Monroe Road Fermington, New Mexico 87401 (505) 328-2262 FAX (505) 328-2388

Elevation

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Borehole Location	MW - 3
GWL Depth	8'
Logged By S	cott Pope
	odgers Inc.
Date/Time Started	9-29-93/1230
Date/Time Completed	9-29-93 / 1345

	~	

Project Name

Borehole #		
Well #	MW - 3	
Page 1	of 1	

Project Number	10942	Phase	2001 / 77			
Project Location	San Juan County, NM					
Vell Logged By		Scott Pope				
rsonnel On-Site		Scott Pope				
ontractors On-Sit		Rodgers Inc.				
	-Site	Kris Sinclair				

Drilling Method HSA 61/4'1D Air Monitoring Method HNU, CGI

Dupth (Foot)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)		Monitor nito: NC BH	-	 Driling Conditions & Blow Courts Noted wet cuttings starting at 6'. Water at 8'. Noted dark gray-black staining at 8-10' w/sewage odor. No PID readings. Noted gray-dark gray discoloration throughout, slight sewage odor. Sample refusal at 3'. No odors.
		5 10 15 20	SS 24 SS 24 SS 24 SS 24 SS 3	Brown SAND with Silt, fine grained Sand, trace organic matter, moist, loose. Dark Gray-Black SAND, fine-medium grained, with Silt, saturated, loose. Grayish-Green Silty CLAY, with evaporate filling of voids, oxistains, low plasticity, moist, very stiff. Grayish-Green Silty CLAY, w/Sand, fine-med. Sand, low plasticity, moist, stiff. Brown-Gray SAND, coarse grained, moist, very dense, possibly cemented. TOB - 20'	1	8.0 9.7 13.0 16.5	0	0	0	
35			et well at	20'. Geologist Si	gnature		iou	T	- F	

RECORD OF SUBSURFAC.

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SLORATION

Burlington Environmental Inc. 4000 Monroe Road Farmington, New Mexico 67401 (505) 326-2282 FAX (505) 326-2368

Elevation

Borehole Location	MW-4					
GWL Depth	20'					
Logged By So	Scott Pope					
Drilled By Ro	odgers Inc.					
Date/Time Started	9-30-93/0945					
Date/Time Completed	9-30-93/1210					

1		-
2	1	
	- 6	
	1.1	
		-

Borehole #		MW-4	
Well 🖝 👘	-	MW-4	
Page 1	of	1	

Project Name	EPNG - Chaco Plant							
Project Number	10942	Ph		2001 / 77				
Project Location	San Jua	n County,	NM					
Well Logged By		Scott	Pope					
Personnel On-Site		Scott	Pope					
Contractors On-Si	Rodge	ers Inc.						
Client Personnel On-Site		Kris Sinclair						

Drilling Method Air Monitoring Method HNU, CGI

HSA 61/4" ID

Depth (Feet)	Sample Number	Sample Interval		Sample Type & Recovery (notes)			Depth Lithology Change Freety	Units: NDU		-	& Blow Courts
5 10 15 15 15 20 25 30 35 33 35		5 10 15 20 25 30	SS 18 SS 16 SS 6 SS 6 SS 6 SS 24	Brown Silly Sandy CLAY, fine-medium Sand, trace moisture, very stifl, trace fine Gravel, evaporate filling of voids. Brown-LL Brown Silly SAND w/Clay, fine-med. Sand, some oxistaining, moist, very dense. LL Brown-Yellow CLAY w/Sand, trace moisture, very stifl (cuttings). LL Brown-Yellow SAND with Silt, trace Clay, medium-coarse Sand, moist, very dense, probably cemented. LL Brown coarse SAND, trace Gravel, trace Silt, moist, very dense, possibly cemented. LL Brown coarse SAND, trace Gravel, trace Silt, moist, very dense, possibly cemented. A* of Gray CLAY surreending coarse, moist Sand and coarse Gravel, very stifl, changing to Yellow Sandy Gravelly CLAY with coarse to very coarse Sand and coarse Gravel. Noted some wet zones within sand and gravel. Gray Silty CLAY w/pedodic fine Sand lenses, oxt- staining, trace coal, low plasicity, moist, very stifl. Appeared laminated is some areas. TOB - 30'	CL SM CL SP CL CL	8.0 11.0 13.0 18.0 23.0 28.0	0	0	0 0 0	 Sample Refusal at 15'. Very tight drilling. Had to adwater (5 gal) to get cutting to add hole. Very hard drilling. Driller felt like he got through tight layer at 17'. Refusal at 6'. Had 4' water in hole. Noted gravel in cuttings, some as large as 2'. Refusal at 12'. Had approximately 2' of water enter hole after sitting 10 min Noted abundant saturated cuttings. Driller noted changes at 27'. 	
Comm	ents:	Will se	et well at	28'							

10/06/93 /MW4LOG.WK1

RECORD	OF	SUBSURFACE	EXPLORATION
	•••		PREASE MALE AND A REPORT OF

MW - 05

6-27-94 / 1100

8-27-94 / 1345

23'

Scott Pope Rodgers inv.

Burlington Environmental Inc.

4000 Morece Road Fermington, New Mexico 87401 (6051 328-2282 FAX (605) 328-2388

Elevation

Logged By

Drilled Sy

Borehole Location GWL Depth

Date/Time Started

Date/Time Completed

	Page 1	of 1				
EPNG - C	haco Plant					
12588	Phase	2001 / 77				
San Juan County, NM						
1	Scott Pope					
	Scott Pope					
	Rodgers Inc.					
5ite	Gerry Garibay					
	12588 San Juan	EPNG - Chaco Plant 12588 Phase San Juan County, NM Scatt Pop Scatt Pop Rodgers				

Drilling	Method	

HSA 6 1/4" ID HNU, ÇGI

under the second with the the

Sprehole #

Weli #

MW - 05

MW - 05

Depth (Feet)	Sample Alumbus	Sample Interval	Sample Type & Recevery (mohes)	Sample Deconption Class-Restion System: USCS	USCS Symbol		Air Menitoring Unita: NDU BZ BH S			Driking Canditiens & Blow Counts
5	1	3.5 5.5	55 20*	Brown Sandy CLAY, trace Silt, Sand fine-medium grained, some evaporite filling of voids and oxi-stains, medium plasticity, medium stiff, moist.	CL	7.5	0	o	o	
	2	8.5 10.5	\$5 24"	Brown SAND, fine-medium grained, loose, moist to wet.	sw	10.5	0	¢	0	Driller noted change in conditions @ 7.5'.
15	3	13.5 15.5	55 6"	Brown-gray CLAY, trace fine Sand and Silt, stiff, moist, some evaporita filling of voids. Lt. Brown-Tan SAND, medium-coarse grained, very hard possibly comented, moist.	GL	13.5	0 0	0 0	0 0	Refuszi @ 6"-
20	4	19.5 20.5	55 8"	Ten-Bulf SAND, seme as above.	sw		0	o	o	Relusat @ 8°.
25	5	23.5 25.5	55 8"	Lt. Brown-Buff SAND, fine grained, very herd, trace moisture, probably comented. Lt. Brown-Buft SAND, coarse grained. trace fine Gravel, trace Clay, moist-wet.	SP	24	0	0 0	0 0	Refusal @ 8". Notad 1" water in bottom of hule on driller's tape.
30	6	28.5 30.5	55 10"	Lt. Brown-Buff silty SAND, fins greined, very hard, moist, probably camented. TOB 29.2*	sw	28.5	0	C	O	Refusal @ 10". - Hole open to 28'. - Pulled auger up 2' to b water accumulate in borehole. Water came up to 25'. - Discussed well complet tion with Gerry Gariba will set @ 28' with 20 of screen.

Geologist Signature

7/11/94\MW05LOG.XLS

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Page 215 of 298

RECORD OF SUBSURFACE EXPLORATION									Boráh	and the second s	
turlington Environmental Inc.									Well & Page	1 ut 1	
000 Morros I	Road				Project N		5 DAI	6 . 0	hnes i	Plant	
ammington, New Maxice 51401 5051 326-2282 FAX 15061 328-2388						umber	EPNG - Chaco Plant 12588 Phase 2001 / 77				
					Project La	ocetion .	Sai	Juan	Count	y, NM	
levetion					Walt Logg	ed By	Scott Pope Scott Pope Rodgers Inc.				
Borehole Location MW - 06 GWL Depth 11.5' Logged By Scott Pope					Personnal	: On-Site Ire On-Site					
										04	
Drilled By Rodgers Inc. Dete/Time Started 6-28-94 / 0745					Drilling M	HSA 6 1/4" ID					
Dete/Time Started Date/Time Comple				4/0910	Ar Monitoring Matha						
	-		Sample	·····	-	Depth	-				
Depth	Semple		Type 6.	Swapia Geogriptian Cleasitization System: USCS	(ISCS Symbol	Lithology Change (faet)	Air Monstaring		-	Oriting Canditions	
(Fout)	Number						82	Umila: NOU IZ BH S		& Slow Course	
- 0								1			
E											
F	-	3.5	58	Brown-L1. Brown SAND, fine grained,			0	0	0	Refusal @ 12*.	
5	1	5.5	12*	trace Silt, some evaporite filling of voids,	SP			1			
+				very hard, moist.							
E											
H 10	2	8.5 10.5	SS 24"	Brown SAND, fine grained, trace Silt, medium dense, moist to wet.			0	0	0		
F			-					1.1			
-	-					13.6					
E.		13.5	SS 24"	Brown CLAY, with Silt and fine Sand, stiff,	CL		0	0	0	Puti augere up 1' to	
- 15	3	15.5	24"	moist, evaporite filling of voids.				1		let water accumulate, Water came up 11.5'	
F		. 1								in borehole. Will set weil @ 22.0'.	
E			1.1							- Driller felt like titholog	
20										changed to sandstone @ 19', but no cuttings	
E										to show change.	
+		1		TO8 - 22.0'					12.0	- No additional samples taken past 15.5"	
25	1							1	A 1		
-	2					1.1					
			1								
- 30	1	1									
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				Geologist Sig	mature	Xi	T	T.	Pa		

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CORD	of Su	BSUR	FACE	EXPLORATION		•			Borshu Wet #	MW - 07		
alstingtas Environmental linc. 000 Merron Road ummetar, New Maxice 27401 005) 328-2282 FAX (505) 326-2388					Project Nerne Project Number Project Lacetion			Page 1 of 1 EPNG - Chaco Plant 12588 Phase 2001 / 77 San Juan County, NM				
evetion prehole Location MW - 07 WL Depth 5' bgged By Scott Pope rilled By Rodgers Inc. ate/Time Started 6-27-94 / 1525 ate/Time Completed 6-27-94 / 1615			5' Igers Inc 6-27-94		Viel Lode Personnel Cantrette Client Per Driling M Air Monit	Scott Pope Scott Pope Rodgers Inc. Gerry Garibay HSA 6 1/4" ID						
Depth Sample (Feet) Number			Sample Type & Recovery Unorme)	Sample Description Classification System; USCS	usts Symbol	Depth Lishelogy Change (tem)	Air Manitoring Units: NDU 82 BH S		U	Drilling Conditions & Blow Counts		
- 5		3.5 5.5	SS 20*	Brown SAND, fine grained, trace Silt, loose saturated at bottom.	SP		0	o	o	• Very easy duiling,		
10	2	8,5 10,5	55 24"	Same as above with SAND line to medium grained.			٥	0	0	- Will drill to 17" and s well. - No samples taken aft '10.5'		
20				TOB 17.5'								
25												
35												
40												
								_	T)		

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RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL 4000 Monroe Road Farmington, New Mexico 87401

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(605) 326-2262 FAX (505) 326-2388

Bottom Frit ~ 10' deap (Below Bern) Elevation Borehole Location PI GWL Depth Est 11 7.4 0 Logged By Drilled By Date/Time Started 10/11/95 -1015 Date/Time Completed 10/11/95 1200

Project Name Project Number **Project Location** Well Logged By

EPNG Pits Phase Flare Pit CMC .10

Borehole # Well #

Page

4141. D. HSA

PID, CG

Personnel On-Site **Contractors On-Site Client Personnel On-Site**

RIVERA D. P. Marquez

Drilling Method Air Monitoring Method

pth pet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Ai U BZ	r Monitor Inita: -Na BH	ine the s/ws	Drilling Conditions & Blew Counts
- 0 - 5	3	5-7	5"	Fill to ~ 3' Gry silty SAND, vt sand, loose, Saturated, maist	sm		٥	20	48	- 1016 hr
_ 10	\$	10-12	10	BIK silty SAND, vF sand, loose, Saturatol.	_	12'	٥	UC	1) NA	- 10à 1 Sample saturated. No Headspace - GW est. @ 11'
- 15	3	15-17	8	It Br silty CLAY, med stiff, low plastic, saturated			۵	18		- 1027 Sample sat. No H
20	ч	30-97	94	It Br silty CLAY, stiff, non plastic, dry,	CL		D	0	10	- 1039
25		ک ۵-92		1+ Br silty CLAY, 1- vf Sand, V. Stiff, non plastic, dry			D	٥	00	-1102
_ ³⁰ _ ³⁵	Ŀ	30-32	.2	Br silty CLAY, +n vt sand, V. Stiff non plastic, +r evaporte filling / TOB 32'			ט	D	ch	בווי –

Comments:

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CMC 142(5-7' 4 CM (14) (20-22') seat to lab (BTEX, TPH). After talking will drill to 30' to ensurabelow GW- BH grouted to P. Marguez, SUCTACI

Note: GW collected on all split spoon samples

Geologist Signature

With

by

tremi

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL 4000 Monroe Road Fermington, New Mexico 87401 (506) 326-2262 FAX (505) 328-2388

Elevation ~ 5' below berm
Borehole Location Charp Plant
GWL Depth
Logged By CM Chance
Drilled By K. Padilla
Date/Time Started <u>JD/11/95 - 1255</u> Date/Time Completed <u>10/11/95 - 15DU</u>
Date/Time Completed 10/11/95 - 1500

Project Name Project Number **Project Location**

Well Logged By

Personnel On-Site

Contractors On-Site

Client Personnel On-Site

Well # Page of 1 EPNG PITS Phase 6010.77 14509 Plant hace BH-2 CMCL P D

Borehole #

4/41.0. H.SA

PID, CGR

BH#2

P. Marquiz

Drilling Method

Air Monitoring Method

Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS F()) $t_{0} \sim 5'$	USCS Symbol	Depth Lithology Change (feet)		Manitor nita: ND BH	-	Drilling Conditions & Blow Counts
- 5	ł	5-7		No Recovery			0	క		- 1302 hy - Ctags wes
- - 10 -	9	10-12		BIK SAND, vF sand, med dense moist	SM	12'	0	6	ONE	-1.307 -6w@~12' -6tngs Sat. @ (3'
- - -		D 0		lt Brsilty CLAY, stiff, mel plastic, tr evaporite fillings drg-	CL		٥	4		-1318
20 				It Br sandy CLAY, vF sand, stiff, non plastic, sl moist		۵۵'	ο	8	00	-1327
25 	5	7ھ کھ		In Br SAND, vf-Fsund, dense, dry	SM	27'	٥.	6	0	-1328
30 	Ь	لاحد	١Ĵ	It Br/yellow/ AK Br motiled CLAY, dense, Dry - TOBJA'			٥	J	9	(כני
40		Note: CMS		on about in collection on whit warm	CM(144(1	0-12')	Sent	+01	ab For TPHI.
		714-		Geologist S	ignature	Co	7	C	La	4

 e^{i}

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL 4000 Monroe Road Farmington, New Mexico 87401 (506) 326-2262 FAX (506) 326-2388

Elevation Dn B	erm
Borehole Location	Chaco Plant
GWL Depth	10.5
Logged By	CM Change
Drilled By	K. Padilla
Date/Time Started	10/12/95- 0735
Date/Time Complete	010/12/95-0930

Project Name	E
Project Number	14
Project Location	C
Well Logged By	

PNG PITS Phase 6010 -77 ISDA BH -Plant haco

P. Marquez

Borshole # Well # Page

CM Chanc FRir ra, Charlip D.

BH#3

of }

Contractors On-Site **Client Personnel On-Site**

Personnel On-Site

Drilling Method

4 Ky I.D. HSA PID, CGI Air Monitoring Method

	S- 7	14			_				
			BIK sandy CLAY, VF sand, med stiff, lowplastic, day	cL		0	0	1/25	-0740 h-
2	(D-17	8	Gry SANO, vf -Fsand, meddens, moisi		8	ο	3	4	-0746 -GW@10.5' Black
3	15-17	24	BIK silty SAND, uF-Fsand, med dense, wet	SM		0	1	Q XX	-0756 -Sample Saturate No Headspary
ષ	70-9}	24	AA L+ B+ sandy CLAY, vF sand, med stiff, low plassic, sl moist	دل	90	٥	3	00	-0807
S	25-27	20	AA		26	о	3	000	-0818
6	7C. OC	18		SC CL	31.3	D	0	00	- D82 6
	Note	IPH. (M(147 (30-32) sent to lab For	BTEX	TPH.				
	ų S Rillo	ц 20-22 5 25-27 6 20-32 6 20-32 6 20-32 6 20-32 6 20-32 811LOG1.XLS	ц 20-22 24 5 25-27 20 6 20-22 18 <u>Гол Тен. (Surface 1</u> RilLOG1.XLS	A dense, wet A dense, wet AA L+Br sandy CLAY, vF sand, med stiff, low plassic, sl maist S 25-27 20 AA b 20:32 18 H Br clayer, SAND, vf of Sand, dense, angi tr evaporite filling DK Br CLAY, v. stiff, lowplastic day TOB 321 Not: all sandes below GW had GW collection For TPH. (MC 147 (30-32) sent to lab Factor Surface by tytoic Geologist S	A AA AA AA AA AA AA AA AA AA AA	3 15-17 24 BIK siling SAND, uf-f sand, med 4 20-22 24 AA 14 20-22 24 AA 15 25-27 20 AA 6 20-32 18 14 Br clayey SAND, uf of sand, dense, science filling 20 24 AA 24 21 25-27 20 AA 22 25-27 20 AA 23 25-27 20 AA 24 18 25 25-27 25 25-27 20 AA 26 20-32 18 24 26 20-32 18 25 27 28 27 21.5 28 27 28 23.2 29 28 27 28	15-17 24 BIK siling SAND, of -f sand, med dense, wet 20 4 20-22 24 AA 20 20 4 20-22 24 AA 20 20 20 5 25-27 20 AA 20 20 20 20 5 25-27 20 AA 20 <	3 15-17 24 BIK siling SAND, uf-fsand, med 0 1 4 20-22 24 AA	$S = 15 + 17 \lambda + B = 1K Sil+y SAND yF - F Sand med \qquad SM \qquad O 1 O 1 O NM \\ \begin{array}{c} \lambda = nse, wet \\ \mu = nse, wet \\ S = 25 - 37 \lambda = 1 AA \\ \mu = Br class Sand CLA Y, yF sand med \\ S = 16 Br class Sand CLA Y, yF sand med \\ S = 25 - 37 \lambda = 16 AA \\ \mu = Br class Sand yf ers ho sr \\ S = 25 - 37 \lambda = 16 AA \\ \mu = Br class Sand yf ers ho set \\ S = 25 - 37 \lambda = 16 AA \\ \mu = Br class Sand yf ers ho set \\ S = 25 - 37 \lambda = 16 AA \\ \mu = Br class Sand yf ers ho set \\ \mu = Br class Sand yf ers set \\ \mu = Br class Sand yf ers set \\ \mu = Br class Sr Sr Sr \\ \mu = Br class Sr Ff for plass fg for plass gand Sr \\ \mu = Br class Sr Ff for plass gand Sr \\ \mu = Br class Sr Ff for plass gand Sr \\ \mu = Br class Ff for plass gand Sr Ff for plass gand Sr \\ \mu = Br class Ff for f$

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RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL 4000 Monroe Road Fermington, New Mexico 87401 (505) 326-2262 FAX (505) 326-2388

"_ B.	rm me Lavel inside fit
Elevation Surf	nee Level inside Pit
Borehole Location	Charp Plant
GWL Depth	and the second
Logged By	(M Chance
Drilled By	K. Pullla
Date/Time Started	10/11/95- 0755
Date/Time Complet	ted 10/11/95 - 1000

Project	Name
Project	Number
Project	Location

Well Logged By

Personnel On-Site **Contractors On-Site**

Page of 1 EPNG PITS 14509 Phase 6010.77 Chare Plant Industrial Pand #2

Borehole # Well #

BH#Y

CM Chance F. Rivera R. Chartie P. MARGARE

Drilling Method

Client Personnel On-Site

4/4 1.DH Air Monitoring Method 810, CGI

th Samp st) Numb			Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)		ir Manita Inits: NE BH		Drilling Conditions & Blow Counts
5			Fill to ~10'						
_ 10 _ 1	13- <u>1</u>	5 24"	Br SAND uf-f sund, well spined, loose, saturated	SM		٥	8	9.35	-Ogiohn -Sample Saturati, -GW est. @ 14'
_ ²⁰ 2	20-	D (7.,	Br CLAY, tr vF sand, med stiff, non plastic, dry- TOB 22'	- - -	20.5'	٥	72	90	-0904
_ ³⁰								-	
_ 40 ments;		MC 14D	(17-15) sent to lab (BTEX, TPH), CI BH growned to suctase by T	<u>ncial</u>	Qu - 22) T	РН	TEXE	Cmc IsJIJAF

RECORD OF SUBSURFACE EXPLORATION

 PHILIP ENVIRONMENTAL

 4000 Menree Read

 Farmington, New Mexico 87401

 (605) 326-2262
 FAX (505) 326-2388

Elevation On	berm
Borehole Location	Chaco Plant
GWL Depth	12.7'
Logged By	CM Chance
Drilled By	K. Padille
Date/Time Started	10/12/95-0940
Date/Time Comple	

Project Name	Ε
Project Number	14
Project Location	I
Well Logged By	

BH-5 Borehole # Well # Page of PNG PITS Phase 6000.60 stein MC RIVERA, D C

Contra	actors On-	Site
Client	Personnel	On-Sit

Personnel On-Site

P. Marquez 4 YYLD. HSA

PID. CGT

Drilling Method Air Monitoring Method

epth ioet)	Sample Number	Sampie Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Ui BZ	Monitor Pr nits: ND BH	s/H	Drilling Conditions & Blow Counts
_ 0				Fill +> ~ 8'						
_ 10	ł	10-13	4	Bik SAND, ut-tsand, med danse, sl maist			0	о		-0945h -6W@12.7' Black
_ 15	2	15-17	24	Bry SAND, VF-F sand, dense, wet, BIK silts SAND, VF sand, dense, moist			ο	6		Black -0954
_ 20	J	90°79	ID	It Br Sandy CLAY, of sand, dense, day, tr evaporite filling	Ì		٥	٥	0/0	-1001
_ 25	ц	22.7	81	AA DE Br CLAY, V. Stiff, low plassic, dr. 19 Br clay by SAND, VT I sand, danse, d-yr arganic Fragmens.	1		0	o	20	-1010
_ 30 35		30-32	8	Br Sandy CLAY, V. Stiff, non plastic, Bry, tr evaporite filling TABJ1	-		٥	٥	95	-1017
40										
nmente	81	Sent		(RTEX. TPH). BH growted to ad against cal yas I is accurate		ie by	ighau Irem	H.S.	els	<u>CMC J4 9 (30-32)</u>
10.05	00011	G1.XL		Geologist S	ngnature		n	4	land	4

RECORD OF SUBSURFACE EXPLORATION

 PIIILIP ENVIRONMENTAL

 4000 Menree Road

 Fermington, New Mexico 87401

 (505) 326-2262
 FAX (505) 326-2388

Elevation On berm Borehole Location Chara Plant GWL Depth 13.6' Logged By CM Chance Drilled By K, Palilla Date/Time Started 10/12/95-1335 Date/Fime Completed 10/12/95-1515

9	Borehole # Well # Page	BH-6
Project Name Project Number Project Location	EPNG PITS 14509 Phase Chara Plant	6000.60 BH-6
Well Logged By Personnel On-Site Contractors On-Site Client Personnel On-S	<u> </u>	Charlio Vez
Drilling Method Air Monitoring Metho	HY41.D. HSA PID, CGT	

Depth (Feet)	Sample Number	Sample Interval	Semple Type & Recovery	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change		r Monito Inita: NC		Drilling Conditions & Blow Counts
0			(inches)			(feet)	82	ВН	s/#	
5	ı	5-7	1 1	lagry SAND, ut sand, v. loose, sl notst BIKJAND, ut sand, v. loose, sl moist	sM		۵	۵	0/16	- 1342
10	۵	10-17		H Gry SAN D, VF Sand, looso, Sl MIST	SM		0	٥	251	- 1347
15	3	ıs-17		Br clayeySAND, utsand, loose, st noisi DK gry-gry SAND, utsand, mal donse, wat	sM	+7	0	1		- G W @13.6" - 1032 - No HS. Sample Saturatal
20	4	90-77	10	L+ B-/G-y mottled CLAY, +- vF sand, stiff, med plastic, dry	-		۵	Þ		-1406
25	s	דריד	6	4 Be sandy CLAY, v. Stiff, non plassing	در		٥	۵	20	- 1415
30	Ь	ید- در	12	Br/OKBr mottled sand CLAY, vF sand, V. Stiff, drg, tr vF sand Rartings, tr evaporite Fillings			٥	D	%	- 1422
35	þ.			TOB32'	-					
40 mments				(10-12) sent to lab (TPH) CA	1(15	3 (30 -	(ددر	Jan	770	JAL (BTEX, TPH
		BH	groute	d to surface of tremit Geologist Si	gnature	Co	4	ca	m	•
19/95	กระบ ด	G1.XLS					0			

IILIP ENV DO Monroe F mington, Nev D6) 326-2262	load v Mexico	87401		-	Project Ni Project Ni Project Lo	mber	E P/ 1450	9	Page Pl Pha Plant	se 6000.60
evation orehole Loo WL Depth ogged By rilled By ate/Time S ate/Time S	cation Started	20. CM R. 1 10	Cha Palille 1.113	α <u>ς</u> « λ 2	Client Per Drilling M	On-Site rs On-Site sonnel On-S	site <u> </u>		P. M. P. M. D. H.	Margyez
Depth (Feet)	Semple Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air Ui BZ	Menitor nita: NO BH	S/K	Drilling Conditions & Blow Counts
0 5	ı	5-7	s	OK gry SAND, ut sand, med dense, slmoisr	-		٥	٥	57	-1129 h
10	\$	10-12	18	lt gry SAND, vF sand, meddence, slmpist			٥	0	4/32	-43)
15	з	15-17	16	BIKSAND, vf sand, meddense, maisn			۵	٥	0	-1/39
20	ч	70-77	18	A/+ Brsily CLAY, stiff, nonplastic, Dry.			٥	٥	%	-1144 - GWQ 20.5' Fier Setting ID NIT -CTNGS SATURATED
25	S	25-27	8	BIK clay 25AND, vF sand, dense, wet 1+Or - Redish Br SAND, vF sand, v. dense, dry			٥	۵	20	-1202
30 	6	25- 0 L	10	It Br silty SAND, vF sand, v. Dense, Bry, to evaparite fillings TOB32'			0	٥	٥	-1219
35	7				-					
comments		CMC BH 3	CISD rovied	(ID -12) Sent to lab (TPH). CI To surface w/ tramit	M(15	1(20 -	(' 6 0	Sent	+010	L (BTEX, TPH)

BH++ BH8a

6000 77-60

of 2

RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL 4000 Monroe Road Farmington, New Mexico 87401 (606) 326-2262 FAX (605) 326-2388

Elevation 0.	berm			
Borehole Location	Q	- S	- T	- R
GWL Depth				
Logged By	CM CH	ANCE		
Drilled By	K Padill			
Date/Time Started		10/12	95-0	920
Date/Time Comple	ted	plis	95-1	900

		Page	or	2
Project Name	EPNG PITS			
Project Number	14509	Phase	6000	77-6
Project Location	Chaco	Plant	RH-8.	
Well Logged By		Chance		
Personnel On-Site	K Pa	dilla F. P	veca D.	Charl,

Personnel On-Site **Contractors On-Site Client Personnel On-Site**

Drilling Method

4 1/4" ID HSA Air Monitoring Method

8441.0 PID, CGI

Borehole # Well #

Page

		1.1	Classification System: USCS Fill to ~10' Br SILT, loose, Ary Br/gry mattled CLAY, tr vf sand, med stift, low plassic, dry	Symbol	Change (feet)	Unite: 82	BH	S HS	- 08JJ
	15-17	1.1	Br SILT, 10054, Dry			٥	0	y,	- 0833 h
	15-17	1.1				٥	0	<i>s</i> e	- 0822 h
		5	Br/grymottled CLAY, tr vf sand, med stiff, low plastic, dry						
						0	ŋ	80	- 0844
11	90-74	4	A/A			٥			-0904
I	25-9 7	5	It Br SAND, VF - F Sandy v. dense, sl cemented, dry			٥	۵	%	- V. hard dring 1015 - Refusal Q23 W844.
- 1						0	٥	9%	-1026
	25-32	4	A/A			۵	٥	%	- PCai
7	40-42	ч	Bridtf wh SAND, ut-f, t, med sand, occ. cementation and			۵	0	90	1040
	CM	154	(40-42) sent to lab (BTEX, TPH) ace. Discovered of P. Marguez + wi	1 ma	vsal la	945	2/4	1/4 0	
5		30-32 35-37 40-42 <u>Rotan</u>	30-32 4 35-37 4 40-42 4 <u>40-42 4</u> <u>Raffural 4</u> <u>CMC 154</u> <u>BH 70 5007</u>	30-22 4 H Br SAND, F-med sand, v. dense, dry 35-27 4 A/A 40-42 4 Br/OFF wh SAND, VF-F, to med Sand, OCC. Cementation dro Refucal w/ 8/4 1.0. augers @27. Will pull CMC 154 (40-42) seat to lab (BTEXT PH BH to surface, Discovered of P. Marquez twi Geologist S	20-22 4 HB-SAND, F-med sand, V. dense, Ary 25-27 4 A/A 40-42 4 Br/Off wh SAND, VF-F, to med Sand, DCC. Cementation dro CMC 154 (40-42) sent to tab (BTEX.7 PH). Raf BH to surface. Discovered of P. Marguez + will ma Geologist Signature	20-22 4 H Br SAND, F-med sand, v. dense, dry 25-27 4 A/A 40-42 4 Br/OFF wh SAND, vF-F, to med Sand, occ. cementation dro Refucal w/ 8/4 1.0 augers P27. Will pull t drill pilet CMC 154 (40-42) sent to Tab (BTEXT PH). Refusal (0 BH to surface, Discussed of P. Marquez t will move S. Geologist Signature	30-22 4 HB-SAND, F-med sand, V. dense, dry 0 35-27 4 A/A 0 40-42 4 Br/OFF wh SAND, VF-F, to med 0 Sand, DCC. Cementation dro 0 Refucal w/ 8/4 1.D. augers @27. Will pull t drill pilat hole CMC 154 (40-42) sent to lab (BTEXT PH). Refusal @45 BH to surface. Discoursed w/ P. Marguez t will move S. to in Geologist Signature	30-22 4 H B + SAND, F-med sand, V. dense, dry 0 0 0 35-27 4 A/A 0 0 40-42 4 Br/OFF wh SAND, VF-F, to med 0 40-42 4 Br/OFF wh SAND, VF-F, to med 0 Refucal w/ 8/4 1.D. augers @ 27'. Will pull t drill pilat hole u/ 4 CMC 154 (40-42) sent to lab (BTEX:7 pH). Refusal @ 45' w/ 4 BH to surface. Discovered w/ P. Marguez t will move S. to install Geologist Signature 0	JO-J2 4 H B - SAND, F-med sand, V. dense, dry JS-J7 4 A/A 40-42 4 Br/Off wh SAND, VF-F, to med Br/Off wh SAND, VF-F, to med Br/Off wh SAND, VF-F, to med D 0 9/2 Refural w/ 8/4 1.0 augers D J'. Will pull t drill pilot hole w/ 4/4 CMC 154 (40-42) sent to Tab (BTEXT PH). Refusal @45 w/ 4/4 o BH to surface. Discoursed w/ P. Marquez t will mave S. to install Mi Geologist Signature

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Monroe I ngton, Ne	Road w Mexico	ENTAL 87401 105) 328-2			Project Ne Project Ne Project Lo	umber	EPNG PI 1450 Chac	9 Pł	ase <u>6000 77</u> → BH-84	
ation hole Lo L Depth ged By		СМ СН.	ANCE	- T - R			te			
ed By s/Time s/Time			0/13/45	- 1200	Drilling Method <u>4 1/4" ID HSA</u> Air Manitoring Method <u>PID, CGI</u>					
Depth (Feet)	Sample Number	Sample Interval	Sample Type & Recovery (inches)	Sample Description Classification System: USCS	USCS Symbol	Depth Lithology Change (feet)	Air M Unita: P BZ	lonitoring PM <u>S</u> BH HS	Drilling Conditions & Blow Counts	
	8	42-425	٥	No recovery TOB 45.5'			0	6 / <i>VI</i>	9 - Rotusad	
mments										

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RECORD OF SUBSURFACE EXPLORATION

PHILIP ENVIRONMENTAL 4000 Monroe Road Fermington, New Mexico 87401 (505) 326-2262 FAX (505) 328-2388

Elevation 0	herm
Borehole Location	Q - S - T - R Charp Plant
GWL Depth	16 2
Logged By	CM CHANCE
Drilled By	K Padilla
Date/Time Started	
Date/Time Comple	sted 10/13/95-1525

Project Name	EPNG PITS
Project Number	14509
Project Location	Chaco

Phase CO Plant

Borehole #

Well #

Page

Well Logged By Personnel On-Site **Contractors On-Site** Client Personnel On-Site CM Chance K Padilla, F. Rivera D Charlie

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MW-

1

6000 77 60

MW-8

of

Drilling Method 4 1/4" ID HSA Air Monitoring Method

....

...

PID, CGI

Depth (Fest)	Semple Number	Sample Interval	Sample Type & Recovery (inches)	Semple Description Clessification System: USCS	USCS Symbol	Depth Lithology Change (feet)		Monitor PPM BH	ring <u>S</u> HS	Orilling Conditions & Blow Counts
5 5	ł	5-1D	(D	Br SILT, V. Soft, dry, 7, clay			0	٥	8	-135F
10	د	10-12	8	1+ Gry SILT, v. Soft, dry, tr clay			٥	٥	2	- /343
15 	د	15-17	Ь	It boy silty SAND, uF sand, loase, moist			۵	٥	200	-1349 -Split Spoon has not anit
20	4	90 -11	۹۱	Hary/Br mothled CLAY, Soft, med plasticy moist			٥	٥	%	-Water Orlpping for -1955
25 30 35 35				Gry Suturnel CTNGS TDB26'						
40	:	Gw c	2 16.2	afrec sertion 15 min. CMC	55(s-17')	sent	101	ab (BTEXTAH).

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NONITORING WELL IN artiagton Environmental Inc- 00 Monroe Road rmington, New Mesico 67401 29 328-2282 FAX (505) 328-2388 revetion fell Location <u>MW-1</u> WL Depth <u>15.0</u> stalled By <u>RODGERS</u> , INC. ate/Time Started <u>9/29/93</u> ate/Time Completed <u>9/29/93</u>	3 1000		Project Name Project Number Project Location On-Site Geologist Personnel On-Site Contractors On-Site Client Personnel O	S. POPE
Depths in Reference	to Ground Surface		Top of Prote	
ltem	Material	Depth (feet)	Ground Sur	0.0
Top of Protective Casing	8" STEEL	+2.5		
Bottom of Protective Casing		-1.5		
Top of Permanent Borehole		N/A	1111	
Bottom of Permanent Borehole Casing	·	N/A		
Top of Concrete	PREMIX	+.3		
Bottom of Concrete		0.0		
Top of Grout	5% BENTONITE	0.0		
Bottom of Grout		-3.3	1111	
Top of Well Riser	4" SCH 40 PVC	+2.2	1111	
Bottom of Well Fiser		-7.8		
Top of Well Screen	4" SCH 40 PVC	-7.8	Top of Seal	-3.3
Bottom of Well Screen	.010 SLOT	-23.0		
Top of Pettonite Seal	1/4" BENTONITE PELLETS	-3.3	500 500 500	
Bottom of Pettonite Seal		-5.8	KOXC KOXC Top of Grav	
Top of Gravel Pack	10-20 SILICA	-5.8	Top of Scre	en
Bottom of Gravel Pack		-23.8		
Top of Natural Cave-In		N/A		
Bottom of Natural Cave-In		N/A		
Top of Groundwater		-15.0	Bottom of S	
Total Depth of Borehole		-23.8	Bottom of E	lorehola -23.8

8 BAGS OF SAND, 1 BUCKET OF PELLETS Comments:

Geologist Signature

		~~		
ONITORING WELL hout	ALLATION RECO	RD		Borehole # 191-2
utington Environmental Inc.		-		Page 1 of 1
0 Morroe Road				
mington, New Medico 67401			Project Name Project Number1	PNG CHACO
5) 328-2262 FAX (505) 328-2388			Project Location	0942 Phase 200 HACO PLANT
vation			On-Site Geologist	S. POPE
ell Location MH-2			Personnel On-Site	S. POPE
WL Depth 15'	100 C		Contractors On-Site	- AMONGARANT THE
stalled By RODGERS, INC.			Client Personnel O	-Site KRIS SINCLAIR
te/Time Started 9/30/93 ate/Time Completed 9/30/93	1545 1700			
Depths in Reference	to Ground Surface		Top of Protect	tive Casing +2.8
			Top of Riser	+2.5
ltem.	Material	Depth (feet)	Ground Surfa	
Top of Protective Casing	8" STEEL	-2.8		
Bottom of Protective Casing		-1.2		
Top of Permanent Borshole Casing		N/A		
Bottom of Permanent Borehole				
Casing		N/A		
Top of Concrete	PREMIX	+.3		
Bottom of Concrete		0.0		
Top of Grout	5% BENTONITE	0.0		
Bottom of Grout		-5.8		
Top of Well Riser	4" SCH 40 PVC	+2.5		
Bottom of Well Füser		-9.8		
Top of Weil Screen	4" SCH 40 PVC	-9.8	Top of Seal	
Bottom of Well Screen	.010 SLOT	-25.0		
Top of Petionite Seal	1/4" BENTONITE PELLETS	-5.8		
Bottom of Petronite Seal		-7.8	COC COC Top of Grave	
Top of Gravel Pack	10-20 SILICA	-7.8	Top of Scree	m <u>-9.8</u>
Bottom of Gravel Pack		-25.0		
		N/A		
Top of Natural Cave-In				
Bottom of Natural Cave-In		N/A		
Top of Groundwater		-15.0	Bottom of S Bottom of B	
Total Depth of Borehole		-25.0		

1.68

16.3 WATER LEVEL AFTER INSTALLATION, 7.0 BAGS OF SAND, 1 BUCKET OF PELLETS Comments:

Geologist Signature

D dian

MONITORING WELL INSTALLATION RECORD

Burlington Environmental Inc. 4000 Merros Read Farmington, New Mexico 57401 (505) 328-2282 FAX (505) 326-2388

Well Location	NH-3
GWL Depth	8
Installed By	RODGERS, INC.

 Date/Time Started
 9/29/93
 1345

 Date/Time Completed
 9/29/93
 1500

	Borehole # Mil-3
	Well # HM-3
	Page 1 of 1
Project Name EP	NG CHACO PLANT
Project Number 10	942 Phase 2001
Project Location CH	ACO PLANT
On-Site Geologist	S. POPE
Personnel On-Site	S. POPE
remonnel Un-Sko	
Contractors On-Site	RODGERS, INC.

ltem	Material	Depth (Teet)			Ground Surface	+2.2
Top of Protective Casing	8" STEEL	+2.5			S	
Bottom of Protective Casing		-1.5	E La			
Top of Permanent Borehole Casing		N/A				
Bottom of Permanent Borehole Casing		N/A				
Top of Concrete	PREMIX	+.3		14		
Bottom of Concrete		0.0				
Top of Grout	5% BENTONITE	0.0		11		
Bottom of Grout		-1.5		11		
Top of Well Riser	4" SCH 40 PVC	+2.2				
Bottom of Well Piser		-4.5				
Top of Well Screen	4" SCH 40 PVC	-4.5			Top of Seal	-1.5
Bottom of Well Screen	.010 SLOT	-19.8	000	000		
Top of Pelionite Seal	1/4" BENTONITE PELLETS	-1.5	DICO	000		
Bottom of Peltonite Seal		-3.5	DICO	000	Top of Gravel Pack	<u>-3.5</u> -4.5
Top of Gravel Pack	10-20 SILICA	-3.5			Top of Screen	
Bottom of Gravel Pack		-20.0				
Top of Natural Cave-In		N/A				
Bottom of Natural Cave-In	_	N/A				
Top of Groundwater		-8.0	l E		Bottom of Screen	-19.
Total Depth of Borehole		-20.0			Bottom of Borehole	-20,

MONITORING WELL INSTRULATION RECORD

Barlington Environmental Inc. 4000 Morros Road Farmington, New Medico 67401 605) 328-2282 FAX 605) 328-2388

Item

Top of Protective Casing

Bottom of Protective Casing

Elevation Well Location	M	1-4	
GWL Depth	20	0'	
Installed By	RODGERS	INC.	
			_
Date/Time Sta	rted	9/30/93	1210

 Option
 Option<

Depths in Reference to Ground Surface

Material

8" STEEL

•	Borehole - Weli # Page _1	15H-4 15H-4 of 1	
Project Number 10	NG CHACO 942 PNG CHACO S. POPE S. POPE RODGERS Site KR		2001
Top of Protect Top of Riser Ground Surfac		+2.8 +2.5 0.0	

Top of Permanent Borehole Casing		N/A	- 11			
Bottom of Permanent Borehole Casing		N/A				
Top of Concrete	PREMIX	+.3				
Bottom of Concrete		0.0				
Top of Grout	5% BENTONITE	0.0				
Bottom of Grout		-9.0				
Top of Well Riser	4" SCH 40 PVC	+2.5				
Bottom of Well Fiser		-12.8				
Top of Well Screen	4" SCH 40 PVC	-12.8			Top of Seal	-9.0
Bottom of Well Screen	.010 SLOT	-28.0	000	202		
Top of Pellonite Seal	1/2" BENTONITE CHIPS	-9.0	000	202		
Bottom of Peltonite Seal		-11.0	oxo	xxx	Top of Gravel Pack	-11.0
Top of Gravel Pack	10-20 SILICA	-11.0			Top of Screen	-12.8
Bottom of Gravel Pack		-28.0				
Top of Natural Cave-In		N/A				
Bottom of Natural Cave-In		N/A		-		
Top of Groundwater		-20.0			Bottom of Screen	-28.0
Total Depth of Borehole		-28.0	l		Bottom of Borehole	-28.0

Depth (feet)

+2.8

-1.2

Geologist Signature

Aut T. Py

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MONITORING WELL INSTALLATION RECORD

Burlington	Environmental	lac.
4000 Monroe F	loadi	
Farmington, Ne	w Mexico 87401	
(505) 326-2262	FAX (505) 126-2348	

Elevation	HW-05
GWL Depth	23.0
Installed By	RODGERS, INC.

Date/Time Started	1345 6/27/94
Date/Time Completed	1445 6/27/94

Sorehole # Woll # Page <u>1</u>	MW-05 MN-05 of 1	

Project Name EPNG CHACO Project Number 12588 Phase 2001 Project Location SAN JUAN COUNTY, NEW MEXICO

On-Site Geologist	S. POPE
Personnei On-Site	G. GARIBAY
Contractors On-Site	RODGERS; INC.
Client Personnel On-S	Site P_MARQUEZ

Depths in Reference	to Ground Surface				Top of Protective Casing	2.5
Anna the statement			- Gran		Top of Riser	2.0
Item	Material	Depth (feet)			Ground Surface	0.0
Top of Protective Casing	8" STEEL LOCKING	+2.5				
Battom of Protective Casing		-1.5	Г	17		19
Top of Permanent Borehole Casing		N/A				
Bottom of Permanent Borehole Casing		N/A				
Top of Concrete	PREMIX	+.25				
Bottom of Concrete		-1.5		11		
Top of Grout		N/A				
Bottom of Grout		N/A				
Top of Well Riser	4" SCH 40 PVC	+2.0				
Bottom of Well Riser		-8.0				
Top of Well Screen	4" SCH 40 PVC	-8.0		-	Top at Beal	1.5
Bottom of Well Screen	.010 SLOT	-28.1	000	000		
Top of Petionite Seal	1/4" BENTONITE PELLETS	-1.5	200	2010	Top of Gravel Pack	5.7
Bottom of Pettonite Seel		-5.7	m	m	Top of Scleen	8.0
Top of Gravel Pack	10-20 SILICA	-5.7			Lets or actesu	
Bottom of Gravel Pack		-28.1		11		
Top of Natural Cave-In	4	-28.1		- 1		
Bottom of Natural Cava-In		-29.2		11		
Top of Groundwater		-23.0	E	11	Battom of Screen Bottom of Borshole	28.1
Total Depth of Barahole		-29.2		_		

1

Comments: 10 - 100 LB. BAGS OF SAND, 2 BUCKETS PELLETS, HYDRATED WITH & GALLONS OF WATER.

Geologist Signature

- بوديون MONITORING WELL INSTALLATION RECORD Barehale # MR-06 Well # Page 1 Burlington Environmental Inc. of 4000 Monrae Rived Project Name EPNG CHACO Farmington, New Mexico 87401 (506) 326-2262 FAX (004) 376-2308 Project Location SAN JUAN COUNTY, NEW MEXICO On-Site Goologist Elevation S. POPE Personnol On-Site <u>G. CARIBAY</u> Contractors On-Site <u>RODGERS</u>, I Well Location MW-06 GWL Depth RODGERS, INC. 11.5 Client Personnel On-Site P. MARQUEZ installed By RODGERS, INC. Date/Time Started 0910 6/28/94 Date/Time Completed 1100 6/28/94 Depths in Reference to Ground Surface Top of Protective Casing 2.5 Top of Riser 2.3 ltem Material Depth Ground Surface 0.0 (lest) Top of Protective Casing 8" STEEL LOCKING +2.5 **Bottom of Protective Casing** 1.5 Top of Permanent Borehole Casing N/A Bottom of Permanent Borchole Casing N/A Tap of Concrete PREMIX +.25 -1.5 Bottom of Concrete N/A Top of Grout N/A Bottom of Grout Top of Well Riser 4" SCH 40 PVC +2.3 **Bottom of Well Fliser** 6.9 Top of Well Screen 1.5 4" SCH 40 TVC 6.9 Top of Geni 00 oxo **Bottom of Well Screen** 010 SLOT -22.0 OXO 2020 00 1/4" BENTONITE DOXO PELLETS Top of Pellonite Seal -1.5 ox **box**d DXC. Top of Gravel Pack 5.0 Bottom of Pettenite Seal -5.0 6.9 Top of Screen Top of Gravel Pack 10-20 SILICA -5.0 Bottom of Gravel Pack -22.0 Top of Natural Cave-In N/A N/A Bottom of Natural Cave-in Top of Groundwater 22.0 -11.51 Bottom of Screen 22.0 **Bottom of Borehole** -22.0 Total Depth of Bomhole Comments: HAD PROBLEMS WITH CLAY RING IN LEAD AUGER. HAD TO PULL WELL AND CLEAN AUGER. HOLE STAYED OPEN AND WELL WENT TO 22.0'. 9 - 100 LE. BAGS OF SAND, 2 BUCKETS PELLETS, HYDRATED WITH 4 GALLONS OF WATER. Goologist Signature

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JUGGGE THE MA	10 ·#10, i~
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Borehole # MW-07

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MONITORING WELL INSTALLATION RECORD

Berlington Environmental	Ipc.
4000 Marray Russ	
Farstington, New Mexico 67401	
(506) 325-2262 FAX (509) 326-2388	

Elevation		
Well Location	MW-07	
GWL Depth	4.0	
Installed ByRO	GERS, I	NC.
Date/Time Started	1615	6/27/94
Date/Time Completed	1715	6/27/94

de/Timo Started	1615	6/27/94	_
ite/Time Completed		6/27/94	_

	Well # Page_	
Project Name	EPNG CHAC	.0
Project Number	12388	Phase 2001
Project Location	SAN JUAN	COUNTY, NEW MEXICO
On-Site Geologi		POPE

Personnel On-Site	S. POPE	
Contractors On-Site	RODGERS, INC.	
Client Personnel On-S		

Depths in Reference	to Ground Surface		F	7	Top of Protective Casing Top of Riser	2.5
ltem	Material	Depth (foet)			Ground Surface	0.0
Top of Protective Casing	8" STEEL LOCKING	+2.5				
Bottom of Protective Casing		-1.5				
Top of Permanent Borehole Casing		N/A		11		
Bottom of Permanent Borehole Casing		N/A				
Top of Concrete	PREMIX	+.3				
Bottom of Concrete		0.0		11		
Top of Grout		N/A				
Bottom of Grout		N/A				
Top of Well Riser	4" SCH 40 PVC	+2.3				
Bottom of Well Riser		-1.9		11		
Top of Well Screen	4" SCIL 40 PVC	-1.9			Tap of Seal	0_0
Bottom of Well Screen	.010 SLOT	-17.0	biod	200		
Top of Petronite Seal	1/4" BENTONITE PELLETS	0.0	200	200		15
Bottom of Pettonite Seal	-	1.5	Did	No.	Top of Gravel Pack	1.5
Top of Gravel Pack	10-20 SILICA	-1.5		- 1	Top of Screen	1.9
Bottom of Gravel Pack		-17.7		11		
Top of Natural Cave-in		N/A		=		
Bottom of Natural Cave-in		N/A		11		
Top of Groundwater		-4.0	E		Battom of Screen Battom of Borehole	17.0
Total Depth of Borehola		+17.7			AANANI OL DÖLEUGIA	tet

Comments: 5 - 100 LB. BAGS OF SAND, 1 BUCKET PELLETS, HYDRATED WITH 4 GALLONS OF WATER. WL AFTER

INSTALLATION 5.0 BGS.

Geologist Signature

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					-	retiole # BH-8 b
ONITORING WELL INST	ALLATION RECOR	D				rehole # 5H-3P all # MW-8
lip Euvironmental Services Corp	ł.				Pa	ge of
10 Monroe Road nington, New Mexico 87401				Project	Name EPN	G PITS
5) 326-2262 FAX (606) 326-2388				•		
					Number 14.50 Location Chara	Phase 600 Plant MW-8
						11 01
Nation	T R				Geologist C nel On-Site F	M Chance Rivera D. Charlis
VL Depth (b. à'					tors On-Site	
talled By K. Pabilla				Client	ersonnel On-Site	
	5-1540					
te/Time Completed	13-1700					
Depths in Reference to Ground S	Surface			T	op of Protective Ca	sing <u>NA</u> <u>+ 3'</u>
			-	T	op of Riser	+ 3'
tem	Material	Depth		G	iround Surface	0
				T		
Top of Protective Casing		NA				
Bottom of Protective Casing		NA		17		
Top of Permanent Borehole		NA				
Casing Bottom of Permanent Borehole						
Casing		NA				•
Top of Concrete		NA				
		NA				
Bottom of Concrete	-94# Type	1.2.2.2.1				
Top of Grout	TI	0				
Bottom of Grout	- SOH Boudered	4.7				
	4" dia SCH40	+3				
Top of Well Riser	FlushThread	1				
Bottom of Well Riser	PVC	9.7				
Top of Well Screen	FlushThread	9.7		1 1	op of Seal	4.7
	0.01 5107		XXX	XXX		
Bottom of Well Screen	-SO# Enviro	24.7		x x x x		
Top of Peltonite Seal	Plus	4.7	oxo	xxx	Top of Gravel Pack	6.7
Bottom of Peltonite Seal	Bentonitte	6.7		4		
	-50# 10-20	6.7			Top of Screen	9.7
Top of Gravel Pack	SilicaSand					
Bottom of Gravel Pack	*********	24.7	F			
Top of Natural Cave-In		24.7				
		26'				
Bottom of Natural Cave-In		ch 0				_
Top of Groundwater					Bottom of Screen Bottom of Borehole	<u>24.7</u> <u>a</u> L
Total Depth of Borehole		26'	Tim v	·		<u></u>
and the second s	1.1.10.1		/	111	A A	- withle
omments: Bantonite hy	Arately by Syal	PATAble	MATER, D	W N	A A A A A A A A A A A A A A A A A A A	F VISIOIP
Set the traction		0-	ologist Signat	ITA	Com CQ	A
		Ge	ologist Signat	110	V-1 -	

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eet) Number Interval Recovery Classification inches)	De Description ion System: USCS 1 Cloy, Fine Grained +1, DRY - Trace Moistin (ND W/Silt, Fine. , Dry-Trace Moisture Fine - Moisture Moisture Moisture Moisture AND W/SOME CLAY JED, Med Conse	USCS Litt Symbol Ct (1) CL SP 9. CL	ber / . tion / . By . h-Site . On-Site . and ang Method . Depth . ithology . Change . (feet) . 5.0 . 1.0 .	8227 Char 	P PH	hase <u>6001</u> DE Drilling Conditions & Blow Counts Heaclspace = 3,0ppm.
hole Location $M \neq F$ GNTHET POND Depth ad By S. Popic d By K. HADHLA Time Started 12.00 7/24/97 Time Completed 13.15 Epth Sample Sample Type & Sample eet) Number Interval Recovery Classification inchest 0 BROWIN SANDY SAND, Med Stin 5 1 7 24 BrowN-TANISA Classification 1 7 24 BrowN-TANISA Classification 1 7 24 BrowN-TANISA Classification 10 BrowN-TANISA 1 7 24 Classification 10 Classifica	De Description ion System: USCS 1 Cloy, Fine Grained +1, DRY - Trace Moistin IND W/Silt, Fine. , Dry - Trace Moisture , Dry - Trace Moisture Fine - And Provide Some , Must Stiff POULS AND W/SOME CLAY JED, Med Const	Personnel On- Contractors O Client Personn Drilling Methon Air Monitoring USCS Lint Symbol Ch (1) CL SP 9. CL 11.	n-Site On-Site and On-Site ad g Method Depth ithology Change (feet)	Air Mo Units: 8Z B	b //4 11 1D nitoring NDU H S	Drilling Conditions & Blow Counts Headspace = 3,0ppm Notes dicolorant Joils @11 Slight
$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	ion System: USCS I C 104, Fine Grained IL DRY - Trace Moistur IND W/Silt, Fine. Dry - Trace Moistur Fine - Ann mained some must stiff Provided some MND W/SOME & LAY NED. Med dows 4	USCS Litt Symbol Ct (1) CL SP 9. CL 11.	ithology Change (feet) 5,0 (,0 (,0			& Blow Counts Headspace = 3,0ppm Notes dicoloran Joils @11 Slight
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	IND W/Silt, Fine. , Dry-Trace Moisture Fine- And Provided Some , man spiff April 18 AND W/SOME & LAY DED. Med Const	CL 57 57 CL 11.	.0 1.0			Notéi dicolor-r Joils @11 Slight
_ 30 _ 35 _ 40	21.0			:		WATE & Level Rose TO 9.7'BGS Will Drill To 20. End Set Well.

x					
	•			•	
AONITORING WELL INS	TALLATION RECO	RD			Borehole #
Tuilip Environmental Services Cor					Well #
000 Monroe Road	1-				
mington, New Mexico 87403 061 326-2262 FAX (606) 326-2388			F	Project Name Cha	CO MW'S
				Project Number 78	227 Phase 6
			F	Project Location	ALD PLANT
levation				Dn-Site Geologist Personnel On-Site	5 POPE
Vell Location <u>N. S.D.E. o</u> WL Depth	- CONTACT WATER PONT		C	Contractors On-Site	D. Chreuk
stalled By K. Padil LA			C	Client Personnel On-Site	
ate/Time Started 1545 ate/Time Completed 1500	7/24/97 7/24/97				
Depths in Reference to Ground S	Surface			Top of Protective C Top of Riser	+ 3.0
Item	Material	Depth		Ground Surface	0.0
Top of Protective Casing	Square 6" Steel	31			
Bottom of Protective Casing		2.9		7	
Top of Permanent Borehole Casing		-			
Bottom of Permanent Borehole		-			
Casing					
Top of Concrete		t.3			
Bottom of Concrete		0.0			
Top of Grout		-			
		_			
Bottom of Grout				4	
Top of Well Riser	SCH40, 4INCH	+3.0			
Bottom of Well Riser	PVC	4.6			
Top of Well Screen	SCH40 4" PVC	4.6		Top of Seal	0.0
Bottom of Well Screen	. OID SLOT	20.0			
			x xxx	DXC	
Top of Peltonite Seal	3/8 BENTONITE	0.0		DX0 Top of Gravel Pac	k <u>2,6</u>
Bottom of Peltonite Seal	HOLE PLUC	2.6			
Top of Gravel Pack	10-20 Silica Sau	2.6		Top of Screen	4.6
	Le source Jakk	20.0			
Bottom of Gravel Pack				1	
Top of Natural Cave-In		20.0			
Bottom of Natural Cave-In		21.0			
Top of Groundwater		9.7		Bottom of Screen	20.0
Total Depth of Borehole		21	1.1.1.1 1.1.1.1 1.1.1.1	Bottom of Boreho	

Comments: 15 BAG SAND, 2.5 BAGS Hole Plug, WL = 8.45 BGS After INSTALLATION

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Geologist Signature

from

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Released to Imaging: 7/18/2023 8:48:20 AM

e Location <u>MW-10</u> Perso Perso Perso Perso Perso Perso Perso Perso Perso Perso Perso Perso Dial Perso Perso Dial Perso	S Litted Char (res 5,0 10	Site m-Site el On-Sit Method epth nology warge (eet)	HS	A G DID Monitor Inita: NC BH		Drilling Conditions & Blow Counts
me Started $7DUlar 0900$ me Completed $1/2U/97 000$ Sample Sample Type & Sample Description Number Interval Recovery Classification System: USCS I S 24 BROWN SILTY SAND Trace CLAY (inchest) 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	S Dep S Lithol Char (fee 10	Method hepth hology sange feet]	Air UI BZ	DID Monitor Inita: NC BH	ring DU S	Drilling Conditions & Blow Counts
Sample Sample Type & Sample Description USCS Number Interval Recovery Classification System: USCS Symmetry 0 Image: Sample Description USCS Symmetry 0 Image: Sample Description USCS 10 S Z SROWN SILTY SAND Trace CLMY 10 T Z Image: Sample Description MI 10 Z Image: Sample Description Image: Sample Description MI 10 Z Image: Sample Description Image: Sample Description Image: Sample Description 10 Z Image: Sample Description Image: Sample Description Image: Sample Description Image: Sample Description 10 Z Image: Sample Description Sample Description Image: Sample Description Image: Sample Description 10 Z Image: Sample Description Sample Description Image: Sample Description Image: Sample Description 10 Z Image: Sample Description Sample Description Sample Description Image: Sample Description 10 Z Image: Sample Description Sample Description Sample Description Sample Description 11 Z Image: Sample Description Sample Descrip	S Litted Char (res 5,0 10	nology vange (ret)	0/ 62	оліта: NC ВН	s	& Blow Counts
5 1 5 24 BROWN SILTY SAND Trace CLAY FINE SAND LOOSE MOIST Grading to a (ETHE") SANDY CLAY Med. Stiff. 10 2 10 2 1	. 10				0	
Z 10 Z4 BROWN TO GRAY SAND TRACE SUT ANDCLAY, GRAVING From FINE George GUAINED SAND, LOOSE, SATURATED 15 No additional SAMPLE CollectED Blaw WATER.		>	0			
25 30 35 40			ž	0	0	WL = Ø 9.2 WILL DRILL 7 20 Feat and SET Well

3/21/95\DRILLOG XLS

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Borehole # MW-10

of

Phase

Charo PLANT MWS

S. POPE

D. C. havlie

MW-10

6001.77

Well #

Page_

Project Name

On-Site Geologist Personnel On-Site

Contractors On-Site Client Personnel On-Site

Project Number 18227

Project Location Charo PLANT

MONITORING WELL INSTALLATION RECORD

Philip Environmental Services Corp. 4000 Morroe Road Farmington, New Mexico 87401 (505) 326-2262 FAX (506) 326-2388

Elevation Well Location	FAST SIDE	OF WATER POND
GWL Depth	9.2 B65	and the second second
Installed By K.	PADILLA	

Date/Time Started	1000 7/24/11	_
Date/Time Completed	1130 7/24/97	

Depths in Reference to Ground S	Surface	
Item	Material	Depth
Top of Protective Casing	Square 6" Steel	3
Bottom of Protective Casing		2.9
Top of Permanent Borehole Casing	NIA	-
Sottom of Permanent Borehole Casing		-
Top of Concrete		+.3
Bottom of Concrete		ð
Top of Grout	NIA	-
Bottom of Grout	NIA	-
Top of Well Riser	SCH 40, 4INCH	+30
Bottom of Well Riser	PVC	4.0
Top of Well Screen	Sch 40, 4 INCH	4.0
Bottom of Well Screen	PVC, OID SLOT	19.4
Top of Peltonite Seal	3/8 BENTONITE	0
Bottom of Peltonite Seal	HOLE PILL	2.0
Top of Gravel Pack	10-20 Silica	2.0
Bottom of Gravel Pack		19.4
Top of Natural Cave-In		19.4
Bottom of Natural Cave-In		20.0
Top of Groundwater		9,2
Total Depth of Borehole		20:0

Comments: 13 BAGS SAND, 1.5 BAG Hole Plug WATER LEVEL 8.4 365 ALL INSTALLATION.

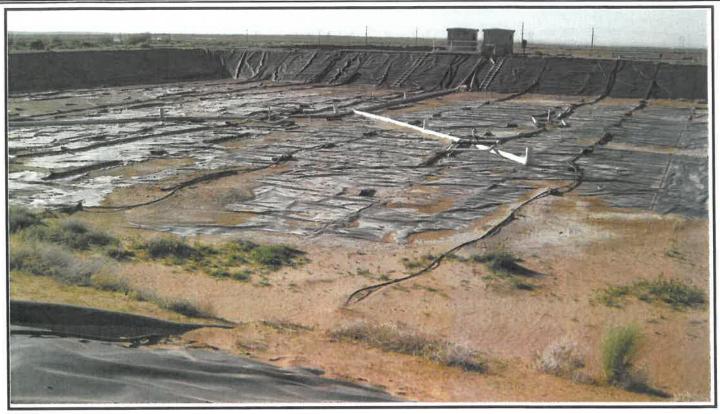
Geologist Signature



APPENDIX C

Photographic Documentation

Southwest



1.) General view of the lined contact water pond to be closed at the Site.



2.) General view of the area to the north of the contact water pond and the northern berm on the contact water pond.

Received by OCD: 5/25/2023 9:05:40 AM



APPENDIX D

Tables

Sample I.D.	Date	Benzehe	Toluene	Ethylbenzene (µg/L)	Xylenes (Hg/L)	Total Naphthalenes (Hg/L)	Total Benzopyrenes (µg/L)	Methylter-butyl Ether (MTBE) (µg/L)	1,2,4- trimethylbenzene (Hg/L)	1.3.5- trimethylbenzene (µ8/L)
NM WQCC Standard for Groundwater of 10,000 mg/L TDS of	dard for 5 mg/L TDS of	0'01.	750	750	620	30	2:0	EN	NE	NE
I-MW	6.24.96				NOT	SAMPLED -	AMPLE	VOLUM		
	3.11.97	<1.0	<1.0	0.15	<3.0	QN	Q Q	NA	NA	AN AN
	9.30.97		0.12	012	200	Q Q	QN	NA	NA	AN NA
	9.21.99	<0.5	<0.5	<0.5	<0.5	QN	ON	NA	NA	NA
	9.12.00	<0.5	<0.5	<0.5	<0.5	QN	QN	NA	NA	N A
	10.16.01	1.4	<0.5	<0.5	2.8	QN	QN	VA	YZ	¥Z :
	9.20.02	<0.5	<0.5	<0.5	<1.0	Q 4	QN	VN VI	NA	AN AN
	8.18.04	Q I	Q.	2		ON ON		NA	NA	AN AN
	9.30.05					NA	NIA		NA	NA
	00.001 B			Q Q	Q	NA	VN	Q	Q	2
	6.30.08	2	22	Q	Q	VN	NA	QN	QN	QN
	6.24.09	QX	QN	QN	QN	NA	NA	QN	QN	QN
MW-2	6.30.08	QN	QN	QN	QN	NA	NA	Q	QN	QN
MW-3	6.30.08	Q	Q	QN	Q	NA	NA	QN	QN	QN
MW-4	6.30.08	QN	Ð	qu	QN	NA	NA	QN	QN	QN
MW-5	6.30,08	QN	QN	QN	Q	NA	NA	QN	QN	QN
MW-6	6 30.08	QN	QN	QN	Q	NA	NA	QN	QN	QN
2-MW	6.30.08	QN	QN	QN	QN	NA	NA	QN	QN	QN
CIR-TANA	312.06	100	410	410	<3.0	75	£.0>	YN	VN	VN
CO-MIN	5.29.96	6.62	<1.0	<1.0	3.0	AN NA	NA	NA	NA	NA
	7.2.96	<1.0	<1.0	<1.0	<3.0	NA	VN	۶N	VN	NA
	9.9.96	<1.0	<1.0	<1.0	<3.0	Q	Q	NA	NA	VN
	11.1.96	<1.0	<1.0	<1.0	3.0	NA	NA	NA	NA	VN
	3.11.97	<1.0	<1.0	<1.0	Q.0	Q	0.34	NA	AN	AN .
	9.30.97	<1.0	<1.0	<1.0	30	Q C	29	NA N	NA	AN
	9.15.98	<1.0	0.1×	0.12	3.0	5.2		NA	NA	NA
	921.99	<0.5 20.5	20.2 10 1	0.02	202			NA	NA	NA
	9.15.01	505	202	<0.5	\$0.5 20.5	2	9	NA	NA	NA
	0 0 0 0	<0.5	<0.5	<0.5	<1.0	QN	QN	NA	NA	NA
	8.18.04	Q	QN	ON	QN	QN	QN	VN	NA	NA
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	9.20.02	91	0.93	32	94	NA	NA	NA	NA	NA
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	9.30.05	2.0	QN	1.6	17	QN	Q	VA	NA	VN
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TABLE |

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	Phosphato prigna	ME	<u> </u>	0.00 0.18 0.00 0.18 0.00 0.00 0.00 0.00	0.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00	0.0 0.0 0.0 0.0 0.0 0 0.0 0 0 0 0 0 0 0	0.6 0.13 0.13 0.13 0.13 0.16 0.13 0.16 0.13 0.10 0.13 0.13 0.13 0.13 0.13 0.13	0.0 0.0 0.0 0.0 0.0 0.0 0 0.0 0 0 0 0 0
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ont Deochenn	Nitrato NO ₁ i Inglu	NE	****	0.6 0.1 0.1 0.1 0.1 0 0.0 0 0.0 0 0 0 0 0 0	1.0 0.5 0.6 0.6 0.1 0.6 0.6 0.6 0.6 0.1 0.2 0.6 0.6 0.6 0.1 0.2 0.6 0.6 0.6 0.1 0.2 0.6 0.6 0.6 0.1 0.7 0.7 0.7 0.7 0.0 1.0 0.7 0.0 0.7 0.7 0.7 0.0 0.0 0.0 0.0 0.0 0.7 0.0 0.0 0.0 0.0 0.0 0.0 1.1 0.7 0.0<		0.0 0.0 0.10 0.10 0.10 0.10 0.10 0.10 0	60.0 0.6 0.6 0.6 0.10 N N N N N N N N N S 8 8 8 8 8 8 8 8 8 8
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T ONO UNCUT	Fluoride (mg/L)	1.6	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2		0.1 1.0 100 1.0 1.0 1.0 1.0 1.0 1.0 1.0		┿┼┼┿┽┼┼┼┼┼┟	2,00,00,00,00,00,00,00,00,00,00,00,00,00
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	Total Hierdness (mg/tu)	INE	<u> </u>	372 461 346 316 416 416 516 510 510 735 735 735 735 735 735 735 735 735 735	2565 269 3398 425 425 1.400 NA NA NA	1,442 1,443 1,437 1,437 1,437 1,437 1,430 1,430 1,430 1,400 1,1300 1,100 NA	676 603 1.033 697 1.239 1.239 1.239 1.200 1.200 1.600 NA NA NA	135 286 306 1.110 1.50 1.50 1.50 NA NA NA
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	Date	Standard for 10,000 mg/L	9.30 9.15 9.15 9.21 9.21 9.20 8.18 8.18 6.30 6.30 6.30	6.24.96 6.24.97 6.24.97 6.20.00 6.25.01 6.25.01 6.11.02 8.16.05 6.11.02 6.11.02 6.11.02 6.11.02 6.11.02 6.11.02 6.24.00 6.24.00 6.24.00	6.24 6.24 6.91 6.91 6.11 6.11 8.18 8.18 8.18 6.16 0.13 0 6.16 0.13 0 5.24,	6.24 6.24 6.91 7.10 6.11 6.11 0.35 6.11 0.35 6.11 0.36 0.19 0.19 0.19 0.324	6.24 6.24 6.21 6.25 6.25 6.11 6.11 0.00 6.11 0.00 6.11 6.19 0.00 6.24,24,24	6.24 6.24 6.24 6.11 6.15 6.15 6.16 6.16 6.16 6.16 6.16
	Sample LD.	NM WCCC Standard for Groundwater of 10,000 mg/L TDS of Loss	1-MM	MW-2	E-MW		S-WW	S-MW

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pH (urithesis) 6 to 9 7.4 7.2 7.2 7.2	X																			
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+	+	012	191	74.0	1.250	180	2.100	2.5	-	GN		NA NA		7.2	610	3.700	2,200	<0.005	<0.005	0.004
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APPENDIX E

Supporting Documentation

Released to Imaging: 7/18/2023 8:48:20 AM

CHACO PLANT DOUBLE LINED CONTACT WASTEWATER DISPOSAL POND

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I. Type of Operation

The purpose of the lined ponds is to contain contact wastewater from the two new skimmers and new oil/water separator installed at Chaco Plant in Fall 1993.

II. Local Representative

Mr. David Hall Field Services Compliance Manager El Paso Natural Gas Company P.O. Box 1492 El Paso, TX 79978 (915) 541-3531

III. Location of Double Lined Ponds

Chaco Plant 895 County Road 7100 Section 16, Township 26N, Range 12W San Juan County, New Mexico Approximately 20 miles south of Farmington

IV. Engineering Design

A. Surface Impoundment

Type of Effluent Stored :	Contact Wastewater
Volume of Effluent Stored :	Each pond contains approximately 48,605 barrels
Area:	Inside Top of Berm is 208 feet by 208 feet Bottom of Berm is 168 feet by 168 feet
Volume:	The pond was sized for an inlet flow of 12 gallons per minute.
Depth:	Eight feet at full water mark. Ten feet overall.
Slope of Pond Sides:	3:1 on outside and 2:1 on inside
Sub-Grade Description:	Native sandy loam. The soil will be wetted, if necessary, and compacted by rolling or tamping as required to provide a stable foundation for the structure.
Top Liner Type:	The top liner will be a minimum 30 mil thickness and one of the following : -Hypalon 30 HP6 or equivalent -Shelter-Rite 8130 X R5 or equivalent -Flopseal Reinforce Liner - 30 CP 6 or equivalent -Gundle High Density Polyethylene- 60 mil or equivalent

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Page 2 Chaco Lined Ponds

Bottom Liner Type:	The bottom liner will be one of the following: -Oil resistant PVC-20 mil or equivalent -High Density Polyethylene- 20 mil or equivalent -Chlorinated Polyethylene- 20 mil or equivalent -Chlorosulfonated Polyethylene- 20 mil or equivalent
Intermediate Liner:	Fibertex Grade " 600 " Geotextile or equivalent
Coarse Filter Cover:	Mirafi "140" drainage fabric or equivalent.
Top Liner Thickness:	Minimum 30 mil
Bottom Liner Thickness:	Minimum 20 mil
Compatibility of Liner & Effluent:	A liner will be chosen that is compatible with the effluent .
Freeboard:	Two feet.
Runoff/Runon Protection:	The pond will located approximately 1 1/2 feet above surrounding terrain. The final area around the pond will be graded to prevent stormwater runoff into the pond.

B. Design and Construction

1. Location

This pond will not be located in any water course, lakebed, sink-hole, or other depression.

2. Design and Construction

a. The evaporation pond was designed and will be constructed to provide the minimum evaporative surface area needed for the maximum yearly volume of liquid to be discharged to the pond. The design was based on local climatological data. Special care was taken when calculating the pond volume to account for the decrease in the evaporation rate during the winter months.

b. The design freeboard allowance will be two feet over the estimated high water level in order to prevent overtopping due to wave action.

c. The pond will be constructed so that the inside grade of the levee is no steeper than 2:1. Levees will have an outside grade no steeper that 3:1.

d. The top of the levees shall be level and shall be at least eighteen inches wide.

e. An enhanced evaporation system will be operated and designed so that water does not leave the bermed area. A pump located on the bank of the pond with about 10 horsepower motor will circulate water through a PVC piping system with umbrella head sprayers for each pond.

f. Upon completion of construction "as-built" completion diagrams certified by a registered professional engineer will be submitted including the locations and top-of-pipe elevations of leak detection wells.

Page 3 Chaco Lined Ponds

3. Synthetically Lined Evaporation Ponds

a. Materials

The synthetic materials used shall be impermeable and flexible.

The top liner will be a minimum 30 mil thickness and will have good resistance to tears or punctures.

The liner will be resistant to hydrocarbons, salts, and acidic and alkaline solutions. The liner will be resistant to ultraviolet light.

The disposal pond shall incorporate a double liner system with a leak detection system installed between the primary and secondary liner.

b. Leak Detection System

(1) The Aztec OCD office will be notified at least 24 hours in advance of the scheduled installation of the primary liner to afford the opportunity for a Division representative to inspect the leak detection system.

(2) A drainage and sump system will be used with a network of slotted or perforated drainage pipes between the primary and secondary liners. The network shall be of sufficient density so that no point in the pond bed is more that twenty feet (20') from such drainage pipe or lateral thereof. The material, 3/4" to 1" gravel, will be placed between the pipes and laterals and is sufficiently permeable to allow transport of the fluids to the drainage pipe. The slope for all drainage lines and laterals will be at least six inches (6") per fifty feet (50'). The slope of the pond bed will also conform to these values to assure fluid flow towards the leak detection system. The drainage pipe shall convey any fluids to a corrosion-proof sump located outside the perimeter of the pond.

c. Preparation of Pond Bed for Installation of Liners

(1) The bed of the pond and inside grade of the levee will be smooth and compacted, free of holes, rocks, stumps, clods, or any other debris which may rupture the liner. The proposed area of the pond is not rocky.

(2) A trench will be excavated on the top of the levee the entire perimeter of the pond for the purpose of anchoring flexible liners. This trench shall be located at least 9 inches from the slope break and will be at least 12 inches deep.

(3) The liner will rest smoothly on the pond bed and the inner face of the levees, and will be sufficient size to extend down to the bottom of the anchor trench and come back out greater than two inches from the trench on the side furthest from the pond.

(4) Native soil will be used an anchor and will be placed over the liner in the anchor trench and the trench back-filled. The anchor trench will extend the entire perimeter of the pond. All swelling soils (soils with plasticity index of 20 or more) will be sprinkled as required to provide not less than 98% nor more than 102% of the maximum density as determined in accordance with ASTM D698. Field density determinations will be made in accordance with ASTM 2922, ASTM 2167, or ASTM 1556.

Page 4 Chaco Lined Ponds

4. Fences, Signs, and Netting

a. A ponds will be located within the Chaco Plant fenced area. The Chaco Plant fence was constructed so as to prevent livestock from entering the facility area.

b. El Paso Natural Gas Company respectfully requests an exception to Division Order R-8952. Under normal operating conditions this pond would not contain oil and thus would not constitute a water fowl hazard. If any oil or hydrocarbons reach this facility the following measures will be followed : In 72 hours from discovery, measures to remove the oil will be initiated.

5. Affirmation

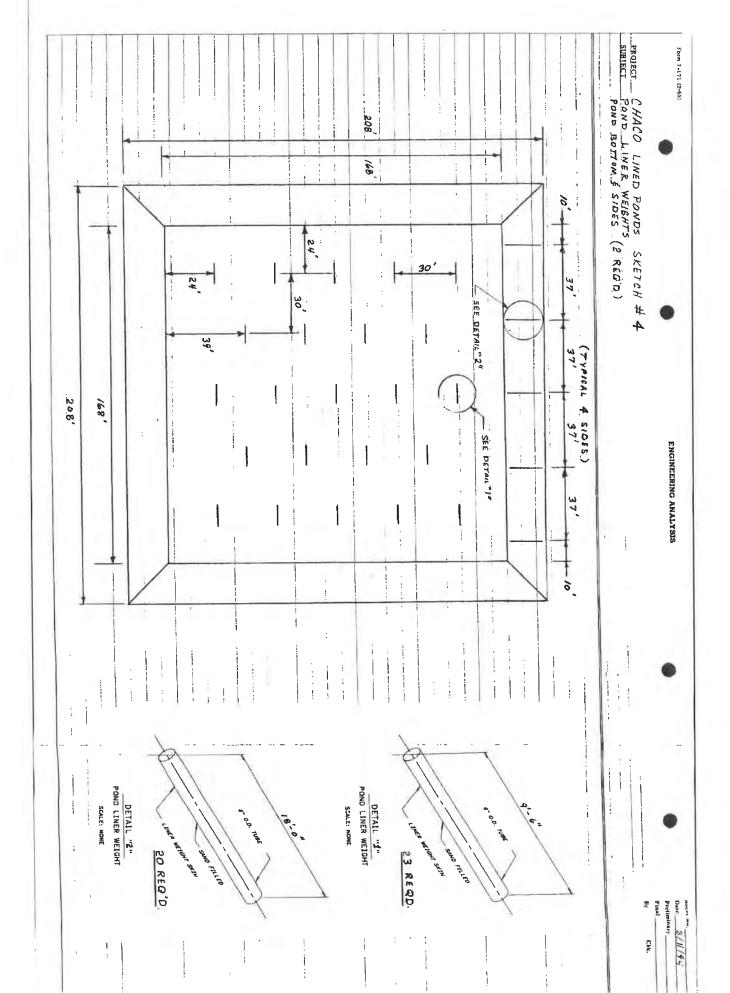
I hereby certify that I am familiar with the information contained in and submitted with this surface impoundment plan for Chaco Plant and that such information is true, accurate, and complete to the best of my knowledge and belief.

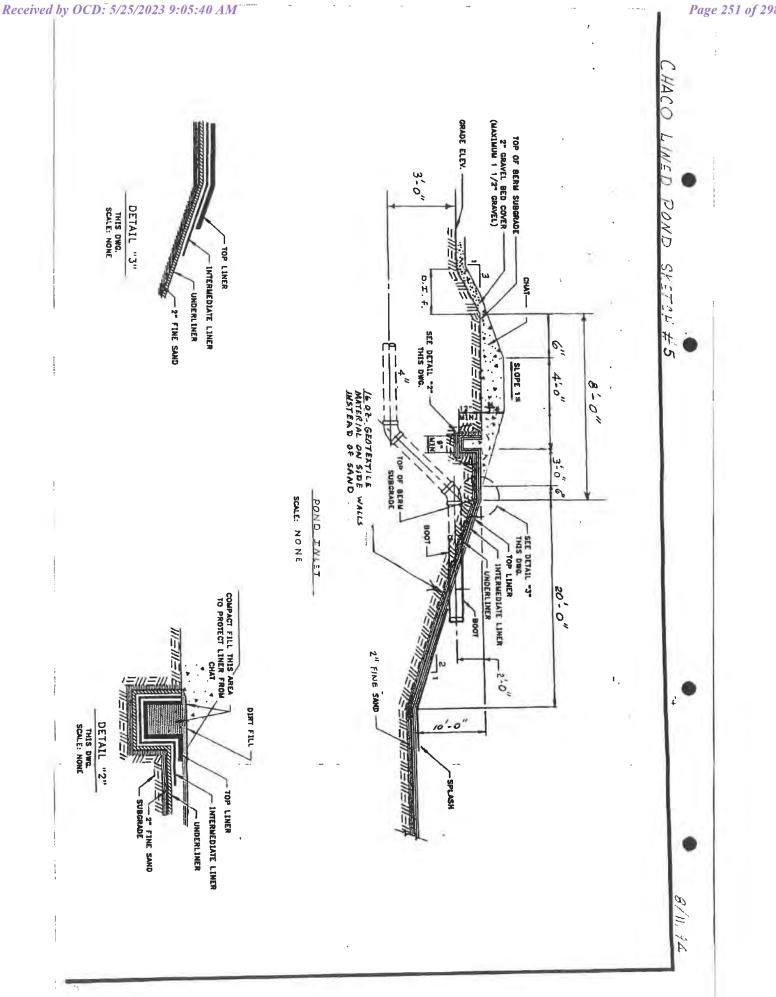
Pundari

Anu Pundari Sr. Compliance Engineer

8/16/94 Date

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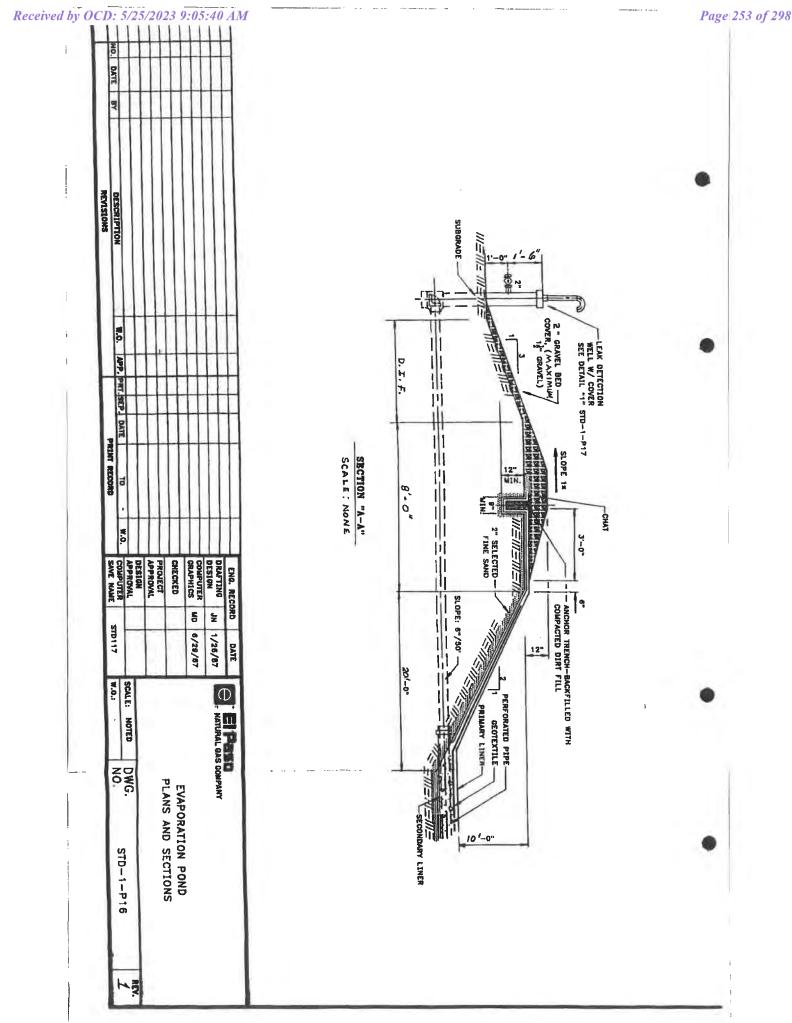
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Page 251 of 298

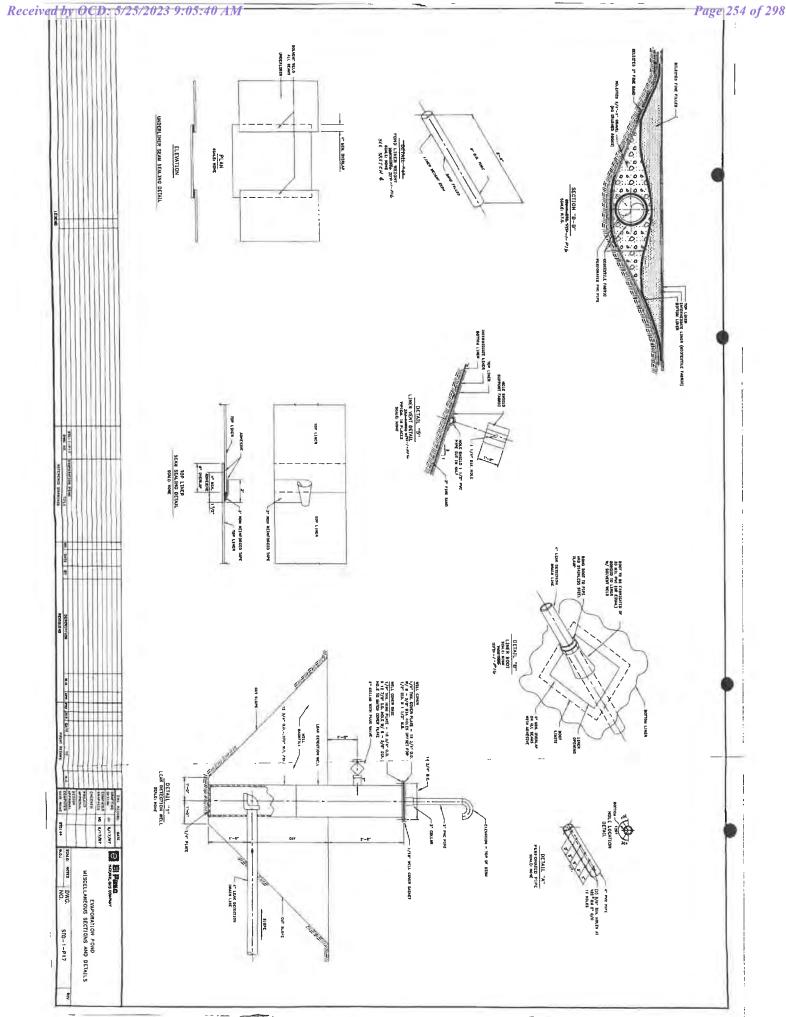
		/68 ⁻	PROJECT CHACO LINED SUBJECT LAK DETECTION
METT	31	31'	PONDS SKETCH # 3 . System (2-REQUIRED)
10 1 5 1 5 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	4" 510	EAK DETECTION DRAIN PE 6"150 SLOPE 6"150 SLOPE 6"150 SLOPE 6"50 (TYP)	ENGINEERING ANALYSIS
	(2)	NOTE: ALL C	
	4" POND INLETS COMPLETE WITH SPASH GUARD INLET & 2' BELOW TOP OF BERM THE TO BOOT - EXTEND 3'-0" WIDTH AT BOTTOM 9'-0"	T G O A	Pretinuativ Pretinuativ Br

Received by OCD: 5/25/2023 9:05:40 AM

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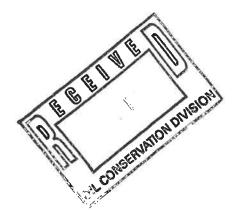


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P. O. BOX 4990 FARMINGTON, NEW MEXICO 87499



May 3, 1995

Mr. Roger Anderson New Mexico Oil Conservation Division P.O. Box 2088 Santa Fe, NM 87504

Re: Contact Water Ponds at El Paso Natural Gas Company's Chaco Plant

Dear Mr. Anderson:

Enclosed are the "As Builts" for the contact water ponds at Chaco Plant. As per the August 16, 1994 letter to NMOCD requesting approval for construction, EPNG agreed to submit the drawings to NMOCD upon completion.

Should you have questions or need further information, please do not hesitate to call at (505) 599-2175.

Thank you,

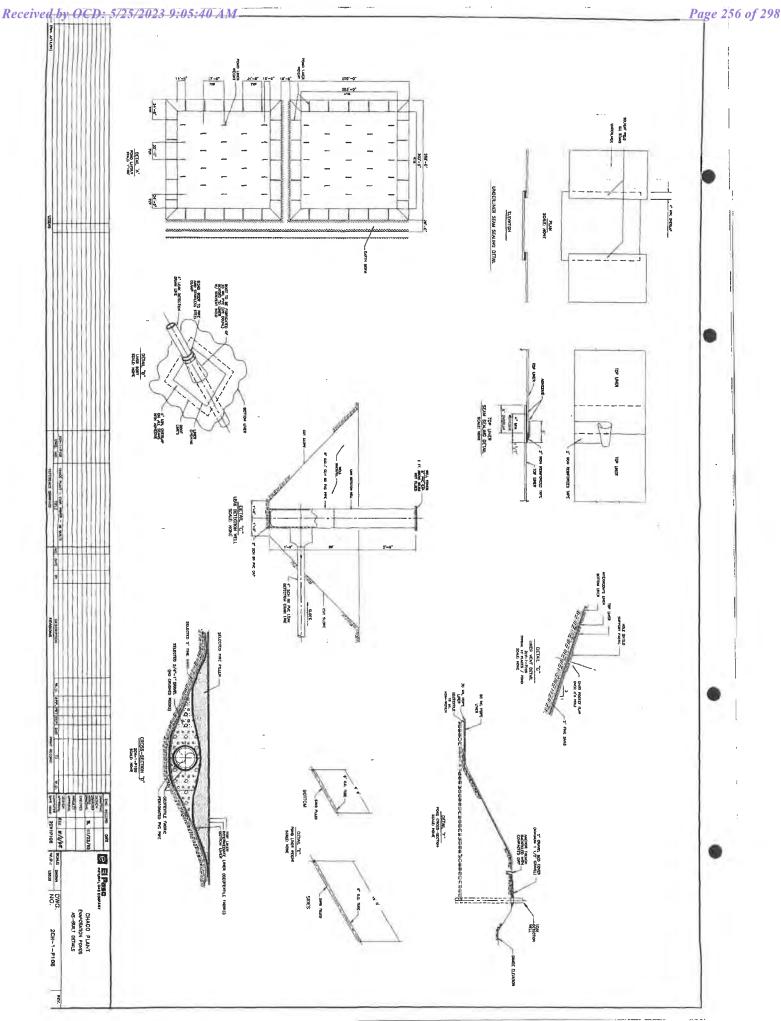
5. harz

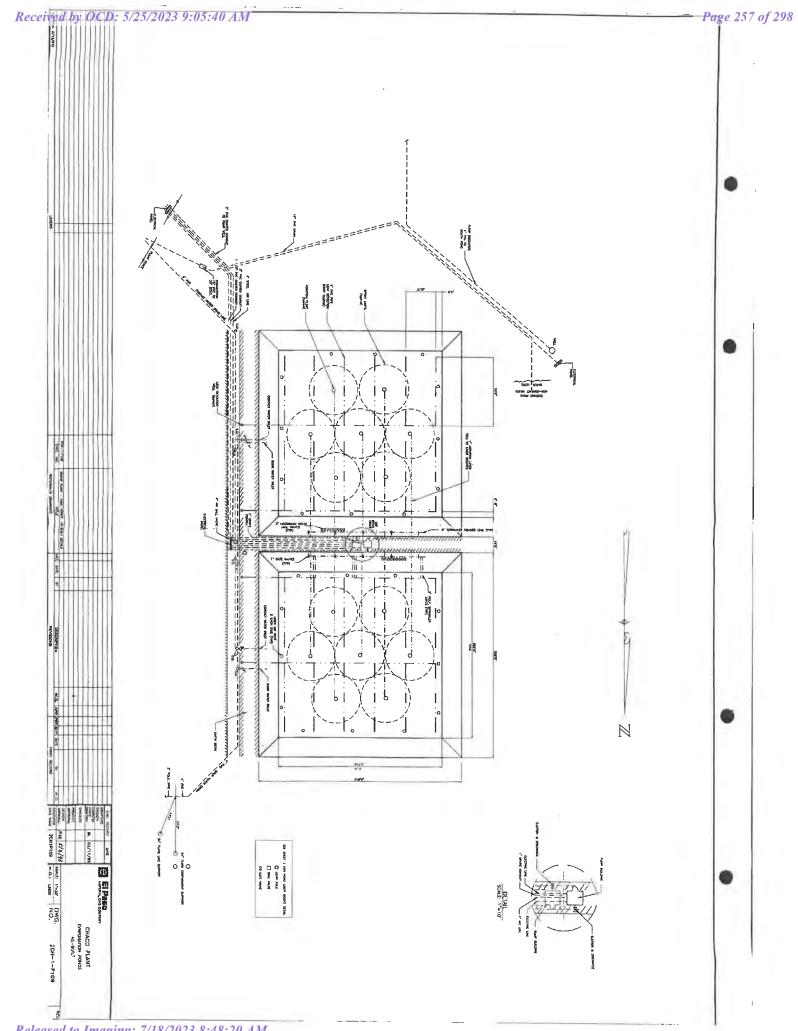
Patrick Marquez UCompliance Engineer

cc:

w/attachment Denny Foust (NMOCD) John Lambdin (EPNG) Lyndell Smith (EPNG) Vince Medrano (EPNG)

w/o attachments (EPNG) Richard Carr David Hall Bob Yungert Sandra Miller/David Bays/ File:5212 Regulatory







Bill Richardson Governor Joanna Prukop Cabinet Secretary

GW-071 PERMITS



July 14, 2009

Mr. Clay Roesler P.O. Box 2521 Houston, Texas 77252-2521

Re: Discharge Permit Renewal Chaco Gas Plant (GW-071) SE/4 Section 16, Township 26 North, Range 12 West, NMPM San Juan County, New Mexico

Dear Mr. Roesler:

Pursuant to Water Quality Control Commission (WQCC) Regulations 20.6.2.3104 - 20.6.2.3114 NMAC, the Oil Conservation Division (OCD) hereby approves Enterprise Field Services, LLC./Enterprise Products Operating LLC. discharge permit for the above referenced site contingent upon the conditions specified in the enclosed Attachment to the Discharge Permit. Enclosed are two copies of the conditions of approval. Please sign and return one copy to the New Mexico Oil Conservation Division (OCD) Santa Fe Office within 30 days of receipt of this letter including permit fees.

Please be advised that approval of this permit does not relieve the owner/operator of responsibility should operations result in pollution of surface water, ground water or the environment. Nor does approval of the permit relieve the owner/operator of its responsibility to comply with any other applicable governmental authority's rules and regulations.

If you have any questions, please contact Leonard Lowe of my staff at (505-476-3492) or E-mail leonard.lowe@state.nm.us. On behalf of the staff of the OCD, I wish to thank you and your staff for your cooperation during this discharge permit review.

Sincerely,

Glenn von Gonten Acting Environmental Bureau Chief

Attachments-1 xc: OCD District Office

> Oil Conservation Division * 1220 South St. Francis Drive Santa Fe, New Mexico 87505 * Phone: (505) 476-3440 * Fax (505) 476-3462* <u>http://www.emnrd.state.nm.us</u>



ATTACHMENT- DISCHARGE PERMIT APPROVAL CONDITIONS

1. Payment of Discharge Plan Fees: All discharge permits are subject to WQCC Regulations. Every billable facility that submits a discharge permit application will be assessed a filing fee of \$100.00, plus a flat fee (*see* WQCC Regulation 20.6.2.3114 NMAC). The Oil Conservation Division ("OCD") has received the required \$100.00 filing fee. The flat fee for a gas plant is \$4000.00. Return a signed copy of the permit conditions within 30 days. Checks should be made out to the New Mexico Water Quality Management Fund.

2. Permit Expiration, Renewal Conditions and Penalties: Pursuant to WQCC Regulation 20.6.2.3109.H.4 NMAC, this permit is valid for a period of five years. The permit will expire on May 18, 2012 and an application for renewal should be submitted no later than 120 days before that expiration date. Pursuant to WQCC Regulation 20.6.2.3106.F NMAC, if a discharger submits a discharge permit renewal application at least 120 days before the discharge permit expires and is in compliance with the approved permit, then the existing discharge permit will not expire until the application for renewal has been approved or disapproved. *Expired permits are a violation of the Water Quality Act {Chapter 74, Article 6, NMSA 1978} and civil penalties may be assessed accordingly.*

3. **Permit Terms and Conditions:** Pursuant to WQCC Regulation 20.6.2.3104 NMAC, when a permit has been issued, the owner/operator must ensure that all discharges shall be consistent with the terms and conditions of the permit. In addition, all facilities shall abide by the applicable rules and regulations administered by the OCD pursuant to the Oil and Gas Act, NMSA 1978, Sections 70-2-1 through 70-2-38.

4. **Owner/Operator Commitments:** The owner/operator shall abide by all commitments submitted in its December 2008 discharge plan application, including attachments and subsequent amendments and these conditions for approval. Permit applications that reference previously approved plans on file with the division shall be incorporated in this permit and the owner/operator shall abide by all previous commitments of such plans and these conditions for approval.

5. Modifications: WQCC Regulation 20.6.2.3107.C and 20.6.2.3109 NMAC addresses possible future modifications of a permit. The owner/operator (discharger) shall notify the OCD of any facility expansion, production increase or process modification that would result in any significant modification in the discharge of water contaminants. The Division Director may require a permit modification if any water quality standard specified at 20.6.2.3103 NMAC is being or will be exceeded, or if a toxic pollutant as defined in WQCC Regulation 20.6.2.7 NMAC is present in ground water at any place of withdrawal for present or reasonably foreseeable future use, or that the Water Quality Standards for Interstate and Intrastate streams as specified in 20.6.4 NMAC are being or may be violated in surface water in New Mexico.

6. Waste Disposal and Storage: The owner/operator shall dispose of all wastes at an OCDapproved facility. Only oil field RCRA-exempt wastes may be disposed of by injection in a Class II well. RCRA non-hazardous, non-exempt oil field wastes may be disposed of at an OCDapproved facility upon proper waste determination pursuant to 40 CFR Part 261. Any waste stream that is not listed in the discharge permit application must be approved by the OCD on a case-by-case basis.

A. OCD Part 35 Waste: Pursuant to OCD Part 35 (19.15.35.8 NMAC) disposal of certain non-domestic waste without notification to the OCD is allowed at NMED permitted solid waste facilities if the waste stream has been identified in the discharge permit and existing process knowledge of the waste stream does not change.

B. Waste Storage: The owner/operator shall store all waste in an impermeable bermed area, except waste generated during emergency response operations for up to 72 hours. All waste storage areas shall be identified in the discharge permit application. Any waste storage area not identified in the permit shall be approved on a case-by-case basis only. The owner/operator shall not store oil field waste on-site for more than 180 days unless approved by the OCD.

7. **Drum Storage:** The owner/operator must store all drums, including empty drums, containing materials other than fresh water on an impermeable pad with curbing. The owner/operator must store empty drums on their sides with the bungs in place and lined up on a horizontal plane. The owner/operator must store chemicals in other containers, such as tote tanks, sacks, or buckets on an impermeable pad with curbing.

8. **Process, Maintenance and Yard Areas:** The owner/operator shall either pave and curb or have some type of spill collection device incorporated into the design at all process, maintenance, and yard areas which show evidence that water contaminants from releases, leaks and spills have reached the ground surface.

9. Above Ground Tanks: The owner/operator shall ensure that all aboveground tanks have impermeable secondary containment (e.g., liners and berms), which will contain a volume of at least one-third greater than the total volume of the largest tank or all interconnected tanks. The owner/operator shall retrofit all existing tanks before discharge permit renewal. Tanks that contain fresh water or fluids that are gases at atmospheric temperature and pressure are exempt from this condition.

10. Labeling: The owner/operator shall clearly label all tanks, drums, and containers to identify their contents and other emergency notification information. The owner/operator may use a tank code numbering system, which is incorporated into their emergency response plans.

11. Below-Grade Tanks/Sumps and Pits/Ponds.

A. All below-grade tanks and sumps must be approved by the OCD prior to installation and must incorporate secondary containment with leak detection into the design. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal. All existing below-grade tanks and sumps without secondary containment and leak detection must be tested annually or as specified herein. Systems that have secondary containment with leak detection shall have a monthly inspection of the leak detection system to determine if the primary containment is leaking. Small sumps or depressions in secondary containment systems used to facilitate fluid removal are exempt from these requirements if fluids are removed within 72 hours.

B. All pits and ponds, including modifications and retrofits, shall be designed by a certified registered professional engineer and approved by the OCD prior to installation. In general, all pits or ponds shall have approved hydrologic and geologic reports, location, foundation, liners, and secondary containment with leak detection, monitoring and closure plans. All pits or ponds shall be designed, constructed and operated so as to contain liquids and solids in a manner that will protect fresh water, public health, safety and the environment for the foreseeable future. The owner/operator shall retrofit all existing systems without secondary containment and leak detection before discharge permit renewal.

C. The owner/operator shall ensure that all exposed pits, including lined pits and open top tanks (8 feet in diameter or larger) shall be fenced, screened, netted, or otherwise rendered non-hazardous to wildlife, including migratory birds.

D. The owner/operator shall maintain the results of tests and inspections at the facility covered by this discharge permit and available for OCD inspection. The owner/operator shall report the discovery of any system which is found to be leaking or has lost integrity to the OCD within 15 days. The owner/operator may propose various methods for testing such as pressure testing to 3 pounds per square inch greater than normal operating pressure and/or visual inspection of cleaned tanks and/or sumps, or other OCD-approved methods. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

12. Underground Process/Wastewater Lines:

A. The owner/operator shall test all underground process/wastewater pipelines at least once every five (5) years to demonstrate their mechanical integrity, except lines containing fresh water or fluids that are gases at atmospheric temperature and pressure. Pressure rated pipe shall be tested by pressuring up to one and one-half times the normal operating pressure, if possible, or for atmospheric drain systems, to 3 pounds per square inch greater than normal operating pressure, and pressure held for a minimum of 30 minutes with no more than a 1% loss/gain in pressure. The owner/operator may use other methods for testing if approved by the OCD.

B. The owner/operator shall maintain underground process and wastewater pipeline schematic diagrams or plans showing all drains, vents, risers, valves, underground piping, pipe type, rating, size, and approximate location. All new underground piping must be approved by the OCD prior to installation. The owner/operator shall report any leaks or loss of integrity to the OCD within 15 days of discovery. The owner/operator shall maintain the results of all tests at the facility covered by this discharge permit and they shall be available for OCD inspection. The owner/operator shall notify the OCD at least 72 hours prior to all testing.

13. Class V Wells: The owner/operator shall close all Class V wells (e.g., septic systems, leach fields, dry wells, etc.) that inject non-hazardous industrial wastes or a mixture of industrial wastes and domestic wastes unless it can be demonstrated that ground water will not be impacted in the reasonably foreseeable future. Leach fields and other wastewater disposal systems at OCD-regulated facilities that inject non-hazardous fluid into or above an underground source of drinking water are considered Class V injection wells under the EPA UIC program. Class V wells that inject domestic waste only, must be permitted by the New Mexico Environment Department (NMED).

14. Housekeeping: The owner/operator shall inspect all systems designed for spill collection/prevention and leak detection at least monthly to ensure proper operation and to prevent over topping or system failure. All spill collection and/or secondary containment devices shall be emptied of fluids within 72 hours of discovery. The owner/operator shall maintain all records at the facility and available for OCD inspection.

15. Spill Reporting: The owner/operator shall report all unauthorized discharges, spills, leaks and releases and conduct corrective action pursuant to WQCC Regulation 20.6.2.1203 NMAC and OCD Part 29 (19.15.29 NMAC). The owner/operator shall notify both the OCD District Office and the Santa Fe Office within 24 hours and file a written report within 15 days. The OCD does not consider covering contaminated areas a remediation of the spill/release.

16. OCD Inspections: The OCD performed an inspection of this facility on June 11, 2009. Mr. Don Fernald and Mr. Max Blackwood witnessed the inspection. All photographs referenced below are located in the attachment of this permit. As a result of this, OCD inspection concluded the following:

- Photo 1 4: Two lined produced water ponds are located on the east side of the facility grounds and were found to have fluids within their leak detection system. Owner/operator shall immediately investigate the cause of fluids within the system. The second pond, (photo 3) has oil present. Owner/operator shall remove any oil from the pond immediately and properly dispose of.
- 2. Photo 5-6: An unused below-grade tank is empty and its leak detection system was verified dry. Owner/Operator shall identify tank as not in use.
- **3.** Photo 7: Owner/operator shall identify this conduit and its purpose. At the time of inspection it was unidentifiable.
- 4. Photo 8 13: Several sumps were holding liquids and had sediment. This was previously noted in the July 17, 2002 OCD inspection. All sumps are meant to catch fluids and must be drained within 72 hours. Owner/operator shall keep these sumps cleaned.
- 5. Photo 14 15: The secondary corner sealants were deteriorating. Owner/operator shall fix all breaches within the containment.
- 6. Photo 16 17: This air compressor below-grade tank had fluids within its leak detection system. Owner/operator shall determine why fluids are collecting in the leak detection system and verify tank integrity. The discharge plan application noted in section 10. (Inspection, Maintenance and Reporting) that all tanks were to be inspected on a monthly basis. At the time of inspection OCD determines that these leak detection systems had not been inspected. Owner/operator shall, record and report any releases of these below-grade tanks on a routine basis.
- 7. Photo 18 22: These below-grade tanks were verified to have no fluids within its leak detection system. BGT, (photo 10) had no covering. Owner/operator shall properly cover all below grade tanks as to prevent unnecessary accumulation of fluids and overflow.
- 8. Photo 23 26: The staging area for used filter drainage had standing fluids and containment problems. Photo 26 shows fluids from the containment area seeping through the blocks. Owner/operator shall remove the fluids and clean the containment

area and then investigate the failed integrity of the containment. Owner/operator shall submit all findings and conclusions to the OCD.

- 9. Photo 27 31: There were several areas with visible stained soils within the facility's yard. Owner/operator shall follow best management practices to prevent such future discharges. When such discharges occur owner/operator shall address them in accordance with the discharge plan application. These stained areas were noted in the July 17, 2002 inspection.
- 10. Photo 33 38: There are two unlined ponds on the north part of the facility and an unused lined pond adjacent to the two. After the July 17, 2002 inspection, OCD required the owner/operator to submit a closure plan for the contact water pond, but we have not received it. Owner/operator will submit a closure plan for the unused lined pond in photo 35 37.
- 11. Photo 38 39: There were several piles of spent carbon filter media lying on the ground. OCD was informed that they have been there for an extended period of time. Condition 6.B indicates that no waste shall be on site greater than 180 days unless granted permission by the OCD. Owner/operator shall dispose of all waste in accordance with its permit.

Enterprise shall resolve all **items by September 4, 2009** and submit their findings to the OCD for review.

17. Storm Water: The owner/operator shall implement and maintain run-on and runoff plans and controls. The owner/operator shall not discharge any water contaminant that exceeds the WQCC standards specified in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) including any oil sheen in any stormwater run-off. The owner/operator shall notify the OCD within 24 hours of discovery of any releases and shall take immediate corrective action(s) to stop the discharge.

18. Unauthorized Discharges: The owner/operator shall not allow or cause water pollution, discharge or release of any water contaminant that exceeds the WQCC standards listed in 20.6.2.3101 NMAC or 20.6.4 NMAC (Water Quality Standards for Interstate and Intrastate Streams) unless specifically listed in the permit application and approved herein. <u>An</u> unauthorized discharge is a violation of this permit.

19. Vadose Zone and Water Pollution: The owner/operator shall address any contamination through the discharge permit process or pursuant to WQCC 20.6.2.4000-.4116 NMAC (Prevention and Abatement of Water Pollution). The OCD may require the owner/operator to modify its permit for investigation, remediation, abatement, and monitoring requirements for any vadose zone or water pollution. Failure to perform any required investigation, remediation, abatement and submit subsequent reports will be a violation of the permit.

20. Additional Site Specific Conditions: N/A

21. Transfer of Discharge Permit (WQCC 20.6.2.3111) Prior to any transfer of ownership, control, or possession (whether by lease, conveyance or otherwise) of a facility with a discharge permit, the transferor shall notify the transferee in writing of the existence of the discharge permit, and shall deliver or send by certified mail to the department a copy of such written

notification, together with a certification or other proof that such notification has in fact been received by the transferee.

Upon receipt of such notification, the transferee shall have the duty to inquire into all of the provisions and requirements contained in such discharge permit, and the transferee shall be charged with notice of all such provisions and requirements as they appear of record in the department's file or files concerning such discharge permit. The transferee (new owner/operator) shall sign and return an original copy of these permit conditions and provide a written commitment to comply with the terms and conditions of the previously approved discharge permit.

22. Closure Plan and Financial Assurance: Pursuant to 20.6.2.3107 NMAC an owner/operator shall notify the OCD when any operations of the facility are to be discontinued for

a period in excess of six months. Prior to closure, or as a condition of this permit, or request from the OCD, the operator will submit an approved closure plan, modified plan, and/or provide adequate financial assurance.



APPENDIX J Tank 46 Registration Information

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ENTERPRISE PRODUCTS PARTNERS L.P. ENTERPRISE PRODUCTS HOLDINGS LLC (General Partner)

ENTERPRISE PRODUCTS OPERATING LLC

October 13, 2016

7015 0640 0005 6971 7589 Return Receipt Requested

ENMRD Oil Conservation Division Attn: Cory Smith Aztec District III Office 1000 Rio Brazos Road Aztec, NM 87410

RE: Below Grade Tank (BGT) Registration Packages Enterprise Products Operating LLC

Dear Mr. Smith:

Attached for your handling are BGT registration packages for eleven facilities operated by Enterprise Products Operating LLC. Enterprise is submitting these applications in accordance with the new Mexico Oil Conservation Division Pit Rules 19.15.17 of the New Mexico Administrative Code.

Should you need to contact Enterprise regarding the BGT registrations, please contact Mr. Thomas Long at 505-599-2286 or me directly at 713-381-6684.

Yours truly.

Jon E. Fields Director-Field Environmental

/enclosure

BGT Applications: Chaco Plant Tk #46 Navajo City CS Tk #1 Navajo City CS Tk #3 Simms Mesa CS Tk #10 McDermott CS Tk #4 McDermott CS Tk #5

Middle Mesa CS Tk#12 Pump Mesa CS Tk #1 Pump Mesa CS Tk #2 Wright CS Tk #5 Martinez Canyon CS Tk #6

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District I 1625 N. French Dr., Hobbs, NM 88240 <u>District II</u> 811 S. First St., Artesia, NM 88210 <u>District III</u> 1000 Rio Brazos Road, Aztec, NM 87410 <u>District IV</u> 1220 S. St. Francis Dr., Santa Fe, NM 87505

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

031

Form C-144 Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office. For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or			
Proposed Alternative Method Permit or Closure Plan Application			
Type of action: Below grade tank registration Permit of a pit or proposed alternative method Closure of a pit, below-grade tank, or proposed alternative method Modification to an existing permit/or registration Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank,			
or proposed alternative method			
Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request			
Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.			
I. Operator: Enterprise Products Operating, LLC OGRID #:			
Address: P.O. Box 4324, Houston, TX 77210			
Facility or well name: Chaco Plant Tank #46			
API Number: OCD Permit Number:			
U/L or Qtr/Qtr <u>SE1/4/SW1/4</u> Section <u>16</u> Township <u>26N</u> Range <u>12W</u> County: <u>San Juan</u>			
Center of Proposed Design: Latitude <u>36.482998°</u> Longitude <u>-108.119162°</u> NAD: □1927 ⊠ 1983			
Surface Owner: 🗌 Federal 🔲 State 🖾 Private 🗋 Tribal Trust or Indian Allotment			
Pit: Subsection F, G or J of 19.15.17.11 NMAC Temporary: Drilling Workover Permanent Emergency Cavitation P&A Multi-Well Fluid Management Low Chloride Drilling Fluid yes no Lined Unlined Liner type: Thickness mil LLDPE HDPE PVC Other			
Below-grade tank: Subsection I of 19.15.17.11 NMAC			
Volume: <u>1.000</u> gal Type of fluid: <u>Waste oil, skid drain fluids, antifreeze, wash down water</u>			
Tank Construction material: Steel double walled and bottom Secondary containment with leak detection Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off			
 □ Visible sidewalls and liner □ Visible sidewalls only □ Other Double wall tank with level detection and riser pipe in annular space for monitoring 			
Liner type: Thicknessmil HDPE PVC Other			
 <u>Alternative Method</u>: Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. 			
5,			
Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks) Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church) Faur fact height four strands of barbed wire success and between any and four fact.			
Four foot height, four strands of barbed wire evenly spaced between one and four feet			

Yes No

Yes No

Yes No

Yes No

Yes 🛛 No

🗌 Yes 🗌 No

🗌 Yes 🗌 No

Netting: Subsection E of 19.15.17.11 NMAC (Applies to permanent pits and permanent open top tanks)

Screen Netting Other Enclosed

Monthly inspections (If netting or screening is not physically feasible)

Signs: Subsection C of 19.15.17.11 NMAC

🛛 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

Signed in compliance with 19.15.16.8 NMAC

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

- Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.
- Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

	9. <u>Siting Criteria (regarding permitting)</u> : 19.15.17.10 NMAC <i>Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acce material are provided below.</i> Siting criteria does not apply to drying pads or above-grade tanks.	ptable source
	General siting	
1	Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank. -	Yes 🗌 No
	Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit. NM Office of the State Engineer - iWATERS database search: USGS: Data obtained from nearby wells	│ □ Yes □ No │ □ NA

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. (Does not apply to below grade tanks)
 Written confirmation or verification from the municipality; Written approval obtained from the municipality

- Within the area overlying a subsurface mine. (Does not apply to below grade tanks)
 Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

Within an unstable area. (Does not apply to below grade tanks)

 Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

Within a 100-year floodplain. (Does not apply to below grade tanks)

FEMA map

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).
- Topographic map; Visual inspection (certification) of the proposed site

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;.
NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.) - Topographic map; Visual inspection (certification) of the proposed site

- Topographic map, visual inspection (certification) of the proposed site

Within	300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial
applica	
_	Visual inspection (continuing) of the proposed site, A soid whete Setallite impact

Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

Within 100 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🗌 No
Temporary Pit Non-low chloride drilling fluid	
Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🗌 No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	Yes No
 Within 500 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application; NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site 	🗌 Yes 🗌 No
 Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site 	🗌 Yes 🗌 No
Permanent Pit or Multi-Well Fluid Management Pit	
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).	
- Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🗋 No
 Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. Visual inspection (certification) of the proposed site; Aerial photo; Satellite image 	🗌 Yes 🗌 No
 Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application. NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site 	🗌 Yes 🗌 No
 Within 500 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site 	Yes 🗌 No
10. Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 N. Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc attached. X Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC X Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC X Design Plan - based upon the appropriate requirements of 19.15.17.10 NMAC X Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC X Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.1 and 19.15.17.13 NMAC X Previously Approved Design (attach carry of design)	suments are
Previously Approved Design (attach copy of design) API Number: or Permit Number:	
11. Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the doc attached. Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC A List of wells with approved application for permit to drill associated with the pit. Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Previously Approved Design (attach copy of design) API Number;	

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^{12.} <u>Permanent Pits Permit Application Checklist</u> : Subsection B of 19.15.17.9 NMAC Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the	e documents are			
attached. Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Climatological Factors Assessment Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC Quality Control/Quality Assurance Construction and Installation Plan Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC Musiance or Hazardous Odors, including H ₂ S, Prevention Plan Bitfield Waste Stream Characterization Monitoring and Inspection Plan Erosion Control Plan Closure Plan - based upon the appropriate requirements of 19.15.17.13 NMAC				
Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan. Type: Drilling Workover Emergency Cavitation P&A Permanent Pit Below-grade Tank Multi-well H	The d Management Dia			
	Tuid Management Pit			
Proposed Closure Method: Waste Excavation and Removal Waste Removal (Closed-loop systems only) On-site Closure Method (Only for temporary pits and closed-loop systems) In-place Burial Alternative Closure Method				
14. <u>Waste Excavation and Removal Closure Plan Checklist</u> : (19.15.17.13 NMAC) Instructions: Each of the following items must be	attached to the			
 closure plan. Please indicate, by a check mark in the box, that the documents are attached. Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings) Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC 				
15.				
Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable sou provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. I 19.15.17.10 NMAC for guidance.	rce material are Please refer to			
Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	□ Yes □ No □ NA			
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	□ Yes □ No □ NA			
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☐ No ☐ NA			
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🗌 No			
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	Yes No			
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	🗌 Yes 🗌 No			
Written confirmation or verification from the municipality; Written approval obtained from the municipality	🗌 Yes 🗍 No			
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	🗌 Yes 🗌 No			
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance				
Form C-144 Oil Conservation Division Page 4 o	f 6			

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	🗌 Yes 🗌 No
 Within the area overlying a subsurface mine. Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division 	🗌 Yes 🗌 No
 Within an unstable area. Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map 	
Within a 100-year floodplain.	🗌 Yes 🗌 No
- FEMA map	Yes No
 ^{16.} On-Site Closure Plan Checklist: (19.15.17.13 NMAC) Instructions: Each of the following items must be attached to the closure play a check mark in the box, that the documents are attached. Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.13 NMAC Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.1 Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards canned Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC 	11 NMAC 5.17.11 NMAC
17,	
Operator Application Certification:	
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and believed and be	ef.
Name (Print): Ivan W. Zirbes Vice President-EHS&T	
Signature: Date: D	
Signature: Date: Date:	
e-mail address: <u>snolan@eprod.com</u> Telephone: <u>713-381-6595</u>	
18. OCD Approval: Dermit Application (including closure plan) Closure Plan (only) OCD Conditions (see attachment)	
OCD Representative Signature: Approval Date:	
Title: OCD Permit Number:	
19.	
<u>Closure Report (required within 60 days of closure completion)</u> : 19.15.17.13 NMAC Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting a The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not a section of the form until an approved closure plan has been obtained and the closure activities have been completed.	
Closure Completion Date:	
20. Closure Method: Waste Excavation and Removal On-Site Closure Method Alternative Closure Method If different from approved plan, please explain.	p systems only)
 21. Closure Report Attachment Checklist: Instructions: Each of the following items must be attached to the closure report. Please indemark in the box, that the documents are attached. Proof of Closure Notice (surface owner and division) Proof of Deed Notice (required for on-site closure for private land only) Plot Plan (for on-site closures and temporary pits) Confirmation Sampling Analytical Results (if applicable) Waste Material Sampling Analytical Results (required for on-site closure) Disposal Facility Name and Permit Number Soil Backfilling and Cover Installation Re-vegetation Application Rates and Seeding Technique Site Reclamation (Photo Documentation) On-site Closure Location: Latitude Longitude NAD: [1927] 	

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22. <u>Operator Closure Certification</u> : I hereby certify that the information and attachments submitted with this closure repo belief. I also certify that the closure complies with all applicable closure requirement	rt is true, accurate and complete to the best of my knowledge and s and conditions specified in the approved closure plan.
Name (Print):	Title:
Signature:	Date:
e-mail address:	Telephone:

•



Souder, Miller & Associates + 401 W. Broadway + Farmington, NM 87401 (505) 325-7535 + (800) 519-0098 + fax (505) 326-0045

September 2016

SMA #5124213

Mr. Tom Long Enterprise Products Operating, LLC Field Environmental-San Juan Basin 614 Reilly Avenue Farmington, NM 87401

BGT REGISTRATION PACKET FOR CHACO PLANT TANK #46 LATITUDE 36.482998°, LONGITUDE -108.119162°

Dear Mr. Long:

Souder, Miller and Associates (SMA) has compiled the following BGT Registration Packet including Form C-144 in Accordance with the NMOCD Pit Rules per 19.15.17 NMAC. The tank is located at latitude 36.482998°, longitude -108.119162° within the fenced area of the Chaco Plant. Tank information is presented in Table 1.

	Table 1: Tank I	nformation		
Name	Chaco Plant Tank #46			
	Latitude/Longitude		Section, Township, Range	
Location	36.482998°	-108.119162°	SE ¼ / SW ¼ Unit N Section 16	T26N R12W
Date of Site Visit	10-Nov-15			
County	San Juan			
Land Owner	Private			
Tank Capacity	1,000 gallons			
Tank Dimensions	Unknown			
Tank Serial Number (If Available)	Unknown			
Tank Contents	Waste oil, skid drain fluids, antifreeze, wash down water			
Tank Construction Notes	Steel double wall tank with level detection and riser pipe in annular space for monthly monitoring			
Tank Operation Notes	Tank is inspected monthly			

Siting Criteria (19.15.17.10 NMAC)

Chaco Plant Tank #46	September 2016
BGT Registration	SMA #5124213 BG7

The below-ground tank (BGT) is located at the Chaco Plant at an elevation of 6036 feet above mean sea level (amsl). The BGT meets all siting criteria listed in 19.15.17.10 NMAC with the exceptions for which variances are requested.

Depth to groundwater at the site is estimated to be approximately 20 feet below ground surface (bgs). This data is primarily supported by report detailing ground water encountered during soil boring activity on a site directly south of the Chaco Plant location¹. The BGT base is estimated at 10 feet bgs. Because the BGT base is thus estimated to be less than 25 feet above the ground water level, a variance is being requested for this siting criteria.

Figure 1 shows the vicinity of the BGT location and the location of the nearby OSE Wells. The base layer of Figure 1 is the ESRI provided Imagery Topo Map³ and includes USGS Blue Lines⁴. An aerial imagery map of the site is provided as Figure 2 which shows the vicinity of the BGT with 500' and 1000' buffers. Figure 3 demonstrates the BGT is not located within 100 feet of any continuous flowing watercourse, any other significant watercourse, sinkhole, lakebed, wetlands or playa lake as measured from the ordinary high water mark⁵, or within 200 feet of a spring or freshwater well used for public or livestock consumption, as indicated by the aerial photo⁶ and iWaters map layers², or within 300 horizontal feet of any permanent residences, schools, hospitals, institutions or churches.

The BGT subject to the attached application for registration under 19.15.17 NMAC is located within the Chaco Plant boundaries and was in existence prior to the promulgation of 19.15.17 NMAC. A review of the best available data and a visual inspection of the siting criteria of 19.15.17 NMAC specific to the BGT in question demonstrate that the BGT does not appear to pose a threat to fresh water, public health or the environment.

Local Geology and Hydrology

The Chaco Plant is located near the center of a large elevated plateau south of Bloomfield, New Mexico. This plateau is also where the Navajo Agricultural Products Industry (NAPI) fields are located. The Plant is near the southeast edge of the agricultural fields, about 11 miles west of Highway 550. The plateau consists of eroded sandstone, shales, and conglomerates belonging to the Paleocene Nacimiento Formation⁷. To the east of the plateau are the bluffs associated with Blanco Wash. These bluffs are composed mostly of medium-grained mixed clastic rocks belonging to the Eocene San Jose Formation⁸.

Groundwater is estimated to be about 20 feet bgs (6016 feet amsl) at this site, based on the following documentation:

• Depth to groundwater reported during soil boring activities reported during soil boring activates at location directly south of the Chaco Plant is 20 feet¹.



Chaco Plant Tank #46 BGT Registration

September 2016 SMA #5124213 BG7

 Using the New Mexico Oil and Gas Association (NMOGA) differential method for "surface drainage influenced groundwater", depth to groundwater is estimated to be 65 feet below the BGT at 5971 feet amsl, based upon the elevation base of the West Fork Gallegos Canyon located 0.96 miles to the west at its closest location to the BGT.

Regional Geology and Hydrology

The San Juan Basin is located in the Navajo section of the Colorado Plateau and is characterized by broad open valleys, mesas, buttes and hogbacks. Away from major valleys and canyons, topographic relief is generally low. Native vegetation is sparse and shrubby consisting primarily of desert scrub (sage and chamisa) in the lower elevations and juniper and piñon in the higher elevations. Drainage of the San Juan Basin is by the San Juan River and its associated tributaries, including the La Plata and the Animas Rivers. The San Juan River is a tributary of the Colorado River. The climate is arid to semi-arid with an average annual precipitation of 8 to 10 inches. Soils within the basin consist of physically weathered parent rock. Aeolian depositional systems are responsible for a majority of the material transport in the San Juan Basin, fluvial systems are also present though less predominant¹⁰.

The primary aquifers in the San Juan Basin are contained in Cretaceous and Tertiary sandstones, as well as Quaternary Alluvial Deposits¹⁰. The Nacimiento Formation of Paleocene age occurs at the surface in a broad belt at the western and southern edges of the central San Juan Basin and dips beneath the San Jose Formation in the center. The lower part of the Nacimiento Formation is composed of interbedded black carbonaceous mudstones and white coarse grained sandstones. The upper part is comprised of mudstones and sandstones. Shales and conglomerates are often interbedded within the mudstones and sandstones, but they are not the primary rock type. The Nacimiento Formation is generally slope forming, even in the sandstone units. Thickness of the Nacimiento ranges from 418 to 2232 feet¹¹. Aquifers within the coarser and continuous sandstone bodies of the Nacimiento Formation are between 0 and 1000 feet deep in this section of the basin. Wells within these bodies flow from 16 to 100 gallons per minute (gpm) and transmissivities are expected to be 100 ft²/d. Groundwater within these units flows towards the San Juan River¹⁰.



Chaco Plant Tank #46 BGT Registration

September 2016 SMA #5124213 BG7

If there are any questions regarding this report, please contact myself or Reid Allan at 505-325-7535.

Sincerely, Souder, Miller & Associates

June 05

Jesse E Sprague Staff Scientist

RI.alle

Reid S. Allan Principal Scientist

FIGURES: Figure 1 – Vicinity Map Figure 2 – Site Map with 500' and 1000' buffers Figure 3 – Site Map with 100', 200' and 300' buffers

ATTACHMENTS: Form C-144 Variance Request Tank Diagrams Operation and Maintenance Plan Depth to Groundwater Documentation



Chaco Plant Tank #46 BGT Registration

September 2016 SMA #5124213 BG7

References

¹Lodestar Services, Inc., November 5, 2008, Geoprobe Investigation at Bisti.

²Office of the State Engineer (OSE) Water Administrative Technical Engineering Resource System (WATERS), September 4, 2015. *"Water Wells – 2015 – OSE"*, released September, 2015. <u>http://gstore.unm.edu/apps/rgis/datasets/6925a8e3-6f8d-4334-a15e-bf95a11fdaaa/OSE_Wells_May_2015.original.zip</u>

³ESRI ArcGIS Online, "USGSImageryTopo", August, 2013. The USGS Imagery Topo base map service from The National Map is a combination of imagery and contours, along with vector layers, such as geographic names, governmental unit boundaries, hydrography, structures, and transportation, to provide a composite base map that resembles the US Topo product. Vector data sources are the National Atlas for small scales, and The National Map for medium to large scales. Imagery data sources are Blue Marble: Next Generation at small scales and NAIP at large scales, with Global Land Survey (Landsat) imagery for medium scales that lack NAIP coverage. Coordinate System: Web Mercator Auxiliary Sphere (WKID 102100) http://www.arcgls.com/home/item.html?id=c641cc5c41d44faba509959748098471

⁴New Mexico Oil and Gas Association Training Manual for 19.15.17 NMAC (Pit Rule) *"NMOGA & NMOCD Pit Rules Training.pdf"* State of New Mexico, October 17, 2014.

⁵National Wetlands Inventory, September 2002. "San Juan Wetland/Riparian Project", R02Y02P01 San Juan, NMRGIS geodatabase. <u>http://rgis.unm.edu/gstore/datasets/757361ef-2000-4f2a-aff8-15fa0a8bd5db/nwi_san_juan_02.original.zip</u>

⁶Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community. November 2015 *"World Imagery"*, Coordinate System: Web Mercator Auxiliary Sphere (WKID 102100) http://server.arcgisonline.com/arcgis/services/World_Imagery/MapServer

⁷Green, Gregory N., Jones, Glen E., 2009. *"Digital Geologic Map of New Mexico – Formations"* http://gstore.unm.edu/apps/rgis/datasets/51349b33-92eb-4ab8-9217-81c82b5c3afa/nmmapdd83shp.original.zip

⁸USGS Mineral Resources On-Line Spatial Data, Green, G.N., and Jones, G.E., 1997, The Digital Geologic Map of New Mexico in ARC/INFO Format: U.S. Geological Survey Open-File Report 97-0052, 9p.

http://pubs.er.usgs.gov/publication/ofr9752 http://mrdata.usgs.gov/geology/state/state.php?state=NM

⁹Source: "Chaco Plant and Wash Elevations" 36.482998° N, -108.119162° W. <u>Google Earth</u>. May 2, 2013. November 28, 2015. Elevation Datum: NAVD27.

¹⁰ Stone, et.al., 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico, Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6.

¹¹Kelley, et. Al., 2014, Hydrologic Assessment of Oil and Gas Resource Development of the Mancos Shale in the San Juan Basin, New Mexico. Open-File Report 566, New Mexico Bureau of Mines and Mineral Resources.



Chaco Plant, Tank #46 Variance Request

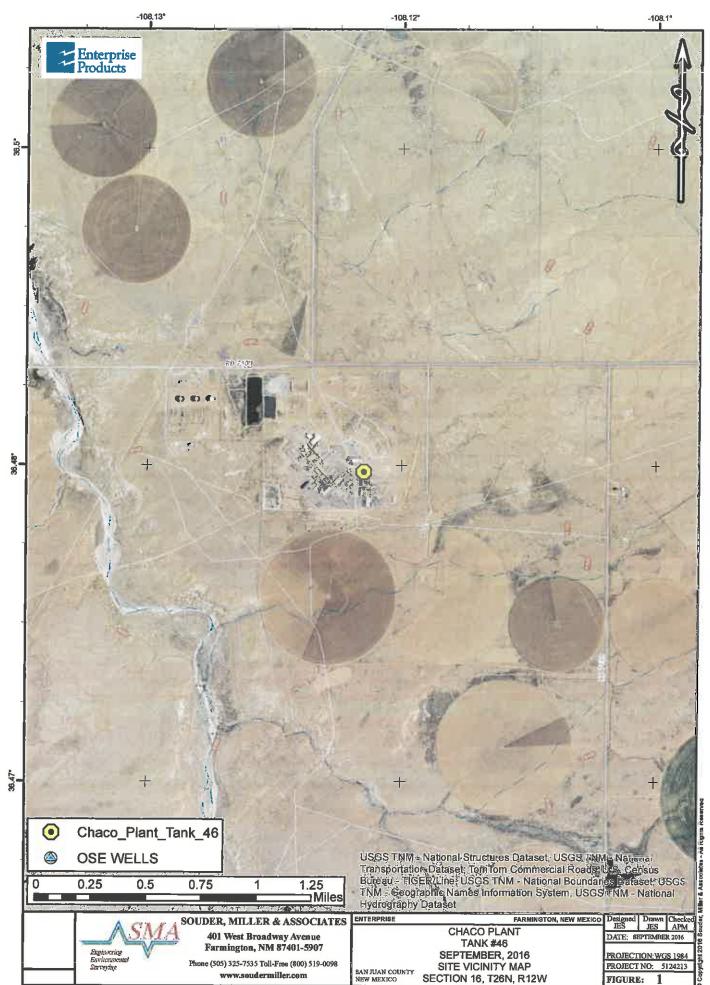
Enterprise requests a variance for the items listed below. The requested variances, per 19.15.17.15A, provide equal or better protection of fresh water, public health and the environment.

- 1. Depth to Water
 - BGT base is estimated to be 10 feet above the static water level. This BGT does not contain natural gas liquids or condensates as it is used as a sump for oily water drainage (skid drain). The contents represent a low risk factor at the Chaco Plant and the containment, liquid level monitoring equipment, and frequency of disposal provide the necessary protection of fresh water, public health and the environment.

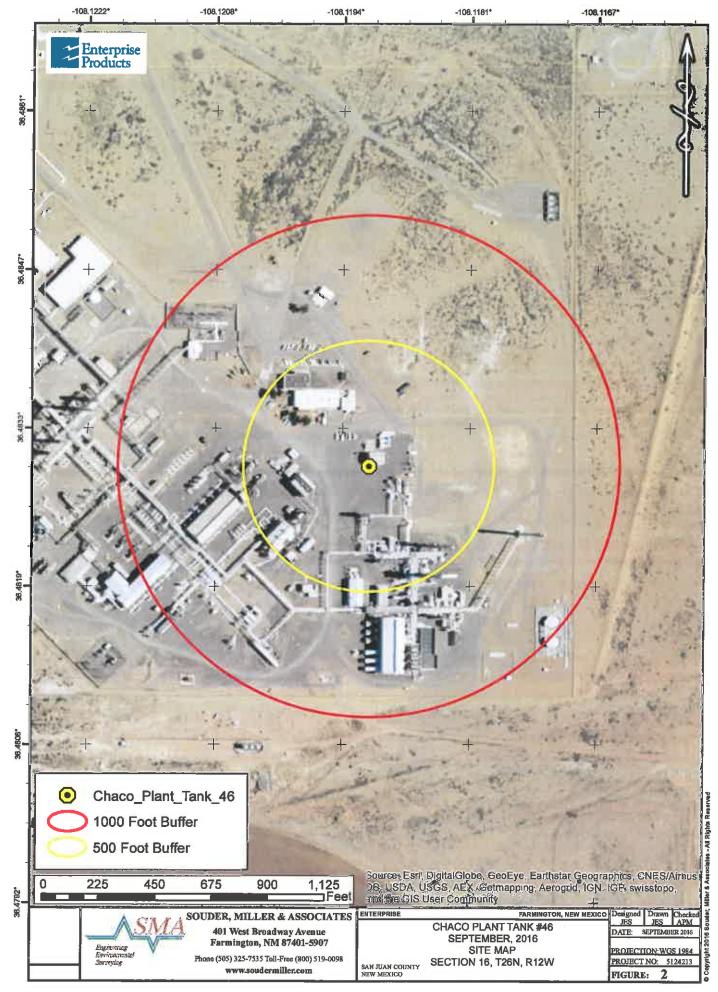
2. <u>Signage</u>

- BGT is located within a facility signed appropriate to NMAC 20.2.70, Title V General Construction Permit. The sign is legible and contains the operator's name, the location of the compressor station in decimal degrees and township section and range, and emergency contact telephone numbers. Additional signage relevant to the Title V air quality permit is also present and provides equal or better protection of fresh water, public health and the environment.
- 3. 2008 Pit Rules
 - Chaco Plant Tank #46 was installed prior to the 2008 pit rules. The BGT does not pose an imminent threat to the protection of fresh water, public health or the environment.

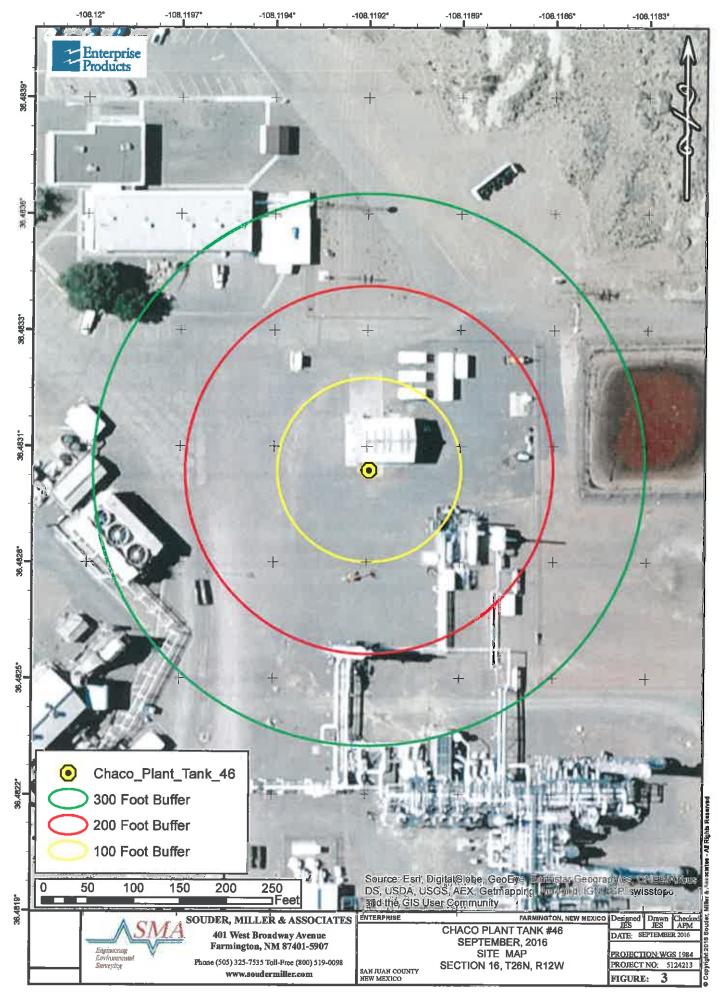
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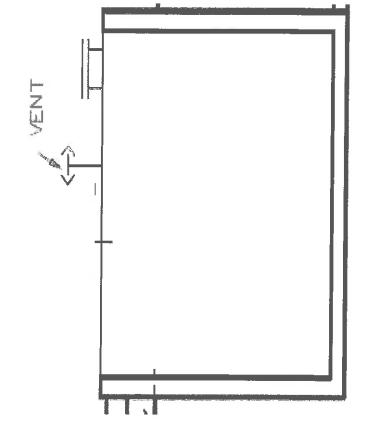
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Operational Plan

NMAC 19.15.17.12

OPERATIONAL REQUIREMENTS

Enterprise will operate and maintain the below-grade tank to contain liquids and solids and maintain the secondary containment system to prevent contamination of fresh water and protect public health and the environment.

Enterprise shall not discharge into or store any hazardous waste in the below-grade tank.

If the below-grade tank develops a leak, Enterprise shall remove all liquid above the damage or leak within 48 hours of discovery, notify the appropriate division office and repair the damage or replace the belowgrade tank as applicable per 19.15.29 NMAC.

Enterprise shall operate and install the below-grade tank to prevent the collection of surface water run-on.

Enterprise shall not allow a below-grade tank to overflow or allow surface water run-on to enter the belowgrade tank.

Enterprise shall remove any measurable layer of oil from the fluid surface of a below-grade tank.

Enterprise shall inspect the below-grade tank for leakage and damage at least monthly.

Enterprise shall document the integrity of each tank at least annually and maintain a written record of the integrity for five years.

Enterprise shall maintain adequate freeboard to prevent overtopping of the below-grade tank.

CLOSURE REQUIREMENTS

Enterprise shall not commence closure without first obtaining approval of the closure plan submitted with the permit application or registration pursuant to 19.15.17.13 NMAC.

Enterprise shall close the below-grade tank by first removing all contents and transferring the materials to a division approved facility.

Enterprise shall test the soils beneath the below-grade tank as follows:

A minimum of one composite sample to include any obvious stained or wet soils, or other evidence of contamination shall be collected from under the below-grade tank and the sample shall be analyzed for the identified constituents with respective concentrations listed in Table I of 19.15.17.13 NMAC below.

		Table I			
Closure Crite	ria for Soils Beneath Bel	ow-Grade Tanks, Drying Pads Associa	ated with		
Closed-Loop Systems and Pits where Contents are Removed					
Depth below bottom of pit	Constituent	Method*	Limit**		
to groundwater less than					
10,000 mg/l TDS					
	Chloride	EPA 300.0	600 mg/kg		
-	TPH	EPA SW-846	100 mg/kg		
≤50 feet		Method 418.1			
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg		
ļ.	Benzene	EPA SW-846 Method 8021B or 8015M	10 mg/kg		
	Chloride	EPA 300.0	10,000 mg/kg		
-	TPH	EPA SW-846	2,500 mg/kg		
51 feet-100 feet		Method 418.1			
	GRO+DRO	EPA SW-846	1,000 mg/kg		
		Method 8015M			
	BTEX	EPA SW-846 Method 8021B	50 mg/kg		
		or \$260B			
	Benzene	EPA SW-846 Method 8021B	10 mg/kg		
		or 8015M			
	Chloride	EPA 300.0	20,000 mg/kg		
	TPH	EPA SW-846	2,500 mg/kg		
> 100 feet		Method 418.1			
	GRO+DRO	EPA SW-846	1,000 mg/kg		
		Method 8015M			
	BTEX	EPA SW-846 Method 8021B	50 mg/kg		
		or \$260B			
	Benzene	EPA SW-846 Method 8021B	10 mg/kg		
		or 8015M			

*Or other test methods approved by the division

**Numerical limits or natural background level, whichever is greater

*** Or Method 8015 with GRO, DRO, & MRO

If any contaminant concentration is higher than the above parameters, the division may require additional delineation upon review of the results and Enterprise must receive approval before proceeding with closure.

If all contaminant concentrations are less than or equal to the parameters listed above, Enterprise can proceed to backfill the excavation with non-waste containing, uncontaminated, earthen material.

<u>CLOSURE NOTICE</u>

Enterprise shall notify the appropriate division district office verbally, and in writing, at least 72 hours, but not more than one week, prior to any closure operation. The notice shall include the Enterprise name and the location to be closed, including the unit letter, section, township, and range.

Enterprise shall notify the surface owner by certified mail (return receipt requested) that Enterprise plans closure operations at least 72 hours, but not more than one week, prior to any closure operation. Evidence of mailing of the notice to the address of the surface owner shown in the county tax records is sufficient to demonstrate compliance with this requirement.

CLOSURE REPORT AND BURIAL IDENTIFICATION

Within 60 days of closure completion, Enterprise shall submit a closure report on form C-144, with necessary attachments to document all closure activities including sampling results, information required by 19.15.17 NMAC, and details on back-filling, capping and covering, where applicable. In the closure report, Enterprise shall certify that all information in the report and attachments is correct and that Enterprise has complied with all applicable closure requirements and conditions specified in the approved closure plan.

TIMING REQUIREMENTS FOR CLOSURE

Within 60 days of cessation of operations, Enterprise shall remove liquids and sludge from a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility.

Within six months of cessation of operations, Enterprise shall remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves. If there is any equipment associated with a below-grade tank, Enterprise shall remove the equipment, unless the equipment is required for some other purpose.

SOIL COVER DESIGNS FOR BELOW-GRADE TANKS

The soil cover for closures after site contouring (where Enterprise has removed the below-grade tank and, if necessary, remediated the soil beneath the below-grade tank to chloride concentrations less than 600 mg/kg as analyzed by EPA Method 300.0) shall consist of the background thickness of topsoil or one foot of suitable material, whichever is greater.

Enterprise shall construct the soil cover to the site's existing grade and prevent ponding of water and erosion of the cover material.

RECLAMATION AND RE-VEGETATION

RECLAMATION OF AREAS NO LONGER IN USE

All areas disturbed by the closure of the below-grade tanks, except areas reasonably needed for production operations or for subsequent drilling operations, shall be reclaimed as early and as nearly as practicable to their original condition or their final land use and shall be maintained to control dust and minimize erosion to the extent practicable.

Enterprise shall replace topsoils and subsoils to their original relative positions and shall be contoured to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area then shall be reseeded in the first favorable growing season following closure of the below-grade tank.

Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

OTHER REGULATORY REQUIREMENTS

The re-vegetation and reclamation obligations imposed by other applicable federal or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of any operations subject to those provisions, provided the other requirements provide equal or better protection of fresh water, human health and the environment.

Enterprise shall notify the division when reclamation and re-vegetation are complete.

wa					State En Depth	gineer to Water
(A CLW###### in the POD suffix indicates the POD has been replaced & no longer serves a water right file.)	(R=POD has been replaced O=orphaned, C=the file is closed)	(quarters are	e 1≍NW 2=NE 3 e smallest to larg	/	3 UTM in meters)	(In feet)
POD Number SJ 01058		-	2 4 Sec Tws Rn 03 26N 12V	•	Y	epth: 220 feet
Record Count: 1 PLSS Search:						

Township: 26N Range: 12W

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

SIGN-IN HELP

Searches Operator Data

Hearing Fee Application

OCD Permitting

Home Searches Pits Pit Details

15659 @ fGP000000036

General Pit Information				Quick
				<u>General</u>
Well:				<u>Associat</u>
Facility:	[<u>fGP0000000036]</u> CHACO GP			<u>Events</u>
Operator:	[241602] Enterprise Field Services, LLC			Permits
Status:	Active	Fluid Type:	Other	New Se
Туре:	Production	Surface Owner:	Private	New Fac
Construction Material:	Steel			New Inci
District:	Aztec	County:	San Juan (45)	<u>New Op</u>
Location:	N-16-26N-12W 0 FNL 0 FEL			<u>New Pit</u>
Lat/Long:	36.48349,-108.12088 NAD83			<u>New Spi</u> <u>New Tan</u>
				New We
Information				
Chlorides:	0 ppm	Capacity:	24 bbls	
Length:	0 ft	Width:	0 ft	
Depth:	0 ft			
Site Rank:	0	Benzene:	0 ppm	
BTEX:	0 ppm	TPH:	0 ppm	
Leak Detected:		Prior 04/15/04:		
Salt Section:		Mud > 9.5:		
Under Plan:		Not Built:		
Registration Denied:				
Closure Approved:		Closure Denied:		
Event Dates				
Opened Date:		Registered Date:		
Extension Date:		Cancelled Date:		
Closed Date:		Approved Date:	12/22/2016	
Pit Associations				

fGP000000036	Associated ID	Primary	Primary	Primary
	fGP00000000036	~	√	~

Date Detail 12/22/2016 PMT# 15659 Pre 2008 BGT	Pit Events	
12/22/2016 PMT# 15659 Pre 2008 BGT	Date	Detail
	12/22/2016	PMT# 15659 Pre 2008 BGT

Pit Permits

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New Mexico Energy, Minerals and Natural Resources Department | Copyright 2012 1220 South St. Francis Drive | Santa Fe, NM 87505 | P: (505) 476-3200 | F: (505) 476-3220

EMNRD Home OCD Main Page OCD Rules Help

REFERENCE ONLY

NOT SUBMITTED TO AGENCY

INTERNAL DOCUMENTATION

STATEMENT OF BASIS

Project Sign-off (Date: _) Other: Response to 2nd roun	d NOD (Date: 5/2	3/2023)		ePermit Numb	er: n/a
PROJECT INFORMATION	<u> </u>	,			
Facility Name:	Chaco Plant			Project No.:	23CHAC01W
Facility Location:	895 County Road	d 7100, SE/4, S16, T2	6N, R12W, New	Mexico, Bloomfield, San Juar	n County, 87413
Project Name:	Ground water dis	scharge permit			
Permitting Lead:	Jing Li				
Project Originator:	Long, Thomas J				
Project Stakeholders:	Kulkarni, Pranav	; Quesada, Daniel Elf	ego; Stone, Bria	n M	
Agency:	New Mexico Oil	Conservation Divisio	n (NMOCD)		
Permit Type:	Other			Base Permit	Water
For Air Permitting Project is	a Water Permit N	eeded:	NO		
Permit Action	Initial				
Title V Facility	YES	OPN Needed:	NO	Public Notice	YES
Title V Significant Revision	Triggered?	NO			
Project Folder:	Y:\Permits\Permi	tting by State\NM\C	haco Plant\2023	3 Charco GW discharge perm	it
Date Action Required By:	05/31/2023				
SCOPE OF WORK/PERMITTI	NG STRATEGY				
Enterprise is submitting this re	evised ground wate	r discharge permit a	oplication in res	ponse to the Notice of Defici	ency (NOD) rece

from NMOCD on 5/2. This revised application addressed questions and comments in the NOD and provided the requested information.

Almost all of the NOD responses are related to providing more detailed information in the original application.

SUMMARY OF POTENTIAL ISSUES

No potential issues.

FACILITY/PROCESS DESCRIPTION

The Chaco Gas Plant is a natural gas compression station and cryogenic natural gas liquids extraction plant. The gas enters the plant via underground pipelines and is compressed to approximately 900 pounds per square inch, then processed through an expander plant operating

at cryogenic temperatures to remove condensable liquid hydrocarbons (propane and heavier). The condensed liquids are transferred to the Mid-America Pipeline Company liquids pipeline and the liquid free natural gas is discharged into the El Paso Natural Gas Company and Trans- Western Pipeline company transportation pipelines.

GENERAL INFORMATION

Process/Operating Data Verification		
Operating Data, Previous Permit Representation		
Additional Information:		
Does Permit Action Trigger New Regulation:		NO
Additional Information:		
Does Action Trigger New Compliance Requireme	ent:	NO
Additional Information:		
Circulated for Stakeholder Review:	YES	
Stakeholder Call/meeting:	NO	

INTERNAL DOCUMENTATION

STATEMENT OF BASIS

Received Stakeholder Comments:	NO
Attachments:	
Public Notice Information	
Miscellaneous Comments:	
EMISSION FACTORS	
N/A	
Additional Information:	
MODELING	
N/A	
Additional Information:	

PERMITTING HISTORY

2/1/2023: initial discharge permit application. 4/3/2023: Response to first NOD.

APPROVER	TITLE	APPROVAL DATE
Sartor, Rodney Michael	Senior Director, Environmental	5/25/2023 8:01:42 AM
Cooley, Brad	Director, Environmental	5/24/2023 7:24:29 AM
Kulkarni, Pranav	Manager, Environmental Permitting	5/24/2023 7:20:49 AM
Mendez, Brenda J	Analyst, Senior Environmental	5/23/2023 3:09:15 PM
Li, Jing	Engineer, Staff Environmental	5/23/2023 2:39:53 PM

.

State of New Mexico Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham Governor

Sarah Cottrell Propst Cabinet Secretary

Todd E. Leahy, JD, PhD Deputy Cabinet Secretary **Dylan Fuge**, Division Director (Acting) **Oil Conservation Division**



BY ELECTRONIC MAIL ONLY

May 2, 2023

Jing Li Enterprise Field Services, LLC 1100 Louisiana Street Houston, TX 77002 jli@eprod.com

RE: Enterprise Field Services, LLC - Notice of an Administratively Incomplete Discharge Permit Application for Chaco Gas Plant

Dear Ms. Li:

The New Mexico Energy, Minerals and Natural Resource Department's Oil Conservation Division (OCD) has reviewed the Discharge Permit Application resubmitted to the OCD on April 3, 2023, for Enterprise Field Services, LLC's (Enterprise) Chaco Gas Plant.

As per 20.6.2.3108.A NMAC, OCD is required to notify Enterprise within 30 days of receipt of the discharge permit application of any deficiencies that make the application deemed administratively incomplete. OCD is requesting the below additional information, modifications, and/or clarification for administrative completeness of the submitted discharge permit application:

1. Confirm location as N36.48349, W-108.12088 in all places within application.

Confirmed location latitude and longitude are the same in Section 2.0 Facility Description and Section 9.2 Proposed Public Notice

2. Table 1, as originally submitted, included filters, transformers, and other chemicals which were removed in the resubmission. All materials stored at the plant, both liquid and solid, should be accounted for in this table.

Table 1 has been revised to reflect the inclusion of filters, transformersand other chemicals not included on the Chemical/Storage InventoryList found in Appendix G.

3. Include the volume of Tank 46 in Table D-1. According to the application, Tank 46 is completely buried. Describe leak detection measures in place.

Added the following sentence to Section 5.1 Buried Storage Tanks. "Tank 46 is a completely buried double walled tank equipped with interstitial space monitoring and level detection equipment" and included the volume of Tank 46 in Table D-1.

4. According to Enterprise both the contact water ponds and stormwater pond are unlined. Provide samples from each pond, including information as to whether the sample was "grab" or "time-composite," sample collection and preservation techniques, laboratory used for the analysis, etc. Sources for sampling and analytical techniques to be used are listed in WQCC 20.6.2.3107(B) NMAC.

The most recent grab samples were collected on 9/21/2015 and 9/25/2015. The non-contact water pond samples were analyzed for volatiles by EPA Method 8260D, for Anions by EPA Method 300.0, for EBD by EPA Method 8011/504.1, for PCB's by EPA Method 8082, for PAH's by EPA Method 8310, for Mercury by EPA Method 7470, and for Dissolved Metals by EPA Method 6010B. The grab sample preservation method consisted of utilizing HgCL2, HCL in laboratory-prepared glassware and packed on ice in coolers to reduce and maintain a temperature of approximately $4^{\circ}C \pm 2^{\circ}C$. The sample coolers were secured with custody seals and relinquished to Hall Environmental Analysis Laboratory, Inc. Sampling laboratory analytical results as well as the executed chain-of-custody can be found in Appendix H.

5. In 4.1, the application states: "All condensate, produced water, slop tanks, and rainwater is collected in sumps and then is stored in BGSTs or fixed roof ASTs then trucked by an Enterprise approved third-party vendor to an approved offsite disposal facility." Include description of all wastes described in this section (4.3.2), including the frequency of their disposal (e.g., monthly, annually). List all BGSTs onsite and include NMOCD permit registration numbers.

The wastes described and disposed of in Section 4.3.2 Maintenance Materials are disposed of on an as needed basis. Tank 46 is the only BGST located at the Chaco Gas Plant. Included in Appendix I is the Below Grade Tank (BGT) Registration Information. 6. In Section 3.4, Enterprise states that the monitoring wells "are monitoring for potential contamination from the North and South Contact Water Ponds." Explain possible sources of pond contamination and briefly describe efforts to remediate the impacts. Include any remediation plans or reports submitted to other agencies.

Editing Section 3.4 to include language from the Closure Plan and added description for the 5 additional monitoring wells associated with the releases in 2022 along with the lab results.

7. In Section 5.3 Enterprise states: "Hydrostatic testing is performed every 5 years with a test pressure of 3 psi for a period of one hour." Verify the date of the most recent hydrostatic test results performed and include these results with the application.

Hydrostatic tests were performed every five years per the old discharge plan. Since the old discharge plans were discontinued in 2012, the testing was ceased. The most recent hydrostatic test was performed in 2007 and the results are provided in Appendix D.

8. Sign and date the Certification Statement at the end of the application.

Section 13 Certification has been signed and dated.

A "complete" amended discharge permit application is due to OCD no later than June 1, 2023 (i.e., 30 days from email receipt); please submit the revised discharge permit application through the existing E-permitting application page and email an updated discharge permit application to <u>Shelly.Wells@emnrd.nm.gov</u>. If you have any questions regarding this letter, contact me at (505) 469-7520 or via email.

Respectfully,

Shelly Wells

Shelly Wells Environmental Specialist-Advanced

Oil Conservation Division * 1220 South St. Francis Drive * Santa Fe, New Mexico 87505 Phone: (505) 476-3441 * http://www.emnrd.nm.gov/ocd



State of New Mexico Energy, Minerals and Natural Resources Department

Michelle Lujan Grisham Governor

Sarah Cottrell Propst Cabinet Secretary

Todd E. Leahy, JD, PhD Deputy Cabinet Secretary **Dylan Fuge**, Division Director **Oil Conservation Division**



BY ELECTRONIC MAIL ONLY

July 18, 2023

Jing Li Enterprise Field Services, LLC 1100 Louisiana Street Houston, TX 77002 jli@eprod.com

RE: Enterprise Field Services, LLC - Notice of an Administratively Complete Discharge Permit Application for Chaco Gas Plant

Dear Ms. Li:

The New Mexico Energy, Minerals and Natural Resource Department's Oil Conservation Division (OCD) has reviewed your amended discharge permit application, dated May 25, 2023, for Enterprise Field Services, LLC's (Enterprise), Chaco Gas Plant. OCD has determined that the amended discharge permit application is administratively complete.

Given OCD's determination, Enterprise must provide public notice within 30 days of receipt of this letter (i.e., August 17, 2023) in accordance with the requirements of 20.6.2.3108(B) NMAC to the general public in the locale of the Gas Plant by each of the methods listed below:

- Prominently posting a synopsis of the public notice at least 2 feet by 3 feet in size, in English and in Spanish, at the Chaco Gas Plant's main entrance and at the Farmington Post Office for 30 days;
- Providing written notice of the discharge by mail or electronic mail, to owners of record of all
 properties within a 1/3 mile distance from the boundary of the property where the discharge
 site is located; if there are no properties other than properties owned by the discharger within a
 1/3 mile distance from the boundary of property where the discharge site is located, Enterprise
 shall provide notice to owners of record of the next nearest adjacent properties not owned by
 the discharger;
- 3. Providing notice by certified mail, return receipt requested, to the owner of the discharge site if Enterprise is not the owner; and

4. Publishing a synopsis of the notice in English and in Spanish, in a display ad at least three inches by four inches *not* in the classified or legal advertisements section, in the Farmington Daily Times. Note, the public notice in the application appears to contain an error. The provided longitude should not contain the negative sign. The actual published public notice needs to correct this error.

As per 20.6.2.3108(F) NMAC, the notice must also include the address and phone number within OCD by which interested persons may obtain information, submit comments, and request to be placed on a facility-specific mailing list for future notices and that OCD will accept comments and statements of interest regarding the application and will create a facility-specific mailing list for persons who wish to receive future notices. The following OCD contact information must be included in the notice:

Leigh Barr – Administrative Permitting Supervisor New Mexico Oil Conservation Division 1220 South St. Francis Drive Santa Fe, NM 87505 (505) 795-1722 LeighP.Barr@emnrd.nm.gov

Within 15-days of completion of the public notice requirements in 20.6.2.3108(B) NMAC, Enterprise must submit to the OCD proof of the notice, including affidavit of mailing(s) and the list of property owner(s), proof of publication, and an affidavit of posting, as appropriate.

Also, as part of the discharge permit application, Enterprise was required to submit a Closure/Post Closure Plan for OCD approval. OCD has reviewed this plan and hereby approves the Closure/Post Closure Plan. The financial assurance (FA) associated with this plan is \$14,137,525. The FA must be on OCD-prescribed forms, or forms otherwise acceptable to the OCD, payable to the OCD. Bond forms can be found at the bottom of OCD's Forms Page located at <u>https://www.emnrd.nm.gov/ocd/ocd-forms/</u>. The FA is due to the OCD within 30-days of email receipt of this letter (i.e., August 17, 2023).

If you have any questions, please do not hesitate to contact me by email or by phone (see above contact information). On behalf of the OCD, I wish to thank you and your staff for your cooperation during this process.

Regards,

Leigh Barr

Leigh Barr Administrative Permitting Supervisor

District I 1625 N. French Dr., Hobbs, NM 88240 Phone:(575) 393-6161 Fax:(575) 393-0720 District II

811 S. First St., Artesia, NM 88210 Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410 Phone:(505) 334-6178 Fax:(505) 334-6170

District IV 1220 S. St Francis Dr., Santa Fe, NM 87505 Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Operator:	OGRID:
Enterprise Field Services, LLC	241602
PO Box 4324	Action Number:
Houston, TX 77210	220557
	Action Type:
	[UF-DP] Discharge Permit (DISCHARGE PERMIT)

CONDITIONS

Created By		Condition Date
lbarr	None	7/18/2023